

Report TR-TAPS-42-15

To: Chair Barfoot and Members of the Transportation and Public Safety Committee
From: M.J. Kelly, Director of Transportation Services
Meeting Date:
Subject: Speed Limit Request - Grey Road 2 from Highway 26 to Ravenna
Status: Recommendation adopted by Committee as presented per Resolution TAPS71-15; Endorsed by County Council May 5, 2015 per Resolution CC67-15;

Recommendation(s)

WHEREAS Grey County received a letter from T & K Ferri Orchards requesting Grey County reduce the speed limit on Grey Road 2 from Highway 26 to Ravenna from 80 kilometres per hour to 60 kilometres per hour;

AND WHEREAS Grey County staff assessed this section of road with the Grey County Speed Limit Evaluation Procedure and concluded based on the results that the speed limit on this section of Grey Road 2 should remain at 80 kilometres per hour;

NOW THEREFORE BE IT RESOLVED THAT TR-TAPS-42-15 regarding the speed limit on Grey Road 2 from Highway 26 to Ravenna be received;

AND THAT the posted speed limit on Grey Road 2 from Highway 26 to Ravenna remain at 80 kilometres per hour;

AND THAT staff send a letter to T & K Ferri Orchards advising them that the speed limit will remain at 80 kilometres per hour and the rationale for remaining at 80 kilometres per hour.

Background

Grey County received a letter from T & K Ferri Orchards requesting the County reduce the speed limit on Grey Road 2 between Highway 26 and Ravenna from 80 kilometres per hour to 60 kilometres per hour. The rationale for the reduced speed limit includes the following:

- Lower speed would allow for businesses to be more readily noticeable.
- Provide improved safety for bicyclists.

- Improve safety for transport trucks and farm tractors travelling the road.

At the March 19, 2015 Transportation and Public Safety Committee meeting the following resolution was passed and supported by County Council on April 7, 2015:

THAT staff be directed to prepare a report regarding the email received from T & K Ferri Orchards on the speed limit and traffic measure signage on Grey Road 2 in Ravenna.

The determination of an appropriate speed limit is not an exact science; there are a variety of components that must be considered and evaluated with regard to risk.

The major function of a county road is to provide the efficient movement of people and goods; therefore, the speed limit on county roads should be maintained as high as possible considering public safety and risk management.

Speed limits that are set too low will result in a greater speed variance which may contribute to accident frequency.

Speed limits should also be set with consideration given to what reasonable drivers feel should be the running speed limit of the roadway, the speed at which the eighty-fifth percentile of drivers feel comfortable driving. If speed limits are set unreasonably low, drivers will tend to disregard the posted limits.

To determine a speed limit, the following criteria must be considered collectively. A single variable is insufficient to arrive at a final speed limit. Geometric criteria should be applied first, followed by consideration of non-geometric criteria. Geometric criteria will directly and consistently influence the level of risk applied to a vehicle and driver, while non-geometric criteria will intermittently influence the actual and perceived risk to the driver.

Geometric Criteria

- Horizontal Alignment
- Vertical Alignment
- Stopping Site Distance
- Lane Width
- Shoulder Width

Non-Geometric Criteria

- Road Side Entrances
- Intersecting Roads
- Road Side Hazards
- Operating Speed

Staff utilized the Grey County Speed Limit Evaluation Procedure and determined that ten of the eleven categories suggest that the speed limit of 80 kilometres per hour was low risk and there is a medium risk in the vertical alignment category due to the hilly terrain. Therefore, the Director of Transportation Services is recommending the existing speed limit of 80 kilometres per hour be maintained.

Financial / Staffing / Legal / Information Technology Considerations

The Grey County Speed Limit Evaluation Procedure supports the speed limit of 80 kilometers per hour on Grey Road 2 from Highway 26 to Ravenna.

Link to Strategic Goals / Priorities

Not applicable.

Attachments

Speed Limit Evaluation Procedure
Speed Limit Assessment for Grey Road 2 from Highway 26 to Ravenna
Grey Road 2 Speed Limit Reduction Request

Respectfully submitted by,

M.J. Kelly
Director of Transportation Services



Speed Limit Evaluation Procedure

Approved by: County Council

Date Approved: February 3, 2015

Last Revision Date:

Replaces:

Scheduled for Review by: 2020

Policy Number: MS-TS-008-001

Section: Transportation Services

Sub Section: Roads

References and Related Documents

Geometric Design Standards for Ontario Highways: Ontario Ministry of Transportation (available by request)

Roadside Safety Manual: Ontario Ministry of Transportation (available by request)

Geometric Design Guide for Canadian Roads: Transportation Association of Canada

Highway Traffic Act

Policy Statement

In accordance with the Highway Traffic Act, the County of Grey is responsible for posting speed limits on Grey County roads that will meet the function of a county road, driver expectations and engineering principals.

Purpose

The purpose of this procedure is to provide the County of Grey with criteria to evaluate posted speed limits. Posted speed limits must consider safety criteria as well as match the expectations of drivers for a given roadway and surrounding area. This policy provides evaluation criteria to assess appropriate speed limits based on a variety of factors.

Scope

The determination of an appropriate speed limit is not an exact science; there are a variety of components that must be considered and evaluated with regard to risk.

The major function of a county road is to provide the efficient movement of people and goods; therefore, the speed limit on county roads should be maintained as high as possible considering public safety and risk management.

Speed limits that are set too low will result in a greater speed variance which may contribute to accident frequency.

Local municipalities are responsible for the movement of pedestrians on County right-of-ways.

Evaluation Criteria

County roads fall under the Rural Collector Undivided functional classification of the Ontario Ministry of Transportation Geometric Design Standards Manual (GDM), and as such have design speeds ranging from 60km/h to 100km/h. Geometric design parameters, which determine road design speed, are selected based on functional classification.

Road geometry is typically designed to 20km/h faster than the final posted speed limit, i.e. a road with an 80km/h posted speed limit will be designed to 100km/h. However, on county roads, it is an acceptable municipal practice for the design speed to equal the posted speed limit.

When determining an appropriate speed limit, consistency is important; therefore, it is not recommended to frequently alter the posted speed limit along a roadway. Where such adjustment is required, the change in speed should be no greater than 20km/h. To maintain a posted speed where medium to high risk hazards are present, warning signs may be placed to inform the motorist.

Speed limits should also be set with consideration given to what reasonable drivers feel should be the running speed limit of the roadway, the speed at which the eighty-fifth percentile of drivers feel comfortable driving. If speed limits are set unreasonably low, drivers will tend to disregard the posted limits.

To determine a speed limit, the following criteria must be considered collectively. A single variable is insufficient to arrive at a final speed limit. Geometric criteria should be applied first, followed by consideration of non-geometric criteria. Geometric criteria will directly and consistently influence the level of risk applied to a vehicle and driver, while non-geometric criteria will intermittently influence the actual and perceived risk to the driver.

Geometric Criteria

- Horizontal Alignment
- Vertical Alignment
- Stopping Site Distance
- Lane Width
- Shoulder Width

Non-Geometric Criteria

- Road Side Entrances
- Intersecting Roads
- Road Side Hazards
- Operating Speed
- Accident history

Geometric Criteria

Horizontal Alignment

The radius, superelevation and the occurrence density of horizontal curves have an effect on driver comfort and safety, and influence driving risk. The analysis of existing horizontal geometry may justify a lower posted speed limit.

The risk assessment criteria for implementing a speed limit change based on horizontal geometry are as follows:

- High Risk - Curves fail to meet the recommendation by more than 10km/h.
- Medium Risk - Curves fail to meet the recommendation by 10km/h or less.
- Low Risk - Curves meet or exceed the recommendation.

An increase in the occurrence of horizontal curves within a 1.0km length of road will increase driver workload possibly justifying a speed limit reduction. This is known as the curve density (curvature change rate).

The risk assessment criteria for implementing a speed limit change based on curve density are as follows:

- High Risk - More than 6 curves per km.
- Medium Risk - 3 to 6 curves per km.
- Low Risk - Less than 3 curves per km.

In an effort to maintain an existing speed limit through horizontal curves, signage may be installed to mitigate risk, as per the Ontario Traffic Manual.

Vertical Alignment

Steepness of grade, and sharpness and frequency of vertical curves (crest and sag) will increase driver workload. Navigating a road that exhibits significant grade changes presents a greater driving risk.

Depending on the traffic volume, the recommended maximum road grade decreases as the design speed increases.

The vertical geometry of a road is designed with consideration given to stopping sight distance and driver comfort. The rate of change of grade through a crest or a sag relates to the chosen design speed; as vertical curves lengthen and flatten, design speed increases.

The risk assessment criteria for implementing a speed limit change based on vertical curve geometry is as follows:

- High Risk - Curves exceed the recommendation by more than 10km/h.
- Medium Risk - Curves exceed the recommendation by 10km/h or less.
- Low Risk - Curves meet or exceed the recommendation.

Stopping Sight Distance

A minimum sight distance must be available to a driver to stop before reaching an object in their path. Stopping sight distance must be maintained through both horizontal and vertical curve sections of road.

The risk assessment criteria for implementing a speed limit change based on stopping sight distance is as follows:

- High Risk - Curves exceed the recommendation by more than 10km/h.
- Medium Risk - Curves exceed the recommendation by 10km/h or less.
- Low Risk - Curves meet or exceed the recommendation.

Lane Width

Narrow lanes provide less room for maneuverability and, as a result, driver comfort and safety is reduced. Lane width, together with traffic volume and vehicle type can be used to assist in the selection of a speed limit. Generally, the wider the travelled way, and the lesser the traffic volume, the greater the design speed.

The risk assessment criteria for implementing a speed limit change based on lane width is as follows:

- High Risk - Average lane width less than 0.25m less than recommendation.
- Medium Risk - Average lane width between 0m and 0.25m less than recommendation.
- Low Risk - Average lane width equal to or greater than recommendation.

Shoulder Width

Narrow shoulders create an illusion of narrower traffic lanes which result in reduced driver comfort. Shoulder width, together with traffic volume and vehicle type, can be used to assist in the selection of a speed limit.

The risk assessment criteria for implementing a speed limit change based on shoulder width is as follows:

- High Risk - Average shoulder width less than 0.5m less than recommendation.
- Medium Risk - Average shoulder width between 0m and 0.5m less than recommendation.
- Low Risk - Average shoulder width equal to or greater than recommendation.

Non-Geometric Criteria

Road Side Entrances

The number and density of entrances may increase the number of vehicles encountering conflicts and justify a reduction to the posted speed limit.

Given that a roadway conforms to minimum geometric design standards, the risk assessment criteria for implementing a speed limit change are as follows:

- High Risk - More than 50 residential or 20 commercial entrances per side per km.
- Medium Risk - Between 30 and 50 residential, or 10 to 20 commercial entrances per side per km.
- Low Risk - Less than 30 residential or 10 commercial entrances per side per km.

Intersecting Roads

A change in the number, spacing and traffic volume of intersecting roads may affect the number of vehicles encountering conflicts which may justify a modification to the posted speed limit.

Given that a roadway conforms to the established minimum geometric design standards, the risk assessment criteria for implementing a speed limit change are as follows:

- High Risk - More than 3 intersections with AADT greater than 1000, or more than 5 intersections with AADT greater than 200.
- Medium Risk - 3 intersections with AADT greater than 1000, or more than 5 intersections with AADT greater than 200.
- Low Risk - Less than 3 intersections with AADT greater than 1000, or less than 4 intersections with AADT greater than 200.

Road Side Hazards

Road side hazards create an illusion of a narrower roadway resulting in reduced driver comfort. A hazard free clear zone along the roadway should be maintained wherever possible. It is always preferable to remove road side hazards, or install suitable shielding, rather than to reduce speed limits; however, where removal or shielding is impossible, or clear zone areas are not available, speed limit reductions may be justified.

Given that a roadway conforms to the established minimum geometric design standards, the risk assessment criteria for implementing a speed limit change are as follows:

- High Risk - 10 or more hazards per km per side, or continuous hazards on more than 50% of the road segment length. This does not include curb and gutter signage.
- Medium Risk - 5 to 9 hazards per km per side or continuous hazards from 25%-50% of the road segment length. This does not include curb and gutter signage.
- Low Risk - Less than 5 hazards per km per side or continuous hazards on less than 25% of the road segment length. This does not include curb and gutter signage.

Site Specific conditions must be taken into consideration when assessing road side hazards to determine if a speed limit reduction will sufficiently reduce risk.

Operating Speed

The operating speed of a vehicle will generally be less than the desired speed of the driver since driving conditions are not usually ideal; however, operating speed may become excessive when the design speed is less than the desired speed as may occur on long flat sections of roadway.

Given that a roadway conforms to established minimum geometric design standards, the risk assessment criteria for implementing a speed limit change are as follows:

- High Risk - Operating speed appears to be greater than the posted speed.
- Medium Risk - Operating speed is equal to the posted speed.
- Low Risk - Operating speed is less than the posted speed.

Accident History

Accident history can be used to justify a speed limit adjustment using the criteria below:

- High Risk - There has been an average of 4 or more accidents per year for the previous 3 years as a direct result of speed in excess of the posted speed limit.
- Medium Risk - There has been an average of 2 to 4 accidents per year for the previous 3 years as a direct result of speed in excess of the posted speed limit.
- Low Risk - There has been an average of 2 or less accidents per year for the previous 3 years as a direct result of speed in excess of the posted speed limit.

Proximity of Development

The density and the closeness of development to the property line increases the amount of activity that a driver must observe. As a result, the location and the activities from the development play a factor in identifying an appropriate speed limit.

Assessment

Once all of the above criteria are rated, the Director of Transportation Services will make a recommendation in a report to the Transportation and Public Safety Committee regarding the proposed speed limit.

Speed Limit Review

Grey Road 2 from Highway 26 to Ravenna

Criteria	Assessment	Comments
Horizontal Curve	Low	Very straight - Meets standards
Horizontal Curve Density	Low	Very straight
Vertical Alignment	Medium	Some steep grades
Lane Width	Low	Meets standards
Shoulder Width	Low	Meets standards
Side Entrances	Low	Bellow standard
Intersecting Road	Low	Well-spaced
Road Side Hazards	Low	Very few
Operating Speed	Low	Average operating speed exceeds 80 km/h
Accident History	Low	Very few accidents contributing to speed
Proximity of Development	Low	Very little development, development set back from road

Michael Kelly

Director of Transportation Services

Grey County

Dear M. Kelly,

As business people in the community, we are very pleased to see the approach of the Economic Development Strategy developed by Grey County, in particular the 'Creating a Business Friendly Environment' theme: promoting, maintaining and enhancing local businesses.

We are owners of a small local business located on Grey Road 2 at Victoria Corners. We grow premium apples for the fresh apple market. Although most of our apples are shipped to wholesalers, we do run a small farm market on our property. TK Ferri Orchards is one of a number of small, locally owned businesses along Grey Road 2 between Ravenna and Hwy 26, including Ravenna General Store, Georgian Hills Vineyards, Oaklane Orchards, Golden Town Apple Products, Blue Mountain Cider, Zwarts Topsoil and Landscape Supplies, Ok Tire and The Landmark Group.

Grey Road 2 is a well-travelled road and this traffic is essential for our businesses to survive and, hopefully, thrive. It is used by many cyclists, transports, farm tractors and visitors to the area all of whom help to support the economic base of the County. As Grey County embarks on its Economic Development Strategy, we are encouraged by the County's '*Open for Business*' approach. To help support the prosperity and sustainability of the businesses along Grey Road 2 from Ravenna to Hwy 26, we feel it would be extremely beneficial to reduce the speed limit from 80 km/hr to 60 km/hr.

Primarily, a lower speed limit allows for businesses to be more readily noticed which increases the probability of visits to the local business. As many of the tourists to the area, who are an extremely vital component in Grey's economic base, search out venues along Grey Road 2, a reduction in the speed limit would assist them in locating their desired destinations with greater ease. We feel this would help to send the message to both local business and tourists that *Grey is Open for Business*.

Secondly, it would provide for safer conditions for cyclists and further support this aspect of tourism.

Thirdly, it would provide for increased safety as there are a noticeable number of transport and farm tractors, who travel this road. Golden Town Apple Products has a significant number of

transports entering and leaving their site. During harvest, there are also a significant number of farm tractors using this road. There is a noticeable absence of *'slow moving vehicle'* signage in this area as well. Tractor trailers & farm vehicles, compounded with increased tourism traffic, is a dangerous situation in an 80 km/hr zone.

A relatively small change at a small cost will provide a tremendous gain for Grey. By reducing the speed limit to 60km/hr, Grey County is taking advantage of an opportunity to support its local entrepreneurs, support the Economic Development Strategy, and clearly send the message *Grey is Open for Business*.

As a developing local business, T&K Ferri Orchards is hopeful for your support in this matter.

Sincerely,

Tom & Karen Ferri

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Simply Great Apples