

## Traffic Calming

### Definitions

A set of strategies that aim to slow down or reduce traffic, thereby improving safety for pedestrians and bicyclists as well as improving the environment.

### Context and Policies

Traffic calming has its roots in the Dutch "woonerf" design principles that emerged in the 1970s. A Woonerf was a protected residential area in which pedestrians and cyclists had absolute (and legal) priority over motorised traffic. These were so successful in fostering better urban environments that the ideas spread rapidly to Belgium, France, Denmark and Germany (where they were called "Verkehrsberuhigung" - the origin and literal translation of the term "traffic calming").

In 1998, the British government adopted a "Home Zones" initiative (based on traffic calming) as part of its national transportation policy and in 1999 Australia introduced "Shared Zones" (where pedestrians have right-of-way over motorists/cyclists at all times and speed limits are typically 10 km/h).

Traffic Calming programmes range from minor modifications to individual streets to comprehensive redesigns of whole networks. Traffic Calming involves more than just physical changes; it represents a process of social change requiring extensive community participation. Traffic calming projects often involve area residents directly in collecting information, identifying problems, developing alternative solutions, and making recommendations. Pilot projects that use temporary traffic calming installations often help both engineers and the community to assess potential benefits before taking permanent steps.

### Issues

Traffic calming measures such as speed humps or raised crosswalks are unsuitable on bus routes or streets that are used frequently by emergency vehicles (such measures can cause delays up to 10 seconds per measure). Fairness is an issue as measures that slow traffic on one street can displace vehicles onto adjacent streets. Measures that prohibit through traffic can make it more difficult for residents to reach their homes, or for visitors to reach local businesses and institutions.

Traffic calming measures range from relatively affordable (simple speed humps) to very expensive (designs that affect drainage patterns, utility pole locations or underground services) can have tangible impacts on maintenance needs and costs. While pedestrians take a generally favourable view of traffic calming, cyclists and other non-motorised vehicles can be put at risk by certain types of measures (such as road narrowing, chicanes or diversions) if their needs are not taken into account in the designs. This is especially the case in less-motorised countries, where traffic-calming designs need to take account of the needs of large volumes of non-motorised vehicles (such as cycle rickshaws and handcarts).

### Actions

Traffic calming measures comprise volume control measures (that reduce through traffic by blocking certain movements and diverting traffic to other

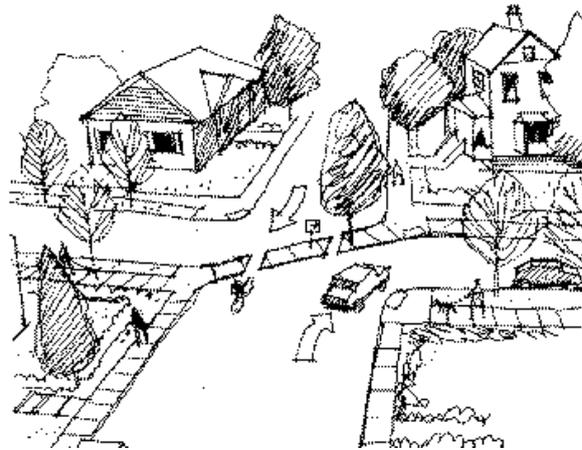


Image credits: Residential Traffic Calming

### Resources

#### Documents

- **Home Zones - Public Participation**, 2002, The Traffic Advisory Unit, Department for Transport (UK)
- **Home Zones: Challenging the future of our streets**, 2005, Department for Transport (UK)
- **Manual for Streets**, 2007, Department for Transport (UK)
- **The History and Development of Traffic Calming**, 1994, Federal Highway Administration (USA)
- **Traffic Calming Benefits, Costs and Equity Impacts**, 1999, Todd Litman, Victoria Transport Policy Institute (Canada)
- **Traffic Calming In Canadian Urban Areas**, 2007, Transport Canada (Canada)
- **Traffic Calming in Three European Cities: Recent Experience**, 2003, Andrew Nash, Swiss Federal Institute of Technology, Institute for Transportation Planning and Systems (Switzerland)
- **Traffic Calming on Higher Order Roads: A Case Study**, 2003, F.J.J. Labuschagne. and T. J. Kruger, Transportek (South Africa) and Mouchel Consulting Ltd (UK)
- **Traffic calming schemes**, 2003, Ingrid van Schagen (ed.), Institute for Road Safety Research (The Netherlands)
- **Traffic calming: principles and applications**, 1994, R. Patel, I A Sayer and G Tiwari, Overseas Centre, Transport Research Laboratory (UK)

#### Media

- **Home Zone Design Guidelines**, 2009, Louis McLeod, Bikes Only (UK)
- **Rethinking Streets**, 2009, Elizabeth Press, StreetFilms.org (USA)

#### Presentations

- **Traffic Calming in Vancouver**, 2007, David Rawsthorne, P Eng, City of Vancouver (Canada)
- **Traffic Calming: Riga, Latvia**, 2007, Janis Andins, Riga City Council Traffic Department (Latvia)

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streets).and speed control measures (that slow down traffic by changing vertical or horizontal alignment, or narrowing the roadway). This distinction is not absolute, since speed control measures frequently divert traffic to alternate routes and volume control measures slow traffic.

#### Volume control measures comprise:

- Closing streets completely or partially to motorised traffic by creating pedestrian zones;
- Preventing turns or through movements into residential areas by creating a cul-de-sac or dead end;
- Preventing cross-movements at junctions by using median barriers, forced turn islands or "diagonal diverters". Diagonal diverters are often staggered to create circuitous routes that discourage through traffic while maintaining local access.

#### Speed control measures comprise:

- Narrowing roadways by widening footpaths and pavements, by using kerb extensions (also called "bulbouts") at pedestrian crossings, by installing chokers (to narrow the roadway to a single lane at selected points) and by establishing pedestrian refuges or small islands in the middle of the roadway;
- Introducing speed control devices (such as speed bumps, speed humps, speed tables, speed cushions, raised pedestrian crossings and raised intersections), speed reduction layouts (such as chicanes) and surface materials (such as bricks or cobblestones)
- Reducing speed limits near institutions such as schools and hospitals and installing vehicle activated signs that react with warning messages if speed limits are exceeded.

#### Recommended Links

- [Home Zones](#) (UK)
- [Traffic Calming](#) (USA)
- [Traffic Calming 101, Project for Public Spaces](#) (USA)
- [TrafficCalming.org](#) (USA)
- [Traffic Calming for Communities](#) (USA)
- [Traffic Calming: Roadway Design to Reduce Traffic Speeds and Volumes](#) (Canada)

#### For further information

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