

Speed Reduction Measures



Road markings

Can be used for: Lane width reduction

By reducing lane width, roads are viewed as less safe and more difficult to drive, so people tend to drive more slowly on narrow roads.

Advantages:

Cost effective

Speed reduction maintained over long periods

Can be used on long stretches of road

Benefits cyclists with a wider shoulder

Disadvantages:

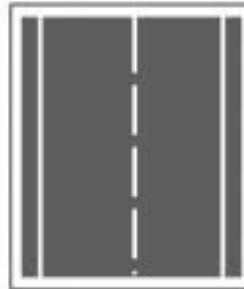
May increase the incidence of head on collisions

May disrupt traffic flow (reduce capacity)

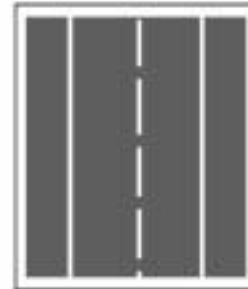
May increase erratic driving behaviour

May increase speed variance between cars

Road markings



BEFORE



AFTER

Can be used for: Transverse lines/bars

Transverse lines are used to reduce speed by reducing the distance between them to give the illusion that one is travelling faster than one actually is.

Advantages:

Cost effective

Relatively easy to implement

Have both a warning and a perceptual effect

Can be used at dangerous intersections, roundabouts etc.

Disadvantages:

Very small speed reductions

Lack of data regarding long term effectiveness

Various ways of implementation

May not be useful over long distances



BEFORE



AFTER

Road markings

Can be used for: installing medians
Medians can be used to reduce lane width and increase safety.

Advantages:

Cost effective
Provide wider separation between opposing lanes
Give emergency and turning vehicles a place to wait
Provide pedestrians with a refuge

Disadvantages:

Does not physically restrain vehicular crossings
Can be difficult to see on rainy nights
Without lane width reduction, speeds increase
Confusion regarding usage

Road markings



BEFORE



AFTER

Can be used for: Written warnings
Written warnings, such as speed roundels can be used to remind motorists of the speed limit and provide warnings such as "slow down" or "children crossing"

Advantages:

Cost effective
Relatively easy to implement
Multiple uses
Roundels are effective at reducing speeds

Disadvantages:

Possibility of misinterpretation
Issues with foreign drivers not understanding the sign
May be difficult to see on rainy nights
Only serves as a warning, no other effects



BEFORE



AFTER

Vertical changes

Can be used for: Speed humps

Speed humps are from 3.5 - 7 metres in length and 8 -10cm high. The size of the hump is determined by the speed reduction required

Advantages:

Cost effective

Lower and narrow the range of speeds

Residents generally support speed humps

Good option for streets that lack curbs or intersections

Disadvantages:

Issues with emergency service response times

Often described as unattractive

Difficult to construct accurately

Increases in noise and pollution from vehicle acceleration

Vertical changes



BEFORE



AFTER

Can be used for: Speed tables

Speed tables are around 7 metres in length and 8 -10cm high. They have a flat top and, as with speed humps, the size of the hump is determined by the speed reduction required

Advantages:

Lower delays for emergency service vehicles

Not as jarring as speed bumps

Can double as pedestrian cross walks

Can be used on higher volume/speed roads

Disadvantages:

More expensive than speed humps

Increase in road noise and pollution

Maintenance

Traffic may divert to other streets



BEFORE



AFTER

Lateral changes

Can be used for: Chicanes

Chicanes are road narrowings placed on both sides of the road, they reduce traffic speeds forcing people to manoeuvre through them

Advantages:

Reduces speeds and can improve road safety
Minimal impact on emergency service vehicles
Can reduce the number of vehicles
If landscaped, can serve as a signal to reduce speeds

Disadvantages:

If the lanes are too wide, speeds may not be reduced
May be seen as a driving challenge.
Can reduce on street parking
Can create conflicts between vehicles

Lateral changes



BEFORE



AFTER

Can be used for: Chokers or pinch points

Chokers are kerb extensions that narrow the road by widening the sidewalk or building out the road verge. They can reduce speeds by road narrowing

Advantages:

Easy for large vehicles to negotiate
Can be attractive
Can reduce speeds and vehicle volumes
Can be used on higher volume/speed roads

Disadvantages:

Vehicles not forced to reduce their speeds
Cyclists and smaller vehicles have to merge with cars
Eliminates on street parking
Possibility of side swipe collisions



BEFORE



AFTER

Lateral changes

Can be used for: Defecting median islands
Raised median islands are placed in the centre of the road to reduce travel lane width. They are best designed so vehicles have to manoeuvre to get past them and/or with narrowed lanes

Advantages:

Low cost
Gives pedestrians a refuge when crossing the road
Can improve street aesthetics
Can reduce vehicle speeds

Disadvantages:

Reduced off street parking
Potential increased vehicle and bicycle conflict
Possibility of vehicles hitting the median
Issues with driveway access
If not used in combination with deflection or lane narrowing they can increase speeds

Lateral changes



BEFORE



AFTER

Can be used for: Roundabouts or traffic circles
Traffic circles are raised islands placed in the centre of intersections. They are used to control traffic at intersections and reduce speeds around these areas

Advantages:

Reduce speeds and accidents
Can improve street appearance when landscaped
Can simultaneously calm two streets
Does not restrict road access for residents

Disadvantages:

Issues with larger vehicles on smaller roundabouts
Can have issues if one entrance has high traffic flows
Difficult for cyclists to negotiate, especially multi-lane
Expensive to implement



BEFORE



AFTER

Pavement treatments

Can be used for: Changes in texture or colour of pavement
Using different materials such as cobbles or changing the colour of pavement can reduce speeds or act as a warning in dangerous areas

Advantages:

Multiple uses depending on textures and colours
Can be used to improve aesthetics
Can improve street aesthetics
Can reduce vehicle speeds

Disadvantages:

Rough textures may increase traffic noise
Colours only serve as a warning
Some pavement types require more maintenance
Can be expensive to implement

Pavement treatments



Red Pavement



Textured pavement

Can be used for: Rumble strips

Rumble strips can be used on the shoulder or centre of the road to reduce run off road accidents and vehicles crossing the centre line. They can also be laid across the road to reduce speeds at intersections

Advantages:

Reduce speeds and accidents
Installation costs are low
Low maintenance
Can be placed on various parts of the road

Disadvantages:

Noise is disruptive to residents
Crash migration to different sections of the road
Issues with motorcycles and bicycles driving over them



Shoulder rumble Strips



Transverse Rumble Strips

Road signs

Can be used for: Reducing the speed limit
In some cases, the speed limit becomes too high when populations change etc. Changing the speed limit can reduce speeds

Advantages:

Cost effective
Can be used on any road
Can be used on long stretches of road
Benefits cyclists with a wider shoulder

Disadvantages:

If set too low, drivers disregard the speed limit
Has not been found to significantly reduce speeds
Needs additional measures to achieve speed reductions
High traffic volumes can cause issues if speed limits are too low

Road signs



BEFORE



AFTER

Can be used for: vehicle activated signs
Vehicle activated signs are used to remind drivers of the speed limit and as such are only activated when a driver who is exceeding the speed limit passes these signs. They can also be used to warn drivers of hazards
Advantages:

Very effective at reducing speeds
Are effective over at least 3 years
Low operating costs
Also reduce accidents

Disadvantages:

Need a mains power supply
Expensive to install
Requires maintenance
May be visually intrusive



BEFORE



AFTER

Enforcement

Can be: Stationary

Speed reduction can be achieved by placing speed cameras along sections of road where speed is a problem

Advantages:

Effective at reducing speeds

Can reduce accidents

If visible, also have a warning effect

Disadvantages:

Only useful over a short distance

Can suffer from poor publicity

Can only be used in certain locations

Care needs to be taken when placing the camera to ensure it is in an area where speed is causing danger to vulnerable road users

Enforcement



BEFORE



AFTER

Can be: Mobile

Police officers can patrol roads where speed is an issue.

Advantages:

Effective at reducing speeds

Also has a warning effect

Effective over large stretches of road

Also reduce accidents

Disadvantages:

Needs to be consistent to be effective

Not all people will be caught

Expensive

Can suffer from poor publicity



Police car

Integrated approaches

Can be used for: Integrated designs

These are roads that persuade drivers to drive at the right speed by design. The best example of a high speed design is a motorway. This approach uses a number of speed reduction countermeasures in combination

Advantages:

Reduced need for enforcement

Works with drivers' natural speed choice

Can be used on long stretches of road

Can be used to benefit all road users

Disadvantages:

Designing roads can be time consuming

Developing a nationwide standard could be difficult

Can be expensive to implement

When using combinations of measures it is difficult to pinpoint which measure is having the biggest impact

Integrated approaches



50km/h speed limit



50km/h speed limit