



## **CIRCULATION ELEMENT WHITE PAPER NO. 5**

### **IMPACT OF THROUGH TRAFFIC ON RESIDENTIAL STREETS**

#### **INTRODUCTION**

As documented in White Papers Nos. 1-4, the continued growth of local and regional traffic has led to conditions of near-gridlock within, through and around the City of Beverly Hills. In response, regional through trips have sought alternative routes to their destinations, resulting in significant cut-through traffic in residential neighborhoods. Cut-through traffic is detrimental in a number of ways, including impacts such as traffic volumes that exceed road design capacity resulting in safety issues as well as higher maintenance levels, a decrease in the quality of life, especially in residential neighborhoods where residents are subject to greater traffic volumes, noise levels, increased speeds and greater potential for vehicle conflicts. To control and alter this travel behavior, the City has installed speed humps in some affected neighborhoods, redesigned the Wilshire Boulevard median and conducted traffic calming studies in subareas of the City. The purpose of White Paper No. 5 is to document the City's management of cut-through traffic and to suggest issues for consideration as part of the update of the Circulation Element of the General Plan.

#### **TRAFFIC CALMING INITIATIVES**

Over the past 15 years, the City has explored traffic calming initiatives within three sub-areas, as shown in Figure 1. The following describes the specifics of each subarea:

##### **Livable Streets: Subarea A**

From 1988-1991 a City Council-appointed "Livable Streets" Committee developed a 20-point Livable Streets Plan after a rigorous schedule of research, numerous meetings, and public input gathering. Of highest priority was a proposal for a traffic diversion plan for the neighborhood bounded by Wilshire and Olympic Boulevards and Beverly and Moreno Drives.

In July 1991, Phase I of the test program was implemented; it included:

- Installation of permanent speed humps on all 10 of the 200 and 300 blocks of the north-south streets in the test area, one speed hump on the shorter blocks and two speed humps on the longer blocks.

In September 1991, Phase II was incorporated into the test; it included:

- Monday-Friday peak hour (7-9:30 a.m. and 4-6:30 p.m.) turn and through movement restrictions on nine out of 10 streets in the test area (no restrictions were placed on Moreno Drive).

The speed humps were maintained for full evaluation. Speed studies indicated average speed reductions averaging 14 percent or five miles per hour. Traffic counts also indicated an average decline in traffic volume of 7 percent, or 1,100 fewer north-south trips in the test area. Community feedback from a questionnaire mailed to residents of the test area showed a positive response to the speed humps with 74 percent in favor and 26 percent opposed. The speed humps were removed from the test area at the end of the evaluation. Consequently, the City Council approved an ordinance in 1993 establishing a procedure for considering residents' requests for the installation of speed humps on residential streets.

Phase II of the test program was suspended after three months due to negative community feedback (85 percent of calls/letters received were in opposition, 5 percent in favor and 10 percent were general questions and comments). A significant number of those opposed were commuters utilizing Olympic Boulevard who complained of the increase in traffic on Olympic Boulevard due to the turn restrictions. The community feedback from the mailed questionnaire to residents, however, showed an overall positive response with 53 percent in favor and 36 percent opposed. Eleven percent did not specify their position on the turn restrictions. While the streets with turn restrictions experienced a decrease in traffic volume during the peak hours, neighboring streets without turn restrictions experienced an increase in traffic volume. The overall redistribution of traffic movements in the test area did result in a net 8 percent decrease in northbound traffic on all nine north-south streets.

### **Neighborhood Traffic Management Plan: Subarea B**

In 2001, the City supported a resident-initiated Neighborhood Traffic Management Plan (NTMP) pilot program for the neighborhood bound by Wilshire and Olympic Boulevards and Beverly and Doheny Drives. The Plan was developed over a two-year period by an NTMP Committee composed primarily of residents of the test area. The Committee recommended an incremental plan; Phase I focused on speed reduction measures and Phase II, if necessary, would focus on traffic diversion devices such as turn restrictions and half-street closures. The pilot program began with the temporary installation of the following Phase I traffic calming measures:

- Traffic circles at all-way stop sign-controlled intersections of Gregory Way with Canon, Maple and Oakhurst Drives and at the intersections of Charleville Boulevard with Reeves, Crescent and Palm Drives
- Mid-block islands on the north-south streets (Canon, Crescent, Maple, Palm and Oakhurst Drives)

The pilot program, originally planned for a six-month test, was abruptly concluded after one month due to negative resident response to the loss of parking associated with the traffic circles and mid-block islands. Preliminary City staff observations did indicate a slowing of traffic speeds; however, residents' perceptions were that the benefits did not outweigh the disadvantages and the test measures were removed.

### **Subarea C**

This subarea initiative focused on the intersection of Beverly Boulevard, Civic Center Drive and Palm Drive. Prior to 1993, the complex intersection of Beverly Boulevard, North Santa Monica Boulevard, Palm Drive and Civic Center Drive was one of the most heavily congested locations

in town and had one of the highest accident rates. As a remedy to this situation, staff recommended simplification of the intersection as the most effective way to improve safety and operation. The following measures were implemented:

- A 60-foot wide cul-de-sac was constructed on Civic Center Drive (east of Beverly Boulevard) to separate this street from the above intersection and provide traffic calming for the triangle-shaped residential neighborhood bounded by Beverly Boulevard, North Santa Monica Boulevard and Doheny Drive.
- Eastbound Civic Center Drive (west of Beverly Boulevard) was limited to right-turn-only onto Beverly Boulevard. The traffic signal at Civic Center Drive and Beverly Boulevard was removed.
- To improve safety, a *No Turn on Red* restriction was placed on North Santa Monica Boulevard's right turn onto Beverly Boulevard.

About one year after the implementation of this measure, staff conducted follow-up studies and concluded that the desired improvement in safety, LOS reduction and congestion were achieved.

## **IMPLICATIONS FOR THE GENERAL PLAN UPDATE**

To date, initiatives by the City to manage residential cut-through traffic have been relatively modest and reactive in nature. Based on experience to date within the City, especially in Subareas A and B, it is difficult to forge a consensus for traffic calming measures. As shown in the Attachment, the City does have a formal methodology for approving speed humps in residential areas. In 1976, the City Council passed an ordinance that led to the citywide installation of four-way stop signs that has had significant traffic calming effects.

As discussed in Working Papers 1-4, improvements to major east-west and north-south arterials (including ITS), coupled with freeway improvements and major regional transit investments (especially the Wilshire Red Line subway), may remove some pressure on residential areas.

As a means to address this issue proactively, the City may want to consider developing a comprehensive toolkit for solving residential cut-through traffic and traffic calming issues. Dealing with complaints on an ad hoc basis is reactionary and ineffective as a long-term neighborhood protection strategy. A policy regarding residential through traffic must be developed and goals regarding the reduction of residential traffic must be set. It may be that more draconian measures are required to protect residential neighborhoods. Based on experience to date in the City, achieving consensus on such measures has proven very difficult. Whatever measures are implemented must consider impacts to adjacent streets and neighborhoods as well as citywide traffic circulation effects, including emergency response times.

As an example of what a toolkit for Beverly Hills might contain, Figures 2A to 2C present a menu of possible physical traffic control options that have been considered in previous attempts to develop neighborhood-wide traffic management plans. Table 1 assesses the applicability of these physical options along with operational traffic control options.

It should be noted that several of these options, including traffic circles (Option G) and speed humps (Option T), have been tried unsuccessfully in the City. Before selecting any of these options for permanent installation, the following general steps should be established, and adopted as a formal program, and consistently followed:

- Establish citywide policy framework
- Identify the specific problem
- Try the minimum possible solution first
- Identify possible solutions and present to the neighborhood
- Establish a criteria for implementation, i.e. "majority rules"
- Do a temporary test of proposed change(s)
- Vote again before making the change(s) permanent

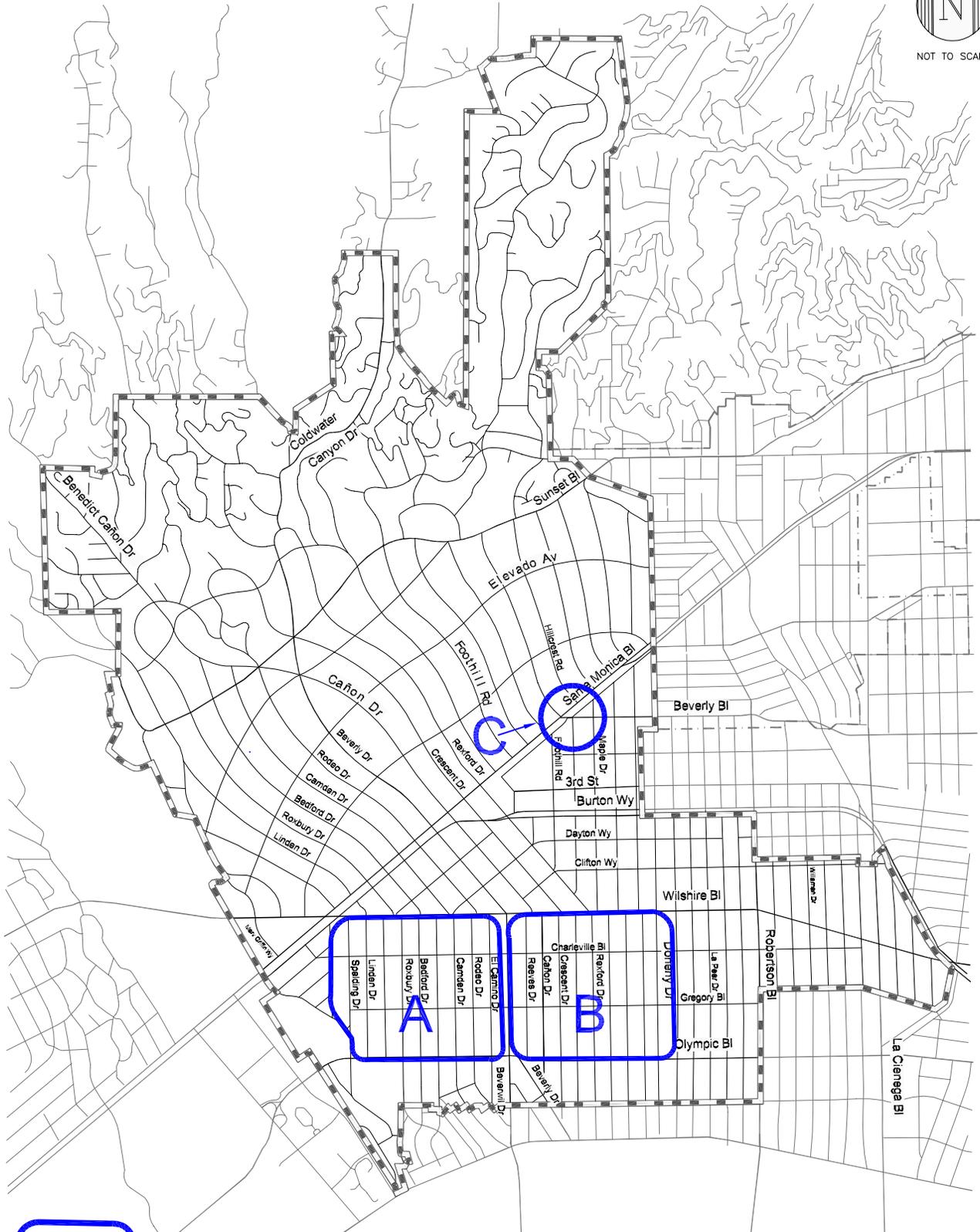
**LEGEND**

----- Los Angeles/West Hollywood City Limits

▬▬▬▬ Beverly Hills City Limits

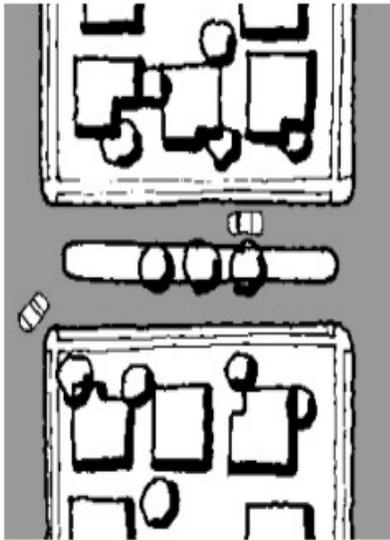


NOT TO SCALE

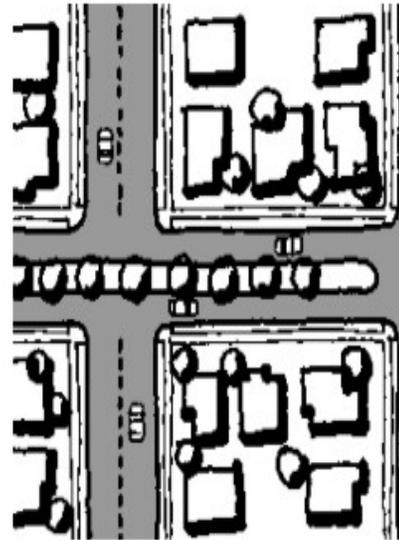


 Subarea boundary

**FIGURE 1**  
**LOCATION OF TRAFFIC CALMING INITIATIVES**



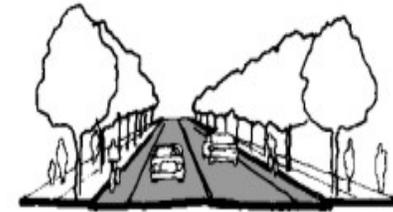
A. Roadway Narrowing - Center Median



A. Roadway Narrowing - Center Median

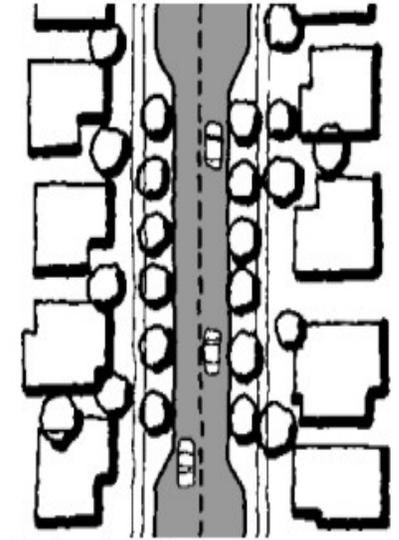


BEFORE

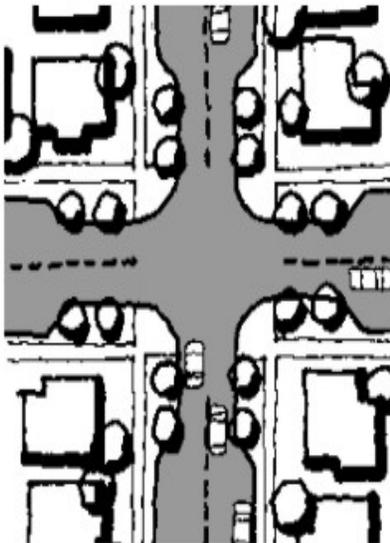


AFTER

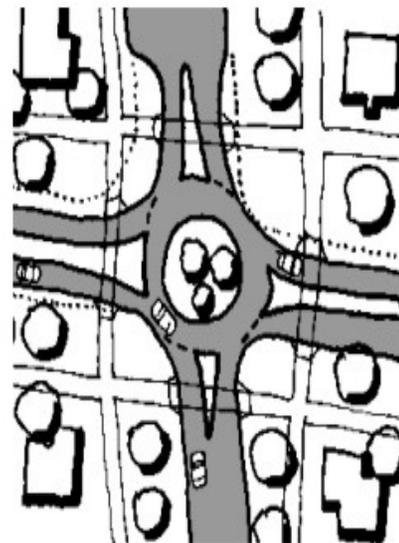
B. Roadway Narrowing - Reduced Lane Width



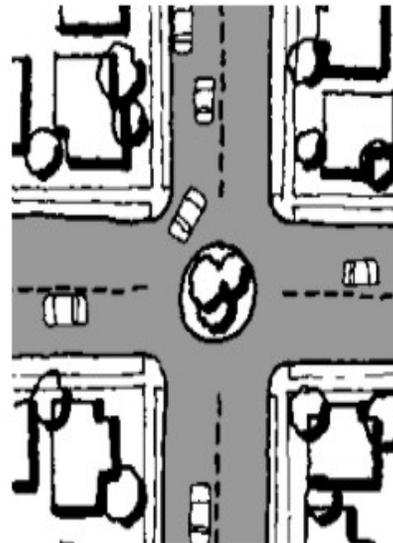
D. Roadway Narrowing - Midblock Neckdown



E. Roadway Narrowing - Corner Curb Extension



F. Roundabout

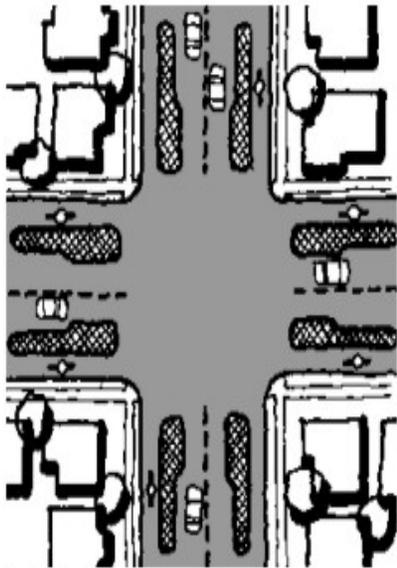


G. Traffic Circle

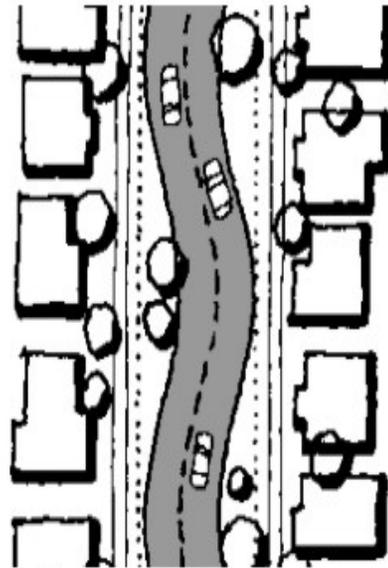


H. Gateway / Entry Island

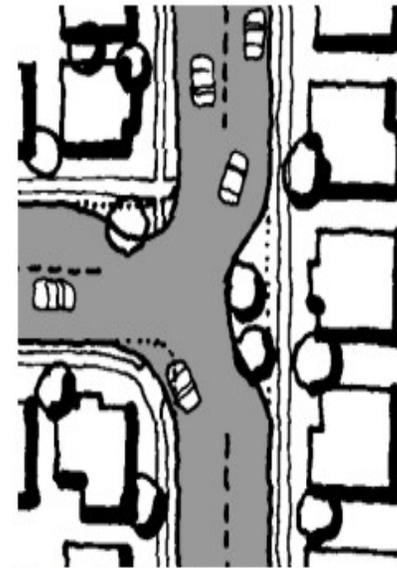
**FIGURE 2A**  
**TRAFFIC CONTROL TOOLBOX**



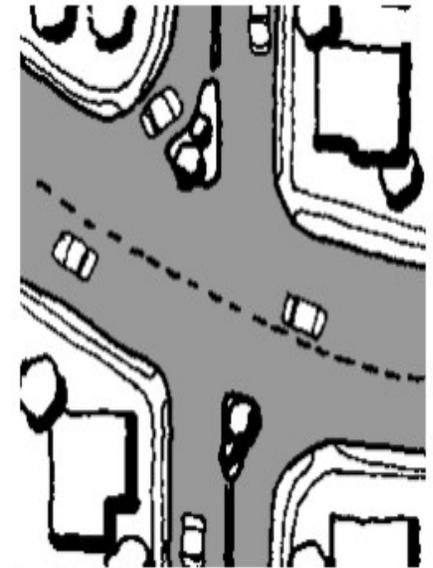
I. Choker



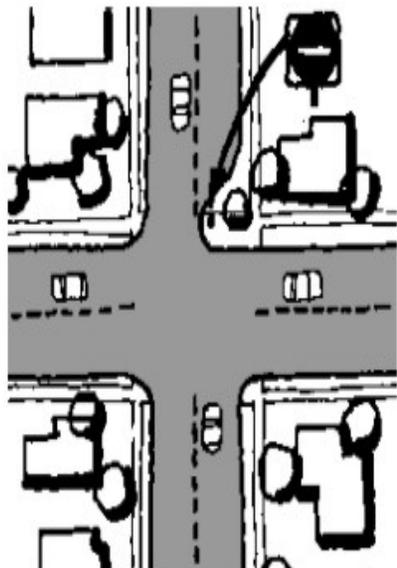
J. Curvilinear Street



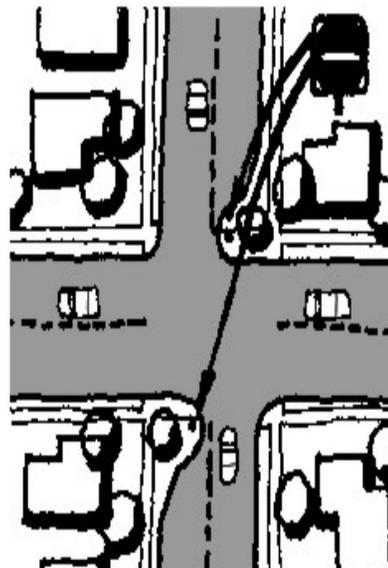
K. Realigned Intersection



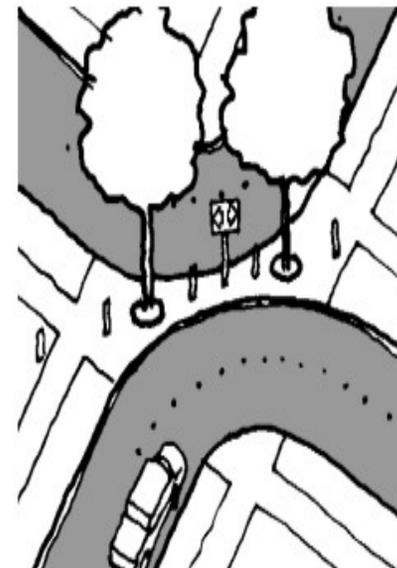
L. Restricted Movement Barrier



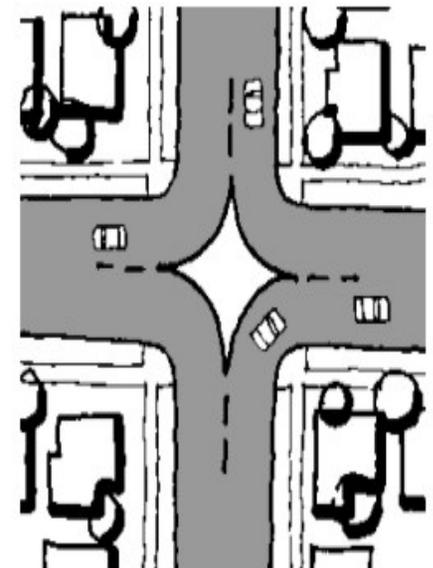
M. Entrance Barrier



M. Entrance Barrier

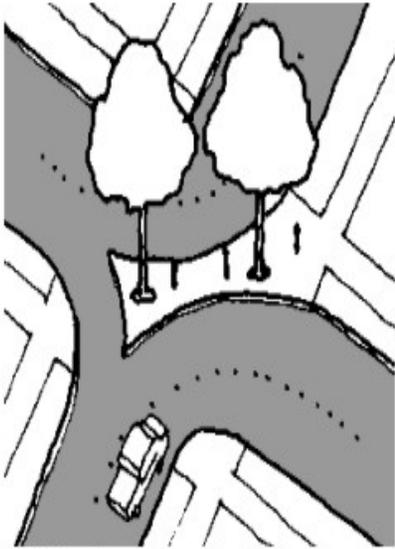


N. Diverter - Diagonal

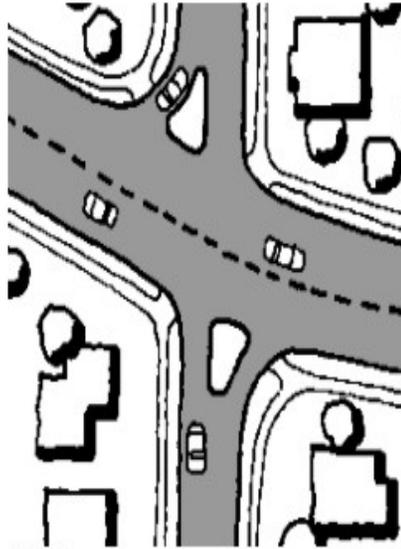


O. Diverter - Star

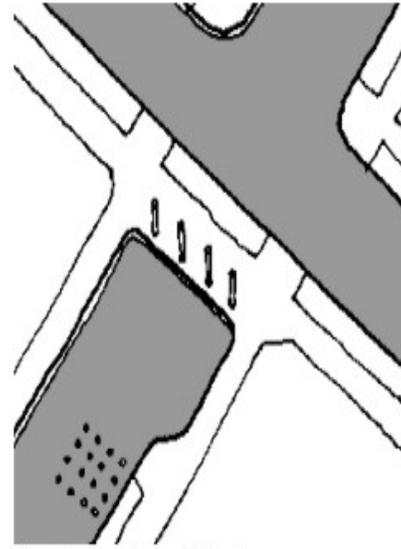
**FIGURE 2B**  
**TRAFFIC CONTROL TOOLBOX**



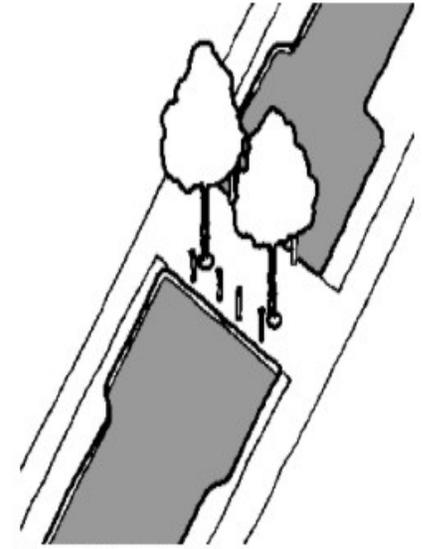
P. Diverter - Truncated Diverter



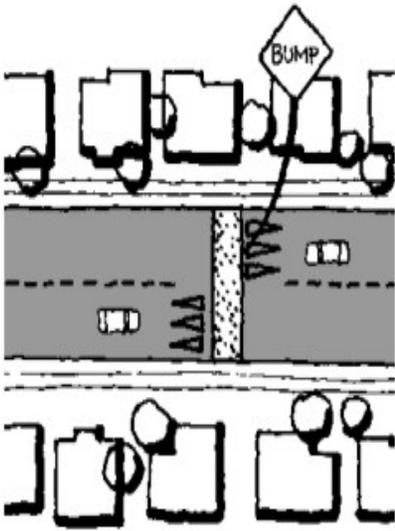
Q. Diverter - Forced Turn



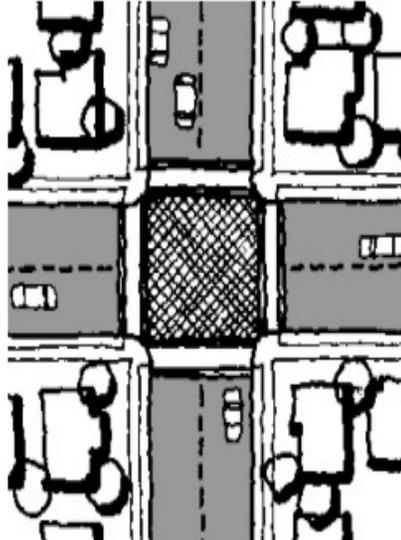
R. Intersection Cul-de-sac



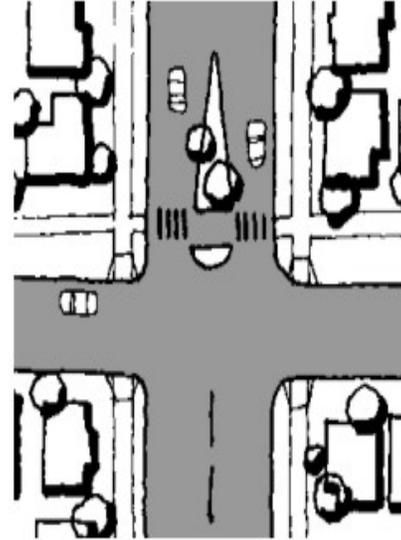
S. Midblock Cul-de-sac



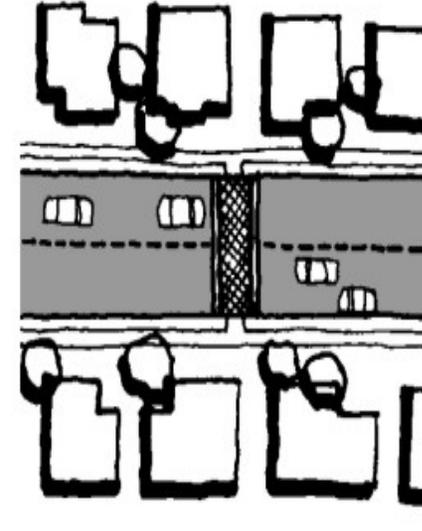
T. Speed Hump



V. Raised Intersection



W. Pedestrian Island



X. Raised Crosswalk

**FIGURE 2C**  
**TRAFFIC CONTROL TOOLBOX**

DEVICE/ACTION		APPROPRIATE FOR USE ON  A = Arterial C = Collector L = Local	EFFECTIVENESS						COST	
			Volume Reduction	Speed Reduction	Directional Control	Noise	Safety	Emergency Access Response Time	Implement	Ongoing
PHYSICAL	A Roadway Narrowing--Center Median	All	Yes	Yes	Yes	Decrease	Increase	No Effect	High	Low
	B Roadway Narrowing--Reduced lane Width	All	Possible	Possible	No	Decrease	Poss Incrs	No Effect	Low-Mod	Low
	C Roadway Narrowing--Reduced Number of Lanes	A	Possible	Possible	No	Decrease	Poss Decrs	Poss Incrse	Low-Mod	Low
	D Roadway Narrowing-- Midblock Neckdown	All	No	Yes	Yes	Decrease	Increase	Poss Incrse	Mod-High	Mod
	E Roadway Narrowing--Corner Curb Extension	All	No	Yes	No	Decrease	Increase	No Effect	Mod-High	Mod
	F Roundabout	A C	No	Yes	No	Decrease	Poss Incrs	No Effect	High	High
	G Traffic Circle	C L	No	Yes	No	Decrease	Poss Incrs	Increase	High	High
	H Gateway/Entry Island	C L	Likely	Likely	No	Decrease	Increase	No Effect	Low-Mod	Mod
	I Choker	All	No	Likely	No	No Effect	Poss Incrs	No Effect	Mod	Low-Mod
	J Curvilinear Street	C L	Possible	Likely	No	Poss Reduce	Poss Decrs	Increase	High	High
	K Realigned Intersection	C L	Yes	Yes	Yes	Decrease	Increase	Increase	High	Mod
	L Restricted Movement Barrier	C L	Yes	Yes	Yes	Decrease	Increase	Poss Incrse	Mod	Low-Mod
	M Entrance Barrier	C L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	N Diverter--Diagonal	C L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	O Diverter--Star	C L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	P Diverter--Truncated Diverter	C L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	Q Diverter--Forced Turn	C L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	R Intersection Cul-de-sac	L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	S Midblock Cul-de-sac	L	Yes	Yes	Yes	Decrease	Increase	Increase	Mod-High	Low-Mod
	T Speed Hump	C L	Likely	Yes	No	Increase	Increase	Increase	Low-Mod	Low
	U Speed Table	C L	Likely	Yes	No	Increase	Increase	Increase	Mod-High	Low-Mod
	V Raised Intersection	C L	Unlikely	Yes	No	Increase	Increase	Increase	High	Mod
	W Pedestrian Island	A C	Unlikely	Possible	No	Poss Reduce	Increase	Increase	Mod-High	Low-Mod
	X Raised Crosswalk	C L	Unlikely	Yes	No	Increase	Increase	Increase	Mod-High	Low
	Y Pedestrian Signal	All	Unlikely	Possible	No	Poss Incrs	Increase	No Effect	Mod	Mod
	Z Traffic Signal	A C	Unlikely	Likely	No	Poss Incrs	Poss Incrs	No Effect	Mod-High	Mod
OPERATIONAL	AA All Way STOP	C L	Mixed	Mixed	No	Increase	Poss Incrs	Increase	Low	Low
	BB Turn Prohibition	All	Yes	Likely	Yes	Decrease	Increase	No Effect	Low	Mod-High
	CC Speed Limit	All	No	Likely	No	No Effect	Mixed	No Effect	Low	Mod-High
	DD Police Enforcement	All	No	Likely	No	No Effect	Temp Incr	No Effect	Mod-High	Mod-High
	EE Speed Trailer	All	No	Yes	No	No Effect	Temp Incr	No Effect	Mod-High	Mod-High
	FF One-way Street	All	No	No	Yes	No Effect	Increase	No Effect	Mod-High	Low

**TABLE 1**

**TRAFFIC CONTROL TOOLBOX APPLICABILITY ASSESSMENT: Physical and Operational Devices**

**ATTACHMENT**  
**SUMMARY OF GUIDELINES FOR IMPLEMENTATION OF SPEED HUMPS**  
**IN THE CITY OF BEVERLY HILLS**

1.	The street must not have more than one lane in each direction.
2.	The street must be a residential street (in a residential district) whose primary purpose is to provide access to abutting residential properties.
3.	The street shall be designated as a local street in the City of Beverly Hills Circulation Element.
4.	The speed limit shall be no greater than 25 mph as determined in accordance with State law.
5.	The traffic volume on the street shall be between 500 and 3,000 vehicles total in both directions, in a 24-hour period on an average weekday.
6.	If answer to above is no, does traffic volume exceed 3,000 vehicles per day, and is the excess traffic characterized as bypassing, non-residential traffic?
7.	The measured 85th percentile speed of traffic shall be equal to or greater than 30 mph <u>or</u> 60% of the measured vehicle speeds shall be greater than 25 mph.
8.	Street geometry shall provide 200 feet of clear visibility on approaches to speed humps, with humps located not less than 200 feet apart.
9.	The street shall not have a grade of more than 6%
10.	The street must have raised curbs to physically prevent motorists from driving off the street to avoid speed humps.