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Executive Summary

Background

Magor village, Monmouthshire is one of nine home zone schemes in a pilot programme set up by the Department for Transport (DfT). The programme’s aim is to evaluate the potential benefits, particularly in regard to shared road space, of a wide range of home zones in different parts of England and Wales.

Magor village, population around 5000, lies on the B4245 about 5 miles east of Newport in southern Monmouthshire. To the west of Magor, the B4245 connects with the M4 at junction 23a. Magor and the abutting community of Undy were previously independent small villages, but over the last 25 years planned residential development has enlarged and merged these communities. There is little direct employment in the village and so Magor and Undy are effectively a dormitory settlement for the nearby towns of Newport, Cardiff and Bristol.

The home zone site is to the south of the B4245 that runs through Magor. It consists of the historic central core of Magor which is a conservation area, includes the old village square, the church access and a surrounding network of residential roads. The area is primarily residential with about 60 dwellings, about 20 small shops, the church, restaurants and public houses. The properties are of traditional design and their style and layout maintains an impression of an older village community. Magor Village Primary School and an area of open space area are nearby, vehicular access to these is through the home zone. There are three off-street public car parks close to the village centre with a total capacity of about 85 parking spaces.

The cost of the home zone works was about £250,000. Construction of the home zone started in June 2001, this included traffic calming and streetscape improvements with the necessary regulatory signing and home zone signs. Site work was completed in July 2002, planting was completed in early 2003.

TRL was commissioned by DfT to assess the effectiveness of the pilot home zone schemes in achieving the aims of home zones. As part of this process, TRL carried out ‘before’ and ‘after’ monitoring including: interview surveys with adults and children, collection of traffic flow, traffic speed and accident data; and video recording. The ‘before’ surveys were carried out between September and October 2000 and the ‘after’ surveys in October 2002 and June 2003.

Home zone measures

The home zone measures included:

- Gateway treatments, 20 mph zone and home zone signing at the entry points to the home zone to make non-local drivers aware of the changed environment; flat-top road humps to manage the vehicle speeds; extensive planting, bollards and ‘Stonemaster flags’.

- A 20 mph zone was established just outside the boundary of the home zone, the 20 mph zone signs are both in English (Home Zone) and Welsh (Parth Hafan). The gateways incorporate 20 mph roundel road markings to reinforce the visual impact of the 20 mph zone.

- The heart of the Magor home zone is The Square. A one-way system is in operation, the traffic is only allowed to proceed in a southerly direction towards The Square. The exit from The Square is via a flat-top block paved hump which is eight metres long with one metre on/off ramps. The road width at the exit is restricted to about four metres by the use of bollards. The area outside the post office and around The Square has been improved and enhanced by using ‘Stonemaster flags’. Two flat-topped block paved humps have been installed, the one near the Golden Lion public house is eleven metres long and the one outside the church is 7.4 metres long, both have one metre long on/off ramps. A row of bollards have been installed between the pavement and the road on the approach to the church.

- A large semi-circular build-out with a diameter of about nine metres was constructed outside the Wheatsheaf Inn to make the route for vehicles narrower. This narrows the road to about seven metres wide in the two-way section (north/south) and four metres wide in the one-way section (east/west). The area also had trees planted and a grassed area created to environmentally enhance the area.

Residents support for the scheme

There was substantial support for the home zone from the adult respondents living within the home zone boundary with over half thinking ‘it was a good idea’ before it was installed and over half being ‘in favour’ after it had been installed. In the ‘before’ survey, 21 of the 36 respondents (58%) thought the home zone was ‘a good idea’, just 5 (14%) thought that ‘it was not a good idea’. The remaining 28% were undecided. In the ‘after’ survey, 23 respondents (64%) were ‘in favour’ of the home zone and 9 (25%) were ‘not in favour’ of the home zone. The remaining 11% were undecided.

Over two-thirds of adult respondents interviewed in the ‘after’ survey thought that the home zone, particularly The Square, had made the appearance of the streets more attractive. The main attractive elements mentioned were the flowers, the paved surface and the railings around the war memorial.

Impact of the home zone on the availability of on-street parking spaces

The home zone measures did not greatly affect the space available for on-street parking. Kerbside parking in The Square was replaced by parking bays delineated by a textured surface (see Section 3.2). The total amount of space available for on-street parking in The Square remained about the same. Some of the kerbside parking near the convenience store and the Wheatsheaf Inn was replaced by parking lay-bys.
There is a clear feeling from the ‘after’ questionnaires that many residents regard parking within the home zone as an unresolved issue and felt that further controls / restrictions are needed. Some residents also thought that the home zone has increased parking problems. However, while the one-way system may have reduced the ease of access to some car parking spaces, there is little evidence that the home zone measures have greatly altered the number of on-street or off-street parking spaces available.

Impact of the home zone on traffic speeds and traffic flow
On Sycamore Terrace, the speed humps had a small affect on the mean speed which decreased by 2.5 mph to 13.9 mph. The 85th percentile speed was reduced by 4.3 mph to 16.8 mph.

On Sycamore Terrace, the speed humps had a small affect on the mean speed which decreased by 2.5 mph to 13.9 mph. The 85th percentile speed was reduced by 4.3 mph to 16.8 mph.

The speed humps north of The Square reduced the mean speed slightly by 1.7 mph to 12.2 mph. The 85th percentile speed was reduced by 2.7 mph to 14.8 mph.

There were no measures used on Brassknocker Street because the vehicle speeds and flows were already low and therefore no ‘after’ speeds were taken. The ‘before’ mean speed was 12.3 mph and the 85th percentile speed was 16.3 mph.

West of The Square, just outside the home zone, mean and 85th percentile speeds were reduced by 4 mph to 22 mph and 28 mph respectively.

Flows on the roads which had speed humps, Sycamore Terrace and north of The Square have increased by about 15% and reduced by about 50% respectively. The 50% reduction north of The Square was mainly due to the road becoming one-way after the home zone was installed.

Ideally, home zone streets should have two-way traffic flows of no more than about 100 vehicles per hour in the afternoon peak hour. This is usually the time of day when there is most conflict between vehicles and people, including children playing (CROW, 1998 and IHIE 2002). After the home zone was installed this criteria was generally met except at the northern entry to the home zone. Also, Sycamore Terrace and North of The Square both had one hour peak flows (08:00 to 09:00 hours) which were estimated to be slightly above the 100 vehicles per hour on weekdays.

Impact of the home zone on driver behaviour and perceived safety
When asked if motorists are more or less considerate to children playing since the home zone was introduced, 19% of respondents thought they were ‘more considerate’, and 19% thought they were ‘less considerate’. A total of 61% thought that it was about the same as before the home zone was introduced.

Fifty-five percent of respondents thought that it was ‘very safe’ or ‘fairly safe’ for adults walking or cycling in the home zone. Forty-two percent thought that it was ‘not very safe’ or ‘not at all safe’, and gave the reasons as too many parked cars (17%), vehicles travelling too fast (8%), problems at the school entrance (6%), and lack of pavements (6%). Other reasons mentioned were drivers expecting right-of-way (3%), drivers not paying attention (3%) and motorists driving the wrong way around the one-way-system (3%).

Impact of the home zone on adult journeys and activities
About half of adult respondents living within the home zone thought that the ease of day-to-day journeys within the home zone had not changed. The majority of the remainder thought that their journeys were more difficult. The main reasons given by those who thought that their journeys were more difficult were: the one-way system (12 respondents), parked cars/parking (6 respondents), parking outside the school (3 respondents) and volume of traffic (2 respondents). The main reasons given by the respondent who thought that his/her journeys were easier were: wider pavements (footways) and slower traffic.

Walking in the home zone was thought to be more pleasant by over a third (39%) of respondents. Reasons for giving this response were that The Square is more presentable (6 respondents), the flowers are nice (6 respondents) and the pavements are wider (4 respondents). Other respondents mentioned better surface and paving slabs (3 respondents), The Square is better for wheelchairs because there are no kerbs (2 respondents), bollards are better for walkers (2 respondents) and The Square is more sociable (1 respondent).

Two respondents thought that cycling in the home zone was less pleasant than before, due to the confusion of drivers about the one-way system and the difficulty of cycling over road humps. However, most of the cyclists thought that cycling in the home zone was neither more nor less pleasant than before (12 respondents).

Respondents were asked how often they spent time outside of their house engaged in the following activities: chatting to neighbours/friends; watching over children playing; gardening at the front of the home; cleaning/decorating the home; or washing/mending the car. The activities performed most often were chatting to neighbours (44%) and gardening (28%). At least 44% occasionally took part in the other activities mentioned, apart from watching over children playing, where 89% said they never do this. Eighty-nine percent said there had been no change in the time spent outside the home since the home zone was introduced, 6% said they spent more time outside, 3% said less time and 2% were not stated.

Impact of the home zone on outdoor activities and journeys to school
In the ‘after’ survey, respondents were asked whether children should play in the street now that it is a home zone. Sixty-one percent thought they should not, because the amount of traffic makes it unsafe (31%), the children should play in parks (22%), there is no pavement and the street is too narrow (22%), there are too many parked cars (8%) and the traffic is too fast (3%). Twenty-five percent of respondents thought the children should play in the street, because the adults had done so as children themselves (6%), and there is nowhere else to play (3%). Fourteen percent said they would like to see children playing on the streets, but the traffic is too heavy and it should be safer. Fourteen percent had mixed feelings, they thought it would be acceptable for older children but not younger ones (3%), the park would be better (3%) and there are too many parked cars (3%).
Sixty-one percent of respondents thought that it was ‘not very safe’ or ‘not at all safe’ for junior/middle school-aged children to spend time unsupervised by an adult in the street since it became a home zone. The main dangers again were speed of traffic (56%), amount of traffic (53%) and ‘stranger danger’ (22%). Bullying from other children was a concern for 11% of respondents, and mugging or physical assault for a further 6%. Nine percent thought it was unsafe for other reasons, such as drug problems and safety around parked cars. However, 31% of respondents thought it was ‘very safe’ or ‘fairly safe’ for junior school-aged children to spend time unsupervised in the street since it became a home zone. In the ‘after’ survey similar proportions of respondents thought it was ‘safe’ or ‘unsafe’ to the ‘before’ survey, and as before the main reasons being the speed and amount of traffic.

Of the 7 children interviewed, 5 children said that their journey to school was the same as before the home zone, 1 child thought it was better and 1 child thought it was worse. The reasons given were ‘Cars are going slower so we can cross the roads easier’ and ‘Traffic from the top of Sycamore Terrace to main road is usually at a standstill trying to turn right onto main road and it takes much longer to get out’.

Road traffic injury accidents

There was one slight injury accident in the home zone area in the ‘before’ period of 7 years giving an accident rate of 0.14 accidents per year. The accident involved a car and a motorcyclist travelling in opposite directions, just north of The Square. This section is now one-way and so this type of accident should not occur now. The ‘after’ period for accidents is only 9 months, there have been no accidents in the home zone in this time.

An analysis of the home zone area and the surrounding area south of the B4245 showed that the accident rate was comparable in the ‘before’ and ‘after’ periods with about 1 accident per year.

Non-injury accidents and incidents mentioned by respondents appear to suggest that these incidents may have been reduced.
1 Introduction

Home zones are residential areas where the built environment is designed to be a place for people, not just for motor traffic. Their aim is to change the way that streets are used in order to improve the quality of life for residents. The outcome will be that they are places for people, including children and those that walk or cycle, not just for traffic. A home zone allows wide range of activities to take place in the street, space that was formerly considered to be exclusively for vehicles. Changes to the layout of the street should emphasise this change of use, so that motorists perceive they should give priority to other road users. Genuine and effective consultation with all sectors of the community, including young people, is important. This can help ensure that the design of the home zones meets the needs and aspirations of local residents.

Magor village, Monmouthshire is one of nine home zone schemes in a pilot programme set up by the Department for Transport (DfT). The programme’s aim is to evaluate the potential benefits, particularly in regard to shared road space, of a wide range of home zones in different parts of England and Wales.

1.1 The report structure
- Section 1 describes the development of the home zone concept in the UK and the DfT pilot home zone programme.
- Section 2 of this report gives details of the streets forming the Magor home zone and the consultation and implementation timetable.
- Section 3 describes the measures used in the Magor to create the home zone.
- Section 4 and appendices A and B provide details of the data collected.
- Section 5 considers the impact of home zone on residents and traffic.
- Section 6 looks at some of the issues raised in the home zone design.
- Section 7 contains the summary and conclusions.

1.2 Home zones and woonerven

Conventional traffic calming schemes and 20mph zones have shown that reducing the mean speeds of traffic in urban areas to below 20mph can have a substantial beneficial effect on road safety (Webster and Mackie, 1996) and (Webster and Layfield, 2003). However, the traffic function of such streets may still predominate at the expense of other activities.

The concept of shared road space within a safe residential area or ‘home zone’ is widespread in many parts of Europe. It originated in the Netherlands as woonerven (residential precincts) in which the residential function clearly predominates over any provision for traffic, this principle is expressed in the design and layout of the residential areas. The road space is shared between motor vehicles and other road users, with the needs of pedestrians, including children, and cyclists coming first. The regulations require drivers within a woonerf to drive at a walking pace and make allowance for the possible presence of pedestrians including children at play (ANWB, 1980).

Home zones were originally suggested for the UK in the 1980s as a low cost measure to reduce casualties to young children in residential areas and allow them to play out in safety. The idea was to introduce new legislation such that child pedestrians should have priority and drivers who injured children should be presumed negligent. It was anticipated that this new legislation would modify driver/ rider behaviour such that speeds would be reduced to a walking pace. The need for conventional road engineering traffic calming measures would be minimal (Preston, 1992).

The concept of reclaiming residential streets as home zones was given new emphasis by the Children’s Play Council, Transport 2000 and the Child Accident Prevention Trust. They advocated a change in priority between drivers, cyclists and pedestrians supported by new legislation and lower speed limits. The lower speeds would be enforced by a combination of traffic calming measures and other design features (Children’s Play Council, 1998).

The Government’s Transport White Paper, A New Deal for Transport: Better for Everyone, (DETR, 1998), recognised the value of home zones in improving the places where people live and play. The Government wished to work with local authorities to evaluate the effectiveness of home zones. In order to do so, nine pilot schemes were established in England and Wales.


The Transport Act 2000 makes provision for home zones in England and Wales. This came into effect in February 2001, local authorities now have a specific power to designate home zones in their area. They will also be able to make orders about the use of roads and about speed reduction measures, subject to regulations to be made by the Secretary of State (for England) or the National Assembly (for Wales). Similar provisions exist in Scotland.

In order to accelerate the growth of the home zone concept the Government made available £30 million for a Home Zone Challenge scheme in England to be spent within the financial years 2001/02 to 2004/05. Local authorities with traffic and/or highway functions were eligible to bid for funding, sixty-one home zone schemes were selected.

1.3 The DfT pilot programme

TRL was commissioned by the DfT to evaluate the Home Zone Pilot Programme which is being implemented by nine local authorities in England and Wales. Further details can be found at the home zone website http://www.homezonews.org.uk

The Home Zone Pilot Programme started in 1999 and the main ‘before’ surveys were completed in 2000. The major part of the consultation, scheme design and construction took place between spring 2000 and spring 2003. The
timed of the ‘after’ surveys and reporting has been dependent on the implementation progress of the individual home zone schemes. The first home zone to be completed was in Leeds and the results for this zone are reported in TRL Report TRL586 (Layfield et al., 2003).

Over 30 local authorities in England and Wales put forward around 50 schemes for inclusion in the pilot programme. Many of the schemes had been initiated by residents’ associations with the local authority acting as a catalyst. In the selection of pilot schemes, priority was given to schemes with: innovative ideas, strong support from residents’ associations, transferable results and a commitment to implementation within the study time scale. During the sifting process, broad categories of scheme emerged – regeneration projects, large neighbourhood schemes, inner urban schemes and single streets or clusters of small streets. The working group endeavoured to get a range of scheme types into the pilot programme reflecting the variety and geographic spread of the schemes submitted.

The nine pilot home zone schemes are in Ealing (London), Lambeth (London), Leeds, Manchester, Magor village (Monmouthshire, Wales), Nottingham, Peterborough, Plymouth and Sittingbourne (Kent).

Although the home zone sites chosen are very different both in scale and type, none have particularly heavy traffic flows and most have few accidents. Home zones are not just safety schemes but aim to improve the quality of life.

Extensive consultation has taken place with the local communities on problems within the areas and on the evolving design for the schemes. This has taken many forms: leaflets, interview surveys, public meetings, exhibitions, street events and design workshops. The nine home zone schemes are being designed and funded by local authorities. The implementation timetables for the individual schemes have varied according to the progress with consultation, the size and type of scheme, the extent of the work involved and the acquisition of sufficient funds.

A working group advises the Department on the results of the monitoring effort, including design and implementation issues. Membership of the group included local authorities, the Association of Chief Police Officers, the Disabled Persons’ Transport Advisory Committee, the Children’s Play Council, Transport 2000, TRL, DfT and members of the devolved administrations.

1.4 Study objectives
The DfT’s objectives are to assess the effectiveness of the pilot home zone schemes in achieving the aims of home zones; to come to a view on the need for additional legislation; and to identify and disseminate good practice guidance.

The main success criteria for Monmouthshire County Council include:

- Enhancing social activities.
- Deterring non-essential vehicles and reducing vehicle speeds.
- Increasing pedestrian and cycle activity and safety.
- Improving the environment for residents.

2 The site
Magor village, population around 5000, lies on the B4245 about 5 miles east of Newport in southern Monmouthshire (see Figure 2.1). To the west of Magor, the B4245 connects with the M4 at junction 23a. Magor and the abutting community of Undy were previously independent small villages, but over the last 25 years planned residential development has enlarged and merged these communities.

There is little direct employment in the village and so Magor and Undy are effectively a dormitory settlement for the nearby towns of Newport, Cardiff and Bristol.

The home zone site is to the south of the B4245 that runs through Magor. It consists of the historic central core of Magor which is a conservation area, includes the old village square, the church access and a surrounding network of residential roads (see Figure 2.2). The area is primarily residential with about 60 dwellings (see Figure 2.3), about 20 small shops the church, restaurants and public houses. The properties are of traditional design and their style and layout maintains an impression of an older village community. Magor Village Primary School and an area of open space are nearby, vehicular access to these is through the home zone. There are three off-street public car parks close to the village centre with a total capacity of about 85 parking spaces (see Section 5.4).

The Square is the only concentration of shops serving Magor and Undy and contains a post office, bakery, florist, pharmacy, off licence, insurance broker, security shop, three estate agents and a public house. Before the home zone was constructed The Square was a large expanse of tarmac with traditional cobbles and stone flag paving. There are several houses in The Square, most of these face onto a short alley that leads to Brassknocker Street.

The residential roads, (Brassknocker Street and Sycamore Terrace), within the home zone do not have footways along most of their length. This helps to create the illusion of shared space particularly on the narrower sections. Sycamore Terrace is a no through road, at the southern end there is a tennis club, a BT depot and pedestrian access to the open space play area. The northern end of Sycamore Terrace is more heavily used, here there is a convenience store, the Wheatsheaf Inn and vehicular accesses to a public car park and the school.

Door to door ‘before’ interview surveys with adult residents living in the proposed home zone found that about 72 % of households had at least one car, that about 22% had children under 17 years of age. All houses had gardens, with about half described as large. Of the adults interviewed, 36% were aged 60 or over and 47% had lived at this address for 20 years or more. The occupational group categories of respondents were ‘Managers’ 50%, ‘Skilled manual’ 28% and ‘others’ 22% (see Section 4.1).

2.1 Background
There has been a lot of residential development within Magor over the last 10 to 15 years. Minor estate roads within the village continue out into the surrounding rural areas and there was considered a need to reduce speeds on these roads. The long-term goal is to make the whole of
Figure 2.1 Location of Magor village, Monmouthshire

Figure 2.2 Central core of Magor showing the roads within the home zone boundary: The Square, Brassknocker Street and Sycamore Terrace are shaded.
Magor a 20 mph zone, subject to residents’ approval. A consortium of local authorities is looking at transport issues in the area (TIGER – Transport In Gwent Economic Region) with the aim of improving transport arrangements along the Cardiff/Newport/Chepstow corridor. As part of this initiative a study has been made of routes and mode of travel to school in Magor and Undy. A safer routes to school strategy has been developed. Within the proposed home zone, children travelling to and from the primary school have to be aware of vehicles particularly on Sycamore Terrace, this also applies to children accessing the play area.

Objectives for the area improvements include:
- to enhance the existing living, walking and socialising activities;
- to enable social activities e.g. chatting, playing and sitting;
- to encourage cycling;
- to slow vehicles down;
- to improve conditions of safety for all road users;
- to improve the streetscape part of the conservation area;
- to improve the quality of life for persons living, working or visiting in the area;
- to divert non-essential vehicles from entering the core area to more appropriate routes; and
- to reduce the levels of air pollution and noise.

2.2 Consultation and implementation timetable

Case studies in two Traffic Advisory Leaflets which have been published dealing with home zones, Planning and Design, TAL 10/01 (DTLR 2001) and Home Zones – Public Participation, TAL 8/02 (DfT 2002). These both offer guidance to Local Authorities on how to implement a home zone.

Partners in the project include Monmouthshire County Council, The Community Liaison group and the Community Council.

Monmouthshire County Council have consulted about the home zone with residents, schools, traders and local members covering all aspects of the proposed work:
- In February 2000, local authority officers and a landscape architect held a consultation workshop with children in the local school. A ‘Planning for Real’ exercise with parents was held the same evening and another was held the following morning. These exercises enabled an outline design to be drafted by the landscape architect.
- In May 2000, an exhibition was held which showed conceptual sketches. A questionnaire was used to gauge reactions to the sketches. The reaction was generally positive, with 75% in favour. However businesses had some concerns about the possibility of them losing trade.
- In July 2000, a meeting of the community liaison group was held to address the concerns of businesses located around The Square.
- In October 2000, an exhibition and consultation exercise was carried out to present firm details for the design of the home zone. This was again positive but traders continued not to support the scheme.
- In March 2001, a further exhibition and consultation on the detailed design was held.

Figure 2.3 General view of a typical Magor residential road (Before home zone was installed)
From June 2001 to November 2001, Phase 1 of the scheme, which mainly involved The Square, was implemented.

From May 2002 to July 2002, Phase 2 part of the scheme which included Brassknocker Street and Sycamore Terrace was installed.

In July 2002, the 20 mph zone signs and the home zone signs were installed at the boundary entrances to the 20 mph zone and the home zone.

Specific issues raised during the consultation process included:

- extending the home zone slightly to include the northern junction;
- pedestrian access to the home zone;
- safety and vehicle access to the school;
- parking near the shops and outside residents homes;
- concerns about vandalism specifically in The Square; and
- impact to the business of traders in the village core.

The proposed measures included: road humps, flat-topped junction tables, a one-way system through The Square, removing raised footways, trees along some streets, planters, cycle stands and the introduction of social spaces. The cost of the works was about £250,000.

### 3 Home zone measures

A schematic plan of the measures used in the Magor village home zone (Phase 1) is shown in Figure 3.1. The home zone proposals included:

- slowing vehicular traffic;
- reducing the paved area allocated to cars by changing the proportions of car space/pedestrian space more in favour of pedestrians;
- ‘blurring’ the divisions between vehicular and pedestrian spaces;
- introducing particular features such as small playgrounds, sitting areas and planters;
- planting trees in the streets; and
- reducing car parking and increasing the provision of cycle racks.

Most of the above proposals were implemented, however the small playgrounds caused some concern and were not provided. Gateway treatments (with 20mph and home zone signing) at the entrances, narrowings and humps were the main traffic calming measures used to slow vehicle speeds.

It should be noted that there is a one-way system in place in the southerly direction past the Wine Cellar as vehicles exit the zone via the flat-top ramp with block paving.

**Figure 3.1 Home zone measures**
3.1 Gateways and signing

There is one entrance/exit gateway at the northern end of the scheme which leads to the B4245. There are two further exits from the zone which are both one-way, one at the northern end near the Wheatsheaf Inn and another one at the southern end of The Square near the Wine Cellar. A 20 mph zone was established at the boundary of the home zone. The 20 mph zone signs are in both English and Welsh. The gateways incorporate 20 mph roundel road markings to reinforce the visual impact of the 20 mph zone and home zone signs (see Figures 3.2 and 3.3).

3.2 The Square

The Square is the heart of the Magor home zone. A one-way system is in operation, the traffic is only allowed to proceed in a southerly direction towards The Square. The exit from The Square is via a flat-top block-paved hump which is eight metres long with one metre on/off ramps. The road width at the exit is restricted to about four metres by the use of bollards and wider footways (pavements). The area outside the post office and around The Square has been improved and enhanced by using ‘Stonemaster flags’, plants and a railing around the war memorial to enhance the area. Two flat-topped block paved humps have been installed. One near the Golden Lion public house is eleven metres long and the one outside the church is 7.4 metres long, both have one metre long on/off ramps. A row of bollards have been installed between the pavement and the road on the approach to the church (see Figures 3.4 and 3.5).
Figure 3.4 The Square looking north

Figure 3.5 Flat-top hump north of The Square
3.3 Traffic calming measures on other streets in the zone

Outside Wheatsheaf Inn
A large semi-circular build-out with a diameter of about nine metres was constructed outside the Wheatsheaf Inn to make the route for vehicles narrower (see Figure 3.6). This narrows the road to about seven metres wide in the two-way section (north/south) and four metres wide in the one-way section (east/west). The area also had new trees planted and a grassed area which was created to environmentally enhance the area. A large mature tree was moved but died, it was subsequently replaced with a new tree.

Outside Ostler’s convenience store (Londis)
There is an eight metre long flat-topped block-paved hump with one metre long on/off ramps outside the Ostler’s convenience store (see Figure 3.7). The hump is at the entrance to Brassknocker Street and Sycamore Terrace and provides access to these roads.

‘No entry’ to home zone
As discussed previously, the vehicle route through The Square is only in the southerly direction which means that it is not possible to get into The Square from the southern end unless on foot or pushing a cycle on the footway. It should be noted that there is a public car park which can be used when approaching The Square from the south. An example of the southern ‘no entry’ is given in Figure 3.8).

The ‘No entry’ (Figure 3.8) looking north is also the location of the southern exit from The Square. Access to the car park, the entrance of which can be seen on the right of the photograph, was maintained although it was not possible to turn right out of the car park to access The Square.

Pedestrian way from The Square to Brassknocker Street
The pedestrian access between The Square and Brassknocker Street was refurbishsed by using ‘Stonemaster flags’ which enhanced the visual appearance of the walkway. The bollards which had been installed previously were retained (see Figure 3.9).

Sycamore Terrace
Sycamore Terrace had road humps installed (see Figure 3.10) near the junction with the school entrance and also the long flat-top hump outside Ostler’s convenience store.

Brassknocker Street
No speed control measures were installed along the length of Brassknocker Street but a number of bollards were installed (see Figure 3.11) to give a visual narrowing and to segregate the footway from the road.

4 Data collection
The ‘before’ and ‘after’ monitoring programme carried out by TRL comprised:

- attitudinal surveys of adults and children living within the home zone, the results of which form the main basis for determining whether the aims of the home zone have been achieved;
- collection of traffic flow and speed data;
- video recording to produce a drive through video and to record general street activity;
- accident data analysis, but low accident numbers are unlikely to give a statistically significant result.

Figure 3.6 Build-out outside the Wheatsheaf Inn
Figure 3.7 Outside Ostler’s convenience store (Londis)

Figure 3.8 No entry at southern end of home zone
Figure 3.9 Pedestrians using the walkway between The Square and Brassknocker Street

Figure 3.10 Speed hump in Sycamore Terrace
The main ‘before’ surveys were carried out by TRL between September and October 2000 and the main ‘after’ surveys between October 2002 and June 2003.

4.1 Interview surveys

4.1.1 Interviews with households within the home zone

Face-to-face interview surveys took place during September 2000, with adult residents and their children living within the proposed home zone area. Following the scheme implementation, the same respondents, where possible, were interviewed, in November 2002. Their children aged between 7 – 16 years old (two children were 17 and 18 years old in the ‘after’ survey) were interviewed using a questionnaire that concentrated on street activities and behaviour within the home zone.

In both the ‘before’ and ‘after’ surveys, questions to adult respondents living within the home zone included:

- characteristics of their household;
- perceptions of traffic speeds and traffic flows;
- traffic noise and traffic pollution inside the home zone;
- cycle and car ownership;
- parking issues;
- mode and frequency of travel for different purposes;
- safety on the roads from traffic and personal safety from crime;
- involvement in traffic accidents and near miss incidents;
- how their children travel to school;
- where their children play within the area;
- safety of the street for playing;
- what on-street activities they undertake within the home zone; and
- the degree of priority given by drivers to pedestrians or cyclists.

In the ‘after’ surveys, respondents were also asked about perceived changes in traffic speeds, traffic flow, traffic noise and traffic pollution; mode of travel; parking provision; safety; playing and other activities within the home zone. Respondents were also asked about the visual appearance of the home zone; the measures used to control traffic; the effect on accessibility to their home by different modes; and the need for further ‘things which are needed’.

Interviews were conducted in the streets in Magor that were to become part of the home zone. Every address within the proposed home zone received a minimum of three calls at varying times of the day and week, including weekends, before being abandoned as a non-contact. Child interviews were selected from households where an adult had completed an interview.

Only one adult and one child were selected for interview from any one household. Adults were specified as 17 years old or over, and only those living at the address for at least 6 months for the ‘before’ survey and two years for the ‘after’ survey were eligible. Adults were selected Head of Household, then partner of Head of Household at alternate addresses. Children selected for interview were between 7 and 16 years old. If there was more than one qualifying child in the household, then the child whose birthday fell next in the calendar year was interviewed. The child interview was always conducted after the adult interview in each household with an adult present.

Characteristics of the adult survey sample

The ‘before” interviews carried out in September 2000 involved 36 adults living in the area of the proposed home zone (see Table 4.1). The ‘after’ surveys carried out in November 2002 involved 36 adults living in the same streets, 22 of whom had previously been interviewed. A further 36 adults living in the village, but outside of the home zone, were also interviewed.

Table 4.1: Location of adults interviewed in streets within the home zone

<table>
<thead>
<tr>
<th>Street name</th>
<th>‘Before’</th>
<th>‘After’</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Square</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Sycamore Terrace</td>
<td>28</td>
<td>29</td>
</tr>
<tr>
<td>Total</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 4.2 gives details of age, gender, occupational group, length of time at address, household composition, and car ownership of all respondents. Over a third of respondents were 60 years old or over, about half had lived in the street for 20 years or more and about a quarter had children under 17 years old living at their address. About three quarters of households owned one or more cars.
About half the respondents lived in a detached house or bungalow, about one third in terraced housing and the remainder in semi-detached housing. All of the properties had gardens, with three-quarters being described as large gardens in the ‘after’ survey.

**4.1.2 Interviews with households outside the home zone**

At the time of the ‘after’ survey, a separate group of 36 adults living outside of the home zone area, but in the nearby streets, were also interviewed using a modified form of the adult questionnaire (see Table 4.3). Its use was intended to investigate how the changes to the village centre had affected their use of the village.

**Table 4.3 Location of adults interviewed in streets outside the home zone**

<table>
<thead>
<tr>
<th>Street name</th>
<th>Number of interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chestnut Close</td>
<td>3</td>
</tr>
<tr>
<td>Cowleaze</td>
<td>4</td>
</tr>
<tr>
<td>Dancing Hill</td>
<td>5</td>
</tr>
<tr>
<td>Newport Road</td>
<td>1</td>
</tr>
<tr>
<td>Redwick Road</td>
<td>1</td>
</tr>
<tr>
<td>St Brides’s Road</td>
<td>5</td>
</tr>
<tr>
<td>The Gardens</td>
<td>4</td>
</tr>
<tr>
<td>The Meadow</td>
<td>2</td>
</tr>
<tr>
<td>Withy Close</td>
<td>7</td>
</tr>
<tr>
<td>Withy Walk</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

Table 4.4 gives details of age, gender, occupational group, length of time at address, household composition, and car ownership of these respondents. A similar proportion to those living within the home zone were aged 60 years old or over, but fewer had lived at their address for 20 years or more and more had children under 17 years old in the household.

**4.2 Traffic flows and speeds**

Traffic flow and speed data were collected during school term-time by TRL with automatic traffic counters (ATCs) using tube detectors. The ‘before’ traffic flow and vehicle speed measurements were made over three weeks in September/October 2000 at the following locations (shown in Figure 4.1)

- Location 1: Brassknocker Street.
- Location 2: North of The Square.
- Location 3: Sycamore Terrace.
- Location 4: West of The Square.

‘After’ traffic flow and vehicle speed measurements were made for two weeks in October 2002 at locations 2, 3, 4 and the northern entry to the home zone. The ATC stores speed information by allocating speeds within a given range (e.g. between 5 and 10mph) to a particular ‘speed bin’. For this study, the ‘speed bins’ on each ATC were set to provide adequate detail on low speeds (below 20 mph) as well as for higher speeds (above 40 mph). Problems can be encountered when vehicles park on the ATC equipment, when vehicles are travelling below 10 mph or when traffic is queuing to turn right or left. Some of these problems were encountered in the Magor speed and flow measurements but they were only a serious problem in Sycamore Terrace. It should be borne in mind that the absolute values given for Sycamore Terrace may not be directly comparable with the other roads, however...
the differences in speeds and the percentage difference in flow (‘before’ to ‘after’) are considered to be representative of the real values for the site.

4.3 Video records

Video recordings were made using lamp post mounted cameras, ‘before’ and ‘after’ the implementation of the scheme, at a variety of locations within the home zone for 12hrs (7am to 7pm) on a weekday in term time and on a Saturday in term time.

The ‘before’ recordings took place on 22nd and 23rd September 2000 and the ‘after’ recordings took place on 4th and 5th October 2002.

The locations chosen took account of the type of traffic calming measures and environmental features that were proposed during the design of the home zone scheme. The ‘before’ video recording locations were as follows:

- Location 1: Brassknocker Street, looking south.
- Location 2: North of The Square, looking towards the Post Office.
- Location 3: Sycamore Terrace, looking south.
- Location 4: West of The Square, looking towards the southern exit from the home zone (car park).

In the ‘after’ survey, camera location 4 was not used but a new camera position was located looking towards The Square (see Figure 4.1). The video footage from this camera was analysed to determine the number of motor vehicles and cyclists that disregarded the southbound one-way system out of the home zone. Pedestrian counts and classified traffic counts could be used as well to provide information on street activity and pedestrian behaviour. Changes in street activity and behaviour within the home zone may be very small, very weather dependant and difficult to detect, even if many hours of data are collected. Therefore, the data from the video recordings is unlikely to be reliable as a quantitative measure unless the changes in activity are very large. Therefore, in Magor, the information on changes in street activity and behaviour provided by the interview surveys are considered to be more representative of the real situation than the video recordings.

Still photographs and a low cost bi-directional ‘drive through’ video recording were also taken showing the ‘before’ and ‘after’ situation for the Magor village home zone scheme.

4.4 Traffic accidents

Information on road traffic injury accidents reported to the police, known as STATS19 (DfT, 2004), within the home zone and surrounding the home zone area, have been supplied by Monmouthshire County Council for 1994 onwards. This included the five years (1994 to 1998) before the implementation of the scheme. Details from the accident data were analysed to obtain the ‘before’, ‘during construction’ and the ‘after’ period. However, with the number of injury accidents being small in the ‘before’ period and the ‘after’ study period being less than a year, it is unlikely that any change in accident frequency will be statistically significant because of the small numbers involved.

Further information on accidents (injury and damage only) and near misses ‘before’ and ‘after’ the installation of the scheme has been obtained from the interview surveys. Respondents living within the home zone were asked whether as a pedestrian, cyclist or car user, they had been involved in any accidents or near misses within the area covered by the home zone or at the junctions with The Square and the distributor roads. Details were obtained from those giving positive responses.

Because of problems with exact definitions of accidents/near misses and uneven recollection, this data is unlikely to provide a reliable indicator of changes in the numbers of accidents or in accident frequency. However, it helps in
understanding the types of accidents/near misses that may occur ‘before’ and ‘after’ the installation of the home zone and highlight any problems associated with the operation of the home zone scheme. The data also provides supporting evidence for information collected on changes in perceived safety.

5 Impact of the home zone

The majority of the adult residents who were interviewed were supportive of the home zone and thought that it had a positive impact in terms of appearance of The Square. Safety from traffic danger was considered better for children and adults walking and cycling in the home zone.

Summary of 36 adult residents’ views towards the home zone

Over half the adult residents interviewed thought that:
- motorists take priority in the home zone (78%);
- it had improved the appearance of the street (70%);
- they walked daily along the streets in the home zone (69%);
- they had changed the way they drove within the home zone (68% of motorists);
- the home zone was a good idea (64%);
- parking problems had increased in The Square (64%);
- children should not play in the street now that it was a home zone (61%);
- quiet peaceful village (58%).

Figure 4.1 Magor village – site locations for fixed monitoring points
There were roughly equal responses to:
- there was sufficient consultation (50% Yes, 42% No);
- the views of residents were taken into account (42% Yes, 50% No);
- it had made a difference to the street (53% Yes, 44% No);
- walking along the street was more pleasant (39% more, 42% same);
- the ease of their day to day journeys within the home zone (50% no change, 44% more difficult);
- whether motorists were more considerate towards children playing in or near the street (19% more considerate, 19% less considerate);
- whether driving along the street was more pleasant for drivers (57% same, 43% less).

Over half the adult residents interviewed thought that there was no change in the issues listed below:
- the time spent by their children outdoors (100%);
- the frequency of their journeys along their street by walking (94%);
- the time they spent outside the front of their home (89%);
- the friendliness of people in the street (88%);
- the frequency of their journeys along their street driving (88% of motorists);
- whether cycling along the street was more pleasant (86%);
- pollution caused by traffic in The Square (81%);
- whether the danger to children from traffic had changed (79%);
- the safety from crime for children and adults walking and cycling (both 75%);
- traffic noise in The Square (72%);
- the frequency of their journeys along their street cycling (72% of cyclists);
- poor driving standards / behaviour in The Square (67%);
- the danger from traffic for adults walking and cycling (67%);
- the number of speeding vehicles in the street had not changed (65%);
- the danger from traffic for children walking and cycling (64%);
- danger to children from traffic in The Square (58%);
- the ease of parking outside their home (56%).

Summary of 7 children’s views on changes since the home zone
The home zone had the biggest impact on:
- the appearance of the streets - nicer 6, same 1, uglier 0;
- how people drive in the street – changed 3, same 4, don’t know 0;
- how safe they felt when outdoors – safer 3, same 4, not as safe 0;
- frequency of outdoor play near their home – more 2, same 4, less 1;
- their journey to and from school was - better 1, same 5, worse 1;
- where they played outside – changed 1, same 6;
- how much fun it is when playing outside - more fun 1, same 6;
- how friendly people are to each other – more friendly 1, same 6.

Most of the children thought there was no change in following:
- their journey to and from school was - better 1, same 5, worse 1;
- where they played outside – changed 1, same 6;
- how much fun it is when playing outside - more fun 1, same 6;
- how friendly people are to each other – more friendly 1, same 6.

Children’s views were similar to the adults in that many thought that the streets looked nicer. Generally they felt safer and thought people drove more slowly however many thought that there had been no change.

5.1 Residents’ support for the home zone, consultation and changes to the street

Adult residents living in the home zone
There was substantial support for the home zone from the adult respondents living within the home zone, with over half being positive. In the ‘before’ survey 21 of the 36 respondents thought the home zone was ‘a good idea’, 5 respondents did not think it was a good idea. In the ‘after’ survey 23 respondents were in favour of the home zone, 9 were not in favour and 4 were undecided.

Residents’ perceptions of the advantages of the home zone changed between the ‘before’ and ‘after’ surveys (see Figure 5.1). In particular, in the ‘before’ survey, people tended to underestimate the impact of the home zone on the appearance of the area and overestimate the impact on traffic safety.

![Figure 5.1 Perceived advantages of the home zone (adult respondents within zone)](image-url)

The most commonly perceived advantages of home zones mentioned by the adult respondents in the ‘before’ survey were related to traffic and safety issues - slower traffic (47%), safety generally (47%), safer for children...
(44%) and safer for older people or disabled people (19%). It was also thought that it would be easier to cross the road (22%) and there would be less accidents (8%). In the ‘after’ survey the main advantages were thought to be slower traffic (33%), making the area look better (33%) and safer in general (14%).

When asked about disadvantages of the home zone (see Figure 5.2), many more people mentioned parking issues in the ‘after’ survey (53%) than in the ‘before’ survey (14%). Concerns about the new one-way system were mentioned by 25% of the respondents.

**Figure 5.2 Perceived disadvantages of the home zone (adult respondents within zone)**

![Figure 5.2 Perceived disadvantages of the home zone (adult respondents within zone)](image)

**Figure 5.3 People perceived to benefit from the home zone**

![Figure 5.3 People perceived to benefit from the home zone](image)

Figure 5.3 gives the percentages of respondents who mentioned types of people thought to benefit from the home zone. In the ‘before’ survey, the majority of respondents (58%) thought the residents would benefit most from the home zone scheme. Other people thought to benefit from the home zone were children (25%), pedestrians (17%), older people (14%), cyclists (11%) and parents with young children (11%). In the ‘after’ survey, fewer people felt these categories, particularly residents (11%), were benefiting, but some thought that traders were benefiting (20%).

Half the respondents living within the home zone thought that there had been sufficient consultation with residents before work began (50% ‘yes’, 42% ‘no’, 8% ‘don’t know’) and just under half thought that the views of residents were adequately taken into account in the design of the scheme (42% ‘yes’, 50% ‘no’, 8% ‘don’t know’).

Three-quarters of the respondents living within the home zone thought that the changes to the streets were not sufficient to make the home zone work in practice (17% ‘yes’, 75% ‘no’, 8% ‘undecided’).

Respondents were asked about other changes they thought were needed. Many of these concerned parking and traffic issues and included:

- parking to be restricted, or some other method of resolving the current parking problems (9 respondents);
- ban traffic from The Square (5 respondents);
- enforce / change one-way system though The Square (3 respondents);
- more traffic calming / speed humps (2 respondents);
- a one-way loop in Sycamore Terrace / Brassknocker Street (1 respondent);
- Closed Circuit TV (CCTV) used to enforce speed restriction (1 respondent);
- traffic problems near the school need solving (1 respondent);
- extend home zone (1 respondent);
- replace cobbles outside of the Golden Lion (1 respondent);
- use smaller plant tubs (1 respondent).

**Children living within the home zone**

Two of the children interviewed in the ‘after’ survey felt that their street had changed since becoming a home zone. One child believed it was better overall, referring to the pavements (footways) being more attractive. One child thought that it was worse but did not give a reason for this response.

There were five suggestions for improving the home zone. These can be summarised as, doing something about the traffic, cobble The Square, more benches in The Square, somewhere to meet under a covered area and more paved areas.

**Adults living outside the home zone**

In the ‘after’ survey, 50% of respondents were in favour of the home zone after it was installed but 31% were not in favour. The rest (19%) were not sure or gave no opinion. These views are reinforced with the answers to the question, Who do you think is benefiting from the home zone? A total of 15 respondents (42%) thought that no-one had benefited, 5 respondents (14%) thought pedestrians had benefited, 4 respondents (11%) thought that drivers had benefited and a further 4 respondents thought that the contractors who did the work had benefited.
5.2 Satisfaction with the street

Adults living in the home zone

Overall adult respondents living within the home zone were positive about their place to live, with most people in both ‘before’ and ‘after’ surveys rating their street as satisfactory. The mean rating of satisfaction was 5 in both surveys where the scale used went from ‘definitely unsatisfactory’ = 0 to ‘definitely satisfactory’ = 6.

When asked specifically what they liked about their streets, respondents in both surveys mentioned that: it was a quiet, peaceful area and had a village atmosphere; they liked the good neighbours, or friendly residents; the local amenities, and that it was conveniently located.

The main dislikes in the ‘before’ survey were too much traffic (15 respondents), parking problems (3 respondents), and noise (6 respondents). In the ‘after’ survey, fewer respondents mentioned too much traffic (6 respondents) but more mentioned parking problems (8 respondents). Other dislikes in the ‘after’ survey were: noise from the playing fields (5 respondents), noisy and disruptive teenagers (4 respondents), cars outside the school entrance (4 respondents), vans to the BT depot (4 respondents) and traffic to the tennis courts (3 respondents).

For many of the respondents, the home zone did not appear to have greatly improved the street where they lived. When asked if they felt the home zone had made much difference to the street as a place to live, responses were fairly evenly split with 53% saying ‘yes’, and 44% saying ‘no’. For the 19 respondents saying the home zone had made a difference to their street, the most common reasons mentioned were parking problems (9 respondents) and increased traffic (4 respondents), both reasons with negative connotations. Other differences mentioned were the problems of cars dropping children at school (1 respondent), fast traffic (1 respondent), and drivers turning or reversing because of the one-way system (1 respondent). Two respondents also commented that the one-way system should be reversed. There was no evidence that the volume of traffic had increased in the ‘after’ period.

Some individual respondents also mentioned more positive differences, and these included humps slowing traffic (2 respondents), a more pleasant appearance (1 respondent), the war memorial looking better (1 respondent), and that it was safer for children (1 respondent).

Those respondents stating that the home zones have not made much difference to the street gave their reasons as traffic needing to be slowed down more (5 respondents), parking still being a problem (5 respondents), teenage problems not being addressed (1 respondent), and traffic problems not being addressed (1 respondent).

Children living in the home zone

Six of the seven children interviewed thought the people were as friendly after the home zone was installed but one child thought that people were more friendly. Three children thought that car drivers had altered the way that they drive, each saying they were now slower.

5.3 Environment

Adults living in the home zone

Over two-thirds of adult respondents living within the home zone thought that the home zone streets, particularly The Square, were more attractive (31% ‘a lot more attractive’, 39% ‘a little more attractive’). The main attractive elements mentioned were: the presence of flowers (19 respondents), the paving (12 respondents), and the railings around the war memorial (7 respondents). Other respondents thought that The Square was now tidier/cleaner (4 respondents), and liked the general lay-out (3 respondents), the one-way system (1 respondent), the grassed area (1 respondent) and the bollards (1 respondent).

Less than a quarter thought that the area was less attractive now, citing the following concerns: using standard fittings has taken away the character (2 respondents), dislike of the wall and railings round the memorial (1 respondent), more vandalism and rubbish (1 respondent), flower tubs are ugly (1 respondent), parking problems (1 respondent), and the horse chestnut tree by the pub has been destroyed (1 respondent).

[Note: the home zone trees had not been planted in The Square at the time of the ‘after’ interview surveys]

Traffic noise and traffic pollution were not major areas of concern for most of the residents interviewed and the home zone measures were perceived to have had little impact on these issues. Over 70 percent of the respondents living within the home zone were ‘not very much’ or ‘not at all’ bothered by traffic noise or pollution in their street either before or after the home zone was introduced. Most also thought that traffic noise and traffic pollution in The Square and on Sycamore Terrace had not changed since the home zone was introduced.

Many of the residents had lived in their street for many years and knew their neighbours by name. Almost all of the adult respondents living within the home zone said that they knew at least one person by name in 2 or more households in their street and about half said that they knew at least one person by name in over 10 households in their street.

About half the respondents said that they often spent time chatting to friends / neighbours in the street. Respondents were asked whether the street was more or less friendly since becoming a home zone. The vast majority of respondents thought there had been no change (more friendly 6%, less friendly 6%, about the same 88%).

Children living in the home zone

Six of the seven children interviewed thought that the streets looked nicer now that it was a home zone. The children mentioned the flowers and pots on the war memorial, the pavements (footways) and the railings around the war memorial. They also mentioned that the area ‘looked tidier’, ‘more decent’ and ‘not many cars parked there’.

Adults living outside the home zone

When walking in the home zone 15 adults thought that it was more pleasant, 4 adults thought it was less pleasant
and 17 thought that there was no difference. The most mentioned features were The Square was tidier and more presentable. The flowers in The Square were popular. The most disliked features were the one-way system in The Square and parking problems.

5.4 Car parking
There is demand for car parking in Magor home zone from residents and their visitors, from people visiting or working in the shops, pubs, doctor’s surgery and church (see Figure 5.4), and from people taking children to and from school by car.

In the interview surveys about two-thirds of the respondents living within the home zone drove a car. Most of these parked their cars in garages or on drives within the curtilage of their property boundary but about a quarter of the drivers parked their vehicles on-street.

5.4.1 On-street parking
Some on-street parking takes place on the roads within the home zone, particularly in The Square.

The Square
There is space for about twenty cars parked on-street in The Square: five along the western edge, five along the north eastern edge, seven parked at right angles outside the post office and the remainder around the war memorial.

The northern approach to The Square
This road is quite narrow in places (carriageway width of about 6 to 8 metres) with a footway (‘before’) and bollards (‘after’) along the western edge providing a protected area for pedestrians. There is space available for about five cars to be parked on-street.

Sycamore Terrace
Sycamore Terrace is narrow in places (carriageway width about 3.7 to 7.5 metres) and there are no footways south of the primary school entrance. The southern part of the road is mainly residential with most properties having off-street parking. On-street parking around the southern end is generally limited in extent and scattered along the street. However, on-street parking density near the school increases at the start and end of the school day. There are double yellow lines and zig-zag keep clear markings on Sycamore Terrace at the access to the school and public car park. There is a convenience store near the junction of Sycamore Terrace and Brassknocker Street. Some on-street parking, (including parking on the footway), takes place at this location.

Brassknocker Street
This road is narrow (about 4.5 metres in places) with no footways. On-street parking is limited as it is likely to cause an obstruction.

5.4.2 Off-street parking
There are three public off-street car parks (free parking) near the centre of Magor village with a total capacity of about 85 parking spaces. Just one is within the home zone itself. Parking at all of these car parks is free of charge:

- The car park within the home zone has 35 spaces,
including one marked for disabled people. Vehicle access is from Sycamore Terrace opposite the entrance to the primary school. There is a pedestrian route from the car park to The Square via Brassknocker Street. A convenience store is also close by at the northern end of Sycamore Terrace.

- A second car park is located inside the 20 mph zone, but outside the home zone at the south western corner of The Square (see Figure 5.5). It has 27 spaces, including one space marked for disabled people. Vehicular access is from the nearby local distributor road. There are pedestrian routes from the car park to The Square, St Mary’s Church and Sycamore Terrace.

- The third car park is located just outside the western boundary of the home zone. It has 23 spaces, including one space marked for disabled people. Vehicular access is from Withy Walk. There is a pedestrian route from the car park to the northern entry to The Square.

5.4.3 Impact of home zone measures on car parking

On-street parking
The home zone measures did not greatly affect the space available for on-street parking. Kerbside parking in The Square was replaced by parking bays delineated by a change in surface texture (see Section 3.2). The total amount of space available for on-street parking in The Square remained about the same. Some of the kerbside parking near the convenience store and the Wheatsheaf Inn was replaced by parking lay-bys.

Off-street parking
The home zone measures did not affect the size or layout of the off-street public car parks. However, the introduction of the one-way system through The Square has meant that drivers approaching The Square from the south can no longer look for parking spaces at the car park near The Square and, if unsuccessful, continue northbound through The Square looking for on-street parking instead. In addition, the vehicular route from the south to access the on-street parking in The Square and the car park off Sycamore Terrace is now longer than before the introduction of the one-way system.

5.4.4 Residents’ perception of car parking issues

Adults living in the home zone
Over a half of respondents were ‘very’ or ‘quite’ bothered about parking problems in their street. The proportion did not change greatly between the two surveys but less people were ‘very bothered’ in the ‘after’ survey than in the ‘before’ survey.

Over half (56%) of respondents who drove a car said that the home zone had made no difference to parking on the street outside their home for themselves, their family or visitors. Just under a quarter (22%) said that parking was more of a problem.

The reasons given by those living around The Square were:
- fewer parking spaces and pub is very busy;
- cars double parked, sometimes block access;
- cannot park outside home, other cars parked there;
- cannot park outside home, no space for parking.

Figure 5.5 Car park entrance located south west of The Square
The reasons given by those living in Sycamore Terrace were:

- more people have cars and no off-street parking;
- school traffic parks across our driveway;
- school traffic and shoppers park outside our house;
- morning and afternoon school traffic blocks road;
- increase in parking in Sycamore Terrace.

Nearly two-thirds (64%) of all respondents living within the home zone said that parking problems in The Square had increased since the home zone was introduced. This was part of a general question about traffic issues, they were not asked for the reasons why they said this.

When asked what they thought were the main disadvantages of the home zone, about half (53%) mentioned parking issues. These mainly related to illegal parking, untidy parking or dangerous parking in The Square, near the shop and the Wheatsheaf Inn. Some respondents felt that motorists were not using the public car parks and some wanted parking banned from The Square. When asked whether the changes to the streets were sufficient to make the home zone work and what other things might be needed, about a quarter of respondents suggested controlling parking in The Square and at the northern end of Sycamore Terrace.

It is clear from the ‘after’ questionnaires that many residents who were interviewed regard parking within the home zone as an unresolved issue and felt that further controls or restrictions are needed. Some residents also thought that the home zone has increased parking problems. However, while the one-way system may have reduced the ease of access to some off-street car parking spaces, there is little evidence that the home zone measures have greatly altered the number of on-street or off-street parking spaces available.

**Adults living outside the home zone**

Parking problems in The Square were mentioned by 25% of the respondents as something that they disliked. This was consistent with the fact that 36% of respondents were bothered by parking problems in The Square. Also 44% of respondents thought that the parking problems had increased since the home zone, however, 53% thought that there had been no change.

**5.5 Traffic, driver behaviour and safety**

**5.5.1 Measured changes in traffic flows**

Mean daily (24-hour) two-way vehicle flows in the area were measured ‘before’ and ‘after’ the home zone was implemented and are summarised in Table 5.1. Appendix A contains details of vehicle flows on weekdays, Saturdays and Sundays.

The ‘before’ flows averaged almost 1000 vehicles per day on Sycamore Terrace (of which 563 vehicles were travelling at 10 mph or greater). There were some problems with the automatic counters in Sycamore Terrace and these are discussed below.

The ‘before’ flows averaged about 1600 vehicles per day north of The Square, about 130 vehicles per day on Brassknocker Street and nearly 1300 vehicles per day west of The Square just outside the home zone.

Problems were encountered as discussed in section 4.2 because vehicles parked on the ATC equipment, vehicles were travelling below about 10 mph or traffic queued to turn right or left in Sycamore Terrace. It should be noted that the absolute values given for Sycamore Terrace may not be directly comparable with the other roads but the differences in speeds and the percentage difference in flow (‘before’ to ‘after’) are thought to be representative of the real values. The ‘after’ measurements were carried out in October 2002 and they were repeated in June 2003 for Sycamore Terrace and North of The Square because the earlier results were considered unreliable.

After the home zone was implemented, daily two-way flows north of The Square were about 840 (the route was made one-way) giving a reduction of about 793 vehicles per day (48%).

For Sycamore Terrace vehicles recorded as travelling below 10 mph were unreliable and have been removed.

<table>
<thead>
<tr>
<th>Location</th>
<th>Mean daily flow</th>
<th>Direction of traffic flow</th>
<th>Location of Sept/Oct Oct 02/</th>
<th>Flow change</th>
<th>‘after’ – ‘before’</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sycamore Terrace</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>242</td>
<td>304</td>
<td>+62 (+26%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>321</td>
<td>341</td>
<td>+29 (+6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-way</td>
<td>563</td>
<td>645</td>
<td>+82 (+15%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>North of The Square</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>719</td>
<td>0</td>
<td>-719 (-100%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>918</td>
<td>844</td>
<td>-74 (-8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-way</td>
<td>1637</td>
<td>844</td>
<td>-793 (-48%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Brassknocker Street</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>72</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>62</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-way</td>
<td>134</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>West of The Square</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northbound</td>
<td>754</td>
<td>1270</td>
<td>+516 (+68%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southbound</td>
<td>528</td>
<td>496</td>
<td>-32 (-6%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-way</td>
<td>1282</td>
<td>1766</td>
<td>+484 (+38%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Northern entry to the home zone</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eastbound</td>
<td>n/a</td>
<td>465</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Westbound</td>
<td>n/a</td>
<td>1936</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-way</td>
<td>n/a</td>
<td>2401</td>
<td>n/a</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>1</sup> For Sycamore Terrace vehicles recorded as travelling below 10 mph were unreliable and have been removed.
Flows on the roads which had speed humps, Sycamore Terrace and north of The Square, were estimated to have increased by about 15% and reduced by about 50% respectively. The 50% reduction north of The Square was mainly due to the road being one-way after the home zone was installed.

Bar charts of mean hourly flows on weekdays, Saturdays and Sundays during the ‘before’ and ‘after’ monitoring periods are presented in Appendix A.

Ideally, home zone streets should have two-way traffic flows of no more than about 100 vehicles per hour in the afternoon peak hour. This is usually the time of day when there is most conflict between vehicles and people, including children playing (CROW, 1998 and IHIE 2002). After the home zone was installed this criteria was generally met except at the northern entry to the home zone. Also, Sycamore Terrace and North of The Square both had one peak hour (08:00 to 09:00 hours) which were estimated to be slightly above the 100 vehicles per hour on weekdays.

An analysis of the video taken between 07:20 and 19:00 on 4th and 5th October 2002 looking towards the ‘No entry’ sign to the home zone showed that 4 car drivers out of 1549 (0.3%) were observed to go the wrong way into the one-way street, whereas 62 cyclists out of 124 cyclists (50%) were observed to disregard the sign. A total of 36 further motorised vehicles (18 motorcycles, 11 goods vehicles and 6 buses) were observed, these all obeyed the ‘No-entry’ sign. This would appear to show that non-compliance is lesser for car drivers than cyclists. The number and percentage of cyclist violations are high and there were 55 cyclist violations out of 62 (89%) in the afternoon between 13:15 and 19:00. Access for cyclists could be improved so that they do not need to break the law because increasing cycling was an aim of the scheme. It was noted that 95% of all violations were in the afternoon. It was also noted that in The Square 72% of respondents were ‘Not at all bothered by cyclists or cyclists on the pavement’, this fell to 44% in the ‘after’ survey.

### 5.5.2 Measured changes in traffic speeds

The changes in mean and 85th percentile (85%) speeds on a sample of roads in Magor before and after the introduction of the home zone are shown in Table 5.2. The mean speed is the average speed recorded at the location. The 85th percentile speed is the speed which 85% of the vehicles travel slower than or alternatively 15% travel faster than that speed.

On Sycamore Terrace, the speed humps had a small affect on the mean speed which decreased by 2.5 mph to 13.9. The 85th percentile speed was reduced by 4.3 mph to 16.8 mph.

The speed humps north of The Square reduced the mean speed slightly by 1.7 mph to 12.2 mph. The 85th percentile speed was reduced by 2.7 mph to 14.8 mph.

There were no home zone measures used on Brassknocker Street because the vehicle speeds and flows were already low, no ‘after’ speeds were taken. The ‘before’ mean speed was 12.3 mph and the 85th percentile speed was 16.3 mph.

#### Table 5.2 Summary of ‘before’ and ‘after’ traffic speeds

<table>
<thead>
<tr>
<th>Location</th>
<th>Vehicle speed</th>
<th>Change</th>
<th>5.5.2 Measured changes in traffic speeds</th>
<th>85%</th>
<th>5.5.2 Measured changes in traffic speeds</th>
<th>85%</th>
<th>5.5.2 Measured changes in traffic speeds</th>
<th>85%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>85%</td>
<td>Mean</td>
<td>85%</td>
<td>Mean</td>
<td>85%</td>
<td>Mean</td>
</tr>
<tr>
<td>Sycamore Terrace</td>
<td>Northbound</td>
<td>17.1</td>
<td>21.5</td>
<td>14.2</td>
<td>17.5</td>
<td>-2.9</td>
<td>-4.0</td>
<td>-3.0</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>16.0</td>
<td>20.7</td>
<td>13.5</td>
<td>16.0</td>
<td>-2.5</td>
<td>-4.7</td>
<td>-3.5</td>
</tr>
<tr>
<td></td>
<td>Two-way</td>
<td>16.4</td>
<td>21.1</td>
<td>13.9</td>
<td>16.8</td>
<td>-2.5</td>
<td>-4.3</td>
<td>-3.7</td>
</tr>
<tr>
<td>North of The Square</td>
<td>Northbound</td>
<td>14.1</td>
<td>18.0</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>13.6</td>
<td>17.0</td>
<td>12.2</td>
<td>14.8</td>
<td>-1.4</td>
<td>-2.2</td>
<td>-1.7</td>
</tr>
<tr>
<td></td>
<td>Two-way</td>
<td>13.9</td>
<td>17.5</td>
<td>12.2</td>
<td>14.8</td>
<td>-1.7</td>
<td>-2.7</td>
<td>-1.7</td>
</tr>
<tr>
<td>Brassknocker Street (no measures)</td>
<td>Northbound</td>
<td>12.3</td>
<td>16.3</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>12.5</td>
<td>16.6</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Two-way</td>
<td>12.3</td>
<td>16.3</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>West of The Square (no measures, just outside home zone)</td>
<td>Northbound</td>
<td>25.0</td>
<td>30.1</td>
<td>20.1</td>
<td>25.9</td>
<td>-4.9</td>
<td>-4.2</td>
<td>-4.0</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>26.5</td>
<td>32.1</td>
<td>23.7</td>
<td>29.2</td>
<td>-2.8</td>
<td>-2.9</td>
<td>-3.0</td>
</tr>
<tr>
<td></td>
<td>Two-way</td>
<td>25.8</td>
<td>31.1</td>
<td>21.9</td>
<td>27.6</td>
<td>-3.9</td>
<td>-3.5</td>
<td>-4.0</td>
</tr>
<tr>
<td>Northern entry to the home zone (no measures)</td>
<td>Eastbound</td>
<td>n/a</td>
<td>n/a</td>
<td>15.8</td>
<td>19.5</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Westbound</td>
<td>n/a</td>
<td>n/a</td>
<td>16.4</td>
<td>20.8</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td>Two-way</td>
<td>n/a</td>
<td>n/a</td>
<td>16.3</td>
<td>20.4</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

1 For Sycamore Terrace vehicles recorded as travelling below 10 mph were unreliable and have been removed.

West of The Square (just outside the home zone) mean and 85th percentile speeds were reduced by about 4 mph to about 22 mph and 28 mph respectively.

Table 5.3 shows the proportion of vehicles travelling faster than a given speed on Brassknocker Street, North of The Square, Sycamore Terrace, West of The Square and at the northern entry to the home zone:

- On Sycamore Terrace the percentage of vehicles which were travelling in the following ranges of 10 to 15 mph, 15 to 20 mph and 20 to 25 mph reduced from about 58%, 20% and 3% to 30%, 2% and 0.1% respectively.
- North of The Square, the percentages of vehicles which were travelling faster than 15 mph, 20 mph and 25 mph had been reduced from about 43%, 2% and 0.2% respectively to about 13%, 0.2% and 0%.
- On Brassknocker Street, there were only 25% and 1% of vehicles above 15 mph and 20 mph in the ‘before’ period respectively. This was unlikely to have changed in the ‘after’ period because no traffic calming measures were installed on the road.
- West of The Square (outside the home zone), the percentages of vehicles which were travelling faster than 20 mph, 25 mph and 30 mph have been reduced from about 85%, 56% and 20% to about 54%, 24% and 5% respectively.
- Northern entry to the home zone, the percentages of vehicles exceeding 15 mph and 20 mph were 61% and 16% respectively in the ‘after’ period.
incidents were: injured in these incidents. The locations of these four misses while in a car were also mentioned. No-one was respondent was cycling and one while in a car. Two near introduced. Two accidents were mentioned, one while the accident or near miss experience since the home zone was members of their household had been involved in an accident or just outside the home zone, were asked whether comparable in the ‘before’ and ‘after’ periods with about this type of accident should not occur now. The ‘after’ rate of 0.14 accidents per year. The accident involved a car area south of the B4245 showed that the accident rate was this type of accident should not occur now. The ‘after’ period for accidents is only 9 months, there have been no accidents in the home zone. The accident and near miss incident results mentioned by respondents are shown in Appendix B.

<table>
<thead>
<tr>
<th>Location</th>
<th>The percentage of vehicles travelling faster than the given speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Survey period 0 mph</td>
</tr>
<tr>
<td>Sycamore Terrace (near speed hump)</td>
<td>'Before'</td>
</tr>
<tr>
<td></td>
<td>'After'</td>
</tr>
<tr>
<td>North of The Square (near speed hump)</td>
<td>'Before'</td>
</tr>
<tr>
<td></td>
<td>'After'</td>
</tr>
<tr>
<td>Brassknocker Street (no measures)</td>
<td>'Before'</td>
</tr>
<tr>
<td></td>
<td>'After'</td>
</tr>
<tr>
<td>West of The Square (no measures)</td>
<td>'Before'</td>
</tr>
<tr>
<td></td>
<td>'After'</td>
</tr>
<tr>
<td>Northern entry (no measures)</td>
<td>'Before'</td>
</tr>
<tr>
<td></td>
<td>'After'</td>
</tr>
</tbody>
</table>

1 For Sycamore Terrace vehicles recorded as travelling below 10 mph were unreliable and have been removed.

5.5.3 Accidents and near misses

Information on reported road traffic injury accidents known as STATS19 (DfT, 2004), within the home zone and surrounding the home zone area, have been supplied by Monmouthshire County Council for 1994 onwards.

There was one slight injury accident in the home zone area in the ‘before’ period of 7 years giving an accident rate of 0.14 accidents per year. The accident involved a car and a motorcyclist travelling in opposite directions, just north of The Square. This section is now one-way and so this type of accident should not occur now. The ‘after’ period for accidents is only 9 months, there have been no accidents in the home zone. The accident and near miss incident results mentioned by respondents are shown in Appendix B.

An analysis of the home zone area and the surrounding area south of the B4245 showed that the accident rate was comparable in the ‘before’ and ‘after’ periods with about 1 accident per year.

Respondents from Magor, living within the home zone or just outside the home zone, were asked whether members of their household had been involved in an accident or near miss experience since the home zone was introduced. Two accidents were mentioned, one while the respondent was cycling and one while in a car. Two near misses while in a car were also mentioned. No-one was injured in these incidents. The locations of these four incidents were:

- Junction of Sycamore Terrace and Ostler’s convenience store (Londis).
- Sycamore Terrace.
- The Square.
- Top of Old Newport Road.

These incidents all involved car drivers who were thought to have made poor manoeuvres. These four incidents can be compared with the results from the ‘before’ survey where one person had reported being in an accident while in a car, three involved in near misses while walking, and four respondents involved in near misses while in a car. The seven ‘before’ incidents were ‘in the last year or so’.

5.5.4 Residents perceptions of changes in traffic, driver behaviour and safety

Respondents were asked how safe they felt it was within the home zone for children walking or cycling. Forty-four percent thought it was ‘fairly safe’, 50% thought it was ‘not very safe’ or ‘not at all safe’.

Those who thought it was unsafe in the home zone were asked for their reasons. The most mentioned reason was the danger from parked cars (22%). Other concerns included vehicles travelling too fast (14%), and too much traffic (6%). Problems at the school entrance (8%) and cars driving the wrong way in the one-way system (3%) were also mentioned.

In the ‘before’ survey, respondents were asked how safe it was for children walking or cycling within their street. Thirty percent had thought it was ‘very safe’ or ‘fairly safe’, and 76% had thought it was ‘not very safe’ or ‘not at all safe’. The three main causes for concern were vehicles travelling too fast (33%), too much traffic (25%) and danger from parked cars (22%).

Fifty-five percent of respondents thought that it was ‘very safe’ or ‘fairly safe’ for adults walking or cycling in the home zone. Forty-two percent thought it was ‘fairly safe’ or ‘not at all safe’, and gave the reasons as too many parked cars (17%), vehicles travelling too fast (8%), problems at the school entrance (6%), and lack of pavements (6%). Other reasons mentioned were drivers expecting right-of-way (3%), drivers not paying attention (3%) and motorists driving the wrong way around the one-way-system (3%).

On roads outside of the home zone, 53% of respondents thought it was ‘very safe’ or ‘fairly safe’ for pedestrians and cyclists. Forty-four percent thought it was ‘very safe’ or ‘fairly safe’ for children walking or cycling in the home zone. Forty-two percent thought it was ‘very safe’ or ‘fairly safe’, and 35% had thought it was ‘not very safe’ or ‘not at all safe’, and gave the reason as danger from road traffic.

Respondents were asked how considerate motorists in the home zone are towards children and adults in various situations: children crossing the road, children cycling, children playing near the street, adults crossing the road, and adults cycling. In all cases more respondents thought drivers were considerate rather than not considerate.

When asked if motorists are more or less considerate to children playing since the home zone was introduced, 19% of respondents thought they were ‘more considerate’, and 19% thought they were ‘less considerate’. Sixty-one percent thought that it was about the same as before the home zone was introduced.
Respondents were asked how much they were bothered by various traffic problems both in The Square, and in their own street (for non-residents of The Square) since the home zone was introduced, and whether those problems had increased or decreased as a result of the home zone. The traffic problems enquired about were speeding vehicles; the amount of traffic; danger to children from road traffic; cyclists; traffic noise; traffic pollution; lorries; parking problems; and poor driving standards/behaviour. Respondents were bothered ‘very much’ or ‘quite a lot’ by parking problems (78%) and danger to children from traffic (53%). Since the home zone was introduced, 64% of respondents thought that parking problems in The Square had increased.

For many adult respondents, the home zone appeared to have made an impact on their perception of traffic using the streets, particularly regarding the amount of traffic (see Table 5.4). Some respondents thought that speeding vehicles had increased, some thought they had decreased but over two-thirds thought that there was no change. The amount of traffic was thought to have increased by 38% of respondents and half thought that there was no change. Nobody thought that it had decreased. The danger to children, traffic noise and traffic pollution were all thought to have increased slightly but over half thought that there was no change. Poor driving standards were thought to have increased.

### Table 5.4 Perception of respondents on the effect of home zone on traffic in their street

<table>
<thead>
<tr>
<th>Activity or category</th>
<th>‘Increased’</th>
<th>‘No change’</th>
<th>‘Decreased’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speeding vehicles</td>
<td>17</td>
<td>69</td>
<td>14</td>
</tr>
<tr>
<td>The amount of traffic</td>
<td>38</td>
<td>62</td>
<td>0</td>
</tr>
<tr>
<td>Danger to children from road traffic</td>
<td>22</td>
<td>78</td>
<td>0</td>
</tr>
<tr>
<td>Traffic noise</td>
<td>14</td>
<td>86</td>
<td>0</td>
</tr>
<tr>
<td>Traffic pollution</td>
<td>14</td>
<td>86</td>
<td>0</td>
</tr>
<tr>
<td>Poor driving standards/behaviour</td>
<td>26</td>
<td>74</td>
<td>0</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>22</td>
<td>76</td>
<td>2</td>
</tr>
</tbody>
</table>

The poor driving standards were thought to have increased, this is backed up by Table 5.5 which shows that the percentage of considerate motorists have been reduced slightly in all categories.

### Table 5.5 Perception of the consideration of motorists towards child and adult road users

<table>
<thead>
<tr>
<th>Road user activity</th>
<th>‘Before’ %</th>
<th>‘After’ %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children walking/crossing the road</td>
<td>69</td>
<td>61</td>
</tr>
<tr>
<td>Children cycling</td>
<td>69</td>
<td>61</td>
</tr>
<tr>
<td>Children playing on or near the street</td>
<td>69</td>
<td>53</td>
</tr>
<tr>
<td>Adults walking/crossing the road</td>
<td>69</td>
<td>61</td>
</tr>
<tr>
<td>Adults cycling</td>
<td>72</td>
<td>58</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>70</td>
<td>59</td>
</tr>
</tbody>
</table>

In their own street, respondents were bothered very much or quite a lot by parking problems (58%), the amount of traffic (50%), speeding vehicles (50%), the danger to children from road traffic (44%) and poor driving behaviour (44%). Forty-two percent of respondents thought that parking problems had increased since the introduction of the home zone.

### 5.6 Perceived danger from crime

**Adult’s views**

With regard to danger from crime, most adult respondents in both the ‘before’ and ‘after’ surveys believed that both children and adults who walk/cycle in their street are ‘very’ or ‘fairly safe’. Two respondents in the ‘after’ survey thought that it was not safe for children and mentioned ‘teenagers in gangs’ and ‘not enough people about in The Square’. Three respondents thought that it was not safe for adults and mentioned ‘teenagers in gangs’ and ‘car crime’ as their reasons.

About three-quarters of the adult respondents thought that the home zone had not changed the perceived danger from crime for children or adults when walking or cycling. All of the remainder thought that the home zone had made it safer.

Four of the adults who were interviewed had been a victim of crime in the home zone since it had been introduced (2 household crime, 2 car crime). This was a similar number to that found in the ‘before’ survey when they were asked whether they had been a victim of crime in the last year or so.

**Children’s views**

Of the 6 children with bikes, 1 was ‘quite a lot bothered’, 2 were ‘not much bothered’ and 3 were ‘not bothered at all’ about their bike being stolen. Mugging was not a problem with 1 child ‘not much bothered’ and 5 ‘not bothered at all’ about being mugged or other physical assault.

### 5.7 Using the street

Before the home zone was introduced, adult respondents were asked about who should have priority in their streets. Most thought that either all road users should have equal priority (56%) or that pedestrians should have priority (36%). Very few (6%) thought that motorists should have priority.

In the ‘after’ survey, these expectations had not been met. Respondents were asked who takes priority **in practice** in the home zone streets and most (78%) said that motorists take priority. About 11% of the respondents felt that pedestrians and motorists had equal priority in the street and about 11% said that pedestrians took priority. Respondents living outside the home zone gave similar responses with 69% saying that motorists take priority.

About half of adult respondents living within the home zone thought that the ease of day to day journeys within the home zone had not changed. Most of the remainder thought that their journeys were more difficult. The main reasons given by those who thought that their journeys were more difficult were: the one-way system (12 respondents), parked cars/parking (6 respondents), parking...
outside the school (3 respondents) and volume of traffic (2 respondents). The main reasons given by the respondent who thought that his/her journeys were easier were: wider pavements (footways) and slower traffic.

5.7.1 Walking
Most respondents said that they walk at least twice a week along streets in the home zone, with over two-thirds doing so daily or every weekday. Almost all the respondents said that the introduction of the home zone had made no difference to how often they walk in the home zone streets (one respondent said they walked more often and another respondent said they walked less often).

Walking in the home zone was thought to be more pleasant by over a third (39%) of respondents. Reasons for this were that The Square is more presentable (6 respondents) and flowers are nice (6 respondents) and the pavements (footways) are wider (4 respondents). Other respondents mentioned better surface/paving slabs (3 respondents). The Square is better for wheelchairs because there are no kerbs (2 respondents), bollards are better for walkers (2 respondents) and The Square is more sociable (1 respondent).

Under a half of the respondents (42%) thought that the home zone had made walking neither more nor less pleasant than before. Nineteen percent thought that walking in the home zone was less pleasant than before. The reasons given for it being less pleasant were: too much traffic / traffic in Sycamore Terrace (3 respondents); the flowers take up too much room (2 respondents); parked cars (1 respondent) and cars reversing are a hazard (1 respondent); the lack of kerbs are a problem (1 respondent) and teenagers are threatening (1 respondent).

5.7.2 Cycling
Adults
Half the respondents in the ‘before’ survey and over a third of respondents (41%) in the ‘after’ survey said that they owned or had access to a bicycle that they ride themselves. In the ‘after’ survey, about half of these respondents cycled along streets in the home zone at least once a week (8 respondents). A further five respondents did so occasionally.

Most of those who had access to a bicycle said that the introduction of the home zone had made no difference to how often they cycled within the home zone area (10 respondents), one respondent said that they cycled more often, and three said that they cycled less often.

Two respondents thought that cycling in the home zone was less pleasant than before, due to the confusion of drivers about the one-way system and difficulty of cycling over road humps. However, most of the cyclists thought that cycling in the home zone was neither more nor less pleasant than before (12 respondents).

Children
Of the six children, 1 used their bike more often, 3 used it less often and for 2 it made no difference after the home zone was installed.

5.7.3 Driving
Over three-quarters of respondents (78%) living within the home zone had access to a car or van. All of these respondents drove along streets within the home zone at least twice a week. Most (25 respondents) said that the home zone had made no difference to how often they drove on streets within the home zone. One respondent said that they drove more often and two respondents said that they drove less often.

About two-thirds of the car / van users (19 respondents) said that they had changed the way they drove on roads within the home zone since it was introduced:

- Many people mentioned driving more slowly. Descriptions of how/why they had changed included: observing the 20mph speed limit (8 respondents), driving more slowly because of the speed humps (4 respondents) and driving more slowly generally (4 respondents); driving more slowly because of people walking in the road (3 respondents) and because of parked cars (1 respondent).

- Three respondents said that they were more cautious. Reasons given included children emerging from behind parked cars, cars reversing and cars ignoring the one-way system.

Other reasons given by respondents for changing the way they drove included ‘the one-way system makes me use the main road’ and ‘I avoid times when cars are parked outside the school’.

Just over half of the car/van users (16 respondents) thought that driving within the home zone was neither more nor less pleasant than before. No one thought that driving was more pleasant, 12 respondents thought that driving within the home zone was less pleasant than before.

The main reasons cited for driving being less pleasant were parked cars (4 respondents) and having to use the main road because of the one-way system (3 respondents). Other reasons given by individual respondents for driving being less pleasant included the volume of traffic, congestion and people driving the wrong way in the one-way system. There was also thought to be more traffic in Sycamore Terrace and that Sycamore Terrace should be made a one-way system.

5.7.4 Activities in the street / outside the house
Adults
Respondents were asked how often they spent time outside of their house engaged in the following activities: chatting to neighbours/friends; watching over children playing; gardening at the front of the home; cleaning/decorating the home; or washing/mending the car. The activities performed most often were chatting to neighbours (44%) and gardening (28%). At least 44% occasionally took part in the other activities mentioned, apart from watching over children playing, where 89% said they never do this.

Eighty-nine percent said there had been no change in the time spent outside the home since the home zone was introduced, 6% said they spent more time outside, 3% said less time and 2% were not stated.
Children

The most popular outdoor activities were chatting (7 respondents), riding bikes or scooters (3 respondents), football (2 respondents), skipping, roller blades, drinking, walking the dog, walking and going to friend’s house (all 1 respondent).

5.7.5 Children in the street

Adults views

Ten households in the ‘after’ survey had children below the age of 17 years old: six households with one child, two households with two children, and two households with three children. No respondents inside the home zone had more than three children. There were 16 children interviewed in total. The school ages of the children are shown in Table 5.6, along with the distribution from the ‘before’ survey.

Table 5.6 Distribution of school ages of children

<table>
<thead>
<tr>
<th>Type of school</th>
<th>‘Before’</th>
<th>‘After’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-school</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Infant school</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Junior school</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Secondary school</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>16</td>
</tr>
</tbody>
</table>

In the ‘after’ survey, the respondents were asked where their children played/spent time outdoors. Seven of the 16 children (44%) played or spent time in their own back garden, fifteen children (94%) in open spaces and five children (31%) in parking areas. Additional areas where children spent time were in the street outside their own home (two children, 13%), in another street (two children, 13%), in someone else’s back garden (one child, 6%) and four children (25%) mentioned other areas including a BMX track, the tennis courts and the railway bridge. Two children (13%) did not play outside as they were too young.

In the ‘before’ survey, children spent time outdoors in a wider range of areas. Thirteen of the fourteen children (93%) played in open spaces, eleven children (79%) in their own back garden, and nine children (64%) in other back gardens. Eight children (57%) played in streets not outside their own home, seven children (50%) in other streets and at the local shops.

Respondents were asked how often their children play in the street since it became a home zone. In the ‘before’ survey, 86% of the children often or occasionally spent time in the street, with 14% never doing so. This had reduced to 42% in the ‘after’ survey with 50% never doing so. However, when asked whether the child spent more or less time outdoors in the street since it became a home zone, all said there had been no change.

Respondents in the ‘before’ survey were asked whether children should play in the street if it is safe enough. Fifty-six percent thought they should not, stating that children should play in parks (28%), play areas should be provided (17%), and that the amount of traffic or parked cars made it unsafe (14%). Thirty-six percent thought the children should play in the street because ‘it gives the children more freedom’ (14%), ‘the adult would know the child is safe’ (3%), but ‘the children would need to be supervised’ (3%). Eight percent had mixed feelings about the issue, but did not give any qualifying reasons.

In the ‘after’ survey, respondents were asked whether children should play in the street now that it is a home zone. Sixty-one percent thought they should not, because the amount of traffic makes it unsafe (31%), the children should play in parks (22%), there is no pavement and the street is too narrow (22%), there are too many parked cars (8%) and the traffic is too fast (3%). Twenty-five percent of respondents thought the children should play in the street, because the adults had done so as children themselves (6%), and there is nowhere else to play (3%). Fourteen percent said they would like to see children playing on the streets, but the traffic is too heavy and it should be safer. Fourteen percent had mixed feelings because they thought it would be acceptable for older children but not younger ones (3%), the park would be better (3%) and there are too many parked cars (3%).

Respondents were asked how safe they thought it was for children to play/spend time unsupervised by an adult in their street since it became a home zone. Eighty-nine percent thought it was ‘not very safe’ or ‘not at all safe’ for pre-school-aged children to play unsupervised in the street. The main dangers were thought to be the speed and amount of traffic (both 89%) and ‘stranger danger’. Six percent were concerned about bullying from other children, 3% from mugging or physical assault, and 6% were concerned about other reasons such as drug problems, and parked cars. In the ‘before’ survey, 94% had thought it was ‘not very safe’ or ‘not at all safe’ to play unsupervised in the street, for very similar reasons to the ‘after’ survey. However, there was less concern for ‘stranger danger’ (22%), and 11% thought that pre-school children were not old enough to look after themselves.

Sixty-one percent of respondents thought that it was ‘not very safe’ or ‘not at all safe’ for junior/middle school-aged children to spend time unsupervised by an adult in the street since it became a home zone. The main dangers again were speed of traffic (56%), amount of traffic (53%) and ‘stranger danger’ (22%). Bullying from other children was a concern for 11% of respondents, and mugging or physical assault for a further 6%. Nine percent thought it was unsafe for other reasons, such as drug problems and safety around parked cars. However, 31% of respondents thought it was ‘very safe’ or ‘fairly safe’ for junior school-aged children to spend time unsupervised in the street since it became a home zone. In the ‘after’ survey similar proportions of respondents thought it was ‘safe’ or ‘unsafe’ to the ‘before’ survey, and as before the main reasons being the speed and amount of traffic.

Seventy-five percent of respondents thought it was ‘safe’ or ‘fairly safe’ for secondary school-aged children to spend time unsupervised in the home zone streets. Fourteen percent thought it was ‘not very safe’ or ‘not at all safe’. Speed of traffic was cited as a reason by 11% of
respondents, amount of traffic by 8% and ‘stranger danger’ by 6% of respondents. Bullying from other children, mugging or other reasons (drug problems or safety around parked cars) were mentioned by 3% of respondents in each case. In the ‘before’ survey 28% thought it was ‘not very safe’ or ‘not at all safe’, with 22% citing the amount of road traffic as the reason.

Children's views

The most popular places for playing were open spaces (5 respondents), in parking areas (3 respondents). Playing in their own street, playing outside own home and playing in other street were each mentioned by one child.

Of the 7 children, 2 spent ‘played or spent more time’ outside near their home, 1 ‘played or spent less time’ and 4 ‘played or spent the same time’ outdoors after the home zone was installed.

Of the 7 children interviewed, 5 children said that their journey to school was the same as before the home zone, 1 child thought it was better and 1 child thought it was worse. The reasons given were ‘Cars are going slower so we can cross the roads easier’ and ‘Traffic from the top of Sycamore Terrace to main road is usually at a standstill trying to turn right onto main road and it takes much longer to get out’.

6 Discussion

The Magor home zone is an example of a home zone introduced into existing roads rather than created as part of a new housing scheme. The area has many positive features promoting its selection as one of the DfT pilot home zone schemes. It is a traditional village design with about 60 residential dwellings and it retains an impression of an older village community. The area also contains a village Square, a church, a chapel, a post office, a Doctor’s surgery, a primary school, various shops, a public house and an inn. There is also a play area open space.

Some of the roads within the home zone do not have footways which helps to create the illusion of shared space particularly on the narrower roads. It also contained a pedestrian way between The Square and Brassknocker Street which was in need of being refurbished.

The scheme was designed to enhance social activities and safety for vulnerable road users. This was achieved by reducing vehicle speeds and improving the environmental appearance of the area.

Monmouthshire County Council concluded that it is important to ‘Allow adequate (extensive) time and resources for consultation’.

Home zone boundary signing

A 20 mph zone was established at the boundary of the Magor home zone to alert drivers to the home zone and to the need for lower speeds.

Informative ‘home zone’ and ‘home zone ends’ signs (see examples below) are now included in the Traffic Signs Regulations and General Directions 2002 (TSRGD, 2002) and can be used if the home zone is designated according to the Transport Act 2000.

Recent design guidelines (IHIE, 2002) suggest that the target speed of 10 mph within home zones will be achieved more easily where there is a stepped reduction in speed created by a 20 mph zone surrounding the home zone. The purpose of the signing is to warn drivers of the zones and make them more aware of their surroundings using appropriate road features, provided the signs are both clearly visible there should be no problems. In Magor, the start of the 20 mph zone is near to the start of the home zone so some drivers may overlook the home zone sign.

7 Summary and conclusions

Background

Magor village, Monmouthshire is one of nine home zone schemes in a pilot programme set up by the Department for Transport (DfT). The programme’s aim is to evaluate the potential benefits, particularly in regard to shared road space, of a wide range of home zones in different parts of England and Wales.

Magor village, population around 5000, lies on the B4245 about 5 miles east of Newport in southern Monmouthshire (see Figure 2.1). To the west of Magor, the B4245 connects with the M4 at junction 23a. Magor and the abutting community of Undy were previously
small independent, small villages but over the last 25 years planned residential development has greatly enlarged and merged these communities. There is little direct employment in the village and so Magor and Undy are effectively a dormitory settlement for the nearby towns of Newport, Cardiff and Bristol.

The home zone site is to the south of the B4245 that runs through Magor. It consists of the historic central core of Magor which is a conservation area, includes the old village square, the church access and a surrounding network of residential roads (see Figure 2.2). The area is primarily residential with about 60 dwellings and about 20 small local shops. The properties are of traditional design and their style and layout maintains an impression of an older village community. Magor Village Primary School and an area of open space are nearby, vehicular access to these is through the home zone. There are three off-street public car parks close to the village centre with a total capacity of about 85 parking spaces.

The cost of the works was about £250,000. Construction of the home zone started in June 2001 including the traffic calming and streetscape improvements with the necessary regulatory signing and home zone signs. Site work was completed in July 2002 and planting was completed in early 2003.

TRL were commissioned by the DfT to assess the effectiveness of the pilot home zone schemes in achieving the aims of home zones. As part of this process, TRL carried out ‘before’ and ‘after’ monitoring including: interview surveys with adults and children, collection of traffic flow, traffic speed and accident data; and video recording. The ‘before’ surveys were carried out between September and October 2000 and the ‘after’ surveys in October 2002 and June 2003.

Home zone measures

The home zone measures included:

- Gateway treatments, 20 mph zone and home zone signing at the entry points to the home zone to make non-local drivers aware of the changed environment; flat-top road humps to manage the vehicle speeds; extensive planting, bollards and ‘Stonemaster flags’.
- A 20 mph zone was established just outside the boundary of the home zone and the 20 mph zone signs are in English (Home Zone) and Welsh (Parth Hafen). The gateways incorporate 20 mph roundels to enhance the visual impact of the 20 mph zone.
- The heart of the Magor home zone is The Square. A one-way system is in operation, the traffic is only allowed to proceed in a southerly direction towards The Square. The exit from The Square is via a flat-top block paved hump which is eight metres long with one metre on/off ramps. The road width at the exit is restricted to about four metres by the use of bollards. The area outside the post office and around The Square has been upgraded by using ‘Stonemaster flags’ to enhance the area. Two flat-topped block paved humps have been installed. One near the Golden Lion public house is eleven metres long and the one outside the church is 7.4 metres long, both have one metre on/off ramps. A row of bollards have been installed between the pavement and the road on the approach to the church.
- A large semi-circular build-out with a diameter of about nine metres was constructed outside the Wheatsheaf Inn to make the route for vehicles narrower. This narrows the road to about seven metres wide in the two-way section (north/south) and four metres wide in the one-way section (east/west). The area also had trees planted and a grassed area which was supposed to environmentally enhance the area.

Residents support for the home zone scheme

There was substantial support for the home zone from the adult respondents living within the home zone boundary with over half thinking ‘it was a good idea’ / ‘in favour’. In the ‘before’ survey 21 of the 36 respondents (58%) thought the home zone was a ‘good idea’, just 5 (14%) did not giving a net positive response of 44%. In the ‘after’ survey, 23 respondents (64%) were in favour of the home zone and 9 (25%) were not in favour giving a net positive response of 39% which is similar to the ‘before’ survey.

Over two-thirds of adult respondents interviewed in the ‘after’ survey thought that the home zone, particularly The Square, had made the appearance of the streets more attractive. The main attractive elements mentioned were the flowers, the paved surface and the railings around the war memorial (see Figure 7.1).

Impact of the home zone on the availability of on-street parking spaces

The home zone measures did not greatly affect the space available for on-street parking. Kerbside parking in The Square was replaced by parking bays delineated by a textured surface (see Section 3.2), with the total amount of space available for on-street parking in The Square remaining about the same. Some of the kerbside parking near the convenience store and the Wheatsheaf Inn was replaced by parking lay-bys.

There is a clear feeling from the ‘after’ questionnaires that many residents regard parking within the home zone as an unresolved issue and felt that further controls / restrictions are needed. Some residents also thought that the home zone has increased parking problems. However, while the one-way system may have reduced the ease of access to some car parking spaces, there is little evidence that the home zone measures have greatly altered the number of on-street or off-street parking spaces available.

Impact of the home zone on traffic speeds and traffic flow

On Sycamore Terrace, the speed humps had a small affect on the mean speed which decreased by 2.5 mph to 13.9. The 85th percentile speed was reduced by 4.3 mph to 16.8 mph.

The speed humps north of The Square reduced the mean speed slightly by 1.7 mph to 12.2 mph. The 85th percentile speed was reduced by 2.7 mph to 14.8 mph.

There were no measures used on Brassknocker Street because the vehicle speeds and flows were already low.
and therefore no ‘after’ speeds were taken. The ‘before’ mean speed was 12.3 mph and the 85th percentile speed was 16.3 mph.

West of The Square, just outside the home zone, mean and 85th percentile speeds were reduced by 4 mph to 22 mph and 28 mph respectively.

Flows on the roads which had speed humps, Sycamore Terrace and north of The Square have increased by about 15% and reduced by about 50% respectively. The 50% reduction north of The Square was mainly due to the road becoming one-way after the home zone was installed.

Ideally, home zone streets should have two-way traffic flows of no more than about 100 vehicles per hour in the afternoon peak hour. This is usually the time of day when there is most conflict between vehicles and people, including children playing (CROW, 1998 and IHIE 2002). After the home zone was installed this criteria was generally met except at the northern entry to the home zone. Also, Sycamore Terrace and North of The Square both had one hour peak flows (08:00 to 09:00 hours) which were estimated to be slightly above the 100 vehicles per hour on weekdays.

Impact of the home zone on driver behaviour and perceived safety

When asked if motorists are more or less considerate to children playing since the home zone was introduced, 19% of respondents thought they were ‘more considerate’, and 19% thought they were ‘less considerate’. A total of 61% thought that it was about the same as before the home zone was introduced.

Fifty-five percent of respondents thought that it was ‘very safe’ or ‘fairly safe’ for adults walking or cycling in the home zone. Forty-two percent thought it was ‘not very safe’ or ‘not at all safe’, and gave the reasons as too many parked cars (17%), vehicles travelling too fast (8%), problems at the school entrance (6%), and lack of pavements (6%). Other reasons mentioned were drivers expecting right-of-way (3%), drivers not paying attention (3%) and motorists driving the wrong way around the one-way-system (3%).

Impact of the home zone on adult journeys and activities

About half of adult respondents living within the home zone thought that the ease of day-to-day journeys within the home zone had not changed. The majority of the remainder thought that their journeys were more difficult. The main reasons given by those who thought that their journeys were more difficult were: the one-way system (12 respondents), parked cars/parking (6 respondents), parking outside the school (3 respondents) and volume of traffic (2 respondents). The main reasons given by the respondent who thought that his/her journeys were easier were: wider pavements (footways) and slower traffic.

Walking in the home zone was thought to be more pleasant by over a third (39%) of respondents. Reasons for giving this response were that The Square is more presentable (6 respondents), the flowers are nice (6 respondents) and the pavements are wider (4 respondents). Other respondents mentioned better surface and paving slabs (3 respondents), The Square is better for wheelchairs because there are no kerbs (2 respondents), bollards are better for walkers (2 respondents) and The Square is more sociable (1 respondent).
Two respondents thought that cycling in the home zone was less pleasant than before, due to the confusion of drivers about the one-way system and the difficulty of cycling over road humps. However, most of the cyclists thought that cycling in the home zone was neither more nor less pleasant than before (12 respondents).

Respondents were asked how often they spent time outside of their house engaged in the following activities: chatting to neighbours/friends; watching over children playing; gardening at the front of the home; cleaning/decorating the home; or washing/mending the car. The activities performed most often were chatting to neighbours (44%) and gardening (28%). At least 44% occasionally took part in the other activities mentioned, apart from watching over children playing, where 89% said they never do this. Eighty-nine percent said there had been no change in the time spent outside the home since the home zone was introduced, 6% said they spent more time outside, 3% said less time and 2% were not stated.

**Impact of the home zone on outdoor activities and journeys to school**

In the ‘after’ survey, respondents were asked whether children should play in the street now that it is a home zone. Sixty-one percent thought they should not, because the amount of traffic makes it unsafe (31%), the children should play in parks (22%), there is no pavement and the street is too narrow (22%), there are too many parked cars (8%) and the traffic is too fast (3%). Twenty-five percent of respondents thought the children should play in the street, because the adults had done so as children themselves (6%), and there is nowhere else to play (3%).

Fourteen percent said they would like to see children playing on the streets, but the traffic is too heavy and it should be safer. Fourteen percent had mixed feelings, they thought it would be acceptable for older children but not younger ones (3%), the park would be better (3%) and there are too many parked cars (3%).

Sixty-one percent of respondents thought that it was ‘not very safe’ or ‘not at all safe’ for junior/middle school-aged children to spend time unsupervised by an adult in the street since it became a home zone. The main dangers again were speed of traffic (56%), amount of traffic (53%) and ‘stranger danger’ (22%). Bullying from other children was a concern for 11% of respondents, and mugging or physical assault for a further 6%. Nine percent thought it was unsafe for other reasons, such as drug problems and safety around parked cars. However, 31% of respondents thought it was ‘very safe’ or ‘fairly safe’ for junior school-aged children to spend time unsupervised in the street since it became a home zone. In the ‘after’ survey similar proportions of respondents thought it was ‘safe’ or ‘unsafe’ to the ‘before’ survey, and as before the main reasons being the speed and amount of traffic.

Of the 7 children interviewed, 5 children said that their journey to school was the same as before the home zone, 1 child thought it was better and 1 child thought it was worse. The reasons given were ‘Cars are going slower so we can cross the roads easier’ and ‘Traffic from the top of Sycamore Terrace to main road is usually at a standstill trying to turn right onto main road and it takes much longer to get out’ (see Figure 7.2).
**Road traffic injury accidents**

There was one slight injury accident in the home zone area in the ‘before’ period of 7 years giving an accident rate of 0.14 accidents per year. The accident involved a car and a motorcyclist travelling in opposite directions, just north of The Square. This section is now one-way and so this type of accident should not occur now. The ‘after’ period for accidents is only 9 months, there have been no accidents in the home zone in this time. The accident and near miss details are shown in Appendix B.

An analysis of the home zone area and the surrounding area south of the B4245 showed that the accident rate was comparable in the ‘before’ and ‘after’ periods with about 1 accident per year.

Non-injury accidents and incidents mentioned by respondents appear to suggest that these incidents may have been reduced.

**Meeting the study objectives**

There were four main objectives set out by the local authority. These were as follows:

- Enhancing social activities.
- Deterring non-essential vehicles and reducing vehicle speeds.
- Increasing pedestrian and cycle activity and safety.
- Improving the environment for residents.

Monitoring of the home zone pilot has resulted in the following:

- Social activities were similar in the ‘before’ and ‘after’ surveys at over 90% of respondents chatting to their neighbours on a regular basis.
- Traffic speeds in the zone were already relatively low and they were slightly reduced. Traffic flows were reduced through The Square and the one-way system removed all northbound traffic through The Square.
- There was no increase in pedestrian or cycle activity and there was little change in the perceived safety for adults or children when they were walking or cycling.
- Nearly three-quarters of respondents thought that the appearance of the streets were more attractive.

**Conclusions**

1. The household surveys carried out indicate that the appearance of the home zone in Magor, particularly The Square, has been improved. The attractive elements mentioned were the flowers, the paved surface and the railings around the war memorial.
2. The home zone measures did not greatly affect the space available for on-street parking however it was clear from the respondents that parking was an unresolved issue. The one-way system introduced through The Square was not popular.
3. There was little change in the amount of time that residents spent outside, but walking within the home zone was thought to be more pleasant.
4. The majority of respondents thought that children should not play in the street, even after it had become a home zone. This was because of the volume and speed of traffic, the narrow roads and the parked cars. They thought that the children should play in the parks instead.
5. Vehicle speeds were relatively low before the home zone was installed, the measures reduced the mean speeds by about 2 mph to 14 mph, a level acceptable for a 20 mph speed limit. Further measures would be required to reduce speeds to below 10 mph. Most respondents thought that there were not enough changes to the streets to make the home zone work in practice.
6. Traffic flows in the area were significantly changed after the installation of the home zone. Much of the changes can be attributed to the fact that the road through The Square was made one-way after the home zone was installed.
7. Injury accidents were not a problem in the Magor home zone area and there did not appear to be any accident migration to the surrounding area. Non-injury accidents and incidents mentioned by respondents appear to suggest that these incidents may have been reduced.

**8 Acknowledgements**

The work described in this report was carried out in the Transportation Division of TRL Limited. The authors are grateful to Wayne Duerden from the Department for Transport and Steve Dudson from Monmouthshire County Council for their help during the monitoring of the home zone scheme. Thanks is also given to Lynn Basford who carried out the quality review and auditing of this report.

**9 References**


Appendix A: Traffic flows by time of day

(a) Sycamore Terrace: Before 2-way vehicle flow by time of day (weekdays)

(b) Sycamore Terrace: Before 2-way vehicle flow by time of day (Saturdays)
23 September & 14 October 2000

(c) Sycamore Terrace: Before 2-way vehicle flow by time of day (Sundays)
24 September & 15 October 2000

Figure A.1 Sycamore Terrace: vehicle flows by time of day – ‘Before’
Figure A.2 Sycamore Terrace (near speed hump): vehicle flows by time of day – ‘After’
Figure A.3 North of The Square: vehicle flows by time of day – ‘Before’. Two-way...
Figure A.4 North of The Square (near speed hump): vehicle flows by time of day – ‘After’. One-way only (southbound)
Figure A.5 West of The Square: vehicle flows by time of day – ‘Before’
Figure A.6 West of The Square (outside of zone): vehicle flows by time of day – ‘After’
Figure A.7 Brassknocker Street (no measures): vehicle flows by time of day – ‘Before’
Figure A.8 Northern entry to the home zone: vehicle flows by time of day – ‘After’
Appendix B1: Road traffic injury accidents

Information on the number and type of road traffic injury accidents recorded by the police (STATS19) was obtained from Monmouthshire County Council. The ‘before’ period covered the 7 years prior to the scheme installation (1st June 1994 to 30th May 2001); the installation period (1st June 2001 to 30th June 2002) and the ‘after’ period was for 9 months (1st July 2002 to 31st March 2003) following the home zone installation.

The speed limit of all of the roads considered in this accident analysis was 30 mph before the home zone was introduced. The speed limit in the home zone area was reduced to 20 mph after the traffic calming measures had been introduced.

Accidents within the home zone area

In the ‘before’ period there was one accident which involved (see Table B1):

- a car and a motor cycle (with an engine capacity of over 125cc). The accident occurred at 13:40 hours on Thursday 15th December 1994 outside the chapel just north of The Square. The two vehicles were travelling in opposite directions with the car pulling out to pass parked vehicles on a blind right hand bend. The male motorcycle rider, who was 17 years old, could not stop in time and a collision occurred resulting in a slight injury to the young rider. It was reported that neither vehicle skidded. In theory this type of accident should not be possible in the ‘after’ period because this section north of The Square was made into a one-way section. This single accident resulted in an overall ‘before’ injury accident frequency of 0.14 accidents per year within the home zone area.

There were no accidents in the construction period and none in the ‘after’ construction period. It should be noted that the ‘before’ period was 7 years and the ‘after’ period was 9 months and therefore very little can be drawn from these results however it is encouraging at the moment.

Accidents just outside the home zone area

In the ‘before’ period there were 4 accidents which resulted in one serious and five slight casualties. The four accidents were:

- a female driver (77 years old) starting up who lost control, hit a wall, a tree, mounted the kerb and hit a parked car and sustained a slight injury. The accident occurred at 15:20 hours on Tuesday 20th September 1994 in Wheatsheaf Court;
- an unattended parked car at the Wheatsheaf Inn rolled backwards across the car park and hit a male pedestrian (81 years old) causing a serious injury. The accident occurred at 13:20 hours on Saturday 4th September 1999;
- a 13 year old female pedestrian who slipped on ice and fell into the road in front of a car causing a slight injury.

The accident occurred at 20:15 hours on Friday 14th January 2000 outside the Wheatsheaf Inn. The car driver was not traced;

- three car occupants (19 to 25 years old) in a two car accident at the junction on Newport Road leading to Withy Walk while one vehicle was turning right causing three slight injuries. The accident occurred at 08:45 hours on Wednesday 17th November 1999.

These accidents resulted in a ‘before’ injury accident frequency of 0.57 per year immediately outside the home zone.

In the construction period of 13 months there was one slight accident as follows:

- an 11 year old male pedestrian ran from the playground in Redwick Road into the path of an oncoming car which skidded on the dry road surface resulting in a slight injury to the pedestrian. The accident occurred at 17:40 hours on Thursday 20th September 2001. (See Appendix B3).

In the ‘after’ period, there were no accidents.

Accidents on home zone side of the B4245 junctions.

In the ‘before’ period there were 3 accidents which resulted in 3 casualties. The 3 accidents were as follows:

- a car turning right which was hit by a male motorcycle rider (aged 28 years old) which had no lights working. The motorcyclist sustained a slight injury. The accident occurred at 19:30 hours on Thursday 30th October 1997;
- a shunt on the approach to the junction. A 23 years old male car driver sustained a slight injury. The accident occurred at 17:55 hours on Tuesday 31st August 1999;
- a female pedestrian (85 years old) who looked left and stepped off the island into an oncoming car received a slight injury. The accident occurred at 12:00 hours on Saturday 13th January 2001.

These accidents resulted in a ‘before’ injury accident frequency of 0.43 per year at the B4245 junctions.

In the construction period there were no accidents.

In the ‘after’ period there has been one accident which was as follows:

- a 29 year old female pedal cyclist and a car were involved resulting in a slight injury to the cyclist. The accident occurred on 5th February 2003 at 09:05 hours and the car driver did not stop at the accident and was not subsequently traced.

Overall summary of accident data

- The results above indicate that injury accidents in Magor appear not to be a problem because there was only 1 recorded accident in the home zone area in 7 years before the home zone was installed and there have been none in the 9 months since installation of the zone.
The total ‘after’ accident numbers on the roads in and surrounding the home zone are comparable with those in the ‘before’ period at just over 1 accident per year.

On the roads in and surrounding the home zone, there were no fatal accidents. There were no accidents recorded on Sundays and there were no casualties in the age group 31 to 65 years old. There were also no accidents between 20:15 hours in the evening and 08:45 hours in the morning. All accidents were in fine weather and only one was in icy conditions.

Appendix B2 Road traffic incidents in home zone area mentioned by respondents

The road traffic incidents mentioned (in this appendix) by the respondents of the questionnaire must be treated with some caution as they are only a sample but they may well be indicative of the real situation (see Table B2).

Table B2 Accidents and near misses in home zone area from respondents questionnaire

<table>
<thead>
<tr>
<th>Incident type</th>
<th>Differ</th>
<th>% Differ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near miss</td>
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<td></td>
</tr>
<tr>
<td>Before (B)</td>
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<td>4</td>
</tr>
<tr>
<td>After (A)</td>
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<td>2</td>
</tr>
<tr>
<td>Accident</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before (B)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>After (A)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before (B)</td>
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<td>5</td>
</tr>
<tr>
<td>After (A)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>STATS19 accident (for comparison)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before (B)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After (A)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

NB ‘Before’ and ‘after’ periods are about 1 year or so before or after the home zone.

Incidents which resulted in non-injury accidents

There was one in-car accident in the ‘before’ period and one in-car accident in the ‘after’ period. There was one cycling accident in the ‘after’ period whereas there were none in the ‘before’ period. These results may appear slightly disappointing but one of the ‘after’ accidents involved a car reversing into roadside furniture in the form of a planter. The details of the accident may appear to be quite trivial however it must be remembered that the planter could quite easily have been a small child or a baby in a push-chair. The cycling accident involved a cyclist who was waiting to turn.

Incidents which resulted in ‘near misses’

It is clear that the definition of a ‘near miss’ is open to interpretation but they provide an insight to the effect on ‘near misses’. The results showed that ‘near misses’ while walking appear to have been reduced from 3 incidents to zero over a similar time period. ‘Near misses’ when in a
car were reduced from four incidents to two incidents over a similar time period. There were no near misses while cycling reported by the respondents.

This gives a total of 7 near misses in the ‘before’ period and 2 near misses in the ‘after’ period which is very encouraging. It is often pure chance that determines if a near miss could have resulted in an accident if the circumstances or timings had been fractionally different.

Location of the incidents (‘After’ survey only)
The locations of the incidents were as follows:
- Junction on Sycamore Terrace near Ostler’s convenience store (Londis).
- Sycamore Terrace.
- The Square.
- Top of Old Newport Road.

These incidents all involved car drivers who made poor manoeuvres but the anticipated reduced average speed of vehicles may have contributed to diminishing the seriousness of the incidents.

Overall summary of results of incidents mentioned by respondents
- Combining all of the incidents gives 8 incidents in the ‘before’ period and 4 incidents in the ‘after’ period which is a reduction of a half. Clearly this is only an indicative estimate because of the way the samples were taken but the reduction is encouraging for the area as a whole.

Appendix B3 Road traffic incidents just outside the home zone mentioned by respondents
The road traffic incidents in this section are incidents which were mentioned by the respondents of the questionnaire. Therefore they must be treated with some caution as they are only a sample and may be indicative of the real situation.

Two accidents were reported by respondents in the area outside the home zone as follows:
- One involved a ‘small boy who ran out into the side of a car’ in Redwick Road. This accident was quite probably the STATS19 injury accident given in Appendix B1 above because the available details September 2001 (20th September 2001) and ‘late afternoon’ (17:40 hours) are similar. The respondent reported that no one was injured. Perhaps they were the driver of the car was unaware of the injury to the small boy.
- The other accident reported by a respondent took place in the late afternoon in Summer 2001 near the Wheatsheaf Inn. It involved a car and a ‘cyclist who ended up on the bonnet’ of the car. This accident does not appear in the STATS19 injury accident database, which maybe considered quite surprising, bearing in mind the description given by the respondent. However, accidents causing injuries are sometimes not reported to the police and it is possible that this accident was an ‘unreported to the police’ injury accident.
Abstract

Home zones are residential areas where the built environment is designed to be places for people, not just for motor traffic. Their aim is to change the way that streets are used in order to improve the quality of life for residents including children and those that walk or cycle. A home zone allows a wide range of activities to take place in the street on space that was formerly considered to be exclusively for vehicles. Changes to the layout of the street should emphasise this change of use, so that motorists perceive they should give informal priority to other road users. Both hard and soft landscaping are appropriate.

Magor village in Monmouthshire is one of nine home zone schemes in a pilot programme set up by the Department for Transport (DfT). TRL was commissioned by DfT to assess the effectiveness of each pilot home zone scheme in achieving its aims. In order to determine their impact, a comprehensive ‘before’ and ‘after’ monitoring programme was devised. This included attitudinal surveys of residents both adults and children, collection of traffic flow, traffic speed, accident data and video recording. This report presents a comparison of the results of these ‘before’ and ‘after’ surveys and reaches a conclusion regarding the impact the home zone has had upon resident’s lives.

Related publications

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