

7. Road Safety

Headline Targets

- 20% reduction on the 2001-2004 average number of people killed or seriously injured (all ages) by 2010.
- 25% reduction on the 2001-2004 average number of children killed or seriously injured by 2010.
- No increase in the number of slight casualties on the 2001-2004 average by 2010.

How we will Tackle Road Safety Problems

- Extensive education and training programmes, capturing hearts and minds of road users across all age groups.
- Schemes targeted at improving road safety for children, motorcyclists, cyclists and disadvantaged areas and addressing specific problems in rural and urban areas.
- Speed management and effective enforcement measures to reduce casualties and improve quality of life where there is evidence of vehicles travelling at inappropriate speeds.
- Improving quality of life by linking road safety initiatives to neighbourhood renewal and town centre enhancement programmes and promoting 'liveability' by good design and maintenance.

Problems and Opportunities Tackled

- Casualty numbers increasing with worrying growth in accidents involving powered two wheelers and cyclists.
- Broad-based strategy needed to improve road safety with greater joint working.
- New flexibility from changes in safety camera activity and funding.

7.1 Introduction

7.1.1 In 2004, 525 people were killed or seriously injured (KSI) on roads in the JLTP area, although the rate per 100,000 of the population was lower than the rate for Great Britain as a whole (53.4 locally compared to 58.4 nationally). As outlined in Chapter 3 this represents a 12% increase over the 1994-98 average, contrasting with a 28% reduction nationally. The number of child KSI casualties (aged under 16) went down by 18% but this was at a much slower rate than the national decrease of 43%. There was also an upward trend in the number of casualties with slight injuries compared to a 9% decrease nationally, although the rate per vehicle kilometres stayed about the same as a result of traffic growth. There were some problems with changes in the method of collecting accident data in the LTP1 period but nevertheless the trends are generally very challenging.

7.1.2 There have been notable successes during the first LTP period, especially in reducing the number of child and pedestrian casualties, but the Councils recognise that much still needs to be done in the next five years. Opportunities will arise from the Government's decision to integrate safety camera activities into the LTP system and from greater joint working between us. We intend to grasp these opportunities to make a real difference to road safety by 2010.

7.2 Objectives

7.2.1 The road safety objectives of the JLTP are to:

- Reduce the number of people killed or seriously injured in road traffic accidents.
- Reduce the number of children killed or seriously injured in road traffic accidents.
- Improve safety for all road users, particularly the most vulnerable members of the community.

- Ensure that deprived urban wards do not suffer from road casualty rates which are significantly above average.
- Improve road safety for vulnerable road users, particularly cyclists and Powered Two Wheeler (PTW) users.

7.3 Links to Other Shared Priorities

- 7.3.1 Road safety issues are inextricably linked to the other three Shared Priorities for transport (go to Table 3.1). For example, almost a quarter of all congestion on our roads is caused by accidents and incidents, which in turn adversely affect our economic prosperity. This demonstrates both the fragility of the local highway network and the need for an overall approach to local transport problems.
- 7.3.2 The presence of fast-moving traffic can often create a physical or psychological barrier that, in turn, may affect accessibility to essential services and facilities and contribute towards a decline in local services (go to Chapter 6). Improvements in road safety are therefore essential if the Shared Priority objectives of the JLTP are to be achieved.
- 7.3.3 Higher speeds, harsh acceleration and sudden braking substantially increase vehicle emissions. Road safety measures to manage traffic speeds and encourage safer driving styles will contribute significantly towards improved air quality.
- 7.3.4 Road safety issues are also clearly linked with other quality of life issues such as the quality of public spaces and the general condition of the public domain as



Traffic calming in Kingswood

well as neighbourhood renewal and regeneration (go to Chapter 3). This contributes to the common corporate priorities for building safer communities, health, education and regeneration (go to Table 4.2).

- 7.3.5 The design and maintenance of public spaces, public transport infrastructure and walking and cycling facilities affect the public's perception of personal security. Perceived safety, be it road or crime related, is a key aspect of the 'liveability' agenda, particularly in disadvantaged communities (go to Chapter 3). Furthermore, it is a common corporate priority for all four Councils (go to Table 4.2).
- 7.3.6 This presents a significant challenge to JLTP strategies seeking to reduce congestion, improve air quality and promote healthy lifestyles by encouraging more people to walk and cycle (go to Chapter 5). It has therefore been essential to develop a road safety strategy that both recognises and complements the other key themes of the JLTP and the Councils' wider corporate agenda.

7.4 Partners and Wider Policies

- 7.4.1 We will seek to continue the close partnership with the Avon & Somerset Constabulary in tackling road safety issues. Many public, private and voluntary sector organisations and agencies have an interest in road safety ranging from the Highways Agency in relation to the motorway network, primary care and hospital trusts, the ambulance service, major employers, schools and colleges, town and parish councils to local safety groups. We will seek to engage them all in constructive dialogue.
- 7.4.2 As outlined in section 7.3, building safer communities is a corporate theme for all four Councils' and safety is a high priority for all four Community Strategies. Beyond their roles as highway and transport authorities the Councils see road safety issues being highlighted in wider policy areas, for example:

- **Community safety and Crime and Disorder Partnerships;**
- **Education:** links with curricula, travel plans and home-to-school transport;
- **Community and housing services:** neighbourhood safety initiatives;
- **Planning:** incorporating safety into new development;
- **Leisure and tourism:** design of facilities, safety advice for visitors;
- **Environmental Health:** links with health initiatives;
- **Economic development:** influencing safety at the workplace through employers, trade unions;
- **Trading Standards:** sale of vehicle components, safety checks on equipment.

7.5 Road Safety Strategy

- 7.5.1 To achieve the objectives set out in section 7.2 requires a strategy that provides a broad-based response to road safety problems, extending beyond the traditional 'Education, Engineering, Enforcement'. Our aim is to seek safety outcomes from the whole range of Council transport activities and from other spheres such as community safety, regeneration and spatial planning. In line with the national road safety strategy ('Tomorrow's Roads- Safer for Everyone') we set out a variety of interventions that will combine to tackle the area's casualty problems. These interventions feature in the Action Plan at the end of this chapter; many require capital funding and others rely mainly on revenue support. It is anticipated that changes to safety camera funding will give greater flexibility from 2007/08 onwards.
- 7.5.2 As well as considering the different type and location of accidents the strategy takes into account the needs of all road users. Car occupants continue to account for the largest proportion of all KSI road casualties, (38% in 2004), and there has been a particularly worrying increase in



Traffic management scheme

powered PTW and cyclist KSI casualties, (2004 figures were up 68% and 42% on the 1994-1998 average). The reasons why accidents happen are complex, but in the case of fatalities, the primary causes recorded by the police in 2004 are error by the driver (55%) or rider (14%). This emphasises the need for the strategy to address driver/ rider behaviour as well as infrastructure improvements and a range of other interventions.

- 7.5.3 Based on these trends and analyses the Road Safety Strategy focuses on the following:
- Disadvantaged areas
 - Child road safety
 - Built-up areas
 - Non-built-up areas
 - Speed management
 - Enforcement
 - Pedestrians
 - PTWs
 - Cyclists
 - Road safety at work
 - Public Transport Users
- 7.5.4 Table 7.1 shows how JLTP schemes and measures will link with each of these categories.
- Disadvantaged Areas**
- 7.5.5 Government guidance issued in March 2003 'Tackling the road safety implications of disadvantage' required

Table 7.1 - Links between JLTP Measures and Road Safety

| Measures (C= capital R = revenue) | Disadvantaged Areas | Child Road Safety | Built Up Areas | Non- Built Up Areas | Speed Manag- ement | Enforce- ment | Pedest- rians | Cyclists | PTWs | Road Safety at Work | Public Transport Users |
|--|------------------------|-------------------------|-------------------|------------------------|--------------------------|------------------|------------------|----------|------|---------------------------|------------------------------|
| Casualty Reduction Measures | | | | | | | | | | | |
| Local Safety Schemes (C) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Safer Routes to School (C) | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | |
| Safety Cameras (C, R) | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | ✓ | |
| Education, Training and Publicity (R) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| School Crossing Patrols (R) | ✓ | ✓ | ✓ | | | | ✓ | | | | |
| Associated Measures | | | | | | | | | | | |
| Showcase Bus Routes (C) | ✓ | | ✓ | | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| UTMC/ signals (C) | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | | |
| Walking (C) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ |
| Cycling (C) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | ✓ | |
| Smarter Choices: Travel Plans (C) | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| Local Area Schemes (C) | ✓ | ✓ | ✓ | | ✓ | | ✓ | | ✓ | | ✓ |
| Asset management (C, R) | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ |



Look out for cyclists and pedestrians

local highway authorities to address the particular road safety problems experienced in disadvantaged areas.

7.5.6 Generally the most deprived urban wards had greater than average child pedestrian casualty rates, (go to Figure 1.2 and Box 7A Case Study).

7.5.7 In 2004, three out of the five most deprived wards in Bristol had greater than average child pedestrian casualties (see Table 7.2).

7.5.8 The two most deprived urban wards in North Somerset had casualty rates which were 34.6% and 74.8% higher than the urban average. In South Gloucestershire, the casualty rate in the most deprived rural ward was 36.5% higher than the average for all wards.

7.5.9 While the evidence of a link between social disadvantage and road accident risk (in the most deprived urban wards in the JLTP area) clearly exists, there are nevertheless many other factors that influence casualty rates. Casualties tend to be clustered where there is significant potential for conflict between road users.

Table 7.2 - Road Casualty Data 2004

| Bristol | Child KSI Casualties | Child Slight Casualties | Child All Casualties |
|--------------------------------|----------------------|-------------------------|----------------------|
| Average (top 5 deprived wards) | 0.80 | 6.40 | 7.20 |
| Average (all wards) | 0.69 | 5.00 | 5.69 |

7.5.10 To combat the particular problems in disadvantaged areas, a series of focused measures is needed as well as the wider urban safety management approach described in 7.5.18. Where problems arise on busy radial roads there are opportunities to improve safety through the programme of bus showcase routes, especially if the Greater Bristol Bus Network and Bath Package major scheme bids are successful. There is also scope to link local measures with Neighbourhood Renewal and other regeneration initiatives as well as emerging Mixed Priority Route projects.

Child Road Safety

7.5.11 In 2004, children made up 9.3% of all KSI casualties and 9.1% of slight casualties in the JLTP area. Whilst this represents an improvement on the 1994-1998 average, the figures remain unacceptably high and it is important to continue reducing child KSI casualties in line with national targets. Throughout the consultation process child road safety was repeatedly raised and the majority of suggestions focused on addressing journeys to and from school.

7.5.12 The recent 18% reduction in child KSI casualties was focused on walking and cycling, reflecting the development of extensive training programmes (go to Case Study Box 7B). However, children in cars and children on PTWs as passengers, now account for a growing proportion of KSI casualties and further action is required to address this issue.

7.5.13 The JLTP authorities have taken a proactive approach towards equipping children with essential road safety skills and participation rates in child pedestrian and cycling training have increased. The Councils lay stress on continuing these

Box 7A

Case Study – Kingswood Road Safety Project

A campaign was introduced during 2004 to address the higher than average incidence of child accident rates in Kingswood in South Gloucestershire, some parts of which are considered disadvantaged areas.

A range of activities contributed to the success of the campaign including safety roadshows, a competition with a local superstore, driver training initiatives, car seat safety checks, publicity leaflets and a Police Smart Car.

The campaign received national recognition from David Jamieson, the then Minister of Transport, who praised the campaign for providing local people with helpful advice about how to stay safe on the roads. It has since been used as a successful template in other areas.

An analysis of 'one year after' data has shown a 30% reduction in all accidents.

important programmes. A comprehensive and far-reaching hearts and minds approach will be adopted starting with pre-school children and following them through primary and secondary schools and on into adulthood. Working jointly will enable resources to be pooled and targeted more effectively as well as creating a single and instantly recognisable 'brand.'

7.5.14 These measures link with work on School Travel Plans (go to Chapter 5 Influencing Travel Behaviour) and the aim to promote health through physical exercise. They also relate closely to implementation of safer routes to school (go to Case Study Box 7C). As more school travel plans are developed, there are increased demands

Box 7B

Case Study – Child Pedestrian Training

Child pedestrian training at Bath and North East Somerset involves three stages and is carried out by volunteer instructors. Children learn a variety of skills including basic traffic awareness, danger on and off the road, and how to appropriately use street furniture.

A six-fold increase in the number of children receiving pedestrian training in Bath and North East Somerset coincided with a 35% reduction in child pedestrian casualties between 1999 and 2004.

Central Government funding was awarded to Bristol City Council in 2002 and North Somerset Council in 2003 for child pedestrian training based on the 'Kerbcraft' model. Since then, this initiative has targeted primary schools in deprived urban wards, some of which had higher than average child pedestrian casualties. This has contributed towards a reduction in child KSI pedestrian casualties in the area.

Full evaluation is ongoing, but the interim results from the skills assessment indicate that training in Safe Places Finding and Crossing at Parked Cars in current Kerbcraft schemes is having a significant positive effect on children's behaviour and understanding at the roadside.

Box 7C

Case Study – Safer Routes to School

There are 42 schools in Bath and North East Somerset that have an approved travel plan. In 2004/05, the Council continued to co-ordinate safer routes to school engineering and supporting measures. At High Littleton Primary School, improved footways and crossing points have made it easier and safer for pupils to use a new 'Walking Bus'.

A similar scheme was developed at Camerton Primary School following the introduction of an experimental width restriction along a major HGV route near the school. These measures have helped to improve road safety and reduce congestion around both rural schools, with more pupils walking to school and fewer car trips.



Kewstoke School walking bus

for safer routes schemes and road safety Education Training and Publicity services. The Councils will seek to expand the safer routes programme to address these demands.

- 7.5.15 To maintain progress in meeting the child KSI reduction target, there is a need to both carry out Child Safety Audits on an area-wide basis, but to also focus measures on locations where most child KSI casualties occur.
- 7.5.16 Further initiatives will focus on improving knowledge of child road safety issues amongst parents (e.g. via guidance on the correct fitting of child seats), and via driver training initiatives aimed at improving driving standards (see Road Safety at Work below).

Built Up Areas

- 7.5.17 In 2004 about three-quarters of KSI casualties occurred in built-up areas, i.e. on roads with speed limits of 40mph or less. This definition embraces urban areas and towns as well as most of the JLTP area's villages. Road safety problems are concentrated in built-up areas due to greater levels and density of turning movements and higher risk of road user conflict.
- 7.5.18 A strategic Urban Safety Management approach will be taken to tackling road safety in built-up areas. A key issue is to ensure that vehicles travel at appropriate speeds and use appropriate roads based on a Road Hierarchy approach (go to Box 7D). There are strong linkages to the

Box 7D

Road Hierarchy Review

The JLTP authorities are committed to reviewing the existing road hierarchies across the Greater Bristol area. The review will re-examine the travel purpose of each route and will ensure the route reflects the appropriate social, environmental or economic need. In particular the review will ensure:

- Best use is made of the existing network.
- Traffic uses the most appropriate routes.
- The safety of all users is planned into the network.
- The maintenance and funding of routes is targeted effectively and reflects the needs of routes.
- Speed limit reviews are undertaken on all roads and limits revised where appropriate.

In particular, the road hierarchy review will be used to inform the speed and traffic management strategies designed to target road safety.

tackling congestion measures in Chapter 5. Measures and signage, for example, can be put in place to discourage use of local roads in residential areas. At the same time there needs to be complementary measures on the strategic network to ease congestion and make the appropriate routes more attractive.

7.5.19 Traffic management schemes will be designed and maintained to contribute towards headline road safety targets (go to Case Study Box 7E). Road safety programmes and budgets will be twinned with other on-going transport or environmental investment such as Showcase Route bus priority and town centre and neighbourhood improvement schemes. A programme of integrated treatment by urban "corridors" will be pursued, linked with regeneration and environmental enhancement programmes and backed by public involvement.

Box 7E

Case Studies – Traffic Management Measures

The A403 is approximately 13km long with around 5km within the Bristol boundary and 8km in South Gloucestershire.

Funding from major development in the area has helped to secure a significant reduction in the accident rate on key sections of this route. Improvements included upgraded street lighting and drainage, enhanced signing and lining and other safety measures including off-road cycle routes at three problematic junctions.

The 2005 EuroRAP (European Road Assessment Programme) report rated the A403 as the second most improved road in Britain based on the percentage decrease in fatal and serious collisions from 1998 – 2000 to 2001 – 2003.

The Winterstoke Road/ Herluin Way scheme in Weston-super-Mare involved full signal control of a major roundabout on a main route between M5 J21 and the town centre. The scheme included cyclist/ pedestrian crossing on each arm and improvements to an existing off-carriageway cycleway.

In the three years prior to the scheme's implementation, there were 33 recorded accidents. Following completion there has been an average reduction of 6 accidents per annum, or 45%.



Traffic management in North Somerset

7.5.20 Linked to this corridor improvement approach, the JLTP Greater Bristol Bus Network and Bath Package major schemes have the potential to significantly accelerate improvements in road safety. If successful, the programmes of improved bus corridors will cover many of the routes of greatest casualty concentrations in Bristol and Bath.

7.5.21 The junction improvements and priority measures associated with the two major scheme bids will bring added safety benefits. Road safety and cycle audits along the bus routes will enable additional road safety improvements to be implemented alongside the major scheme proposals.

7.5.22 Localised action at sites with accident concentrations, for example at pedestrian crossings and near schools, will continue to be taken, but within the context of urban casualty priorities. Pedestrian and cycle safety will continue to be improved by providing suitable routes and crossing facilities in urban areas.

7.5.23 These initiatives will be linked with School Travel Plan activities (go to Chapter 5), the development of Home Zones, street lighting projects, neighbourhood and town centre renewal schemes. It is also recognised that the design of urban safety schemes can have a visual impact on the street scene and affect traffic noise as well as air quality and health campaigns (go to Chapter 8).

7.5.24 Urban fringe motorways present their own problems and we will continue to work with the Highways Agency on ways and means of tackling road safety issues on the Motorway and Trunk Road network.

Non-Built Up Areas

7.5.25 A quarter of total KSI casualties occur outside built-up areas. Road safety issues include higher vehicle speeds on rural roads between villages, poor pedestrian facilities, poor street lighting and the need to facilitate safe accommodation of recreational walking, cycling and horse

riding. The rate of traffic growth in rural areas is greater than in urban areas and accident severity is generally higher.

7.5.26 Special attention needs to be paid to rural accident concentration sites, such as major road junctions, and roads that change character suddenly. A strategic approach will be taken to speed management in liaison with the police, the Safety Camera Partnership, Parish Councils and other interested parties such as the Cotswolds AONB Board and Mendip Hills AONB Partnership.

7.5.27 The location of sensitive landscapes and areas of important biodiversity will influence the development of rural safety schemes, as will proposals for village enhancement and the outcome of the forthcoming Rights of Way Improvement Plan (go to Chapter 5). The safety of horse riders needs to be taken properly into account.

Speed Management

7.5.28 Speed is a major issue in terms of accident frequency, severity and levels of perceived risk. In 2004, excessive speed was a contributory factor in around one-fifth of injury accidents, and inappropriate speed was a factor in many more. Even where accidents are infrequent, inappropriate vehicle speeds have a significant negative impact on quality of life and neighbourhood 'liveability'.



Speed camera on A38

- 7.5.29 Travelling at even a few miles per hour over the speed limit can substantially increase the risk of being involved in a road accident and the subsequent likelihood of serious injury. Excessive speed can also exacerbate the consequences of other forms of bad driving (e.g. following other vehicles too closely and lack of attention). Effective enforcement of traffic speeds will be a key element in improving local road safety.
- 7.5.30 Increased perception of danger also hinders attempts to promote modal shift towards sustainable modes such as walking and cycling. Accessibility (go to Chapter 6) also suffers from speeding traffic acting as a barrier to movement.
- 7.5.31 In devising speed management measures the JLTP authorities have worked closely with the Safety Camera Partnership covering the Avon and Somerset Constabulary area (go to Box 7F). Lower speed limits and increased enforcement through the camera partnership was identified as a priority during stakeholder consultation. The Government's plans to integrate camera partnership activities into mainstream JLTP work will create new flexibility and we look forward to taking up the opportunities this offers.
- 7.5.32 The partnership has been successful at reducing vehicle speeds and the number of deaths and injuries on local roads. A key element of this campaign is education and training, whereby to date more than 10,000 drivers have chosen to attend a Speed Choice workshop rather than have penalty points on their licence for exceeding the speed limit.
- 7.5.33 Driver training programmes are considered to be a vitally important initiative in reducing road casualties across the JLTP area for the wider community. The benefits of this approach are explored later under Road Safety at Work.
- 7.5.34 Other key speed reduction measures will involve setting appropriate speed limits, hearts and minds campaigns, self-help

Box 7F

Safety Camera Partnership

The Safety Camera Partnership in Avon and Somerset was launched in April 2002 with the aim of reducing road accidents and casualties through the enforcement of speed limits, reducing the incidence of red light running using camera technology, and driver education programmes. The Partnership was formed by Local Highways and Health Authorities, Police, the Magistrates' Courts Service, Crown Prosecution Service and Highways Agency.

The partnership operates fixed and mobile safety camera units. New 'RedSpeed' digital cameras can detect vehicles travelling through a green traffic light at an excessive speed as well as detecting vehicles that travel through on red.

There are currently 71 roadside safety cameras in the Avon and Somerset area - with mobile speed detection cameras being used at another 183 locations. In addition there are 43 red light cameras that detect drivers not complying with road traffic signals. Many of the cameras were already in place before the launch of the partnership. Some roadside cameras in Avon and Somerset have been so successful in reducing accidents that they have been relocated.

In the JLTP area casualties fell by 18% from 1999/2002 to the 2003/2004 average on roads covered by safety cameras.

In the financial year 2003 to 2004 there were 22 fewer fatalities as a result of road traffic accidents at safety camera sites within Avon and Somerset and the total number of injuries resulting from road traffic accidents fell by 89.

In December 2005 the Government announced that safety camera activities and partnerships are to be integrated into the wider road safety delivery process. Safety camera funding will be added to mainstream JLTP financial allocations from 2007/08. A Road Safety Partnership will bring together the work of the safety camera partnership along with other JLTP road safety measures to make the greatest contribution towards road casualty reduction. The form of this partnership has yet to be decided.

initiatives, self-enforcement in scheme design and simple visual treatments co-ordinated with road maintenance schemes. We intend to review the speed limits on all A and B roads during the JLTP period as requested in the DfT's December 2005 safety camera announcement. Careful consideration will be given to new advice on reviewing limits on any road on which there are poor casualty histories or a widespread disregard for the current speed limits.

Enforcement

- 7.5.35 A key element in achieving safer speeds is effective enforcement to tackle people who cause danger to other road users by disregarding speed limits. National evidence suggests that those who commit relatively more driving violations also tend to be more involved in road accidents. Local evidence suggests that factors likely to lead to driver error in accidents include mobile phone use whilst driving, driving too close to other vehicles and fatigue.
- 7.5.36 Enforcement can take many forms ranging from self-enforcing highway design through to safety cameras and road-traffic policing. Effective enforcement and the support of the police will be fundamental in achieving JLTP casualty reduction targets.
- 7.5.37 Speed enforcement using fixed and mobile safety cameras is undertaken at locations where there is a history of personal injury accidents or perceived danger from speeding, for example near schools. We will take account of new guidance from the DfT on the deployment of cameras as part of changes to safety camera activities announced in December 2005. Other cameras are located at busy road junctions where there is an accident problem, to discourage red-light running. Vehicle Activated Signs (VAS) (go to Box 7G Case Study).

Box 7G

Case Study – Vehicle Activated Signs (VAS)

Vehicle Activated Signs (VAS) (which flash as a warning to people who are exceeding the speed limit), have been used extensively in South Gloucestershire to encourage drivers to slow down. The signs have had a significant impact contributing to:

- 21% reduction in vehicles exceeding the speed limit;
- Reduction in average traffic speeds of 4 mph;
- 7% reduction in accidents (based on 3-year equivalent figures).

A good example of use of VAS is the introduction of a local safety scheme at a staggered crossroads on the A420 at Toghill on the main Bristol to Chippenham route.

The scheme comprised:

- The installation of 2 vehicle activated signs on the A420, one for each approach to the crossroads;
- The introduction of street lighting;
- The laying of high friction surfacing;
- The improvement to visibility splays.

The scheme was introduced in 2001/02 and led to a 60% reduction in accidents in 3 years. In the 3 years before the scheme was introduced there had been 10 recorded personal injury accidents at the junction. This reduced to 4 accidents in the 3 years following scheme completion, which gave a first year economic rate of return of 218% on the £56,000 scheme cost.

- 7.5.38 Speeding traffic in the vicinity of junctions encourages red light running as drivers often perceive it to be easier to accelerate through amber or red signals rather than having to brake heavily. Red light running is a widespread problem and is a significant cause of collisions.

Pedestrians

- 7.5.39 The number of pedestrian casualties dropped from the 1994-98 average of 586 to 566 in 2004. Although modest, this decrease is welcome, especially in view of the 16% growth in vehicle kilometres over the same period. Apart from child pedestrian training programmes, safer routes to school projects and general road safety promotion and publicity, there has been substantial investment in the last five years in walking schemes. These have ranged from footway widening and new crossings to pedestrianisation. UTMC and schemes to enhance traffic signals have also brought benefits to pedestrians.
- 7.5.40 The strategy foresees this investment in pedestrian infrastructure continuing together with a range of 'soft measures' aimed at influencing driver and rider behaviour (see also Walking Action Plan).

Motorcycles and Other Powered Two Wheelers (PTWs)

- 7.5.41 National evidence demonstrates that whilst motorcycles constitute around 1% of total road traffic, they account for approximately 20% of all KSI casualties. Locally, PTW users account for 26% of all KSI casualties and the significant increase in their numbers is a worrying trend. Younger age groups experience the highest PTW casualty rates.
- 7.5.42 In 2004, excessive speed was a contributory factor in one-fifth of local PTW accidents which resulted in death or

serious injury. Many accidents also occurred because drivers failed to see motorcyclists when turning into or out of driveways and side roads, or at junctions. Part of the problem is due to the fact that car drivers do not always expect to see motorcyclists, and do not therefore look out for them (go to Case Study Box 7H).

- 7.5.43 The JLTP authorities will continue to work with motorcycling groups, the police and health services to promote safety issues and mitigate risks to PTW users. Initiatives include the promotion of Compulsory Basic Training and Advanced Rider

Box 7H

Case Study – Improving Motorcycle Safety

In 2003, South Gloucestershire Council and Avon and Somerset Constabulary developed a Road Safety Education campaign to raise awareness about the vulnerability of motorcyclists and to promote safe and responsible riding.

The campaign targeted young motorcyclists and potential riders through advertising in local cinemas, on buses, and in secondary schools through targeted leafleting, with 'Think Before You Overtake' and 'Ride at a Sensible Speed' as key messages.

Accident reports for the 3-year period 1999 - 2001 showed that many accidents involving motorcycles occurred because the car driver failed to see the motorcyclist. In an attempt to reduce casualties, the campaign introduced temporary road signs at nine accident 'hotspots' to encourage drivers to become more aware of motorcyclists.

The campaign was particularly effective in reducing the number of accidents at sites where motorcycle awareness signs were introduced as shown below:

- 44% decrease in accidents involving motorcycles (compared to a 13% increase for area as a whole);
- 11% decrease in total accidents for all road users (compared to a 3% increase for the whole area).



Motorbike safety sign

Assessment and training courses, notably 'Bikesafe' and 'Ride to Arrive' programmes which are run by Avon and Somerset Constabulary.

- 7.5.44 Similarly, we will work to promote to other road users the need to drive responsibly and be aware of the dangers to PTW users.

Cyclists

- 7.5.45 The JLTP authorities have a good track record for implementing cycle safety improvements but the increase in KSI cyclist casualties shows that greater efforts are needed. Consultation with stakeholders confirmed that improving the safety of cyclists, and their impacts on other road users, should be a priority for the JLTP.
- 7.5.46 In response, we aim to increase capital investment in cycling schemes and follow best practice in infrastructure design (go to Cycling Action Plan). In addition to specific safety schemes, the intention is that the needs of cyclists will be integrated into all highway schemes and incorporated into the prioritisation and design processes. Strategic cycle reviews will be undertaken and integrated into schemes where corridor improvements are being introduced.
- 7.5.47 We recognise that where Chapter 5 promotes increased use of cycling, there is a need to ensure that those taking up cycling do so responsibly and safely. Measures contained within Chapter 5 include working with partners such as Primary Care Trusts, Police, transport providers and employers through travel plans to jointly promote road safety awareness for cyclists.
- 7.5.48 Safer cycling also benefits other types of road user. Considerate and responsible cycling is particularly important on shared use paths where potential conflict with pedestrians or horse riders can occur. It is also important to promote all-round awareness amongst all road users and educate drivers about the needs of cyclists.

- 7.5.49 Working with children is identified earlier in this Chapter as a priority. Through this we aim to ensure that future generations of cyclists are aware of the dangers, are well-trained and practice safe cycling (go to Case Study Box 7I). The safer routes programme will continue to improve conditions for cycling.

- 7.5.50 In addition to children there is a need to target training and awareness-raising for adults, particularly those who might be returning to cycling after a number of years. The Councils have developed successful adult cycling training programmes and are working with employers and promoting to individuals the benefits of undertaking such training. We aim to base cycle training for children and adults on new guidelines produced by Cycling England to help them build the skills and confidence they need to cycle on the road.

Road Safety at Work

- 7.5.51 Most drivers receive no training once they have passed their initial driving test but nearly all recorded road accidents involve a motor vehicle. Many people also drive as part of their work. Experience shows that additional training to improve skills, awareness and attitudes can have beneficial effects for these drivers and reduces the danger to other road users.

Box 7I

Case Study – Cycle Training

Bristol and South Gloucestershire Councils were part of the National Pilot 'Bike It' initiative and worked with a 'Bike It' officer based at Sustrans. The project focused on seven schools in the JLTP area and aimed to increase cycling by working closely with pupils, parents and staff, using a variety of initiatives including promotional events and increasing cycle training. The initiative was particularly successful at North Road Primary School in Yate where the percentage of children walking and cycling increased from 24% to 39% since 2004.

This is where the ‘hearts and minds’ approach outlined above has a continuing role to play.

- 7.5.52 The JLTP authorities believe that a cost-effective way of impacting upon wider driver behaviour and reducing casualties is to work with companies to develop targeted training programmes.
- 7.5.53 Companies undertaking a comprehensive programme of driver training have demonstrated considerable cost savings in terms of accidents, reduced absences and insurance premiums (go to Case Study Box 7J). We will build upon this work and develop a toolkit approach to workplace driver training schemes.

Box 7J

Case Study – Driver Training Initiatives

Promotion of driver training for Commercial Services staff at Bath & North East Somerset Council has helped to reduce insurance claims by 25% over the three years since a full-time trainer was appointed. Cost savings of £500,000 have been achieved with fewer productivity losses for both vehicles and staff.

- 7.5.54 Fleet driver training programmes can be used to teach advanced and/or defensive driving techniques, but can also raise awareness of issues such as drink and drug driving, speeding, fatigue and fuel efficiency and may usefully link with other initiatives such as Workplace Travel Plans (go to Chapter 5).
- 7.5.55 Whilst a key incentive for companies to get involved is financial savings, the benefits are far wider. Such initiatives have important contributions to make towards improving air quality (go to Chapter 8) as improved driving with controlled braking and acceleration reduces fuel consumption and in turn emissions.
- 7.5.56 National evidence has shown that people are more likely to use public transport more if they feel that the public transport system they are using is safe and secure. We will work to ensure that public transport infrastructure, and associated traffic management measures have road safety as well as environmental and economic benefits.



Zebra crossing at Weston-super-Mare railway station

7.6 Targets

- 7.6.1 A revised 2001- 2004 average has been adopted as the baseline for the KSI road casualty target in accordance with DfT guidance. This recognises that the 1994-1998 average baseline casualty figure was under-reported by approximately one-fifth and therefore represented an unrealistically low base from which to project a target trajectory. For consistency we plan to use the 2001 - 2004 average as the baseline for targets relating to child KSI casualties and to slight injuries (go to Chapter 12 for more on measuring performance).
- 7.6.2 The JLTP authorities are committed to improving partnership working arrangements with the Police. This ensures that data is sufficiently accurate and that definitions of casualty severity are consistently applied from year to year.

Road Safety Action Plan

Disadvantaged Areas

- Remedial measures (traffic calming, child safety projects, mixed priority treatment) developed in consultation with local communities and linked to neighbourhood renewal and regeneration;
- Education, training and publicity initiatives – the hearts and minds approach.

Child Road Safety Measures

- Child safety audits;
- Child pedestrian training;
- Child cycle training in accordance with emerging best practice (e.g. National Standards and Guidelines);
- Progressive and strongly branded approach to road safety education and training involving parents, pre-school and primary aged children – the hearts and minds approach;
- Promotion of School Travel Plans and JLTP School Travel Strategy;
- Focus efforts on child casualty reduction in the areas where most casualties occur;
- Safer Routes to School at schools with Travel Plans and assisting schools to target their DfES capital grants effectively;
- Maintain a high quality and reliable school crossing patrol service;
- Schools 20mph limits and zones.

Built Up Areas

- Traffic restraint in town centres;
- Traffic calming measures;
- Urban Safety Management approach to casualty reduction including assisting in review of road hierarchy to improve network management.
- Mixed Priority Route treatment of main roads;
- Provision of safer routes and crossing facilities for pedestrians and cyclists;
- 20mph limits and zones;
- Home Zones, neighbourhood and town centre renewal schemes designed to give priority to pedestrians, cyclists, improve road safety and quality of life for residents and visitors;
- Provision of footways, crossing facilities and, where appropriate, street lighting to improve safety in villages;
- Vehicle Activated Signs at appropriate locations.

Non-Built Up Areas

- Engineering and/or enforcement measures to address casualty rates at rural accident concentration sites;
- Construction of rural footways/cycleways linking communities to local services, schools and bus stops;
- Signed networks for pedestrians, cyclists and horse riders;
- 'Quiet Lanes' to reduce potential conflict between rural road users and improve perceived safety.

Speed Management

- Introduce a joint speed management approach for the area integrating safety camera activities with other JLTP casualty reduction measures;
- Review current speed limits on the road network and at specific sites such as schools, shopping centres and villages on major roads;
- Prioritise sites/routes/areas on the basis of casualty trends and excess speeds;
- Investigate making speed awareness training available for all drivers;
- Hearts and minds campaign publicity to highlight links between inappropriate speed, accidents and quality of life;
- Speed Choice initiatives to improve driving standards.

Enforcement

- Introduce traffic calming, speed limits and enforcement measures, e.g. Vehicle Activated Signs (VAS);
- Integrate the work of the Avon and Somerset Safety Camera Partnership into mainstream JLTP casualty reduction activities;
- Promote the need for effective enforcement policies with police colleagues on the Avon and Somerset Strategic Road Safety Forum (e.g. to improve seatbelt wearing rates and to reduce the incidence of mobile phone use while driving and drink/drug driving);
- Self-enforcement in scheme design;
- Simple visual treatments co-ordinated with road maintenance schemes.

Pedestrians

- Consider the needs of pedestrians in all transport and highway schemes;
- Implement range of schemes and measures to improve safety for pedestrians (go to Walking Action Plan).
- Design schemes and facilities for pedestrians in accordance with best practice guidelines.

Motorcyclists and other Powered Two Wheelers (PTWs)

- Establish an area-wide programme of road safety education, training and publicity initiatives for both powered-two-wheeler users and other road users;
- Focus engineering efforts at sites with high proportions of PTW casualties;
- Ensure scheme designs are consistent with national policy and best practice to meet the needs of motorcyclists;
- Consider extending PTW usage along bus lanes on proposed showcase routes on an individual scheme basis.

Cyclists

- Enhanced programme of adult and child cycle training;
- Consider the needs of cyclists in all transport and highway schemes;
- Implement a range of schemes and measures to improve safety for cyclists (go to Cycling Action Plan).
- Design schemes and facilities for cyclists in accordance with best practice guidelines.

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Road Safety at Work

- Implement driver training programmes for Council staff;
- Encourage other large employers to assess occupational road risk and offer driver training for their own staff via the Travel Plan process.

Public Transport Users

- Incorporate road safety measures in public transport infrastructure schemes.

Targets (go to Chapter 12)

- 20% reduction on the 2001- 2004 average in the total number of people killed or seriously injured (all ages) by 2010.
- 25% reduction on the 2001- 2004 average in the total number of children killed or seriously injured by 2010.
- No increase in the number of slight casualties on the 2001- 2004 average by 2010.

Value for Money

LTP1 Scheme Delivery

In the four years 2001/02 to 2004/05 we have delivered the following LTP funded schemes:

| Schemes/Measures | Delivery | Spend £m | Impact |
|----------------------|-------------|----------|--|
| Local Safety Schemes | 233 schemes | 7.93 | The rate of return on 45 casualty reduction schemes carried out in Bristol in 2000-02 was 2229% (based on before and after accident rates and average costs per accident). |
| Safer Routes | 169 schemes | 4.04 | 18% reduction in child killed and seriously injured casualties during LTP1. |

JLTP Capital Funding

In the five years 2006/07 to 2010/11 we propose to allocate JLTP capital funding as follows:

| Measures | JLTP Capital Spend £m | | | Value for Money* |
|--|-----------------------|---------|----------------|------------------|
| | 2006/07 | 2007/08 | Rest of period | |
| Local safety schemes | 1.75 | 2.05 | 7.05 | Very High |
| Safer routes schemes | 0.90 | 1.10 | 4.20 | High |
| Additional road safety planning guideline spending [safety camera funding changes] | nil | 0.40 | 1.13 | To be evaluated |

* assumes no contribution to EU projects

Council Revenue Support

- Indicative annual revenue support of £0.6m for Education/ Training/ Publicity; school crossing patrols; other Council road safety initiatives;
- Additional annual revenue resources of between £1.6m and £1.8m from 2007/08 onwards arising from new arrangements for safety camera funding as set out in DfT February 2006 additional road safety planning guidelines.

Other Sources of Funding

- Partnership funding is expected to include neighbourhood renewal and regeneration activities; community safety programmes; schools and colleges; Highways Agency; Avon and Somerset Constabulary.

Managing Risks

- See Chapters 12 and 13.

