



WHAT IS TRAFFIC CALMING?

Traffic calming is the use of physical and operational measures to reduce the negative impacts of traffic on neighborhoods. It works best when it part of a comprehensive traffic management strategy for the neighborhood. In an area such as Downtown Brooklyn, in which the adverse effects of traffic are felt on all streets, it is critical that the traffic calming strategy extends beyond the confines of the local neighborhoods to encompass areawide measures to manage traffic throughout Downtown.

Though physical measures are its most recognized aspects, traffic calming may cover a wide range of actions. A typical menu of items is described at the end of this note. The critical motivator of traffic calming is a community's underlying desire to improve the public space, which moves the discussion from the kinds of *actions* that can legitimately be grouped under the traffic calming banner to the kinds of *outcomes* being sought.

Better use of public space may be achieved in various ways: it may involve de-emphasizing motorized traffic in favor of pedestrians and other street users. Such an objective might be appropriate for residential streets. It might involve ensuring motorized traffic takes its place in the life of a commercial street without dominating it. After all, many successful and vibrant commercial streets accommodate motorized traffic as an important part of their makeup; the key in such situations is that the motorized traffic does not drive out other users of the space. Or it might involve optimizing the operations of a major road so that traffic capacity is maintained or enhanced, without precluding effective use of the space by other users – all of which would help reduce traffic on minor streets and keep heavy traffic flows on streets designed to carry them.

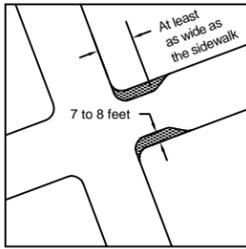
In turning these local tactics into a true traffic calming strategy, the key is to adopt an area-wide approach. This reflects two issues:

- the need to see neighborhoods as systems; and
- the resulting need to follow a systematic planning approach when managing an area.

An area-wide plan for local area traffic management should be more than a catalog of physical road works; an effective area-wide plan must be designed in a coordinated way, consistent with what traffic engineers know about how drivers adapt to traffic networks. It is no coincidence that average travel times from Hamilton Avenue to the approaches to the Brooklyn in the morning rush hour are approximately the same by all routes. Drivers learn how to travel through an area as quickly as possible and experienced drivers quickly exploit a perceived shortcut so that an area's traffic demand is typically at equilibrium. Any change to traffic conditions changes this equilibrium point, but not the certainty that equilibrium will occur. Implementing of an isolated traffic calming treatment will act to alter traffic patterns; traffic volumes may diminish in the immediate vicinity of the treatment, but only at the expense of streets that provide alternative routes. Only by fitting traffic calming actions into a comprehensive strategy of traffic calming and traffic management can the impacts of traffic be reduced without unduly inconveniencing drivers.

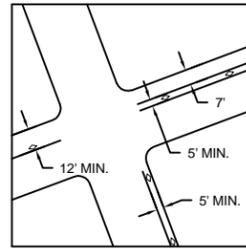


TRAFFIC CALMING DEVICES



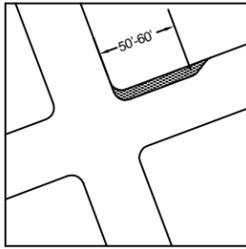
NECKDOWNS

A neckdown (also known as a curb extension) consists of a localized narrowing of the street achieved by widening the sidewalk. They may occur either at intersections or mid-block, and may include landscaping.



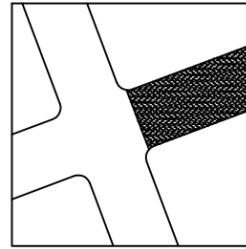
BIKE LANES

A designated on-street right-of-way that is delineated by pavement markings and signs. For bicycle lanes (Class II Bikeways) the Federal Highway Administration permits a minimum width of five feet when located adjacent to a curb or parking. In New York City, on-street lanes may be supplemented with an adjacent buffer zone to further define the separation of roadway use.



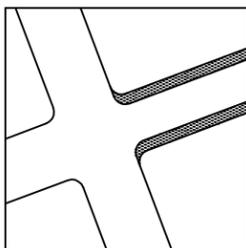
BUS BULB

A bus bulb consists of widening the sidewalk at a bus stop location so that buses remain in the travel lane when stopped at that bus stop.



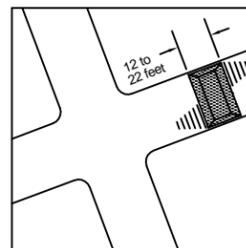
ROADWAY COLOR AND TEXTURE

Construction of roadway surfaces with materials that introduce surface texture to the roadway, such as paver stones, bricks, surface concrete patterns or stamped asphalt. Surface texture can create visual, vibratory and auditory effects. Texture can be utilized in a variety of applications, from treating entire streets, sidewalks or intersections to accenting and defining pedestrian crossing locations.



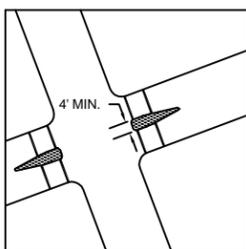
ROADWAY NARROWING

Roadway narrowing involves the reduction of typical pavement width along a roadway. The narrowing can be achieved by removing a portion of the pavement width (typically by widening the sidewalk), or by using pavement markings to indicate narrow travel lanes.



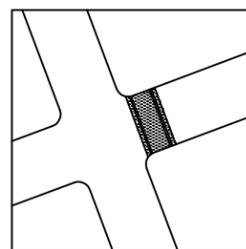
SPEED HUMP

A speed hump is a raised area in the roadway pavement extending across the road. Speed humps generally have a maximum height of 3 or 4 inches, with a travel length of 12 to 22 feet. The profile can be circular, parabolic or flat topped with sloping approaches. Longer, flat-topped speed humps are also known as speed tables, and may be combined with raised crosswalks



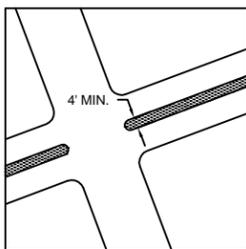
PEDESTRIAN REFUGES

Pedestrian refuges are small islands placed in the center of a two-way street. These islands separate opposing streams of traffic and allow pedestrians to cross the street in stages. They can also be used to narrow the travel lanes at the crossing location.



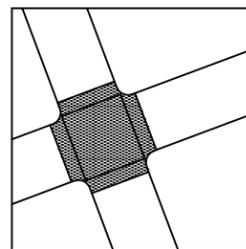
RAISED CROSSWALK

Raised crosswalks are constructed 2-4 inches above the normal roadway surface. Raised crosswalks are essentially flat-topped speed humps (speed tables). They are often constructed with concrete ramps and may also incorporate textured pavements in the crosswalk. Raised crosswalks can be placed mid-block or at intersections.



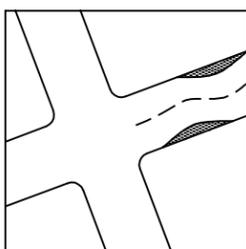
ROADWAY MEDIANS

A roadway median is defined as a raised island on the centerline of the street. A roadway median can include landscaping, space for pedestrian refuges and storage lanes for left turning vehicles.



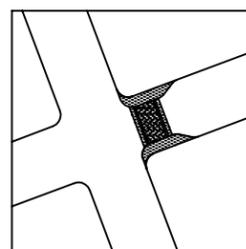
RAISED INTERSECTION

Raised intersections are flat raised areas covering entire intersections with ramps on all approaches. They typically rise to the sidewalk level or just below. Raised intersections are often constructed with textured pavement materials on the flat portion.



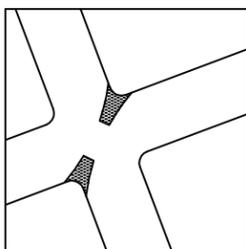
CHICANE

Chicanes introduce horizontal deflection by building out curb lines on alternating sides of the roadway. These built-out areas may be landscaped. A chicane-like effect can also be achieved by alternating on-street parking from one side of the street to another.



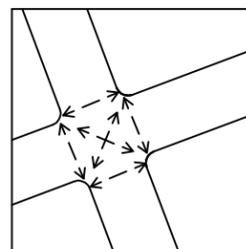
GATEWAY TREATMENT

Gateway treatments consist of a combination of physical traffic calming measures (such as curb extensions, raised crosswalks and textured surfaces) to create a threshold effect at entrances to streets and neighborhoods.



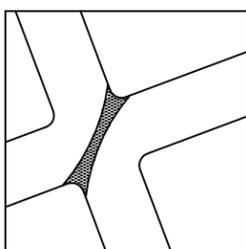
PARTIAL DIVERTER

A partial diverter consists of a curb extension or island that blocks one direction of travel at an intersection. It often includes landscaping and can be designed to retain bicycle access in both directions. Typically used on minor two-way streets.



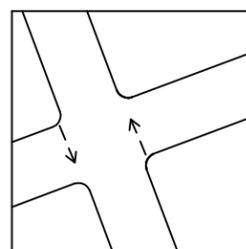
ALL PEDESTRIAN PHASE (APP)

An all-pedestrian phase (also known as Barnes Dance) is a signal phase that gives all vehicles a red indication, but gives all pedestrians a green "WALK" indication. It is used at intersections with heavy traffic in all directions to increase pedestrian visibility and confidence.



DIAGONAL DIVERTER

Diagonal diverters consist of a physical barrier placed diagonally across an intersection, forcing all traffic to turn.



LEADING PEDESTRIAN INTERVAL (LPI)

A leading pedestrian interval is a signal phase that holds all vehicles at a red indication while giving pedestrians on at least one approach a green "WALK" indication. The vehicles are typically held for 5-10 seconds - just long enough for pedestrians to enter the crosswalk ahead of turning vehicles. Once pedestrians have begun crossing, vehicles on the parallel legs are given a green indication. LPIs are used at intersections with heavy traffic in at least one direction to increase pedestrian visibility and confidence.