

APPENDIX

**Excerpts From "Placer County Neighborhood Traffic Management Program Final Report"
Placer County Department of Public Works
February 28, 2007**

Speed Feedback Signs

Speed feedback signs perform the same functions as radar trailers but are permanent. Real-time speeds are relayed to drivers and flash when speeds exceed the limit. Speed feedback signs are typically mounted on or near speed limit signs.



Approximate Cost: \$3,000 - \$10,000

Centerline/Edgeline Lane Striping

Lane striping can be used to create formal travel lanes, bicycle lanes, parking lanes, or edge lines. As a neighborhood traffic management measure, they are used to narrow the travel lanes for vehicles, thereby inducing drivers to lower their speeds. The past evidence on speed reductions is, however, inconclusive.



Approximate Cost: \$2.00 per linear foot

Advantages

- Real-time speed feedback
- Does not physically slow emergency vehicles or buses
- Permanent installation

Disadvantages

- May require power source
- Only effective for one direction of travel
- Long-term effectiveness uncertain
- Subject to vandalism

Advantages

- Inexpensive
- Can be used to create bicycle lanes or delineate on-street parking
- Does not slow emergency vehicles

Disadvantages

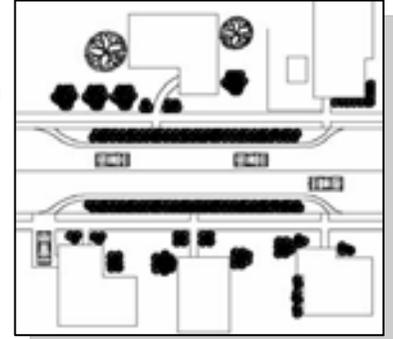
- Has not been shown to significantly reduce travel speeds
- Requires regular maintenance

Two-lane choker

Chokers are curb extensions at midblock that narrow a street. Chokers leave the street cross section with two lanes that are narrower than the normal cross section.

The magnitude of speed reduction is dependent on the spacing of two-lane chokers between points that require drivers to slow (see page 55). On average two-lane chokers achieve a 7 percent reduction in speeds.

Approximate Cost: \$7,000 - \$8,000 per location



Measured Effectiveness		
Speed Reduction	Reduction in 85th Percentile Speeds between Slow Points	-7%
Volume Reduction	Reduction in Vehicles per Day	-10%
Safety Reduction	Reduction in Average Annual Number of Collisions	I/D
Note: I/D = Insufficient Data to predict reduction effect.		
Source: Traffic Calming: State of the Practice, 2000.		



Advantages

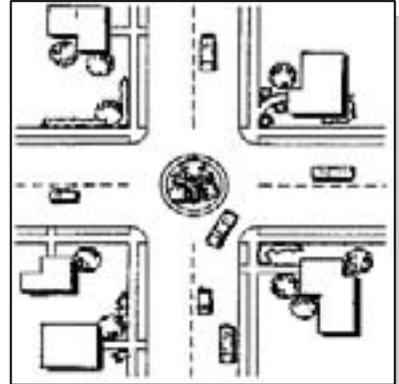
- Easily negotiable by emergency vehicles and buses
- Can have positive aesthetic value
- Reduces both speeds and volumes

Disadvantages

- Effect on vehicle speeds is limited by the absence of any vertical or horizontal deflection
- May require bicyclists to briefly merge with vehicular traffic
- Loss of on-street parking
- Build-up of debris in gutter

Traffic Circle

Traffic circles are raised islands, placed in intersections, around which traffic circulates. Stop signs or yield signs can be used as traffic controls at the approaches of the traffic circle. Circles prevent drivers from speeding through intersections by impeding the straight-through movement and forcing drivers to slow down to yield. Depending upon the size of the intersection and circle, trucks may be permitted to turn left in front of the circle.



The magnitude of speed reduction is dependent on the spacing of traffic circles between points that require drivers to slow (see page 55). On average, traffic circles achieve an 11 percent reduction in speeds and a dramatic 71 percent decrease in collisions.

Approximate Cost: \$10,000 - \$25,000 per location

Measured Effectiveness		
Speed Impacts	Reduction in 85th Percentile Speeds between Slow Points	-11%
Volume Impacts	Reduction in Vehicles per Day	-5%
Safety Impacts	Reduction in Average Annual Number of Collisions	-71%
Source: Traffic Calming: State of the Practice, 2000.		



Advantages

- Very effective in moderating speeds and improving safety
- Can have positive aesthetic value

Disadvantages

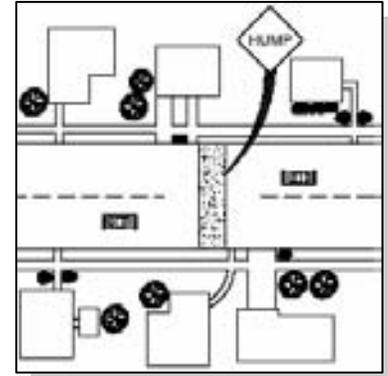
- If not designed properly, difficult for emergency vehicles or large trucks to travel around
- Must be designed so that the circulating traffic does not encroach on crosswalks
- Potential loss of on-street parking

Speed Hump

Speed humps are rounded raised areas placed across the road. They are generally 12 feet long (in the direction of travel), 3 to 3 ½ inches high, parabolic in shape, and have a design speed of 15 to 20 mph. They are usually constructed with a taper on each side to allow unimpeded drainage between the hump and curb. When placed on a street with rolled curbs or no curbs, bollards are placed at the ends of the speed hump to discourage vehicles from veering outside of the travel lane to avoid the device.

The magnitude of reduction in speed is dependent on the spacing of speed humps between points that require drivers to slow (see page 55). On average, speed humps achieve a 22 percent reduction in speeds.

Approximate Cost: \$2,000 - \$3,000 per location



Measured Effectiveness		
Speed Impacts	Reduction in 85th Percentile Speeds between Slow Points	-22%
Volume Impacts	Reduction in Average Daily Traffic	-18%
Safety Impacts	Reduction in Average Annual Number of Collisions	-13%
Source: Traffic Calming: State of the Practice, 2000.		



Advantages

- Relatively inexpensive
- Relatively easy for bicyclists to cross
- Very effective in slowing travel speeds

Disadvantages

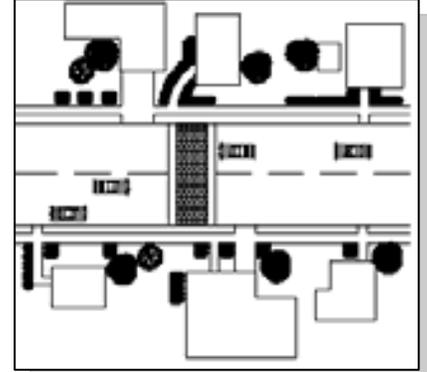
- Causes a “rough ride” for drivers, and can discomfort people with certain skeletal disabilities
- Slows emergency vehicles and buses
- Aesthetics
- Signs may be unwelcome by adjacent residents
- Increased noise for nearby residents

Raised Crosswalk

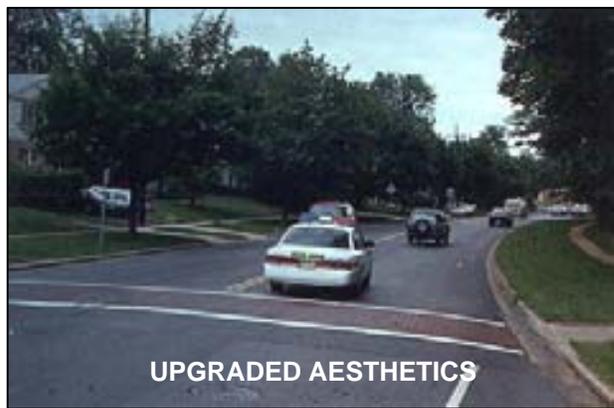
Raised crosswalks are speed tables striped with crosswalk markings and signage to channelize pedestrian crossings, providing pedestrians with a level street crossing. Also, by raising the level of the crossing, pedestrians are more visible to approaching motorists.

The magnitude of speed reduction is dependent on the spacing of raised crosswalks between points that require drivers to slow (see page 55). On average, raised crosswalks achieve an 18 percent reduction in speeds.

Approximate Cost: \$5,000 for basic treatment



Measured Effectiveness		



Advantages

- Improve safety for both vehicles and pedestrians
- Aesthetic upgrades 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
- Impact to drainage needs to be considered
- Textured pavement can increase noise to adjacent residents
- Signs may be unwelcome by adjacent residents