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POLICY UPDATE ESTABLISHING SPEED LIMITS ON REGIONAL ROADS

The Transportation and Works Committee recommends the recommendations contained in the following report, October 23, 2008, from the Commissioner of Transportation Services, be referred to a future Transportation and Works Committee meeting in 2009.

1. RECOMMENDATIONS

It is recommended that:

1. Regional Council adopt the amended speed limit policy, shown on Attachment 1, entitled "*Establishing Speed Limits on Regional Roads*".
2. A subsequent report be submitted outlining a plan to implement revised speed limits on the Regional road network, concurrently with the necessary by-laws, to implement these new speed limits.
3. The Regional Clerk circulate this policy to the Clerks of the local municipalities and the Chief of York Regional Police.

2. PURPOSE

This report presents the details of a revised policy for establishing speed limits on the Regional road network. This policy introduces consistency in speed limits on Regional arterial roads in urban areas. This approach complements and supports ongoing Regional initiatives to transform high speed, high volume urban arterial highways into community-focused main streets. The proposal reflects the urban fabric of the surrounding communities within urban limits, and the mixed uses of our roadways by pedestrians, cyclists, transit users and adjacent property owners.

3. BACKGROUND

With the urbanization of York Region, there is an increasing desire to transform the urban arterial roads, where traditionally the emphasis has been on moving traffic efficiently and effectively, into urban main streets that balance the functional requirements of pedestrians, cyclists, transit users, motorists and the adjacent communities.

To facilitate this transformation process, several strategic initiatives have already been endorsed by Regional Council and are in various stages of implementation. These initiatives include:

- Transit improvements (e.g. VIVA)
- Transit / high occupancy vehicle (HOV) lanes
- New design standards for six-lane roadways
- Bike lanes
- Streetscaping

These initiatives are altering the character of our roadways, improve safety and are more accommodating facilities for all users.

It is evident from the number of speed enforcement requests received by York Regional Police and received by staff for lower speed limits, that York Region residents are increasingly concerned about high vehicle speeds in their communities. However, the same residents also want to be able to travel at a reasonable speed to get to work, shopping areas and other destinations. An appropriate balance reflecting expectations of the residents and the travelling public, from both a safety and mobility perspective, is required.

3.1 OTHER JURISDICTIONS AND STANDARDS

There are no national guidelines for road authorities to use to set speed limits on roadways. The most common practice used globally by traffic engineers is the 85th percentile method which involves the use of a hand held radar unit or traffic tubes to collect operating speeds of traffic under free flow conditions (not within the congested peak periods). Some national studies indicate that setting the speed limit at the 85th percentile speed is the safest speed for a given road section. There are many methods used by road authorities ranging from the 85th percentile speed to expert systems (proprietary systems used in Australia and Europe) that take into consideration many factors such as roadside parking, geometry and number of lanes.

3.2 YORK REGION'S CURRENT SPEED SETTING PROCESS

Current speed limits on Regional roads have been established using a process where individual road sections were reviewed on a periodic basis and reports were submitted to Regional Council to revise speed limits where necessary. The speed limit on these road sections was reviewed based on the geometric characteristics of the road, speed studies, collision history, driveway frequencies and potential safety issues.

The process was formalized in the current speed limit policy and subsequently adopted by Regional Council in September 2004. The current policy is principally based on the 85th percentile speed method for establishing the appropriate speed limit on a specific

road. The current Regional policy makes allowance for schools, pedestrians and access points where lower posted speed limits may result.

The existing Regional speed limit policy can create inconsistent speed limits

It has become apparent that the existing policy has resulted in increasingly inconsistent speed limits in the urban areas of the Region. For example, both Rutherford Road and Major Mackenzie Drive from Pine Valley Drive to Yonge Street are 12-kilometres in length and the speed limit changes at least six times on each roadway.

Furthermore, the existing speed limit policy used by Regional staff does not explicitly consider:

- Maturing communities
- Corridors with transit
- Pedestrians/cyclists
- Roadway geometry (horizontal and vertical alignment)
- Roadside development / urban fabric

Some of the existing posted speed limits on Regional roads are too high for the new urban streetscapes that the Region is striving for. These inconsistent speed limits in urban areas have led to driver confusion and result in low compliance of existing posted speed limits.

The 85th percentile method is still an acceptable method for setting posted speed limits in rural areas

The Transportation Association of Canada is in the process of developing a national guideline for road authorities to use in setting speed limits. A preliminary recommendation of this study is that the 85th percentile method may not be a suitable method to set speed limits in urban areas, however; it is suitable for setting speed limits in rural areas.

4. ANALYSIS AND OPTIONS

Regional staff considered three scenarios for establishing the principles of a proposed speed limit policy

Scenario 1 – Status Quo

In the past 10 years, York Region has used many principle-based methods to set speed limits. In 2004, a specialized consultant was retained to develop a technically sound and

community-responsive policy in setting speed limits. This resulted in the use of the 85th percentile method as a base condition with a number of other criteria (driveway density, schools etc) for setting speed limits on all Regional roads. It has become increasingly clear that the policy is effective in rural areas; however, maintaining this policy would lead to further inconsistencies in speed limits within urban areas and would not address all of the issues noted in section 3.0. It is for this reason that staff is proposing a new policy.

Scenario 2 – Introducing consideration of further technical and road characteristic data into the Region’s current speed-setting methodology

In the absence of National guidelines, Regional staff conducted a research of methods to set speed limits in other jurisdictions across North America. There are many systems used by other road authorities that range from simple methods of setting the speed limit at the 85th percentile speed to expert proprietary methods that require a great deal of technical data to establish a resultant speed limit. This technical data includes, but is not limited to:

- Motor vehicle collision records.
- Road design standards such as horizontal and vertical curvature, sight distance, location of sidewalks, type of shoulder.
- Traffic volume characteristics such as A.A.D.T., truck percentages, pedestrian activity especially pedestrians crossing the road.
- The roadside characteristics including the intensity and type of roadside development and whether adjacent properties are “front-lotted” or “rear-lotted”.
- The intensity of traffic generation.

The review of the industry guidelines identified that York Region already takes into consideration many of the factors identified as best practices for setting speed limits. However, in order to be proactive and responsive to the needs of communities, particularly in areas where growth is anticipated, it is beneficial to establish a method to set speed limits that is linked to urbanization and growth. As discussed, other road jurisdictions throughout North America use differing methods to set speed limits that are essentially technically based. In order to create a community responsive method in setting speed limits, it was determined that adopting a technically-based method used by other road authorities would not be effective. Another opportunity to set speed limits that provides a blend between a technical method and a community-responsive method was required to meet the needs of York Region.

Scenario 3 – Use Region’s Official Plan as a base for setting consistent speed limits in urban areas and rural hamlets

Urban areas in York Region are rapidly transforming from rural arterial roads that move traffic, to urban streets that provide service for all road users and adjacent communities.

The Region's Official Plan identifies areas where future urbanization is expected and provides a guideline identifying roads where growth is expected and will occur. Ultimately, this urbanization will result in increased traffic volumes, additional side friction such as new streets and driveways as well as pedestrians eventually creating a need for a reduced speed limit.

Regional staff had discussions with Gerry Forbes, an active member of a technical committee of the Transportation Association of Canada, on the use of an official plan as a base to use in setting speed limits within urban areas and rural hamlets. This unique approach is seen as a proactive method to set speed limits and is being considered in the development of a National Guideline to set speed limits.

Regional staff pursued this scenario for the proposed speed limit policy.

4.1 PRINCIPLES OF PROPOSED POLICY

The speed limit in urban areas and towns and villages will be set at 60 kilometres per hour with some exception areas

This proposed policy would apply to roads within the urban area. These areas are designated by the Region's Official Plan to be either an Urban Corridor or a Regional Corridor or are within the boundaries of designated Towns and Villages, in accordance with the Region's Official Plan.

The base speed limit on roads in the urban areas of the Region would to be set at **60 kilometres per hour**. However, there are some exceptions proposed:

- Existing 50 kilometres per hour zones would remain at 50 kilometres per hour in areas where there are high generators of pedestrians such as schools, recreation areas and parks.
- Existing 40 kilometre per hour zones would remain posted at 40 kilometres per hour.
- Existing 40 kilometre per hour zones in school zones achieved by the use of programmable flashing beacons which operate during school hours, would remain in place.
- Highway 7 between Centre Street and Bayview Avenue, which is more reflective of a controlled access highway would remain at 70 kilometres per hour and 80 kilometres per hour.

Urban "fringe" roads located on the edges of designated urban areas, or on the fringe of a new development, would have a posted speed limit of 70 kilometres per hour.

Speed limits on roads within urban areas, where development has not taken place or is at the draft plan of subdivision stage and building permits have not been issued by the local municipality, would be set at 70 kilometres per hour. This speed limit will remain in place until construction of the development generates additional:

- 1) Traffic
- 2) Access points or intersections to the Regional road network
- 3) Pedestrian traffic

at which time the road will be urban in nature and the speed limit will be set at 60 kilometres per hour.

The net outcome will be that most roads currently posted with 70 kilometres per hour speed limits in urban areas and towns and villages will be lowered to 60 kilometres per hour.

Speed limits on rural roads will be set using the existing policy

The existing method for setting speed limits in rural areas, the 85th percentile method, should be retained. The proposed policy will include the existing method to set speed limits on roads that are outside of urban areas and that are not within an *Urban Corridor* or *Regional Corridor* as identified in the Region's Official Plan. In most cases, the speed limit on rural roads will be 80 kilometres per hour.

In some cases the speed limit on rural roads may be reduced, for example, in areas where there are frequent access points or a high volume of pedestrians the speed limit may be set at the 85th percentile speed of free flowing traffic provided that the speed limit does not exceed the design speed of the roadway.

The speed limit may also be decreased to less than the 85th percentile speed when the driveway density on any one side of the road is greater than 13 driveways per kilometre or if the combination vehicle and pedestrian volumes meet the criteria shown in Figure 1 of *Attachment 1, entitled "Establishing Speed Limits on Regional Roads"*.

The speed limit on many Regional roads will be revised based on this proposed policy and require the approval of applicable by-laws

As noted previously, a subsequent report will be submitted outlining a plan to implement revised speed limits on the Regional road network and the necessary by-laws to implement these new speed limits. For information purposes, an example of the required by-laws is appended to this report as *Attachment 2, entitled "Required By-laws to implement Revised Speed Limits"* and shows one sample location, including the current and future speed limit, for each speed limit of 50 kilometres per hour, 60 kilometres per hour and 70 kilometres per hour.

For example, the proposed speed limit on Yonge Street, from 800 metres south of the south limit of St. John's Sideroad to 200 metres north of the north limit of Green Lane will be set at 60 kilometres per hour. Currently the posted speed limit on this section of Yonge Street includes a 70 kilometres per hour zone situated between two 60 kilometres per hour zones. The required by-law noted on *Attachment 2* removes the 70 kilometres per hour zone and implements a 60 kilometres per hour zone. Similar by-laws will be drafted for each location where new speed limits are implemented.

A map of the Regional road network is appended to this report as *Attachment 3, entitled "York Region Speed Zones"* and shows the existing and proposed speed limits throughout the Regional road network, including any exception areas. This map demonstrates where new speed limits will be implemented, based on this proposed policy, and how those speed limits link to existing speed limits on the road network. This map provides a draft overview of the road network after application of this policy.

4.2 ANTICIPATED IMPACT OF PROPOSED POLICY

The proposed initial reaction from drivers and communities will be mixed

Although communities through which Regional roads traverse will generally support lower speed limits, drivers using these roads on a daily basis commuting to and from work may initially voice concerns about the lower speed limits. It should be noted however, that the operating speeds on many of these same sections of roadway in the peak commuting travel hours, are already lower than the posted speed limit. As such, peak hour travel times on these sections of roadway are not expected to vary significantly. There will be some travel time increases in the non-peak periods. It is expected that driver compliance to the new speed limits may not be immediate and a public education program should be implemented as recommended in Section 4.3.

Travel times may increase marginally during off-peak traffic periods

The increase in travel time for commercial truck routes to and from the 400-series highways was investigated. The 2004 Transportation Fact Book "Truck Volumes on Regional Roads" identified road segments with low, medium and high truck volumes. Travel time analysis, during the off-peak period, was completed along seven of the road segments with high truck volumes that lead to and from the 400-series highways. The results indicate the largest calculated increase in travel time is one minute and 20 seconds on the section of Highway 7 between Centre Street and Highway 400 and the impact outside of the congested peak periods would be very minimal, if any.

Although the above analysis shows there will be very little impact on travel times, it is expected that commercial truck drivers and their associations could have concerns about the lower speed limits.

The new urban arterial road speed limits will improve safety on roads

The proposed policy will result in a more consistent speed limit on Regional roads in urban areas. The safety benefits of lower travel speeds are well documented. Not only will the frequency of collisions be reduced, but the severity of collisions, especially those between vehicles and vulnerable road users (i.e. pedestrians and cyclists), will be reduced significantly. Lower vehicular travel speeds will also provide a feeling of security and safety for pedestrians and cyclists using Regional roads and may promote or increase these modes of transportation.

York Regional Police has acknowledged an increase in law enforcement demand initially and are in full support of the proposed policy. It is expected that having a consistent speed limit on similar roads will eventually result in higher compliance with the posted speed limit and eventually reduce the requirement for police enforcement.

4.3 CONSULTATION AND EDUCATION

Regional staff met with representatives from local municipalities and other stakeholders to present an outline of the proposed speed policy

During the past few months, on separate occasions, Regional staff met with the Mayors and staff of Vaughan, Richmond Hill, Markham, Newmarket and Aurora to discuss the proposed speed limit policy. Although there was general agreement or desire to introduce more consistency, each Mayor had different opinions on the process for setting speed limits on Regional roads within their municipality. Some recommended that speed limits on some road sections should be increased, while others wanted lower speed limits.

Regional staff also met with other stakeholders and the general comments were similar to those of the Mayors. For example, trucking associations did not want lower speed limits while the Smart Commute Committee wanted lower speed limits within central business areas.

York Regional Police were also consulted and, although they agreed with the principles of lowering speed limits in urban areas to 60 kilometres per hour, they were in support of using the Region's current speed limit policy in other areas within the urban pocket. York Regional Police were concerned with the perception of lowering speed limits in areas that have no physical geometric changes and recommended that if the Region adopts this policy, a public consultation process be initiated in the effected areas.

An education program will mitigate the impact of speed limit changes and promote public support

It is recognized lowering speed limits on Regional roads to promote consistency within urban areas will be met with support from local communities, however; there may be some resistance from the motoring public at large. In order to promote public and

community acceptance, the development of a public education campaign to explain the benefits of this initiative is recommended. The education campaign would be developed in partnership with York Regional Police and other stakeholders such as transit, trucking associations and the local municipalities.

4.4 IMPLEMENTATION PLAN

A revised speed limit policy will require an implementation plan

Although an implementation plan has not been finalized at this time, and is subject to the submission of a subsequent report, staff is considering implementing the proposed speed limit changes in a phased roll-out, one roadway at a time, for the following reasons:

- Impact on staff resources to manufacture signs (i.e. internal sign shop).
- Impact on maintenance staff to complete the installation of the signs for the physical speed limit changes in the field according to the *Highway Traffic Act*.
- Impact on police resources to effectively monitor and enforce the new speed limits within urban areas and rural hamlets.

Details of the proposed community education program, as noted above, will be included in the implementation plan and presented in a subsequent report to the Transportation and Works Committee in January 2009. This report will also include the necessary by-laws to implement the new speed limits.

5. FINANCIAL IMPLICATIONS

The cost of manufacturing and installing the required speed limit signs and the education of drivers and communities, in accordance with the implementation plan, are covered in the draft 2009 Roads operating budget.

6. LOCAL MUNICIPAL IMPACT

Regional staff discussed the proposed speed limit policy with staff from the local municipalities most affected by the policy which includes the City of Vaughan and the Towns of Richmond Hill, Aurora and Markham. Each of these local municipalities is generally in support of the need to revise the speed limit policy; however, not all municipalities agree that speed limits should be lowered. Any speed limit changes as a result of this proposed policy will be discussed with the appropriate staff of the respective local municipality before the revised speed limit is implemented.

7. CONCLUSION

With the growing urbanization of York Region, there is an increasing need for Regional urban arterial roads, where traditionally the emphasis has been on speed and vehicular efficiency, to be transformed into urban streetscapes providing equal priority to pedestrians, cyclists and transit users.

This report proposes an amended policy for establishing speed limits on the Regional road network that will complement and support ongoing Regional initiatives to transform high speed, high volume urban arterial highways into urban streets that are more accommodating of pedestrians, cyclists and transit users.

It is proposed that the speed limit on urban roads in urban areas and in towns and villages be 60 kilometres per hour, except on certain urban fringe roads and exception roads within the urban areas. In addition, the existing speed limit policy approved by Regional Council on September 23, 2004 will be retained for setting speed limits on rural Regional arterial roads.

It is also proposed the Region initiate a driver and community education program to promote public acceptance, given the likelihood of resistance by commuters and to inform the public of expected safety and environmental benefits of the proposed policy.

The Regional Clerk should circulate this policy to the Clerks of the local municipalities and the Chief of York Regional Police.

For more information on this report, contact Paul Jankowski, General Manager, Roads, Roads Branch at extension 5901 in the Transportation Services Department.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)