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City Agenda Report

Report To: CITY COUNCIL

Report Date: June 5, 2001 **Meeting Date: June 14, 2001**

Subject: Traffic Control - Stonegate Drive

Department Review:	**Recommended for Agenda:**
D. Bélisle General Manager of Public Works	J.L. (Jim) Rule Chief Administrative Officer
Report Authored by: R.G. (Greg) Clausen, P.Eng., Director of Engineering	

Recommendation:

That Council pass the by-law amending Schedule 'L' of the Traffic and Parking By-law #2001-1 prohibiting:

1) Left hand turns from Stonegate Drive on to Beatrice Street and
2) Right hand turns from Beatrice Street onto Stonegate Drive.

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Executive Summary:

The residents of Stonegate Drive, in the former New Sudbury, see Exhibit 1, attached, have submitted a petition to Councillor David Courtemanche requesting appropriate action be taken on Stonegate to reduce both traffic volume and vehicle speed. Staff have carried out appropriate analysis including traffic counts and along with both Councillor David Courtemanche and Councillor Mike Petryna, presented the analysis to a public information meeting held on Wednesday, May 16th, 2001.

The recommendations emanating from the meeting include the following:

1) Traffic calming intersection nodes (goosenecks) be constructed at both ends of Stonegate Drive,

2) Left turns from Stonegate Drive onto Beatrice Street be prohibited,

3) Right turns from Beatrice Street onto Stonegate Drive be prohibited,

4) The Greater Sudbury Police Service be requested to significantly increase patrols in this area to enforce traffic speeds and prohibition of illegal left/right turns as discussed above, and

5) Staff continues to monitor traffic volume in these streets, and if volumes do not significantly decrease then internal chicane traffic calming will be further considered as a secondary measure.

Similarly, due to the significant pedestrian traffic along Stonegate Drive to and from the Barrydowne Street area, the residents are requesting that a sidewalk be constructed along the west side of Attlee Street between Stonegate Drive and be connected to the existing sidewalk on the south side of Westmount Drive. This would eliminate pedestrians having to cross Attlee at Stonegate Drive, and again at Attlee and Westmount Avenue.

To prohibit left and right turns to and from the west end of Stonegate Drive, appropriate changes must be made to the Traffic and Parking By-law #2001-1. Therefore, Council is requested to pass the enclosed by-law which will change Schedule 'L' to By-law #2001-1 as shown on Exhibit 3 attached.

Background:

Councillor Courtemanche over the last several months has received numerous complaints from concerned residents on Stonegate Drive see Exhibit 1. The concerns have been primarily related to both the volume and speed of traffic along Stonegate. Recently, a petition was received by Councillor Courtemanche.

Stonegate has become a residential collector street for motorists travelling to and from the Westmount/Barrydowne area into the subdivision leading to Beatrice/Cumberland and Manchester Streets. Traffic volumes are highest first thing in the morning and late afternoon when residents are travelling to and from work. Also during the winter months, traffic volumes are high during the evenings and on weekends due to both the Adanac Ski Hill and Barrydowne Arena, recreational facilities.

The high traffic volumes were recently confirmed by traffic counts carried out by our Traffic Engineering department. Twenty-four hour counts on the following four (4) streets indicated AADT (Annual Average Daily Traffic) counts as follows:

Stonegate Drive	1068	
Beatrice (between Stonegate and Attlee)	614	
Beatrice (near Manchester)	1682	(extrapolated)
Soloy	559	
Attlee	3820	

The AADT for a residential street is normally calculated to be between 8 to 10 vehicle trips per day per residence. For the 28 residences on Stonegate a normal AADT of 224 to 280 would be expected. The actual AADT 1068, confirms the residents concern about the excessively high traffic volumes for a residential street.

Speed checks carried out on this street by the Greater Sudbury Police Services during earlier investigations indicates that the average travel speed is 50 km/h, the posted speed limit. When compounded with the high traffic volume the residents' perception is that the traffic is speeding.

Similarly, over the last several years requests for all-way stops at the intersection of Beatrice and Attlee Streets, and Stonegate/Santa Monica and Attlee Streets have been received from residents on both Stonegate and Santa Monica Streets. Traffic counts indicate a ratio of 4:1 to 3:1 for traffic on Attlee Street verius traffic entering onto Attlee from either Beatrice or Stonegate/Santa Monica. A ratio of 2.3:1 is considered necessary to warrant the installation of an all-way stop. However, a "Hidden Intersection" sign was installed on southbound Attlee Street approaching the Stonegate/Attlee intersection in an effort to alert southbound traffic of the intersection.

City Public Works Department staff have visited the area on several occasions to study traffic flow patterns. Also, in late April Councillor Courtemanche and the writer met on site with several residents.

Based on the above information, and in consultation with the Ward Councillor, staff investigated and studied all options proposed by the local residents. Staff recommendations were that traffic calming measures be implemented on Stonegate Drive. Several articles on traffic calming are included in Exhibit 2 of this report and provide Council with background information.

Specifically, staff recommends that nodes be designed and constructed at each entrance to Stonegate. These nodes simply extend the existing curb decreasing the radius of the intersection therefore forcing traffic to slow down as they enter or exit the intersection. Also, by having to slow down to make the turn and having the perception of a narrow intersection, motorists hopefully will be encouraged not to use Stonegate as a through street, but to continue to the Beatrice/Attlee intersection.

Similarly, staff recommended that offsetting-nodes be positioned at two (2) locations midway on Stonegate thereby creating two (2) chicanes in the roadway. The chicanes, which could also be enhanced by trees/shrubbery, will also decrease/break up the line of sight along the roadway resulting in motorists having to slow down, and ultimately hopefully not use Stonegate as a through street. A draw back to the chicane construction is that on-street parking is effectively eliminated by one-half along the street.

With the support of the Ward Councillor and the residents, staff would then carry out the detailed design and costing of these traffic calming measures. The project would be ranked with other similar neighbourhood improvements. Based on the high traffic volumes and safety issues, staff was confident that this project would score highly and could possibly be considered in the next several years capital programs.

At the public meeting, staff presented the traffic calming recommendations discussed. The consensus of attendees at the meeting herein was that this project should be developed in two (2) stages. Stage one will include the construction of nodes at both intersections to discourage turning movements onto Stonegate. Also, instead of construction of the internal chicanes and the elimination of on-street parking, the residents wished to prohibit left-hand turns from Stonegate Drive onto Beatrice Street and to prohibit right-hand turns from Beatrice onto Stonegate Drive.

Staff has several concerns with the effectiveness of the prohibition of turns at Stonegate and Beatrice Streets in achieving the desired objective. The effectiveness of prohibition of turns is dependent upon significant police enforcement. Residents and frequent through traffic will tend to travel down Beatrice and/or Stonegate and continue to make the applicable turns. They will only not turn if there is a police presence. Similarly, infrequent visitors/guests into the area will continue to make the illegal turns. Staff can not recommend this scenario that relies on significant enforcement to be effective.

These concerns, were discussed in great detail at the public meeting. In the end, it was the recommendation of the neighbourhood residents and Ward Councillors that the following measures be implemented:

1) Traffic calming intersection nodes (goosenecks) be constructed at both ends of Stonegate Drive,

2) Left turns from Stonegate Drive onto Beatrice Street be prohibited,

3) Right turns from Beatrice Street onto Stonegate Drive be prohibited,

4) The Greater Sudbury Police Services be requested to significantly increase patrol in this area to enforce traffic speeds and prohibition of illegal left/right turns, and

5) Staff will continue to monitor traffic volumes on these streets, and if volumes do not significantly decrease then the internal chicane traffic calming attention be further considered as a secondary measure.

Similarly, due to the significant pedestrian traffic along Stonegate Drive to and from the Barrydowne Street area, the residents are requesting that a sidewalk be constructed along the west side of Attlee Street between Stonegate Drive and be connected to the existing sidewalk on the south side of the Westmount system. This would eliminate pedestrians having to cross Attlee at Stonegate Drive, and again at Attlee and Westmount Avenue.

To prohibit left and right turns to and from the west end of Stonegate Drive, appropriate changes must be made to Traffic and Parking By-Law #2001-1. Therefore, Council is requested to pass the enclosed by-law which will change Schedule 'L' to By-Law #2001-1 as shown on Exhibit 3 attached.

Staff will endeavour to have the intersection traffic calming nodes constructed this season as part of the 2001 Capital Roads and Drainage budgets.

EXHIBIT 3

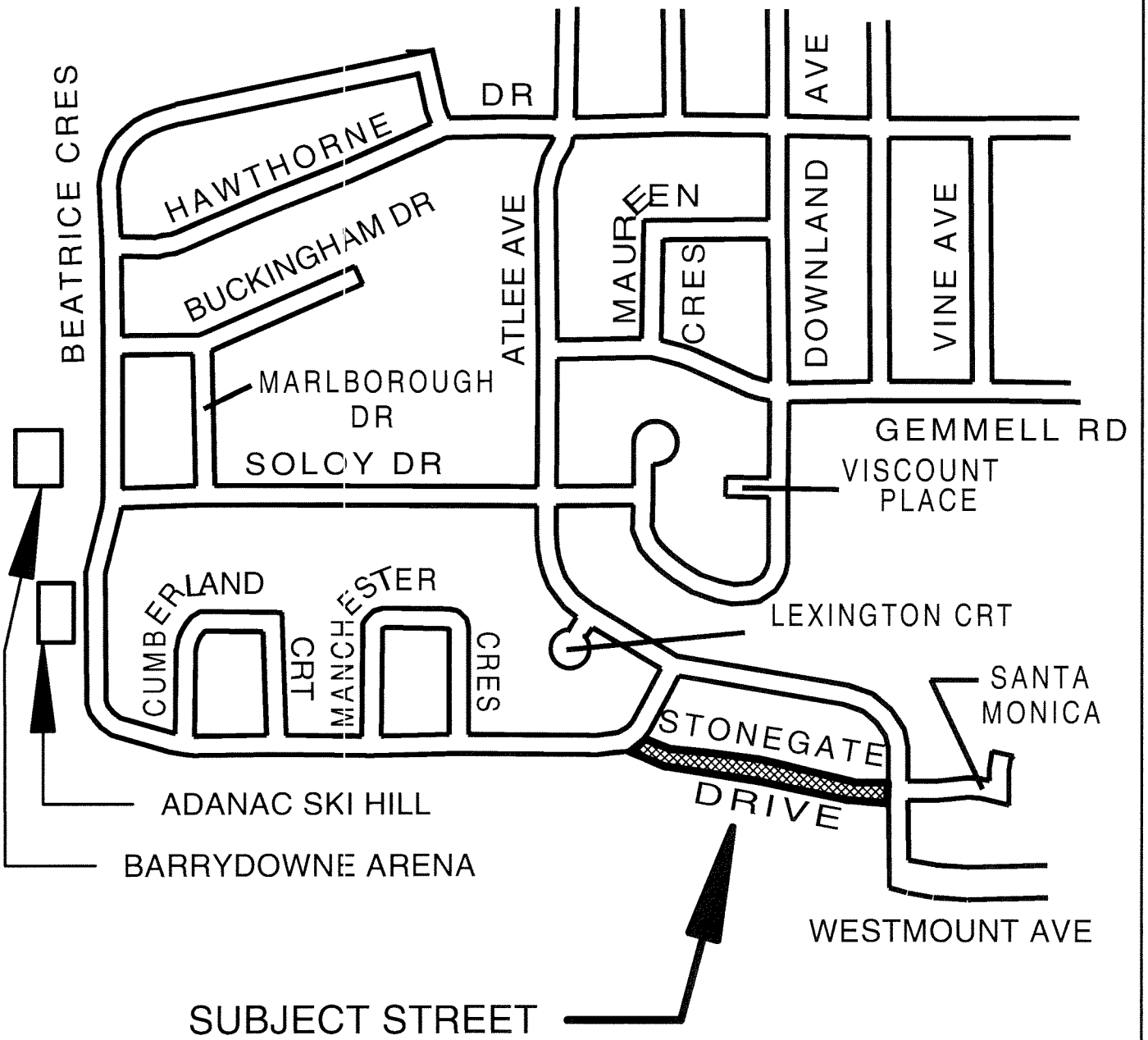
THE CITY OF GREATER SUDBURY

SCHEDULE 'L' TO BY-LAW #2001-1

TURNS PROHIBITED

ADD:			
(1)	(2)	(3)	(4)
HIGHWAY	DIRECTION OF TRAFFIC	DIRECTION	TIME AND/OR DAYS
STONEGATE DRIVE	Westbound	Left turn to Beatrice Street	Anytime
BEATRICE STREET	Northbound	Right turn to Stonegate Drive	Anytime

Exhibit 1



Sudbury	TITLE	TRAFFIC CONTROL
		STONEGATE DRIVE
	SIZE / DATE: June 2001	City of Greater Sudbury / REV
	SCALE: N.T.S.	BY: A.Bryant / 1 of 1

EXHIBIT 2

TRAFFIC CALMING

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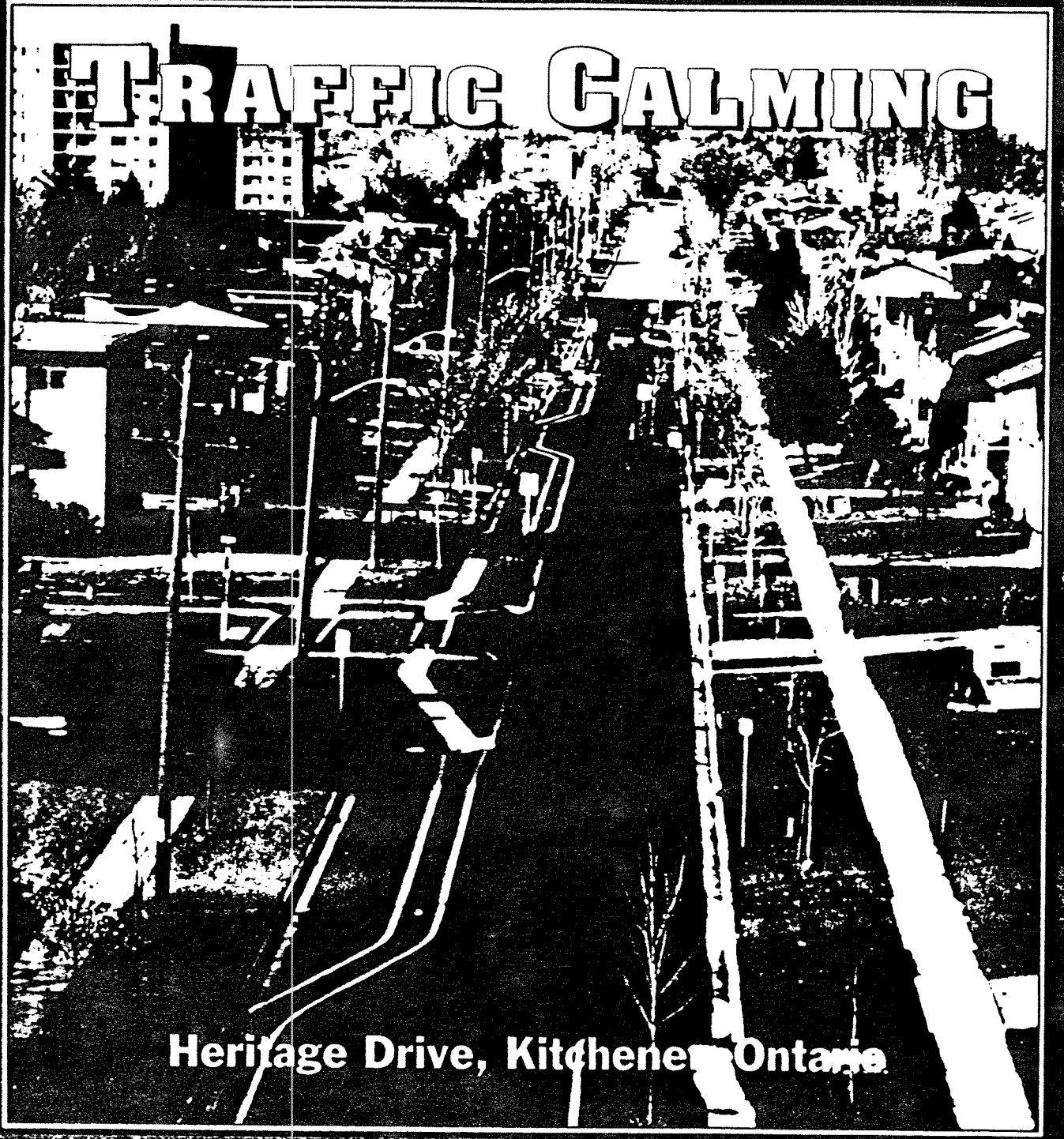
ONTARIO TRAFFIC

TRAFFIC CALMING



Heritage Drive, Kitchener, Ontario

KITCHENER'S EXPERIENCE

By: Richard Parent,
Traffic Technician, City of Kitchener,
Traffic and Parking Division

Heritage Drive has been a political focal point over the last twenty years. A Community Plan drafted in the early 70's by the City of Kitchener Planning Department proposed that Heritage Drive be cul-de-saced addressing residents' complaints of speeding vehicles and through traffic. In March 1993, Heritage Drive was temporarily closed for a set time of 1 year. This would allow not only the affected residents, but also the entire community and the Traffic Department to closely examine the full ramifications of the closure. However, additional roadways, changing traffic patterns and conflicting viewpoints forced the reconsideration of the road closure.

In the summer of 1994, City Council voted that Heritage Drive remain open, with the condition that the Traffic and Parking Division implement traffic calming measures to address speeding and through traffic concerns raised by area residents.

BACKGROUND

Heritage Drive is a two lane minor collector roadway located in the Grand River Community. Lorraine Avenue to the east leg of Oakhurst Crescent is fronted with single family dwellings, the latter section of Heritage Drive east to Ottawa Street North is fronted with Rosenberg Park and the Grand River Recreation Complex on the north side, and Grand River Collegiate High School and Arena on the south side.

During the summer of 1994, staff of the Traffic and Parking Division researched various types of traffic calming measures used throughout North America. Staff agreed that the model selected must not only address the concerns of the area residents, but must also incorporate access for cyclists, parking for residents, and be aesthetically pleasing not only to passing motorists but also to the residents.

The traffic calming measures were to be implemented on Heritage Drive in two stages. Stage one, from Lorraine Avenue to the east leg of Oakhurst Crescent, would be completed in 1994, and stage two, from the east leg of Oakhurst Crescent to Ottawa Street North in 1995. This two stage operation would disperse costs and provide the Traffic and Parking Division with an opportunity to study the effects of the traffic calming measures in stage one prior to proceeding with stage two.

STAGE ONE

A node design was developed and integrated at the intersections of Indian Road and both legs of Oakhurst Crescent (see Figure 1). These nodes are simply an exten-

(Please turn to page 12)

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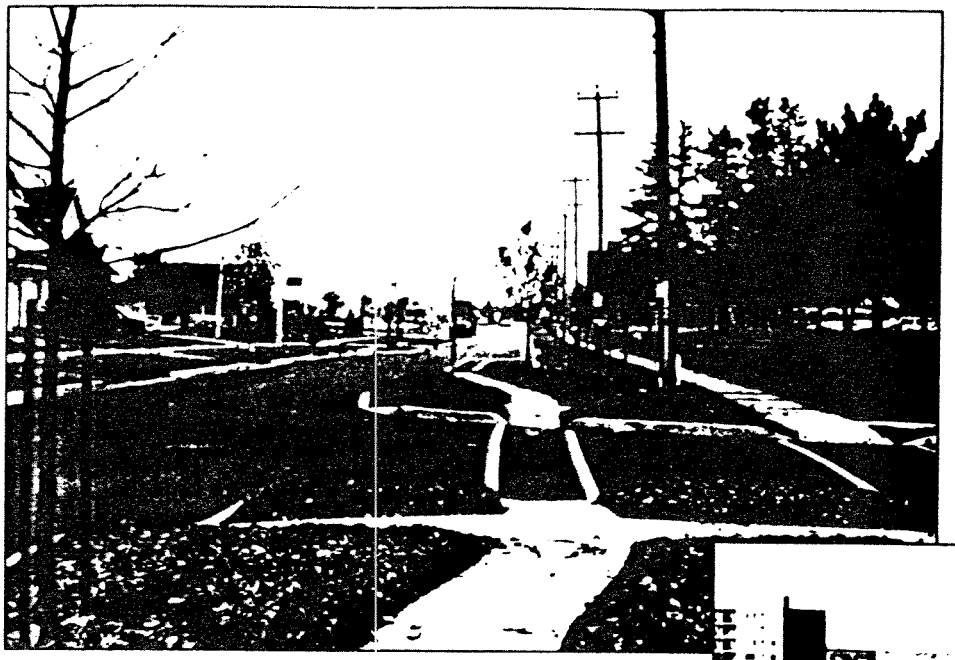

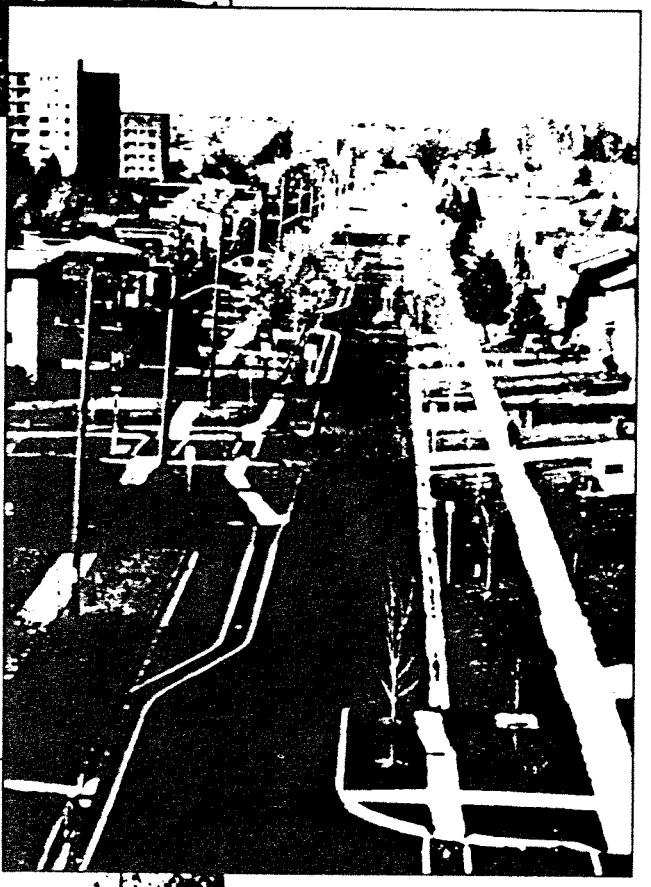

A Scenic View of Heritage Drive

Figure 2.

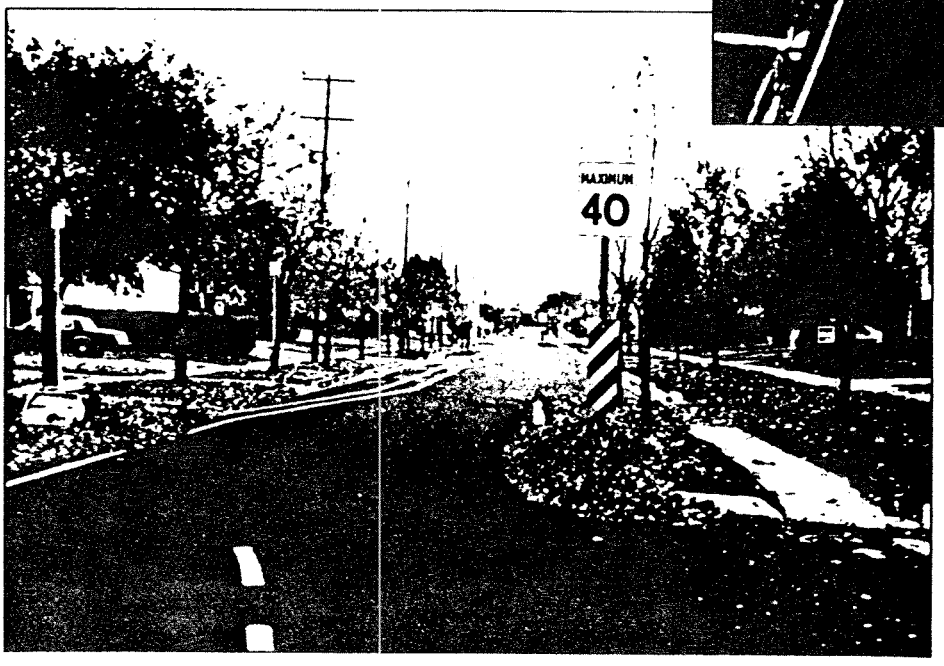

Figure 3.

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Traffic calming – Heritage Drive, Kitchener, Ontario

(Continued from page 10)

sion of the existing curb. This technique decreases the radius of the intersection and forces traffic to slow down as they enter and exit. At all three intersections, the stop bar was left at its' original location, ensuring that vehicles do not conflict with cyclists and pedestrians.

Nodes are positioned between residential driveways and offset from each other on each side of Heritage Drive between Indian Road and the west leg of Oakhurst Crescent. Each node extends 3 meters out into the travelled portion of the roadway and are furnished complete with trees, sod and bicycle lanes (see Figure 2). The node and bicycle lane combined leave 6 meters of roadway for two way traffic. Pavement markings on each approach to the nodes guide bicycles safely through the maze of curb work.

Strategically located on-street parking and a 40 km/h posted speed limit augment the traffic calming measures.

Figure 3 clearly displays all traffic calming measures.

STAGE TWO

A 2.5 meter centre median design is planned to be implemented on the section of Heritage Drive from the east leg of Oakhurst Crescent to Ottawa Street in the summer of 1995. The median will be furnished with shrubs and deciduous trees, adding to the perception of the narrowed roadway. The bicycle lane will continue through this section to Ottawa Street, providing cyclists with access to the Arena, High School and Recreation Centre.

COST

Total cost for stage one was $94,000. This included asphalt, all concrete work, sidewalks, bicycle lanes, catch basin and drain relocation, and landscaping.

Estimated cost for stage two is $188,000. This cost includes an angled parking area providing additional parking for the Arena and the Recreation Centre. This phase is scheduled to be completed in conjunction with road resurfacing funded through the Capital Road Works Program.

STUDY RESULTS

Extensive O-D, volume and speed studies were conducted on Heritage Drive both before and after the traffic calming measures were implemented.

Traffic volumes on Heritage Drive from Lorraine Avenue to Indian Road dropped from 3865 AADT to 1520 AADT. Traffic speeds (85th percentile) on Heritage Drive were measured in excess of 65 km/h before the traffic calming measures, and were reduced to 59 km/h after.

SUMMARY

The Heritage Drive experience was successful in reducing traffic volumes and lowering vehicle speeds. Perhaps more importantly, the consensus from area residents, the community as a whole and technical staff is a positive one. Traffic and Parking Division staff hope to implement similar traffic calming measures on more streets this year.❑

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THE TRAFFIC CALMER

by Ian M. Lockwood, P. Eng.

What is Traffic Calming?

Traffic calming is one of the latest buzz-words in Ontario's transportation scene. However, there are different views on what traffic calming is. Nevertheless, there is a growing opinion that traffic calming is a valuable tool that will help solve many of our urban problems related to motorized vehicle use. Because of traffic calming's rising profile, dealing with traffic calming and its implications is becoming important. To help the public, transportation professionals, municipal staff, and politicians communicate effectively about traffic calming, a common understanding of the terminology would be beneficial, which is the subject of this column. Comments are welcomed and can be sent to the address at the end along with the questionnaire.

The **definition of traffic calming** is the combination of policies and measures that help correct the negative effects of motorized vehicle use on individuals and society in general. Traffic calming achieves this by changing the design and role of streets to serve a broad range of transportation, social, and environmental objectives.

The **goals of traffic calming** are to increase the quality of urban life, improve condition for people, create safe and attractive streets, reduce collision frequency and severity, and help reduce the negative effects of motorized vehicles on the environment.

The **objectives of traffic calming** are to achieve slow speeds for motor vehicles, improve the real and perceived safety for non-motorized users of the street, incorporate the preferences and requirements of the people using the area (residing, working, playing, etc.) along the street(s) or at the intersection(s), provide more greenery (trees, shrubs, etc.), increase access to land for all modes of transportation, and promote pedestrian, cycle and transit use.

Typical traffic calming measures include vertical changes in the road (speed bumps, raised intersections), lateral changes in the road (chicanes, lateral shifts), constrictions (narrowings, islands, pinch points), traffic circles, small corner radii, gateway features, and street scaping (street furniture, lighting, landscaping). Different combinations of traffic calming measures are appropriate depending on the balance that is desired between non-motorized traffic activities and motorized traffic.

What is *not* Traffic Calming?

Traffic management is frequently confused with traffic calming. Traffic management typically employs turn restrictions, one-way streets, and closures. It is often employed to reduce through-traffic from particular areas by changing the flow of motor vehicles on the street network. Traffic calming, on the other hand, lowers the speeds of drivers in the particular areas, which can also reduce through traffic.

The advantage of traffic management is that it is inexpensive. However, the disadvantages are that local access tends to be circuitous, compliance of restrictions requires enforcement, and one-way streets can encourage speeding.

Traffic control devices are also frequently confused with traffic calming measures.

Traffic control devices are signs, signals, and markings that are designed to regulate, warn, guide, and inform. Though a traffic control device and a traffic calming measure could share the common goal of slowing down car drivers, the traffic control device is an attempt in communication, while the traffic calming measure is a part of the design of the street or intersection.

Lateral Shift in Street.

Feature Traffic Calming Initiative: Balloil Street, Toronto

The traffic calming work on Balloil Street is a shining example of what can be achieved through traffic calming. The residential street connects

used to be a sea of four-way stops. In keeping with the look of the neighbourhood, five tastefully designed raised intersections were constructed. In addition, the intersections were narrowed to 5.0 meters by extending the sidewalks and making space for landscaping and trees, Seven mid-block narrowings (also 5.0 meters) were installed, again with landscaping and trees. The traffic calming measures were constructed with a variety of good quality materials. The coloured pavers, landscaping, and good design definitely enhances the aesthetics of the neighbourhood and makes it truly pleasant for walking, cycling, or simply have a conversation along the street.

Extensive before and after studies have shown that the project was successful on many fronts. Speeding was reduced significantly, noise levels fell, and the collision data looks encouraging (from about two per year to zero since implementation in 1994), fuel consumption fell by a staggering 32% which is very encouraging from an environmental and cost perspective.

In addition to creating a safe and attractive street, the project was used to help answer a lot of questions. The measures posed no difficulty for snow clearing, street sweeping, or winter driving. The measures which employed vertical changes in the road were more effective for reducing speeds

The biggest drawback to the project was the ugly hazard signs that were used to mark the narrowings. These signs are now being replaced with nicely designed bollards. Not only do the bollards fit in with the neighbourhood, but they are visible from 360°.

Project Manager Andrew MacBeth, P.Eng., standing next to bollard.

PLEASE RESPOND

The Board of Directors of the O.T.C. is asking for input from its members in response to a resolution endorsed by North York City Council.

The City's Transportation Department received a request from the North York Advisory Committee for Persons with Disabilities to consider the following:

That the Ministry of Transportation of Ontario be requested to consider legislation requiring a uniform set fine for all municipalities in Ontario for illegal parking in spaces designated for disabled person parking permit holders.

Installation of advisory tabs under the parking signs for disabled person parking permit holders, identifying the fines associated with illegal parking.

As previously stated, the City endorsed the request and is asking for comments from the O.T.C. Therefore, we are asking for your input on any suggestions our readers might have on the matter. Please forward them to the address listed on the editorial page.

Just as a footnote, a committee was struck by the Ministry of Transportation several months ago to deal with the Disabled Parking Persons Permit Holders issue. Discussions dealt with the above.

The O.T.C. has representation on the committee. It would be greatly appreciated that you get your comments in as soon as possible.

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The Balloil Street project was successful primarily because of the dedicated people involved, including the local residents, the project manager, and the many other staff members at the City of Toronto. These people can be proud of their accomplishments which has become one of the best examples of traffic calming in Ontario.

Traffic Calming Questionnaire

One of the first tasks of the Ontario Traffic Conference's newly formed volunteer committee on traffic calming is to gather traffic calming information from throughout the province. The subcommittee will use the information to help establish provincial guidelines that will help all municipalities. Please have someone from your municipality fill out and submit this questionnaire to the following address:

Information Facilitator:
Traffic Calming Subcommittee
The Ontario Traffic Conference
Suite 121, 20 Carlton Street
Toronto, Ontario
M5B 2M5 ❑

TRAFFIC CALMING QUESTIONNAIRE

MUNICIPALITY: _____

CONTACT NAME: _____

ADDRESS: _____

_____

PHONE NUMBER: _____

FAX NUMBER: _____

Has your municipality traffic calmed?	Yes	No

What measures have been used by your municipality?

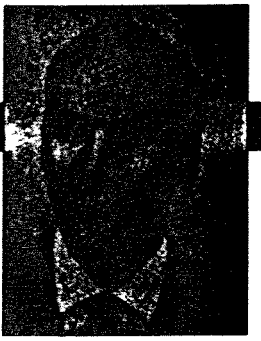
What measures does your municipality plan to use?

Does your municipality have any traffic calming policies or legislation?	Yes	No

Please provide your views, questions, and other comments on traffic calming

Any additional documentation about traffic calming that you can provide regarding your traffic calming experiences would be very helpful and appreciated (eg. before/after studies, plans & drawings, cost/funding information, procedures & process, policies & legislation, standards, etc.)

THE TRAFFIC CALMER



IAN LOCKWOOD
P.ENG.

Traffic Calming in Rural Communities

Many rural communities grew up around the main street which was typically part of the through highway. Historically, the main street accommodated "community" functions including: business functions, social functions, celebrations, communication functions, access to abutting land uses, as well as "traffic" functions. Since World War II, motorized vehicle traffic has dominated the main streets, conflicting with community functions. The very quality of life people expect in rural communities is being eroded. Traffic calming may be a solution.

Up to now, there were two solutions to address the main street problems: 1) modify the main street to accommodate motorized traffic, or 2) build bypasses. The problem with the first solution is that it exacerbates the conflicts between the community and traffic functions. The problems with bypasses are their high costs, the negative economic impact on the main street businesses, undesirable highway-oriented development, and they may not ultimately solve the problems on the main street.

Traffic calming main streets in rural communities began in the early 1970's in Denmark. Though initially controversial, the results included: improved business and aesthetics, reduced collisions, and increased pedestrian activity. After the implementation, the majority of local people and through-drivers supported the changes. Traffic calming became the third alternative solution and has since been successfully applied to hundreds of rural communities throughout Denmark. Despite a wide spectrum of cultures, topography, and climates, it has spread successfully to other countries including: Belgium, the Netherlands, France, Austria, Germany, and Switzerland. Traffic calming is now being adapted to suit rural communities in North America. In fact, the author's firm is currently at various stages of completing traffic calming solutions in five rural communities in Ontario and the United States.

Compared with traffic calming in large urban areas, rural traffic calming has many similarities including: the issues with speeding, driver behaviour, safety, on-street parking, barrier and environmental effects, and the public consultation process. The differences include the increased uniqueness of the community's culture, the street geometrics, the lack of public transportation, and the need to accommodate through traffic.

Case studies from around the world indicate that main streets can be traffic calmed without problems in communities with: traffic volumes of up to 8,000 vehicles per day, populations of up to 5,000, and the length of the main street corresponding to a travel time of 5 to 10 minutes. Successful solutions are possible at higher values as well (1).

Typically traffic calming in rural communities begins with notifying drivers that they are approaching a traffic calmed community using information/warning signs, rumble strips, etc. Next, conspicuous gateway features indicate arrival and slow down drivers, some employing lateral and/or vertical changes. Along the main street, there are traffic calming measures designed to maintain the desired speed (ranging between 30 to 50 km/h) and to achieve other community objectives (more greenery, promote pedestrian traffic, provide space for business and community activities, etc.). These measures can vary greatly depending on the original street's design and the community's layout and preferences.

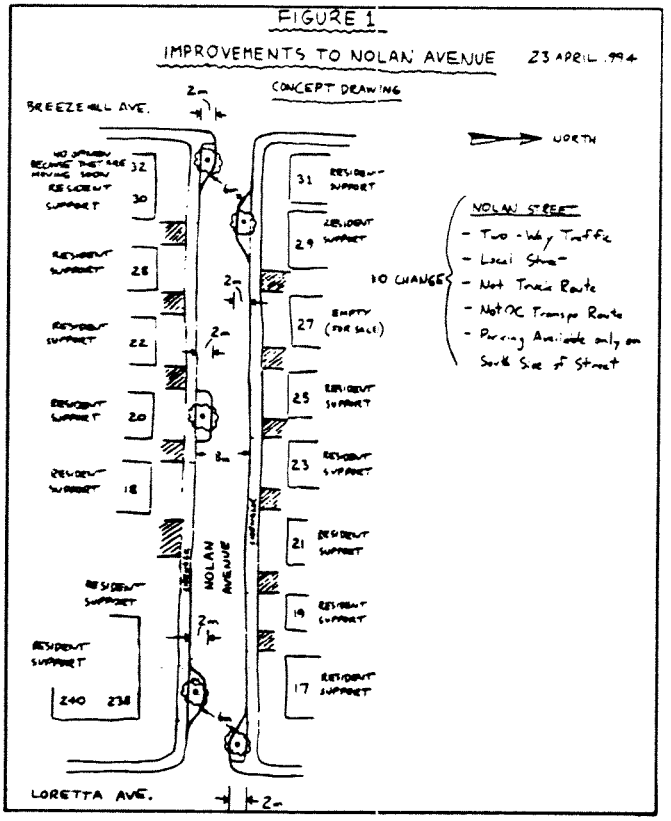
Where there is a choice between traffic calming and a bypass, traffic calming is far less expensive. However, in some circumstances, traffic calming alone may not be feasible and a bypass maybe unavoidable. Judgement is required to make this determination based typically on the individual communities' characteristics, the volume of traffic, and the importance of the traffic functions. Traffic calming may defer a bypass, or both solutions could be implemented simultaneously. The latter scenario

community functions to return to the main street.

Feature Traffic Calming Initiative; Nolan Avenue, Ottawa

Nolan Avenue is a short street in Ottawa providing access to 16 modest homes on narrow lots. Many of its residents objected to reckless drivers whose presence starkly contrasted with the otherwise quiet street. In the summer of 1994, the entire street and both sidewalks were being reconstructed for new sewers.

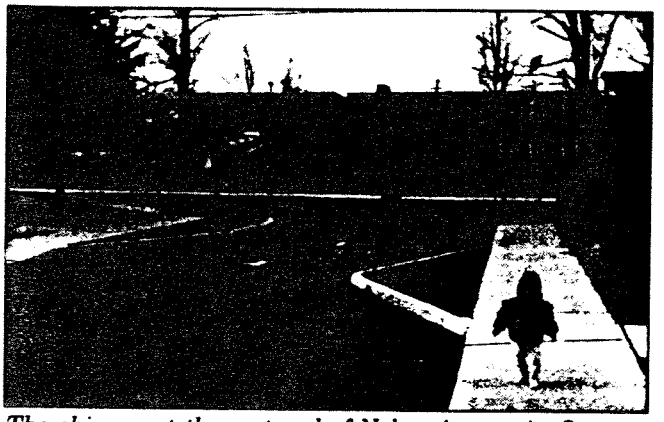
The residents used the opportunity to develop a traffic calming solution to the reckless driving problem. Their plan also met their on-street parking needs and desire to maintain two-way access at both ends. They liaised with City staff who were very cooperative. The solution included chicanes at each end, a narrowing in the middle, and five trees (see the diagram from the residents' report). As well,



their report listed several safety, aesthetics, and environment reasons for the changes. The City agreed to all the changes except the middle narrowing for maintenance reasons. The public were notified through newspaper ads, and consensus was achieved by petition along the street. With the local councillor's support, the changes were implemented, with only the tree planting remaining.

In the following year, reckless driving was virtually eliminated. The perception is a quieter and safer street with drivers taking more caution. Parents feel that their children are safer when playing or walking to the playground or school. Also, the project brought many neighbours together for the first time resulting in an increased sense of community demonstrated by neighbourhood parties, impromptu conversations along or on the street, trading of garden plants, porch sitting, etc. The feeling of safety risen due to increased natural surveillance on the street.

As happens every winter, the street was narrowed by snow banks to one lane, completely burying the chicanes. There were no winter-related problems nor difficulties with school buses or garbage collection. Only the hazard signs are considered aesthetically objectionable.



The chicane at the east end of Nolan Avenue in Ottawa, the school and playground in the background, and a young pedestrian.

This project demonstrated that traffic calming: 1) is desirable during reconstruction, 2) can improve the quality of life on low volume streets, 3) can reduce reckless driving, 4) can involve a simplified public consultation process, and 5) can occur on a very small scale.

Reference 1) Djurhuus, Ole, PIARC Technical Committees on Interurban Roads and Roads in Urban Areas, *Through Traffic in Small Towns*, PIARC, Paris, France. July, 1991.

1995-1996 BOARD MEETING DATES

DATE	TIME
FRIDAY, December 8, 1995	11:00 A.M.
FRIDAY, January 26, 1996	11:00 A.M.
FRIDAY, March 22, 1996	11:00 A.M.
SUNDAY, April 28, 1996	10:00 A.M. - WHITBY

Neighbourhood Traffic Calming "London's Experience"

Prepared by:
Bruce M. Elliott P.Eng.

This paper will be designed to review some of the most effective ways to implement traffic calming in residential neighbourhoods.

The City of London, population 316,000, has initiated some limited traffic management schemes in the past to deter short-cutting traffic and reduce operating speeds on residential street systems.

During 1993 however, the City has been inundated with requests from residential communities concerned with traffic issues.

Interestingly, some of these communities are recent subdivision developments, not the neo-traditional neighbourhoods with grid street patterns in the older sections of the City where most traffic engineers traditionally have been requested to deal with residential traffic matters.

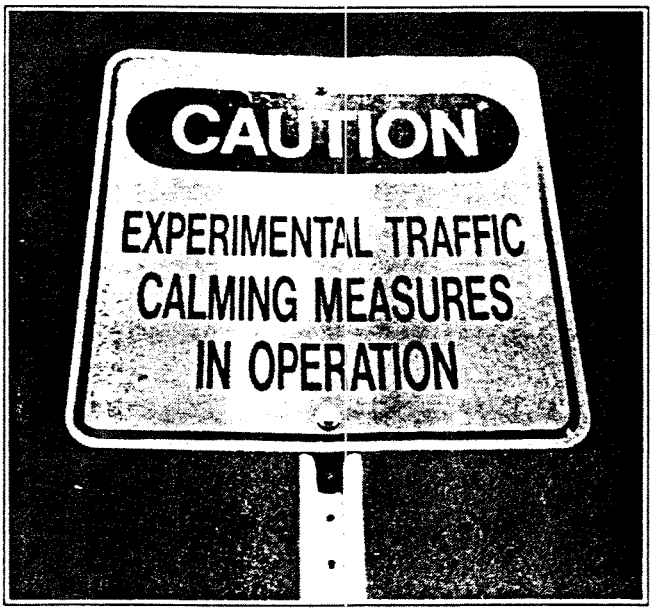
The paper will address the "process" the City of London is utilizing in working in neighbourhood areas to identify the potential area traffic management measures to be used to implement "traffic calming".

Neighbourhood Traffic Calming "London's Experience"

The City of London, Ontario, Canada, population 316,000 has initiated some limited traffic management schemes in the past to deter short-cutting traffic and reduce operating speeds on residential street systems.

During 1993, the Traffic & Parking Division received numerous requests from residential communities concerned with traffic issues.

Interestingly, some of these communities are recent subdivision developments, not the neo-traditional neighbourhoods with grid sheet patterns in the older sections of the City where most traffic engineers traditionally have been requested to deal with residential traffic matters.



I have put together an outline of the "process" that the City of London has been utilizing in working in neighbourhood areas and identifying the potential area traffic management measures used to implement "traffic calming".

We have determined, basically through a trial and error process, that there is a need to develop a positive rapport with the area representatives, and to initiate, at an early stage, a sense of ownership and involvement by a representative group from the affected area.

This "process" that we developed involves a high degree of interaction by key traffic staff and an initiative to act as liaison or facilitator in the development of potential solutions.

We have found that this process resulted in a less "confrontational" environment when it came to the decision making stage with the elected committees and City Council, primarily due to the interaction, involvement, and understanding of the residents "action plan" committee which took place over the duration of the project.

The "process" that we developed is shown in FIGURE 1 below.

FIGURE 1

PROCESS

1) Identify Problem(s)
2) Public Participation Meeting
3) Residents Committee Develop Action Plan
4) Residents Committee Present Plan to City Staff
5) Report to Council Plan Developed by Residents
6) Implement Action Plan
7) Monitor/Evaluate/Public Input
8) Finalize

Prior to holding a public participation meeting **in the community where the concerns have been put forward,** the Traffic & Parking division would initiate appropriate studies to identify the problem(s). The studies could include all-way stop assessments, traffic flow information, vehicular operating speeds, license plate trace, etc.

These studies play a key role in documenting the extent of the "concerns" and in some instances can serve to diffuse the perceived severity of the identified concerns.

At the first public participation meeting, a presentation by staff would usually introduce the background information, identify the significant study findings, and outline both the "process" and potential traffic management measures.

Key participants at the meeting should include traffic staff, area elected officials, and representatives from the police.

In opening the meeting, it is essential to introduce all staff, police, and elected officials and to outline that the purpose for coming together is to share information and ideas with a view to improving the present situation. It is also essential to stress that there will be a need to establish a small representative working committee to develop an action plan which the community as a whole feels comfortable with, and which recognizes other factors which have to be addressed in providing traffic service to the area.

We would encourage the working committee to take ownership of their recommendations and ensure that their proposed action plan is, as far as possible, generally acceptable to the community as a whole.

Following the brief presentation as outlined above, the traffic staff would outline some of the "tools" available for traffic management.

These "tools" or traffic management measures are listed in FIGURE 2 below and cover the majority of techniques which most municipal jurisdictions are either currently using or considering.

FIGURE 2

POTENTIAL AREA TRAFFIC MANAGEMENT MEASURES

1) Enforcement
2) Reduced Speed Limit
3) All Way Stops
4) Turn Restrictions
5) Maze - One Way Street System
6) Narrowings
7) Road Diverters
8) Road Closures
9) Speed Humps/Raised Intersection
10) Traffic Circle
11) Road Texture
12) Road Projects

We have found that by briefly going over the various measures outlined above, the area group develops a better understanding of the pros and cons of the measures and to what general degree they may be applicable in their neighbourhood.

Questions and answers are encouraged, however the overall meeting should be kept informative, friendly, and brief.

The objective of this meeting is to encourage the group to establish a Resident's Committee. This committee should be **representative** of the area, not localized or concentrated in only geographical sections of the community. It should be a **small, working** group.

The staff would make resource materials available to the committee, such as base plans, traffic volumes, etc. and as required, meet with the committee in the development of their action plan. If appropriate, the committee can establish liaison with the elected representatives and/or involve them on the committee.

This process, tends to develop strong positive bonds between community representatives, city staff, police officials, and City Council.

Traditionally, traffic presentations to City Council and/or elected officials, particularly involving neighbourhood issues have tended to be confrontational and sometimes emotional, placing the councillors in the awkward position of trying to remain supportive of technical staff, while at the same time not appearing to diminish the concerns of the community.

We have had very favourable response to date from all participants involved in three separate projects currently underway in the city.

Following the process, we felt it would be a major step forward in developing relationships with the community and demonstrating that there is a desire to work in a positive role with respect to neighbourhood traffic issues.

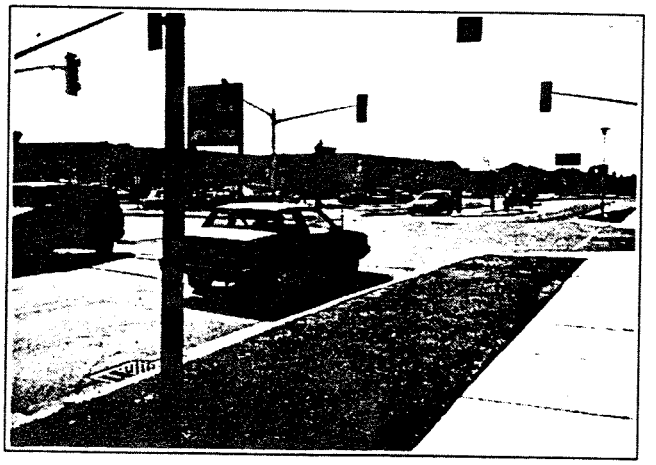
As outlined in the process, monitoring, evaluation, and gathering further public input to refine the measures are key issues in determining the final disposition and success of the action plan.

Implementation of most measures can be accommodated in very economical and effective ways by using "temporary" barricades, signing, etc. This allows for flexibility during the evaluation period and gives the area residents an opportunity to experience the impact of the measures. If changes are required for any reason, during the evaluation process the temporary measures can be easily modified and re-evaluated.

Following the evaluation period, if the measures are determined to have achieved the desired result, conversion to permanent works can be considered and integrated into a future budget year. This would permit such things as landscaping and visual enhancements to be incorporated into the final works. Again, input from the resident's committee should play a key role.

SUMMARY

Traffic calming is beginning to catch on in North America. Traffic calming "involves a fundamental rethinking of metropolitan planning and organization and a revised emphasis on quality rather than quantity of life" writes David Engwicht, an Australian transportation analyst.



In short, traffic calming aims to visually and psychologically remind motorists that streets are not their exclusive property.

Some of the proven ways of achieving this are outlined in FIGURE 2, and include narrowing traffic lanes, adding bikeways, rebuilding streets with gentle curves, drawing greater attention to pedestrian crossing locations by painting or raising them to the same level as the curb with a sloped platform for cars to cross, extending sidewalks a few feet into the intersections, closing some streets to traffic, installing special humps, restricting right turns, and replacing traffic signals with all-way stop signs.

Opponents to traffic calming complain that true measures simply increase traffic and chaos somewhere else. But traffic studies have shown that traffic can often diminish because people, particularly in residential settings, may be encouraged to walk, bike, or consolidate trips. Wolfgang Zuckeman in his book "End of the Road" points out that when Greenwich Village, Washington Park was closed to traffic in the 60's, traffic engineering studies showed that vehicle use on nearby streets actually decreased.

It is interesting to note this in a recent edition of the Toronto Star (April 16/94), the electronic information highway will begin to play a role in subdivision development impacting on road systems and travel patterns.

Montgomery Village, a futuristic community of 600 homes just outside of Orangeville, Ontario will be the first new development in Canada to be wired with fibre optic cable, which will equip the village homes, schools, and businesses for electronic transmission of complex video and sound messages, visual telephone connections, interactive TV, hi resolution fax machines and the ability to send and receive unlimited amounts of information simultaneously at virtually the speed of light.

The intent is to create a village atmosphere to make it first a people place.

"Some of the ways we are going to make a difference is by bringing back the back lane, moving the houses up to the edge of the street where people connect with people. We'll build streets much narrower than you see in today's subdivisions and create smaller residential blocks. The street scapes will be on a pedestrian scale with wide sidewalks, front porches, attractive lamp posts, and by putting cars in back lanes with other municipal services will be able to line the street with trees" says Marvin Green, president of River Oaks Group, the developer.

Obviously if future subdivisions are now taking "traffic calming" into account, there may be a pent up demand to deal with existing neighbourhoods on an equitable basis.

The "process" utilized in London, Ontario may serve as a guide to implement traffic calming for municipal jurisdictions and serve to place a renewed emphasis on the positive role of the traffic engineer with the community.❑

PEOPLE PLACE: *The main street of Montgomery Village will be wide with a tree-lined centre with apartments above ground-floor shops.*

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Traffic Circles—A Viable Form of Intersection Control?

BY WILLIAM F. SAVAGE AND KHALED AL-SAHILI

Michigan State University, in East Lansing, Mich., is a university with about 40,000 students. A large number of students are housed on campus, with many more living in the immediate adjoining areas. Restrictions on student parking on campus are strictly enforced. Students are required to park in outlying lots and take a bus, walk or bike to their classes. This produces a heavy mix of cars, bicycles and pedestrians at all intersections within the campus environment.

Most of the intersections are controlled by two-way stop signs or traffic signals. There are however, three major intersections controlled by traffic circles (see Figure 1).

With renewed interest and experience in this country using traffic circles and roundabouts (a more efficiently designed traffic circle), a formal comparison of these intersection types might be of assistance in selecting the most appropriate intersection design and operation.

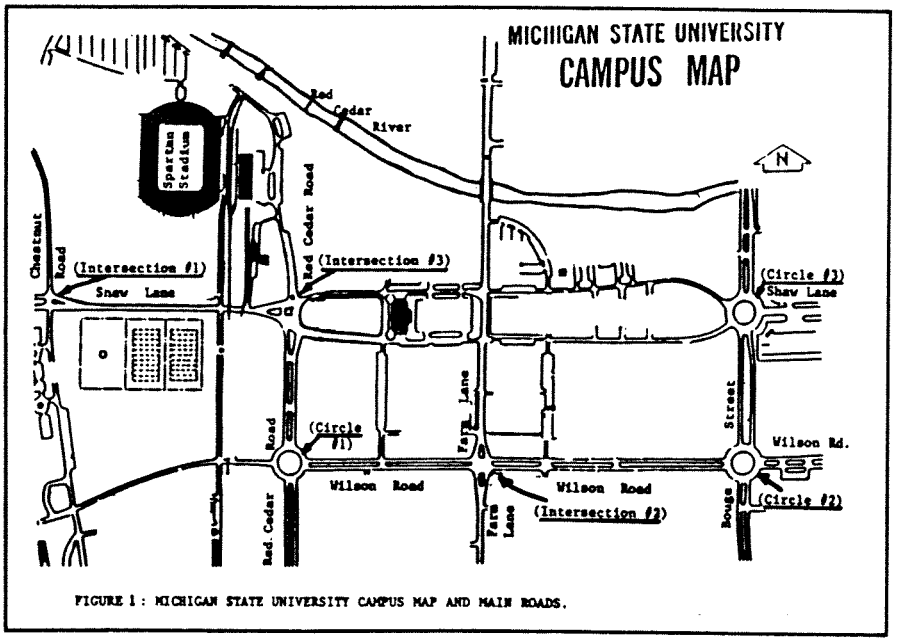

Figure 1. Michigan State University campus map and main roads.

Purpose of Study

This study originated as a result of operational problems at the intersection of Farm Lane at Wilson Road. This intersection was experiencing a number of right angle accidents, and the Wilson Road traffic suffered considerable delay because of turning conflicts and requiring traffic to stop two times at the intersection.

Because there are three traffic circles in the immediate area that have been in operation for many years, a suggestion was made to consider construction of a traffic circle at this location. Two other two-way intersections also carry similar traffic volumes near to Wilson Road.

To learn more about the existing three traffic circles and corresponding three two-way stop locations, complete traffic counts were conducted at each, and their accident records during the past several years reviewed.

The purpose of this study is to determine if it is feasible or desirable to recommend a change in right-of-way control. Or, to determine if the existing traffic circles would operate better under some other type of control.

Conversion Factors		
To convert from	to	multiply by
ft	m	0.3048

Description of Intersections

The six intersections involved in this study are illustrated in Figure 2.

Traffic Circle 1—Red Cedar at Wilson. Wilson Road is a major east-