

## CITY OF EVANSTON, ILLINOIS NEIGHBORHOOD TRAFFIC MANAGEMENT POLICY

### Introduction

There is increasing interest across the country in developing strategies to reduce the speed and amount of traffic in residential neighborhoods. Many traffic engineers are shifting their focus from evaluating such items as whether or not stop signs are appropriate at individual intersections to more comprehensive efforts to determine effective approaches to neighborhood traffic control. The new programs involve much more interaction with residents than the old ways. Modern neighborhood traffic management, called *traffic calming* in many communities, is more about using traffic control to address quality of life issues than it is about comparing traffic volumes to national standards developed decades ago. This is not to suggest that the engineering aspects of traffic control should be ignored; on the contrary - the measurement of speeds, traffic volumes, and accident rates are essential in helping determine which strategies work and can be applied at similar locations.

The purpose of this document is to describe a process which will:

1. Determine the extent of existing traffic problems in a neighborhood
2. Describe the range of alternatives available to reduce those problems
3. Help residents determine which of those alternatives they would like to have in their neighborhood
4. Help City Council determine the order in which alternatives are funded and installed by developing a priority ranking system to be used when the estimated cost of projects exceeds the approved funding level.

### Background

Ask anyone who lives in Evanston what they believe is the worst traffic problem on their street and you will find speeding at the top of most lists. Does this desire to control vehicle speeds address only a perceived problem or is there a measurable benefit to reducing speeds? To answer this important question, the risk of pedestrian fatality was examined for various speeds. Most people would predict that the risk of fatality increases with speed. It does, but the level of increased risk as speeds increase may be underestimated by many people. It is reported that the likelihood of a pedestrian being killed when struck by a vehicle traveling 15 mph is about 3.5%. This increases to 37% at 31 mph and about 83% when the vehicle is traveling 44 mph. Obviously, there is a real benefit to reduced vehicle speeds when these sobering numbers are reviewed. In addition to reducing the risk of injury when an accident occurs, there are other benefits to reducing speeds. The chances of avoiding an accident increase for two primary reasons: (1) the driver's field of view widens as speeds go down, making it more likely that activity on or near the pavement will be seen, and (2) stopping distances are greatly reduced at slower speeds, making accident avoidance easier if someone or something is in the roadway.

Cut-through traffic on local streets is another problem many Evanston residents place near the top of the list of problems they would like to address. Our City is built on a grid system which provides many parallel routes to the arterial and collector streets which are designated to handle the through traffic. This provision of local street alternatives which are several blocks long and are the same length as parallel segments of the major street system leads to cut-through traffic as motorists seek to save a few minutes (or seconds) per trip. The grid system was popular 150 years ago when the street pattern was laid out, but it is very unlikely that it would be used if Evanston were being designed today. Instead, you would probably see more curved streets and “no outlet” sections which prevent through traffic. Trying to retrofit the modern design elements on an old grid street system poses quite a challenge for us today. There are some ways to address this which will be discussed later in this report.

To help guide us through a process to reduce speeds and cut-through traffic, some basic principles have been adopted. These will help as we work through the process of developing techniques for controlling traffic in neighborhoods.

### **Guiding Principles**

- A. Traffic operations and traffic safety are important and should be addressed to enhance the quality of life, the “livability” of the neighborhoods. Perceptions of traffic problems and measurable traffic characteristics are both important and should be considered as solutions are developed.
- B. The City will continue to support street classifications which give different weights to the streets which form the roadway system (arterial, collector, and local) and recognizes that not all traffic control measures are appropriate for each type of street. These street classifications are found in the City’s Comprehensive General Plan.
- C. Adequate emergency and service access (for the City, as well as other agencies) is essential and must be maintained.
- D. The process for each neighborhood should include all who have a stake in how the street system operates (residents, businesses, schools, park users, etc.).
- E. The agreed-upon system of prioritization should be followed when projects compete for limited funding.
- F. Where possible, trials of the proposed changes should be undertaken prior to final approval of the funding, especially in the more costly projects.
- G. The traffic control measure(s) selected should not move traffic to other streets.

### **The Process for Developing a Plan**

Each neighborhood will follow a similar process to develop a traffic management plan.

However, it is not suggested that each plan be similar because the neighborhood residents will determine which options best fit their problems and what level of inconvenience they will be willing to experience to address the conditions in their neighborhood. A combination of public meetings and postcard surveys has been adopted as the best way to gauge neighborhood interest.

### *Initial Neighborhood Meeting*

The first meeting is used to determine which problems the residents would like to address and to present a list of options which have been approved for consideration. This meeting includes the ward alderman, residents, and City staff, and it sets the stage for the process and allows for open discussion of the various alternatives which are available. It also provides a time to discuss reasonable expectations. For example, if an area includes a school or business, it is unreasonable to expect that all non-residential traffic will be eliminated. There still may be ways to control or organize that traffic, but elimination of the non-residential traffic is not possible.

### *Collection of Data*

After the first meeting, it will be necessary to collect some traffic data, such as speed, volume, and accident history. These items can be used later to make “before-and-after” comparisons to help determine the level of improvement of the various alternatives.

### *Second Neighborhood Meeting*

This meeting is needed to discuss the proposed neighborhood traffic management plan. It is envisioned that this plan would be developed by a core group of residents (who attended the first meeting and volunteered to spend some time to examine the alternatives) with the assistance of City staff. It is possible that the plan could be developed at the first meeting, but in neighborhoods where many options are available, it is unlikely that this can be done.

### *Postcard Survey*

Our experience has been that many people are unable to attend (or do not attend) evening meetings, but are still interested in changes to traffic flow in their neighborhood. For this reason, a postcard survey which presents any proposed changes provides an opportunity for all neighborhood residents to express their views. The results of the survey will be used by the ward alderman to determine if there is sufficient interest to proceed with any changes.

### *Implementation of the Plan on a Trial Basis*

If there is sufficient interest in proceeding with the plan, it has been approved that it be implemented on a trial basis whenever possible. Council approval of the trial is needed prior to implementation. This will be necessary because most plans will include the expenditure of funds and/or ordinance changes. The trial period can

vary in length, but a minimum of three months is suggested for any change and it may be beneficial to leave some trials in place for a year.

### *Evaluation of the Trial/Second Postcard Survey*

Two components make up the evaluation of the trial. First, the “after” portion of the data collection will be completed and compared with the “before” data to determine any measurable changes. Also, a second postcard survey will be completed to determine if the residents perceive the changes as beneficial. This will allow them to express their opinions on whether or not they would like to see the changes made permanent. The ward alderman will be able to use this input to determine if another meeting should be held before the final recommendation is made to Council. Some communities use a specific percentage of residents in the area in favor (60% to 70% is reported), but no specific cut-off is suggested at this time.

### *Approval of Implementation*

If there is a desire to make the changes permanent, the necessary documentation (reports, ordinances, etc.) will be prepared for Council approval. Bids for the final implementation will be solicited for the larger jobs and the smaller ones will simply be approved at this time.

## **Allowable Traffic Control Measures**

There is a wide range of alternatives which are available to control traffic speeds and reduce volumes. The following is a list of measures which are currently approved for use in developing neighborhood traffic management plans. Each of these is discussed in the appendix.

### Changes to traffic control:

- Turn restrictions (Full-time or peak-hour)
- One-way streets - traditional one-way pairs
- One-way streets - non-traditional one-way patterns (“mazes”)
- Additional signs - stops signs, speed limits
- Additional markings - edgelines delineating the parking lane(s)
- Parking modifications - adding parking; relocating parking to create a chicane effect

### Physical changes to streets:

- Traffic circles constructed at intersections within existing curblines
- Midblock islands (similar to circles, except these are not used at existing intersections)
- Street narrowings
- Cul-de-sacs
- Diagonal diverters
- Partial intersection closures
- Speed humps
- Speed bumps (to be used only in alleys)

Speed monitoring options:

- Traditional Police enforcement
- Mobile radar speed display (speed trailer or speed monitor)
- Neighborhood speed watch

Other options:

- Education - newspapers, flyers, drivers ed classes, banners
- Arterial improvement

### **Traffic Control Measures Not Recommended At This Time**

Some measures are not recommended due to potential problems or lack of experience with them. Speed bumps are not recommended for any street, but Council has approved their use in alleys. It is suggested that they be funded through this program, rather than have the residents pay for them.

Another item not recommended for use in Evanston is the type of pavement narrowing that causes both directions of travel to share the same pavement. These are called chokers in some communities. There may be a liability problem with these, because they create a head-on condition.

Rumble strips are low bumps placed on the pavement to create a vibration for the drivers traveling too fast. These are not recommended in Evanston due to the fact that they also cause noise for nearby residents and may prove to be a nuisance. They are probably less of a problem where homes are set back a considerable distance from the street.

### **Internal Staff Review**

A staff team with representatives from Police, Fire, Water and Sewer, Engineering, Traffic Engineering, and Streets and Sanitation will review all neighborhood traffic management plans. This is necessary to ensure that all services can continue to be provided and that emergency response times remain at an acceptable level.

### **Funding and Budget**

City Council has approved funds each year since the program began in 1997. The City's Capital Improvement Program (funded by general obligation bonds) has been used to fund the various elements of this program. These funds have been used for cul-de-sacs, two mobile trunk-mounted radar displays, a speed trailer, trial traffic circles, permanent traffic circles, one-way streets (sign change-over and signal modifications), arterial traffic signal timing optimization, traffic counters, a radar gun, signage, other expenses (meeting rooms, film, etc.), alley speed bumps, speed humps, and other traffic control measures.

### **Conclusion**

This document describes the approved method for developing traffic control plans for neighborhoods. It is geared toward using a similar procedure for each neighborhood, but relies heavily on the residents of each area to provide input in deciding what measures are appropriate for the streets in their neighborhood. It encourages us to look at

neighborhoods as a whole, rather than examining a request for a specific intersection. This minimizes the chance that traffic problems will be pushed to a nearby street.

***This policy was approved by unanimous vote of the Evanston City Council on June 9, 1997. It was modified to include the use of speed humps on April 24, 2000, and the speed hump policy was approved on June 11, 2001 also by unanimous vote.***

APPENDIX

**ALLOWABLE TRAFFIC CONTROL MEASURES**

## ALLOWABLE TRAFFIC CONTROL MEASURES

This section describes the various traffic control measures which form the menu from which the final recommendations for each neighborhood are to be selected. Many of these are items which are in place in Evanston and have proven to be effective measures to control a specific problem or condition. Some are new to Evanston, but are in use in other communities and are effective in addressing their traffic issues. They are divided into subsections and follow the order listed in the text of this report. Not all measures are appropriate in all situations and most are acceptable for use only on local streets. Also, they each have different impacts and different levels of inconvenience on the neighborhoods.

### **Changes to Traffic Control**

#### Turn Restrictions

This measure involves restricting turning movements into or out of neighborhood streets, primarily at intersections with major streets. This is in use at several locations in Evanston and has been shown to be effective in reducing cut-through traffic, especially traffic desiring to avoid traffic signals. While most of our restrictions are in effect 24 hours/day, it is possible to have peak-hour restrictions as well. These require an ordinance and are relatively inexpensive to install. However, regular Police enforcement is necessary to maintain the effectiveness of these restrictions.

#### Traditional One-way Streets

One-way streets have been used in Evanston for many years to organize and control the flow of traffic in neighborhoods. The common application is the one-way pair (two parallel streets with each carrying traffic in only one direction), but sometimes a single street is designated one-way. Many people believe these are safer in neighborhoods because the traffic only comes from one direction and there are fewer conflicts for pedestrians, cyclists, and vehicles. The reduced conflict tends to increase speeds, so there is a trade-off. One-way streets are also used when both sides of the street are needed to satisfy the neighborhood parking demand, but the street width is insufficient to handle traffic in both directions. One-way streets are relatively self-enforcing, but sometimes it is necessary to provide Police enforcement to ensure compliance. These can be relatively inexpensive to install, but do incur significant cost if modifications must be made to traffic signals to accommodate the new traffic patterns.

#### Non-traditional One-way Streets

Non-traditional one-way streets involve designating a traffic flow pattern which is intended to make it more difficult for vehicles to travel through a neighborhood. Sometimes this is called a "maze" approach, because the one-way pattern leads people in directions they did not intend to go. This is in use on Harvard Terrace

(which is one-way west from Barton to Asbury and one-way east from Barton to Ridge) and has been shown to be very effective in reducing speed and volume of traffic. It is, however, inconvenient for the residents, because the same access restrictions apply to them as well as to those trying to cut through the area. Another impact is the difficulty in giving directions for deliveries or even for visitors, since there is no direct access from either Ridge or Asbury to Harvard Terrace.

### Additional Signs

Placing additional signs, such as stop signs or speed limit signs, has been a fairly common traffic control measure in Evanston. It has been relatively successful at some locations, but ineffective at others. Additional signing will continue to be necessary to control traffic in Evanston, but the proposed policy encourages us to look at neighborhoods as a whole, rather than to continue to respond to individual requests for four-way stops at isolated intersections.

### Additional markings

We use white edgelines to mark the parking lanes on some major streets to discourage motorists from using the curb lane for passing on the right. This has been successful and it may be beneficial to try this on local streets. The purpose would be different, however, in that the lines would be used to try to narrow the street visually. The same pavement width would obviously still be available, but the lines would make the street appear narrower and drivers have been shown to reduce speeds when this occurs. This technique has not been used in Evanston, and it should be done on a trial basis before recommending its use throughout the City. This would allow us to see if speeds are actually reduced.

### Parking modifications

Adding parking where it is currently prohibited is used in some communities as a traffic calming measure because this creates “side friction” for passing traffic and results in reduced speeds. It has limited application in Evanston because our need for parking has resulted in spaces being added at just about every location possible. However, we have tried relocating the parking from one side of the street to the other to force traffic to drive around parked cars, creating a chicane effect. This was done on Colfax and Lincoln between Ridge and Sherman. It is inexpensive and self-enforcing, but can only be used on fairly narrow streets with one-sided parking.

## **Physical Changes to Streets**

### Traffic Circles

Traffic circles are islands which are constructed in the middle of intersections, but without any street widening or changes to the curb radius. They are designed to be both physical obstructions and visual obstructions. They force traffic to alter the straight-line path being followed, which results in a speed reduction without the need for any Police enforcement. Also, they break up the look of the long “straight-

away” which is very common in our street system. These devices are used in many communities throughout the country and are gaining popularity in our area. About 20 permanent circles have been installed in Evanston.

### Midblock Islands

Midblock islands are similar to traffic circles, but are used on long sections where there are no intersecting streets. They cost the same as a circle, but do impact the neighborhood more. This is because they generally require the removal of parking spaces to accommodate the shift in the travel lane. This could be a problem in some areas.

### Street narrowings

This technique is used in some communities as a traffic calming strategy. It involves moving the curb toward the center of the street creating a “neck-down” which slows traffic. This technique does not narrow the street so much that it forces two-way traffic to use the same lane, which is believed to be a hazard for traffic and a liability problem for the City. It requires the removal of parking spaces and is a relatively expensive measure due to the need to reconstruct the curb and possibly adjust the storm drainage system to accommodate the new street configuration.

### Cul-de-sacs

Cul-de-sacs are street closures which eliminate access between connecting streets. They have been used in Evanston to separate business traffic from residential traffic and are being considered as traffic control measures. They are very expensive, but do provide the highest degree of access restriction. They are very effective in eliminating through traffic in the block of the closure, but generally result in diverting traffic to other streets. They have a significant impact on service delivery, such as snow plowing and street-cleaning. Also, emergency vehicle access is certainly an issue and must be addressed on a case-by-case basis. They are self-enforcing.

### Diagonal Diverters

Diagonal diverters are partial intersection closures which are in the form of a diagonal barrier extending from one corner of an intersection to another (northeast to southwest, for example). They eliminate through traffic in the directions affected by the barrier and the concept is similar to the “maze” approach in the non-traditional one-way street patterns. They are self-enforcing and the cost would be somewhere between traffic circles and cul-de-sacs, probably starting in the \$15,000 to \$20,000 range.

### Partial Intersection Closures

Another traffic calming device is the type of intersection closure which restricts access by providing only enough room for exiting traffic from a local street to a more major street. It is formed by physically blocking the “entry lane” to the local street and supplementing it with enforceable “DO NOT ENTER” signage, while allowing

the exit lane to remain unimpeded.

### Speed Humps

Speed humps differ from speed bumps in that they are from three to four inches high at the highest point and are much longer than bumps. We currently use 12 foot long humps. They can be driven over at about 15 miles per hour without the jolt that bumps give. At higher speeds they are very uncomfortable and may cause the vehicle to bottom out. The design of Evanston's humps follows the recommended guidelines published by the Institute of Transportation Engineers.

### Speed Bumps

Speed bumps are not recommended for use on any streets, but City Council has approved their use in alleys. Two-thirds of the residents along the alley must support the bumps. These devices are considered in the category of neighborhood traffic control and are included in this program at no charge to the residents along the alley.

## **Speed Monitoring Options**

### Traditional Police Enforcement

Police enforcement is an essential part of any traffic control plan and it is recommended that it be continued. It can be used to enforce new traffic control regulations and to monitor existing regulations. It must be recognized that it is impossible to have officers monitor each posted speed zone every day, so other techniques for speed monitoring are necessary and are discussed in the next section.

### Speed Monitor

This is a trailer-mounted unit that has radar and a speed display. It shows the speed of the vehicle to the driver (SPEED LIMIT XX - YOUR SPEED IS XX MPH) and has been shown to reduce speeds, even if no police are in view. These units be used on any type of street.

### Neighborhood Speed Watch

This technique involves measuring the speed of traffic on neighborhood streets and recording the license plates of speeding vehicles. Plate numbers are turned over to the Police and the owners are written letters advising them to be more careful and respect traffic laws. The speed measuring is done by using radar units borrowed from the Traffic Bureau of the Police Department. It is relatively inexpensive, but does involve time to obtain registration information and produce the letters. Also, the residents involved in data collection must be trained to use the equipment so that accurate results are obtained. The Traffic Engineering Division also has a program similar to this, but it does not involve citizens. In this program, license plates of violators of various types of regulations are recorded (if time allows during

intersection counts and observations) and letters are sent to offenders.

## **Other Options**

### Education

This technique can involve a range of activities from newspaper articles to flyers delivered to houses or flyers handed to motorists at specific locations. The Traffic Engineer or Public Works Director talks to many of the driver education classes at the high school and addresses neighborhood traffic problems during his presentations. Education could also include signing, such as advance warning signs for new devices. Some communities use additional signs such as “Neighborhood Speed Watch in Effect”, but this is sometimes viewed as excess signage or deemed unsightly.

### Arterial Improvement

One of the main reasons people divert from the major arterials is that they save time by cutting through local streets. Some amount of cut-through traffic can be tolerated on most local streets, especially if motorists travel at reasonable speeds and observe other traffic laws. However, when they travel too fast or run stop signs or disobey other traffic control devices, they endanger the local residents. One way to minimize the cut-through volume without taking specific measures in the neighborhood is to review the arterial street system to ensure that it is working as efficiently as possible. This means that traffic signal timing and phasing (left-turns arrows, etc.), lane use (left-turn lanes, right-turn lanes), and signal progression (the time relationship between adjacent signals) need to be reviewed regularly and adjustments must be made so that the traffic control matches the current traffic flow.

Sometimes, minor widening is necessary to increase the capacity of intersections. These matters can be quite controversial as we struggle with balancing the need to move traffic through the City with the protection of the neighborhoods through which this traffic must pass. The cost of arterial improvement varies from several thousand dollars to perform the analysis and adjustment of traffic signal timing for a series of arterial signals to much more expensive projects, if intersection widening is needed. Obviously, we try to concentrate on those projects which can be accomplished with minimum expense. However, we do need to examine the feasibility of the more major projects.

*For more information on Traffic Calming and the Neighborhood Traffic Management Program in the City of Evanston, contact the Senior Traffic Engineer, Rajeev Dahal, at (847) 866-2922 (VOICE) or (847) 448-8118 (FAX) or rdahal@cityofevanston.org.*

## Speed Hump Policy

Speed Humps will be installed only on local residential streets. Speed Humps will be 3 inches to 3 1/2 inches in height and 12 feet long. The Institute of Transportation Engineers "Guidelines for the Design and Application of Speed Humps" will be the primary guideline for the proper installation of speed humps.

Advance Speed Control Humps sign with appropriate advisory speed signs will be installed for streets or areas that have speed humps. White pavement markings will be installed on speed humps for better visibility.

Speed Humps will not be installed on the following streets:

*Arterial streets (Ridge, Asbury, Central, Dempster, etc.),  
Collector streets (Central Park, McDaniel, Noyes from Greenbay to Sheridan,  
Custer from Main to Howard, Lake from Sherman to Dodge, etc.),  
Distributor streets (downtown streets like Benson, Davis, Maple, etc.),  
Truck routes (Greenleaf from Hinman to Hartrey, Hartrey from Dempster to  
Oakton, etc.),  
Streets adjacent to Hospitals (Girard north of Central, Austin east of Ridge, etc.),  
CTA/PACE Bus Routes (Grant east of Crawford, etc.),  
Snow Routes,  
Emergency Response Routes as designated by the Fire Department,  
Dead-end blocks of local residential streets,  
Streets deemed inappropriate for speed humps as determined by the Director of  
Public Works based on the recommendation of the Traffic Engineer.*

Residents can request speed humps either through a neighborhood meeting where the Ward Alderman and/or Traffic Engineering Staff are present or through a petition to the Division of Transportation. A postcard survey of all residents who will be directly impacted by the installation of the speed humps will be required. Of those that respond, a majority in favor of installing will be required for further consideration. The local ward Alderman will make the final decision on whether to proceed based on the results of the survey. All speed humps will be permanent - no trial speed humps will be considered.

Speed humps will be installed on the basis of the date of request and will follow in chronological order until funds are no longer available to do so. Streets/areas that do not get humps installed in that calendar year due to lack of funds will be installed the next calendar year.

*(Updated June 12, 2005)*