

REGION OF OTTAWA CARLETON  
 RÉGION D'OTTAWA CARLETON

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REPORT  
 RAPPORT

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Our File/N/Réf.                    **50 20-99-R033**  
 Your File/V/Réf.

DATE                                30 April 1999

TO/DEST.                         Co-ordinator Transportation Committee

FROM/EXP.                       Director Mobility Services and Corporate Fleet Services  
    Environment and Transportation Department

SUBJECT/OBJET                 **ROCKDALE ROAD (REGIONAL ROAD 33) - VARS**  
    **- ALL-WAY STOP CONTROL**

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### **DEPARTMENTAL RECOMMENDATION**

**That Transportation Committee recommend Council not approve the installation of all-way stop control at the intersection of Rockdale Road and Bearbrook Road, or at Rockdale Road and Devine Road in the Village of Vars, as requested by the City of Cumberland.**

### **BACKGROUND**

In response to local concerns, Cumberland Council has requested that all-way stop control be implemented at two intersections in the Village of Vars; specifically, at Rockdale Road and Bearbrook Road and at Rockdale Road and Devine Road. The concern is for pedestrian safety in light of prevailing speeds on Rockdale. The intersections in question are 550 m apart. The City of Cumberland's resolution is attached as Annex A.

### **EXISTING CONDITIONS**

Field observations show that pedestrian activity crossing Rockdale is generally confined to those intersections and is limited to brief periods immediately before and after school - an elementary school (École St. Guillaume) is located on the northwest corner at Rockdale and Bearbrook. Pedestrian activity along Rockdale is minimal at any time.

Throughout the village, Rockdale Road is two-lane undivided with a posted speed of 50 km/h. Except for a short block on the west side, there are no sidewalks. Lane widths are consistent at 3.4 m and shoulder widths vary between one and three metres.

Speed surveys on Rockdale revealed 85<sup>th</sup> percentile speeds (the speed at or below which 85 percent of the observed vehicles were travelling) of 78 km/h at a point 200 m north of the

Bearbrook, 73 km/h at the Bearbrook intersection itself, and 67 km/h at a point 200 m south of the intersection. Annex B illustrates the layout of the village and the times, dates and locations at which speed data was collected.

The Region's Multi-way Stop Control Policy, as approved by Council in recognition of the special conditions associated with rural communities, established that all-way stop control could be installed at much lower thresholds for rural intersections, than for urban intersections. It states that all-way stops may be implemented in rural areas if one or more of the following conditions exist:

1. as an interim measure at a location where traffic control signals are warranted but for which funds are not immediately available;
2. at a location where an average of four or more preventable collisions per year have occurred, over a three-year period, and where less restrictive measures have been tried; or
3. if both of the following vehicular and pedestrian volume warrants are met:
  - a. the vehicular volume entering the intersection from all approaches averages more than 350 vehicles per hour for any eight hours of the day; and
  - b. the combined vehicular volume on the minor road and pedestrian volume crossing the major road, averages more than 140 units per hour, for the same eight hours indicated above.

Accordingly, both intersections were assessed against those criteria with the following results:

#### Rockdale Road and Bearbrook Road

Rockdale meets Bearbrook to form a skewed "T" intersection with stop control currently facing eastbound drivers on Bearbrook. Visibility conditions are good and no collisions were reported at the intersection during the three-year period ending 31 December 1998.

École St. Guillaume is located on the northwest corner. It fronts onto Bearbrook Road and is attended by 150 students (kindergarten to grade 8). Approximately 80% of the students (120) are bused to school and of the remainder who live in the immediate area, some are required to cross Rockdale. To accommodate that need, a supervised school crossing is in place on the south side of the intersection. It is equipped with extra-oversize "School Area" and "School Crossing" signs. Normally, signs of that type are 60 cm in width and where standard oversize signs are used, they are 90 cm in width. In this particular case, those signs are 120 cm wide.

A four-hour survey conducted at the intersection on Tuesday, 09 February 1999, from 7:00 to 9:00 a.m. and 3:30 to 5:30 p.m., revealed that 39 pedestrians crossed Rockdale at this location (20 crossed toward the school in the morning and 19 crossed in the other direction in the afternoon). Most were children and no difficulties were observed.

Since no accidents have been reported at this location during the past three years, the collision experience does not satisfy warrant 2 (of the Multi-way Stop Policy) and when applied against warrant 3, the traffic survey data meets those criteria to the following extent:

Vehicle Volume All Approaches <u>Avg. - 4 Highest Hours</u> *	Combined Vehicle Volume on Minor Street and Pedestrian Volume Crossing Major Street <u>Avg. - 4 Highest Hours (Aggregate)*</u>
267 (350)	23 (140)

( ) Figures in brackets indicate values which must be exceeded to warrant all-way stop control. Both warrants must be met.

\* In assessing the need for all-way stop control, an eight-hour traffic count is usually conducted. However, since none of the four peak-period hours met the warrants, the count was not continued for the full eight hours.

Based on the foregoing analysis, conditions at this location meet 16% of the warrant requirements for all-way stop control (i.e. 23 of the 140 units specified in warrant 3b).

#### Rockdale Road and Devine Road

Rockdale meets Devine to form a four-way intersection with stop control currently facing eastbound and westbound drivers on Devine. The intersection is situated 120 m south of a CNR level crossing. Visibility conditions are good.

During the three-year period ending 31 December 1998, two collisions were reported at this site. The first was an angle type involving two heavy vehicles. It occurred in August 1996 when the driver of an eastbound truck stopped before entering the intersection, but then failed to yield to a northbound truck. The other was a rear-end mishap involving two northbound motorcycles. It occurred in August 1997 when the lead rider failed to signal his intention to turn right.

During the four-hour survey conducted at this location on Tuesday, 09 February 1999, from 7:00 to 9:00 a.m. and 3:30 to 5:30 p.m., 15 pedestrians crossed Rockdale. Of those, 10 were children who crossed from west to east to reach the school bus pick-up point on the northeast corner. Again, the collision experience does not meet warrant 2 (of the Multi-way Stop Policy) and when applied against warrant 3, the traffic survey data meets those criteria to the following extent:

Vehicle Volume All Approaches <u>Avg.- 4 Highest Hours *</u>	Combined Vehicle Volume on Minor Street and Pedestrian Volume Crossing Major Street <u>Avg.- 4 Highest Hours (Aggregate)*</u>
370 (350)	36 (140)

Based on this analysis, conditions at this location meet 26% of the warrant requirements for all-way stop control (i.e. 36 of the 140 units specified in warrant 3b).

In summary, since neither the accident history nor the vehicle/pedestrian conditions meet the installation requirements for all-way stop control on Regional roads as approved by Council, this Department cannot recommend implementation of that control at either location at this time.

### OTHER CONSIDERATIONS

Other factors which should also be considered are:

- As a Regional road, Rockdale forms part of the Truck Route System and provides direct access to the Highway 417 interchange located 1.2 km south of Devine Road. During the four-hour surveys, 91 heavy trucks were observed on Rockdale (slightly over 7% of the vehicle stream). The noise generated by the stopping and starting of those vehicles, especially at night, will be a constant annoyance to residents of the village. Again, it is noted that the intersections are only 550 m apart.
- The CNR crossing just north of Devine is a major concern. If all-way stop control were to be implemented at that intersection, it would introduce the possibility that some vehicles would then be required to stop on the tracks. That scenario would be easily achieved whenever two or three transport trucks heading south behind one another, were required to stop concurrently. This particular track carries high-speed VIA Rail traffic between Ottawa and Montreal and although signals and gates are in place at the crossing, queued drivers could still inadvertently become trapped if a stopped or queued vehicle ahead were to stall.
- Of the seven accidents reported on Rockdale throughout the village during the three-year period ending 31 December 1998, one was pedestrian related. It occurred at night in January 1996 when a child ran onto the road near Henry Williamson Road. The northbound driver swerved to avoid collision; however in doing so, lost control and entered the ditch. No injuries were reported.
- Although not an immediate solution, the future completion of the north-south link along Frank Kenny Road will result in a considerable reduction in traffic through the village; however, local funding for that project has not been finalized. That by-pass is illustrated in Annex C.
- While the Cumberland resolution states that the request for all-way stops is based on resident concerns for pedestrian and vehicle safety, it is difficult to substantiate the gravity of that concern on the basis of the situation at the Bearbrook intersection adjacent to the school.

Although equipped with the extra-oversize signs described earlier, that crossing is not supervised in the morning. All pedestrian crossings observed in that period (20) occurred between 8:30 and 9:00 a.m. during which the two-way volume on Rockdale was 124 vehicles. The crossing is supervised after school and the children who crossed during that period (16), did so between 3:30 and 4:00 p.m., during which the two-way volume was 125 vehicles.

In essence, during each of those half-hour peak pedestrian activity periods, the vehicle volumes were almost identical (124 vs. 125) and averaged approximately four vehicles per minute. The school principal has confirmed that the crossing is only supervised after school when pedestrian activity tends to be more concentrated. It is also noted that vehicle volumes are almost identical in both directions on Rockdale, during each of those half-hour periods.

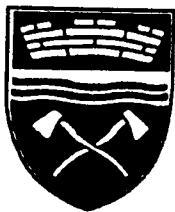
- School crossings are a form of traffic control where school children are supervised in order to facilitate a safe crossing of the roadway. Therefore, the *Highway Traffic Act* limits their use to locations other than a roadway approach which is controlled by a traffic signal, stop sign or yield sign since those devices provide a more positive degree of traffic control. Should Committee and Council approve Cumberland's request, the "School Crossing" signs must be removed from Rockdale at Bearbrook, although the "School Area" signs can remain.
- The provision of unwarranted all-way stop control as a speed control device may not reduce operating speeds in the village since some drivers may try to make up for "lost" time. Further, driver compliance with stop signs on Rockdale may be far less than hoped for as the vast majority of drivers would seldom encounter side street traffic or crossing pedestrians. In addition, a false sense of security may develop in children if they assume that all approaching vehicles will actually stop for the stop signs. That mix of driver attitude and pedestrian expectation could create a greater potential for risk than currently exists.
- Automatic traffic recorder counts conducted on Rockdale just south of Devine in August 1998, revealed daily volumes of 3,000 vehicles in each direction. If this request is approved, 6,000 vehicles (including approximately 420 heavy trucks) would be required to make two stops in the village per day. This equates to approximately 4.4 million additional vehicle stops per year (including approximately 300,000 made by heavy trucks). The fuel requirements and resultant noise and exhaust emissions from that volume of stops and starts is not in keeping with Council's goal, as stated in our Transportation Master Plan, of reducing the undesirable impacts associated with roads, including fuel consumption, community disruption, noise and air quality degradation.
- During the development of the Region's Multi-way Stop Control Policy, it was recognized that the warrants for that type of control as set out in the Ontario Manual of Uniform Traffic Control Devices were far too difficult to satisfy in rural areas. As a result, in 1990 staff recommended and Council approved that for rural applications, those warrants should be reduced by 30 percent. Since then, conditions at virtually all rural locations at which local councils have felt all-way stop control was necessary, have met the reduced warrants and the installation of that control has therefore been technically justified.

## FINANCIAL IMPLICATIONS

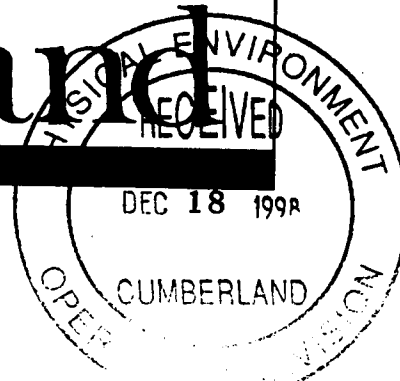
Should Transportation Committee and Council approve the implementation of all-way stop control at these intersections, costs would be limited to those associated with the installation of additional “Stop” and “Stop Ahead” signs and pavement markings. This equates to an initial expenditure of \$1,200 and annual maintenance costs of \$200, per intersection.

*Approved by  
Doug Brousseau*

TWC/JFB/sc

Township of ☐ Canton de

Cumberland



Resolution No. 10198 .....

Date ... DECEMBER 15 ... 1998

Moved by: *[Signature]* .....Seconded by: *[Signature]* .....

**WHEREAS** many residents have expressed concerns regarding pedestrian and vehicle safety along Rockdale Road (Regional Road No. 33) in the Village of Vars; and

**WHEREAS** the Township of Cumberland recognizes that additional traffic control measures are required to improve safety along Rockdale Road;

**BE IT THEREFORE RESOLVED THAT** Council authorize staff to submit a letter requesting the Region to consider the installation of all-way stops at the intersection of Rockdale Road and Bearbrook Road and at the intersection of Rockdale Road and Devine Road.

