South and West Devon Health Authority

Morice Town Home Zone

A Prospective Health Impact Assessment

DTLR Pilot Site – Plymouth

2002

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A Prospective Health Impact Assessment

Kevin Elliston and Moira Maconachie

This report is a publication of the Health and Community Research Programme which has been jointly led by Moira Maconachie at the University of Plymouth and Kevin Elliston at South & West Devon Health Authority.

The 'Health and Community Research Programme', initiated in 1998, was a joint research programme between the University of Plymouth, Department of Sociology, and the South & West Devon Health Authority, Public Health Department. The programme, based at the University of Plymouth, involved multidisciplinary research relevant to Public Health and Sociology. The overall aim has been to develop a programme of research to explore the linkages between social contexts, communities, health and wellbeing. For more information visit the website at: http://www.health-community-research-programme.bigstep.com

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A companion report: A guide to doing a prospective health impact assessment of a Home Zone is also available.

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Preface

According to the Department of Transport, Local Government and Regions (DTLR) 'Home Zones are residential streets in which the road space is shared between drivers of motor vehicles and other road users, with the wider needs of residents (including people who walk and cycle, the elderly and children) being accommodated. They are about promoting quality of life and neighbourliness.'

In 1999 Morice Town was selected as one of nine national pilots by the DTLR to explore how the European idea of Home Zones could be implemented in England and Wales. Since their appearance in Holland in 1969 they have become part of the fabric of local communities and very popular with residents.

The reclaiming of roads for equal use by all road users allows for a much wider range of activities in the street space, space that previously was considered to be exclusively for the use of motorised transport. To make the transition, where the road network already exists and people live, requires the participation and co-operation of the local community and for the Home Zone to be a success it must be led and owned by the residents.

Since the selection of Morice Town the local community has been enthusiastically engaged in the process to build their Home Zone. Learning new skills, building community capacity and reviewing all the issues that will influence their lives as a result of the process. These issues include quality of life, pollution, play, safety, transportation, health and many other interrelated matters.

Funding has been a difficult issue from day one as there is no yardstick on which to base the cost. Initial funds were sought from a variety of sources whilst the pilot was developed along community designs. Plymouth City Council, Single Regeneration Budget round Five and latterly DTLR have contributed the majority of funding to the pilot. The final cost if the complete scheme were implemented in full would be about five times greater than would be paid for a standard traffic calming scheme. This extra cost can be directly related to the regeneration of the area and an improved quality of life for the residents.

The quality of life issue and the wider implications that a Home Zone would have on health was an area that warranted greater investigation and one method of approaching this is a Health Impact Assessment (HIA). The suggested and observed benefits as seen in Europe should improve the quality of life for residents significantly, ranging from crime reduction to environmental enhancement. The perceived view from a wide range of professional and local residents was sought to focus on both the positive and negative concerns throughout the build and possible ramifications in the longer term – the liveability of a Home Zone.

This document is the culmination of the Morice Town HIA, conducted by the Health and Community Research Programme in 2001, and sets out the range of health impacts both positive and negative. It provides the focus for attention and dialogue to address particular issues raised, many of which can be ameliorated or managed such as reducing fear and anxiety and enhancing the impacts that will improve quality of life and health.

Adrian Trim, Home Zone project lead.
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Introduction

Morice Town is part of the Keyham Ward in Plymouth and is reported by the City Council to have had little investment over the past 40 years. The Home Zone area (**Figure 1**) consists of 12 streets on a grid pattern with approximately 450 households, in private and social housing tenures (Layfield & Wheeler 2000). Properties in the Home Zone range from nineteenth century terraces to post war build following the blitz and includes some new build. The population of Morice Town at the 1991 Census was just over 4000, of which 22% were estimated to be aged under 16. There is a primary school within the Home Zone area and a number of small businesses. A mini-profile of the Home Zone area, giving further data and information, can be found in **Appendix 1**. The Morice Town Home Zone (MTHZ) is the largest Home Zone geographically of the nine national pilots supported by the Department of Transport, Local Government and the Regions (DTLR).

The objectives of the Home Zone (Layfield & Wheeler 2000:2) are:

- Greater involvement of the community
- Traffic management
- A sustainable transport system including safer routes to school, pedestrian and cycle routes
- More play facilities and environmental enhancement
- Innovative design for pedestrian priority
- Breaking down divisions within the community caused by road layout and differences in housing ownership
- A design theme unique to the area creating sense of identity and ownership
- Commitment to long-term planning and community improvement.

Consultation with the residents has been ongoing through meetings and planning events. A system of street representatives was set up with the intention of ensuring that each street in the Home Zone was represented. Community newsletters have also been used to communicate with residents. The Morice Town Home Zone website (http://www.wspgroup.com/moricetown/main.htm) states:

> The Groundwork Trust actively involved the community in the project since early 1999, forming a Community Advisory Group and using techniques such as Planning for Real. Designers Lacey Hickie Caley and WSP were appointed by Plymouth City Council in July 2000 to facilitate the community design workshops and produce a Masterplan.

In line with the ethos of the design of Home Zones, the engineering plans for MTHZ include the creation of traffic calming and speed restrictions. Also included is new street furniture, landscaping features and planters, the removal of road and pavement demarcation in certain areas, signs designating the Home Zone area and decorative gates at the entry points to the Home Zone. The Transport Research Laboratory is carrying out the evaluation of the potential benefits of the Home Zone, particularly with regard to shared road space, on behalf of the DTLR.

Figure 1: View of the Home Zone area in Morice Town (plan provided by Plymouth City Council)

The objectives of the Health Impact Assessment

The objectives of the Health Impact Assessment (HIA) study in the MTHZ area were to:

- Assess the prospective health impacts of the proposed Home Zone on the resident population, businesses, and health and social care service delivery
- Inform the further development of the Home Zone in Morice Town
- Inform the national Home Zone Committee at the DTLR of the findings

The HIA objectives were agreed by the Morice Town Home Steering Committee, which is a multi-agency committee, convened by Plymouth City Council.

The definition of 'Health' and 'HIA' used in the study

In this study the 1946 World Health Organisation's definition of health was used as the basis for understanding health. The definition states:

> Health is a state of complete physical, mental and social wellbeing and not merely the absence of disease. The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.

HIA is a relatively new concept in the field of public health development, although the concept of impact assessment is not new. Undertaking an HIA is not required by statute but is recommended for projects or developments that may have a bearing on health.

There are several definitions of HIA and they differ in their detail (McIntyre & Petticrew 1999). In this study the 'Gothenburg consensus paper' (WHO 1999:4) was used to define 'health impact' and 'health impact assessment':

> Health impacts are the overall effects, direct or indirect, of a policy, strategy, programme or project on the health of a population. (This may include direct effects on the health of the members of the population and more indirect effects through intermediate factors that influence the determinants of the health of the population. Such impacts may be felt immediately, in the short term or after a longer period of time).

and

> Health Impact Assessment is a combination of procedures, methods and tools by which a policy, program or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population.

An HIA may be conducted retrospectively, prospectively or concurrently (Ison 2000). This study is a prospective HIA. There is no agreed methodology for undertaking an HIA, but HIAs identify negative health impacts which can then be minimised, and positive health impacts which can then be maximised.

Methods

The process adopted in the study (**Figure 2)** involved:

- A walkabout of the proposed Home Zone to appreciate the geography of the area as part of the screening process
- Establishing an HIA Steering Group with terms of reference (**Appendix 2**)
- Undertaking a literature review, including HIAs, Home Zones and urban planning
- Contacting other Home Zones pilots in the UK
- Identifying the potential influences on health of Home Zones
- Assessing health and social wellbeing data for the Morice Town profile (**Appendix 1**)
- Devising a qualitative prospective HIA approach based on stakeholder workshops

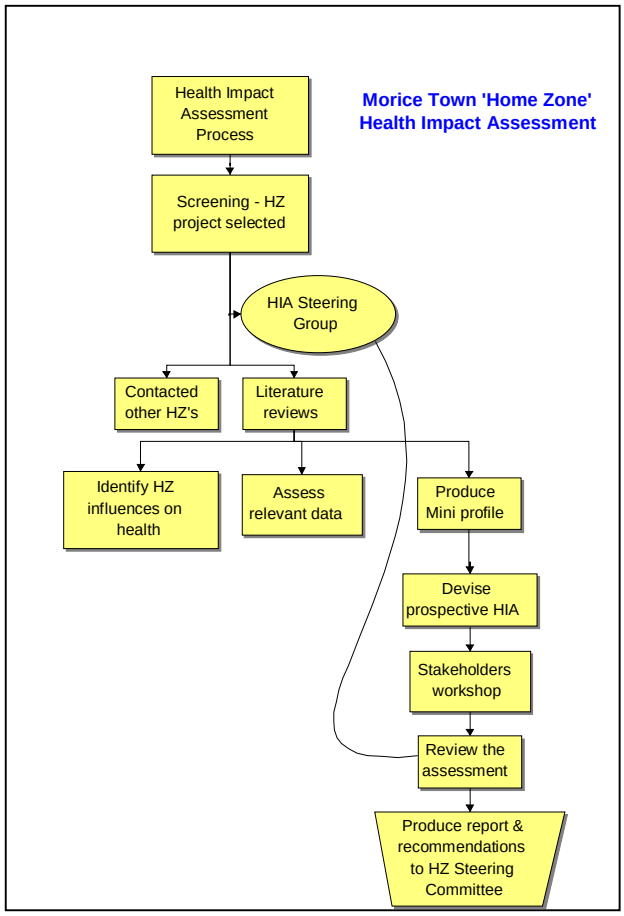

Figure 2: **The process involved in the HIA study**

Identifying the potential influences on health of Home Zones

According to Barton and Tsourou (2000:1 -11) urban planning involves the process of making decisions about the use and character of land and buildings in cities. Essentially urban plans are prepared for the physical development of an area but the goals of the plans also relate to social development. Urban planning and environmental design can therefore have an effect upon the health of resident populations. Barton and Tsourou (2000:9-11), drawing on Whitehead and Dahlgren

(1991), identify these effects as 'individual behaviour and life-style', 'social and community influences', 'local structural conditions', and 'general social economic, cultural and environmental conditions'.

The influences of planning may have positive and negative impacts on the health of resident populations**.** It is important to distinguish between short-term and long-term impacts and to acknowledge that impacts may change over time**.** The evidence to support the links between health and urban planning are given in **Appendix 4**.

A diagram of the possible influences that Home Zones could have upon health was developed (**Figure 3**)**.** The diagram is based on an assessment of:

- the broad determinants of health
- the influences of urban planning and environmental design on health identified by the WHO
- the 'Community Impact Assessment' framework of the United States Department of Transport.

The diagram provides a visual tool to conceptualise the range of possible influences on health due to the development of a Home Zone**.**

Figure 3: Home Zones - Influences on Health

Health & Lifestyles
- Quality of life/health issues
- Physical activity/exercise
- Open space use/recreation

Work
- Local job opportunities
- Local business viability
- Unemployment

Social cohesion & networks
- Community representation
- Community action
- Isolation/support
- Neighbourhood effects
- Population mobility

Use of public services
- Health & social care services
- Educational services
- Voluntary sector
- Local facilities
- Public transport

Social inequalities
- Vulnerable groups
- Community conflict/fragmentation
- Social exclusion

Environment
- Play equipment
- Pollution
- Noise
- Rubbish
- Visual environment
- Animals/Vermin
- Lighting

Property
- Tenure
- Values/rent
- Quality
- Land use

Planters & Trees
- Planting
- Sustainability

Access for vehicles
- Emergency vehicles
- Public transport
- Private/ business vehicles
- Parking

Safety & Danger
- Pedestrian & road safety
- Traffic volume
- Community safety
- Site equipment

Sources: WHO Healthy Urban Planning 2000; Merseyside guidelines for HIA 1998; USA Community impact assessment 1996.

The stakeholder workshops

Drawing on the 'Merseyside Guidelines for Health Impact Assessment' (1998) a qualitative prospective HIA study was designed using a workshop format**.** The workshops were planned to take two to three hours and were a structured process based on the use of a Taskbook. Elements of the Taskbook are incorporated into a guide for other Home Zones as a companion to this report (Maconachie & Elliston 2002).

Two stakeholder groups were identified to participate in the workshops. One group was Health and Social Care professionals who either work in the Morice Town area or have a direct interest in the health impacts of the Home Zone**.** The other was the Community Advisory Group (CAG) who are the nominated 'street representatives' for the Home Zone**.** The Health and Social Care professionals were identified from:

- Directory of doctors, dentists, pharmacists and opticians produced by South & West Devon Health Authority (S&WDHA 2001)
- S&WDHA Public Health Team
- Plymouth Primary Care Trust
- West Country Ambulance Services NHS Trust
- Police Road Safety
- Plymouth City Council Environmental Health
- Plymouth Health Action Zone (HAZ)
- Plymouth Social Services

A total of 30 Health and Social Care professionals were invited to attend a workshop in August 2001 and all 15 members of the CAG were invited to attend a workshop in October 2001. The two workshop sessions were run using the same Taskbook content. A total of 19 participants attended the workshops: 11 attended the Health and Social Care workshop and eight attended the CAG workshop (a list of participants is provided in **Appendix 3**). Three observers from Plymouth HAZ 'HIA sub-group' attended the workshops.

The HIA Taskbook included the following sections:

- Morice Town Mini Profile (**Appendix 1**)
- Defining 'health' and it's determinants
- Urban planning and influences on health
- Home Zone Influences on health diagram (**Figure 3**)
- The HIA Scoping Tasks
    - Brainstorming session
    - Completing the 'Identification of potential health impacts' charts (adapted from the Mersey Guidelines for Health Impact Assessment 1998 and the Health Inequalities Impact Assessment by Bro Taf Health Authority 2000)

Additional workshop materials included:

- Home Zone newsletters
- Details of Home Zones in Europe
- Literature review of transport and health from the Scottish Needs Assessment Programme (SNAP 2000)
- Pro-Home Zone literature from the DTLR
- Anti-Home Zone literature from the Association of British Drivers
- Press release from the Guardian Newspaper re Home Zones
- Photographic images of the Manchester Home Zone process

Following a brief presentation on HIA and what Home Zones are, the workshop participants worked in small groups and using the 'Taskbook' and accompanying materials, identified positive and negative health impacts**.** The participants worked in small groups and were asked to consider health impacts that may arise during and after the build of the Home Zone**.** Groups were asked to focus on each timeframe in turn**.** Participants first brainstormed the impacts they felt would arise, and from this initial brainstorm they were asked to select at least four impacts that they felt would be significant**.** The groups then discussed the impacts and completed the 'Identification of potential impacts' charts**.** On the charts the impacts were categorised as positive or negative and were assessed as 'definite', 'probable' or 'speculative'**.** Also, where possible, participants stated the measurability of the impacts (i.e. were they 'qualitative', 'estimable' or 'calculable') and stated who would be most affected.

The Taskbooks were collected at the end of the workshops and the participants, none of whom had participated in an HIA before, evaluated the workshop sessions**.** Overall, the participants felt that the process had been worthwhile.

Limitations

Attendance was lower than anticipated at the Health and Social Care workshop. This may have been due to the timing of the workshop which was held in the summer (the Home Zone build was originally scheduled to begin in September 2001). Greater attendance by Health and Social Care professionals may have generated wider debate about the types of impacts that might arise. There was good attendance at the Community Advisory Group workshop.

The scope of the study is limited to the views of stakeholders attending the two workshops. When the study was being planned, it was thought that the Plymouth HAZ 'HIA sub-group' would be employing an HIA worker who would undertake a broader community-based HIA study in Morice Town. However, it was later agreed that Debbie Burton, one of the HIA workers employed by HAZ, would undertake an HIA study with children at the Morice Town primary school.

As this is the first HIA study to be conducted on a proposed Home Zone it is has not been possible to compare the findings with studies done elsewhere. It is hoped that many of the issues raised will be of value for future studies of other Home Zones.

Findings

The findings of the HIA workshops reported here are drawn from the completed 'Identification of potential health impacts' chart in the Taskbook that was used by each group to identify, discuss and list prospective impacts of the Home Zone. The three groups at the Health and Social Care Workshop completed charts, as did the two groups at the Community Advisory Group workshop. When more than one member of a group had completed a chart these were combined to form a single chart for the whole group (this occurred in two groups at the Health and Social Care workshop). The charts were copied into Microsoft Word tables and checked separately by the researchers**.** A combined chart, listing all the impacts as described by the five groups, is provided in **Appendix 5.**

The combined chart was used to draw up a complete list of individual impacts which also noted the likelihood of the impact occurring (whether it was assessed as 'definite', 'probable' or 'speculative'). Where participants had grouped a number of impacts together they were separated into individual impacts**.** The list of impacts was transferred into a Microsoft Excel spreadsheet and individual impacts were grouped thematically using an approach based on grounded theory (Strauss & Corbin 1997). If the same impact was mentioned more than once, it was included only once (with the number of times it was mentioned noted afterwards in brackets). Not all groups who mentioned the same impact assessed the likelihood of the impact occurring in the same way: it could be 'definite' for one group, but 'probable' or 'speculative' for another. A decision was taken to note the highest rating given to an impact that was mentioned more than once. The reason for noting the highest rating was to ensure that the concerns of particular groups were not understated.

Different groups used different words, phases or sentences to identify impacts (**Appendix 5**). When the final list of impacts was drawn up, the impacts were listed in summary form. **Appendix 6** presents the original expression of the impacts (the phrases used by participants) and the final list of summary impacts, including the likelihood of the impact occurring and the number of times it was mentioned. For example, 'Loss of jobs (S)[1]' indicates that loss of jobs was considered a 'speculative' impact and was mentioned once.

The final list of impacts (**Appendix 7**) distinguishes between short-term impacts likely to occur during the build and long-term impacts likely to occur once the Home Zone has been established, and separately lists negative and positive impacts for each influence on health. The process of coding the impacts against the 'Influences on health diagram' (**Figure 3**) was an iterative process, and resulted in the diagram being amended in the light of the impacts identified by the workshop participants.

Presenting the findings

A total of 86 prospective health impacts were identified and there were 53 negative and 33 positive impacts. Most of the impacts identified relate to the following four influences on health: Environment, Health and lifestyles, Social cohesion and networks, and Safety and danger. The spread of the impacts is presented in **Figure 4**.

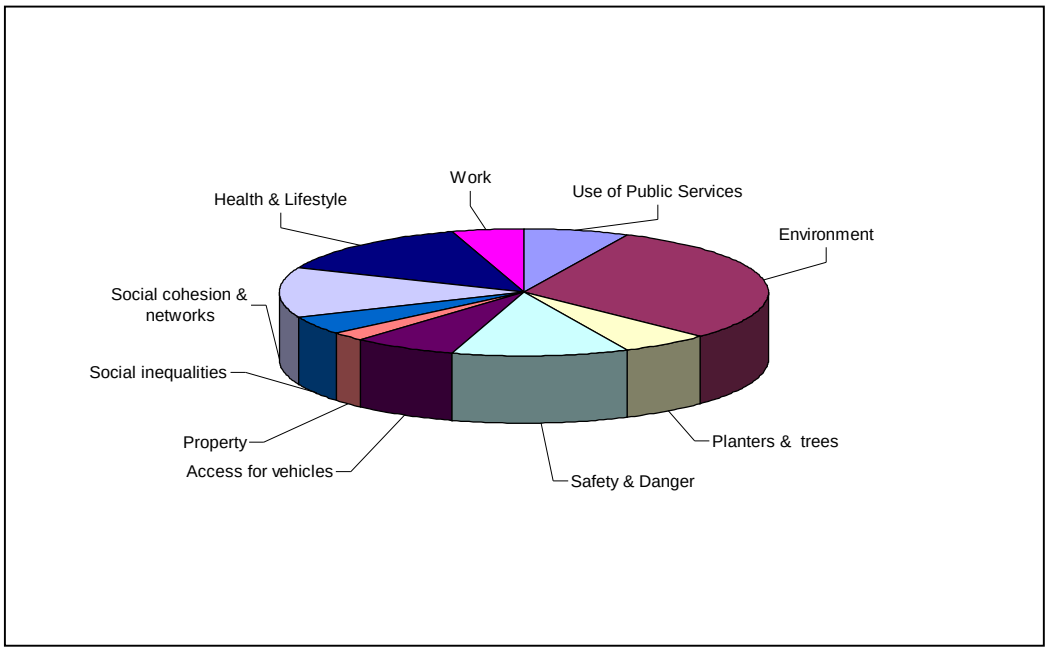

Figure 4:The spread of impacts using the 'Influences on health' diagram

The health impacts are discussed under the relevant category headings and sub-headings presented in the 'Influences on health' diagram (**Figure 3**). The headings (going clockwise around the diagram) include: Use of Public Services (six impacts), Environment (26 impacts), Planters and trees (five impacts), Safety and danger (10 impacts), Access for vehicles (six impacts), Property (two impacts), Social inequalities (four impacts), Social cohesion and networks (11 impacts), Health and lifestyles (12 impacts), and Work (four impacts).

The format followed in presenting the findings is to open with a summary table and brief outline of the prospective impacts. Individual impacts are then discussed under relevant sub-headings. Short-term impacts are discussed under the heading 'During the build' and long-term impacts are discussed under the heading 'After the build'. Details about the number of groups and which workshops raised the issues are provided. The participants' judgements about the causes of the impacts and who is likely to be affected are included.

USE OF PUBLIC SERVICES

Negative impacts
Access to medical services (D)[1]
Response for emergency services (P)[1]
Response to fires (P)[1]
Response to life-threatening illnesses (P)[1]
Reduced access to public transport (D)[1]

Positive impacts
Access to public transport (S)[1]

The six health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Five are negative impacts and refer to **Health & Social Care services** and to **Public transport.** The one positive impact refers to **Public transport**.

HEALTH & SOCIAL CARE SERVICES

During the build
Health and Social Care Service issues were raised by two groups at the Health and Social Care workshop.

Definite negative impacts included lack of access to medical services.

Probable negative impacts included reduced response for emergency services, and slow response to fires and to life-threatening illnesses**.**

> **Causes:** Various construction and repair activities and traffic calming, reducing access by emergency vehicles**.**
>
> **Affected parties:** All residents.

PUBLIC TRANSPORT

During the build
Public transport issues were raised by one group at the Health and Social Care workshop.

Definite negative impacts included reduced access to public transport**.**

After the build
Public transport issues were raised by one group at the Health and Social Care workshop.

Speculative positive impacts included better access to public transport (if there are revised bus routes, etc)**.**

> **Causes:** Various construction and repair activities**.** It was thought that access to public transport could be better after the build if improvements in access were designed into the project.
>
> **Affected parties:** All residents, particularly the elderly, disabled, those on their own, and vulnerable groups.

ENVIRONMENT

Negative impacts
Fumes (D)[3]
Air pollution (D)[2]
Dust (D)[1]
Noise from play (D)[2]
Noise directly outside homes (D)[3]
Mess from building materials (D)[1]
Dumping in the street (S)[3]
Household items loaded into skips (D)[1]
Rubbish and fly tipping (P)[2]
Vermin (P)[1]
Increased dog and cat fouling (P)[2]
More dogs roaming freely (S)[1]
Reduced lighting during replacement (D)[1]

Positive impacts
Play equipment (D)[2]
Decreased fumes (P)[1]
Better air quality (P)[1]
Decreased noise outside (D)[2]
Access to recycling (P)[1]
Reduced dumping (S)[1]
Designing bins into the environment (S)[1]
Positive environment (D)[2]
Area development (D)[1]
Colour into the area (D)[2]
Fewer dogs from outside area (S)[2]
Reduced dog fouling (S)[2]
Fewer urban foxes and stray dogs (P)[2]

The 26 health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Thirteen of the impacts are negative and refer to **Pollution, Noise, Rubbish, Animals and vermin, and Lighting.** Thirteen are positive impacts and refer to **Play equipment, Pollution, Noise, Rubbish, and Animals and vermin**.

PLAY EQUIPMENT

After the build
Play equipment issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite positive impacts included play equipment outside and better equipped play areas.

> **Causes**: Building the Home Zone and open streets with increased playing in the streets.
>
> **Affected parties**: All residents, particularly children.

POLLUTION

During the build
Pollution issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite negative impacts included air pollution, fumes from cars, and dust.

After the build
Pollution issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite negative impacts included fumes from cars.

Probable positive impacts included better air quality and decreased fumes from cars**.**

> **Causes**: Building works (digging, road and pavement work)**.** After the build, car fumes may increase due to slow moving vehicles taking longer to pass through Morice Town**.** However, post-development traffic levels may be lower.
>
> **Affected parties**: All residents during the build**.** After the build, people living in the vicinity of speed obstacles will be particularly affected.

NOISE

During the build
Noise issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite negative impacts included increased levels of noise outside due to building works.

After the build
Noise issues were raised by the three groups at the Health and Social Care workshop.

Definite negative impacts included increased levels of local noise (more people in the street and children playing outside), and more noise directly outside people's homes.

Definite positive impacts included less noise outside due to the completion of the build.

> **Causes**: Building works (digging, road and pavement work) will create more noise during the build**.** After the build, the increased levels of noise will be due to open streets (play areas, games), children playing outside houses and increased numbers of people in the streets**.** Post-development there may be less noise from traffic.
>
> **Affected parties**: All residents during the build**.** After the build, the elderly, chronically ill, shift workers and babies as well as those people in houses with play equipment outside.

RUBBISH

During the build
Rubbish issues were raised by three of the five groups**.** They were mentioned at both workshops.

Definite negative impacts included mess from building materials and residents off-loading large household items into skips.

Probable negative impacts included more rubbish and fly-tipping.

Probable positive impacts included more access to recycling.

Speculative positive impacts included reduced dumping (the area is less accessible) and the possibility of designing bins into the environment.

After the build
Rubbish issues were raised by one group at the Health and Social Care workshop.

Speculative negative impacts included more dumping in the streets, specifically rubbish bags left on the streets not in bins (and ripped or opened by dogs) and dangerous materials (rubbish) left in public spaces.

> **Causes**: Negative impacts are due to the build process, the presence of skips, and enforced wheelie bins (Plymouth City Council is said to be unwilling to listen to people's concerns about the wheelie bins)**.** Positive impacts may occur if an innovative approach is included in the design of the Home Zone.
>
> **Affected parties**: All residents, particularly older people and the disabled.

VISUAL ENVIRONMENT

During the build
Visual environment issues were raised by one group at the Community Advisory Group workshop.

Definite positive impacts included development of the area**.**

After the build
Visual environment issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite positive impacts included an improved positive environment and more colour**.**

> **Causes**: The Home Zone build process will develop the area**.** After the build, the trees and shrub areas will add colour.
>
> **Affected parties**: All residents.

ANIMALS & VERMIN

During the build
Animal and vermin issues were raised by two of the five groups**.** They were mentioned at both workshops.

Probable negative impacts included vermin.

Probable positive impacts included reduced numbers of urban foxes and stray dogs (less scraps to eat).

After the build
Animal and vermin issues were raised by one group at the Health and Social Care workshop.

Probable negative impacts included dog mess on the streets, and dog and cat fouling in the tree and shrub areas.

Speculative negative impacts included dogs roaming freely.

Speculative positive impacts included a reduction in dog fouling due to fewer people from outside bringing their dogs into the area, due to use of pooper scoopers and dirt areas, and to an increased sense of ownership of the area**.**

> **Causes**: The build process may encourage vermin**.** Impacts after the build are likely due to the redefinition of space and common use of space, and the tree and shrub areas**.**
>
> **Affected parties**: All residents**.** Children, the disabled and partially sighted are particularly affected by dog fouling.

LIGHTING

During the build
Lighting issues were raised by one group at the Community Advisory Group workshop.

Definite negative impacts included reduced lighting during the replacement process.

> **Causes**: The Home Zone build process.
>
> **Affected parties**: All residents.

PLANTERS & TREES

Negative impacts
Dangerous plants (S)[1]
Maintenance (D)[1]
Plants stolen (S)[1]
Vandalism (S)[1]

Positive impacts
Fruit & vegetables (S)[1]

The five health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Four of the impacts are negative and refer to **Planting** and **Maintenance.** The one positive impact refers to **Planting**.

PLANTING

After the build
Planting issues were raised by one group at the Health and Social Care workshop.

Speculative negative impacts included planting plants that could be dangerous to people and harmful to children (for example, leading to asthma and hay-fever).

Speculative positive impacts included planting fruit and vegetables.

Causes: Planting the wrong plants, and planting fruit trees and vegetables.

Affected parties: Children and the young.

MAINTENANCE

After the build
Maintenance issues were raised by one group at the Health and Social Care workshop.

Definite negative impacts included a question about whether the level of maintenance required would be low.

Speculative negative impacts included the theft of plants and the vandalism of the trees and shrub areas.

Causes: Tree and shrub areas within Home Zone.

Affected parties: All residents, particularly the young and elderly.

SAFETY & DANGER

Negative impacts	Positive impacts
More traffic and traffic calming problems (S)[2]	Slower traffic (D)[4]
Possible increase in crime and disorder (P)[5]	Safer pedestrian areas for disabled (S)[1]
Increased fear of crime (P)[1]	Reduced traffic volumes (D)[3]
Children and disabled people's safety (P)[2]	Outsiders deterred (D)[1]
Dangers from site equipment (P)[3]	Improved sense of security for residents (P)[4]

The 10 health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Five impacts are negative and refer to **Pedestrian and road safety issues**, **Traffic volumes** and **Community safety** and **Site equipment.** The five positive impacts also refer to **Pedestrian and road safety**, **Traffic volumes** and **Community safety**.

PEDESTRIAN & ROAD SAFETY

During the build
Pedestrian and road safety issues were raised by both groups at the Community Advisory Group workshop.

Definite positive impacts included slower traffic in the area as the Home Zone is built.

After the build
Pedestrian and road safety issues were raised by two of the five groups**.** They were mentioned at both workshops.

Definite positive impacts included slower traffic and safer roads.

Speculative positive impacts included safer pedestrian areas for the disabled**.**

> **Causes:** The success of the Home Zone design for the area and no kerbstones for the disabled to negotiate.
>
> **Affected parties:** All pedestrians, particularly disabled people and children.

TRAFFIC VOLUMES

During the build
Traffic volume issues were raised by one group at the Health and Social Care workshop.

Definite positive impacts included reduced traffic volumes in the area.

> **Causes:** Construction work and movement of materials and manpower in the area during the build process.
>
> **Affected parties:** All the community.

After the build
Traffic volume issues were raised by two groups at the Health and Social Care workshop.

Speculative negative impacts included more traffic as a result of more people moving into the area (now a more desirable area to live in) and traffic calming problems.

Definite positive impacts include reduced traffic volumes and decreased traffic in the area.

> **Causes:** Traffic calming and speed obstacles will displace the problem of traffic to areas outside the Home Zone. However, improvements may attract more affluent people to move into the area, bringing with them more cars.
>
> **Affected parties:** The area within the Home Zone and the streets outside the Home Zone**.** Children and pedestrians will be particularly affected.

COMMUNITY SAFETY

During the build

Community safety issues were raised by two of the five groups**.** They were mentioned at both workshops.

Probable negative impacts included possible increases in crime and disorder, burglary, mugging and an increased fear of crime**.** Building bricks could also be used as missiles**.**

Definite positive impacts included outsiders being deterred from coming into the area.

> **Causes:** Poor lighting in the area before it is replaced**.** The disruption to the area caused while building work proceeds and the risk of crime being 'imported' into the area**.** The antisocial behaviour of late night revellers.
>
> **Affected parties:** All residents, the elderly living alone, vulnerable people and children. Disabled people, the infirm and poorly sighted people, and businesses in the area.

After the build

Community safety issues were raised by two of the groups at the Health and Social Care workshop.

Probable positive impacts included an improved sense of security with a reduction in crime and the establishment of neighbourhood watch schemes.

> **Causes:** Post-development stability in the community as a result of the design of the Home Zone area, lowered community barriers and better communication between residents.
>
> **Affected parties:** The whole community.

SITE EQUIPMENT

During the build

Site equipment issues were raised by two of the five groups. They were mentioned at both workshops.

Probable negative impacts included the safety of children playing on site and the potential dangers to disabled people during the build. Concern was expressed about dangers from site equipment, including tools left lying around during the development and construction equipment causing damage.

> **Causes:** Children playing on the site equipment and the Home Zone build process.
>
> **Affected parties:** All residents, particularly children and the disabled.

ACCESS FOR VEHICLES

Negative impacts	Positive impacts
Reduced access by emergency vehicles (D)[1]	Access by emergency vehicles (S)[1]
Disruption to public transport (D)[1]	
Increased traffic (D)[1]	
Inconvenience for drivers (D)[1]	
Parking (D)[1]	

The six health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Five of the impacts are negative and refer to **Emergency services, Public transport, Private/ business vehicles** and **Parking.** The one positive impact refers to **Emergency services**.

EMERGENCY VEHICLES

During the build
Emergency vehicle access issues were raised by one group at the Health and Social Care workshop.

Definite negative impacts included reduced access by emergency vehicles**.**

After the build
Emergency vehicle access issues were raised by one group at the Health and Social Care workshop.

Speculative positive impacts included easier access by emergency vehicles.

> **Causes**: Various construction and repair activities**.** It was thought that access for emergency vehicles could be improved after the build if improvements in access were designed into the project.
>
> **Affected parties**: All residents.

PUBLIC TRANSPORT

During the build
Public transport issues were raised by one group at the Community Advisory Group workshop.

Definite negative impacts included disruption to public transport.

> **Causes**: The Home Zone build process**.**
>
> **Affected parties**: All residents.

PRIVATE/ BUSINESS VEHICLES

During the build
Private and business vehicle issues were raised by one group at the Community Advisory Group workshop.

Definite negative impacts included increased traffic due to the contractor's vehicles and inconvenience to local drivers.

Causes: Digging up road surfaces and pavements, and the Home Zone build process.

Affected parties: All residents were thought likely to be affected by the increased traffic which would also inconvenience drivers resident in the area, particularly disabled drivers.

PARKING

During the build
Parking issues were raised by one group at the Community Advisory Group workshop.

Definite negative impacts included parking problems.

Causes: Digging up road surfaces and pavements**.**

Affected parties: All residents**.**

PROPERTY

Negative impacts
Affordability of housing (S)[1]
Rent increases (S)[1]

Positive impacts (0)

The two health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** Both are negative impacts and refer to **Property values/ rents**.

PROPERTY VALUES/ RENTS

After the build
Property values and rent issues were raised by one group at the Health and Social Care workshop.

Speculative negative impacts included a change in the affordability of housing and rent increases due to it becoming a more affluent community.

Causes: An increase in property values is anticipated if the area becomes more desirable due to the development of the Home Zone.

Affected parties: All residents.

SOCIAL INEQUALITIES

Negative impacts	Positive impacts (0)
Disabled people inconvenienced (D)[2]	
Residents complaints (D)[1]	
Community disagreements (S)[2]	
Disposable income reduced (S)[1]	

The four health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops. All are negative impacts and refer to **Community conflicts/fragmentation**, **Vulnerable groups** and **Social exclusion**.

VULNERABLE GROUPS

During the build
Vulnerable groups' issues were raised by three of the five groups. They were mentioned at both workshops.

Definite negative impacts included disabled people being inconvenienced and vulnerable people being less able to move around the area.

> **Causes:** Various construction and repair activities will impede access for emergency vehicles. Pavements and bus stops in the area will also be affected.
>
> **Affected parties:** All residents but particularly disabled people and older people as well as families with young children and vulnerable residents.

COMMUNITY CONFLICT/ FRAGMENTATION

During the build
Community conflict and fragmentation issues were raised by one group at the Community Advisory Group workshop.

Definite negative impacts included residents complaints to community representatives.

> **Causes:** The Home Zone build process.
>
> **Affected parties:** Street representatives.

After the build
Community conflict and fragmentation issues were raised by one group at the Health and Social Care workshop.

Speculative negative impacts included community disagreements over the planting scheme leading to a decreased feeling of wellbeing. Also included were residents' anger over dog fouling in the green spaces leading to contention and aggression.

> **Causes:** The landscaping plans and the new green space for children, and irresponsible dog owners.
>
> **Affected parties:** All residents but particularly children.

SOCIAL EXCLUSION

After the build
Social exclusion issues were raised by one group at the Health and Social Care workshop.

Speculative negative impacts included reduced disposable income for residents.

> **Causes:** As the Home Zone becomes a more desirable residential area it attracts higher property rental values leading to reduced disposable income for vulnerable people to spend on food, clothing and social activity.
>
> **Affected parties:** All residents.

SOCIAL COHESION

Negative impacts
Community representatives keeping the peace (P)[2]
No voice for the disabled (S)[1]

Positive impacts
Good communication (D)[3]
Goal to aim for (D)[2]
Community awareness (D)[4]
Community participation (D)[2]
Increased community spirit (D)[2]
People looking after each other (P)[5]
Community groups developed (P)[2]
Community ownership (P)[4]
People moving to the community (S)[1]

The 11 health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops. Nine impacts are positive and refer to **Community representation, Community action**, **Isolation and support**, **Neighbourhood effects** and **Population mobility**. The two negative impacts refer to **Community representation.**

COMMUNITY REPRESENTATION

During the build
Community representation issues were raised by both groups at the Community Advisory Group workshop.

Probable negative impacts included the community representatives having to keep the peace amongst the residents and included a potential backlash against the Home Zone's street representatives.

Speculative negative impacts included no direct voice for the disabled on the Home Zone design and process.

> **Causes:** The position of the community representative during the build and the antics of children during the Home Zone build.
>
> **Affected parties:** Street representatives and children.

Definite positive impacts included good communication with the Home Zone contractor and an awareness of the Home Zone building process (for the residents as well as the wider public). If the Home Zone is successful, it could lead to complements for the street representatives.

> **Causes:** Making full use of community representation during the Home Zone build process**.** The position of the street representatives during building phase, as well as once it is completed.
>
> **Affected parties:** All residents and street representatives.

COMMUNITY ACTION

During the build

Community action issues were raised by four of the five groups. They were mentioned at both workshops.

Definite positive impacts included a goal for the community to aim for and the relief of tensions and pressure in the community as they see the Home Zone being built. There would also be more community and neighbourhood awareness, community participation and an increased sense of community spirit in the area.

> **Causes:** The community seeing the Home Zone build begin after the long period of waiting, the building process itself and good management arrangements of the Home Zone.
>
> **Affected parties:** All residents.

After the build

Probable positive impacts included increased community spirit and togetherness, with fewer barriers between people in the community as the Home Zone becomes established. It was felt that community participation would continue.

> **Causes:** The effects of lowered community barriers and post-development stability in the area. As a result of the inclusive nature of the Home Zone, initiative there is scope for designing-in improvements to facilities and access.
>
> **Affected Parties:** All residents.

ISOLATION/ SUPPORT

After the build

Isolation/support issues were raised by two groups at the Health and Social Care workshop.

Probable positive impacts included people looking out for each other and for vulnerable members. People would have someone to talk to and residents may put informal care arrangements in place for children and the elderly in the area.

> **Causes:** The stability in the community post the Home Zone's development**.** The long-term effects of a successful Home Zone and the scope for designing-in improvements in facilities and access through the inclusive nature of the Home Zone initiative and the effects of lowered community barriers.
>
> **Affected parties:** All residents, older people, single parents, and the disabled**.** Also, those living alone and vulnerable groups in the community.

NEIGHBOURHOOD EFFECTS

After the build
Neighbourhood issues were raised by two of the five groups. They were mentioned at both workshops.

Probable positive impacts included more community ownership and the development of community groups in the area. Also included was a sense of pride in the area and in themselves, with the hope that more community centres would be established.

> **Causes:** When the Home Zone development is completed its design will bring community stability and better communication between residents.
>
> **Affected parties:** All residents.

POPULATION MOBILITY

After the build
Population mobility issues were raised by one group at the Health and Social Care workshop.

Speculative positive impacts included people moving into the community from outside the area.

> **Causes:** A more desirable area will attract more people to move to the Home Zone from elsewhere.
>
> **Affected parties:** All residents.

HEALTH & LIFESTYLES

Negative impacts
Anxiety and stress (D)[3]
Sleep deprivation (D)[3]
Fumes (D)[1]
Increased injury (D)[2]
Acquired infection and increased asthma in children (P)[3]
Life-style inconvenienced (P)[1]
Residents with back problems (S)[1]
Children playing outside (P)[1]
People drinking alcohol outdoors (P)[2]

Positive impacts
Better wellbeing (S)[1]
More community exercise (S)[1]
Happy safe children (D)[2]

The 12 health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops. Nine impacts are negative and refer to **Quality of life** and **Open space use**. The three positive impacts refer to **Quality of life**, **Physical activity/exercise** and **Open space use**.

QUALITY OF LIFE

During the build

Quality of life issues were raised by three of the five groups**.** They were mentioned at both workshops.

Definite negative impacts included anxiety for local businesses and community representatives, stress and poorer concentration. This may lead to arguments and disagreements and there will be disruption to sleeping patterns**.** There may be an increase in injury and vehicle fumes from the construction process and these will affect health**.**

> **Causes:** Various construction activities and noise from drills and movement of materials and manpower during the Home Zone build process.
>
> **Affected parties:** All residents, particularly those at home during the day such as shift workers, parents and babies, the infirm, the elderly, the disabled and the housebound**.** Also, people with asthma and poorly sighted people and people using cycles.

After the build

Quality of life issues were raised by two of the five groups**.** They were mentioned at both workshops.

Probable negative impacts included inconvenience to residents and children acquiring worm and skin infections (related to dog and cat fouling)**.** There was concern that children may ingest plants and may have increased asthma. Concern was also expressed that residents could develop back problems from pushing wheelie bins (related to Plymouth City Council refuse collection policy in the area).

> **Causes:** Noise from children playing in the streets and the open spaces**.** Dog and cat fouling problem causing infection in children and the types of planting (trees and shrubs) in the area**.** Wheelie bins that require to be pushed long distances.
>
> **Affected parties:** Shift workers' lifestyles, children, the elderly and disabled residents.

Speculative positive impact included improved wellbeing for everyone.

> **Causes:** The long-term benefit of living in the Home Zone.
>
> **Affected parties:** All residents.

PHYSICAL ACTIVITY / EXERCISE

After the build
Physical activity and exercise issues were raised by one group at the Health and Social Care workshop.

Speculative positive impact included more community exercise.

Causes: Making use of the tree and shrub areas.

Affected parties: Young residents.

OPEN SPACE USE/ RECREATION

After the build
Open space use/recreation issues were raised by three of the five groups**.** They were mentioned at both workshops.

Probable negative impacts included children playing outside people's homes and people drinking (alcohol) outdoors in the streets.

Definite positive impacts included happy safe children playing in the streets in better-equipped play areas, and the benefits from safe play areas.

Causes: Streets are opened up for recreation use and new play areas are developed.

Affected parties: All residents, children and parents, and the elderly.

WORK

Negative impacts
Closure (S)[1]
Delivery of supplies delayed (D)[1]
Reduced trade (S)[1]
Loss of jobs (S)[1]

Positive impacts (0)

The four health impacts listed above were identified by the participants in the Health and Social Care and the Community Advisory Group workshops**.** All are negative impacts and refer to **Local business viability** and **Unemployment**.

LOCAL BUSINESS VIABILITY

During the build
Local business viability issues were raised by the two groups at the Community Advisory Group workshop.

Definite negative impacts included delivery delays for supplies to local businesses**.**

Speculative negative impacts included the potential closure of local businesses.

After the build
Local business viability issues were raised by two of the five groups**.** They were mentioned at both workshops.

Speculative negative impacts included a reduction in trade and the potential closure of local businesses.

Causes: The Home Zone build process, business disruption and traffic calming.

Affected parties: Employers, employees, shops and small traders.

UNEMPLOYMENT

During the build
Unemployment issues were raised by one group at the Community Advisory Group workshop.

Speculative negative impacts included job losses.

After the build
Unemployment issues were raised by one group at the Community Advisory Group workshop.

Speculative negative impacts included job losses.

Causes: Business disruption.

Affected parties: Employees and employers.

Discussion

The purpose of undertaking a prospective HIA is to identify potential impacts so that, where possible, negative impacts can be minimized and positive impacts maximized. In this section our intention is to move from 'influences on health' as the organizing framework and to place the findings into a 'planning' timeframe, which is needed to respond to the impacts before they occur. The findings are therefore presented in terms of when an impact was thought likely to occur (during or after the build) and the likelihood of the impact occurring (was it assessed as 'definite', 'probable' or 'speculative'). Eight of the 86 potential impacts identified by the workshop participants were thought likely to occur both during and after the build. Listing them twice produced a new total of 94 impacts, 47 likely to occur during the build and 47 after the build.

Acknowledging the disruption of the proposed build

Participants appear to have been more confident making judgements about the impacts and disruption likely to occur during the building of the Home Zone, and less clear about the consequences of having an established Home Zone in the area. Participants more often assessed the impacts likely to occur during the build as 'definite' and the impacts likely to occur after the build as 'speculative'. Of the impacts thought likely to occur during the build, 30 were 'definite', 12 'probable' and five 'speculative'. In contrast, 23 of the impacts thought likely to occur after the build were 'speculative', 11 were 'probable' and 13 'definite'. This is not surprising, Home Zones are a new concept in England and the proposed Morice Town Home Zone is one of nine pilot schemes. The residents of Morice Town will be participating in a novel development, the consequences of which will only be known in the future.

Looking to the future

Participants were more likely to identify negative impacts with the building of the Home Zone and to foresee positive impacts arising from the establishment of the Home Zone. Participants identified more negative impacts for the period during the build than after the build (34 compared to 23 negative impacts) and more positive impacts for the period after the build than during the build (24 compared to 13 positive impacts). This optimism regarding the future had been anticipated because the proposed Home Zone has been presented as an opportunity to regenerate and improve Morice Town.

Recognising differences within the community

Participants acknowledged that the health impacts of the proposed Home Zone are likely to be different for particular sections of the community, recognizing age, gender and ability. Participants expressed concern about disability issues and the mobility of elderly residents. They also, for example, thought the noise during the build would disrupt the sleep of babies, shift workers and the elderly. They were optimistic that the establishment of the Home Zone would be good for children in the area who would have access to better equipped and safer play areas. There was awareness that

those who live outside the Home Zone area may feel relatively worse off compared to their neighbours. Area-based development projects run the risk of increasing inequalities in health for those who live outside the area being regenerated (London Health Commission 2001; Ambrose 2001).

Negative and positive impacts from the HIA are discussed separately below for the period 'During the build' and 'After the build' and the numbers of 'definite', 'probable' and 'speculative' impacts are provided. The influences on health are then listed according to whether most of the impacts relating to them were assessed as 'definite', 'probable' or 'speculative' (with the number of impacts and the total impacts identified included afterwards in brackets).

DURING THE BUILD

Negative impacts

A total of 34 negative impacts were identified and all are listed individually in **Appendix 7**. Of these, 21 were assessed as 'definite', 10 as 'probable' and three as 'speculative' impacts.

- **Definite negative impacts** The influences on health where most negative impacts identified were assessed as 'definite' included: Access for vehicles (5/5), Social inequalities (2/2), Health and lifestyles (4/4) and Environment (7/9). To explain the numbers given in brackets, 'Access for vehicles (5/5)' indicates that all five of the total of five negative impacts listed under 'Access for vehicles' were considered 'definite'. In other words, everyone who mentioned 'Access for vehicles' assessed the likelihood of the impact occurring as 'definite'.

- **Probable negative impacts** The influences on health where most negative impacts were assessed as 'probable' included: Safety and danger (4/4), Use of public services (3/5) and Social cohesion (1/2).

- **Speculative negative impacts** The influences on health where most negative impacts were assessed as 'speculative' included: Work (2/3) and Social cohesion (1/2).

Positive impacts

A total of 13 positive impacts were identified and all are listed individually in **Appendix 7**. Of these, nine were assessed as 'definite', two as 'probable' and two as 'speculative' impacts.

- **Definite positive impacts** The influences on health where most positive impacts were assessed as 'definite' included: Safety and danger (3/3) and Social cohesion (5/5).

- **Probable and speculative positive impacts** Environmental influences on health had positive impacts that were as often 'probable' (2/5) as 'speculative' (2/5).

AFTER THE BUILD

Negative impacts

A total of 23 negative impacts were identified and are listed individually in **Appendix 7**. Of these, four were assessed as 'definite', five as 'probable' and 14 as 'speculative' impacts.

- **Definite negative impacts** The influence on health where most negative impacts were assessed as 'definite' was Environment (3/6).
- **Probable negative impacts** The influence on health where most negative impacts were assessed as 'probable' was Health and lifestyles (4/5).
- **Speculative negative impacts** The influences on health where most negative impacts were assessed as 'speculative' included: Safety and danger (1/1), Property (2/2), Social inequalities (2/2), Work (3/3) and Planters and Trees (3/4).

Positive impacts

A total of 24 positive impacts were identified and all are listed individually in **Appendix 7**. Of these, nine were assessed as 'definite', six as 'probable' and nine as 'speculative' impacts.

- **Definite positive impacts** The influences on health where most positive impacts were assessed as 'definite' included: Environment (4/8) and Safety and danger (2/4).
- **Probable positive impacts** The influence on health where most positive impacts were assessed as 'probable' was Social cohesion (3/6).
- **Speculative positive impacts** The influences on health where most positive impacts were assessed as 'speculative' included: Use of public services (1/1), Planters and trees (1/1), Access for vehicles (1/1) and Health and lifestyles (2/3).

HIA Response Grid

The complete list of summary impacts in **Appendix 7** provides an **HIA Response Grid** for members of the Morice Town HIA Steering Group convened by Plymouth City Council and the Community Advisory Group. The impacts are presented separately for the period 'During the build' and 'After the build' and listed for each influence of health. This format combines the planning focus of this section with the influences on health theme of the previous section. We hope the grid will be useful to those involved in planning the Home Zone and wishing to respond to the findings.

Concluding remarks

The advantage of a prospective HIA is that it provides an opportunity to identify potential impacts prior to a development, making it possible to influence the plans before they are implemented. As far as we are aware, this is the first prospective HIA of a proposed Home Zone development and it was therefore a learning experience for the researchers and the workshop participants.

We hope the report proves useful to the Community Advisory Group and the Morice Town Home Zone Steering Group as they take forward the plan to build a Home Zone in Morice Town in 2002. It is hoped that the report will also contribute to a discussion in the UK about the link between health and Home Zones.

Acknowledgements

We would like to thank Adrian Trim for inviting us to do the HIA and for his interest and support throughout the study. We would also like to thank the Community Advisory Group and everyone who participated in the workshops.

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APPENDIX 1 – Morice Town Mini Profile

(Note: It is not possible from the data to distinguish between Morice Town and the Home Zone area within Morice Town (MTHZ) - the MTHZ area does not correspond to existing statistical areas such as an ED or Ward.)

Geographical Area: Morice Town is part of the Keyham Ward in Plymouth. The Home Zone in Morice Town consists of 12 streets on a grid pattern. There are approximately 450 households. Covering an area of 250 by 500 metres, it is the largest Home Zone in the nine national pilots (Layfield & Wheeler 2000).

Population: The population of Morice Town as a whole at the 1991 Census was just over 4000, and just over 700 people (17% of Morice Town) were under 16.

Families & Children: Of the 216 families (with children under 5) who live in Morice Town and are included on the Health Visitor dataset (S&WDHA 2001) there were:

- 126 families (58%) with adults who smoked
- 56 lone parent families (26% of the total). Of these: 18 were living in poor housing conditions, 16 have a depressive illness, and 14 have child behavioural problems
- 42 families (19%) live in poor housing
- 37 families (17%) with child behavioural problems
- 34 families (16%) with depressive illness in the household
- 27 families (13%) who had episodes of domestic violence
- 14 families (6%) misuse drugs and 11 families (5%) misuse alcohol
- 13 families (6%) with child development problems

Housing: Morice Town has had little investment in the past 40 years. Property ages range from nineteenth century terraces, post war-build following the blitz and some new build. It includes private, social housing and council tenures. Using the ACORN profiles that classify residential neighbourhoods by post codes, the housing within MTHZ is characterised in the following way:

- Converted flats and bedsits are predominately occupied by single young people
- Home owners and small council flats are predominately occupied by single pensioners and people aged over 65
- Council flats and social housing are predominately occupied by young families and lone parents
- Low-rise council flats are predominately occupied by less well off families.

Transport: There is one bus route and a minor railway platform (on the edge of MTHZ). According to Plymouth City Council, Morice Town has relatively low car ownership.

Education: There is one primary school in the area.

Employment: There are several small businesses, including a frozen food preparation unit and shops, as well as five pubs in the area. Using the ACORN profiles, the Home Zone Socio-Economic Profile is likely to be close to that of the country as a whole (although there is a slight bias towards the lower status occupations, and unemployment is 70% higher than average).

Primary Care: Morice Town is within the Waterfront Local Care Group of the Plymouth Primary Care Trust. Residents are registered with a number of practices across the city. The practices of Dr Franklin, Dr Knights and Dr Watts cover the majority of registered residents.

Crime: Serious crime has been reported in the area, there is anecdotal evidence that drugs may be an issue.

Voluntary & support groups: A 'Mums and Toddlers' group is run from the Salvation Army Hall based in the area.

APPENDIX 2 – HIA Terms of Reference

The Health Impact Assessment Steering Group - Terms of Reference

Objectives:
1. Draw up project proposals for HIA work in the area
2. Seek funding for the projects
3. Disseminate findings of the HIA to relevant agencies

Process:
4. Keep the Home Zone Steering Group informed about developments
5. Keep the national Home Zone committee informed about developments
6. Work with appropriate individuals and agencies in Plymouth

Core Members:
Plymouth City Council – Home Zone Project Lead
Health & Community Research Programme Team

APPENDIX 3 – Workshop Participants

Title	Initial	Surname	Organisation Represented
Ms	C	Ackroyd	Waterloo Surgery
Mrs	J	Barnicoat	Community Advisory Group
Ms	E	Barr	Plymouth HAZ
Ms	D	Burton	Plymouth HAZ
Ms	J	Cummings	Community Advisory Group
Mrs	J	Devismes	Community Advisory Group - Chair
Dr	C	Dimond	South & West Devon Health Authority
Mr	P	Doidge	Plymouth City Council
Mr	M	Goodman	Community Advisory Group
Ms	N	Hawkings	Community Advisory Group
Dr	K	Kumaran	South & West Devon Health Authority
Mrs	D	Lapthorne	Plymouth Health Action Zone
Mr	S	Locke	West Country Ambulance NHS Trust
Mrs	E	Mawhinney	The Cumberland Centre
Ms	F	O'Driscoll	Community Advisory Group
Mr	A	Pratt	Plymouth HAZ
Ms	T	Stone	Community Advisory Group
Mr	A	Trim	Plymouth City Council
Mrs	S	Williams	Plymouth Homesafe

APPENDIX 4 - Links to Health and Urban Planning

The sources consulted for the evidence of each Influence of Health are cited **(a) – (d)** with full details provided under References. Page numbers are given where available. Please note this is not an exhaustive literature review.

(a) Barton & Tsourou **(b)** Health Canada **(c)** WHO (1998) **(d)** National Playing Fields Association

Home Zone Influences on Health	
Use of public services	**Links to urban planning for health**
Health & social care services Educational services Voluntary sector Local facilities Public transport	The health objectives of planning include: avoiding peaks and troughs of demand for local facilities (especially in relation to children, adolescents and older people), which lead to insufficient or excess supply. Access to services is a key factor in promoting health and helps combat the inequity experienced by people without cars. **(a) [p132-133]** Health status improves with level of education. Education is closely tied to socio-economic status, and effective education for children and lifelong learning for adults are key contributors to health and prosperity for individuals, and for the country. Education contributes to health and prosperity by equipping people with knowledge and skills for problem solving, and helps provide a sense of control and mastery over life circumstances. It increases opportunities for job and income security, and job satisfaction. **(b)**
Environment	**Links to urban planning for health**
Play equipment Pollution Noise Rubbish Animals/Vermin Lighting Visual environment	The physical activity involved in most play provides exercise, promotes physical co-ordination and develops skills for the growing child. In this way, it supports children's healthy physical development. **(d)** Poor air quality results in part from ineffective land-use and transport strategies leading to high levels of road traffic. The absence of good neighbour policies can mean that residents and workers are subject to excessive noise, unpleasant fumes and visually arid environments that can undermine wellbeing and contribute to illness **(a) [p20]** The physical environment is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects, including cancer, birth defects, respiratory illness and gastrointestinal ailments. In the built environment, factors related to housing, indoor air quality, and the design of communities and transportation systems can significantly influence our physical and psychological wellbeing. **(b)**
Planters & Trees	**Links to urban planning for health**
Planting Sustainability	The role of urban planning is to regulate the use and quality of the urban environment in the interests of the public; the need to manage and develop cities in a sustainable fashion should be a key principle of any urban planning initiative. **(a) [p33]** Vegetation, especially trees, breaks up and counteracts the concentration of pollution in cities, freshening the air. **(a) [p: 139]** The layout of external spaces around homes should provide an appropriate level of surveillance and sense of user control, clearly distinguishing between public and private access **(a) [p:154]**

Safety & Danger	Links to urban planning for health
Pedestrian & road safety Traffic volume Community safety Site equipment	The health objectives of planning for movement locally are: encouraging healthier lifestyles – more walking and cycling, reducing accidents on the street, reducing the fear of assault and street crime **(a) [p135]** Urban planning can do much to worsen or alienate the problems of safety on the street. A sense of safety on the street includes freedom from assault and from the fear of assault. Where the local pedestrian environment is intimidating and inconvenient, people use cars, and social interaction is reduced. **(a) [p18]** More people on the streets facilities and fosters local community and creates a safer environment for children. **(a) [p133]** The key to a healthy transport strategy is taming vehicular traffic. The capacity of the road system should not normally be increased, because it simply encourages extra trips by cars and compounds the problems of air pollution and (sometimes) accidents, undermining the inclination to walk, cycle or use the bus. On the contrary, road capacity may be progressively reduced (allowing time for behavioural adjustment) as a direct consequence of positive planning for other modes of transport. **(a) [p138]**
Access for vehicles	**Links to urban planning for health**
Emergency vehicles Public transport Private/ business vehicles Parking	Employment or social facilities should have an appropriate degree of accessibility by public transport to afford easy access from the surrounding area to: local facilities on a main local bus route; district facilities at a nodal point for local public transport services; city-wide facilities at the hub of services, including close to main-line rail services. **(a) [p148]**
Property	**Links to urban planning for health**
Tenure Values/rent Quality Land use	Health objectives of neighbourhood diversity in housing includes allowing households the maximum opportunity to match both their income and their needs, thus reducing housing stress and consequent ill health. **(a) [p130]** Sustainable patterns of land use should be promoted not only based on social, health and environmental benefits but also as an effective way of stimulating economic viability and agency effectiveness. **(a) [p98]**
Social inequalities	**Links to urban planning for health**
Vulnerable groups Community conflict/ fragmentation Social exclusion	Health objectives in housing include reducing the problems of social exclusion and isolation to foster a sense of community **(a) [p132]** Processes of social exclusion and the extent of relative deprivation in a society have a major impact on health and premature death. **(c)**
Social cohesion & networks	**Links to urban planning for health**
Community representation Community action Isolation/support Neighbourhood effects Population mobility	Social cohesion – the existence of mutual trust and respect in the community and wider society – helps to protect people and their health. Societies with high levels of income inequality tend to have less social cohesion, more violent crime and higher death rates. One study of a community with high levels of social cohesion showed low rates of coronary heart disease, which increased when social cohesion in the community declined. **(c)** The Healthy Cities approach views community involvement as fundamental to a decision-making process that should be shared with the municipality and with business interests. …Inclusiveness is also critical for key decision-makers. The process will only be effective if all the main powerful interests

	in both the public and private sectors as well as voluntary groups participate fully. An intersectoral approach is required. **(a) [p129-130]** Social support and good social relations make an important contribution to health. Social support helps give people the emotional and practical resources they need. Belonging to a social network makes people feel cared for, loved, esteemed and valued. This has a powerful protective effect on health. Access to emotional and practical social support varies by social and economic status. Poverty can contribute to social exclusion and isolation. **(c)**
Health & Lifestyles	**Links to urban planning for health**
Quality of life/health issues Physical activity/exercise Open space use/recreation	Cycling, walking and the use of public transport promote health in four ways. They provide exercise, reduce fatal accidents, increase social contact and reduce air pollution. Because mechanization has reduced the exercise involved in jobs and housework, people need to find new ways of building exercise into their lives. This can be done by reducing the reliance on cars, increasing walking and cycling and expanding public transport. Regular exercise protects against heart disease and, by limiting obesity, reduces the onset of diabetes. It promotes a sense of wellbeing and protects older people from depression. Reducing road traffic would reduce the toll of road deaths and serious accidents. Although accidents involving cars injure cyclists and pedestrians, those involving cyclists injure relatively few people. Well planned urban environments, which separate cyclists and pedestrians from car traffic, increase the safety of cycling and walking. More cycling and walking, plus greater use of public transport, would stimulate social interaction on the streets, where cars have insulated people from each other. Road traffic separates communities and divides one side of the street from the other. Fewer pedestrians mean that streets cease to be social spaces, so that pedestrians often fear attack. Reduced road traffic means decreasing harmful pollution from exhaust fumes. Walking and cycling make minimal use of non-renewable fuels and do not lead to global warming. They do not create disease from air pollution, make little noise and are preferable for the ecologically compact cities of the future. **(c)** A healthy lifestyle can be thought of as a broad description of people's behaviour in three inter-related dimensions: individuals; individuals within their social environments (e.g. family, peers, community, and workplace); the relation between individuals and their social environment. Interventions to improve health through lifestyle choices can use comprehensive approaches that address health as a social or community (i.e. shared) issue. **(b)** Healthy exercise combats heart disease, strokes and other diseases that are associated with both sedentary occupations and stressful lifestyles. Healthy lifestyles can improve mental wellbeing and therefore influence physical health. **(a) [p13]** Public open spaces play an essential role in safeguarding and promoting the health of the community. Individuals must be able to relax in contact with the elements of nature in green spaces in numerous ways: recreation, social, cultural and physical activities. **(a) [p139]**

Work	Links to urban planning for health
Local job opportunities Local business viability Unemployment	Planning policies can frustrate or facilitate the provision of job opportunities. **(a)** Unemployment, underemployment, stressful or unsafe work are associated with poorer health. Employment has a significant effect on a person's physical, mental and social health. Paid work provides not only money, but also a sense of identity and purpose, social contacts and opportunities for personal growth. When a person loses these benefits, the results can be devastating to both the health of the individual and his or her family. Unemployed people have a reduced life expectancy and suffer significantly more health problems than people who have a job. **(b)** Unemployment puts health at risk, and the risk is higher in regions where unemployment is widespread. Evidence from a number of countries shows that, even after allowing for other factors, unemployed people and their families suffer a substantially increased risk of premature death. The health effects of unemployment are linked to both its psychological consequences and financial problems, especially debt. The effects start when people first feel their jobs are threatened, even before they actually become unemployed. This shows that anxiety about insecurity is also detrimental to health. Job insecurity has been shown to increase effects on mental health (particularly anxiety and depression), self-reported ill health, heart disease and risk factors for heart disease. Because unsatisfactory or insecure jobs can be as harmful as unemployment, merely having a job cannot protect physical or mental health. **(c)**

APPENDIX 5 – Combined HIA Workshop Charts

Identification of potential health impacts of Morice Town's Home Zone
In the first column of the table, list the influences and health determinants which may be affected by the Home Zone development. In the second column, list all the activities likely to cause these effects either during the development or post development. In the third and fourth columns identify the potential positive and negative health impacts and assess their measurability, i.e., is the impact qualitative (Q), estimable (E), or calculable (C). In the fifth column state who is most at risk from the impact you have identified. In the final column estimate the risk of the impact, i.e. is a 'definite' (D), 'probable' (P) or 'speculative' (S).

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
Pollution	ST	Building works (digging, road & pavement work)		Noise, air pollution, dust, fumes (E)	Everyone	D
	LT	Post-development	Decreased noise, traffic, fumes. Better air quality (Q)		Everyone, but especially those in the vicinity of speed obstacles	P
				Lower traffic speeds = Vehicles may be in area longer (noise, fumes) (Q)	Everyone, but especially those in the vicinity of speed obstacles	P
Crime/ fear of crime	ST	Increased movement of people. Presence of workpeople, disruption whilst works proceed, risk of crime being 'imported'		Increase in car crime, burglary, mugging. (Q) or (E)	Everyone, but especially elderly people living alone, vulnerable people, businesses	P
				Increased fear of crime (Q)	Everyone, but especially elderly people living alone, vulnerable people, businesses	P
	LT	Post-development stability. Design of Zone, lowering of community barriers.	Easier to set up neighbourhood watch (Q)		Everyone	P

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
Crime/ fear of crime (cont)	LT		More security, produce community ownership (Q)		Everyone	P
			Community togetherness, people looking after each other (Q)		Everyone	P
			Less community barriers, more ownership of area by community (Q)		Everyone	P
Isolation/ mental stress; access to essential services	ST	Various construction & repair activities. Construction works: Impeding access by emergency vehicles. Affecting pavement, bus stops, etc.		Vulnerable groups less able to move around area, access public transport. (Q)	Everyone, but especially elderly, disabled & vulnerable, families with young children	D
				Lack of access to medical services (Q)	Everyone	D
				Reduced access by emergency vehicles (Q)	Everyone	D
	LT	Post-development. Scope for designing-in improvements in facilities & access, 'inclusive' nature of Home Zone initiative & effects on community barriers.	Better access to transport (revised bus routes, etc) (Q)		Everyone, particularly elderly, disabled & those on their own, vulnerable groups	S

Isolation/ mental stress; access to essential services (cont)			More community centres, greater community participation (Q)		Everyone	S
			Easier access by emergency vehicles (Q)		Everyone	S
	LT		Residents 'looking out' for vulnerable community members (Q)		Everyone, particularly elderly, disabled & those on their own, vulnerable groups	S
Safety	ST	Traffic calming		Reduce response for emergency services (Q) Slow response to: - Fires Life threatening illness	All	P
	LT	Traffic calming	Slows traffic & reduces volume		Pedestrians	D
				Moves problem elsewhere	Other areas	S
				Reduces trade for local small business	Shops & small traders	S
Social interaction	LT	Better communication between residents	Someone to talk to (Q)		Elderly Single parents	P P
			Informal carers (Q)		Elderly	P
			Child care arrangements (Q)		Single parents	P
			Reduction in crime (Q)		All	P
			Development of community groups (Q)		All	P
		Play areas	Benefit of safe play areas (Q)		Parents & children	P
				Noise, & play directly outside people's homes	Elderly	P

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
More desirable area	LT	Property values & rents increase		Affordability of housing	All	S
				Reduced disposable income for: - Clothing Food Social activity	All	S
				A more affluent community develops creating more traffic	All	S
			More people want to move into the community		All	S
Environment : noise	ST	Noise during development/ construction work drills etc. Movement of materials/manpower.	If well-managed could increase community spirit/ co-operation			D/P
				Concentration	Older people, house bound	D
			Less cars & slower cars		All community	P
				People stressed by increased noise -could lead to increase in violence/ arguments (E) or (C)	Everyone, especially people at home during the day	D/P
	LT	Open streets (play areas, games) Increased playing in streets	Happy safe children playing in the streets		All community	D

Environment : noise (cont)			Less outside created noise		Elderly, chronically ill, shift workers, babies, isolated, mentally ill	D
			Play equipment outside		All	D
				Increased drinking in street	All	P
				More local noise (e.g. Kids) Some people like this, some don't	Elderly, chronically ill, shift workers, babies, isolated, mentally ill	D
				Noise outside houses	People in houses with play equipment outside	P
				Play, more people in the street therefore more noise outside houses (Q)	All Community Elderly	P
				Inconvenience to life-style	Shift workers	P
Environment : planting	ST	Tools are left lying around during development		Reduced sense of community wellbeing	All Young	P
		Can be messy initially			Young	S
		Dangerous plants		Asthma, hay-fever		
	LT	Planting community gardens	Increase well being and sense of community		All	P
		Trees, shrub areas	Improved positive environment		All	D
			Community exercise		Young	S
			Fruit & vegetables		Young	S
			Quality of life improved by looking at plants		All	
			More colour into the area		All	D

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
Environment : planting (cont)	LT	Trees, shrub areas (cont)		Wrong planting could be dangerous to people harmful to children	Children	S
				Increase in asthma (grasses = pollen)	Children	S
				Ingestion	Children	S
				Accidents	Children, elderly & disabled	S
				Plants gets stolen	All	S
				Low maintenance	Elderly	D
				Vandalised	Young	S
				Community disagreements over the type of plants = decrease community feeling of well being	All	S
				Increased dog and cat fouling	All	S
Environment dog fouling	ST	During building phase dog fouling may reduce as people cannot walk through the area			All	S
	LT	Dog fouling - more green space available (common space/children playing)	Dog fouling may reduce in the long-term/less people bringing their dogs into the area = less fouling		Children Disabled Partially sighted	P/S
			Popper scoopers/dirt areas, decrease in dogs		All	S
			Increased sense of ownership may reduce fouling		All	S

Environment dog fouling (cont)	LT		Perceived ownership of area of may deter visits from non-residents entering the area		All	S
				Source of contention and aggression	All	S
				Mess on streets (Q)	Children	D/P
				Infection in children = worms/skin infections (C)	Children	P
				More dogs roaming freely (E)	All	S
				Accidents from people slipping over (in the dog fouling) (E)	All Older people	P
Environment : rubbish	ST	Skips will increase rubbish (needs an innovative approach to be included in design)	More access to recycling		All	P
			Reduction in urban foxes and stray dogs (less scraps to eat)		All	P
			Less accessible area therefore reduced dumping		All	S
			Possibility of designing bins into the environment		All	S
				Use of build process to off-load large household items into the skips	All Young	D
				Build will = increase in rubbish	All	P/S
	LT	Enforced wheelie bins (PCC unwilling to listen to people's concerns)		Rubbish left on streets and not in bins / rubbish bags ripped or opened by dogs = poor environment	Elderly Disabled	S

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
Environment : rubbish (cont)				More dumping in the street	All community	S
				Dangerous materials left in public spaces	All Older people	S
				People with back problems because of pushing wheelie bins long distances	All Elderly Disabled	S
Stress, conflict, falls	ST	Digging up road surfaces and pavements	Relief of tension & pressure to see something actually being done		All residents	D
			Inconvenience could deter outsiders			D
				Parking problems	All residents	D
Conflict	ST			Increased car traffic from contractors vehicles	All residents	D
Injuries, stress	ST	Home Zone build process	More community awareness and improved security for residents		All residents	P
			Ensuring good communication with contractor		All residents	D
			Ensure awareness for contract and residents and public		All residents	D
			Neighbourhood awareness		All residents	D
			Goal to aim for		All residents	D
			Area development		All residents	D
			Reduction in speed		All residents	D

Injuries, stress (cont)	ST		Community awareness encouraging community participation		All residents	D
				Late night revellers using bricks etc as missiles	All residents	P
				Moving equipment damaging equipment	All residents	P
				Residents complaints	Street representatives	D
				Sleep deprivation during build	Shift workers	D
				Rubbish & fly tipping	All	P
Illness related	ST	Home Zone build process		Vermin	All	P
Aggravating illness, increased risk to all	ST	Home Zone build process		Inconvenience for the disabled and drivers	Disabled or residents and drivers	D
Chest complaints	ST	Home Zone build process		Noise/ pollution	All residents	D
Increase in breathing related illnesses	ST	Home Zone build process		Asthma sufferers etc, fumes detrimental to health	All	D
				Disruption to public transport	All	D
Accidents/ stranger danger	ST	Home Zone build process		Safety of children	All	D
Environment	ST	Home Zone build process		Delivery delays for supplies to local businesses	All	D

Influences on health	Time	Activities likely to cause the effects (during development/post development)	Predicted health impacts (type of impact, measurability) qualitative (Q), estimable (E), or calculable (C)		Who is most at risk?	Risks of impact 'definite' (D), 'probable' (P) or 'speculative' (S).
			Positive impacts	**Negative impacts**		
Light reduction, SAD, falls, Injury increase	ST	Home Zone build process		Reduced lighting during replacement	Infirm, elderly, disabled, poorly sighted, cyclists	D
Fear for safety	ST	Home Zone build process		Possible increase in crime due to poor lighting	Infirm, elderly, disabled, poorly sighted, cyclists	D
		Access. Businesses. Backlash.		Anxiety	Everyone	D
(left blank)	LT	Car fumes increase by slow moving vehicles taking longer to pass through the area		Environmental health	Everyone	D
(left blank)	ST & LT	Position of community representatives	Complements		Street representatives	S
				Or Backlash	Street representatives	S
(left blank)	LT	Success of HZ	Safer Increased community spirit		Everyone	P
(left blank)	ST & LT	Business disruption		Potential closure & loss of jobs	Employers & employees	S
(left blank)	ST	Lack of representation of the disabled		No direct voice. Danger during the build.	Disabled	S
	LT		No kerbstones to negotiate		Disabled	S

(left blank)	ST	Activities of children during the build		Danger during the build from equipment. Community representatives having to keep the peace.	Children. Community representatives.	P
	LT		Better equipped play areas		Children	D
			Safer roads		Children	D
(left blank)	ST	Noise during the build		Sleep patterns of shift workers & babies disrupted	Shift workers, babies	D
(left blank)	ST	Mess of the build		Mess from building materials	Everyone	D
(left blank)	LT	Long-term HZ	Enhancement of the area. Better wellbeing. More colour. Pride in area & in themselves.		Everyone	S

Chart adapted from the Merseyside Guidelines for Health Impact Assessment (1998)

Note The above chart is combined from the five groups at the two workshops, the Health and Social Care and the Community Advisory Group workshop. The groups interpreted and completed the chart in different ways, there is therefore variation in the amount of information provided in the chart.

APPENDIX 6 – Summary Tables of Impacts

USE OF PUBLIC SERVICES

Negative impacts	Positive impacts
Lack of access to medical services (D)	Better access to public transport (revised routes, etc) (S)
Reduced response for emergency services (P)	
Slow response to fires (P)	
Slow response to life-threatening illnesses (P)	
Reduced access to public transport (D)	

Negative impacts	Positive impacts
Access to medical services (D)[1]	Access to public transport (S)[1]
Response for emergency services (P)[1]	
Response to fires (P)[1]	
Response to life-threatening illnesses (P)[1]	
Reduced access to public transport (D)[1]	

ENVIRONMENT

Negative impacts	Positive impacts
Fumes (D)/ Environmental health (fumes) (D)/ Lower traffic speeds = Vehicles may be in area longer (noise, fumes) (P)	Better equipped play areas (D)/ play equipment outside (D)
Air pollution (D)/ Pollution/ noise (D)	Decreased fumes (P)
Dust (D)	Better air quality (P)
(1) Noise from play: More local noise (e.g. kids) Some people like this, some don't (D)/ Play, more people in the street therefore more noise outside houses (P)	Less outside created noise (D)/ Decreased noise (P)
(2) Noise outside people's homes: Noise (D)/ Noise directly outside people's homes (P)/ Noise outside houses (P)	More access to recycling (P)
Mess from building materials (D)	Less accessible area therefore reduced dumping (S)
Build will lead to an increase in rubbish (P)	possibility of designing bins into the environment (S)
More dumping in the street (S)/ Rubbish left on streets and not in bins, rubbish bags ripped or opened by dogs = poor environment (S)/ Dangerous materials left in public spaces (S)	Improved positive environment (D)/ Enhancement of the area (S)
Use of build process to off-load large household items into the skips (D)	Area development (D)
Rubbish & fly tipping (P)	More colour into the area (D)/ More colour (S)
Vermin (P)	Dog fouling may reduce in the long-term, less people bringing their dogs into the area=less fouling (S)/ Perceived ownership of area of may deter visits from non-residents entering the area (S)
Increased dog and cat fouling (S)/ Dog mess on streets (P)	Pooper scoopers/dirt areas, decrease in dogs (S)/ Increased sense of ownership may reduce fouling (S)
More dogs roaming freely (S)	Reduction in urban foxes and stray dogs (less scraps to eat) (P)
Reduced lighting during replacement (D)	

Negative impacts	Positive impacts
Fumes (D)[3]	Play equipment (D)[2]
Air pollution (D)[2]	Decreased fumes (P)[1]
Dust (D)[1]	Better air quality (P)[1]
Noise from play (D)[2]	Decreased noise outside (D)[2]
Noise directly outside homes (D)[3]	Access to recycling (P)[1]
Mess from building materials (D)[1]	Reduced dumping (S)[1]
Dumping in the street (S)[3]	Designing bins into the environment (S)[1]

Household items loaded into skips (D)[1]	Positive environment (D)[2]
Rubbish and fly tipping (P)[2]	Area development (D)[1]
Vermin (P)[1]	Colour into the area (D)[2]
Increased dog and cat fouling (P)[2]	Fewer dogs from outside area (S)[2]
More dogs roaming freely (S)[1]	Reduced dog fouling (S)[2]
Reduced lighting during replacement (D)[1]	Fewer urban foxes and stray dogs (P)[2]

PLANTERS & TREES

Negative impacts	Positive impacts
Wrong planting could be dangerous to people harmful to children (e.g. asthma, hay-fever) (S)	Fruit & vegetables (S)
Low maintenance (D)	
Plants get stolen (S)	
Vandalised (S)	

Negative impacts	Positive impacts
Dangerous plants (S)[1]	Fruit & vegetables (S)[1]
Maintenance (D)[1]	
Plants stolen (S)[1]	
Vandalism (S)[1]	

SAFETY & DANGER

Negative impacts	Positive impacts
Possible increase in crime due to poor lighting (P)/ Increase in car crime (P)/ Increase in burglary (P)/ Increase in mugging (P)/ Late night revellers using bricks etc as missiles (P)	Reduction in speed (D) Safer roads (D)/ Slows traffic (D)/ Safer (P)/ No kerbstones to negotiate for the disabled (S)
Increased fear of crime (P)	
Safety of children (their activities during the build) (P) /Danger during the build to disabled people (S)	Inconvenience could deter outsiders (D)
Danger during the build from equipment (P)/ Moving/ damaging equipment (P)/ Reduced sense of community wellbeing (tools lying around etc) (P)	Easier to set up neighbourhood watch (P)/ Improved security for residents (P)/ More security (P)/ Reduction in crime (P)
Traffic calming moves problem elsewhere (S) /More affluent community creating more traffic (S)	Reduced volume of traffic (D)/ Less cars & slower cars (P) / Decreased traffic (S)

Negative impacts	Positive impacts
More traffic and traffic calming problems (S)[2]	Slower traffic (D)[4]
Possible increase in crime and disorder (P)[5]	Safer pedestrian areas for disabled (S)[1]
Increased fear of crime (P)[1]	Reduced traffic volumes (D)[3]
Children and disabled people's safety (P)[2]	Outsiders deterred (D)[1]
Dangers from site equipment (P)[3]	Improved sense of security for residents (P)[4]

ACCESS FOR VEHICLES

Negative impacts	Positive impacts
Reduced access by emergency vehicles (D)	Easier access by emergency vehicles (S)
Disruption to public transport (D)	
Increased traffic due to contractors vehicles (D)	
Inconvenience for drivers (D)	
Parking problems (D)	

Negative impacts	Positive impacts
Reduced access by emergency vehicles (D)[1]	Access by emergency vehicles (S)[1]
Disruption to public transport (D)[1]	
Increased traffic (D)[1]	
Inconvenience for drivers (D)[1]	
Parking (D)[1]	

PROPERTY

Negative impacts	Positive impacts (0)
Affordability of housing, rent increases (S)	
Rents increase, as a more affluent community develops (S)	

Negative impacts	Positive impacts (0)
Affordability of housing (S)[1]	
Rent increases (S)[1]	

SOCIAL INEQUALITIES

Negative impacts	Positive impacts (0)
Inconvenience for the disabled (D) / Vulnerable groups less able to move around area (D)	
Residents complaints (D)	
Community disagreements over the type of plants = decrease community feeling of well being (S)/ Source of contention and aggression (S)	
Reduced disposable income (for: clothing, food, social activity) (S)	

Negative impacts	Positive impacts (0)
Disabled people inconvenienced (D)[2]	
Residents complaints (D)[1]	
Community disagreements (S)[2]	
Disposable income reduced (S)[1]	

SOCIAL COHESION

Negative impacts	Positive impacts
Community representatives having to keep the peace [linked to the activities of children during the build] (P) /Backlash against street representatives (S)	Ensuring good communication with contractor (D)/ Ensure awareness (for contractor and residents and public) (D)/ Complements for community reps (S)
Disabled have no direct voice (S)	Encouraging community participation (D) / Greater community participation (S)
	Goal to aim for (D) /Relief of tension & pressure to see something actually being done (D)
	Community awareness (D)/ Neighbourhood awareness (D)/ More community awareness (D) Less community barriers (P)
	If well-managed (HZ process) could increase community spirit/Co-operation (D/P)/ Increased community spirit (P)
	Produce community ownership (P)/ More ownership of area by community (P) /Community togetherness (P) / Pride in area & in themselves (S)
	People looking after each other (P)/ Informal carers (P)/ Child care arrangements (P)/ Someone to talk to (S)/ Residents 'looking out' for vulnerable community members (S)
	Development of community groups (P)/ More community centres (S)
	More people want to move into the community (S)

Negative impacts	Positive impacts
Community representatives keeping the peace (P)[2]	Good communication (D)[3]
No voice for the disabled (S)[1]	Goal to aim for (D)[2]
	Community awareness (D)[4]
	Community participation (D)[2]
	Increased community spirit (D)[2]

	People looking after each other (P)[5]
	Community groups developed (P)[2]
	Community ownership (P)[4]
	People moving to the community (S)[1]

HEALTH & LIFESTYLES

Negative impacts	Positive impacts
Anxiety (D)/ People stressed by increased noise - could lead to increase in violence/ arguments (D)/(P)/ Concentration (poorer) (D)	Better wellbeing (S)
Sleep deprivation during build (D)/ Sleep patterns of babies disrupted (D)/ Sleep patterns of shift workers disrupted (D)	Community exercise (S)
Fumes detrimental to health (D)	Happy safe children playing in the streets (D)/ Benefit of safe play areas (P)
Injury increase (D)/ Accidents (S)	
Infection in children = worms/skin infections (P)/ Increase in asthma (grasses = pollen)(S) / Ingestion (S)	
People with back problems because of pushing wheelie bins long distances (S)	
Residents inconvenienced (P)	
Play directly outside people's homes (P)	
Increased drinking in street (P)	

Negative impacts	Positive impacts
Anxiety and stress (D)[3]	Better wellbeing (S)[1]
Sleep deprivation (D)[3]	More community exercise (S)[1]
Fumes (D)[1]	Happy safe children (D)[2]
Increased injury (D)[2]	
Acquired infection and increased asthma in children (P)[3]	
Life-style inconvenienced (P)[1]	
Residents with back problems (S)[1]	
Children playing outside (P)[1]	
People drinking alcohol outdoors (P)[2]	

WORK

Negative impacts	Positive impacts (0)
Potential closure (S)	
Delivery delays for supplies to local businesses (D)	
Reduces trade for local small business (S)	
Loss of jobs (S)	

Negative impacts	Positive impacts (0)
Closure (S)[1]	
Delivery of supplies delayed (D)[1]	
Reduced trade (S)[1]	
Loss of jobs (S)[1]	

APPENDIX 7 – HIA Response Grid

Response Grid for Morice Town Home Zone					
For each of the health impacts listed below: tick the response required (urgent/ not urgent), name the agencies responsible for responding and the contact person, and note the date when a reply is expected from them. The grid is in two sections: 'Impacts During the Build' and 'Impacts After the Build'	**Urgent response needed**	**Response needed**	**Agencies responsible**	**Contact person**	**Reply by (date)**
IMPACTS DURING THE BUILD					
USE OF PUBLIC SERVICES					
Negative impacts					
Access to medical services (D)[1]					
Response for emergency services (P)[1]					
Response to fires (P)[1]					
Response to life-threatening illnesses (P)[1]					
Reduced access to public transport (D)[1]					
ENVIRONMENT					
Negative impacts					
Fumes (D)[3]					
Air pollution (D)[2]					
Dust (D)[1]					
Noise directly outside homes (D)[3]					
Mess from building materials (D)[1]					
Household items loaded into skips (D)[1]					
Rubbish and fly tipping (P)[2]					
Vermin (P)[1]					
Reduced lighting during replacement (D)[1]					

IMPACTS DURING THE BUILD	Urgent response needed	Response needed	Agencies responsible	Contact person	Reply by (date)
ENVIRONMENT (continued)					
Positive impacts					
Access to recycling (P)[1]					
Reduced dumping (S)[1]					
Designing bins into the environment (S)[1]					
Area development (D)[1]					
Fewer urban foxes and stray dogs (P)[2]					
PLANTERS & TREES (0)					
SAFETY & DANGER					
Negative impacts					
Possible increase in crime and disorder (P)[5]					
Increased fear of crime (P)[1]					
Children and disabled people's safety (P)[2]					
Dangers from site equipment (P)[3]					
Positive impacts					
Slower traffic (D)[4]					
Reduced traffic volumes (D)[3]					
Outsiders deterred (D)[1]					
ACCESS FOR VEHICLES					
Negative impacts					
Reduced access by emergency vehicles (D)[1]					
Disruption to public transport (D)[1]					
Increased traffic (D)[1]					
Inconvenience for drivers (D)[1]					
Parking (D)[1]					

IMPACTS DURING THE BUILD	Urgent response needed	Response needed	Agencies responsible	Contact person	Reply by (date)
PROPERTY (0)					
SOCIAL INEQUALITIES					
Negative impacts					
Disabled people inconvenienced (D)[2]					
Residents complaints (D)[1]					
SOCIAL COHESION					
Negative impacts					
Community representatives keeping the peace (P)[2]					
No voice for the disabled (S)[1]					
Positive impacts					
Good communication (D)[3]					
Goal to aim for (D)[2]					
Community awareness (D)[4]					
Community participation (D)[2]					
Increased community spirit (D)[2]					
HEALTH & LIFESTYLES					
Negative impacts					
Anxiety and stress (D)[3]					
Sleep deprivation (D)[3]					
Fumes (D)[1]					
Increased injury (D)[2]					
WORK					
Negative impacts					
Closure (S)[1]					
Delivery of supplies delayed (D)[1]					
Loss of jobs (S)[1]					

IMPACTS AFTER THE BUILD	Urgent response needed	Response needed	Agencies responsible	Contact person	Reply by (date)
USE OF PUBLIC SERVICES					
Positive impacts					
Access to public transport (S)[1]					
ENVIRONMENT					
Negative impacts					
Fumes (D)[3]					
Noise from play (D)[2]					
Noise directly outside homes (D)[3]					
Dumping in the street (S)[3]					
Increased dog and cat fouling (P)[2]					
More dogs roaming freely (S)[1]					
Positive impacts					
Play equipment (D)[2]					
Decreased fumes (P)[1]					
Better air quality (P)[1]					
Decreased noise outside (D)[2]					
Positive environment (D)[2]					
Colour into the area (D)[2]					
Fewer dogs from outside area (S)[2]					
Reduced dog fouling (S)[2]					
PLANTERS & TREES					
Negative impacts					
Dangerous plants (S)[1]					
Maintenance (D)[1]					
Plants stolen (S)[1]					
Vandalism (S)[1]					
Positive impacts					
Fruit & vegetables (S)[1]					

IMPACTS AFTER THE BUILD	Urgent response needed	Response needed	Agencies responsible	Contact person	Reply by (date)
SAFETY & DANGER					
Negative impacts					
More traffic and traffic calming problems (S)[2]					
Positive impacts					
Slower traffic and (D)[4]					
Safer pedestrian areas for disabled (S)[1]					
Reduced traffic volumes (D)[3]					
Improved sense of security for residents (P)[4]					
ACCESS FOR VEHICLES					
Positive impacts					
Access by emergency vehicles (S)[1]					
PROPERTY					
Negative impacts					
Affordability of housing (S)[1]					
Rent increases (S)[1]					
SOCIAL INEQUALITIES					
Negative impacts					
Community disagreements (S)[2]					
Disposable income reduced (S)[1]					
SOCIAL COHESION					
Positive impacts					
Community participation (D)[2]					
Increased community spirit (D)[2]					
People looking after each other (P)[5]					
Community groups developed (P)[2]					
Community ownership (P)[4]					
People moving to the community (S)[1]					

IMPACTS AFTER THE BUILD	Urgent response needed	Response needed	Agencies responsible	Contact person	Reply by (date)
HEALTH & LIFESTYLES					
Negative impacts					
Acquired infection and increased asthma in children (P)[3]					
Life-style inconvenienced (P)[1]					
Residents with back problems (S)[1]					
Children playing outside (P)[1]					
People drinking alcohol outdoors (P)[2]					
Positive impacts					
Better wellbeing (S)[1]					
More community exercise (S)[1]					
Happy safe children (D)[2]					
WORK					
Negative impacts					
Closure (S)[1]					
Reduced trade (S)[1]					
Loss of jobs (S)[1]					