

TRAFFIC CALMING MEASURES



The concept of traffic calming is fundamentally concerned with reducing the adverse impact of motor vehicles on built up areas. This usually involves reducing vehicle speeds, providing more space for pedestrians and cyclists, and improving the local environment.

The original "Woonerf" schemes introduced the concept of shared space between vehicle and pedestrian. Streets were reconstructed so as to tip the balance in favour of the residential function of

the street and to reduce the domination of motor vehicles. Speed humps, chicanes, road narrowing, planting and other measures were introduced to both physically and visually reinforce the message that the motorist is only a guest in the area and that the residential function takes priority.

The wholesale reconstruction of streets required by the "Woonerf" was by necessity expensive, and since then this technique has been abandoned in favour of cheaper measures while still retaining the essential traffic calming concept.

Traffic calming techniques are now applied to whole areas of towns & villages and not just to individual streets. Main traffic arteries, villages, shopping streets and town centres have all been included. Area wide traffic calming schemes seek to calm both **the** main roads and the residential roads in an area to improve the impact of any traffic transfer as a consequence of traffic calming.

PEDESTRIAN CROSSINGS (ZEBRA)

Zebra crossings help pedestrians cross from one side of the road to the other.



They have white strips painted onto the road in the crossing area, with flashing amber lights at both sides of the road on black and white striped poles. The curbs are dropped at both ends of the crossing. Traffic calming has its origins in the Dutch "Woonerf" schemes of the 1970's, and since then

has been further extended and refined throughout northern Europe, but particularly in Germany and the Netherlands. Zebra crossings give priority to pedestrians, and vehicle drivers are required to stop and give way.

ADVANTAGES

- ❖ Pedestrians should only have to wait for a very short period to cross the road. The first car to see the pedestrian that can stop safely should stop and let the pedestrian cross.
- ❖ Compared to other crossing designs, zebra crossings are more attractive and more appropriate in some locations
- ❖ Relatively low maintenance cost

DISADVANTAGES

- ❖ Drivers do not always stop as expected. However, most pedestrians wait for cars to stop before they walk into the road
- ❖ Blind or partially sighted people find zebra crossings harder to use than traffic light crossings
- ❖ Can sometimes create vehicle congestion where pedestrian volumes are high
- ❖ A zebra crossing which includes a hump or narrowing of the road will require drainage works, which could be very costly

EFFECTIVENESS USABILITY

Compared to locations without crossings, pedestrians are able to cross the road more quickly with zebra crossings. Zebra crossings are particularly beneficial because pedestrians may find it difficult to judge the speed of traffic when crossing on their own without crossing facilities.

Compared to locations where there was no formal crossing, new zebra crossings have a very positive impact on pedestrian's feelings about crossing the road. Pedestrians are more confident and feel safer when crossing the road.

SAFETY

In summary, zebra crossings should not introduce any additional danger to the road environment.

In comparison to puffin crossings, it is most likely that zebra crossings are very similar in safety, or zebra crossings are only marginally less safe. If many pedestrians are already crossing at a certain point on a road (the 'desire line'), it is likely a zebra crossing will not increase or decrease accidents.

RESTRICTIONS

- ❖ Engineers cannot install zebra crossings where average speeds are too high (typically where no more than 15% of traffic are exceeding 35mph)
- ❖ Must be installed in locations where vehicle users have good visibility of waiting pedestrians. There must be no obstacles (e.g., trees) on the pavement to block the view of pedestrians. The location should not have tight corners or steep hills

- ❖ Cannot be installed within close proximity of a junction or roundabout
- ❖ The pavement must be wide enough to accommodate pedestrians waiting at the edge of the road to cross
- ❖ This scheme requires a statutory public notice before it is installed, which is subject to a local consultation process

SPEED TABLES



Speed tables are a raised section of road over a junction, with a ramp on each arm of the junction. The ramps are painted with white arrows to make them more obvious to motor vehicle drivers. The aim of the speed table is to slow motor vehicle traffic to a safe speed, as the ramps become uncomfortable for

vehicle drivers if they are driven over too fast.

A speed table is normally around 75mm high across the whole junction and can vary in length.

ADVANTAGES

- ❖ Can be used as part of an informal crossing for pedestrians
- ❖ More acceptable than speed humps to buses
- ❖ The size of the speed table is flexible to fit an area with a safety concern. It could span all parts of a four-arm junction, or be placed in other specific parts of the road



DISADVANTAGES

- ❖ Large speed tables are expensive
- ❖ Managing water drainage could be complex and costly
- ❖ Buses, cyclists and emergency vehicles will need to reduce their speed
- ❖ Signs are required to warn drivers of speed tables, and these contribute to sign clutter
- ❖ These signs **must be illuminated**, which may cause further concerns in conservation areas

EFFECTIVENESS

Generally, vertical treatments - such as speed tables - are expected to reduce accidents by around 44%.

Motor vehicles are likely to travel at around 13 mph over a speed table. If there's more than one speed table, motor vehicles are likely to travel at 20 mph between them. These are the lowest speeds of all traffic calming treatments compared on Traffic Choices, which means the greatest safety benefit can be expected.

Reducing motor vehicle speeds increases safety because:

- ❖ The vehicle has travelled less distance before the driver can react to a hazard
- ❖ Braking distance is reduced, so the vehicle can stop more quickly before a hazard
- ❖ A slower moving vehicle will exert less energy on occupants as the vehicle rapidly changes speed on impact (crashes)
- ❖ A slower moving vehicle will transfer less energy to a pedestrian in the event of a collision.

CONSIDERATIONS

- ❖ May cause traffic to divert to other routes
- ❖ Speed tables could create noise and vibration which is heard and felt in residences nearby. A greater distance between the speed table and residences will reduce this problem.
- ❖ Require a 'Road Hump regulation order' before installation

RESTRICTIONS

- ❖ Normally only used in residential areas or busy pedestrian areas
- ❖ May be unacceptable on a busy bus route

PEDESTRIAN REFUGE ISLAND



A pedestrian refuge island is a raised section of pavement between two lanes of traffic moving in opposite directions.

The Islands normally have yellow and white plastic bollards with a blue arrow to remind motorists to keep left. Curbs are dropped at both sides of the road, usually with tactile paving where the pavement slopes towards the road. Refuge Islands allow pedestrians to split the crossing into two stages for each direction of traffic.

ADVANTAGES

- ❖ Allows pedestrians to cross more easily than if there was no crossing
- ❖ May help to cross the road more quickly, as a gap is only required in one direction of traffic
- ❖ A lower cost crossing design, in comparison to other crossings (e.g., puffin, zebra crossings)
- ❖ Pedestrian refuges narrow the road, which may reduce the speed of vehicles

DISADVANTAGES

- ❖ There is no pedestrian priority. Motor vehicles have priority
- ❖ On busy routes pedestrians may have to wait much longer for a gap in vehicle traffic to cross safely, compared to a zebra or puffin crossing.
- ❖ For the pedestrian to cross safely, they must have good judgement of motor vehicle speeds and gaps in traffic
- ❖ Visually impaired people, or those with other disabilities may find refuge island less easy to use compared with a zebra or puffin crossing
- ❖ Some motor vehicle drivers may squeeze past cyclists when they travel through a refuge island or swerve dangerously around the cyclist just before the crossing island. Cyclists can feel very uncomfortable with this behaviour

EFFECTIVENESS

ACCIDENTS

Pedestrian refuges are very effective at increasing safety for pedestrians crossing the road. On a road where pedestrians often cross without a crossing facility, a refuge will decrease pedestrian accidents by around 40%.

A pedestrian refuge allows pedestrians to cross one direction of vehicle traffic at a time. The refuge provides some protection from traffic in the centre of the road, while the pedestrian waits for a safe gap in the second direction of traffic. Without a refuge, the pedestrian needs to judge a safe gap between both directions of traffic at the same time - this is more difficult and may increase risk.

Refuges will be safest on roads with low to medium flows of vehicle traffic, and where speeds are below 30 mph.

SPEED

Pedestrian refuges slow traffic because they narrow the road and may remind drivers that pedestrians could be crossing the road. Vehicle speeds at Pedestrian refuges reduce by 6%.

RESTRICTIONS

Refuge islands must be a minimum of 1.2 metres wide, however 1.8m wide islands will be more useful to accommodate pushchairs and wheelchairs more easily. To accommodate cyclists, the island must be 2.5 metres wide

The width of the refuge island will also depend on the available carriageway width
Normally, road widths must be at least 4 to 4.5 meters either side of the refuge (if the location is on a bend and large motor vehicles are expected, this must be increased)

Parking restrictions may need to be imposed on approach and near to the refuge

Not suitable for locations with a high volume of crossing pedestrians - puffin crossings may be more appropriate

Not suitable for locations with high levels of traffic - zebra or puffin crossings might be more appropriate

ROAD MARKINGS

Road markings are painted on the road to mark out lanes for vehicles or to provide information to drivers. They are normally white in colour.

This section we only look at the following types of road markings:

- Centre line removal
- “SLOW” road markings
- Speed limit roundels
- Peripheral hatching

ADVANTAGES

- Road markings do not introduce discomfort to motor vehicle drivers or bus users
- Relatively cheap
- Do not reduce access ability for large or emergency vehicles

DISADVANTAGES

- Road markings can be easily ignored by road users – by both drivers and pedestrians alike
- Road markings need to be refreshed when they wear off (depending on the volumes of traffic and the type of road surface)
- Road markings which are regularly maintained and are heavily worn will not be effective

PERIFERAL HATCHING

Peripheral hatching is a method of reducing the width of the lane for motor vehicles by adding an additional line inward from the curb, so both lanes of traffic are moved towards the centre of the road. The space between the line and the curb can be hatched with white lines.



EFFECTIVENESS

Peripheral hatching reduces vehicle speeds by around four percentage points. If a vehicle is travelling at 30mph, peripheral hatching would normally reduce speeds by at least 1.2 mph.

HOW IT CONTROLS TRAFFIC

Reducing the width of lanes for motor vehicles reduces the feeling of space in the road. This causes drivers to reduce their speed, so they can ensure they are not overrunning the hatched area.

CENTRAL LINE CONTROLS TRAFFIC

Peripheral hatching is a method of reducing the width of the lane for motor vehicles by adding an additional line inward from the curb, so both lanes of traffic are moved towards the centre of the road. The space between the line and the curb can be hatched with white lines.

EFFECTIVENESS

In a town or city environment with a 30 mph (or lower) speed limit, removing the centre line reduces speeds considerably, typically by around 5 to 9 mph - this is backed up by good quality research.

In a village environment with a 30mph speed limit, it is likely that removing the centre line will improve safety, however research in this type of environment is not as complete as for urban areas.

In a 30mph speed limit removal of the centre line increases cyclist comfort because vehicle drivers pass them with more space. However, there is little difference for 20mph limit zones.

HOW IT CONTROLS TRAFFIC

Removing the central line removes vehicle driver's feelings of a 'designated space' or boundary for them to drive in. They may expect other road users to enter their path or make an unexpected manoeuvre. This apparently makes it more likely to cause motor vehicle drivers to slow down as a safety precaution.



"SLOW" ROAD MARKING

SLOW markings simply state the word 'SLOW' in a road, painted in large letters

EFFECTIVENESS

Research shows that "SLOW" markings have little impact on vehicle speeds - it appears that they are often ignored by vehicle drivers. They will be even less effective if overused or used where they are unnecessary.

When used in combination with warning signs, "SLOW" road markings can be more effective, as drivers better understand why they need to slow down. Ordinarily, Councils will consider a new "SLOW" marking only when other warning signs are present, as per the sign on the right.



SPEED LIMIT ROUNDELS

At the start of a new speed limit, or near speed limit

EFFECTIVENESS OF RESTRICTIONS

On rural roads below 5.5 metre width, centre lines should be omitted

Peripheral hatching can only be used on relatively wide roads (e.g., 12 metres)

Centre line removal should not happen near one-way streets

SLOW markings should be used in conjunction with hazard warning signs

Councils are not permitted to place 30mph Speed limit roundels in an area with street

Reminding drivers of the speed limit with roundels

can be useful, especially because they may be more

visible than ordinary speed limit signs. There is no

effectiveness research available for roundels.



DROPPED CURBS

Speed limit roundels indicate the current speed



limit and are painted on the road inside a circle. They are often used

Dropped curbs are where the pavement is gently sloped to the same level as the road. Modern dropped curbs should always include tactile paving, which helps visually impaired people to identify a crossing point.

Where there are no dropped curbs, people using wheelchairs or mobility scooters may find it impossible to cross the road or cross a junction.

Dropped curbs can also encourage pedestrians to cross the road at a safer location in comparison to other parts of the road.

ADVANTAGES

Allows wheelchair and mobility scooter users to cross the road, including side street junctions. Dropped curbs are best installed as part of a 'route' for these users

The tactile paving helps visually impaired and blind people to identify a suitable crossing point

They can guide pedestrians to one of the safer parts of the road to cross

It is an offence to obstruct (or park on) a pedestrian dropped curb, and a penalty charge can be issued to the vehicle owner.

Reduces the chances of pedestrians tripping over the curb

Relatively low cost

The colour and presence of the tactile paving alerts vehicle drivers to the existence of the crossing point

DISADVANTAGES

Can sometimes cause a drainage issue, depending on the location

Some motorists may obstruct dropped curbs; despite the fact it is an offence to do so

For the pedestrian to cross safely, they must have good judgement of motor vehicle speeds and gaps in vehicle traffic

EFFECTIVENESS

This intervention doesn't have any safety evidence available. Instead, likely outcomes are covered.

Dropped curbs make it easier for pedestrians to use local roads, especially those with a disability. Wheelchair or mobility scooter users may not be able to move around the local area unless dropped curbs are present.

Helping disabled people move around the local area with dropped curbs allows them to stay active and maintains their access to local facilities. For other pedestrians, dropped curbs make it easier to walk around the local area – this keeps walking as a healthier, cheaper, and environmentally friendly alternative to using a car.

WHITE BAR MARKING

Dropped curbs can be highlighted with a white road marking. This can help to ensure they are kept free of parked vehicles.

RESTRICTIONS

Dropped curbs alone are not suitable to help pedestrians cross relatively busy roads - a formal crossing, such as a zebra crossing, or pedestrian refuge island will be more suitable. In some areas, the angle of the road and the pavement will make it difficult to install a dropped curb

ROAD NARROWING OR CURB EXTENSIONS

Road narrowing simply reduces the width of the road. This could be achieved in several ways, however a technique commonly used extends the curb into the road at a junction entrance with a bollard on each side. Motorists will need to drive more carefully in a narrowed section of road to keep their vehicle in the correct road position, which may result in slower vehicle speeds.

In addition, road narrowing can also be used to help pedestrians cross the road more easily. In this case, the curb is dropped with tactile paving where the pavement slopes towards the road.

ADVANTAGES

- Targets a specific part of the road
- Can be used on junctions
- Can prevent vehicle parking
- Make it easier for pedestrians to cross
- Emergency vehicles should be able to pass without slowing down

DISADVANTAGES

- Not as effective as vertical treatments
- Managing water drainage could be complex and costly
- Cyclists may feel intimidated by some vehicle drivers' behaviour at road narrowing

EFFECTIVENESS

Generally, horizontal treatments - such as road narrowing - are expected to reduce accidents by around 29%.

RESTRICTIONS

Road narrowing should not be used on roads or junctions with any heavy goods vehicle traffic or within 200m of a junction.

PRIORITY CHICANES

Priority Chicanes are also known as 'single lane working chicanes' or 'priority narrowing'. Single lane chicanes require one direction of traffic to give way to oncoming vehicles.

The chicane normally consists of a raised curb and bollard in one half of the road, with a sign to explain the vehicle traffic priority. For the lane without traffic priority, there are Give Way markings and hatching on approach to the chicane.

Groups of chicanes are normally placed with alternating priority down a road, so that each direction of vehicle traffic may have to stop and give priority in equal amounts.

ADVANTAGES

- Do not cause any vehicle passenger discomfort (in comparison to vertical treatments)
- Some chicane designs can allow cyclists to bypass them
- Emergency vehicles may be able to travel faster around a chicane compared to vertical treatments

DISADVANTAGES

Motor vehicles with priority are not required to reduce their speed

Motor vehicles without priority are not required to reduce their speed if there is no oncoming vehicle approaching

Motor vehicles without priority may race to the chicane before an oncoming vehicle approaches, or maybe swerve dangerously around the chicane

May cause long delays if there is an increase in vehicle traffic volume

Some traffic is likely to transfer onto alternative routes, potentially causing problems somewhere else

EFFECTIVENESS

Chicanes are a horizontal treatment, which are generally expected to reduce accidents by around 29%. Vehicles are likely to travel at around 21mph through a single lane chicane. Between chicanes, vehicles are likely to travel at 23mph.

Vertical treatments - such as speed cushions or speed tables - are more effective at reducing speeds.

Reducing vehicle speeds increases safety because:

The vehicle has travelled less distance before the driver can react to a hazard

The vehicle has travelled less distance before the driver can react to a hazard

Braking distance is reduced, so the vehicle can stop more quickly before a hazard

A slower moving vehicle will exert less energy on occupants as the vehicle rapidly changes speed on impact (crashes)

A slower moving vehicle will transfer less energy to a pedestrian in the event of a collision.



CONSIDERATIONS

May cause traffic to divert to other routes .

Chicanes could create motor vehicle noise, which is heard in residences nearby, as many vehicles will be stopping and starting. A greater distance between chicanes and residences will reduce this problem.

RESTRICTIONS

Chicanes are normally used in residential areas

Probably not appropriate for local distributor roads, where the chicanes may cause traffic queues

VILLAGE GATEWAYS

GATEWAYS WITH SIGNS & LINES

These gateways only have signs and lines, and always display the village name to introduce drivers to the village. In addition, road markings are used to create a visual impact when drivers enter the village. These markings could be:

Yellow bars

Coloured road surface



Dragon's teeth

Visual Narrowing

These measures have a relatively low cost and help to create a 'sense of place' when drivers enter the village.

ADVANTAGES

Relatively low cost

Do not cause disruption to buses or emergency vehicles ❖ Do not cause a problem for cyclists

DISADVANTAGES

It's very easy for drivers to ignore signs and lines

Not as effective as physical measures at the gateway

Dragon's teeth can be hard to maintain because every vehicle drives directly over them, meaning they wear away quickly

EFFECTIVENESS

SPEEDS

Some types of signs and lines are effective at reducing motor vehicle speeds, but others have no effect, and could even increase speeds.

Dragon's teeth leading up to a red road surface bearing the village speed limit are also likely to be reasonably effective at a village gateway. Speed reductions are expected to be between 1 and 7 mph.

Some treatments at village gateways were not effective. "SLOW" painted in the road had little or no impact on speeds. Narrowing the lane by painting a hatched area at the outside of the road showed very little speed reduction. Narrowing the lane using a painted hatched area in the centre of the road may increase vehicle speeds marginally.

SAFETY & ACCIDENTS

Any measures which reduce vehicle speeds will increase road safety. The measures above are very likely to improve road safety.

There is not enough robust research into the safety effects of signs and lines only gateway treatments to provide any specific safety figures here.

However, research has compared a group of modest gateway treatments (e.g. signage, lining, some minor narrowing) to more intense gateway treatments (e.g. with physical elements) in villages in the UK. The modest gateway treatments reduced all accidents by 19%, whilst the more intense gateways reduced accidents by 45%.

RESTRICTIONS

Must be installed just outside the boundary of a village

Space is required at the side of the road for the gateway sign

Due to maintenance concerns over Dragon's teeth, they may not be installed

GATEWAYS WITH PHYSICAL DEVICES

Gateways with physical measures always include village name signage (to introduce drivers to the village), in addition to at least one of the following:

Road narrowing

A chicane

Speed table or speed cushion

Mini roundabout

The village gateway helps to create 'a sense of place' when drivers enter the village, and the physical measures are designed such that drivers are required to slow down before entry.

ADVANTAGES

More effective than visual (signs/lines) treatments

The village entrance and new speed limit is made more obvious to vehicle drivers

DISADVANTAGES

Relatively expensive, especially if drainage work is required ❖ Buses and emergency vehicles will need to slow down

Some cyclists feel unsafe if road narrowing is used

EFFECTIVENESS

SPEEDS

Physical measures at village gateways consistently reduce vehicle speeds very effectively. Types of physical measures can vary, but the best results will be expected from those which are vertical – a raised table for example.

Raised tables are expected to reduce most vehicle speeds by around 4mph to 5mph

Rumble strips can cause vibrations into any nearby houses; however, they can be expected to reduce speeds by around 4 mph at a village gateway

ACCIDENTS



There is no robust research on physical gateways alone, only research where they were used in conjunction with traffic calming within the village. This research showed, however, that physical village gateway treatments used with traffic calming throughout a village are expected to reduce slight injury accidents and accidents where people were killed or seriously injured by more than 50%. This research was based on UK villages where road humps, speed cushions, chicanes and narrowing's were used.

It is unknown what the effect on accidents would be if physical village gateway treatments were installed without traffic calming within the village. It could be expected that motor vehicles would speed up again within the village, and the accident reduction benefit would decrease to some extent.

ADDITIONAL RESTRICTIONS (ABOVE SIGNS & LINES)

Speed tables or speed cushions may not be feasible on rural roads

This scheme might require a notice under the Road Hump Regulations legislation before it is installed (depending on which measures are used), which is subject to a local consultation process

CONSIDERATIONS

May cause traffic to divert to other routes

Some **physical measures (e.g. rumble strips and speed tables) may create noise and vibration which is heard and felt in residences nearby**

SPEED LIMITS

Speed limits state the maximum speed permitted on a given road. The speed limit is displayed at the beginning of the applicable section of road, inside a circular sign. Smaller repeater signs can be used to remind vehicle drivers of the speed limit as they use the road.

The presence of **streetlights** indicates the speed limit is 30 mph unless stated otherwise.

Abiding by the speed limit is a legal requirement. It is an offence to exceed the speed limit, with a minimum fine of £100 if a vehicle driver is caught.

ADVANTAGES

No negative impact on buses or emergency vehicles

Can help to reduce speeds before exploring traffic calming treatments

DISADVANTAGES

Speed limits can be easily ignored

This is far more likely if the speed limit is unrealistic, and doesn't suit the character of the road

The Police carry out speed limit enforcement, however this can only happen periodically.

Where speed limits are unrealistic, it will be expensive and difficult for the Police to enforce

Can lead to sign clutter where speed limit repeater signs are required - this will be especially noticeable in rural locations

EFFECTIVENESS

Where speed limits are realistic, and the Police carry out periodic enforcement (if necessary), it is likely there will be a reduction in motor vehicle speeds.

Reducing motor vehicle speeds increases safety because:

The vehicle has travelled less distance before the driver can react to a hazard

Braking distance is reduced, so the vehicle can stop more quickly before a hazard

A slower moving vehicle will exert less energy on occupants as the vehicle rapidly changes speed on impact (crashes)

A slower moving vehicle will transfer less energy to a pedestrian in the event of a collision.

APPLYING THE CORRECT SPEED LIMIT

Installing the wrong speed limit on a road will mean it won't work properly. The speed limit must be appropriate, taking into account all the road's characteristics. This includes how residential the area is, how people use the land near the road, and the road itself (width and severity of bends).

A 40mph speed limit which is well suited to the road and is well respected by vehicle drivers is better than a 30mph limit which is unsuitable and regularly ignored.

Further information & guidance to councils about setting speed limits can be found at the government website below.

<https://www.gov.uk/government/publications/setting-local-speed-limits>

RUMBLE STRIPS

These provide visual and aural cues to alert drivers to areas that require special care and are often used as part of gateway schemes. Rumble strips are a change in the road surface which alert the driver by a change in the sound and feel of the car. They are suitable for village entry points. Because rumble strips generate noise, they can be unpopular with residents.

Rumble devices are small, raised areas across the carriageway with a vibratory, audible and visual effect. They are used, usually in rural areas, to alert drivers to take greater care in advance of a hazard such as a bend or junction. In combination with a gateway, they can indicate the entry to a village or the start of a series of traffic calming measures. They have also been used to designate the start of shared use roads in new developments.



Rumble devices come in a variety of forms, which have been described as rumble strips, riblines, jiggle bars, rumble areas, Rippleprint™ and rumblewave as well as cobbled or moulded road surfacing.

ADVANTAGES

Both aural as well as visual warning indicate to drivers of a change in environment

Do not introduce to undue amount of discomfort to motor vehicle or bus users

Relatively cheap

Do not reduce access ability for large or emergency vehicles

Better at alerting drivers than just Road Markings in adverse weather conditions

DISADVANTAGES

Noise: Traditional rumble devices may generate considerable noise or result in a change in noise characteristics. Depending on the topography and ambient noise levels, this may be annoying to residents over a large area

Cyclists tend to avoid them as they apparently can cause accidents

Tyre damage to vehicles

EFFECTIVENESS

VEHICLE SPEEDS

Overall effect of rumble strips and areas on vehicle speeds in general will produce a reduction of 3 mph (about 6%).

There was no evidence from sites where measurements have been made that rumble devices have had any effect on vehicle flows.

SAFETY

Reductions in injury accident frequency of between 28-35% depending on speed limit zone.

RESTRICTIONS

In general, siting rumble strips close to residential properties should be avoided. Some authorities do not use rumble devices within 200m of residential properties

In open country, the distance may need to be increased to avoid resident complaint

And finally...

We would again like to thank everyone who have taken the time to respond to our survey about road traffic in Welford on Avon, we really do value your input!

Welford on Avon Parish Council

