

## R Side Effects

- Some studies show that compliance with all-way and two-way stops that are not justified by traffic conditions is poor. The majority of motorists - 40 to 50%, perform a rolling stop, 20 to 40% do not stop at all, and 5 to 20% make full stops. (From National Transportation Engineering Assoc. Study)
- All-way and two-way stop control can increase street-related noise from fires, engines and exhaust systems due to stopping, slowing and acceleration. Noise monitoring samples indicate that stop control can raise average noise levels between 3 and 5 decibels near the intersection. This is equivalent to the noise generated by more than doubling the traffic volume without stop control installation.
- Fuel consumption, auto pollutant emissions and travel delay are also increased following installation of stop control. For example, the increased vehicle operating cost for an average neighborhood household that previously did not have to stop at that intersection can increase by up to \$200 per year. The average two-car family makes 10 trips per day, so the increased cost is due mostly to extra fuel consumption, calculated at 5.5 cents per stop. (From Federal Highway Administration Statistics)

## R Cautions

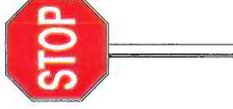
Installation of all-way or two-way stop control can lead to a false sense of security if neighborhood residents believe child safety has been improved. This false sense of security can lead to a lower level of parent/caretaker supervision when children are playing in or near the street.

Studies of neighborhood child pedestrian accidents indicate that 85% of traffic accidents involving children occur in the absence of parent/caretaker supervision. No one should conclude that safety has been improved if stop control is installed at a neighborhood intersection. It's never safe for children to play in or near a street, especially without close parent/caretaker supervision. (From Kidsafe Study, San Jose, CA, Traffic Engineering Dept.)

## R Taking the pulse of your neighborhood intersection.

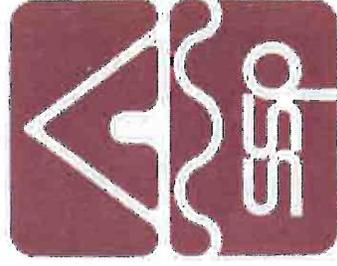
After you have reviewed this information, if you and your neighbors still believe the City should consider installing all-way or two-way stop control at your neighborhood intersection, please send a letter outlining your request to:

CITY ENGINEER'S OFFICE  
CITY OF SOUTH ST. PAUL  
125 THIRD AVENUE NORTH  
SOUTH ST. PAUL, MN 55075



Are  
two-way  
and  
all-way  
stop  
signs

the right  
'prescription'  
for your



neighborhood?

## R Diagnosis and treatment

The City will determine if all-way stop control is justified and appropriate, based on the traffic data collected and physical conditions present at your neighborhood intersection. If not, another treatment might be indicated.

## R Other treatments available

Increased traffic law enforcement or neighborhood communication and education programs could be considered. It might be possible for the neighborhood to identify recurring speeders and raise awareness regarding safety concerns. Also, a personal letter asking for cooperation in reducing traffic speeds could be sent to residents who live in the surrounding neighborhoods.

If you have questions about the information in this brochure, please call  
Chris Hartzell (651) 554-3213.

## Is stop control the right "prescription" for your street intersection?



### Symptoms

**Neighborhood concern about speeding vehicles, high traffic volumes and safety, especially for children.**

It's not unusual for residents to be concerned about factors like these that affect neighborhood wellness. In fact, these concerns are reflected in an increasing number of requests to the City of South St. Paul for two-way or all-way stop control at neighborhood intersections.



### Is two-way or all-way stop control 'good medicine'?

**Sometimes, in certain situations.**

- The most appropriate use for all-way stop control is at high volume intersections where it is difficult to cross or make left turns from or to the minor streets.
- The most appropriate use for two-way stop control is where a low volume roadway meets a high volume roadway.
- All-way stop control is also useful in controlling traffic at intersections where traffic signals are needed but have not yet been installed.
- Stop control can also be effective in addressing sight distance problems at an intersection. For example, sharp horizontal curves in the road, hills and sharp grades in or adjacent to the roadway can make it difficult to see approaching traffic.

- Spaced stop signs are sometimes used to redistribute high volumes of through traffic to other roadways. Unfortunately, through traffic often just relocates to a nearby neighborhood street to avoid the stop signs.

- Two-way or all-way stop control can be effective in reducing some types of traffic accidents that involve motor vehicles. These types of accidents occur where it is difficult for vehicles entering from a neighborhood street to cross or make turns onto a collector street due to the high volume of traffic.

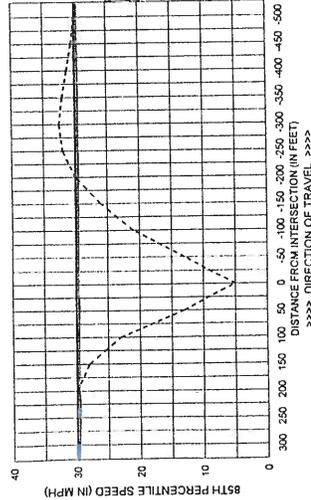


### Not in other situations.

- Two-way or all-way stop control is rarely effective in reducing overall vehicle speeds. Over the past decades, studies have shown that no real reduction in overall speeds on residential streets is achieved.

In most cases, 85 percent or more of the traffic was already traveling at a reasonable speed so no significant reduction in overall speed could be expected after the stop control was installed. The 15 percent of traffic that was traveling at unreasonable speeds was, unfortunately, not likely to stop at a stop controlled intersection or might roll through and then drive even faster to make up for lost time. (From the Manual on Uniform Traffic Control Devices.)

**TYPICAL RESIDENTIAL STREET SPEED PROFILE**  
BEFORE AND AFTER ALL-WAY STOP CONTROL INSTALLATION



AFTER PROFILE BASED ON NORMAL DECELERATION AND ACCELERATION RATES

As shown in the graph (bottom center), speeds are influenced by the stop control only within about 200 feet of the intersection. Speeds beyond 200 feet, in most cases, increase to levels higher than the speeds before the stop control was installed. This appears to be caused by drivers over-accelerating after leaving the intersection, often due to normal driving characteristics, and sometimes in frustration over having to make what they think is an unreasonable stop.



- Also, stop control has not been shown to be effective in reducing pedestrian/bicycle accidents or improving pedestrian/bicycle safety in a residential neighborhood. Despite a popular perception that a stop controlled intersection improves neighborhood safety, no conclusive data exists to support this belief.

This is due, in part, to the infrequent occurrence of pedestrian/bicycle accidents on a residential neighborhood street. Most pedestrian/bicycle accidents occur along major collector or arterial roadways and their intersections.

Data from recent accidents indicates that a pedestrian/bicycle accident would occur about once every 200 years on a specific one-mile stretch of residential neighborhood street. In other words a city that has 200 miles of local residential neighborhood streets could be expected to have one pedestrian/bicycle accident each year in a neighborhood. (From SRF Consulting Group Study of Minneapolis/St. Paul area)

Most pedestrian/bicycle accidents in neighborhoods (with or without stop controlled intersections) occur at mid-block locations, away from any influence of stop controlled intersections. Additionally, speeding was not a significant factor in these types of accidents. More than 90 percent of these accidents involved vehicles traveling slower than 30 miles per hour, and more than 80 percent were traveling below 25 miles per hour. (From Kidsafe Study, San Jose, CA, Traffic Engineering Dept.)