NEIGHBORHOOD TRAFFIC MANAGEMENT PROGRAM

Table of Contents **Page**

PURPOSE OF THE PROGRAM

The purpose of the Neighborhood Traffic Management Program (NTMP) is to enhance both the safety and quality of life within residential neighborhoods. This can be achieved by one or more of the following:

- Education: Increase awareness of residents in neighborhoods that there may be traffic safety concerns such as excessive speeds, non-local (cut-through) traffic, and accidents.

- Enforcement: Encourage compliance with speed limits on local streets through speed-reducing tactics provided by the Westerville Police Department, which include, but is not limited to, traditional enforcement, the use of speed trailers, and the Neighborhood Speed Watch Program.

- Engineering: Evaluate the affected streets for speeding, total volume, non-local traffic, and accidents to determine if traffic-calming is warranted.

GOALS / OBJECTIVES OF THE PROGRAM

The City of Westerville strives to ensure overall safety, protect its neighborhoods, and enhance the quality of life for its residents. Traffic conditions on residential streets certainly affect neighborhood livability and one's sense of community. Traffic that is traveling at improper speeds and non-local, or cut-through, traffic that is consistently using residential streets can affect a neighborhood's livability, including pedestrian and bicyclist activities.

However, implementing traffic-calming measures on every street is not always the answer. Each neighborhood may have its own unique set of problems that must be analyzed to identify solutions. Westerville's neighborhood traffic-calming program was designed to serve as a guide for City staff and residents throughout the traffic-calming study, planning, and implementation processes. The program is only a guideline and, therefore, subject to change. Under this program, staff will work with residents to identify traffic issues in their neighborhoods and seek appropriate solutions. The City Manager will make the final determination as to whether or not traffic-calming improvements will be completed and reserves the right to remove or discontinue any traffic calming strategy or device that is determined to be unsafe or ineffective.

The goal of the program is to affect driver behavior in order to improve safety and the quality of life for residents, pedestrians, bicyclists, and motorists. This is to be balanced with providing streets that do not hinder quick response time for emergency service vehicles including fire trucks, police cars, and ambulances and streets that are accessible by large vehicles, such as school buses and trucks used for essential City services. Throughout the study process, City staff will work with representatives of neighborhoods, the Westerville Service, Police and Fire Departments and the Westerville City School Transportation Department to develop workable solutions to problems identified.

Objectives are as follows:

- Reduce vehicle speeds on residential streets
- Reduce number and severity of accidents
- Discourage non-local, or cut-through, traffic
- Encourage pedestrian and bicycle activities
- Create and / or enhance attractive streetscapes
- Establish clear guidelines of the process and procedures to evaluate traffic related complaints
- Partner with residents for the best overall program for the affected street

THE PROCESS

This program is designed to provide a consistent process through which residents can request traffic-calming measures within neighborhoods. This program requires a great deal of commitment as active citizen participation is the key to the success of all traffic-calming projects. Neighborhood representatives, who may be a Homeowner's Association officers or any other residents of the neighborhood willing to act as a liaison between City staff and the neighborhood, are responsible for disseminating information to the neighborhood throughout the study process, being spokespersons for the neighborhood and collecting petition signatures. The Neighborhood Traffic Management Program is a multi-step process that may involve evening meetings and will require petitioning door-to-door.

Experience in other cities has shown that traffic-calming projects installed without strong neighborhood participation are frequently unsuccessful, requiring the removal of some or all measures. This involvement instills a sense of ownership in the project once the traffic-calming measures are installed.

Step 1 - Education and Enforcement

Before requesting the City to commence a study of a neighborhood, residents should first pursue all of the following neighborhood speed-reduction options with the Westerville Police Department. Police enforcement has shown that the frequent offenders of speed limits in neighborhoods are the residents themselves; therefore, education and enforcement efforts are sometimes quite effective. These speed-reduction options include:

(A) **Speed-Monitoring Trailers**

Residents can request the use of automated speed-monitoring trailers which display to drivers their "actual" speed to encourage their compliance with the speed limits.

(B) **Neighborhood Speed Watch**

Residents who live in neighborhoods perceived to have speeding problems are eligible to participate in this educational program. The program relies on community spirit and peer pressure to increase better compliance with speed limits. It is organized and run by the local neighborhood under the direction of Police Department and Engineering Division staff. Residents are provided the means to record speed data of motorists traveling on their streets. The recorded data is forwarded to the Police Department and reminder notices regarding speed limits are sent to those motorists identified as violators by the Police Department. The notices are not citations, but reminders to obey the posted speed limit and the community's concern for safety.

(C) **Neighborhood Meetings**
Neighborhood meeting(s) will be held to discuss and better understand the traffic concerns, to provide educational materials, and to discuss speed-reduction methods available to calm traffic on local streets where speeding, accidents or non-local traffic are concerns.

(D) **Enforcement**
The Police Department may respond with increased enforcement in neighborhoods where it is perceived there are traffic concerns. Residents should be specific regarding the days and times of traffic issues to help determine when enforcement is needed.

(E) **StealthStat**
Westerville's speed-monitoring device called the StealthStat monitors traffic volume, average speed, high speeds and low speeds of motorists. The StealthStat collects sorts and analyzes data using a radar unit and computer. The results are used to help the Police Department prioritize enforcement and other responsive efforts, as well as to educate the public (available summer 2008).

If all of the aforementioned options have not been pursued, the City will advise the requesting applicant of options they need to initiate prior to proceeding with Step 2. Once these options have been pursued, and if the City has determined that these options were ineffective, staff will then advise the requesting applicant to proceed with Step 2 of the process.

Step 2 - Engineering Study Phase

(A) **City receives written request.** Any resident of the City may initiate a request for the evaluation for traffic-calming measures. City staff will verify with the Westerville Police Department that Step 1 has been undertaken and has not been successful.

(B) **Pre-qualification of street.** Traffic-calming measures are suitable in residential areas to manage speed, volume, and cut-through traffic. Therefore, characteristics of the streets must be residential in nature. The street pre-qualifications are designed to ensure that the street segment is appropriate for traffic-calming devices. Since some negative impacts can be associated with traffic-calming measures, some restrictions, in the best interest of emergency and transit services, are included on the list of pre-qualifications. Streets should meet the following standards in order to pre-qualify for traffic-calming:

(1) The street has a posted speed limit of 25 MPH or less;

(2) The street is classified as a local street on the City's thoroughfare plan;

(3) The street has a right-of-way that is 60 feet wide or less;

(4) The street has a standard curb or curb and gutter cross-section, and / or all drainage and safety concerns can be addressed to the satisfaction of City staff;

(5) The street is at least 1000 feet in length;

(6) The street is not a cul-de-sac street;

(7) The street is not a loop street within a neighborhood or subdivision;

(8) The street is not along a COTA bus route;

(9) The street is not commonly used as an emergency response route.

(10) This program applies only to existing streets. It does not apply to future roads or to new subdivision streets under construction.

If the street meets all of the above pre-qualification standards, the request proceeds in the study process. If the street does not meet the above standards, the resident that generated the request will be notified in writing that the study process will not continue further and will be given the reasons why.

(C) **Determination of affected street(s) and affected area.** Once the street has met the prequalification standards, the Engineering Division will determine the appropriate affected area for the request. Consideration will be given to subdivision boundaries and alternate travel routes within the neighborhood. Determination of an appropriate affected area is important because the installation of traffic-calming devices on one street in a neighborhood can have implications on other through streets within the neighborhood. The affected area is typically bounded by the major / minor arterial or network collector street system. The City evaluates entire neighborhoods, or groups of adjacent neighborhoods collectively, rather than independent streets to avoid simply “moving” a problem to another location within a neighborhood.

(D) **Meeting with Neighborhood Representatives.** After the affected area is determined, the resident that submitted the request will be asked to organize the neighborhood representatives. This should include one to three residents per subdivision, depending on the size of the affected area and the number of subdivisions included in the affected area. Once the Neighborhood Representatives are established, a meeting will be scheduled with City staff and the Neighborhood Representatives to discuss and better understand the concerns of the residents, to provide educational materials, and to discuss

the study. Representatives from the Westerville Police and Fire Departments and the Westerville City Schools Transportation Department may be included in the group as well. The study will not proceed beyond this point until neighborhood representatives with a willingness to actively participate in the process are established.

(E) **Data collection.** The Engineering Division will collect volume and speed data on the affected streets. If non-local or cut-through traffic is a concern, a cut-through study will also be performed. The location(s) of data collection will be determined based on input from the Neighborhood Representatives and the physical constraints of the affected street in order to obtain the best traffic data. Traffic data should not be collected during periods of inclement weather or when non-typical traffic patterns may occur such as during holidays, nearby construction, etc. In order to capture the effect of school-related traffic, attempts should be made to collect traffic data while school is in session.

(F) **Summarization of results.** The results of the data collection will be summarized in a report prepared by the Engineering Division. The volume and speed data will be used to determine whether the installation of traffic-calming devices is appropriate on the affected street(s). The affected street will be placed into one of the following three categories based on the 85th percentile speed on the affected street. If 85th percentile speeds are obtained at more than one location on a given street, the speeds will be averaged.

- **Unwarranted Street.** Traffic-calming measures will not be considered if the 85th percentile speeds (in one direction or both) are equal to, or less than, 30 MPH. Streets in this category will not proceed to Step 3 of the study process. Neighborhood Representatives may distribute the findings of the study to the residents. No further action on the study will be conducted for a minimum of five years or unless there is a significant change in the existing conditions within the affected area as determined by City staff.

- **Possibly Warranted Street.** Traffic-calming measures may be considered if the 85th percentile speeds (in one direction or both) are greater than 30.0 MPH but less than 35 MPH AND if one of the following situations exists:

  - An accident history, as determined by the Police Department, exists along the affected street.

  - A school is located along the affected street or at the terminus of the street adjacent to the affected area.

- A public facility that attracts pedestrians, such as active parks, ball fields, or a similar type facility is located along the affected street or at the terminus of the street adjacent to the affected area. Public green space that is not used actively by the neighborhood for recreational or public purposes would not qualify as a public facility.

- Volumes on the affected street are 25% greater than what would be considered "reasonable" for a local street serving the neighborhood. The "reasonable threshold" volume is dependent on the size of the neighborhood and how other streets within the neighborhood connect to the affected street and the adjacent arterial street network. "Reasonable threshold" volume is calculated using trip generation rates from the Institute of Transportation Engineers Trip Generation Manual, assuming 100% of the homes on the affected street will use the affected street and a lesser percentage of homes located within the affected area, but outside the affected street, will use the affected street. The equation used to calculate the "reasonable threshold" volume of traffic on the affected street is provided in the Appendix of this program.

The City Manager will determine whether streets in the "Possibly Warranted Street" category will proceed to Step 3 of the study process.

- **Warranted Street.** Traffic-calming measures will be considered if the 85th percentile speeds (in one direction or both) are 35 MPH and greater. Streets in this category will proceed to Step 3 of the study process.

Step 3 – Engineering Planning Phase

(A) **First Petition Circulation.** In order to inform residents of the possibility that traffic-calming devices may be placed in the neighborhood and to get a general public consensus before detailed engineering and planning activities commence, the Neighborhood Representatives will be required to circulate a petition to the residents within the affected area. Seventy percent (70%) of the residents on the affected street and fifty percent (50%) of the residents in the affected area, outside the affected street, are required to sign the petition before further work will commence on the study. City staff will provide the Neighborhood Representatives with a brief written description of what is being considered, a map of the affected area with the affected streets highlighted, and signature sheets. Only one signature per household / property will be accepted. If a home is leased or rented, only the signature of the owner of the dwelling will be accepted. If an apartment complex / building is located within the affected area, only the signature of the owner or owner's representative will be accepted for the purpose of achieving the required percentage on the petition. After adequate signatures are obtained, the Neighborhood Representatives will submit the signature sheets to the City. The petition process must be completed and returned to the City within a 12

month period.

(B) **First Petition Signature Validation.** City staff will validate all signatures to verify that there is neighborhood support to evaluate various traffic-calming measures to layout / design traffic-calming devices on the affected street.

If the required number of signatures is not received to support the evaluation and study of the traffic-calming measures, City staff will continue to work with the Neighborhood Representatives with the Education and Enforcement components of this program. No further study will be conducted for a minimum of five years or unless there is a significant change in the existing conditions within affected area as determined by City staff.

(C) **Authorization and Funding for Study and Design.** City staff will present the findings of the Step 2 – Engineering Study Phase to the City Manager and request that authorization and funding be provided to contract with a qualified professional traffic engineer to evaluate various traffic-calming devices and to design any proposed improvements.

(D) **Traffic-calming Measures Selection Process.** Working with the Neighborhood Representatives, City staff and the selected consultant will determine appropriate types of traffic-calming devices for the street. Additional traffic data such as speed, volume, non-local or cut-through traffic and accident data may need to be collected along the routes along with an analysis completed on the effect the traffic-calming devices may have on city services. The study will also determine the impacts to other neighborhood streets if the traffic-calming measures are installed on the affected street. Unless they are determined to be warranted by the traffic-calming evaluation process, stop signs and traffic signals are *not* considered traffic-calming devices. A detailed plan for the proposed traffic-calming improvements will be developed.

(E) **Neighborhood Public Meeting.** A neighborhood public meeting will be conducted for the purpose of presenting the detailed traffic-calming plan to the residents and to answer questions about the plan and the study process.

(F) **Second Petition Circulation.** Neighborhood Representatives will circulate a petition and the detailed plan for the proposed traffic-calming improvements to the residents of the affected area. Eighty percent (80%) of residents on the affected street and sixty percent (60%) of the residents in the affected area, outside of the affected street, are required to sign the petition before the City will proceed to Step 4 – Implementation Phase. Signatures may be obtained as part of the Neighborhood Public Meeting. After adequate signatures are obtained, the Neighborhood Representatives will submit the signature sheets to the City. The petition process must be completed and returned to the City within a 12 month period.

(G) **Second Petition Signature Validation.** City staff will validate all signatures to verify that there is neighborhood support to implement the proposed traffic-calming plan on the affected street(s).

If the proposed traffic-calming improvements do not receive the required signatures to proceed with Step 4, City staff will continue to work with the Neighborhood Representatives with the Education and Enforcement components of this program. No further study will be conducted for a minimum of five years or unless there is a significant change in the existing conditions within affected area as determined by City staff.

Step 4 – Implementation Phase

(A) **Authorization and Funding for Construction.** City staff will present the plan developed in Step 3 – Engineering Planning Phase to the City Manager and request authorization and funding be provided.

(B) **Construction.** The traffic-calming devices will be constructed in accordance with the detailed plans and specifications generated in Step 3 – Engineering Planning Phase.

(C) **Post-Construction Data Collection.** Following the construction and the City's acceptance of the traffic-calming devices, City staff will collect traffic volume and speed data to evaluate the effectiveness of the traffic-calming devices. The data will be summarized in a brief report and provided to the Neighborhood Representatives.

SOLUTIONS

Why STOP Signs and CHILDREN AT PLAY Signs are Not Used for Traffic-Calming

A common request to address speeding in neighborhoods is the installation of Stop signs. This may seem like an easy way to reduce vehicle speeds, however, Stop signs intended for traffic-calming can actually create a less desirable situation.

Stop signs that are intended as a traffic-calming measure can cause high incidences of drivers intentionally violating the stop and other traffic-related issues. When vehicles do stop, the speed reduction may only be effective in the immediate area, since motorists may increase their speed to make up for the lost time. This can result in increased mid-block speeds. Also there is often an increase in rear-end collisions near the inappropriate Stop sign, frequently called “cluster” accidents. Finally, in order to avoid the extra stops and starts on streets with these Stop signs, there can be a redistribution of traffic to adjacent streets.

For these reasons, the City does not identify Stop signs as an effective traffic-calming measure. Instead, the City uses Stop signs to improve safety at intersections where traffic volumes or accidents warrant their installation.

Another common request in neighborhoods is the installation of Children at Play signs. National and statewide traffic studies have shown that Children at Play signs are not effective in increasing a driver’s attention to the point of reducing vehicle speeds or reducing pedestrian accidents. In fact, placement of these signs can increase the potential for accidents by conveying to children and parents that the area is safe for children.

For these reasons, the City does not use “Children at Play” signs and we encourage parents and / or guardians to find alternative play areas for children, such as backyards and parks.

Acceptable Traffic-Calming Measures

There are a variety of traffic-calming devices that can be used to effectively slow traffic in residential areas. Each device is unique and has its own set of advantages and disadvantages. A brief summary and description of traffic-calming devices are provided as follows.

Center Island Narrowings

A center island narrowing is a raised island located along the centerline of a street that narrows the travel lanes at that location. Center island narrowings are often landscaped to provide a visual amenity. Placed at the entrance to a neighborhood, and often combined with textured pavement, they are often called "gateway islands". Fitted with a gap to allow pedestrians to walk through at a crosswalk, they are also referred to as "pedestrian refuges".

Application:

- Entrances to residential areas
- Wide streets where pedestrians need to cross

Advantages:

- Increase in pedestrian safety
- Can have positive aesthetic value
- May reduce traffic volumes

Disadvantages:

- Speed reduction effect is somewhat limited because vehicles do not have to alter their path
- May require elimination of some on-street parking
- Maintenance of island may be required

Chicanes

Chicanes are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Chicanes can also be created by alternating on-street parking, either diagonal or parallel, between one side of the street and the other. Each parking bay can be created either by restriping the roadway or by installing raised, landscaping islands at the ends of each parking bay.

Application:

- Locations where speeds are a problem but noise associated with speed humps and related measures would be unacceptable

Advantages:

- Discourage high speeds by forcing a change in path or direction
- Easily negotiable by large vehicles (such as fire trucks)

Disadvantages:

- Must be designed carefully to discourage drivers from deviating out of the appropriate lane
- Curb realignment and landscaping can be costly, especially if there are drainage issues
- May require the elimination of some on-street parking

Chokers

Chokers are curb extensions at mid-block locations that narrow a street by widening the sidewalk or planting strip. If marked as crosswalks, they are also known as safe crosses. Two-lane chokers leave the street cross section with two lanes that are narrower than the normal cross section. One-lane chokers narrow the width to allow travel in only one direction at a time, operating similarly to one-lane bridges.

Application:

- Areas with substantial speed problems and no on-street parking shortage.

Advantages:

- Easily negotiable by large vehicles (such as fire trucks)
- Can have positive aesthetic value
- May reduce both speeds and volumes

Disadvantages:

- Speed reduction affect is somewhat limited because vehicles do not have to alter their path
- Curb realignment and landscaping can be costly, especially if there are drainage issues
- May require bicyclists to briefly merge with vehicular traffic
- May require the elimination of some on-street parking

Diversion

Diversion is a physical barrier of some type such as a straight curb, bollards or a landscaped area placed across a roadway to create two distinct sections of the street. Diversion is often used to remove a through movement on a lower functional class road traveling to a higher functional class road, discouraging non-local traffic while maintaining access for local residents.

Application:

- Inner neighborhood locations with non-local traffic volume problems

Advantages:

- Maintains access for local traffic while decreasing non-local volumes
- Able to maintain full pedestrian and bicycle access
- Will reduce traffic volumes
- Provides landscaping opportunities

Disadvantages:

- Create circuitous routes for local residents and emergency vehicle services
- May be expensive
- May require reconstruction of corner curbs
- May increase traffic volumes on adjacent streets

Protected Parking
Protected parking consists of parking spaces and centerline striping used to narrow the perceived roadway width from curb to curb.

Application:
- Areas where vertical traffic-calming measures would be unacceptable because of noise considerations

Advantages:
- Perceived narrow driving width reduces speeds
- Creates protected on-street parking bays
- Inexpensive to install

Disadvantages:
- Effectiveness is limited by the absence of physical obstacles
- Inclement weather (i.e., snow, rain, etc.) may block the visibility of pavement markings
- May encourage school-related parking
- Requires continual maintenance to maintain visibility of markings

Raised Crosswalks

Raised crosswalks are flat-topped speed humps often constructed with brick or textured materials on the flat section with crosswalk markings and signage to channel pedestrian crossings. They provide pedestrians with a level street crossing and by raising the level of the crossing pedestrians are more visible to approaching motorists.

Application:

- Locations where pedestrian crossings occur at unexpected locations and vehicle speeds are excessive

Advantages:

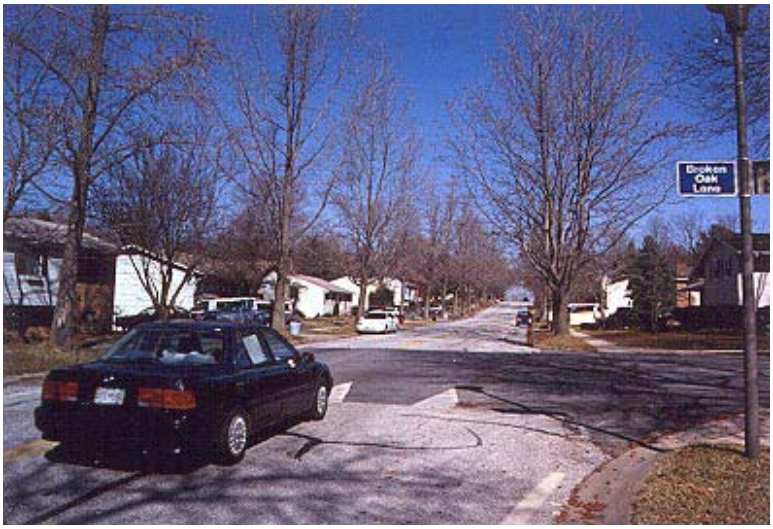
- Improve safety for both pedestrians and vehicles
- Can have positive aesthetic value
- Effective in reducing speeds, though not to the extent of speed humps

Disadvantages:

- Textured materials, if used, can be expensive
- Impacts on drainage should be considered
- May increase noise and air pollution

Raised Intersections

Raised intersections are flat raised areas covering an entire intersection, with ramps on all approaches and often with brick or other textured materials on the flat section. They usually rise to the level of the sidewalk, or is slightly below to provide a "lip" that is detectable by the visually impaired. By modifying the level of the intersection, the crosswalks are more readily perceived by motorists to be "pedestrian territory".



Application:

- Intersections with substantial pedestrian activity
- Areas where other traffic-calming measures would be unacceptable because they take away scarce parking space

Advantages:

- Improve safety for both pedestrians and vehicles
- Can have positive aesthetic value
- Can calm two streets at once

Disadvantages:

- Tend to be expensive, varying by materials used
- Impact to drainage needs to be considered
- Less effective in reducing speeds than speed humps or raised crosswalks

Realigned Intersections

Realigned intersections are changes in alignment that convert T-intersections with straight approaches into curving streets that meet at right angles. A former "straight-through" movement along the top of the T becomes a turning movement. While not commonly used, they are one of the few traffic-calming measures for T-intersections, because the straight top of the T makes deflection difficult to achieve, as needed for traffic circles.

Applications:

- T-intersections

Advantages:

- Realigned intersections can be effective in reducing speeds and improving safety at a T-intersection that is commonly ignored by motorists
- Provides landscaping opportunities

Disadvantages:

- Curb realignment can be costly, especially if there are drainage issues
- May require some additional right-of-way to cut the corner

Rumble Strips

Rumble strips are textured pavement which use stamped pavement or alternate paving materials to create an uneven surface for vehicles to traverse. They may be used to emphasize either an entire intersection or a pedestrian crossing, and are sometimes used along entire street blocks.

Application:

- "Main street" areas where there is substantial pedestrian activity and noise is not a major concern

Advantages:

- Can reduce vehicle speeds over an extended length
- Can calm two streets at once when placed at an intersection

Disadvantages:

- Can make crossings more difficult for wheelchair users and the visually impaired when used on a crosswalk
- Very loud and aesthetically unappealing

Speed Humps

Speed humps are rounded raised areas placed across the roadway. They are generally 10 to 14 feet long (in the direction of travel), making them distinct from the shorter "speed bumps" found in many parking lots, and are 3 to 4 inches high. The profile of a speed hump can be circular, parabolic or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage.

Application:

- Locations where very low speeds are desired and reasonable, and noise and fumes are not a major concern.

Advantages:

- Relatively inexpensive
- Relatively easy for bicycles to cross if designed appropriately
- Very effective in slowing travel speeds

Disadvantages:

- Cause a "rough ride" for all drivers, and can cause severe pain for people with certain skeletal disabilities
- Force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds
- May increase noise and air pollution
- Have questionable aesthetics
- Spaced between 300 – 500 feet apart, so there may be several on a roadway

Traffic Circles
Traffic circles are raised islands, placed in intersections, around which traffic circulates.

Application:

- Calming intersections, especially within neighborhoods where large vehicle traffic is not a major concern, but speeds, volumes and safety are problems

Advantages:

- Traffic circles are very effective in moderating speeds and improving safety
- Can have positive aesthetic value
- Can calm two streets at once
- Typically right-of-way is not required

Disadvantages:

- Difficult for large vehicles (such as fire trucks) to circumnavigate
- Must be designed so that the circulating lane does not encroach on the crosswalks
- May require the elimination of some on-street parking
- Landscaping must be maintained, either by the residents or by the municipality
- Expensive to install

APPENDIX

Calculation of the reasonable threshold volume of traffic on the affected street

$V_{threshold} = 1.25 * (T_{affected\ street} + X * T_{affected\ area})$

$= 1.25 * [(N_{affected\ street\ households} * R) + (X * N_{affected\ area\ households} * R)]$

Where $V_{threshold}$ = reasonable threshold volume of traffic on the affected street

$T_{affected\ street}$ = total trips generated by the affected street

X = percentage of trips from the affected area expected on the affected street

$T_{affected\ area}$ = total trips generated by the affected area, excluding the affected street

$N_{affected\ street\ households}$ = number of households on the affected street

R = applicable trip generation rate

$N_{affected\ area\ households}$ = number of households in the affected area excluding households on the affected street

Definitions

Affected Area - The area in which the placement of traffic-calming measures will have an effect. This shall be determined by defining the area significantly affected by the street modifications. At a minimum this will include the households, and if applicable, any businesses or apartment complex / building(s) located on the affected street or on cul-de-sacs attached to the affected street.

Affected Street - The street on which traffic-calming measures are being requested. There may be more than one affected street for a given traffic-calming study.

Apartment Complex / Building(s) - A building or several buildings containing a room or a suite of rooms equipped for individual living. Generally more than on household occupies each building.

Business - An industrial or commercial establishment.

Collector Street - A street that provides both access to property and traffic circulation within residential neighborhoods and commercial or industrial areas. This system collects traffic from local streets, penetrating the residential neighborhoods, and disperses it to the arterial system. The collector street system may also carry local bus routes.

Cul-de-sac - A street having only one end open to traffic and the other end being permanently terminated with a vehicular turn around provided.

Cut-through Traffic - Traffic that uses local or residential collector streets to travel through a neighborhood without having an origin or destination within the neighborhood or subdivision.

Eighty-fifth (85th) Percentile Speed - The speed below which 85 percent of the vehicles travel. The 85th percentile speed usually represents the maximum reasonable speed for the traffic and if often used in determining speed limits.

Household - A domestic unit consisting of the members of a family who live together along with non-relatives.

Local Street - A street that provides direct access to abutting land and connects to the higher order street system typically to the residential collector street. Local streets offer the lowest level of mobility and usually contain no bus routes. Service to through-traffic movement usually is deliberately discouraged. Cul-de-sac streets are included in this category.

Loop Street - A street that has both of its termini on the same street.

Neighborhood Representative - The person or persons volunteering to act as a liaison between the City and the neighborhood(s) or subdivision(s) during the traffic-calming study process. The neighborhood representative may be a Home Owner's Association officer but is not required to be so. Responsibilities of the neighborhood representative include disseminating information to the neighborhood throughout the study process, being a spokesperson for the neighborhood, and collecting petition signatures.

Resident - One who resides in a particular place permanently or for an extended period.