

## **TRAFFIC CALMING ISSUES IN GREATER WAVERLEY:**

*---- A report prepared by the Waverley Ratepayer's Association (WRA) Traffic Calming Committee (TCC) for HRM Councilor Barry Dalrymple.*

Approved by the WRA Traffic Calming Committee on Tuesday October 12, 2010

Approved by the WRA Executive on \_\_\_\_\_

Submitted to Barry Dalrymple on \_\_\_\_\_

### **PERSPECTIVE:**

Present day Waverley Road is not what it was when it was called the Portobello Road or Highway 318. Since those earlier decades, this relatively narrow Road has undergone little change in specifications even though it has become the only conduit connecting several still-expanding subdivisions as well as some new smaller subdivisions that are presently under development. It serves as an emergency alternate route for Highway 118 and as the prime connection to the remainder of HRM for a host of private Waverley homes, the majority of which are characterized by steep and/or hidden driveways. Some of its shortcomings can also be found on other local roads such as the southern end of Highway No.2 and the eastern part of the Cobequid Road.

Today's Waverley Road supports an ever increasing amount of commercial traffic as well as larger numbers of commuters from more densely developed areas lying to the north of Waverley's central core i.e., the Fall River area and from as far away as Sackville *via* the Cobequid Road. Superimposed on this increased traffic flux, particularly during morning and evening rush hours, are the requirements of pedestrians and cyclists that risk their lives each and every time that they attempt to utilize the road itself and its western shoulder. Essentially, there is no dedicated walking zone for pedestrians and elementary school children using either the Waverley Road and those sections of No. 2 Highway and the Cobequid Road that are proximal to the center of the village and to the new Waverley Memorial Elementary School..

The accident that occurred at the southern section of the Waverley Road on September 23<sup>rd</sup> claiming one life is a grim reminder of the dangerous state of Waverley's local road network(see attachment). There are several other traffic situations in other parts of Waverley that speak to the need to improve the current road geometry and related specifications in order to protect children that will be attending the new Waverley Memorial Elementary School as walkers (e.g., the eastern part of Rocky Lake Drive). Literature identifying this road network as being safe for cyclists promotes a false sense of security and is inconsistent with current road and road shoulder conditions, especially with respect to other suburban and rural parts of HRM. The intent of this report is to

engage the local HRM Councilor in a meaningful dialog on the urgency of this matter and to solicit his assistance in marshaling HRM resources to initiate appropriate remedial solutions. The body of the report addresses a number of issues that have been prioritized by the TCC as the result of a series of surveys and meetings over the past year.

It is the belief of the TCC that the HRM pedestrian safety standards for Waverley's major road network are not on a par with those that exist in surrounding suburban and transitional rural/suburban areas that fall within HRM responsibility. Compare, for example, the northern section of the Waverley Road, the eastern section of the Cobequid Road and the southern section of Highway No.2 with the southern section of Waverley Road and the section of Highway No. 2 between the Shoppers Drug Mart store and the United church in Fall River.

Greater Waverley's pedestrian and cyclist road safety standard shortfall takes a number of forms that are detailed in the body of this report. Each element identified below has been evaluated with the aim of increasing the currently dangerous safety margin for pedestrians, cyclists and drivers alike. These issues have been listed in priority and must be addressed in a reasonable time frame to reduce risk for all road users. The safety shortfall observations described in this report are not local in nature. In fact, a recent World Health Organization (WHO) *Global Status Report on Road Safety* that is described in the fall 2010 issue of the CAA Magazine describes the views of the Executive Director of 8-80 Cities – a Toronto non-profit organization dedicated to making cities safer for pedestrians and cyclists. His recommendations for improving street safety include a ban on right turns on red lights, reduction of speed limits and a five second head start for pedestrians over motorists on green lights. The WHO report itself speaks to the need for “ policies that insure the safety and convenience of drivers, pedestrians and cyclists....” The current apparent contrast between urban versus suburban/rural pedestrian safety standards in HRM seems to place lesser value on the life of those pedestrians that live outside the more developed areas of the Municipality(?). **What follows in this report is aimed at: (1) bringing potential solutions to the attention of the appropriate responsible departments in the HRM and (2) a call for action to remedy the most dangerous conditions based on the TCC's prioritized suite of standard and experimental solutions that can be implemented within a time frame consistent with the ranking of issues described below.** The present situation of relatively lower pedestrian safety standards for major Waverley roads must be addressed before accidents between motor vehicles and pedestrians, or between motor vehicles and cyclists, causing serious injury or death occur. Pre-emptive measures are needed now and are long overdue.

## **TRAFFIC CALMING ISSUES IN ORDER OF PRIORITY**

- (1) Shoulder widening – Waverley Road, Cobequid Road and No. 2 Highway:
  - Entails moving some crash rails, infilling some narrow shoulder spots not protected by crash rails and removing vegetation on sharp curves that obstructs the vision of pedestrians using the shoulder. Waverley Road crash rail displacement in the direction of the Lake William shoreline involves some infilling of the lake with clean

country rock of appropriate texture. Shoulder widening on the east side of the Road does not appear to be feasible or cost-effective but may be necessary in certain instances.

(2) Installation of stop signs at certain key intersections and rumble strips before sharp turns:

- Includes the clearing of vegetation that obstructs driver's vision at some intersections.

(3) Construction of two turning circles, one at the intersection of the Cobequid Road and Rocky Lake Drive and the other at the intersection of Rocky Lake Drive with the Waverley Road and No. 2 Highway (formerly Lake Thomas Drive).

(4) Installation of photo radar units at three dangerous Waverley Road locations along with appropriate warning signs i.e., segments where traffic tends to accelerate to speeds that are well above the posted 50 km per hour limit.

(5) Defining bicycle lanes (i.e. balout lanes) on both sides of the Waverley Road to heighten driver awareness and encourage road sharing.

(6) Begin the installation of a network of lighting poles in the village core that will also support signs identifying features of historical significance. Expand the lighting/historical sign program to other parts of the Waverley area (e.g., No. 2 Highway and Rocky Lake Drive):

-Intended to further slow the flow of traffic and attract tourists to the area. This initiative could likely be undertaken with the help of the Waverley Heritage Society.

(7) Increase active radar surveillance during rush hour times at problematic locations along the Waverley Road and reduce speed limit from 60 km/hr to 50 km/hr along parts of No. 2 Highway south of the Highway No. 102 intersection (Exit 5).

(8) Establish uniform road rules regulations for recreational cyclists and cyclists in training for competitive events.

-This initiative would be undertaken and promoted in collaboration with WRA volunteers that are familiar with cycling club networks.

### **(1)Shoulder widening – Waverley Road, Cobequid Road and No. 2 Highway**

For several years, the Waverley Ratepayer's Association has pointed out the need for a safe walking trail and an emergency lane for cyclists along the shoulder on the west side (Lake William side) of the Waverley Road. A large but not total part of the Road between its intersection with Rocky Lake Drive and the north entrance to Silversides Subdivision (Silversides Public Beach) has sufficient space for single file walkers as a consequence of private development of the shoreline by local residents. A submission to HRM requesting that the shoulder be widened at nine comparatively short sections between the southern entrance of Silversides Subdivision and the Portobello Lock

Inclined Plane Park (see table below) produced an unacceptable response from HRM staff to the effect that this widening would not be safe because it would allow pedestrians to walk both with and against the flow of south moving traffic. However, as pointed out by one of the TCC members familiar with the regulations, that interpretation of the law only applies “where practicable” and, given the unsafe conditions found along many parts of the Waverley road, would not be applicable.

In effect, at this time, there is two way pedestrian traffic on the lakeside shoulder (west side) of the Waverley Road. Many residents find it necessary to walk more than one kilometer to either: (1) retrieve their mail or (2) to gain access to public transportation to take them to Dartmouth and beyond. These bi-directional walkers are in addition to recreational walkers and to cycling activities that occur throughout much of the year including the winter months. Pedestrian safety is exacerbated by both the narrow shoulder conditions cited below for the southern segment of the Waverley Road between the south entrance of Silversides Subdivision and the Portobello Lock Park, and by the excessive speed of rush hour and weekend traffic involving both cars and especially commercial traffic (i.e., large delivery trucks and pickup trucks towing wide trailers). The situation is blatantly unsafe and unacceptable to local residents. The large numbers of yellow precautionary signs (e.g. “Blind Driveway”) installed along the road are essentially disregarded by most drivers particularly during the morning and evening rush hours and by a large percentage of the weekend “sightseeing” and motorcycle traffic as well.

The pedestrian safety standard for much of the Waverley Road stands in sharp contrast to what has been provided in other parts of the HRM and is no longer acceptable given the growth of surrounding communities that use the Waverley Road for commuting and weekend sightseeing. Waiting for pedestrians or cyclists to be injured or killed is not an option. Remedial action is needed now although it has been demonstrated in HRM estimates that sidewalks would be much too expensive and, incidentally, not consistent with the suburban and rural settings found throughout greater Waverley. Widening of the shoulder at several particularly narrow sections of the Waverley Road seems to be a much more cost-effective and precautionary solution to what has become an increasingly hazardous situation for both pedestrians and cyclists. In some instances, it may be appropriate to widen the shoulder more than needed for pedestrians to allow small sections of the road itself to be shifted to the west at locations where the east side of the roadbed is too close to bedrock exposures (e.g., near 1560 Waverley Road).

Alternatively, these hazardous sections may require excavation of bedrock and/or overburden on the east side of the road and the construction of suitable retaining walls as has been done along the southern part of the Waverley Road and Highway No. 2 north of the Highway No. 102 intersection. This remedy might be particularly appropriate at several locations along the east side of the Road where the very narrow shoulder almost disappears. At these locations, the left (eastward) curvature of the road renders northward flowing vehicles and cyclists essentially blind with respect to south walking pedestrians (e.g., road sections close to 1560, 1616, 1674 and 1440 Waverley Road).

Shoulder widening is also needed along the eastern side of the Cobequid Road between Rocky Lake Drive and the entrance to the McDonald Sports Park and the Cheema Aquatic Club, and along the west side of Number 2 Highway between the Waverley Fire Hall and and the Highway No. 102 intersection (Exit 5).



Figure 1. Drivers will often steer across the yellow centerline of the Waverley Road (even on curves) to avoid pedestrians walking along narrow shoulder sections. This maneuver also occurs frequently with respect to clusters of cyclists that use the Road for physical training.



Figure 2. Cobequid Road narrow shoulder sections inhibits complete off-road parking and requires pedestrians to walk around parked vehicles by stepping out onto the paved road. The lack of safe walking areas along this part of the Road has required that school children be bused to the Waverley Memorial Elementary School.



Figure 3. Example of an extremely narrow shoulder on blind curve near 1560 Waverley Road. The shoulder itself is devoid of vegetation because it is used by wide vehicles. This is an especially dangerous section for both pedestrians and cyclists since there is literally no easy escape route. It does not appear to meet the minimum standard for wide commercial delivery vehicles and trailers. The concave cross-section of the narrow shoulder at this location suggests that the passenger side wheels of wide vehicles actually leave the pavement and run on the shoulder. Similar blind curve/narrow shoulder conditions also exist on the Waverley Road at or near street numbers 1440, 1616 and 1674.

### **Southern segment of the Waverley Road:**

The survey of road shoulder conditions (see table presented below) is for the segment of the Waverley Road beginning just to the south of the southern entrance to Silversides Subdivision (i.e., the southern end of Rolling Hills Drive) and extending south to the Portobello Inclined Plane Park. The criterion used to identify unsafe narrow shoulder segments is a width of less than 40 inches (about 1 metre) between the edge of the black top road surface and the roadside edge of the crash rail. In addition, there are some segments where the crash rail is absent but where some infill is needed to meet the one metre width minimum and other instances where previous infill between the edge of the asphalt and the crash rail has eroded away leaving deep gullies that are a hazard to both cyclists and automobiles that find themselves driving on the shoulder in these areas for whatever reason.

<b>Location on Waverley Rd</b>	<b>Situation</b>	<b>Length <u>not</u> meeting 1 m width criterion</b>
1964 to 1930	Crash rail too close	~350 feet
Beeswanger Lane to Lake William Lane	Crash rail too close	~300 feet
Lake William Lane to 1584	Crash rail too close	~250 feet
1572 to 1526	Crash rail too close	~450 feet
1446 to 1450	Crash rail too close	~100 feet
1406 area	Shoulder infill needed	~100 feet
1302 to 1298	Crash rail too close	~100 feet
1291 to 100 ft North of Joe street	Crash rail too close	~100 feet
50 feet north of 1196	Crash rail too close	~100 feet
TOTAL DISTANCE OF UNSAFE SEGMENTS		~1850 feet

**(2) Installation of stop signs at certain key intersections and rumble strips before sharp turns**

The Traffic Calming Committee has identified at least three intersections where three-way stop signs need to be placed as soon as possible. Blind approaches to two of these intersections (#'s 2 and 3 below) should be fitted with rumble strips of the kind used on the Cobequid Pass highway to warn drivers to slow down for the tollbooths. The three intersections are:

(1) The intersection of Sibley Street and the Waverley Road. This intersection provides access to Frame Subdivision; a subdivision that has witnessed renewed growth over the past several years. It is also proximal to the Department of Lands and Forests public boat launch facility that is exceptionally busy during the summer months.

(2) The intersection of the north end of Rolling Hills Drive and the Waverley Road. This intersection provides access to the north part of Silversides Subdivision that has expanded north over the past decade. It is also the key crossing area for pedestrians that use the Silversides public beach.

(3) The intersection of Joe Street and the Waverley Road. There is a large multiple mailbox installation just to the south of this intersection that is frequented by both automobiles and pedestrians. Vehicles approaching this intersection from the south have very limited visibility until they have reached the intersection itself because of the curvature and undulating nature of this section of the road.

In addition to the stop sign installations, the TCC strongly recommends that rumble strips be cut into the Waverley Road adjacent to the following civic addresses: 2704, 2609, 2572, 2342, 1930, 1765, 1616, 1526, the 1460's section, 1291, and 1062 (HRM bus stop section). Rumble strips are also recommended for the 2502 and 2535 segments of Rocky Lake Drive and for Highway No. 2 between 2615 and 2704.

**(3) Construction of two turning circles (i.e., “roundabouts”), one at the intersection of the Cobequid Road and Rocky Lake Drive and the other at the intersection of Rocky Lake Drive with the Waverley Road and Highway No. 2.**

Where installed, turning circles or roundabouts have demonstrated their effectiveness in slowing traffic to posted speed limits and below. The one proposed for the intersection of the Cobequid Road and Rocky Lake Drive is aimed at discouraging large volumes of commercial traffic from using the Drive as opposed to the nearby 100 standard highway. More importantly, it is intended to provide an added layer of safety to walking children that are trying to reach the new Waverley Memorial Elementary school and to drivers entering Rocky Lake Drive from side streets located just to the east of the intersection (e.g., senior-age drivers entering Rocky Lake Drive from Faucheu Lane). The turning circle proposed for the intersection of Rocky Lake Drive, Waverley Road and No. 2 Highway is also intended to slow traffic at this very busy intersection and to provide an added layer of safety to pedestrians that make use of the Waverley Green outdoor recreational area that lies just off the northeastern corner of the intersection. The traffic calming effect of the turning circle (i.e., its early warning signage) would result in safer pedestrian crossing of Highway No. 2 (i.e., safer access to the convenience store and pizza take out) and safer pedestrian crossing to the Irving gas and convenience store on the south side of Rocky Lake Drive (directly across from the Waverley Village Green).

Both rotaries and roundabouts are circular, but have few features in common beyond that. Rotaries are intended to move traffic at relatively high speeds. They have large diameters, often greater than 300 feet (90 m), with several lanes of traffic moving at speeds of 30



mph (50 km/h) or greater. Tangent approaches allow drivers to enter at high speeds. By contrast, most urban roundabouts carry one lane of traffic at a relatively low rate of speed<sup>(1)</sup>. Deflection is used to slow down vehicles on approaches and recommended maximum entry design speed is 20 mph (35 km/h). Once a vehicle has entered the roundabout, the driver is forced to maintain a low speed by virtue of the short diameters of 100 to 130 ft (30-40 m). Entering traffic is yield-controlled, allowing vehicles already circulating to continue moving. Splitter islands and landscaping are typical features of roundabouts that enhance the user-friendliness for both drivers and pedestrians. A splitter island is a raised or painted area on an approach which deflects and slows entering traffic, separates entering from exiting traffic, and provides a refuge for pedestrians that allow them to cross the street in two stages. The configuration of modern roundabouts precludes left turns. Forcing all movement to go to the right eliminates crossing conflicts.



Figure 4. An example of the turning circle concept.

**(4) Installation of photo radar units at three dangerous Waverley Road locations along with appropriate warning signs i.e., segments where traffic tends to accelerate to speeds that are well above the posted 50 km per hour limit.**

Relatively strait segments of the Waverley Road seem to be an invitation to drivers to accelerate to speeds well above the posted 50 km per hour speed limit. One of the strait segments occurs to the north and south of 1464 Waverley Road. At the south end of the strait segment the Road turns sharply to the east. Pedestrians crossing the road south of the curved segment (e.g., to access their parked vehicles or their boat docks) are at risk from speeding vehicles and trucks that are still traveling at above the posted speed limit. A second “speedway” segment is in the vicinity of the HRM bus stop and the Portobello

Inclined Plane Park. Both areas are frequented by anomalous numbers of pedestrians at any given time of the day relative to other parts of the Road. Speeding along this part of the Road seems to be encouraged by the wider shoulder areas and the generally strait geometry of the road. Photo radar is being used extensively in other parts of Canada and the United States. Installation on the Waverley Road, even if only as an experimental initiative, would enhance pedestrian safety because of the effect of associated signage on speeding drivers (“Hidden Driveway”, “Hearing Impaired Person” and “Blind Person” signs have no effect on speeding drivers particularly during morning and evening rush hours). Photo radar speed monitoring is viewed by the TCC as an important element in protecting pedestrians who, in the case of the Waverley Road, will always be limited to walking both with and against traffic.

**(5) Defining bicycle lanes on both sides of the Waverley Road to heighten driver awareness.**

The Waverley Road’s configuration speaks to its long history and is obviously viewed as a very scenic drive relative to many other HRM scenic drive venues. However, it also serves the HRM cycling community as a popular training road because of both its scenic setting and the nature of its frequent change in elevation. Cycling competitions often make use of both Waverley Road and Rocky Lake Drive. Defined bicycle lanes on the relatively more dangerous Waverley Road would serve to remind drivers of the frequent presence of cyclists. These lanes might not need to be as wide as is found in other parts of the HRM. An adjacent widened road shoulder could then serve more effectively as a “bail out” lane of last resort. In addition to recreational cyclists, competitive cyclists can often be found training on the Road in large clusters of as many as eight riders. Although bicycle lanes, in themselves, would not be effective in terms of vehicles passing cyclists, they would serve as a constant reminder to all vehicle operators, as they do for other parts of HRM, that the road is to be shared and that passing must be done when safety conditions allow for such maneuvers.

**(6) Begin the installation of lighting poles in the village core that will also support signs identifying features of historical significance. Expand the lighting/historical sign program to other parts of the Waverley area (e.g., No. 2 Highway and Rocky Lake Drive):**

This idea, like many of those mentioned above is designed to encourage drivers to slow down. It would likely take the form of an HRM/Waverley collaboration (e.g., the HRM, the Waverley Heritage Society and the Waverley Ratepayer’s Association, the NS Dept. of Tourism) that would be initiated in the Waverley village area and expanded over the next ten years to some of the distal parts of greater Waverley that lie to the north, south and west of the village core.

**(7) Increase active radar surveillance during rush hour times at problematic locations along the Waverley Road and reduce the speed limit on No.2 highway to 50 km/hr between the Highway No. 102 intersection and Waverley.**

There are several relatively straight sections of the Waverley Road where morning and evening rush hour traffic speeds are particularly excessive. One of these sections lies between 1496 (north end) and 1452 (south end) Waverley Road. The southern end of this section is particularly problematic for the occupants of 1452 because of a sharp eastward curve of the road immediately to the south of that address. Crossing the road at that address is literally an act of blind faith especially during rush hour times. Random observations confirm that the yellow cautionary signs that have been placed at a large number of locations along the section of road lying immediately to the south of 1452 (e.g., “Hidden driveway”, “Blind Person” etc.) are essentially disregarded by most rush hour and weekend traffic. The aforementioned circumstances require an intensification of radar monitoring and police presence along straight sections of the Waverley Road and not just north of the Waverley village core (Highway No. 2) as has been the practice to date.

There is also ample evidence of speed limit violations of traffic moving from the 60 km/hr part of No. 2 Highway to the 50 km/hr zone closer to the central core of Waverley. The TCC strongly recommends that the 60 km/hr speed limit between the Highway 102 intersection (Exit 5) and the start of the 50 km/hr zone section of this road starting several kilometers to the south of the 102 intersection be reduced to 50 Km/hr (i.e., made uniform) for the entire section. This recommendation is based on the daily use of the southern section of No. 2 Highway by elementary school walkers and the frequent use of this road by cyclists from parts of Highway No.2 lying to the north of the Highway 102 intersection. Incidentally, that northern part of Highway No.2 has posted signs designating that section of road as a cycle route which inadvertently encourages cyclists to continue southward onto the more treacherous parts of Highway No. 2 and the Waverley Road.

**(8) Establish uniform regulations for recreational cyclists and cyclists training for competitive events.**

This last, and lowest priority idea, is intended to improve safety awareness of bicycle riders using the Waverley Road as well as local connector roads to Fall River and Bedford. This initiative will be actioned by TCC members that are familiar with the local cycling community and with Nova Scotia recreational and competitive cycling organizations. HRM involvement will be required to insure that the regulations are consistent with government legislation and/or policy.

**Summary**

It has become evident to the members of the TCC and to many residents of greater Waverley that the large number of precautionary signs posted along the communities local road network are being totally disregarded by both local and commuting drivers. Corrective measures are needed to protect the safety of recreational walkers/pedestrians, school children and cyclists. It is clear that HRM does not have the police resources to control the current traffic speeding situation on the Waverley Road and therefore both standard and unique (i.e., experimental) mitigating measures are needed to lower risks to

all concerned. The proposed measures described above are considered to be cost-effective solutions to a number of dangerous road conditions that need immediate attention before lives are lost.

### **References**

(1) Isaacs, B. and Barrett, J., 2003. Use of roundabouts in an urban setting. 2<sup>nd</sup> Urban Street Symposium, Anaheim, California, July 28-30, 2003.