# Applicability of Traffic Calming Measures

SECTION

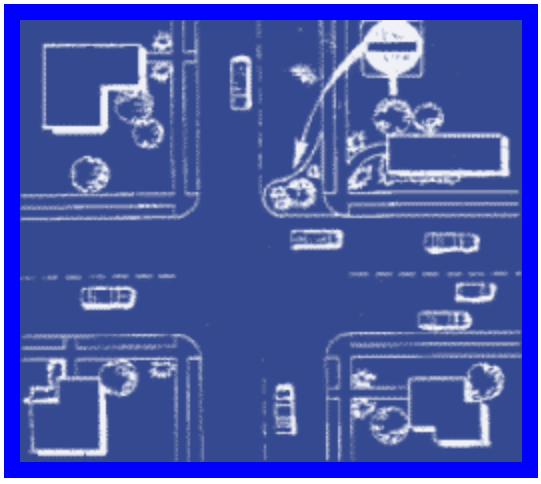
V

As indicated in Section III of this study, through an initial study various data was collected that described existing conditions on a particular street experiencing traffic problems. Based on this analysis, the apparent nature of the problem will be identified, i.e., speeding, excessive volume, etc. through this process, the appropriate traffic calming measure or combination of measures was selected. Working with the local community should be the goal of the City's traffic calming program. Then the most cost-effective and conservative measure can be selected that will resolve the particular traffic problem.

Following are typical traffic calming devices, which may be used in the City either individually or in combination. The following descriptions have been taken from Chapter 3 of the ITE Manual, 1999. The caption numbers below the photos refer to the Reference Section.

## Volume Control Measures

Half closures are barriers that block traffic in one direction for a short distance on otherwise two-way streets. These features are also sometimes called partial closures or one-way closures. When two half-closures are placed across from one another at an intersection, the result is a semi-diverter.

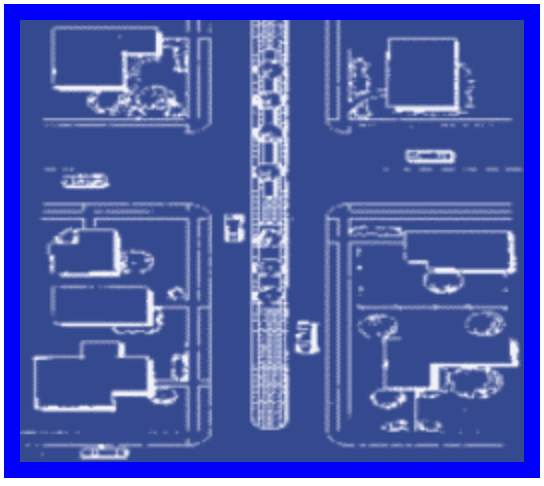


1

Diagonal deviators are barriers placed diagonally across an intersection, blocking movement. They are also called full diverters and diagonal road closures.

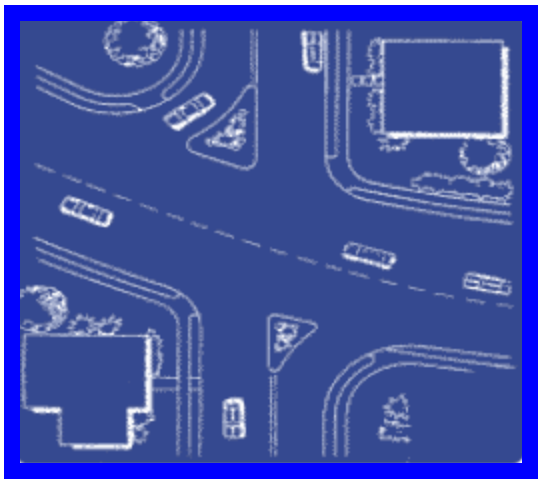

2

Median barriers are raised islands located along the centerline of a street and continuing through an intersection to block through-movement at a cross street. They are also referred to as median diverters or occasionally as island diverters.



3

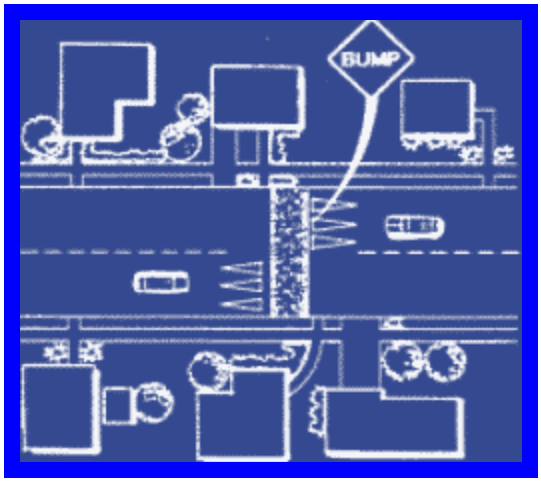
Forced turn islands are raised islands on approaches to an intersection that block movement. They are sometimes called forced turn channelizations, pork chops, or in their most common incarnation, right turn islands.



4

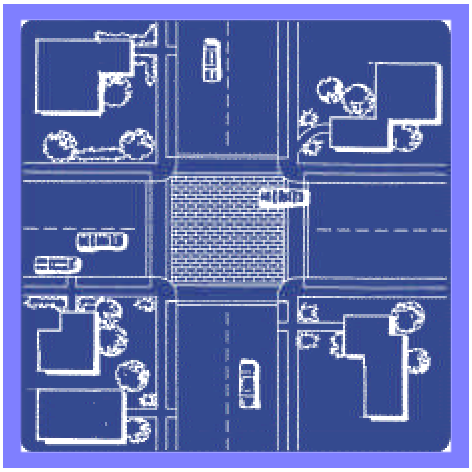
## Vertical Speed Control Measures

Speed tables are flat-topped, often constructed in brick or other textured materials, on the flat section. They are also called trapezoidal humps, plateaus, and if marked for pedestrian crossing, raised crossing or raised crosswalks. Speed tables are typically long enough for the entire wheel base of a passenger car to rest upon. Their long flat field, plus ramps that are more gently sloped than standard speed humps, give speed tables higher design speeds than speed humps.




5

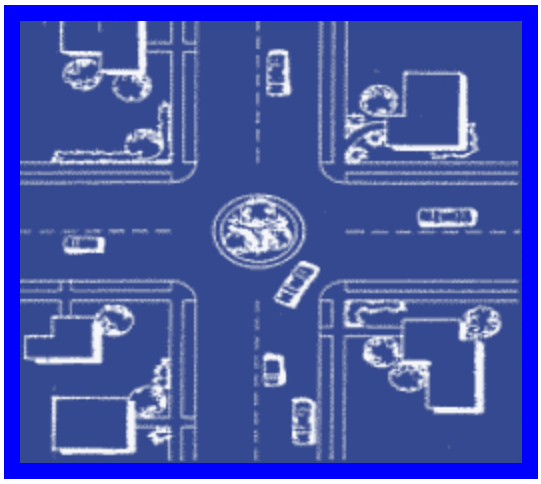
Raised intersections are flat raised areas covering entire intersections, with ramps on all approaches and often with brick or other textured materials on the flat section. They are also called raised junctions or intersection humps. They usually rise to sidewalk level or slightly below to provide a “lip” for the visually impaired. They make the entire intersection pedestrian territory. These shall not be used on emergency response routes.



6

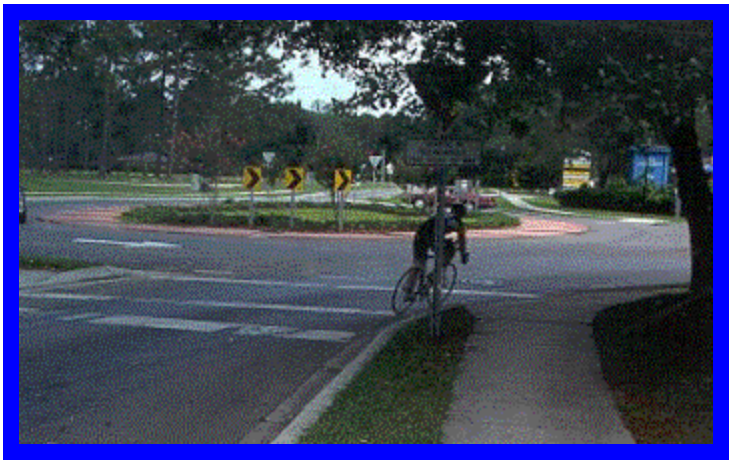
## Horizontal Speed Controls

Mini-traffic circles are raised areas, placed in intersections, around which traffic circulates. They are sometimes called intersection islands. They are usually circular in shape, though not always, and are usually landscaped in their center island. They often have outer rings (called truck aprons) or conical shapes that are mountable so large vehicles can circumvent their small curb radii.



7

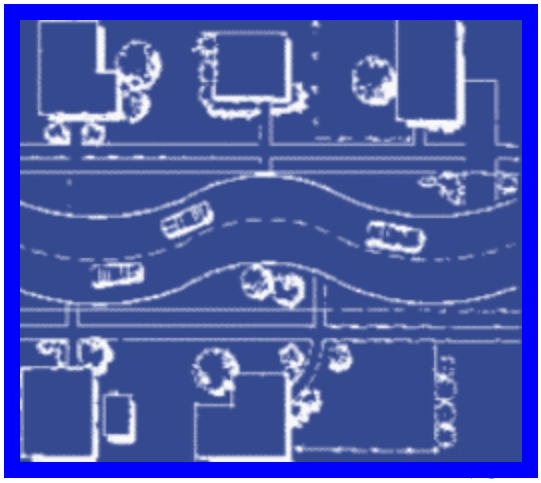
Roundabouts, similar to mini-traffic circles in that traffic circulates around center islands, are used at higher volume intersections to allocate right-of-way to competing movements. Roundabouts in the U.S. are found primarily on arterial and collector streets, often substituting for traffic signals or all-way stops. They are larger than mini-traffic circles, are designed for higher speeds, and have raised splitter islands to channel approaching traffic to the right.



8

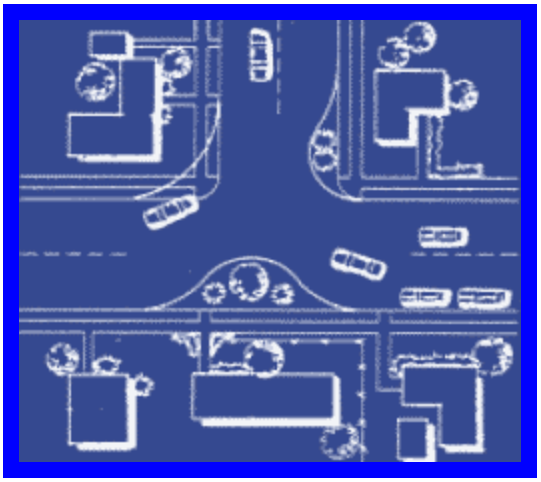
Lateral shifts are curb extensions on otherwise straight streets than cause travel ways to bend one way and then bend back the other way to return to the original direction of travel. Occasionally, they are referred to as axial shifts, staggerings, or jogs. Lateral shifts, with the appropriate degree of horizontal curvature, are one of the few measures that can be use on collectors or arterials, where high traffic volumes and speeds preclude more abrupt measures.

Chicanes are curb extensions that alternate from one side of the street to the other forming s-shaped curves. They are also referred to as deviations, serpentines, and reversing curves.



9

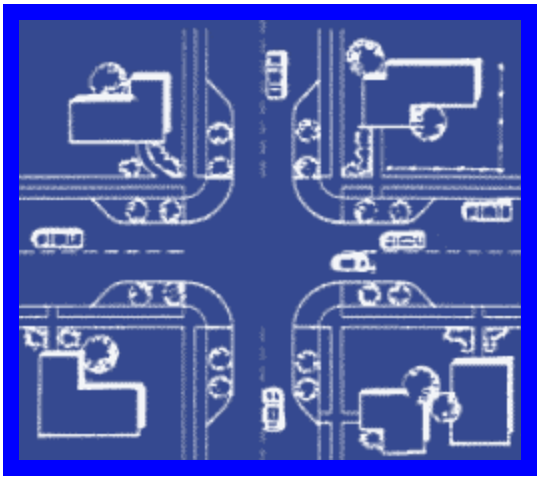
Realigned intersections are changes in alignment that convert T-intersections with straight approaches into curving streets meeting at right angles. Realigned intersections are sometimes called modified intersections.



10

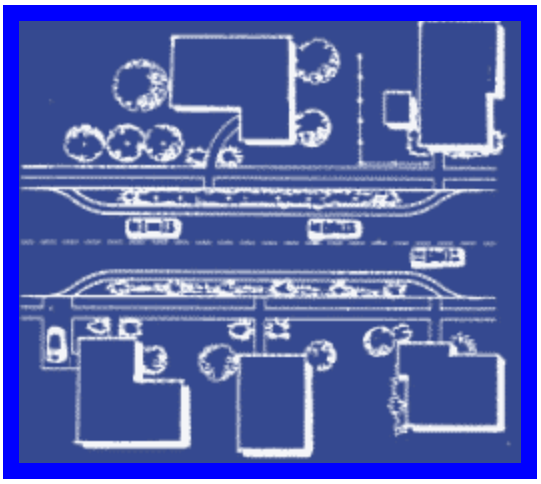
## Cartway Narrowing

Neckdowns are curb extensions at intersections that reduce roadway width curb-to-curb. They are sometimes called nubs, bulbouts, knuckles, or intersection narrowings. If coupled with crosswalks, they are referred to as safe crosses. Placed at the entrance to a neighborhood, and often combined with textured pavement, they are called gateways**.** Their effect on vehicle speeds in limited by the absence of pronounced vertical or horizontal deflection. Instead, their primary purpose is to “pedestrianize” intersections.



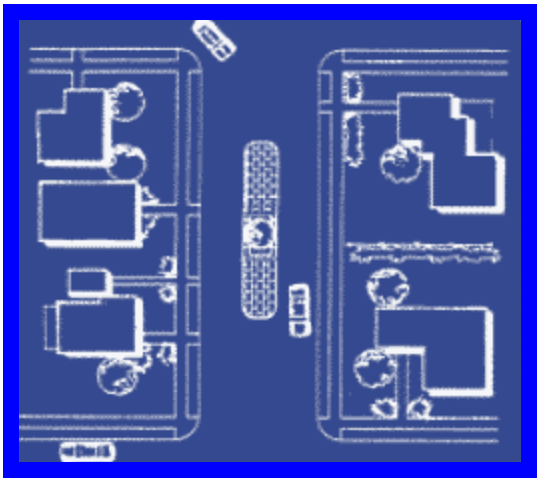
11

Chokers are curb extensions at mid-block that narrow a street by widening the sidewalk or planting strip. In different configurations, they are called mid-block narrowings, mid-block yield points, and pinch points. If marked as crosswalks, they are also called safe crosses. Chokers can leave the street cross-section with two lanes, albeit narrower lanes than before, or take it down to one lane. In Delaware, only two-lane chokers are permitted on two-way streets.



12

Center island narrowings are raised islands located along the centerline of a street that narrow the street at that location. They are also called pedestrian refuge medians, mid-block medians, median slowpoints, and median chokers. Placed at the entrance to a neighborhood, and often combined with textured pavement, they are also called gateways. They are landscaped to provide visual amenity and neighborhood identity, as well as modest speed reduction.



13

## Other Measures

Other measures, such as on-street parking and defined bike lanes, also can have a traffic calming. On-street parking and a physically separated bike lane (distinguished by a change in paving treatment or rumble strips, etc.) have the effect of narrowing perceived cartway width. However, they should only be used when the bicycle lane is larger than four (4) feet in width. Obviously, however, on-street parking spaces must be occupied to have the desired effect and bike lanes must be carefully designed to discourage the vehicle encroachment. Streetscape improvements, such as the planting of shade trees, installation of pedestrian-level lighting and similar design features can also have the effect of "pedestrianizing" the character of a roadway and signaling to drivers that a different driving behavior is warranted.

The search for the optimal traffic calming measure may lead to various combinations of measures at a single slow point. A standard traffic circle cannot control speeds on the top of a T-intersection, so curb extensions may be added to the approaches to achieve some horizontal deflection. A choker cannot control speeds in the absence of opposing traffic, so speed tables may be added in the gap between curb extensions. Individual measures can be combined in any number of ways.

14

15

16

17