

**ENGINEERING SERVICES****Town of Newmarket**

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May 20, 2015**DEVELOPMENT & INFRASTRUCTURE SERVICES REPORT
ENGINEERING SERVICES 2015-34**

TO: Committee of the Whole

SUBJECT: McCaffrey Road – Traffic Review
File No.: T.08 T.30 McCaffrey

ORIGIN: Director, Engineering Services

RECOMMENDATIONS

THAT Development and Infrastructure Services Report – ES 2015-34 dated May 20, 2015 regarding “McCaffrey Road – Traffic Review” be received and the following recommendations be adopted:

- 1. THAT Town staff continue to implement the Speed Management Plan on McCaffrey Road, particularly west of Rannie Road;**
- 2. AND THAT Town staff continue to monitor the traffic levels at the McCaffrey Road/Rannie Road intersection for an all-way stop control;**
- 3. AND THAT McCaffrey Road bicycle lanes be considered a priority with the implementation of the Active Transportation Plan (on street bicycle lanes).**

COMMENTS

At its regular meeting of February 9, 2015, Town Council adopted recommendations regarding Parking Bylaw amendments on McCaffrey Road. Town Council adopted an additional recommendation that stated:

“iii) AND THAT a report regarding traffic calming measures that may be implemented, including the installation of a stop sign at McCaffrey Road and Rannie Road be provided.”

The technical review that was conducted as a result of this request is contained in Appendix A. In this report, staff reviewed speeds, volumes, collisions and all-way stop control warrants.

It should be noted that, in addition to existing conditions, staff is also taking into consideration the potential requirement for all-way stop controls and signalized intersections that may be required as traffic volumes increase due to the impending development of the York Region Annex building.

Through this review, it was found that traffic volumes and collision data are typical for a residential collector road. Furthermore, the speeds that were measured are within the Transportation Management Policy threshold. Town staff recommends that Category 1 Mitigation Measures from the Town's Transportation Management Policy be applied, which means that radar trailers would continue to be deployed in the highest speed area.

The McCaffrey Road/Rannie Road intersection has been monitored by Town staff since 2008. The current volumes (both pedestrian and traffic) do not meet the warrants for an all-way stop control at this time; however, staff recommends that continued monitoring be implemented to detect an increase in volume that would warrant an installation.

PUBLIC CONSULTATION

Town staff has discussed some of these issues with some local residents and with the Ward Councillor.

BUSINESS PLAN AND STRATEGIC PLAN LINKAGES

- Well-planned and connected...strategically planning for the future to improve information access and enhance travel to, from and within Newmarket.

HUMAN RESOURCE CONSIDERATIONS

No impact on current staffing levels.

IMPACT ON BUDGET

Operating Budget (Current and Future)

No impact on the Operating Budget.


Capital Budget

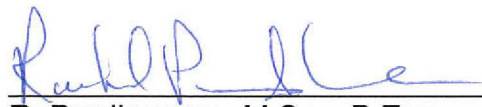
No impact on the Capital Budget.

CONTACT

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Appendix A

Study Area

The study area is McCaffrey Road from Eagle Street West to Keith Avenue. McCaffrey Road is considered a minor residential collector road. It is a two-lane road with a posted speed limit of 40 km/h. There are all-way stop controls at Petheram Place, Brimson Drive and Keith Avenue.

Road Volumes

The following table outlines the road volumes collected, any historical information and general carrying capacity of the road. The general carrying capacity refers to the typical upper-limit of daily traffic expected on a roadway. Occasionally, these carry capacity limits can be exceeded due to the close proximity of schools or plazas or other high traffic generators.

Road	Section	Year	Daily Volume	Carrying Capacity	% Capacity	Historic Average
McCaffrey	Eagle West to Rannie	2015	3640	5000	72%	3612
		2014	3810		76%	
		2012	3440		69%	
		2008	3350		67%	
		2007	3820		76%	
	Rannie to Petherham	2015	2490	5000	50%	2608
		2013	2630		53%	
		2012	2610		52%	
		2008	2700		54%	
	Petheram to Brimson	2015	2110	5000	42%	2295
		2013	2290		46%	
		2012	2180		44%	
		2011	2600		52%	
	Brimson to Keith	2015	1920	5000	38%	2140
		2012	2050		41%	
		2012	2010		40%	
		2007	2580		52%	

The table above indicates that the volumes on McCaffrey Road for all four sections are below the carrying capacity of a minor residential road. As well, the reduction in volume from east to west illustrates a typical residential collector traffic pattern serving the community. The traffic volumes remain relatively consistent in each section and are, in general, slightly above or below the historic average. It should be noted that events at the Ray Twinney Complex or at the Newmarket Court House could skew the results slightly over the seven day count totals.

Based on the above, it can be concluded that traffic volumes are relatively consistent and as expected for a minor residential collector road.

Speeds

Speed information was collected on segments of roadways within the study area. All streets within the study area are posted at 40 km/h. The following table outlines the data collected.

Street	Type	Segment	Year	Speeds	
				Average	Operating
McCaffrey	Collector	Eagle West to Rannie	2015	44	50
			2014	44	51
			2012	46	53
		Rannie to Petheram	2015	48	55
			2013	49	56
			2012	48	56
		Petheram to Brimson	2015	45	52
			2013	45	52
			2012	46	56
		Brimson to Keith	2015	40	46
			2012	43	49

The average speed is the speed at which 50% of the vehicles are travelling. The operating speed is the speed at which 85% of the vehicles are travelling and is used to determine speed mitigation. The results of the area speeds are typical of collector roads within the Town. The Town's Transportation Management Policy shows operating speed thresholds to determine the level of speed mitigation that could be applied. All 2015 operating speeds are below the threshold of 55 km/h or less for a collector road. An examination of the overall historic operating speeds shows a decrease of 3 or 4 km/h in 3 of the 4 road segments, with one exception where the speed has dropped by 1 km/h.

The highest speeds on McCaffrey Road have been recorded between Rannie Road and Petheram Place. This section of road is straight and extends about 750 metres in length, which gives motorists plenty of time and sight lines to increase travelling speeds.

The Town has been employing measures from its Speed Management Program on McCaffrey Road over the last few years. The primary location for the radar trailers have been at the hydro corridor, which is located in the highest speed area. The following table illustrates the program deployment on McCaffrey Road.

Year	Number
2014	3
2013	2
2012	4
2011	5
2010	3

Aside from the Speed Management Program, the Town's Official Plan Amendment #11, which consists of the Town's Active Transportation Plan, has identified McCaffrey Road as a candidate for on-street bicycle lanes in the near future (0-5 year). Bicycle lanes have been proven to reduce

speeds by narrowing the width of the travelled portion of the road available to vehicles. This is akin to a “road diet”, which has the effect of reducing vehicle speeds, and it is considered an effective traffic calming measure. The Town has seen this positive effect on other roads where bike lanes have been installed.

Intersections

As part of the review, the only intersection that is not controlled by an all-way stop is the McCaffrey Road and Rannie Road intersection. The McCaffrey Road and Eagle Street West intersection will likely not have an all-way stop control because traffic volumes are too high on Eagle Street West, thereby requiring an increased measure of control such as a signalized intersection. This will very likely be the case, especially with the increased traffic expected as a result of the development of the York Region Annex building.

The procedure to warrant an all-way stop is outlined in the Town’s Transportation Management Policy. In these warrants, the traffic and pedestrian volumes are the key drivers. The following table outlines the intersections reviewed and results.

Rannie Road – Year	Warrant 3a Major Volumes	Warrant 3b Minor Volumes
2015	69%	46%
2014	66%	39%
2011	71%	41%
2008	56%	15%

Warrant 3a is based on all traffic and pedestrian volumes at the intersection. Warrant 3b relates to pedestrian and traffic volumes from the side street (Rannie Road). Both warrants need to be met at 100% before an all-way stop control would be considered.

The 2008 warrant year represents the time when Rannie Road was opened from McCaffrey Road to Clearmeadow Boulevard. It was anticipated that the opening of this new travel route would warrant an all-way stop in the future. For this reason, the Town has been monitoring the intersection. However, it would appear that some increased traffic volume was experienced, but not sufficiently to warrant an all-way stop control.

Another very important fact that needs to be stated is that all-way stop controls are implemented to control the right-of-way only. They are not recommended for speed control nor to help pedestrians cross the road.

Collisions

Collision types and trends can sometimes point to road sections that may have some engineering deficiencies or some other cause that may need to be addressed. The following table indicates the collisions for this road segment or intersection for the last 5 years. If the road segment or intersection is not listed, then there have been no reported collisions. The collision type is either PD (property damage only), or NFI (non-fatal injury). NFI injuries usually require the person(s) to be examined at the hospital.

Road	Segment	Year	Type	Comments
McCaffrey	Eagle West to Rannie	2011	PD	Lost control and hit utility pole
	Rannie to Petheram	2009	PD	Rear-end – wet roads
		2009	PD	Backed into each other
		2011	PD	Parked car on wet roads
		2013	NFI	Cyclist
Intersection				
McCaffrey	At Rannie	2013	PD	Rear-end – Fog
	At Keith	2012	PD	Lost control – Snow

These results are typical for a residential community and show only one (1) NFI collision. It should be noted that the cyclist injury that was reported in 2013 resulted from a cyclist colliding with the rear of a parked car, and therefore, there was no vehicle operator involved in that collision.

Discussion

McCaffrey Road is operating as expected. The speeds are not unusually high, but they still merit consideration for Category 1 measures from the Town's Transportation Management Policy. Much like all roads in the Town, the average and operating speeds are somewhat above the legal posted limit of 40 km/h. The future implementation of the on-street bicycle lanes will help reduce the overall speeds along the entire length of the study area.

The Town will continue to monitor the McCaffrey/Rannie intersection for warrants for an all-way stop and will report back to Town Council if one is warranted in the future.

