# A health impact assessment of traffic and transport in Ballyfermot (1.65 MB)

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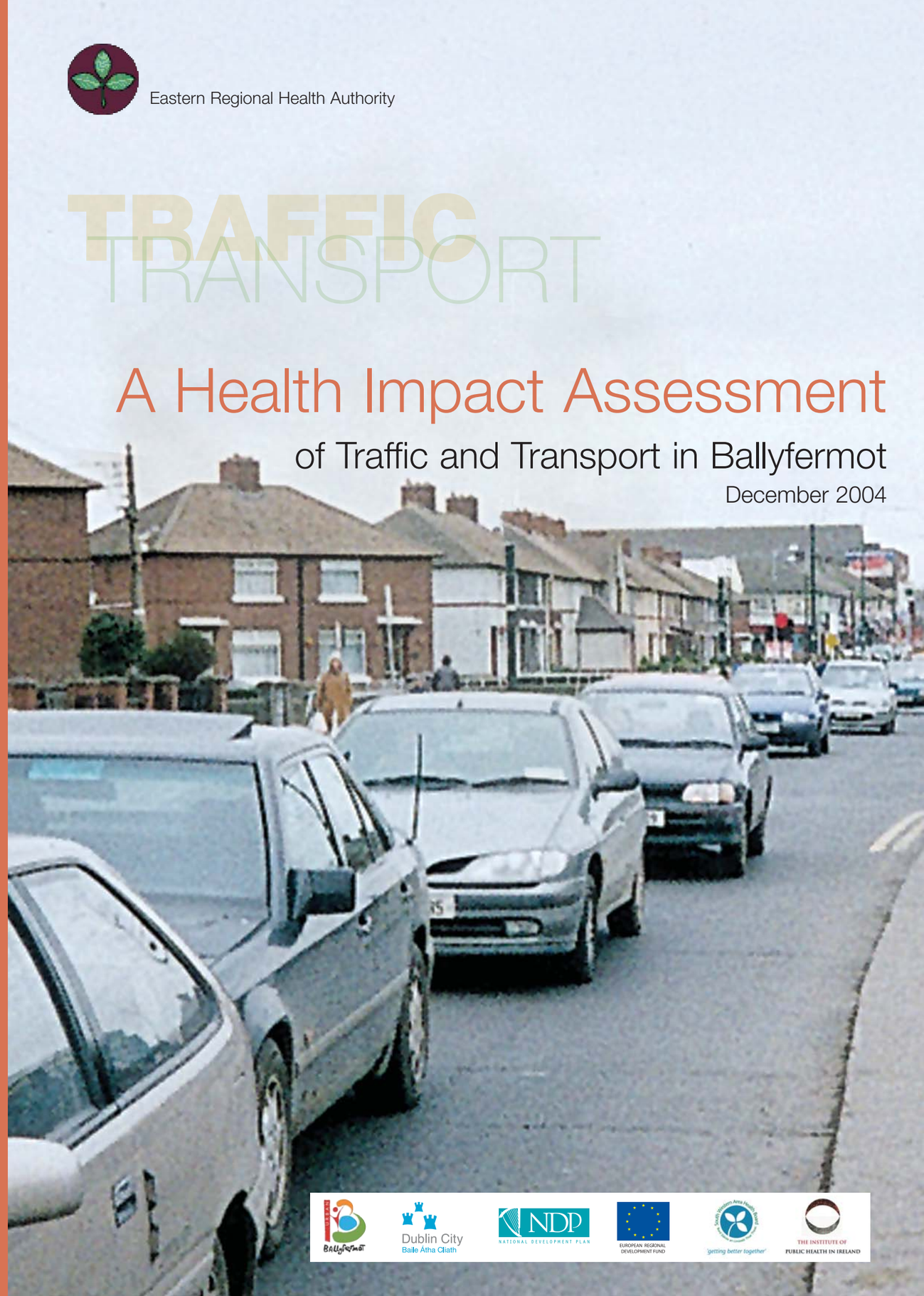
Eastern Regional Health Authority

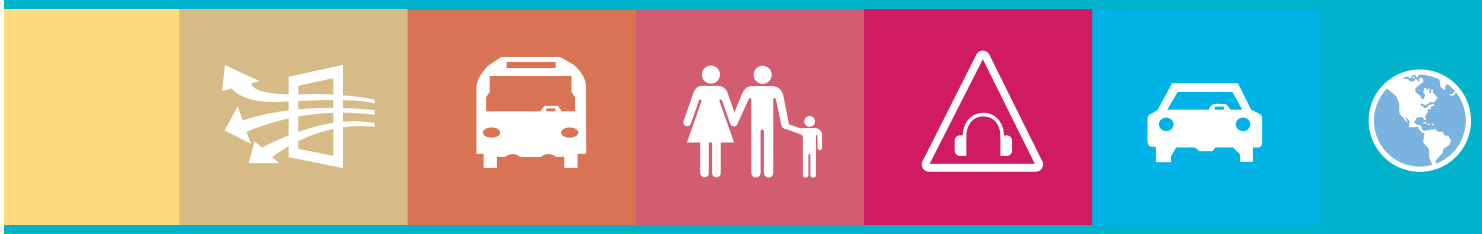
# TRAFFIC TRANSPORT

# A Health Impact Assessment

## of Traffic and Transport in Ballyfermot

December 2004





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*"Health impact assessment will be introduced as part of the public policy development process"*

Quality and Fairness
A Health System for You
Department of Health and Children (2001)

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# Abbreviations

| | |
|---|---|
| ATM | Automated Teller Machine |
| CCA5 | Community Care Area 5 |
| CCTV | Close Circuit Television |
| DCC | Dublin City Council |
| DED | District Electoral Division |
| DTO | Dublin Transportation Office |
| ERHA | Eastern Regional Health Authority |
| ESB | Electricity Supply Board |
| EU | European Union |
| GAP | General Adult Population |
| GMS | General Medical Services |
| GP | General Practitioner |
| HBSC | Health Behaviour in School Children |
| HGVs | Heavy Good Vehicles |
| HIA | Health Impact Assessment |
| HIPE | Hospital Inpatient Enquiry System |
| IPH | Institute of Public Health |
| NABCO | National Association of Building Co-operatives |
| NDP | National Development Plan |
| OP | Older Persons |
| PALs | Physical Activity Leader(s) |
| PWD | People with Disabilities |
| QBC | Quality Bus Corridor |
| SCAC | South Central Area Committee |
| SCATS | Sydney Co-ordinated Adaptive Traffic System |
| SPHE | Social Personal Health Education |
| SWAHB | South Western Area Health Board |
| SLAN | National Health and Lifestyle Survey |
| TAG | Traffic Advisory Group |
| US | United States |

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# EXECUTIVE SUMMARY

The World Health Organisation defines health as "a state of complete physical, mental and social well-being and not merely the absence of disease". Using this broad definition of health, a wide range of economic, social and environmental policies as well as access to health services influence the health of communities. A Health Impact Assessment (HIA) is a means of looking at the potential health effects, both positive and negative, of these policies for example public transport policy. HIA can be undertaken in varying levels of detail, as a rapid process or as a more in-depth study and it can be applied to programmes or projects as well as policies. Ideally HIA should be applied before the policy, programme or project is carried out to ensure that steps are take at the planning stage to maximise the positive and minimise the negative effects, particularly in those most likely to experience the negative effects.

In 2003 the Department of Public Health at the Eastern Regional Health Authority (ERHA) obtained funding from URBAN II in Ballyfermot to carry out an in-depth "Health Impact Assessment of Traffic and Transport in Ballyfermot". This was against a background of public perception that levels of air pollution, which had been a problem in the 1980s due to the burning of smoky coal, had risen again, this time most likely due to increased traffic in the area. The project was managed by a Steering Committee, which included representation from ERHA and the South Western Area Health Board (SWAHB) which serves Ballyfermot, Dublin City Council (DCC), URBAN II with representatives from the local community, the Institute of Public Health in Ireland, and an external consultant. The project aimed to conduct a HIA on transport initiatives in the Ballyfermot area, and to use the findings and recommendations of the HIA to:

- Influence the implementation of future transport policy including road safety initiatives in the Ballyfermot area.
- Inform a review of the DCC Road Safety Plan.
- Provide a health focus to an Air Quality and Noise Monitoring Project being carried out at the same time by DCC and funded by URBAN II.
- Influence future health service development and delivery in the Ballyfermot area.

It was expected that the project would also:

- Stimulate co-operation across the different sectors around initiatives which promote activity, such as cycling and walking.
- Engage the community to actively participate in decision-making by working in partnership with the statutory sector to influence planning and service development in the Ballyfermot area.
- Promote understanding of the relationship between transport and health.
- Develop learning around the practice of HIA.

International guidelines were followed in carrying out the HIA.

Information on how traffic affects the health of the residents of Ballyfermot was gathered from a range of sources:

- Review of data to describe past and present levels of traffic (Chapter 2)
- Literature review to identify evidence around traffic and health (Chapter 3).
- Review of data to describe past and present health of Ballyfermot residents (Chapter 5)
- Focus groups with youths, older persons, people with disabilities and the general adult population. (Chapter 6)
- Interviews with key people in the community, e.g. teachers, health workers, gardai (Chapter 6)

Results from the Air Pollution and Noise Monitoring Study in Ballyfermot, also funded by URBAN II, informed the study (Chapter 5).

Road safety is above all a health issue because crash victims are killed and injured. Serious and minor road traffic accidents have significantly decreased in the Ballyfermot area for the period 1994-2002 and indeed in Dublin City as a whole. It is likely that the traffic calming and transport measures introduced by DCC have been an important contributory factor.

Measurement of health status of Ballyfermot residents showed a pattern of poor overall health with high death rates from heart and lung diseases and high incidence and death rates from lung cancer and other cancers associated with cigarette smoke. Prescribing rates for asthma were higher than expected. Results from the study measuring Air Pollution and Noise levels suggest that air pollution measurements lay within acceptable limits, hence air pollution levels from traffic congestion are unlikely to be the primary cause of the poor health pattern identified. National Cancer Registry data showed that only 6% of people who developed lung cancer never smoked hence smoking is by far the single most important causal factor in its development. Data from the mid 90's would suggest that smoking rates in Ballyfermot were slightly higher than Dublin City as a whole. It is possible that the poor air quality of the 1980s prior to the introduction of the ban on smoky coal contributed to the excess lung cancer seen in the area.

Higher prescribing rates of drugs used to treat anxiety and altered sleep patterns in Ballyfermot would suggest less than optimum mental health and well being among residents. It is not possible to assess the contribution of traffic congestion to this, as it is likely due to a number of interacting factors. However noise levels were raised at locations near major commuter routes.

The pattern of ill health identified is no different to other similar geographic areas where less well off people who experience high levels of socio-economic disadvantage experience poorer health than those that are better off. Health promotion efforts and co-operation across many sectors are clearly needed to tackle these inequalities.

Local participants were happy to live in Ballyfermot but improvements in the infrastructure of the area, particularly in relation to shopping and local facilities, would be very welcome. Enforcement of traffic laws and more visible policing were expressed as direct solutions to a number of problems. The effects of the high volume of traffic through Ballyfermot including heavy goods vehicles (HGVs) impacted on local people in relation to extension of journey times to and from the area, and contributed to environmental health and safety problems. Most respondents used public buses for non-local journeys, as this was the only public transport option available to them. Few cycled as cycling was considered too dangerous. Key informants highlighted the problem caused by traffic congestion in relation to their work such as responding to calls and work related travel. The feelings of many local residents in relation to the overall effect of traffic in the area are summarised as follows:

*"Traffic going through has cut the heart from the community, it has made life harder for people".*

All of the findings from the research were drawn together with the objective of identifying areas of agreement or disagreement among participants and assessing these findings with the literature and with data from the air/noise pollution monitoring study (Chapter 8).

The Steering Group reviewed all the information that was gathered, at an "Appraisal Day", and sought to identify a series of recommendations that may be used to guide future traffic-related decisions or initiatives within the Ballyfermot area. Feedback of these recommendations was then given to residents and key informants who participated in the focus groups or interviews, other key members of the Ballyfermot community and relevant stakeholders. A summary document was produced which listed the key recommendations and invited comments and further suggestions. The recommendations were revised accordingly. The final steps involved presentation of recommendations to key decision-makers and production of the report.

Major issues that came out of the HIA were:

- **Safety** including difficulties crossing the road at pedestrian lights particularly for older and disabled people and safety issues around transport to and parking at schools
- **Public Transport** including personal safety on buses, the general unattractiveness of the buses and the lack of access for elderly and disabled people
- **Parking** including the lack of parking spaces, parking for disabled persons and lack of enforcement.
- **Journey Times** which have lengthened in the area in recent years due to increased congestion. People tended not to see their behaviour as part of the problem for, example, by using cars when they could have used public transport
- **Mental health and well-being.** where high volumes of traffic, through traffic and the use of sub-standard buses in the area were identified as having a negative impact on health by causing increased stress.

The need to communicate better with the community on local transport policies and on local health services which promote a healthy lifestyle were identified.

It was a clear goal to make recommendations, which were feasible and which could jointly be carried out by the relevant stakeholders, e.g. the health board, local authority and transport authority working with the local community in Ballyfermot to maximise the positive health impacts of transport. One example is the linking together of the Traffic Department's policy to encourage motorists out of their cars and onto public transport, which is safe and attractive, with the health objective of taking more exercise. The recommendations are contained in Chapter 10.

The principal **joint** recommendations are as follows:

- A local representative group, facilitated by URBAN II, to be set up which would identify how the issues identified by the HIA may be addressed locally. This group will include local key stakeholders in the area i.e., members of DCC, SWAHB, the Gardai, Dublin Bus, schools and representatives from the community **(10.2.1)**
- A joint local action plan to be developed by the group to implement the findings of the HIA and be responsible for its implementation, with a commitment to sustainability within an agreed timeframe **(10.2.2)**
- The local group to work closely with Dublin Bus to address issues such as access for disabled and elderly persons, personal safety, timetabling and the general unattractiveness of the buses serving Ballyfermot **(10.2.6)**
- Transport policy to be examined in terms of its support of elderly and disabled people, particularly in relation to issues such as access, safety, routes and timetables **(10.2.7)**
- A joint strategy to promote increased physical activity to be developed by SWAHB in conjunction with DCC and the local community **(10.2.3)**
- Measures to improve physical activity in children to be undertaken such as 'walking bus' initiatives **(10.2.5)**
- Measures to improve road safety to be developed **(10.2.4, 10.2.5, 10.2.8)**
- Better enforcement of legislation affecting local transport policy such as parking restrictions to be implemented **(10.2.9).**
- Potential for exchange and integration of data including accident, air quality and routine health data to be explored. **(10.2.10).**

Specific recommendations for **Dublin City Council** were as follows:

- Initiatives to make cycling and walking more attractive **(10.3.1)**
- Ongoing monitoring of traffic flow in the area **(10.3.4)**
- Ongoing monitoring of air quality especially adjacent to the main thoroughfares **(10.3.5)**
- Preserving of the existing 'quiet areas' in Ballyfermot and working towards reducing high noise levels where they exist **(10.3.6)**
- Better dissemination of information and feedback to the public regarding changes in public transport policy and actions in relation to specific works such as traffic lights **(10.3.2, 10.3.3).**

Specific recommendations for **South-Western Area Health Board** were as follows:

- A commitment to seek resources to develop local health promotion teams/services in Ballyfermot. **(10.4.2)**
- A commitment to interact with other URBAN II initiatives to maximize the health benefit for the local community from these. **(10.4.3)**
- A member of staff with a broad understanding of public health to be assigned from the local Community Health Services Area Office to the local implementation group. **(10.4.4)**
- Better dissemination of information to the public to take place regarding the health benefits of using public transport and the benefits of a healthy lifestyle. **(10.4.5)**
- Measures to improve awareness of the services provided by the Community Health Services in Dublin West to be undertaken. **(10.4.6)**
- A commitment to seek funding for development of a local sports partnership for Dublin South Central to work with the schools and parents to explore opportunities to improve physical activity in the area. **(10.4.7)**

Specific recommendations for the **community** were as follows:

- A commitment to take an active role in the promotion of initiatives, which will decrease car usage and promote physical activity in the area including:
  - Encouragement of walking and cycling on local trips.
  - Active involvement with schools to improve safety and encourage "walk to school" initiatives.
  - Efforts to discourage the inappropriate use of car parking spaces and working with the gardai towards enforcement.
  - Involvement in other local URBAN II initiatives and SWAHB initiatives to improve health awareness. **(10.5.1, 10.5.2, 10.5.3)**

# Chapter 1
# INTRODUCTION

## 1.1 What is Health Impact Assessment?

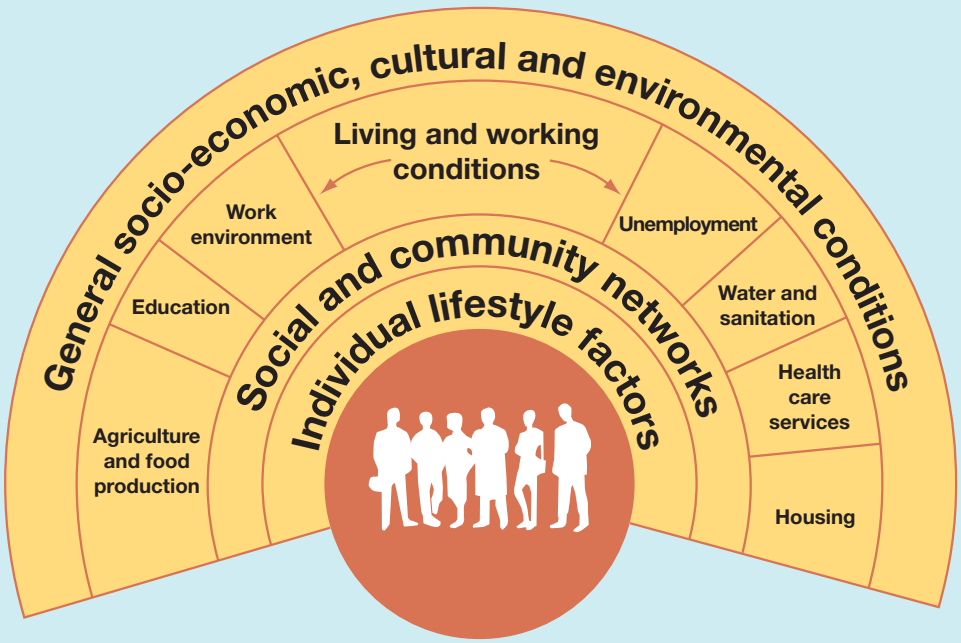
Health is not merely the absence of disease, but rather it is seen as a "state of complete physical, psychological and social well-being"[1]. From this positive, holistic viewpoint, health can be seen to be influenced by a broad range of social, economic, environmental, behavioural and biological factors[2]. Figure 1.1 presents a model of these "wider determinants of health". Policies and programmes across many sectors including education, agriculture, employment, and transportation generated at international, national, regional and local levels can have significant impacts on health through their influence on these determinants. For example, agriculture policy at an EU level may affect peoples' dietary choices with impacts on the occurrence of problems such as obesity and heart disease; a programme to control traffic at a local level may improve real and perceived road safety, reduce accidents, improve neighbourhood appeal, and promote use of outdoor space for walking, cycling, recreation and social interaction.

Given this perspective, there is a need to appraise policies outside the healthcare arena for health implications and to influence these decisions to maximise opportunities to improve health and protect against health damage. Health Impact Assessment (HIA) addresses this need.

## 1.2 Definition of HIA

HIA is commonly defined as "a combination of procedures, methods and tools by which a policy, programme 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"[3]. It aims to inform and influence decision-making in favour of health, and to reduce health inequalities. HIA can be used to promote as well as protect health.

**Figure 1. 1 - Wider Determinants of Health**




Source: Dahlgren and Whitehead [4]

## 1.3 HIA and Health Inequalities

Perception of poor health and death from disease fall more heavily on certain groups within Irish society, with our poorest people suffering most[5,6]. This unequal distribution of health is not unique to Ireland[7,8]. Health inequalities describe differences in the health achievement of different groups of individuals: when these inequalities are "unfair or stemming from some form of injustice" they are referred to as inequities[9]. Most differences in health across social classes represent inequities. Through careful consideration of groups at higher risk of health damaging effects, HIA can potentially address these inequalities[10].

## 1.4 National and International Development of HIA

The development of HIA has been driven by policy at a national and international level. The Amsterdam Treaty requires EU policies to be checked for health impacts[11]. WHO Europe has called for the establishment of HIA mechanisms in all member states[12]. In Ireland, our current Health Strategy has committed to the introduction of HIA as part of the public policy development process to ensure that "the health of the population is at the centre of public policy"[13].

## 1.5 HIA – the Process in Practice

There is no single, agreed, validated, gold standard method for undertaking HIA. An approach, which uses a number of methods to draw together the expertise of many disciplines, and collects quantitative (numerical) and qualitative (thoughts, observations and opinions) data is recommended. In reality, the subject matter of the HIA, local circumstances and resources often shape this approach. The Institute of Public Health (IPH) in Ireland has produced a number of reports in the area which provide a more detailed background and guide to HIA.[14-16]

In brief the five principle steps in conducting HIA are as follows:[14]

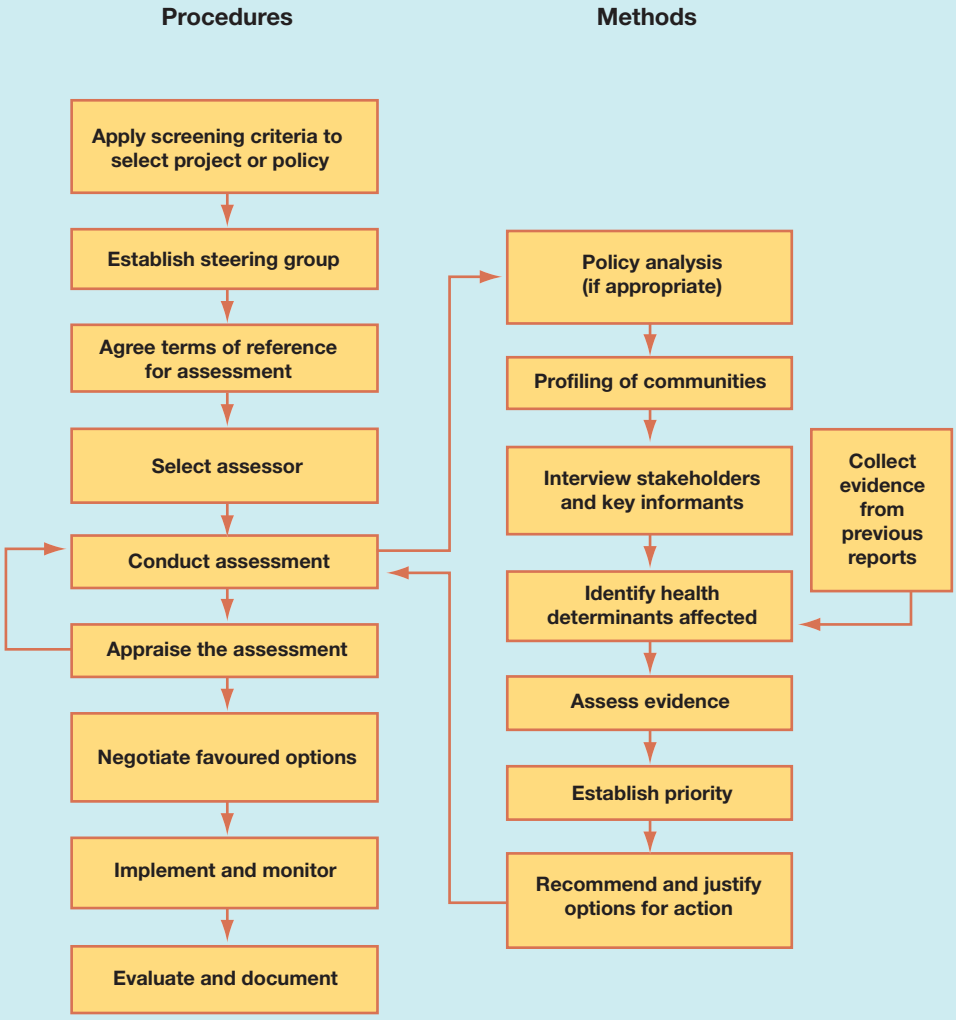
- **Screening:** a quick and systematic establishment of whether a particular policy, programme or project has an impact on health and whether a HIA is appropriate or necessary
- **Scoping:** production of a blueprint for the HIA, establishment of a steering group and production of a work plan
- **Appraisal:** assembly of data (quantitative and qualitative) and evidence, analysis of health impacts, framing of recommendations
- **Statement of influence:** demonstration of how the HIA has influenced the decision-making process and outcomes
- **Monitoring and evaluation:** assessment of whether the aims and objectives at the outset of the HIA were achieved and whether the methodology was effective or suitable.

A schematic overview of the steps involved in carrying out a HIA is presented in Figure 1.2. (overleaf)

## 1.6 Impetus for Carrying out a HIA on Transport in Ballyfermot

The impetus for carrying out this HIA arose out of concerns that air pollution levels were increasing in Ballyfermot. Over 20 years ago air quality was a major concern for Ballyfermot and indeed Dublin residents. Dublin's air quality deteriorated in the 1980s after a switch from oil to burning smoky coal for domestic use. A study carried out by Kelly and Clancy[18] showed that periods of high air pollution were associated with increased deaths mainly from respiratory but also from cardiovascular (heart) diseases in St. James' Hospital. This study had a major influence in the introduction of the ban on smoky coal in 1990[19]. A further study, which examined deaths from respiratory and cardiovascular diseases before and after the ban, found that approximately 116 fewer respiratory and 243 fewer cardiovascular deaths were seen per year between 1990 and 1996 after the ban was introduced[20].

**Figure 1.2 - Schematic Representation of HIA Procedure and Methods**




Source: Scott-Samuel et al [17]

Air pollution nowadays is no longer caused by smoky fuels but primarily due to a build up of pollutants in the atmosphere from heavy traffic congestion. Measures to reduce traffic speed can potentially have a similar effect. However air pollution is not the only health consequence of heavy traffic, which has many potential interlinking effects on health in its broadest sense. Chapter 3 explores the links between transport and health in some detail. However the importance of transport as a determinant of health has been well summarised by Acheson in a seminal report on inequalities in health in the UK: "*The primary function of transport is in enabling access to people, goods and services. In doing so it promotes health indirectly through the achievement and maintenance of social networks. Some forms of transport, such as cycling and walking, promote health directly by increasing physical activity and reducing obesity. Lack of transport may damage health by denying access to people, goods and services and by directing resources from other necessities. Furthermore, transport may damage health directly, most notably by accidental injury and air pollution*"[7]. For this reason it was decided to carry out a HIA of transport and traffic in Ballyfermot with a particular focus on traffic calming measures which were introduced and carried out between the late 1990s and 2001 to 2003. In addition, Ballyfermot was perceived by the proponents of this project as a suitable model for assessing the health impact of transport because of its economic and social disadvantage and poor physical environment. Moreover, it was felt that a HIA of transport initiatives in the area could harness Ballyfermot's strengths, in particular its strong sense of community, in addressing these local issues.

## 1.7 Objectives of the HIA

The Department of Public Health at the Eastern Regional Health Authority (ERHA) successfully proposed a project entitled "Health Impact Assessment of Traffic and Transport in Ballyfermot" to URBAN II in 2003. It was managed by a Steering Committee, which included representation from ERHA and the South Western Area Health Board (SWAHB), URBAN II (which included representatives from the local community), the Institute of Public Health in Ireland (IPH), Dublin City Council (DCC) and an external consultant. The project aimed "to conduct a HIA on transport initiatives in the Ballyfermot area, and to use the findings and recommendations of this HIA to:

- Influence the implementation of future transport policy including road safety initiatives in the Ballyfermot area
- Inform the second review of the Dublin City Council Road Safety Plan
- Provide a health focus to an Air Quality and Noise Monitoring Project being carried out concurrently by Dublin City Council and funded by Urban II
- Influence the resource allocation for future health service development and delivery in the Ballyfermot area.

It was expected that the project would also:

- Stimulate collaboration and coordination across the different sectors around initiatives which promote healthy transport activity, such as the use of recreation facilities to promote exercise
- Promote understanding across sectors of the relationship between transport and population health
- Engage the community to pro-actively participate in decision-making and to develop an effective partnership for conjoint working between the community, statutory and voluntary sectors that will influence planning and service development in the Ballyfermot area
- Develop learning around the practice of HIA [21]

## 1.8 Method

The Merseyside Guidelines for conducting a Health Impact Assessment[17] were followed with a formal Steering Committee set up to include community members. It was decided to carry out a retrospective HIA on traffic and transport as the measures proposed by Dublin City Council were largely completed by the time the HIA commenced. The steps followed in conducting the HIA are detailed in Figure 1.3.

Information on how traffic affects the health of the residents of Ballyfermot was gathered from a range of sources:

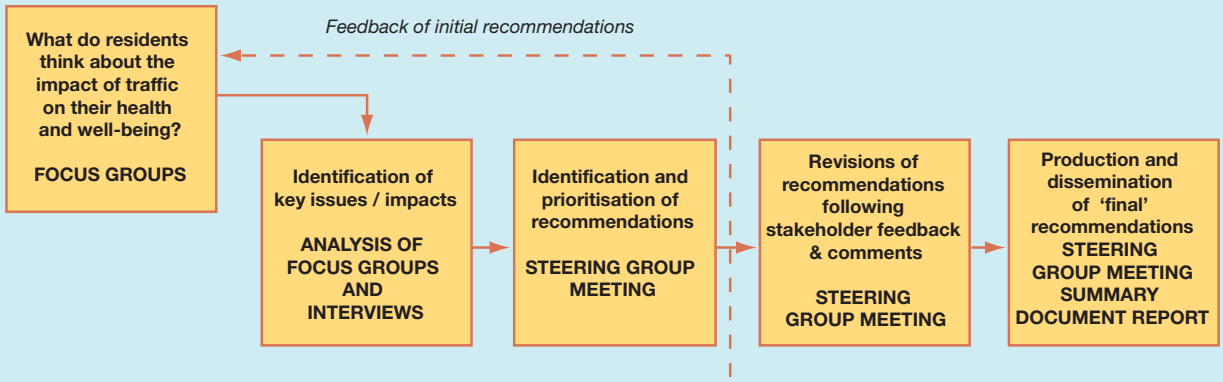
- Focus groups with residents
- Interviews with key informants, namely, school teachers, health workers and gardai
- Review of data to describe present and past health of Ballyfermot residents, and to describe past and present levels of traffic
- Review of the literature to identify evidence around health and traffic including review of previous traffic/transport HIAs.

The next stage involved pulling all the findings from the above together with the objective of identifying areas of agreement or disagreement among participants and triangulating these findings with the literature and with other evidence including the data generated by the air/noise pollution monitoring study.

The Steering Group then reviewed all the information that was gathered, on an "Appraisal Day" and sought to identify a series of recommendations that may be used to guide future ‘traffic-related’ decisions or initiatives within the Ballyfermot area.

The subsequent stage involved feedback of Steering Group discussions and recommendations to residents and key informants who participated in the focus groups or interviews, other key members of the Ballyfermot community and other relevant stakeholders with revision of the recommendations accordingly. A summary document was prepared to assist this process. The final steps involved presentation of recommendations to key decision-makers and production of the report.

**Figure 1.3: Steps in Carrying Out the Health Impact Assessment**




## 1.9 Summary

- Chapter 1 defines HIA and provides the background to its development nationally and internationally.
- It outlines the principal steps in carrying out a HIA: Screening, Scoping: Appraisal, Statement of Influence and Monitoring and Evaluation.
- The impetus for carrying out a HIA on traffic and transport in Ballyfermot is given detailing the objectives and methods used.



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# Chapter 2
# TRAFFIC IN BALLYFERMOT

## 2.1 Introduction

Traffic and transportation is a challenge for the whole of the Dublin Area with pressures from increases in vehicle ownership over the past few years. This increase is set to continue in the future with continuing economic growth.

The transport initiatives in Ballyfermot, which are the subject of this HIA, have developed in response to a number of national and local policies. "A Platform for Change" is the Dublin Transportation Office's (DTO) strategy for the period 2000-2016 for the Greater Dublin Area[1].

The strategy has two underlying elements:

- Infrastructure and service improvements to increase the supply of transport, including substantial expansion of the public transport network, strategic road construction and traffic management
- Policies to reduce private car use by encouraging a transfer of trips from the private car to sustainable modes of transport (such as public transport, cycling and walking) especially at peak periods.

It is envisaged that, to be effective, these two elements should be integrated and implemented together coherently.

The formulation of *"A Platform for Change"* takes account of a number of other policy developments. Key amongst these are the National Development Plan 2000-2006 [2], and the development plans of the local authorities (in the case of Ballyfermot, Dublin City Council)[3,4].

### 2.1.1 The National Development Plan

The National Development Plan sets objectives for transport in the Greater Dublin Area, which broadly target infrastructure development and demand reduction, especially for private cars. It also highlights the need for increased accessibility to transport, particularly for mobility impaired and disabled people, and for support of sustainable development policies that do not compromise the environment. The planned investment for the 2000-2006 period is €2.073 billion.

## 2.2 Role of Dublin City Council

Some of the major issues facing Dublin City Council (DCC) are that of traffic congestion and road safety.

A key objective of DCC is
*"to provide, within the framework of a balanced, integrated and sustainable transport policy, for the safe and efficient movement of persons and goods in the City"*[3].

DCC has developed a number of supporting strategies to reach this objective. These include :

- Provision of alternatives to car commuting
- Optimising the City's road network
- Developing the existing road network
- Reducing the adverse impacts of traffic
- Providing and maintaining a high quality road network to meet the transportation requirements for Dublin City integrated with the greater Dublin region
- Requiring items of street furniture to be functionally and aesthetically positioned to complement their setting.

These strategies are reflected in the Dublin City Council Corporate Plan 2001-2004[3], The Dublin City Development Plan [4] and the Dublin City Council Five-Year Road Safety Plan[5].

### 2.2.1 The Dublin City Development Plan

The Dublin City Council adopted the Dublin City Development Plan in 1999. While it primarily deals with land use, this plan has implications across a number of sectors, including transportation. Its principles and values are reflected in the more recent Dublin City Council Corporate Development Plan.

Of particular relevance to the initiatives which are the subject of this HIA, the plan aims to tackle road safety and the adverse environmental impacts of traffic: *"it is the policy of Dublin City Council to address the adverse environmental and road safety impacts of the transport system, and to ensure that the transport policies developed for the city are sustainable in that they do not compromise the environment and that they contribute to a better quality of life within the city*". It acknowledged that the commercial and environmental quality of certain urban villages is suffering from severance due to extensive through traffic. This is to be addressed through the preparation of traffic management plans, in conjunction with local plans for these areas. Other policy measures, relevant to HIA are the implementation of traffic calming schemes, a HGV/commercial vehicle management strategy, and establishment of a Traffic Noise and Air Quality Unit in the Office of the Director of Traffic and implementation of Dublin City Council Five-Year Road Safety Plan[5].

### 2.2.2 Dublin City Council Road Safety Plan 1999-2003

The Dublin City Council Road Safety Plan is a reaction to the death and injury caused in the city by road accidents, which are described as "the single greatest avoidable health risk we are all exposed to on a daily basis". The overall objective of the plan was to reduce accident numbers in the Dublin Corporation by 20% over its five-year tenure. The plan was implemented through a series of measures based on the "4 E's": engineering, education, encouragement and enforcement. Research across the Greater Dublin Area has shown implementation of traffic calming to be associated with a reduction in typical speeds at intervention areas; these measures also meet the approval of local residents with a high proportion of those surveyed after their installation agreeing that traffic calming improves safety and convenience for pedestrians[6].

## 2.3 Initiatives in Ballyfermot area

With a view to delivering on the above strategies in the Ballyfermot area, the following measures have been implemented in the area:

- Area wide traffic calming
- Quality Bus corridor
- Village improvement scheme
- Strategic cycle network
- Intelligent transport systems
- Management of on-street parking in business area
- Improved monitoring of traffic noise and emissions
- Improved facilities for pedestrians and people with disabilities
- Implementation of the Dublin City Development Plan and Platform for Change, the regional transportation plan and the DCC Road Safety Plan.

### 2.3.1 Ballyfermot Village Environment Improvement Scheme

The North Clondalkin Quality Bus Corridor (QBC) which runs along the Ballyfermot Road opened in 2000-2001. The final link in the QBC, the village improvement scheme in Ballyfermot village, was completed in 2003.

### 2.3.2 Village Improvement Scheme - Scope of Works

The project involved alterations to the existing road kerbline to facilitate the construction of designated bus and cycle lanes. The project also included the replacement of an existing roundabout with a new signalised junction. The principal work elements are outlined below:

- Alterations to overall layout of the bus route through roadmarking and kerbing realignment
- Extensive utility diversions
- Installation of new public lighting columns and standards
- In-carriageway traffic calming measures

- Resurfacing of footpaths, carriageways and parking facilities in a variety of materials, colours and textures.
- Insertion of and relocation of surface water drainage gullies
- Road signage and traffic light installations
- Surface treatment to the Cycle Route
- Construction of traffic islands and pedestrian refuge areas
- Installation of new street furniture and bus stops
- Provision of car parking facilities
- Landscape works.

The issue of traffic in Ballyfermot has been identified as a cause of concern for local residents, businesses and elected members for some time. As a response to this, Dublin City Council has carried out a number of studies/reviews of traffic calming, journey times and traffic flow:

- Review of Ballyfermot Area-wide Traffic Calming Scheme
- Peak Hour Average Journey Times by car
- Traffic Flow Investigations.

These are described below.

## 2.4 Review of Ballyfermot Traffic Calming Scheme

A review of the Ballyfermot Traffic Calming Scheme was carried out by the Director of Traffic, Dublin City Council in the late 1990s [7] (Appendix 1). (The Ballyfermot scheme was one of 32 area-wide traffic calming schemes which have been implemented in the Dublin City Council area in the past five years). The area in question may be subdivided into four residential quadrants bounded by two very busy regional roads. These are Kylemore Road (R112) which runs in a north-south direction and Ballyfermot Road (R833) which runs in an east-west direction.

### 2.4.1 Objectives

The objectives of this review of the scheme were to:

- Review all existing traffic calming measures provided in the original scheme
- To rectify any problems that have subsequently arisen
- To provide traffic calming on any roads which were not included in the original scheme where necessary.

The methodology consisted of:

- A survey of all existing traffic calming measures on roads in the area under review
- Speed surveys and safety appraisal on roads which were not traffic calmed in the original scheme
- Investigation of representations received from elected members, community groups and individuals regarding specific problems and traffic safety issues in their areas. Further representations were invited by means of advertisements in local newspapers.

### 2.4.2 Recommendations

Subject to consultation with the Fire Officer and the Garda Commissioner and notification of local residents, the main recommendations of this review were as follows:

- Standard 4.5 metre ramps to be installed on Ballyfermot Avenue, Ballyfermot Crescent, Ballyfermot Drive, Ballyfermot Parade, Colepark Avenue, Colepark Drive and Colepark Road in conjunction with the Ballyfermot Village Improvement Scheme
- Speed cushions to be installed on the following roads which contain bus routes: Decies Road, Clifden Road, Raheen Park, Cherry Orchard Avenue and parts of Lally Road, Blackditch Road, Spiddal Road and Oranmore Road
- Existing bollards at Raheen Drive, Raheen Park and Cloverhill Road to be replaced by high rise kerbs as requested by the residents. Cloverhill Road was subsequently reopened at the request of residents
- Missing concrete bollards at the junction of Muskerry and Ramillies Road to be replaced
- Standard 4.5 metre ramps to be installed on Cherry Orchard Drive and St Laurence's Road

- Standard 4.5 metre ramps to be installed on roads in The Ranch area: First Avenue, Liffey Street South, Park Street West, Phoenix Street West and St Mary's Avenue West
- Standard 4.5 metre ramps to be installed on Moycullen Road, Claddagh Green, Carna Road, Inagh Road, Gurteen Road and Rossmore Road.

All of the above recommendations have been implemented.

## 2.5 Peak Hour Average Journey Times

Journey time surveys are compiled by Dublin City Council annually, based on measurements taken throughout the year. The trend city-wide is that journey times have increased. Peak hour average traffic journey times and average journey speeds are shown in figures 2.1 and 2.2 for a route from Upper Ballyfermot (Cleggan Park) to Heuston Station, a distance of 5.04 km. Between 1994 and 2002 journey times increased, eastwards by seven minutes and westwards by nine minutes (Figure 2.1). Conversely, average speed had reduced by over 10 km/hr in the eastbound direction and had almost halved in the westbound direction from 32.7km/hr to 16.4 km/hr over the same time period (Figure 2.2).

Dublin City Council state that it is difficult to draw definite conclusions from the journey time information. The works on Ballyfermot Road started at the end of 2001 and continued in 2002/2003, so journey times should have increased, but Figure 2.1 shows a decrease in journey time in 2002. The decrease in journey time in 1997 is also difficult to explain as car ownership increased during this period. Signalling alterations may have been a contributory factor. Traffic signals were linked in 2002/2003 which may have contributed to reduced journey times. Weather, schools, holidays all affect traffic movement and daily variations occur.

**Figure 2.1**

**Peak Hour Average Journey Time on R833 Ballyfermot. Eastbound Start time 8.00. Westbound Start time 17.30**

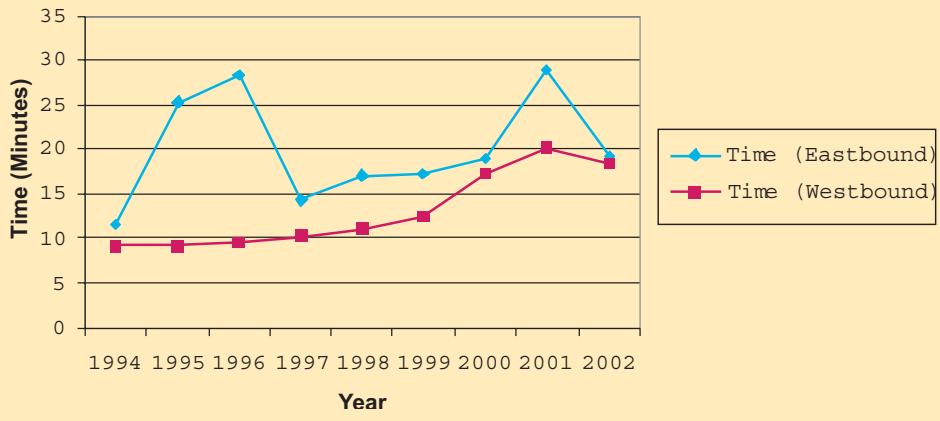
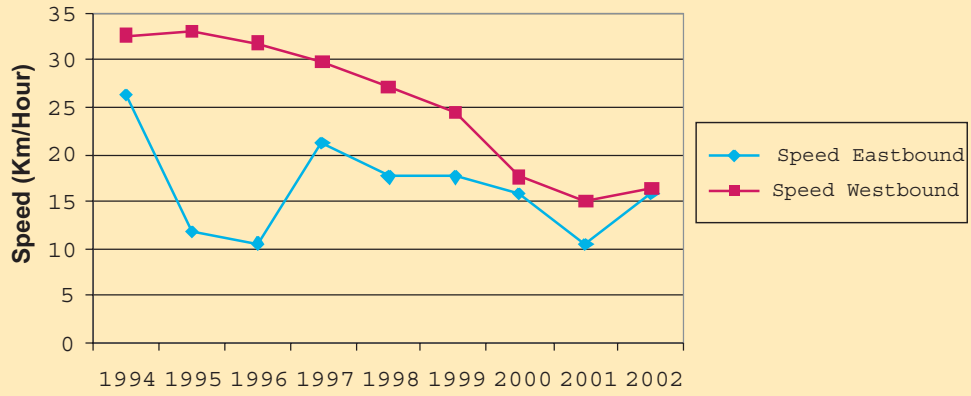



**Figure 2.2**

**Peak Hour Average Journey Speed on R833 Ballyfermot. Eastbound Start time 8.00. Westbound Start time 17.30**



## 2.6 Traffic Flow Investigations - Ballyfermot Road (Appendix 2)

### 2.6.1 Introduction

In 2002 Dublin City Council undertook to investigate congestion and delays on Ballyfermot Road and to look at the contribution of through traffic to this congestion in a study entitled "Traffic Congestion in Ballyfermot"[8]. Economic growth, increased car ownership and underdeveloped public transport were factors identified as contributing to congestion on roads such as the M50 and the Chapelizod Bypass. Measures to reduce or alleviate congestion were also examined.

### 2.6.2 Methodology

The investigation looked at the following issues:

- The experience from a user point of view. This was obtained by recording the travel duration along Ballyfermot Road at various times of the day
- The function of the road (understanding of whether traffic is "local" or "through"). This has been done through the use of "vehicle recognition surveys", using video-recording methods and analysis
- The use of road facility via modal split (i.e. the split between the different types of transport used) and volumes of traffic.

### 2.6.3 Conclusions

In terms of the limited studies conducted along Ballyfermot Road, the following may be concluded:

- A large proportion of the heavy goods vehicles (HGV's) exiting Ballyfermot Road heading in an easterly direction originate at some point along the road.
- Approximately one-third of the overall traffic passing Cherry Orchard on the western end of Ballyfermot Road was seen to leave again on the eastern end at the junction with Sarsfield Road. After consideration of the average surveyed travel times, a total of 15% of the through-traffic was considered to be utilizing the road simply as a through-road.
- Average travel times along Ballyfermot Road were in the order of 8 to 10 minutes, equating to average speeds of approximately 22 km/h. Both of these measures were deemed acceptable considering the location and importance of Ballyfermot Road. The evening variations, however, indicated that additional volumes of through-traffic were contributing significantly to congestion along Ballyfermot Road.

### 2.6.4 Possible Remedial Measures

Based on the information obtained from preliminary studies along Ballyfermot Road, possible options in order to address traffic congestion were developed and are described below.

**Option 1 - Road Closure.** This would involve closure of the westerly entrance onto Ballyfermot Road from the bypass. As a result no through traffic would gain access onto Ballyfermot Road, resulting in reduced traffic volumes and travel times. The disadvantages would be that local traffic would be severely inconvenienced, affecting local residents and businesses. Emergency services response times would be severely affected.

**Option 2 - Ban Turns.** This option involves banning the left turn to Ballyfermot from the Chapelizod Bypass. The effects of this option are similar to Option 1, although less effective as some through-traffic would still gain access. The disadvantages would be that some local traffic, including legitimate local traffic (residents) would be severely inconvenienced. The effectiveness would be dependent on enforcement measures.

**Option 3 - Signal Gating.** This would result in a reduction in green time for westbound traffic at the Con Colbert Road / Sarsfield Road junction (between 15.00 and 19.00 hours). Although this option would result in reduced through traffic, buses and taxis would not be impeded and travel times for these modes might even decrease. Disadvantages would include severe inconvenience to local traffic, with long delays for residents of Lower Ballyfermot trying to access their homes from the east. It would also result in increased queues and delays on Con Colbert Road for traffic waiting to enter Ballyfermot Road and increased traffic in Chapelizod and Inchicore.

**Option 4 - Management of Ballyfermot Road in conjunction with a new link road from Park West to Cloverhill.** This option includes completion of the Quality Bus Corridor, insertion of additional pedestrian signals and extra time given to pedestrian signals to discourage through traffic. This option will result in improved traffic management, control of side road traffic, improved bus journey times, and better pedestrian facilities and an alternative route for industrial estate traffic via the link road. The disadvantage is that delays will remain for residents.

Option 4 is the preferred option by Dublin City Council and is currently being implemented. Traffic signals are managed using a computer based urban traffic control system called the Sydney Co-ordinated Adaptive Traffic System (SCATS). The link road to Park West which opened in August 2004 should have a positive impact on transport in Ballyfermot Road.

## 2.7 Summary

- Dublin City Council has developed a number of strategies to affect the safe and efficient movement of persons and goods throughout the city by the provision of alternatives to car commuting, developing and optimising the existing road network and reducing the adverse impacts of traffic.
- Journey time surveys compiled by DCC have shown that the peak hour average journey times have increased for Ballyfermot residents in both easterly and westerly directions between 1994 and 2002.
- Developments in the Ballyfermot area, in response to the issue of traffic, include the introduction of a village improvement scheme, with traffic calming, improved facilities for pedestrians and people with disabilities, designated bus and cycle lanes, intelligent transport systems and improved monitoring of traffic noise and emissions.
- Review of the traffic calming scheme has resulted in the installation of further traffic calming measures such as speed cushions, ramps and bollards.
- Traffic flow investigations in the area have resulted in the completion of the North Clondalkin Quality Bus Corridor in conjunction with a new link road.
- It is expected that these measures will have a positive effect on traffic management, with improved pedestrian facilities and an alternative route for industrial estate traffic.

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# Chapter 3
# HOW DOES TRANSPORT AFFECT HEALTH? A REVIEW OF LITERATURE

## 3.1 Introduction

Transport is an important part of a range of social, environmental and economic factors outside the healthcare sector which are known to influence health[1]. This influence can damage or promote health. Table 3.1 presents a list of these potential health impacts. Through appraising potential impacts on the health of a population, and their distribution within the population, Health Impact Assessment can be used to inform decisions about transport.

**Table 3.1 Potential Health Impacts of Transport**

| Health Promoting impacts | | Health Damaging impacts | |
|---|---|---|---|
| Enabling Access | Employment | Road traffic injuries | |
| | Shops | Air pollution | Particulates |
| | Recreation | | Carbon monoxide |
| | Social support | | Nitrogen oxides |
| | Health services | | Hydrocarbons |
| | Countryside | | Ozones |
| | | | Carbon dioxide |
| | | | Lead |
| Recreation | | Noise pollution | |
| Exercise | | Stress and anxiety | |
| Economic Development | | Danger | |
| | | Loss of land and planning blight | |
| | | Severance of communities by road | |
| | | Constraints on mobility access and independence | |
| | | Reduced social use of outdoor space due to traffic and streets | |

Data Sources: Transport and Health Study Group and Faculty of Public Health Medicine, UK[2]

The purpose of this review is to describe evidence illustrating the health impacts of transport. It aims to support the appraisal of initiatives undertaken in the Ballyfermot area and the formulation of recommendations. Since many of these pathways have been extensively studied, and good quality "off-the-shelf" reviews are available, this document takes the form of a "rapid review"[3].

## 3.2 Road traffic injuries

Injuries from road traffic accidents are an important cause of death and disability, which have an obvious and direct link to transport. The damage to health caused by road traffic injuries shows a clear social class gradient with the

poorest suffering most[4]. Road traffic injuries can be associated with long-term psychiatric consequences in children and adults; studies would suggest this happens in approximately a third of cases[5,6]. Accidents also affect the wider community. Poor perceived road safety may act as a potential barrier to healthy forms of transport such as walking and cycling, the use of outdoor space for play by children, and access to family, friends and services[7,8].

The effectiveness of interventions which reduce road traffic injuries was reviewed. Area-wide traffic calming appears to reduce road traffic injuries but the estimated magnitude of its effectiveness is such that the benefit may not be significant. Speed limit reductions reduce road traffic injuries, but evidence for the effectiveness of road surface changes is less certain. Public lighting interventions are effective in reducing accidents, especially at night. Median barriers appear to increase accidents, but reduce fatalities, probably by preventing passage of vehicles into oncoming traffic. Roundabouts, traffic signals, refuge islands and pedestrian fences also show evidence of effectiveness. These results are summarised in table 3.2.

**Table 3.2 Summary of the Effects of Initiatives to Reduce Road Traffic Injuries**

| Initiative | Outcome | Effect | Range |
|---|---|---|---|
| **Area wide traffic calming** [12,13] | | | |
| Whole area | Injury reduction | 15% | 10-19% |
| Local roads | Injury reduction | 35% | 23-43% |
| Main roads | Injury reduction | 8% | 2-13% |
| Whole area | Injury rate ratio | 0.89 | 0.8-1.0 |
| **Speed Limit Reduction** [14] | | | |
| 60-40kph and 50-30kph | Injury reduction | 67% | 54-76% |
| 30kph zones | Injury reduction | 8% | 2-14% |
| **Road surface changes** [14] | | | |
| Speed humps – all studies | Injury reduction | 53% | 46-59% |
| – Good quality studies only | Injury reduction | Uncertain | |
| Elevated crossing | Injury reduction | Uncertain | |
| Rumble zones | Injury reduction | Uncertain | |
| **Public lighting** [15] | Night-time reduction | | 15-35% |
| | Fatal reduction | 65% | 52-75% |
| **Median barriers** [16] | All accident increase | 28% | 25-32% |
| | Injury reduction | Uncertain | |
| | Fatal accident reduction | 32% | 14-46% |
| **Guardrails** [16] | All accident reduction | 27% | 18-35% |
| | Injury reduction | 52% | 51-53% |
| | Fatal accident reduction | 44% | 40-48% |
| **Crash cushions** [16] | All accident reduction | 84% | 74-90% |
| | Injury accident reduction | 68% | 60-74% |
| | Fatal accident reduction | 69% | 46-83% |
| **Other initiatives** [17] | | | |
| Roundabouts | Pedestrian crash reduction | 75% | |
| Traffic signals installation | All accident reduction | "Half" | |
| Median traffic refuges | Pedestrian crash reduction | "Half" | |
| Pedestrian barriers and fences | Pedestrian crash reduction | | 20-48% |

## 3.3 Air Pollution

The effect of air quality on human health has been extensively researched and expert opinion is available in this area, COMEAP[9,10] and ExternE[11] being the principal sources used in this review. The health impacts of air pollution, and the principal chemicals implicated are presented in Tables 3.3 and 3.4. Currently, evidence would suggest air pollution as a cause of short-term health effects in susceptible groups (the elderly and those with underlying health problems such as heart or lung disease). For this reason, the COMEAP expert group focused on short term impacts, which could be attributed to air pollution with greater confidence. Longer-term health impacts such as cardiovascular and respiratory diseases including lung cancer are suspected to result from exposure to certain components of air pollution over a long period; however, it has been difficult to ascribe cause and effect with certainty in their cases. The ExternE expert group adopted a wider view and included these long-term effects. It should be noted that in the case of these long-term effects, the overall risk of health impact posed by these pollutants is very small indeed.

Traffic is a leading source of air pollution, and initiatives, which reduce traffic volume, can have potential benefits to health by improving air quality. Vehicle speed is also a factor warranting consideration. Low average speed journeys, such as those taken on congested routes, are less efficient in their use of fuel and result in greater pollution emissions[19].

**Table 3.3 The Health Impacts of Air Pollution**

| Health impact | Air pollutant |
|---|---|
| Deaths from all causes brought forward | $PM_{10}$<br>Sulphur dioxide<br>Ozone |
| Respiratory Hospital Admissions | $PM_{10}$<br>Nitrogen dioxide<br>Sulphur dioxide<br>Ozone |

Source: adapted from Watkiss et al [18]

## 3.4 Noise Pollution

Community noise is defined as "noise emitted from all sources except noise at industrial workplaces"[20]. The results of four major reviews of the health impacts of noise found that, while studies indicate a possible impact on health from noise, many were of poor quality and produced conflicting results[18]. They concluded that a causal link between noise and health damage could not be drawn with certainty, except in the case of annoyance. This is a subjective response modified by a number of factors such as context and individual personality traits, and so it is hard to define a particular noise level above which annoyance occurs. However, this is likely to be the most widespread and important effect of noise, and its occurrence represents a negative impact on health in its widest sense. Interference with speech may trouble vulnerable groups. While sleep disturbance in response to noise has been documented, it is not certain that these changes have health effects. Noise has been shown to have negative effects on children's reading comprehension and attention; most of the evidence accumulated in this regard, however, is from studies of airport noise. Chronic exposure to noise may increase the risk of heart disease, but expert groups do not agree that this is a certain effect. While noise may exacerbate mental health problems for those who suffer from these conditions, it is not believed to cause the onset of illness.

Planning the location of sources of noise away from communities, and limiting noise production through banning traffic on certain routes or reducing speeds are potential ways of protecting people from noise. Limiting the transmission and reception of noise through barriers and sound proofing are also available as lower order options[20].

| Table 3.4 Health Impacts and Principal Chemicals Implicated | | |
|---|---|---|
| **Population group** | **Health impact** | **Air pollutant** |
| **Athsmatics** | | |
| Adults | Bronchodilator use | $PM_{10}$, $PM_{2.5}$ |
| | Cough | $PM_{10}$, $PM_{2.5}$ |
| | Wheeze | $PM_{10}$, $PM_{2.5}$ |
| Children | Bronchodilator use | $PM_{10}$, $PM_{2.5}$ |
| | Cough | $PM_{10}$, $PM_{2.5}$ |
| | Wheeze | $PM_{10}$, $PM_{2.5}$ |
| All | Asthma attacks | Ozone |
| **Over 65 years** | Congestive Heart Failure | $PM_{10}$, $PM_{2.5}$ |
| | | Carbon Monoxide |
| **Children** | Chronic cough | $PM_{10}$, $PM_{2.5}$ |
| **Adults** | Restricted activity days | $PM_{10}$, $PM_{2.5}$ |
| | Minor restricted activity days | Ozone |
| | Chronic bronchitis | $PM_{10}$, $PM_{2.5}$ |
| **All Population** | Chronic mortality | $PM_{10}$, $PM_{2.5}$ |
| | Respiratory hospital admissions | $PM_{10}$, $PM_{2.5}$ |
| | | Ozone |
| | | Sulphur dioxide |
| | Cerebrovascular hospital admissions | $PM_{10}$, $PM_{2.5}$ |
| | Symptom days | Ozone |
| | Cancer risk estimates | Benzene |
| | | 1,3 butadiene |
| | Acute mortality | $PM_{10}$, $PM_{2.5}$ |
| | | Ozone |
| | | Sulphur dioxide |

Source: adapted from Watkiss et al [18]

## 3.5 Physical activity

The health sustaining and promoting benefits of regular physical activity can be achieved through "active transport" using cycling or walking. The extensive research in this area has been collected in a report by the US Surgeon General[21]. The benefits of regular physical activity include a reduction in the risk of overall mortality, risk of death from cardiovascular disease, decreased risk of certain cancers, and risk of developing Type II diabetes mellitus. It also encourages optimum skeletal development and prevents falls in the elderly. Regular physical activity improves mood and health-related quality of life. Importantly, low levels of physical activity contribute to the development of obesity. Nationally, this is an area of growing concern with the national health behaviour survey showing a rise in the prevalence of overweight and obesity between 1998 and 2002[22]. Childhood obesity and physical inactivity are also a concern with research suggesting that patterns established early in life determine adult behaviour[23, 24]. Transport initiatives can be used to encourage active transport and produce health gain for the community. For example, improving road safety and the attractiveness of the physical environment can make walking and cycling more appealing transport options.

## 3.6 Effects on Community

Links between people (social networks)[1], and the resources which flow from these links (social capital)[25] are important influences on health and well-being[26]. For example, when community members in a US county were followed-up over time in the 1960s and 1970s, it was shown that, having accounted for the effects of being overweight and personal habits such as drinking, smoking and exercise, the risk of dying was least for those who had the most social connections[27]. The effect of social capital on health in Ireland has been examined[28]. In this study it was shown that, having accounted for factors which may affect health such as age, smoking, body weight and exercise, people who felt the area in which they lived had a lot of problems including heavy traffic, parking on residential streets, car crime and noise were less likely to have good mental health, be very satisfied with their own health or have a very good quality of life compared to those living in areas with few local problems. Poor perceived neighbourhood quality is one of a number of measures of social capital, which showed association with health status in this survey.

Community severance is separation of different areas within a community by the flow of traffic[1] and can potentially have the effect of breaking social networks, or change the quantity or quality of the resources which they provide. Besides physical separation, traffic can also create perceived barriers to social contact. It has been famously demonstrated that people living on streets with heavy traffic have fewer friends and acquaintances than counterparts living on streets with lighter traffic flow[29]. In Galway, it has been shown that people living in neighbourhoods, which are "walkable", score higher on measures of social capital than their counterparts living in car-dependent neighbourhoods[30].

## 3.7 Social Inclusion

The Irish "National Action Plan against Poverty and Social Exclusion" states that *"people are living in poverty if their income and resources (material, cultural and social) are so inadequate as to preclude them from having a standard of living which is generally regarded as acceptable by Irish society generally"*[31]. Social exclusion is a related concept, but has a broader scope and refers to a process by which people are placed at the margins of social and community life. It can be a consequence of poverty; however, it can occur in the absence of poverty as, for example, people can be excluded because of race, gender, sexuality or because of where they live[32].

There are connections between transport and social inclusion. Firstly, transport is a public service to which not all members of society have fair and equal access: for example, people with disabilities may find it difficult to access buses, poorer people may not be able to afford to use public transport and infrequent public transport may make certain localities more isolated. Thus, poor access to the resource of transport is, of itself, a social exclusion.
In addition, transport is required for access to other resources, which form the basis of social inclusion. These include travel to work or school, visiting family and friends, access to a GP or hospital, shopping and access to recreational facilities. "Transport poverty" is used to describe the lack of real travel choice for those who experience exclusion from transport and as a consequence lack choice in their destinations and activities[33].

Some of the health effects of poor access to transport are caused by preventing access to health protecting and promoting resources, for example recreational facilities for exercise, family and friends for social support or shops which sell a variety of fresh food. Poor transport facilities can contribute to a perception of poor local services amongst a community. An All-Ireland study by the Institute of Public Health showed that, compared with people who felt their locality had good services, those who felt that services were poor were less likely to have excellent/very good general health or good mental health, and were less likely be very satisfied with their health or have a very good quality of life[28]. Affordability, availability and accessibility are key issues in promoting social inclusion through transport[33].

## 3.8 Summary

- This review has highlighted the scope and probability of the effects of transport on health which are brought to bear through a number of interconnected pathways.
- Transport initiatives, such as those undertaken in the Ballyfermot area, have the potential to influence these effects.
- Table 3.5 summarizes the health impacts of transport, and describes the size and certainty of their impacts.

| Table 3.5 Summary of the Potential Health Impacts of Transport | | | |
|---|---|---|---|
| **Pathway** | **Health impact** | **Impact size** | **Impact certainty** |
| Accidents | Mortality and injuries | High | High |
| Air pollution | Mortality<br>Hospital admission due to respiratory and cardio-vascular disease.<br>Other long-term effect | High<br>High<br>Medium/low | Medium |
| Noise | Annoyance/well being<br>Cardiovascular disease | Medium | Low |
| Physical activity | Cardiovascular disease, diabetes, cancer | Large | Medium-high |
| Community severance | Mental health and well-being | Moderate | Low |

Source: adapted from Watkiss et al [18]





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# Chapter 4
# A PROFILE OF BALLYFERMOT

## 4.1 Introduction

The purpose of this chapter is to describe Ballyfermot and the people living there in terms of age, marital status, social class and employment.

Ballyfermot lies on the western side of Dublin City (Map 1). It is geographically enclosed by the Chapelizod By-pass, the Grand Canal and the M50 Motorway. The area of Ballyfermot consists of seven district electoral divisions (DEDs) (Map 2). The DEDs in Ballyfermot area are situated in the South Western Area Health Board (SWAHB). The SWAHB is part of the Eastern Regional Health Authority (ERHA), which comprises counties Dublin, Kildare and Wicklow.

Dublin Corporation carried out a socio-economic analysis of the Ballyfermot area in 2001[1]. Their findings noted that: *"The accumulation of public housing over a period of 40 years combined with a lack of infrastructure development and little private sector investment, has created a disadvantaged urban environment where key issues identified by the community itself include:*

- *High levels of substance abuse*
- *High levels of drug related crime and anti social behaviour*
- *Early school leaving*
- *High unemployment levels through the 1990s*
- *High levels of economically dependent persons*
- *High levels of dependent elderly*

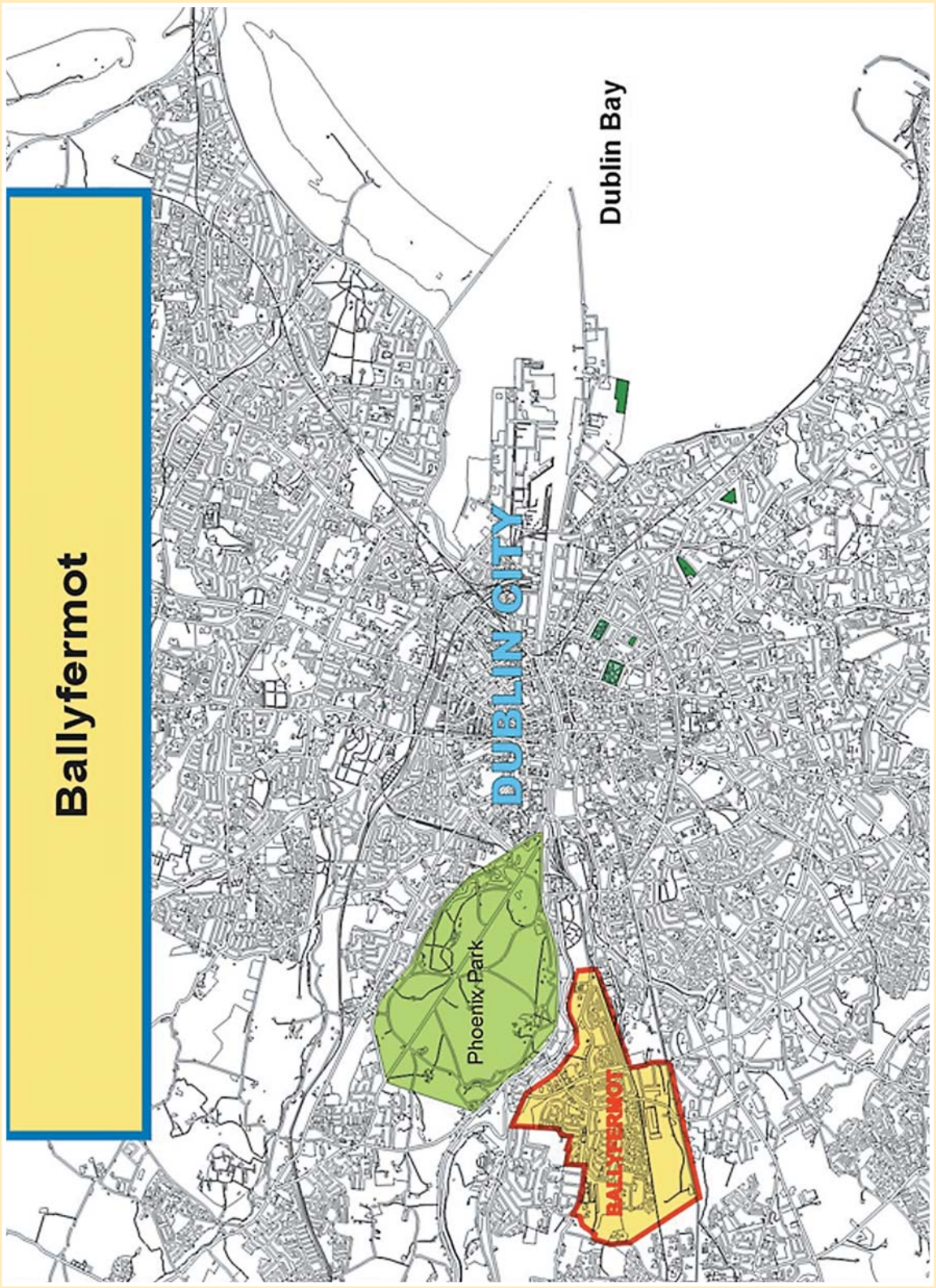
*The overall physical appearance of the area was described as drab and monotonous and in some estates this was combined with a feeling of insecurity amongst residents".*

Despite the socio-economic problems of Ballyfermot it has a number of strengths; its nearness to the city centre, its good road links and it nearness to quality amenities including the River Liffey and the local canal. It also has a strong sense of community. The Ballyfermot Partnership, involving social partners, statutory agencies and the local community has been in place since 1995, and it has played a key role in stimulating local responses to issues of social exclusion. The prioritisation of Ballyfermot as an Urban II Area, by the Irish Government has provided the incentive to pool resources across a range of potential partners in the area.

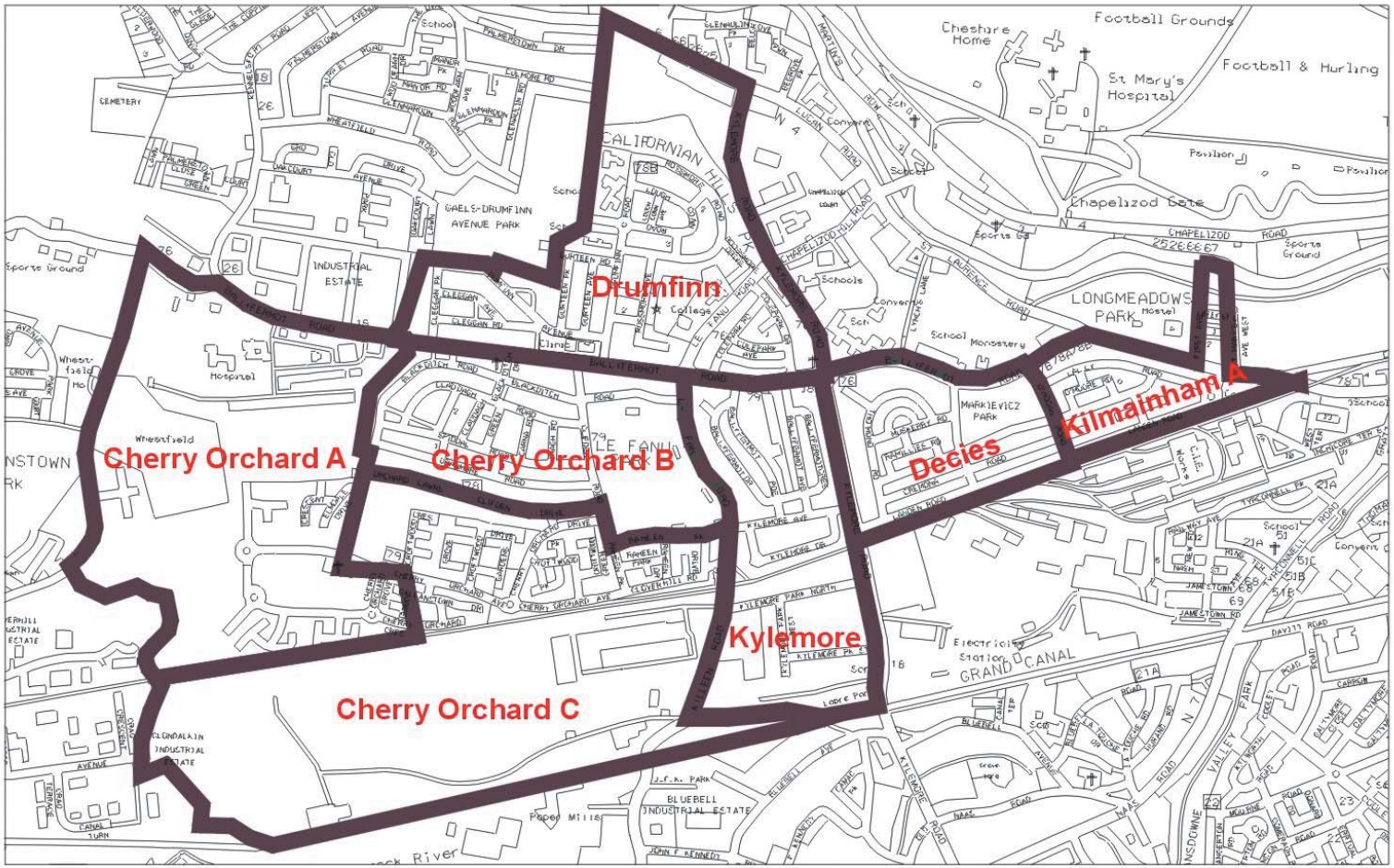
## 4.2 Demography

Census 2002[2] provides the most up to date information on demography. The total population of the area is 20,699 with an equal distribution of males and females (Table 4.1). Since 1996 the overall population of Ballyfermot has decreased by 2%, against an overall increase of 8% in the ERHA. Cherry Orchard A is the only DED in which an increase in population was seen.

**Map 1: Location of Ballyfermot in Dublin**



# District Electoral Divisions Ballyfermot




**Ballyfermot Wards - November 2000** **1:20,000**

Map 2: District Electoral Divisions of Ballyfermot

### 4.2.1 Age Profile

Twenty two percent of the population of Ballyfermot are aged 14 or under compared to 20% for the region (Table 4.2). The DEDs with the largest percentage of children ages 0-14 are Cherry Orchard C (31%) and Cherry Orchard A (26%) (Fig. 4.1). The percentage of population aged 14 or under in Ballyfermot has decreased by 16% since the 1996 census in comparison with a regional decrease of almost 5% (Table 4.3).

Thirteen percent of the population of Ballyfermot are aged 65 or over (males 10%, females 16%). This is substantially higher than the regional figure of 10%. The DEDs with the largest percentage of people aged over 65 are Drumfinn at 20% and Cherry Orchard B at 16%. However, since the previous census in 1996 there has been an overall decrease of 4% in persons aged over 65 in Ballyfermot, in comparison with a 9% increase in that age group throughout the region (Table 4.4). A total of 698 persons (27%) of people over the age of 65 years were reported as living alone similar to the ERHA (26%). Thirty one percent of females and 19% of males over 65 years live alone.

### 4.2.2 Marital Status

The marital status of those aged 15 years and over can be seen in Table 4.5. A higher percentage of persons were single, widowed and separated in Ballyfermot compared to the ERHA as a whole.

### 4.2.3 Household Type

Ballyfermot consists primarily of public housing, built by Dublin Corporation mainly in the 1940s and 50s, with the Cherry Orchard estate built in the 1970s and 80s. The total number of households is 6,499.

According to the 2002 census the percentage of lone parent households in Ballyfermot is 20%, compared with an overall figure for the ERHA of 10% (Table 4.6).

**Table 4.1 Population of ERHA, SWAHB and Ballyfermot, males and females Census 2002**

| AREA | Male N | Female N | Total N | % Change 1996 - 2002 |
|---|---|---|---|---|
| ERHA | 683,610 | 717,831 | **1,401,441** | 8.1 |
| SWAHB | 286,085 | 294,549 | **580,634** | 12 |
| **Ballyfermot DEDs (Total)** | **10,264** | **10,435** | **20,699** | **-2.13** |
| Cherry Orchard A | 1371 | 790 | 2161 | 54.5 |
| Cherry Orchard B | 1404 | 1514 | 2918 | -4.3 |
| Cherry Orchard C | 1771 | 1957 | 3728 | -5.4 |
| Decies | 1436 | 1497 | 2933 | -10.1 |
| Drumfinn | 1821 | 1978 | 3799 | -4.7 |
| Kilmainham A | 1137 | 1218 | 2355 | -3.7 |
| Kylemore | 1324 | 1481 | 2805 | -8.5 |

Data Source: Census 2002

**Table 4.2 Population of ERHA, SWAHB and Ballyfermot by age group, males and females**

| AREA | 0-14 N | 15-24 N | 25-44 N | 45-64 N | 65+ N | Total |
|---|---|---|---|---|---|---|
| ERHA | 279,927 (20.0) | 243,952 (17.4) | 456,626 (32.6) | 284,607 (20.3) | 136,329 (9.7) | **1,401,441 (100)** |
| SWAHB | 120,147 (20.7) | 103,990 (17.9) | 194,467 (33.5) | 113,995 (19.6) | 48,035 (8.3) | **580,634 (100)** |
| **Ballyfermot DEDs (Total)** | **4569 (22.1)** | **3926 (19.0)** | **5689 (27.5)** | **3892 (18.8)** | **2623 (12.6)** | **20,699 (100)** |
| Cherry Orchard A | 554 | 561 | 760 | 186 | 100 | 2161 |
| Cherry Orchard B | 595 | 520 | 769 | 555 | 479 | 2918 |
| Cherry Orchard C | 1157 | 940 | 964 | 574 | 93 | 3728 |
| Decies | 555 | 527 | 771 | 705 | 375 | 2933 |
| Drumfinn | 708 | 555 | 1024 | 768 | 744 | 3799 |
| Kilmainham A | 395 | 396 | 655 | 564 | 345 | 2355 |
| Kylemore | 605 | 427 | 746 | 540 | 487 | 2805 |

Data Source: Census 2002

**Figure 4.1 Percentage of total population in each age group by DED in Ballyfermot**

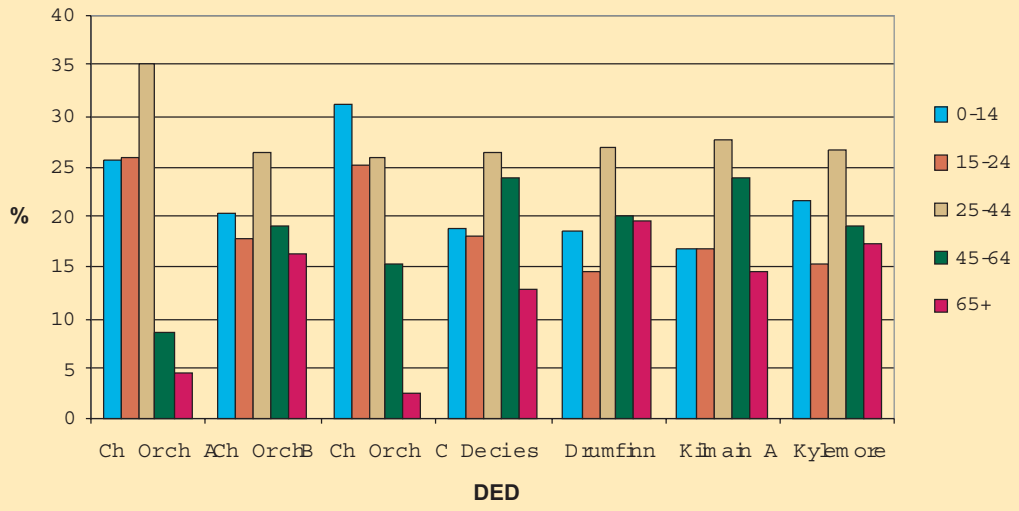



**Table 4.3 Percentage change in 0-14 year population from 1996 to 2002 in ERHA, SWAHB and Ballyfermot**

| AREA | 1996 N | 2002 N | Difference N | % Change |
|---|---|---|---|---|
| ERHA | 294,051 | 279,927 | -14,124 | **-4.8** |
| SWAHB | 124,722 | 120,147 | -4575 | **-3.7** |
| **Ballyfermot DEDs (Total)** | **5449** | **4569** | **-880** | **-16.2** |
| Cherry Orchard A | 481 | 554 | 73 | 15.1 |
| Cherry Orchard B | 688 | 595 | -93 | -13.5 |
| Cherry Orchard C | 1622 | 1157 | -465 | -28.6 |
| Decies | 715 | 555 | -160 | -22.4 |
| Drumfinn | 773 | 708 | -65 | -8.4 |
| Kilmainham A | 494 | 395 | -99 | -20.0 |
| Kylemore | 676 | 605 | -71 | -10.5 |

Data Source: Census 2002

| Table 4.4 Percentage change in 65+ year population from 1996 to 2002 In ERHA, SWAHB and Ballyfermot | | | | |
|---|---|---|---|---|
| **AREA** | **1996 N** | **2002 N** | **Difference N** | **% Change** |
| **ERHA** | 125,271 | 136,329 | 11,058 | 8.8 |
| **SWAHB** | 44,606 | 48,035 | 3429 | 7.7 |
| **Ballyfermot DEDs Total** | **2740** | **2623** | **-117** | **-4.3** |

Data Source: Census 2002

| Table 4.5 Marital status of those 15 years and over and resident in ERHA and Ballyfermot | | | | | |
|---|---|---|---|---|---|
| **AREA** | **Single N (%)** | **Married N (%)** | **Separated N (%)** | **Widowed N (%)** | **Total (%)** |
| ERHA | 517,696 | 491,551 | 53,892 | 58,375 | 1,121,514 |
| | (46.2) | (43.8) | (4.8) | (5.2) | (100) |
| Ballyfermot | 7,731 | 5,899 | 1,058 | 1,442 | 16,103 |
| | (47.9) | (36.6) | (6.6) | (8.9) | (100) |

Data Source: Census 2002

| Table 4.6 Number and percentage of lone parent households in ERHA and Ballyfermot | | | | |
|---|---|---|---|---|
| **Type of Household** | **ERHA** | | **Ballyfermot** | |
| | **N** | **(%)** | **N** | **(%)** |
| Lone mother with children | 41,776 | (8.9%) | 1,134 | (17.4%) |
| Lone Father with children | 6,469 | (1.4%) | 143 | (2.2%) |
| **Total (Lone Parents with children)** | 48,245 | (10.3%) | 1,277 | (19.6%) |

Data Source: Census 2002

### 4.2.4 Social Class

The social class of all persons aged 15 years and over is determined by their occupation and also in some cases by their employment status. The social class of family dependents is derived from the social class of the parent with the highest social class. An explanation of social class is given in table 4.7. As can be seen in Table 4.7. a greater percentage of the Ballyfermot population fall into social classes 5 and 6 (26.8%) in comparison with the ERHA as a whole (13.4%).

**Table 4.7 Social class of populations of ERHA and Ballyfermot**

| Social Class | ERHA | | Ballyfermot | |
|---|---|---|---|---|
| | N | (%) | N | (%) |
| 1. (Professional Workers) | 105,021 | (7.5%) | 138 | (0.7%) |
| 2. (Managerial/Technical) | 393,646 | (28.1%) | 1940 | (9.4%) |
| 3. (Non-manual) | 238,085 | (17.0%) | 2,625 | (12.7%) |
| 4. (Skilled Manual) | 211,128 | (15.1%) | 4,111 | (19.9%) |
| 5. (Semi-skilled) | 126,797 | (9.0%) | 3,407 | (16.4%) |
| 6. (unskilled) | 62,077 | (4.4%) | 2,131 | (10.3%) |
| 7. (All others gainfully employed) | 264,687 | (18.9%) | 6,347 | (30.6%) |
| **Total** | **1,401,441** | | **20,699** | |

Data Source: Census 2002





### 4.2.5 Education

Forty five percent of those aged over 15 years, who had already finished their education, were reported as having ceased full-time education at or before the age of 15 years. The corresponding figure for the ERHA was 18%. Primary education was the highest level of education attained by 44% which compares poorly with the corresponding figure for the total ERHA, (17%).

### 4.2.6 Employment

The labour force comprises persons aged 15 and over at work, persons unemployed (having lost or given up a previous job) and those looking for their first regular job (Table 4.8). The unemployment rate for Ballyfermot is 17.4%, according to Census 2002. Again, this compared unfavourably with the ERHA rate of 8.2%.

**Table 4.8 Number and percentage of participants in the Labour Force in ERHA and Ballyfermot**

| | At work<br>N<br>(%) | First job seeker<br>N<br>(%) | Unemployed<br>N<br>(%) | Total<br>N<br>(%) |
|---|---|---|---|---|
| ERHA | 630,167 | 7,575 | 48,800 | 686,542 |
| | (91.8%) | (1.1%) | (7.1%) | (100%) |
| Ballyfermot | 6,922 | 187 | 1,269 | 8,378 |
| | (82.6%) | (2.2%) | (15.1%) | (100%) |

Data Source: Census 2002

### 4.2.7 Disability

The number and percentage of persons in the different age groups with a disability are shown in Table 4.9. Overall, 13% of persons reported having a disability in Ballyfermot compared with a figure of 8% for the ERHA as a whole (Table 4.9). As expected, those aged 65 and over had the highest proportion of persons with a disability.

### 4.2.8 Entitlement to General Medical Services

Forty-four percent of persons living in Ballyfermot hold a General Medical Services (GMS) card in comparison with 25% in the SWAHB and 24% in the ERHA (Table 4.10). Thirty percent of people nationally have a medical card. The highest percentage of medical cardholders were in Cherry Orchard C where over half of the residents (52%) possessed a medical card and Kylemore (49%).

**Table 4.9 Number and percentage of persons with a disability by age group in ERHA and Ballyfermot**

| AREA | 0-14 N (%) | 15-24 N (%) | 25-44 N (%) | 45-64 N (%) | 65+ N (%) | Total (%) |
|---|---|---|---|---|---|---|
| ERHA | 6294 (2.2%) | 7631 (3.1%) | 21852 (4.8%) | 32,759 (11.5%) | 41,906 (30.7%) | 110,442 (7.9%) |
| Ballyfermot | 119 (2.6%) | 175 (4.4%) | 514 (9.0%) | 773 (19.8%) | 1090 (41.5%) | 2,671 (12.9%) |

Data Source: Census 2002

**Table 4.10 Number and percentage of persons with a GMS Card – Aug 2003 – in ERHA, SWAHB and Ballyfermot**

| AREA | GMS Card Card N | Total Population N | With GMS Card % |
|---|---|---|---|
| **ERHA** | 339,721 | 1,401,441 | 24.2 |
| **SWAHB** | 147,323 | 580634 | 25.4 |
| **Ballyfermot DEDs Total** | **9177** | **20,699** | **44.4** |
| Cherry Orchard A | 567 | 2161 | 26.2 |
| Cherry Orchard B | 1287 | 2918 | 44.1 |
| Cherry Orchard C | 1935 | 3728 | 51.9 |
| Decies | 1342 | 2933 | 45.7 |
| Drumfinn | 1759 | 3799 | 46.3 |
| Kilmainham A | 918 | 2355 | 38.9 |
| Kylemore | 1369 | 2805 | 48.8 |

Data Source: GMS Payments Board – Dec 2003

**Note 1:** *Coding of persons by District Electoral Division is only completed for 89% of persons.*

**Note 2:** *ERHA figures relate to the number of persons eligible for GMS. All other areas refer to numbers of persons with a current medical card.*

### 4.2.9 Means of Travel and Car Ownership

The usual means of travel to work, school or college for persons aged five years and over is shown in Table 4.11. Almost 30% of Ballyfermot residents walk, over a quarter travel by bus (26%) and 31% travel by car, either driving or as passengers. Dublin City is a better comparator than ERHA (which encompasses counties Dublin, Kildare and Wicklow) with respect to means of travel and car ownership. As can be seen in Table 4.11, more people in Ballyfermot use buses as their usual means of travel (26%) than in Dublin City as a whole (19%).

The percentage of households not having a car in Ballyfermot was higher (51%) than in Dublin City (42%). The percentage of Ballyfermot residents having one car was similar to that of Dublin city (39%) (Table 4.12).

**Table 4.11 Means of travel to work, school or college for persons aged five years and over in ERHA, Dublin City and Ballyfermot**

| Means of travel | ERHA | | Dublin City | | Ballyfermot | |
|---|---|---|---|---|---|---|
| | N | (%) | N | (%) | N | (%) |
| Foot | 187,959 | (19.9) | 89,504 | (27.9) | 3,358 | (29.7) |
| Bicycle | 35,043 | (3.7) | 18,348 | (5.7) | 348 | (3.1) |
| Bus | 148,794 | (15.8) | 61,240 | (19.1) | 2,985 | (26.4) |
| Train | 40,087 | (4.3) | 10,386 | (3.2) | 42 | (0.4) |
| Motor Cycle | 11,673 | (1.2) | 3,943 | (1.2) | 117 | (1.0) |
| Motor Driver | 323,040 | (34.3) | 83,299 | (26.0) | 2,432 | (21.5) |
| Car Passenger | 117,337 | (12.5) | 25,153 | (7.8) | 1,114 | (9.8) |
| Other | 54,239 | (5.8) | 14,507 | (4.5) | 579 | (5.1) |
| Not Stated | 24,009 | (2.5) | 14,322 | (4.5) | 283 | (2.5) |
| **Total** | **942,190** | **(100)** | **320702** | **(100)** | **11318** | **(100)** |

Data Source: Census 2002

**Table 4.12 Car Ownership in ERHA, Dublin City and Ballyfermot**

| | ERHA | | Dublin City | | Ballyfermot | |
|---|---|---|---|---|---|---|
| | N | (%) | N | (%) | N | (%) |
| No car | 117,518 | (25.3) | 75,254 | (41.7) | 3,290 | (50.9) |
| 1 car | 184,468 | (39.7) | 70,172 | (38.8) | 2,496 | (38.6) |
| 2 car | 132,990 | (28.6) | 2,9207 | (16.2) | 547 | (8.5) |
| 3+ cars | 29,649 | (6.4) | 6,028 | (3.3) | 126 | (2.0) |
| **Total Households** | **464,624** | **(100)** | **180,661** | **(100)** | **6,459** | **(100)** |

Data Source: Census 2002

## 4.3 Services in Ballyfermot

Map 3 shows the distribution of the following services in the Ballyfermot area:

- Cherry Orchard Hospital (A hospital primarily for long stay elderly patients)
- Health Centres
- Churches
- Schools
- Services for the Elderly
- Garda Station
- Community Centres

## 4.4 Future planning and developments in the area

### 4.4.1 Cherry Orchard Draft Action Plan

Many new developments have already taken place in Cherry Orchard over the past few years including Park West Office / Industrial Estate. A major action plan for the area was recently developed (Cherry Orchard Draft Action Plan 2003). This action plan refers to the development of lands from Cherry Orchard Grove roundabout to the M50. Developments to date include:

- An Equine & Educational Centre
- Affordable Housing (Cedar Brook)
- Corporation Housing (Barneville Park, Blackditch Road/Elmdale Close)
- Social Housing Scheme [National Association of Building Co-operatives (NABCO) Cherry Orchard Housing]
- Development of Cherry Orchard Park

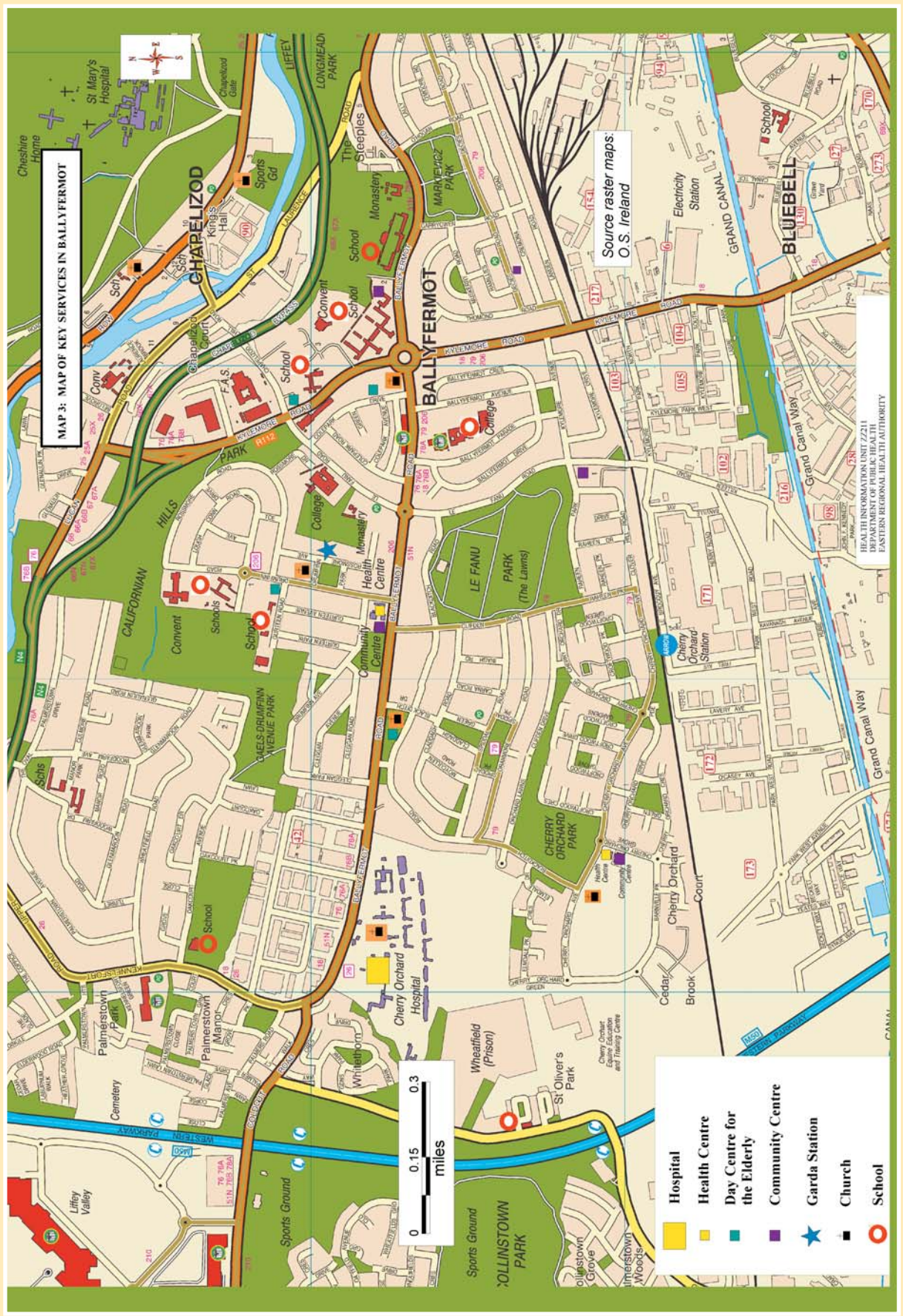
Dublin City Council is to create a Town Centre in Cherry Orchard, as a part of a €2 billion regeneration plan for the area. This will include up to 5,000 new homes and a train station. The plan will see the development of two sites, one located near the existing Park West Office/Industrial Estate and the other at the rear of Cherry Orchard Hospital. The 25-acre site, near Park West is owned by Dublin City Council and is located east of the M50, north of the railway to the roundabout on Cloverhill Road. Dublin City Council is in the final stages of purchasing from the Eastern Regional Health Authority the other site (rear of Cherry Orchard Hospital) of which 18 acres will be available to the City Council for development.

There will be a strong emphasis on affordable housing, with 30% of the 5000 homes coming under this scheme. The Cedarbrook development in Cherry Orchard has been a huge success, providing 376 residential units, 109 under the affordable housing scheme. For example a three bedroom affordable townhouse in the Cedarbrook Estate cost about €184,000. Social housing is not envisaged in the framework plan for these sites as significant social housing is already available in Cherry Orchard.

Dublin City Council in partnership with Harcourt Developments Ltd (Park West) will build a new railway station and civic plaza commencing in 2005. The station is part of the Kildare Route Project and is being designed and built in co-operation with Iarnrod Eireann. The station and plaza is estimated to cost about 6 million euro, 40% of which will be contributed by the Council.

The link road from Park West to Cloverhill was opened in August 2004.

## Map 3: Key Services in Ballyfermot



### 4.4.2 Kildare Route Rail Project 2008-2010

An extra track is planned for the suburban rail from Sallins to Dublin. The stations along the rail line are currently having their platforms lengthened to accommodate eight car trains. Currently, a three-car train (ARROW) services these stations. It is anticipated that by 2008, four-tracking of the lines (currently two track) will be complete. This may include moving the Cherry Orchard station further west to serve Park West, and moving the Clondalkin station to Fonthill Rd.

A new village centre is planned close to the railway station, which will have a mix of residential and retail units. A new high street / plaza around the rail station with shops, cafes and a public space will provide a centre for this new urban area.

## 4.5 Summary

- Ballyfermot is an area on the western side of Dublin city, with a population of just over 20,000 according to the 2002 census, which has decreased slightly since 1996.
- It has a higher proportion of elderly and single, widowed and separated persons than the Eastern Region as a whole.
- The proportion of lone parent households is twice that of the total Eastern Region.
- Ballyfermot compares unfavorably with the rest of the Eastern Region in terms of higher unemployment rates, lower income as measured by greater medical card eligibility and much lower levels of educational attainment. Reported levels of disability are also higher than the Eastern Region.
- More people in Ballyfermot use buses than in Dublin City as a whole and a greater proportion of households do not own a car compared to the rest of Dublin City.

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# Chapter 5
# THE IMPACT OF TRAFFIC ON HEALTH STATUS IN BALLYFERMOT

## 5.1 Introduction

A summary of the potential impacts of transport on health as determined from the international literature has been described clearly in Table 3.5, Chapter 3. In brief these are: fatal and non fatal injuries, respiratory and heart diseases from the effects of air pollution and effects on mental health and well-being such as increased stress from traffic congestion, noise, severance of communities by roads, constraints on mobility, access and independence and reduced social use of outdoor space. The objective of this chapter is to identify if traffic and transport policy has had any impact on the health of Ballyfermot residents and to quantify these effects where possible within the limited scope of the initiative.

Measures to slow down traffic such as traffic calming and speed limit reduction show a clear and consistent effect on injury reduction (Table 3.2, Chapter 3).

Short term exposures to air pollution are known to be associated with acute symptoms of respiratory disease such as cough, wheezing (asthma) and increased hospital admissions for respiratory and cardiovascular diseases. The health effects are much less certain with regard to long-term exposure. While evidence increasingly shows an association between long term exposure to fine particulate air pollution and deaths from respiratory and heart disease including lung cancer, independently of smoking and other risk factors[1], the contribution of smoking to these illnesses is many times greater and is associated with 95% of all lung cancer cases. In this chapter preliminary data from the Air Pollution and Noise Monitoring Study[2], concurrently carried out in Ballyfermot under the auspices of URBAN II, is examined to see if measurements are in breach of recommended levels. Deaths and hospital admissions for fatal and non-fatal injuries, respiratory diseases, heart diseases and cancers especially lung cancer are also examined.

Many factors other than traffic and transport policy affect mental health and well- being in a community. It is therefore impossible to ascribe high stress rates in a community as being due to the effects of traffic although it may be a contributory factor. However prescribing rates of certain drugs such as those used to treat anxiety and sleep disorders are an indicator of high levels of stress in a community and these are also examined in this chapter.

## 5.2 Method

Statistical (quantitative) data, which is collected routinely, was examined and the relevant data extracted where available for the Ballyfermot area. Comparisons were made with the area of the Eastern Regional Health Authority (ERHA) as a whole i.e. counties Dublin, Kildare and Wicklow where appropriate. Data from the South Western Area Health Board (SWAHB) which serves Ballyfermot was also used for comparison where available.
The data sources used were:

- Mortality (Deaths) Data
- Morbidity (Illness) Data e.g.
  - Hospital admissions
  - Accident data from Dublin City Council
  - Cancer incidence
  - Prescriptions for certain drugs
  - Lifestyle data on smoking, physical activity and obesity
  - Air pollution data from the Air Pollution and Noise Monitoring Study

Data on deaths for the five-year period 1994 – 1998 (the most recent available data), were examined by comparing the rates for Ballyfermot with the Eastern Region as a whole which were adjusted to take age into account. It is important to note that where there is a small number of deaths for a condition, the figures should be interpreted with extreme caution.

## 5.3 Mortality

**Table 5.1 Mortality (Deaths) in Ballyfermot Compared to the ERHA, 1994 - 1998. Numbers of Observed and Expected Deaths and Excess Deaths with their 95% Confidence Intervals (CI) for Selected Causes/Genders**

| Deaths | Observed N | Expected N | *Excess (%) | 95% CI | |
|---|---|---|---|---|---|
| | | | | Lower | Upper |
| All Causes | 1088 | 845 | 34.9 | 26.9 | 43.0 |
| - Males | 586 | 419 | 46.7 | 34.9 | 58.6 |
| - Females | 502 | 421 | 24.7 | 13.7 | 35.6 |
| All Circulatory | 450 | 353 | 33.4 | 21.0 | 52.6 |
| - Males | 227 | 173 | 37.8 | 19.9 | 55.8 |
| - Females | 223 | 178 | 31.2 | 13.9 | 48.4 |
| Ischaemic Heart Disease | 250 | 196 | 34.7 | 18.0 | 51.3 |
| - Males | 138 | 108 | 33.9 | 11.6 | 56.3 |
| - Females | 114 | 85 | 39.3 | 13.7 | 64.8 |
| Cerebrovascular Disease (Strokes) | 80 | 73 | 14.5 | -9.2 | 42.4 |
| All Respiratory | 144 | 109 | 39.3 | 16.6 | 62.1 |
| - Males | 74 | 50 | 55.3 | 22.0 | 95.1 |
| - Females | 70 | 58 | 26.2 | -1.6 | 59.4 |
| All Cancers | 319 | 237 | 40.0 | 24.6 | 55.4 |
| - Males | 192 | 120 | 66.6 | 43.0 | 90.2 |
| - Females | 127 | 115 | 14.5 | -5.4 | 34.4 |
| Lung Cancer | 126 | 60 | 118.0 | 85.6 | 156.2 |
| - Males | 93 | 36 | 171.5 | 119.2 | 232.7 |
| - Females | 33 | 23 | 45.3 | 0.0 | 104.2 |
| Mouth and Pharnyx Cancers | 12 | 4 | 183 | 46 | 394 |
| Road Traffic Accidents# | 10 | 8 | 35.4 | -35.0 | 149.1 |

Data Source: Central Statistics Office

**Excess is measured as the amount by which the Ballyfermot mortality, which has been adjusted for age, is greater than the regional value. The regional value takes account of a small number of District Electoral Divisions where the values are not known. A Confidence Interval not including zero indicates a statistically significant difference in Ballyfermot mortality compared to the Region as a whole.*

*#Deaths are recorded for Ballyfermot residents. The Road Traffic Accident may have occurred outside Ballyfermot.*

Table 5.1 shows the actual (observed) number of deaths in the Ballyfermot Region from all causes, from the principal causes of death and the numbers one would expect if the standard rates for the Eastern Region are applied. In particular, deaths due to road traffic accidents and causes of deaths known to have some association with air pollution arising from heavy traffic were examined. The 95% confidence interval gives the range of the excess, for example, although an excess of 35% is noted for all causes of death, this can range from as low as 27% to as high as 43%.

The number of road accident deaths over the five year period is very small with the excess not differing especially from the period as a whole.It is important to note that in relation to the deaths of Ballyfermot residents due to road traffic accidents, the site of the accident may not have been in the Ballyfermot area.

There was an excess of deaths for all circulatory diseases of over 30% in both males and females with similar figures noted for (ischaemic) heart disease. Although a 15% excess was noted for strokes, this did not reach statistical significance.

A 39% excess mortality was noted for all respiratory diseases with a 55% excess for males compared with 26% for females. There was a 40% excess mortality for all cancers, with males in particular having an excess of 67% compared to 15% in females. When these figures are examined more closely, the lung cancer mortality rates are striking, particularly for males, with a 172% excess compared with the region as a whole. Females also showed an excess of lung cancers however this did not reach statistical significance. The excess mortality from cancers, of the mouth and pharynx (back of the throat) is also striking, however the numbers are very small. Mortality for other common cancers was examined, including breast, prostate, colorectal (intestinal), bladder, larynx (windpipe) and oesophagus (gullet), but rates were no different to the Eastern Region.

## 5.4 Hospital Discharges

Ballyfermot residents traditionally attend one major hospital in the region, St James's Hospital. In 2002 60% of all admissions from the Ballyfermot DEDs were to St James's. The remainder, including children, mainly attended other hospitals in the South Western Area Health Board. Hospital Inpatient Enquiry Data (HIPE) records clinical and demographic details for hospitalised patients throughout the country. It records the number of hospital discharges, hence a person who is discharged twice within a year will be counted twice. These data can be used to give a picture of the activity within a particular hospital and trends over time relate to patterns of care provided by a particular hospital for a condition. Its collation with a particular diagnosis must therefore be interpreted with caution.

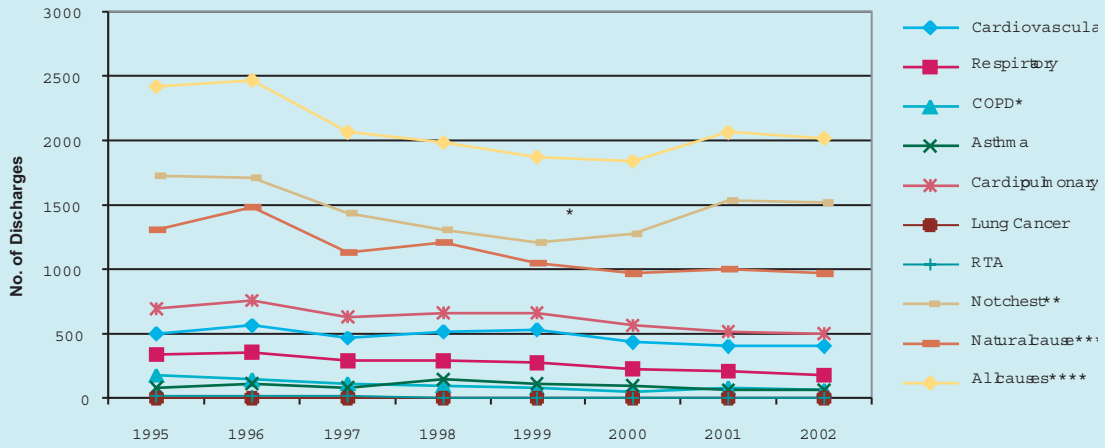
Two types of HIPE data were collected for this study.

- Discharges from St. James's Hospital from the period 1995-2002 from Ballyfermot District Electoral Divisions (Figure 5.1).
- Discharges from all Acute Public Hospitals in the Eastern Region from 1995-2001 for Dublin 10 residents (Figure 5.2).

Time trend analysis* was carried out on the number of discharges for particular conditions to see if significant patterns of change occurred over the eight year period. No significant time trend was observed for the number of discharges from all causes. With regard to discharges for road traffic accidents there was a clear downward trend in the numbers of discharges from St. James's Hospital for the period 1995-2002. Discharges for cardiovascular diseases also showed a downward trend with an annual percentage change of 4%. Discharges from all acute hospitals in the region did not show a downward trend.

**The method used was linear regression of logarithmic transformed data.*

**Figure 5.1 Discharges from St James's Hospital for Ballyfermot DEDs 1995-2002 for Selected Diagnoses**




Data Source: St James's Hospital

** COPD = Chronic obstructive airways disease i.e. Chronic Bronchitis*

*** Not Chest =Discharges which were not from cardiovascular, respiratory, cardiopulmonary or lung cancer*

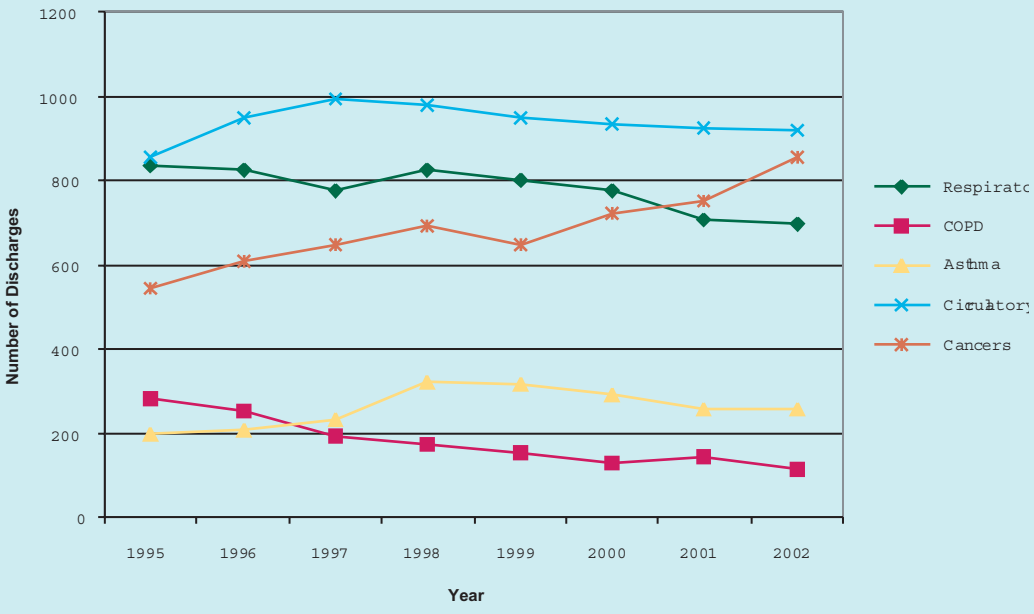
**** Natural cause =Total non-trauma discharges*

*****All Causes = All causes of discharge*

The identified downward trend was more dramatic for discharges with respiratory diseases, with an annual percentage decrease of 9.1% for discharges from St. James's Hospital and an annual percentage decrease of 2.5% from all acute hospitals. Discharges with a diagnosis of cardiac and respiratory disease combined also showed a significant downward trend. All non-trauma discharges from St. James's showed a significant decrease from 1995-2002 with an annual percentage reduction of 5.6%.

There was a significant upward trend in discharges for all cancers from all hospitals in the region with an annual increase of 5.4%. Discharges from St. James's Hospital for lung cancer increased between 1995-2002. However this increase was not statistically significant as the numbers were small.

**Figure 5.2. Discharges from all Acute Hospitals in the Eastern Region for Dublin 10 Residents 1995-2002 for Selected Conditions**




Data Source: HIPE and NPRS Unit, Economic and Social Research Board (ESRI)

Changes in hospital admission and discharge patterns are widely affected by a number of factors:

- Changes in patterns of care provided by the hospitals i.e. a shift from inpatient to outpatient care.
- Only more severe cases being admitted as better treatments have resulted in a greater proportion of cases being treated by their family doctor.
- Changes in data recording procedures in hospitals over the period.

For all of these reasons trends in hospital admissions must be interpreted with caution and cannot be considered to reflect the underlying occurrence of diseases in a community. The fall in hospital admissions for cardiovascular and respiratory diseases is almost certainly due to changing patterns of care for these conditions as non-trauma admissions decreased from 1995-2002. Admissions for cancers increased and this would reflect earlier diagnosis and treatment of cancers, which in the earlier years may have remained undetected. The significant reduction in road traffic accidents is mirrored by a decrease in deaths and reduction in occurrence of road traffic accidents (see below).

### 5.5 Accident Data

Data from Dublin City Council (DCC) shows that the numbers of fatal, serious and minor accidents have reduced by 52% overall in the geographic area of DCC between 1997 and 2002 on all road types. There has been a reduction of 43% in accidents in Ballyfermot over the same time period and no fatal accidents were reported (Table 5.2). Between 1997 and 2002 the vast majority of accidents in the area were minor with 24 (11%) being described as serious. The majority of accidents in the area 189 (86%), occurred on three roads, Ballyfermot Road (110), Kylemore Road (63) and Le Fanu Road (16). DCC acknowledges a certain level of under reporting of accidents, however it is assumed that the level of under reporting does not vary significantly from year to year.

The Dublin City Council Road Safety Plan is being reviewed at present.

**Table 5.2 Number of *Serious and **Minor Road Traffic Accidents occurring in the period 1997 – 2002 in Dublin City Council and Ballyfermot**

| Year | 1997 N | 1998 N | 1999 N | 2000 N | 2001 N | 2002 N | Total N | % Change 1997 -2002 |
|---|---|---|---|---|---|---|---|---|
| **Accidents in Dublin City Council** | | | | | | | | |
| Fatal | 53 | 37 | 26 | 22 | 14 | 16 | 168 | -70 |
| Serious | 190 | 142 | 103 | 102 | 88 | 56 | 681 | -71 |
| Minor | 1678 | 1525 | 1358 | 1329 | 1054 | 846 | 7,790 | -50 |
| **Total** | **1921** | **1704** | **1487** | **1453** | **1156** | **918** | **8,639** | **-52** |
| **Accidents in Ballyfermot DEDS** | | | | | | | | |
| **Total** | **41** | **23** | **27** | **54** | **53** | **22** | **220** | **-43** |

Data Source: Dublin City Council

**A Serious accident is defined as an accident requiring a person to be detained in hospital as an in-patient.*
***A Minor accident is defined as an accident (e.g. a sprain or broken bone) treated without admission to hospital*

## 5.6 Cancer Incidence

We examined the cancer incidence in the Ballyfermot area for the years 1994 to 2000 using data from the National Cancer Registry. Although principally interested in lung cancer rates, data for all the common cancers i.e. breast, colorectal (intestinal) and prostate cancers were compared with the age adjusted rates for those cancers in the Eastern Region. Less common cancers included stomach, bladder, mouth and back of the throat (pharynx), gullet (esophagus) and wind pipe (larynx). Cancers which showed a significant excess in comparison with the Eastern Region as whole are presented in Table 5.4.

Six hundred and nine cancers altogether were noted in the Ballyfermot area in the seven year period compared with 546 expected, giving a slight overall excess of 18% (range 9–28%). This was due mainly to an excess in male cancers of 34% compared to males in the overall Eastern Region. A 5% excess was noted in females compared to their regional counterparts. Other slight excesses were observed for breast cancer in women and intestinal cancer in men, however these did not differ appreciably from the Eastern average. Levels of intestinal cancer in women and prostate cancer in men, although somewhat lower than average, were not significantly lower than the Eastern Region as a whole.

The picture is quite different in the relation to lung cancer. Here there is a 93% significant excess in the number of cases compared with the Eastern Region. The size of the excess differs for males and females with Ballyfermot men showing an excess of 126% and women a 53% excess compared to their regional equivalents. In relation to cancer of the mouth and pharynx, although there were only 25 cases, this represented an excess of 127% compared to the Eastern Region as whole. Most of these cases occurred in men. Although the National Cancer Registry is a reliable source of data, caution must be observed in the interpretation of data on less common cancers, as the numbers over a seven-year period are very small and the observed number of cases could be due to random variation.

It is well established that approximately 95% of all lung cancer cases are due to smoking. Our data from the National Cancer Registry shows that for those lung cancer cases where smoking status was recorded (95%), only 6% never smoked. For cancers of the mouth and pharynx, also associated with smoking, smoking status was recorded for 90% of cases and only 5% never smoked. Other cancers associated with smoking i.e. larynx (and oesophagus were not significantly different from the Eastern Region as a whole. However the numbers were very small. The excess incidence for bladder cancer is of marginal significance with the excess ranging from as low as 11.% to as high as 158%. Mortality figures for bladder cancers did not show excess.

**Table 5. 3 Cancer* Incidence in Ballyfermot compared to the ERHA 1994 - 2000.**
**Numbers of Observed and Expected Deaths and Excess Deaths with their 95% Confidence Intervals (CI) for Selected Causes/Genders**

| Site / Gender | Observed N** | Expected N* | *Excess (%) | 95% CI | |
|---|---|---|---|---|---|
| | | | | Lower | Upper |
| All Sites | 609 | 546 | 18.2 | 8.8 | 27.6 |
| - Male | 335 | 265 | 34.4 | 20.0 | 48.8 |
| - Female | 274 | 276 | 4.9 | -7.5 | 17.3 |
| Lung | 151 | 83 | 92.9 | 62.1 | 123.7 |
| - Male | 103 | 48 | 125.7 | 82.1 | 169.3 |
| - Female | 48 | 33 | 53.0 | 12.8 | 102.9 |
| Mouth and Pharynx | 25 | 12 | 126.6 | 46.7 | 234.5 |
| Bladder | 33 | 21 | 62.1 | 11.6 | 127.6 |

Data Source: National Cancer Registry

**Excess is measured as the amount by which the Ballyfermot incidence rate, which has been adjusted for age, is greater than the regional value. The regional value takes account of a small number of District Electoral Divisions where the values are not known. A Confidence Interval not including zero indicates a statistically significant difference in Ballyfermot mortality compared to the Region as a whole.*

## 5.7 Prescribing Patterns

It is useful to examine variation in prescribing patterns as an indicator of underlying morbidity (illness) trends in a population. However it is important to note that alteration in prescribing patterns can be influenced by many other factors such as the preferences of the prescribing doctor, particularly within a relatively small geographical area such as Ballyfermot.

Prescribing patterns for medical cardholders living in the seven Ballyfermot DEDs were examined for the years 1995 to 2003 using data from the first quarter of each.

Prescribing patterns for medical cardholders living in the seven Ballyfermot DEDs were examined for the years 1995 to 2003 using data from the first quarter of each year. The data were adjusted for age and then compared with patterns in the Eastern Region which was used as a reference. The following drug categories were examined.

- Drugs used for the treatment of asthma i.e. inhalers and oral drugs.
- Drugs used for the treatment of heart (cardiovascular) disease
- Drugs used for the treatment of anxiety and lack of sleep (anxiolytics, hypnotics and sedatives).
- Drugs used for the treatment of depression.

Prescribing rates for asthma fell within the average for the Eastern Region between 1995 and 2001. However asthma prescribing rates tended to be higher than average for most of the DEDs for 2002/3. The significance of this is unclear. Prescribing rates for drugs used to treat heart disease were lower than average in some years.

Prescribing of drugs associated with mental health i.e. drugs used to treat anxiety, sleep disorders and depression appeared higher than the average for the Eastern Region throughout the period. When each drug category was examined separately, drugs used to treat anxiety and sleep disorders were mainly responsible for the higher than average prescribing rather than drugs used to treat depression.

## 5.8 Lifestyles

### 5.8.1 Physical Activity and Obesity

We do not have local information for Ballyfermot on rates of participation in physical activity and levels of obesity. However the National Health and Lifestyle (SLÁN) and Health Behaviour in School Children (HBSC) surveys were carried out in 2002[1]. From the SLÁN Survey the percentage of respondents taking little or no exercise at all in a week was slightly lower in the SWAHB at 23% for men and 25% for women compared with the national figures of 27% for men and 26% for women respectively. The highest percentage of people taking no exercise at all was seen in the less well off and in the oldest age groups. However the percentage of girls who reported participating in vigorous exercise, four or more times a week was much lower than boys (SWAHB: boys 62%, girls 35%, National: boys 59%, girls 42%). These differences were particularly substantial for older students. Similarly a much higher percentage of girls reported taking exercise less than once per week.

### 5.8.2 Influence of Smoking

Although air pollution is an important cause of heart and respiratory diseases, the effect is miniscule compared to the effect of cigarette smoke. Cigarette smoke is the single most important causal factor in the development of lung cancer. From the SLÁN Survey, smoking rates were higher in the SWAHB, at 30% for men and 29% for women aged over 18 years than National figures (28% males, 26% females). Results from the HBSC survey of children aged 10 to 17 years showed that in the SWAHB 14% of boys and 23% of girls reported being current smokers compared to 17% of boys and 20% of girls nationally. More girls than boys also reported that they had ever smoked (boys 36%, girls 48%).

While there is no recent data on smoking rates in Ballyfermot, a study carried out in 1995[2] in different parts of Dublin City (including most of Ballyfermot and Kilmainham) and some rural areas showed that although smoking rates were slightly higher in Ballyfermot and Kilmainham, rates were not significantly different from the total Dublin area under study. Similarly there was no difference in those who reported asthma symptoms in the year prior to the study.

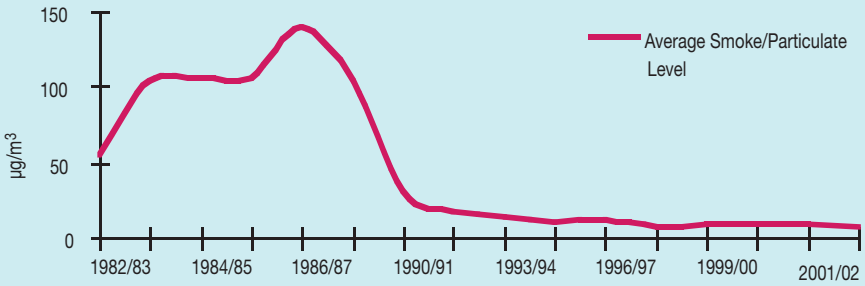
Recent local needs assessments carried out in areas of Dublin reasonably similar to Ballyfermot in terms of socio-economic structure, Finglas, Tallaght, Dublin Docklands and Darndale[3,4,5,6] found that smoking rates were higher than the national averages in all the areas surveyed.

## 5.9 Air Quality and Noise

### 5.9.1 Background

During the 1980s and early 1990s, air quality in Ballyfermot was generally very poor. Winter smog episodes occurred frequently and were directly associated with the burning of bituminous coal and other smoke-producing solid fuels for domestic heating. Ballyfermot was identified as the most polluted area within the city, with breaches of air quality regulations occurring on a daily basis throughout the winter months. The rising annual average smoke levels, coupled with high incidences of respiratory disorders, led the City Council to make Ballyfermot the first area to be identified as a Special Control Area to prevent or limit air pollution in this region of the city. The introduction of smoke control legislation in the 1990s[7], which banned the burning of bituminous coal eradicated the winter smog problem and brought black smoke concentrations in Ballyfermot within statutory limits. Figure 5.3 illustrates how black smoke levels have reduced significantly in the Ballyfermot area over the past 20 years.

**Figure 5.3: Historical Smoke Concentrations in Ballyfermot**



## 5.9.2 Results of Air Quality Study

An extensive air quality study was carried out in the Ballyfermot area between August 2003 and February 2004[8]. The study involved monitoring the air quality at selected locations on an hourly basis to determine local levels of pollutants which are regulated under the Air Quality Standards Regulations 2002 (Appendix 3). Table 5.5 shows that for all pollutants studied, hourly measurements indicated overall compliance with the Air Quality Standards Regulations 2002. However, nitrogen dioxide levels approached (though did not exceed) the limit value of 40 mg/$m^3$ on some roads: Killeen, Kylemore, Ballyfermot, Sarsfield, Le Fanu and Kennelsfort Roads, indicating that approximately 10% of the population are exposed to levels > 30 µg/$m^3$ of nitrogen dioxide.

**Table 5.4: Pollutants measured as part of Air Quality Study, Ballyfermot 2003**

| Pollutants measured | Compliance with Irish and EU legislation |
|---|---|
| Nitrogen Dioxide ($NO_2$) | Yes |
| Carbon Monoxide (CO) | Yes |
| Benzene ($C_4H_4$) | Yes |
| Particulates ($PM_{10}$) | Yes |

Although hourly particulate levels indicated compliance with the limits of the Air Quality Standards Regulations, there was an overall increase in levels on Sundays in November and December 2003. However the levels are similar to mean particulate levels in other urban residential locations in Dublin City Council.

Sixteen complaints were logged with Dublin City Council between January and December in relation to air quality. Dublin City Council continues to strive to improve traffic flow and management, ensuring that best practice is followed in urban development and in enforcement of environmental legislation with a view to continually improving air quality in the Ballyfermot area.

## 5.9.3 Noise

The increase in volume of traffic in Ballyfermot has the potential to give rise to elevated noise levels. Raised noise levels have the potential to impair the quality of life of the citizens of the area by causing a general nuisance and more rarely interfering with speech or hearing. In July of 2003 the Traffic Noise and Air Quality Unit of DCC received funding from URBAN II to carry out a traffic noise assessment in the Ballyfermot region. It was proposed that noise maps or contours would be produced, which would show in a visual way the impact of noise on commercial and residential properties and on the people living in the area.

***Objectives***

The primary objectives of the Ballyfermot Noise Mapping Project were as follows:-

- To identify and quantify the scale of the noise problem in Ballyfermot by providing information on noise levels.
- To provide information to the public on the level of noise throughout the Ballyfermot area and the location of 'Hot Spots'.
- To assist Ballyfermot URBAN II in the process of setting realistic targets for noise reduction.

***Assessment of Population Exposure to Current Noise Levels***

Noise levels were measured at 18 locations within the study area between August and December 2003. Results of the study showed that just under 70% of the population of Ballyfermot are living in areas where noise levels are less than 55 decibels, which are not likely to cause disturbance, similar to the total DCC population (69%). Just over 5% of the Ballyfermot population were exposed to noise levels above the recommended limit of 67 decibels, slightly higher than the city average of 4.3%.

The main areas where there are elevated noise levels and which impact on people, are along the Kylemore Road leading onto the Ballyfermot roundabout and on Ballyfermot Road, from the roundabout to the Le Fanu Road/Killeen Road junction. Although the noise contours indicate high noise levels coming from the Chapelizod Bypass, the noise does not intrude significantly on residential property in the Ballyfermot area. An assessment of traffic patterns on these main routes through Ballyfermot indicates that traffic levels remain consistent throughout the week with the expected drop in morning peak traffic flows at weekends, but with an increase in evening flows higher than at weekdays.

Although noise levels in the 55 – 59 decibel range would not be considered excessive, a higher percentage of the population in the Ballyfermot area (46%) are being exposed than those in the total South Central Area (21%) or the total area of DCC (18%).

## 5.10 Summary

- The objective of this chapter was to identify if traffic and transport policy has had any impact on the health of Ballyfermot residents.
- Serious and minor accidents have significantly decreased in the Ballyfermot area for the period 1994-2002. It is likely that the traffic calming and transport measures introduced by DCC have been an important contributory factor.
- Measurement of health status of Ballyfermot residents showed a pattern of poor overall health with high death rates from cardio-respiratory diseases and high incidence and death rates from lung cancer and other cancers associated with cigarette smoke. It is well established that approximately 95% of all lung cancer cases are due to smoking, therefore smoking rather than air pollution is by far the most likely explanation for the high rates noted.
- Results from the Air Pollution Study for all the parameters measured lay within acceptable limits, hence it is likely that other factors are also acting to cause disease. However, it is possible that a proportion of the excess lung cancer seen in the region could be due to the poor air quality of the 1980s prior to the introduction of the ban on smoky coal.
- Results from the Noise Monitoring Study showed that, overall, the majority of the population in the area are not being exposed to excessive levels of noise from traffic. However noise levels are elevated, affecting people along the Kylemore Road leading onto the Ballyfermot roundabout and on Ballyfermot Road.
- National Cancer Registry data showed that for the 95% of lung cancer cases where smoking status was recorded, only 6% of cases never smoked. Data from the mid 90's would suggest that smoking rates in Ballyfermot were slightly higher than Dublin City as a whole.
- Higher prescribing rates of drugs used to treat anxiety and altered sleep patterns in Ballyfermot would suggest less than optimum mental health and well-being among Ballyfermot residents with traffic congestion being a likely contributor. It is not possible to assess the exact contribution of traffic congestion to this from the quantitative data as it is likely due to a number of interacting factors.

- There are major lifestyle issues such as high levels of obesity, low levels of participation in physical activity particularly in girls, and relatively high smoking rates. These inequalities need to be addressed by policies which promote 'active transport', improve opportunities for increased physical activity and health promotion initiatives to improve health awareness.

- The pattern of ill health identified is consistent with similar geographic areas where the root causes of ill health are linked to high levels of socio-economic disadvantage.

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# Chapter 6
# PERCEPTIONS OF TRAFFIC AND TRANSPORT IN BALLYFERMOT AND THE RELATED HEALTH EFFECTS

## 6.1 Introduction

Ballyfermot is similar to a number of areas in the city, which have been affected by the increase in car ownership and reliance on private transport by the commuting population. As outlined earlier, extensive measures have been put in place by Dublin City Council to address traffic and transport issues in the area since 2000.

As part of this HIA, six interviews were held with key informants who worked in the area and five focus groups were held with members of the public in Ballyfermot – one with youths aged 13 to 17 years [Y], one with older persons [OP], two with the general adult population [GAP1; GAP2] and one with people with disabilities [PWD]. The key informants comprised two school principals, two general practitioners, one health care worker and one member of the Garda Síochana. A total of forty-one people participated in the focus groups and interviews. The objective of these discussions was to ascertain local views on traffic and transport issues and on the measures put in place by DCC.

The main areas covered in the focus groups and interviews were:

- General description of Ballyfermot and 'issues'
- Personal Transport Habits
- Traffic Issues
- Traffic Effects
- Measures already in place in Ballyfermot

The focus groups were held between November 2003 and January 2004. Participants were contacted in advance through local residents' committees and with the assistance of local groups. Potential participants were contacted two weeks in advance by telephone to request their attendance at one of the focus groups. A letter was then sent to those who agreed to participate detailing the purpose of the study and the arrangements for the focus group. Participants were reminded of the focus group by telephone on the day preceding the group. Each group lasted between one and two hours.

The key informant interviews were held in the period December 2003- January 2004. All six key informants worked in the Ballyfermot area. Interviews were conducted by telephone. Interviewees were contacted in advance of the process to explain the methods used, the purpose of the interview and to arrange a suitable time to conduct the interview. Interviews were conducted by a Specialist Registrar in Public Health Medicine [3] and a Researcher in Public Health [3]. The duration of the interviews ranged from 20 to 40 minutes.

## 6.2 Results from Focus Groups

### 6.2.1 General Description of Ballyfermot and 'Issues'

While none of the participants indicated an intention to move from the area and the older persons specifically stated that they would not opt to live elsewhere, a number of issues were mentioned.

*"It is [a good area to live], oh yeah, oh I wouldn't leave it, I wouldn't move out of it. I wouldn't leave it now".* [OP]

The main criticism of the area was the lack of facilities in terms of shops and choice in local supermarkets necessitating travel to other areas. The area was also disadvantaged in terms of having insufficient banking services. Other perceptions relating to the area was that there are 'a lot of junkies' [GAP2], 'a lot of disabled people' [PWD] and 'a lot of older people' [PWD]. Young people indicated that employers had a bad perception of Ballyfermot and hence they felt they would not be successful in job applications as a result.

*"If two people went for a job, right, and one of them was from Ballyfermot and one of them was Kerry, then do you think the person from Ballyfermot would get the job but even if the person from Ballyfermot had qualifications that were better they still would give the job to the person from Kerry".* [Y]

The older persons group highlighted the availability of services for them in the area, which include the resource centre, the civic center, the crafts' group, the library and St. Matthew's parish centre. They felt "there's somewhere for someone to go … at all times and there's great support networks as well". [OP]

There was a clear distinction made in two of the groups {[Y] and [GAP1]} between the different 'parts' of Ballyfermot and the animosity that exists.

Participants in the PWD group pointed out that many of the buildings in the area were old and hence were not built with wheelchair access in mind. The participants, apart from those in the youth group (although they discussed a number of impacts), and particularly those in the older persons group, considered traffic/transport issues a definite impact on life in Ballyfermot.

*"I can only speak for myself, anyone will probably say the same as, it's [traffic in the area] a terrible stress, it really is, you know".* [OP]

*"You feel that you're sort of marooned, that you can't [get out]. To get into town or to get anywhere is a major job, you know. Either by public transport or by the car".* [GAP1]

### 6.2.2 Personal Transport Habits

The personal transport of contributors varied, with most participants engaging in a mixture of transportation methods. Members of the youth group mainly walked with only one using a bicycle regularly and most use the bus to travel to town to go shopping. Members of the older persons group also usually walked, again taking the bus when they needed to go to town. Although some of these participants had access to a car, none drove themselves. The participants who had disabilities mostly travelled by motorised transport - either family cars or day-care centre buses. Many avail of taxis regularly. None currently take the bus although previous use was indicated. The contributors to the general adult population groups again used a variety of transportation methods including bus, car and walking. Walking was the preferred option for journeys to the local shops.

*"I mean if I'm only walking to the shops, I'd walk. I wouldn't even dream of bringing a car down the road like".* [GAP2]

One contributor would often opt to travel by bus rather than the car. Another commented:

*"I'd walk rather than get a bus because there's always danger of confrontation on the bus"* [GAP1].

None (except one who drives for a living) would drive into town by car; others use the bus for these journeys instead. One of the general adult population did not own a car and hence his main source of transport was the bus. This individual used to cycle regularly but no longer does so due to safety reasons. Another contributor also commented on the dangers of cycling:

*"I've thought seriously about it [giving up the car], I really have, you know. But the only alternative I have is to walk which would be at least an hour to get there and back or either cycle and I just think it's so dangerous cycling, I wouldn't cycle".* [GAP2]

All participants in the youth group aspired to owning a car or motorcycle, as "you'd be stupid if you didn't want a car". In particular, the "sexy" aspect of owning a car was highlighted. Also mentioned was that it was warmer and gave you more choices regarding where to go as "buses don't go everywhere". Generally the group did not consider parking in town an inhibitor although one male member referred to the cost of parking in town. Another male member of the group felt parking was not an issue as one could "...just pull up outside the shop and run in and get what you wanted". There was also a discussion about whether journeys would be faster or not in a car compared to a bus but this was not viewed as an inhibitor to getting a car and one youth contributor commented that "you could use bus lanes as they're not enforced". Two members of the youth group (one male and one female) would opt for a motorbike rather than a car because "motorbikes can go through traffic and they don't have to wait behind cars". However another member pointed out that "they cause more accidents then".

### 6.2.3 Traffic Issues

***Traffic Volume***

All groups were of the opinion that traffic levels were "awful", particularly on the main roads, in the area - "…the road isn't sufficient enough to hold that much traffic". [OP] Participants identified specific locations of high traffic volume and congestion such as the Red Cow roundabout, James' Street, the Kylemore Road between the Churches (particularly if there was a funeral), in Liffey Valley and on the main road.

Although the volume of traffic in the area was considered high, it was not considered to be higher than other areas by the youths and disabled persons who participated. However, both general adult population groups and the older persons group held the view that the volume of traffic had worsened over the last number of years.

*"…and then in the mornings, they're jammed up trying to get out on to the main road down this way. In the evenings, they're jammed up trying to get out on to the main road going this way up towards Cherry Orchard. In the mornings, they're grid-locked trying to get into town, at the bottom of our road. And you have it there from six o clock in the morning and if they're grid-locked on the road you have cars there, trucks and the whole lot, engines revving. These big blasters of stereos pumping music out at six and half six in the morning, all sitting in a line of traffic waiting to get out".* [GAP1]

*"You know, it is a peak time problem. Okay, some areas are more accessible than others. Like it's, although Ballyfermot is, itself is a gateway. But like once you hit Clondalkin to Neilstown, you say once you hit that end of Clondalkin to Neilstown it's grand…and they're all converging in on Ballyfermot Road".* [GAP1]

There was some concern expressed about the impact that additional housing in Cherry Orchard and Adamstown areas has had and would have on traffic volumes in the area, especially when "they've done nothing to improve the infrastructure. The motorway is still two lanes". [GAP1]

In all of the groups, reference was made to the volume of traffic in the area being caused mainly by non-Ballyfermot residents.

*"I mean I don't know like how many people in Ballyfermot own cars and are driving cars compared to the volume of traffic that's coming through here, it's colossal and I don't know if there is any counting or has any work being done on the volume of traffic through the area".* [GAP2]

***Traffic Lights***

In almost all of the groups, traffic lights came top of the problem list. While there was recognition that the lights were put in place due to residents' requests and in an effort to slow traffic down and perhaps to deter some of the traffic, contributors felt there were too many traffic lights in the area.

"*…a half-mile stretch of road and we have three sets of lights…ridiculous…from …under the bridge at Sarsfield Road there … right the way up to the Coldcut lights, there's something like sixteen sets of lights, on I think it's only a three mile stretch of road. And they're not synchronized*". [GAP1]

It was felt that traffic lights had not succeeded in deterring traffic away from the area or in slowing cars down but hindered the flow of traffic causing traffic tailbacks. The number of traffic lights was thought to frustrate drivers who then travelled faster in an effort not to get caught at the next set of lights.

"*I think there's too many traffic lights from The Assumption Church up the hill, and the corporation now that put them in for [and] the sole [purpose] was to slow the traffic down, and to discourage people, cars coming into the area, but it hasn't done that, the traffic is as bad as ever. It's not working*". [OP]

Another problem mentioned in three of the groups [PWD, OP and GAP2] was that the length of time given at lights to cross was insufficient. This was particularly noted at the lights near the civic centre and those near the ESB and old bank (now a bookie office). This particularly affected senior citizens and people with buggies, according to the participants.

"*…you're kind of running across the road, do you know what I mean, with your messages trying to get across the road*". [OP]

Another problem experienced was large vehicles blocking traffic lights making it difficult for pedestrians to cross and to see around the vehicle to check other traffic.

Two of the groups [Y and GAP1] mentioned that both traffic lights and a lollipop lady outside the school were not needed and that only one or the other should be present. The youth group favoured the lollipop lady and the adult group thought the lights at the school were redundant after school hours.

The lights at the Electricity Supply Board (ESB) and bookies office came in for particular criticism with many contributors of the opinion that they should be removed.

"*The traffic is stopped and you think you can walk but you can't, the traffic is coming the other way…I've seen it, an old woman crossing, and she thought the road was clear because the cars were stopped, and she just put her foot out and a car came around Crazy Prices corner. …So it's confusing for old people*". [PWD]

The tendency for people not to use traffic lights to cross the road was mentioned in a number of groups. While motorists found this annoying, many pedestrians referred to it as being common, acceptable practice. The youth group in particular noted that "nobody actually does wait at traffic lights". The reasons offered by the participants in this group were that the traffic lights were too far to walk to, badly positioned and that the wait at lights was too long. It was suggested that lights that change immediately when a pedestrian pressed the button were preferable or the old style zebra crossing. One participant in the youth group considered traffic lights to be "too dangerous" due to cars rushing through them to avoid the red light. The fact that motorists stop when a person walks out in front of them was then offered as a reason not to use the lights.

***Parking***

Parking, particularly on side roads by non-residents was an issue for contributors. Four of the five groups, except the youth group, mentioned this as common practice. A number of instances were cited whereby residents saw people parking outside their houses and "going over to get the bus into town". Participants thought this occurred because people did not want to pay for parking in car parks. This practice caused annoyance as residents and their

visiting family could often not find parking, particularly when people parked in front of their driveway and blocked their access.

*"They do it [park] anywhere they can park, anywhere they can park and they go off into town for the day".* [OP]

*"… places are not taken up by people that are working there [at the shops] and what was happening, people were driving down there and parking their cars from outside Ballyfermot and getting the bus into town, I know loads of people that were doing that*". [GAP2]

Parking by trucks on the main road while making deliveries to Tesco and residents, who had driveways, but parked on the road instead were criticized also.

Contributors in the people with disabilities group raised the non-adherence to disability spaces and the lack of enforcement of this. This causes inconvenience due to lack of sufficient room in regular car park spaces to off-load wheelchairs and to let down ramps. There are safety issues if wheelchairs have to exit vehicles parked in non-wheelchair spaces onto vehicle routes. This group also cited experiences of having cars parked on ditions (indentations/dips in pathways) hindering footpath access.

*"… then you've to go along to the high path and maybe look for two people to help you up the big path. But if they wasn't parked there I could just go in there, now that's a big problem. … So if I'm there on my own I wouldn't have a hope in hell, I wouldn't be able to up because the cars have the spaces blocked…I'd have to stay on the road".* [PWD]

Participants acknowledged that the lack of enforcement of disabled car parking was not confined to Ballyfermot – participants had experienced the same issue in other shopping areas including The Mill, Blanchardstown and Liffey Valley. In Liffey Valley "they get a sticker put on their window, but that's it". Roches Stores in Blackrock was praised as "they will come out and they will get the people out of there straight away". More wardens were required and participants felt that people who parked illegally "should be fined and they won't do it again".

***Bypassing Main Roads***

The term 'rat-run' was referred to consistently throughout the discussions. This referred to drivers using side residential streets to avoid the traffic on main roads. Residents cited noise and safety as issues related to this practice.

"*Well I find that people are taking shortcuts…I actually now have to stand just as if I was on a main road, and it's only a small road. They're all taking the cars down through…They're taking the roads that are off the main road".* [OP]

Participants were keen to stress that it was not only Ballyfermot residents who did this but people travelling through, travelling into town and to the West. "All the schemes" in Cherry Orchard were referred to a number of times as causing additional traffic.

***Speed***

Although contributors generally felt that measures such as traffic lights, chicanes and ramps had facilitated some reduction in the speed at which traffic travelled through the area, concern remained about speed in the area, particularly on side-residential streets.

*"Well I live there on Drumfinn Road now that is, that's it, I really say now its nearly a main road now for all the other, you's want to see the speed that some of the cars, not all of them, some of the cars come down that road. You wouldn't have a chance in hell if you were crossing the road".* [OP]

*"Kids can't cross the road without cars just whizzing up and it's a residential road and they're just whizzing up for to escape the main road*". [GAP1]

***Joyriding***

Joyriding was mentioned in three groups [Y, GAP1 and GAP2]. However, it was considered to be an on-off problem and to have been alleviated in a number of areas. Some youth group members distinguished between 'joyriding' in a stolen car and people speeding "in their own cars". The latter was considered more acceptable by members of the youth group as "they're not robbing them or anything".

***Ramps***

Ramps elicited mixed responses. One respondent felt ramps were "very depressing" and that more aesthetically pleasing versions should be used in residential areas. The type of ramp was important but again there were mixed responses to the smaller non-continuous ramps. The smaller non-continuous ramps (for example those on Decies Road) were ineffective as "your car goes straight over them". [Y] Some members of the youth group felt they prevented one getting "your whack out of your car". The tendency for pedestrians to use ramps as crossings was raised in one group [GAP2] and it was felt that signs should be put up to warn people that ramps were not pedestrian crossings.

***Roundabouts, Stop-signs and Islands***

The removal of the roundabout and its replacement with a traffic light was criticized.

*"…taking away the roundabout at the County Bar is making it more difficult to get up to the main Ballyfermot Road and to me, all that's doing is letting all the industrial traffic, people coming down again off the motorway or down through Chapelizod and right up here, to get up to the Park West and all those places and it actually has brought more traffic. That's my feeling about it".* [GAP2]

The lack of driver knowledge about roundabouts was referred to. The introduction of yellow boxes onto roundabouts was suggested as a means to avoid blocking. The Red Cow roundabout was referred to as causing "big problems".

Participants in the OP group referred to the non-adherence of stop signs.

*"They just tear around the corner or go on straight, they don't even see them, they don't see the stop signs [at the church], or whether they do or not they just ignore them".* [OP]

Participants in both GAP groups criticized the restrictions imposed on local residents accessing their home through the introduction of "no right turns" and "islands blocking turns" into residential streets. While it was recognised that these had been put in place to deter drivers using these streets as 'rat-runs', the inconvenience they posed to residents on those streets was highlighted. It was suggested that residents might have immunity to these illegal turns. These restrictions caused increased traffic on residential streets as people opted for alternatives to the main road.

Although it was felt that chicanes were a good speed deterrent and were intended to deter trucks from the area, it was felt necessary that they should be illuminated.

*"I know they're there to stop artics and that going through, but those chicanes up along the road are dangerous, because they can't be seen. Half of them there's no illumination on them to say that there's, you know, the chicanes, you have to negotiate them, there's been numerous accidents with people just hitting those on the way around because the curbing around is supposed to be painted black and yellow".*
*"But they're black with dirt".*
*"You don't see them because it's completely mucked up all around. And I think they are a big contributory factor too, I've seen numerous accidents".* [GAP1 discussion]

***Footpaths***

Although there were a couple of specific references to poor footpaths, the general consensus was that the paths in the area were good. Criticisms of footpath conditions were concentrated in the people with disabilities group. There was some concern that paths would be broken due to cars being parked on them.

*"…so all the new paths, now you'll see it in a couple of years, they'll be all broken. Now at the moment they're lovely and flat though Catherine[1], they're putting their cars, as you said, they're putting half of the car up on the path".* [PWD]

The PWD group raised the issue of the angle and height of ditions in footpaths. They felt that closer scrutiny of the work of contractors creating same should exist.

*"But what about this path up at the ESB John? Now when Ellen is wheeling me across she has to lift me up and when she's putting me down she has to bump me down because the path is about that size [shows approximately a one foot rise on path with hands]".* [PWD]

The need for some wheelchair users, in particular those in electric wheelchairs, to travel on the road was noted in the PWD group due to the difficulties with blocked or high ramps.

A problem in some areas with cars cutting across footpaths was noted.]

*"What they do on Markievicz Road and rather than go out and take the wide corners what they're doing is, they're coming up on the path and going straight across and out onto the main road".*
*"Well going down Garryowen Road, so they can come in that way rather than take the corner, to go around the footpath kind of, and they come straight in, straight across and straight out onto the main road again, now in saying that, there's a bicycle lane comes straight up Ballyfermot road, comes right in over the footpath and back out onto the main road again, it's stupid".* [OP discussion]

***Trucks***

The lack of enforcement of the three-tonne limit in the area was criticized in every group.

*"…but they're up there every day and there's a blind eye turned to them. They're trying to get in and out around those islands and I have them coming up even our, Claddagh Road, trying to escape Ballyfermot Road. You have artics coming up and over the ramps, and boom, boom, and you can hear the big containers on the back rattling you know, it's crazy. But I can't figure out why the Gardai turn a blind eye to these articulated trucks, you have the bypass, and why can't the trucks use the bypass, why have they to come up through here?".* [GAP1]

While it was recognised that trucks are needed to make deliveries, it was felt that not all the trucks that passed through the area were delivering in the area and that smaller trucks rather than articulated lorries should be used for necessary deliveries in built-up areas. One group [OP] referred in particular to trucks passing at very early morning hours and the sleep disturbance of this especially as trucks passed over ramps. One participant in this group also referred to regular early morning sleep disturbance due to a truck with a fan parked outside her house waiting for a shop to open to make a delivery.

Although it was recognised that some measures had been put in place to deter large trucks from residential areas such as ramps and chicanes, participants felt that these had largely been unsuccessful.

*"…that's the main reason why we have them chicanes on the main road, it's to stop the artics, but the artics if they're good enough they will get through it".* [GAP1]

[1] *Pseudonyms are used in place of actual names.*

***Buses/Trains***

Buses were generally criticized by respondents. The lack of shelter at bus stops, the non-adherence to timetables and the existence of anti-social behaviour on the buses meant that some "wouldn't even risk" travelling by public transport. Access getting on and off buses was mentioned by two of the groups [OP, PWD] as "the steps are too high" [PWD] and the introduction of wheelchair buses to service the area was called for. In addition, the removal of bus stops leaving only one bus stop in the area was criticized.

One GAP participant noted that "there's always danger of confrontation on the bus". Safety was mentioned in particular by young females who did not generally travel alone, particularly at night, and were particularly conscious of the dangers of bus stops and shelters at night.]

*"[We] always go in groups, so that's why it's alright now. …I wouldn't stand at a bus stop at ten o'clock at night. … If you're a young one, you can get raped around here".* [Y]

Smoking on buses was mentioned in three of the groups [Y, OP and GAP1]. "Properly ventilated" buses were the solution according to one youth participant. Drinking and drug taking on buses was mentioned in two groups [GAP1 and OP]. Contributors recognized the difficulties for bus drivers due to traffic issues and the threat of violence and suggested transport police.

The bus service was generally considered to be poor – the older service was considered better. It was felt that Ballyfermot should have its own service. The routes were criticized, as there are considerable sections of the area not serviced. A local service was recommended.

*"…forty thousand people living here and you're still left with a minimal bus service, when all that money is being invested".* [GAP2]

The bus lanes were considered good but participants felt that they should run continuously - "the whole way into town". One person felt it should be a public service lane while another queried why it was 24-hour "since buses don't run 24-hours a day".

*"It's [the bus lane] just ridiculous …because … it goes in and out like the yoyo".* [OP]

Train services were considered useless due to the location of stations and that one had to then get a bus from Heuston. In addition, participants did not accept that vandalism was the cause of station closures and moves.

*"Well I think that public transport has a lot to blame for people in their own cars. … just say us for example, this general area, Ballyfermot, Chapelizod, Palmerstown and Clondalkin, just them four or five areas there, the train service is of no use to us whatsoever, no use whatsoever. You get on the train at the station up in Cherry Orchard, but okay, two minutes down the road, Heuston station. And what do you have to get on? A bus. What's the incentive, you might as well get on the bus in Cherry Orchard, do you know what I mean and go all the way down, because it's just as quick".* [GAP1]

***Taxis***

The PWD group cited experiences where taxi drivers refused to take them on board because "they haven't got their ramps". Also the policy of charging extra for wheelchairs carried in the boot was criticized. Although it was recognised that "that is luggage for them", one member of the group stated "but I count that as your legs".

***Bicycles***

There was little experience among the contributors of cycling, although the general perception was that it was unsafe. Bicycle lanes on footpaths and that ran inside bus stops were considered dangerous. The weaving of bicycles in and out on the road was also raised with a suggestion to have railings and to have both bicycle lanes on one side of the road.

*"But I get on their bus at Matthews Church and I got the fright of my life. I stepped off the bus …and of course I wasn't looking for a bicycle on the footpath, as you step off the bus and there's the footpath there".* [OP]

### 6.2.4 Traffic Effects

The contributors initially found it difficult to discuss the potential health impacts of traffic and transport on their health. The impression given was that they interpreted the question as relating to the narrower concept of 'illness' rather than health in general. However, a number of relevant and interesting insights arose as the discussions progressed. It was noted by two GAP participants that "there is a potential for worse air pollution in this area" " because of the height that the whole place was built on".

A major impact of traffic and transport issues for the contributors was the inconvenience caused and the consequent need to plan ahead to allow for traffic congestion. Some contributors described the constant traffic issues in the area as "stressful".

*"…but it's [traffic islands] really an inconvenience for people who are just living, who just want to go home, around the corner or whatever"* [GAP2]

Sleep disturbance was mentioned in two groups [OP and GAP1] as a consequence of traffic building up early in the morning, trucks and vans making deliveries early and vehicles, particularly trucks, hitting ramps at speed. Noise was mentioned in three groups [GAP1, GAP2 and OP] as a problem. Vibrations were mentioned briefly by two groups [OP and GAP1] as a negative aspect, particularly in relation to trucks. Air pollution was mentioned in three groups [GAP1, GAP2 and OP] as a worrying consequence of traffic. In particular, two groups [OP and GAP2] mentioned the potential link with asthma and chest problems, although neither group felt that Ballyfermot had more of such illnesses than elsewhere. The suggestion to review hospital and GP data in the area was suggested by one GAP group. The youth group thought that traffic was "bad for the environment" and in particular diesel vehicles. The consensus among the youth was that they would not buy a diesel car anyway as "diesel are crap [and] … too slow" even though they were "easier on the juice". However, it was recognised that if "driving a company van", one might not have an option. An additional disadvantage of trucks was highlighted by the Youth group, as "nearly all trucks are diesel". In particular, it was mentioned by the GAP participants that pollution increased "with narrow roads" and "idling traffic" and this was of concern in the Ballyfermot area. One GAP group referred to the 'black diesel fumes' from "the ramshackle buses" used on the Ballyfermot route whose "engines are not serviced". Monitoring of air quality and noise levels was a necessity according to the GAP groups, similar to times when smog, due to coal burning, was an issue.

Accidents were discussed in all of the groups and many of the contributors reported personal experience, mainly of minor accidents. However, contributors did not feel that accidents related to traffic was greater in the Ballyfermot area compared to elsewhere. In particular, the threat to young children playing on the street was noted. Interestingly, street playing was considered a cultural aspect of the area and preferable to parks due to the proximity to home and the risk of parks. Traffic lights were considered in two groups [Y and OP] to increase the number of accidents.

Access and community severance were also raised as direct effects of traffic issues.

*"…traffic going through has cut the whole heart out of the community because the only supermarket is on one side of the road and all the other little bits and pieces, the shops are on the other side so, it's made life harder for people".* [GAP2]

*"So it really is a nightmare, you're just, I take it that we're only ordinary people living here and all we want to do is a simple little thing of going in to the chemist, going into the bank and if you're driving it can be a nightmare. I think those changes are having a bad impact, (they) certainly are, making life more difficult for me".* [GAP2]

Numerous experiences of difficulties getting to early hospital appointments, especially those in town, were noted. These issues were highlighted specifically in relation to older persons and mothers of young children, and in particular single mothers who may not have someone to rely on to take care of babies or to take young children to school while they attend such appointments. The organisation required for such mothers to leave home early enough to make medical appointments was discussed in some detail at the youth group.

The feasibility of emergency access by ambulances was queried on roads with chicanes.

### 6.2.5 Measures Already in Place

There was recognition in all of the groups that a number of measures had been put in place in the area. While the improvements on the main road were considered substantial, there was criticism of the number of traffic lights. The improvements in road and path surfaces were noted. The cycle lanes in place were generally considered to be dangerous in terms of pedestrians and people alighting from buses in addition to drivers. The introduction of the bus and cycle lanes has resulted in parking on the footpath. The road widening was considered to be generally good but not where footpaths had been narrowed as a result. There was one suggestion that the improvements which have been made were for the benefit, not of Ballyfermot residents, but of those from outside the area using Ballyfermot as a "gateway". In addition, some felt that the "improvements are for the motorists now, the people with cars".

The introduction of decorative railings was viewed positively while the standard white 'box' railings were considered "ugly". There were suggestions to put railings on cycle lanes and along footpaths to force people to cross at traffic lights. Although there were mixed views about ramps, the predominant suggestion was that if ramps were to be in place, the "more attractive red ramps" were better. Cobble lock ramps were criticized as the block becomes loose and leaves holes. The blocks are then loose on the road and may be used as a weapon.

Stones and cement bollards were considered "ugly and useless" as vehicles could move them. The black bollards were considered to be more appropriate. The new seating area was considered a positive addition and although there was some concern prior to its establishment regarding anti-social behaviour and some evidence of this since, it was considered an improvement worth extending. The use of the seating by older persons in the community was noted.

The importance of enforcement was mentioned in all groups. The action or inaction of the Gardai was referred to. The youth group was of the opinion that it was not more Gardai but "Proper Guards" that were needed because, "the [current] Guards are too afraid to do anything".

Some participants offered other solutions, including education of the general public.

*"I'm a firm believer here in the jaywalking laws over in America to be, to be brought out and to be enforced because people just think, like the traffic lights could be there and they just walk out in front of you. …They're not, as far as I can see, they're not putting great road sense, teaching great road sense to their kids".* [GAP1]

Although residents acknowledged the many efforts that had been made in the area, there were some queries among the participants as to whom these were for and whether they were to the advantage of the Ballyfermot community.

## 6.3 Results from Key Informant Interviews

### 6.3.1 General Description of Ballyfermot and Issues

All of the key informants were of the opinion that Ballyfermot was a great place to live and work in. Ballyfermot has a strong community atmosphere, particularly in the more settled (older) areas. The vast majority of residents are "hard working good people". It was also noted that there was a concentration of deprivation in the Cherry Orchard area, with young families having little money or access to services. It was felt that a lot of initiatives had been undertaken to strengthen the community atmosphere. The main problems observed in the Ballyfermot area were crime, drugs and the escalating price of houses.

### 6.3.2 Personal transport habits

The majority of the key informants used a car as their main source of transport. A small number of respondents reported walking also. None of the respondents themselves used public transport often, but reported that their clients did, that is, patients and parents of school children.

Key informants who use their car in their line of work for house calls and home visits identified that traffic congestion does cause a delay in responding to calls. However, it was noted that from the general practitioners' perspective most emergency calls go to Accident and Emergency Services by ambulance. Individuals identified that it is more difficult to get around the area in the last number of years. It was observed that the traffic calming measures have made it more difficult to get around the Ballyfermot area.

### 6.3.3 Traffic Issues

***Traffic Level and Congestion***

Interviewees stated that the traffic in Ballyfermot is much heavier now and that traffic is travelling more slowly. Traffic on the Ballyfermot Road was noticed to be particularly slow at peak times. There was a general perception that traffic-calming measures have decreased the number of accidents but have increased travel times. Even if the calming measures have improved traffic flow, this effect has been cancelled by the increase in traffic volume.

There was a general perception that those who use transport in the course of their work find it more difficult to get around the area and avoid doing calls during the busier traffic times as a consequence. The changes in traffic directions have made it more difficult to get around the area.

***Traffic Lights***

It was also noted that the light sequencing of some of the new traffic lights was too fast, it was very difficult for an older person to get across the road safely. The introduction of traffic lights outside one of the schools (at top of Drumfinn Road) was perceived to have improved traffic flow.

***Bus Lanes***

It was felt that the bus lanes would have a positive impact on people who use public transport. However, it was also noted that the bus lanes were too narrow and do not function properly. They are also not continuous.

***Bus Stops***

It was felt that older people have been affected by the moving of a bus stop from directly outside the church to further down the road.

It was also stated that buses were either infrequent or a number arrived in quick succession. It was noted that if two buses arrive at a bus stop on Ballyfermot Road, "traffic comes to a stand still".

***Parking***

It was noted that it is very difficult to find somewhere to park particularly at schools and the dangers of cars parking on footpaths, cars stopping in cycle and bus lanes at the time of school collection was noted. It was also noted that it was difficult to park cars when going to the bank, with individuals worried about being mugged.

***Through Traffic***

Through traffic was perceived to be a problem. It was felt that Ballyfermot was used as a through road from town to the Liffey Valley Shopping Centre, Palmerstown Cemetery and to the Lucan Road. There was a perceived increase in the volume of traffic because of this.

***Cycling***

There was a perception that cycling has become more dangerous with narrower roads, bollards and the fact the cycle lanes are interrupted.

***Safety***

Safety was identified as a major issue, particularly at schools, with the increasing number of cars, lack of parking facilities and the increasing numbers of children attending schools. One interviewee in particular, stated that the potential for an accident to occur at delivery and collection time was huge.

***Accidents***

Neither of the GPs interviewed felt that there had been an increase in road traffic accidents in the area and one felt that the number of accidents had in fact decreased in recent years. There was no noted increase in accidents by any of the other key informants but the potential for accidents was noted particularly by the School Principals.

***Transport to Schools***

More people are bringing their children to school by car, as "they are afraid to allow children to walk". This is a result of fear for their personal safety rather than for road safety reasons. Children do not generally cycle to school.

There was a perceived inequity for children living in Cherry Orchard. Some children from Cherry Orchard travel by bus to one of the schools as there is parental preference for the children to attend a school in Ballyfermot. Although transport is available for these children to attend school in Ballyfermot, parents must pay and the cost of the transport is considered too high. This is perceived as an issue with respect to attendance at school as parents may not be able to afford the bus fare and the distance is too great for small children to walk. This results in some children missing school 1-2 days per week.

## 6.3.4 Traffic Effects

***Effects on Lifestyle***

It was felt that there was a good community arrangement in Ballyfermot and that people have good access to shops and amenities. However it was felt that older people have been affected by the moving of a bus stop. It was also noted that the light sequencing of some of the new traffic lights was too fast, hence, it was very difficult for an older person to get across the road safely. It was felt that elderly clients could feel cut off from their regular activities.

***Health Effects***

*Respiratory Disease*

It was not felt that the traffic initiatives had led to an increase or decrease in illness such as chronic respiratory illness or heart disease. It was stated that it would be difficult to identify traffic as an individual cause. The main causes of respiratory illness were identified as tobacco smoking and dust mite allergies. It was also noted by one of the GP's that Ballyfermot is in the Liffey Valley so that smog has always been a greater problem in this area due to air inversion.

*Air Quality*

Air quality was felt to have some effect on health but the difficulty of separating the effects of air quality as a result of traffic from other factors such as smoking was noted.

*Stress*

Stress was seen as an issue. Difficulty in getting to work on time, as a result of traffic congestion was identified as a cause of stress. One informant noted that it could take up to an hour to travel the length of Ballyfermot Road.

*Noise*

Noise levels were not felt to be a major issue or perhaps people have become desensitized to the noise. Interviewees had not noticed any particular increase or decrease in noise level.

## 6.3.5 Measures Already in Place

There was a general perception that the measures put in place had been positive, with a reduction in accidents and a better community spirit in the village. It was felt that some of the traffic initiatives have improved flow at schools. However, traffic congestion is still a problem, partly as a result of the traffic calming measures but also because of the increase in through traffic.

The majority of informants had noted the introduction of cycle lanes and bus corridors. Other changes noted were the introduction of bollards, chicanes, ramps, roundabouts, new traffic lights and altered road layouts. The Civic Centre, coffee shop and other initiatives were welcomed. It was felt that these changes have improved the "village aspect" of Ballyfermot but have made travelling worse, particularly for car users.

## 6.4 Summary

- In this chapter local residents were asked about issues regarding traffic and transport in the area and for their views on the traffic measures in place in Ballyfermot.
- Focus groups were conducted with youths, older persons, people with disabilities and the general adult population. Key people in the community e.g. teachers, health workers and gardai were also interviewed.
- Local participants were happy to live in Ballyfermot but improvements in the infrastructure of the area particularly in relation to shopping and local facilities would be very welcome.
- The high volume of traffic through Ballyfermot impacted on local people in relation to extension of journey times to and from the area and environmental health and safety problems.
- Safety issues regarding parking at schools and parking on footpaths and in cycle and bus lanes were raised. While it was felt that accidents in the area had decreased, there was some concern about the potential for accidents at schools.
- Enforcement of traffic laws and more visible policing, particularly in relation to large goods vehicles passing through residential areas and illegal parking in disabled parking spaces and on footpaths were expressed as direct solutions to a number of problems.
- Most respondents used public buses for non-local journeys, as this was the only public transport option available to them. Cycling was felt to be too dangerous. Concern was expressed on a number of fronts by all groups in relation to safety and comfort on bus journeys. Anti-social behaviour in the form of smoking on buses and the threat of violence for girls on their own late at night waiting for buses was a serious concern. Safety getting off buses where stops are at cycle lanes and high steps on buses were specific problems in relation to older persons and people with disabilities.
- Provision of a Quality Bus Corridor all the way into the city, instead of intermittent bus lanes, was seen as the most sensible option for improving bus services in addition to a local bus service for Ballyfermot, with more comprehensive stops than the current service.
- Traffic lights were singled out for particular criticism particularly in relation to sequencing. The number of lights was felt to be excessive for the area.
- One particular quote summarizes the feelings of many local residents in relation to the overall effect of traffic in the area:

  ***"traffic going through has cut the heart from the community … its made life harder for people".***

# Chapter 7
# HEALTH PROMOTION SERVICES IN BALLYFERMOT

## 7.1 Introduction

The objective of this chapter is to provide information and increase awareness of the health promotion services that already exist in Ballyfermot. These services are provided by the Health Promotion Department of the South Western Area Health Board (SWAHB) in conjunction with staff in the local Community Health Services Area Office in Dublin West, located in the grounds of Cherry Orchard Hospital.

Health promotion is a process of enabling people (individuals and communities) to maintain and promote their own health. It is concerned with creating environments that support health, the development of personal skills and strengthening community action for health. Health promotion initiatives funded by the Eastern Regional Health Authority are developed on the basis of evidence of what works to improve and sustain the health of communities and to reduce inequalities in health. Health Promotion activity is integrated into a variety of programmes and undertaken by a wide range of staff throughout the region. Central to the work is building partnerships and alliances for health with other organisations. In line with national strategies special emphasis is placed on the promotion of cardiovascular health, prevention of cancer, prevention of accidents and promotion of child and adolescent health by working in a variety of settings and with special emphasis on priority population groups[1, 2, 3].

## 7.2 Health Promotion Programmes in Ballyfermot

The Health Promotion programmes in Ballyfermot are delivered in the following settings:

- Schools and Young People
- Community
- Primary Care/ Health Services
- Workplace

### 7.2.1 Schools and Young People

***Social Personal & Health Education (SPHE) training for Teachers***

All primary and post-primary schools in Ballyfermot have participated in SPHE training which is part of a national programme aimed at developing personal skills of pupils. They have also been made aware of the range of supports available from the Health Promotion Department.

***Action for Life***

The purpose of the Action for Life programme is to train and support teachers around physical activity in primary schools. It is run in conjunction with the Irish Heart Foundation. Action for Life has been offered to all primary schools in Ballyfermot.

***Food and Nutrition Policy in Schools***

The Health Promotion Department works with schools and pre-schools to enable them to develop food and nutrition policies. Training and support has also been offered to breakfast clubs, after school clubs and crèche providers.

***Ballyfermot Walk to School Programme***

A "Walk to School" programme is being developed in Ballyfermot in conjunction with the Dublin City Council and local schools. The project proposes to design walk to school routes with a drop off point on each route. It is anticipated that this will encourage increased physical activity levels among students and a decrease in traffic congestion in and around schools. A group of transition year students have volunteered to help with running a pilot and the local Gardai have given their support to the project. The project is in development stage and will be ready for implementation in the next school year.

***Consultation with Young People***

As part of developing a Youth Friendly Health Service for the new Youth Centre in Ballyfermot, staff from URBAN II, local Youth Services, Tallaght Hospital (Adelaide & Meath Hospital Incorporating the National Childrens Hospital (AMANCH)) and SWAHB organised a consultation process with young people. The proposals and suggestions from this will help to shape Youth Friendly Health Service which is scheduled to commence, on an outreach basis, in January 2005.

## 7.2.2 Community Setting

***Being Well Programme***

The Being Well programme provides a holistic approach to Health Promotion by addressing Tobacco, Physical Activity, Nutrition and Mental Health Promotion in an integrated way in local Community Development projects. Target groups include SWAHB staff working in community settings, community workers, youth workers and active retirement organisers.

***Community Mothers***

The Community Mothers Programme is a parent support programme where local women visit first and second time parents monthly to provide support and advice on areas such as nutrition, accident prevention and immunisation. The Community Health Promotion Dietitian for Dublin West links with the organiser of the Community Mothers programme and offers support and dietetic advice for babies, toddlers, young children and adults.

***Physical Activity Leader Training for Older People***

Physical Activity Leaders (PALs) are trained to organise activities for groups of older people under the Go for Life workshop programme. The topics include Basic Principles for PALs, Basic Skills, Sit Fit Activities, Better Balance, Going Strong, Walking, Rolling and Bowling and Pitching and Tossing. The programme has been of benefit to older people in terms of their levels of self-esteem, confidence and physical fitness.


***Community Dietetic Service***

The Health Promotion Service works with community groups in the development of projects such as Healthy Food Made Easy.

### 7.2.3 Primary Care/Health Services Setting

***Smoking Cessation Service***

This service is based in Cherry Orchard Hospital one day per week. The service offers a one to one intensive client centred approach to smoking cessation over a six-week period. Between January and April 2004, 139 appointments were organised. Guidelines for Provision of Smoking Cessation Support have been published by the Health Promotion Department.

***Dietetic Service***

A dietician-provided clinic is based in Cherry Orchard Hospital three days per week. Between January and April 2004, 256 patients were given clinical nutritional assessment and advice. The Health Promotion Department is participating in the evaluation of the Heartwatch Secondary Prevention programme for the Cardiovascular Strategy. This programme is targeted at patients who have had a heart attack or heart surgery and provides support, information and skills on managing risk factors, assessing medication and improving heart health.

***Training in Health Promotion for Mental Health personnel***

In conjunction with St Loman's/Tallaght Mental Health Promotion committee, training has been offered to Mental Health personnel on two health promotion programmes - Physical Activity Leader (PALs) training and Being Well. These programmes are then offered to clients attending the Ballyfermot Mental Health Centre on an ongoing basis.

***Nutritional Tool***

A specific nutritional screening tool has been developed to assess the nutritional status of mental health service users. This tool is used on an ongoing basis in the Ballyfermot Mental Health Centre.

### 7.2.4 Workplace Setting

***Staff Health Awareness Day***

Health promotion is also provided in the workplace setting. At a recent Health Awareness day held in Cherry Orchard Hospital, over 300 staff availed of presentations on health promotion topics, general healthy lifestyle and complementary therapies.

***Workplace Challenge***

At present all St. Loman's associated centres are involved in a Staff Workplace Challenge. The purpose of the challenge is to encourage a more active working population. Another likely outcome is that the staff involved in the challenge will pass on their learning to clients of the individual services.

## 7.3 Health Promotion Literature

Health Promotion literature, including information on babies and children, alcohol, drugs, tobacco, nutrition, hygiene and women's health, is distributed by the Health Promotion Department, free of charge, to the general public, health services and voluntary and community groups.

## 7.4 Summary

- The Health Promotion Services of the SWAHB have developed a number of different health promotion initiatives in schools, community, workplace and health services settings in Ballyfermot.
- These initiatives create supportive environments and help individuals in the community to develop personal skills, thus encouraging them to make healthy choices and lead a healthy lifestyle.
- Health Promotion literature is distributed by the Health Promotion Department, free of charge, to the general public, health services and voluntary and community groups.

**References**


1. *Department of Health and Children. Quality and Fairness: A Health System for you. Dublin: The Stationery Office, 2001.*
2. *Department of Health and Children. Building Healthier Hearts. The Report of the Cardiovascular Health Strategy Group. Dublin: The Stationery Office,1999.*
3. *Department of Health and Children. The National Health Promotion Strategy 2000-2005. Dublin: The Stationery Office, 2000.*

# Chapter 8
# APPRAISAL OF HEALTH IMPACTS

## 8.1 Introduction

In keeping with the method used in carrying out a HIA, the Steering Group Members attended an Appraisal Day on March 30th 2004. The objectives of the meeting were to identify the major impacts of transport on health from the quantitative and qualitative research and from review of the literature, to prioritise the impacts by carrying out a weighting exercise and to develop preliminary recommendations arising from this. The recommendations are detailed in Chapter 10.

## 8.2 Method for Identifying and Weighting Health Impacts

Identification and weighting of the major impacts was carried out using the method outlined in Merseyside Guidelines for HIA[1]. Members of the Steering Group were asked to identify five or more major impacts each from the report. This was carried out using 'Post-it' stickers, which were subsequently grouped into themes according to the health categories and determinants identified. The following data were recorded on a form, which was designed to facilitate the compilation of impacts and their prioritisation (fig 8.1) overleaf:

- Positive and negative health impacts
- Health categories and determinants resulting in the impacts identified e.g. physical environment and air pollution
- Project activities altering determinants e.g. increased traffic flow
- Nature and size of impact.
- Measurability of impact –
  - Qualitative (Q) i.e. where the impact was obtained from the qualitative data
  - Estimable (E) or Calculable (C) i.e. where the impact was calculated from the quantitative data or from the literature
  - Likelihood of occurrence (risk) of impact – Definite (D), Probable (P) or Speculative (S).

## 8.3 Major Health Impacts of Traffic and Transport in Ballyfermot

Table 8.1 shows the impacts identified by the Steering Group Members and the number of times each category was identified.

**Table 8. 1 Impacts Identified by Steering Group Members**

| | Impacts | Number of times |
|---|---|---|
| 1 | Physical Health | 10 |
| 2 | Safety | 9 |
| 3 | Public Transport | 8 |
| 4 | Mental health and well-being | 8 |
| 5 | Traffic Lights and Parking | 5 |
| 6 | Air Quality and Noise | 5 |
| 7 | Access | 4 |
| 8 | Journey Times | 3 |

The potential linkages between traffic, transport and health are shown in Figure 8.2. The identified impacts, positive and negative, sources of evidence and the risk of the impact where it was possible to assign risk are shown in Tables 8.2 - 8.9 and are described below.

**Figure 8.1**

## Identification of Potential Health Impacts

In the first column of the table, list the categories (e.g. physical environment) and health determinants (e.g. noise) which may be affected by the project's development / operation. In the second column, list all the activities likely to cause these effects during the project's development / operation. In the third and fourth columns, identify all predicted health impacts during project development / operation, separating positive from negative health impacts, amd assessing their measurability (see below). In the final column, estimate the degree of certainty (risk) of the impact

| Categories / specific influences on health | Project development / operation activity | Predicted health impacts (nature and where possible, size of impact and how measurable impact is - i.e., is it Qualitative (Q), Estimable (E), or Calculable (C)?) | | Risk of impact - Is it definite (D), probable (P), or speculative (S)? |
|---|---|---|---|---|
| | | Positive impacts | Negative impacts | |
| | | | | |

*delete as appropriate

### 8.3.1 Physical Health (Table 8.2)

The health of the population is poor in Ballyfermot, relative to the rest of the Eastern Region. Although the incidence and death rates from heart and lung diseases were higher than the remainder of the Eastern Region, at least in the mid to late 1990s, it would appear that factors other than air pollution due to traffic are acting to cause disease as air pollution levels lay within normal limits. The causes of the poorer health of Ballyfermot residents are likely to be multi-factorial, rooted in socio-economic disadvantage and manifested, for example, by adverse effects on mental health, high smoking rates and lack of participation in physical activity.

**Table 8.2 Identification of Potential Health Impacts**

| Key Concerns: 1. Physical Health N = 10 | | |
|---|---|---|
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| Good transport and traffic policy can protect and promote health (E/C, D) | Poor health can be potentially caused by poor transport and traffic policy (E/C, D) | People in Ballyfermot did not perceive poor health to be a direct result of traffic and transport (Q) |
| Bicycle lanes can promote physical activity and improve air quality (C, D) | Poor health in Ballyfermot unlikely to be directly related to transport and traffic (Q/C, D) | Health statistics illustrate poor health, but not a direct result of traffic and transport (C) |
| More walking and cycling could mean less accidents (E, P) | Bicycle lanes not perceived as safe for cyclist as they were not continuous; also a hazard for some pedestrians (Q,P) | Lack of availability of lifestyle data at local level |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

It is important to note that the health profile of Ballyfermot is no different to other areas with similar demographic patterns that experience high levels of socio-economic disadvantage. Also, individuals did not perceive their health as being worse than people who live in other areas.

This however is not a cause for complacency but rather an opportunity for the statutory agencies to work together with the local community to reduce the inequalities in health that exist. Clear opportunities exist for the health board, local authority and transport authority to work through URBAN II to improve physical activity and mental well-being. Greater usage of buses which need to be made safer and more attractive, continuous cycle lanes, enforcement of cycle lanes and traffic lights at cycle lanes and a cleaner, safer environment all offer opportunities for increased physical activity.

### 8.3.2 Safety (Table 8.3)

The number of road traffic accidents in the Ballyfermot area was noted to have decreased by 43% between 1997 and 2002, with no fatal injuries during the period indicating that road safety had improved. This is in keeping with the overall reduction in fatal and non-fatal accidents in the Dublin area (52%) over this time period. It is likely that the traffic calming measures introduced by Dublin City Council have contributed to this reduction and were identified as having a positive impact on health and health inequality. Potential negative impacts regarding safety included:

- Difficulties crossing the road at pedestrian lights/short pedestrian crossing time particularly for older and disabled people
- Older people alighting from buses
- Safety along cycle routes
- Safety issues around transport to school and parking at schools
- Personal safety on public transport i.e. fears arising from violence on the buses.

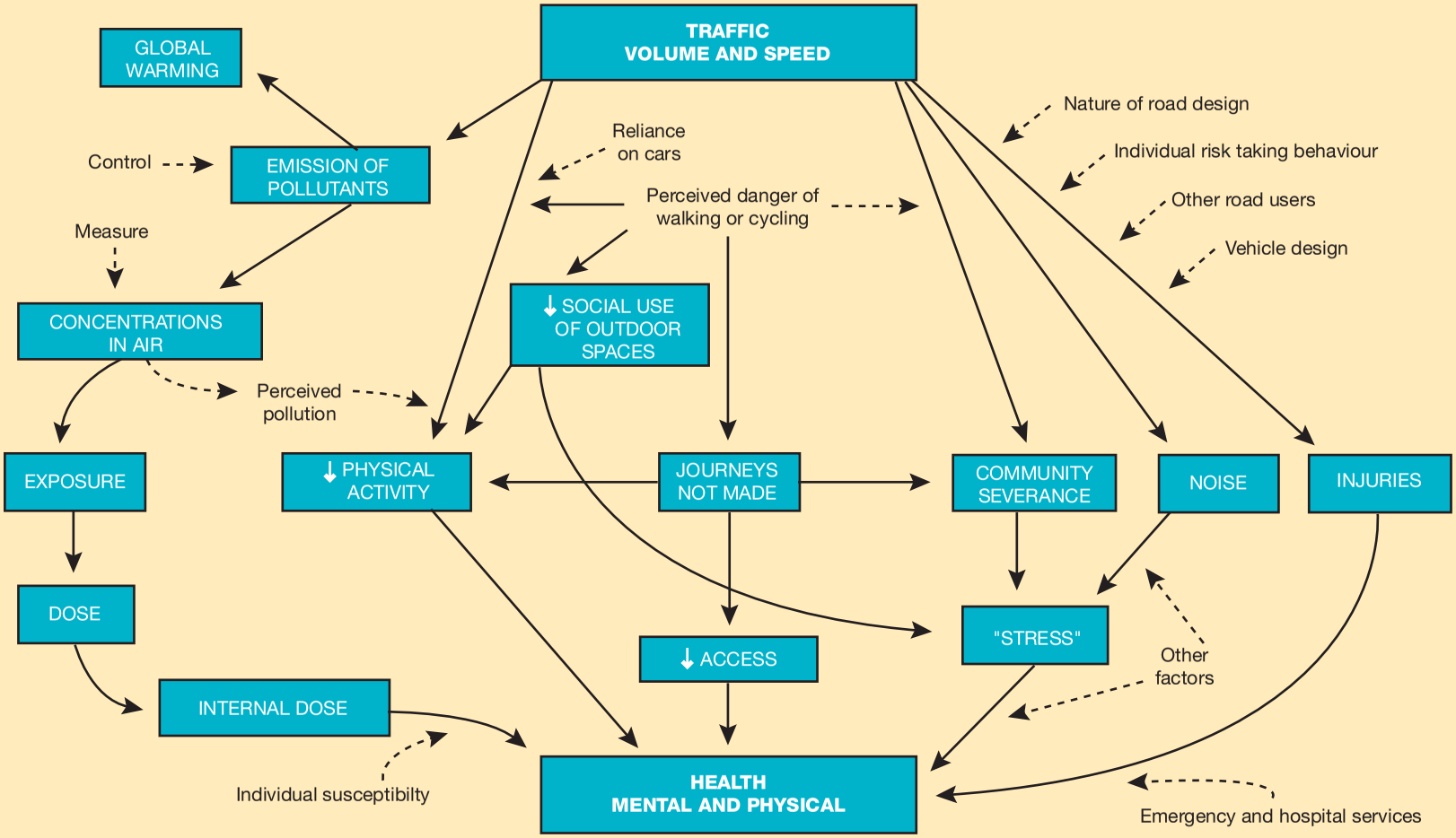
**Table 8.3 Identification of Potential Health Impacts**

**Key Concerns: 2. Safety N = 9**

| Potential Impacts* | | Comments / Recommendations |
|---|---|---|
| **Positive** | **Negative** | |
| Road safety engineering can be effective; many measures have been implemented in the area; road safety has improved (C, D) | Some safety issues are outstanding<br>• Older people alighting from buses<br>• Road crossing interval at lights insufficient<br>• Parking at school obstructs visibility for drivers and pedestrians<br>• Cycle routes may be hazardous for cyclists and pedestrians (Q, S) | Improvements in safety may also have a positive impact on health inequalities: Ballyfermot is an area of socio-economic deprivation and the injury and death from accidents is most common in lower socio-economic groups |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

**Figure 8.2 Diagram of Pathways from Transport Policy to Health Outcomes**




*.Source: Joffe M, Mindell J. A Framework for the evidence base to support Health Impact Assessment. Journal of Epidemiology and Community Health :2002:56: 132-138.*

### 8.3.3 Public Transport (Table 8.4)

People in the area extensively use public transport. A larger percentage of people use buses in Ballyfermot relative to the Eastern Region as a whole according to the 2002 census.[2] However public transport was deemed to be unattractive with the fleet of buses used on the Ballyfermot route perceived as being old and shabby. Use of public transport was deemed to be unsafe with concerns about anti-social behaviour affecting personal safety. Despite the high proportion of disabled persons in Ballyfermot, few buses permit disabled access. Real and perceived barriers to walking, cycling and using buses were cited. Private transport i.e. car ownership/usage was deemed to be attractive, particularly in the younger age group. Methods to encourage and improve alternative modes of transport were identified such as:

- safer, more attractive buses
- continuous cycle lanes
- continuous rail link
- park and ride facilities.

**Table 8.4 Identification of Potential Health Impacts**

| Key Concerns: 3. Public Transport N = 8 | | |
|---|---|---|
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| More people use buses in Ballyfermot than in the Eastern Region as a whole. There are some perceived incentives to to using the buses: i.e. the bus lanes result in shorter journey times. High use of public transport improves air quality. (C, D) | Some concerns expressed over attractiveness of public transport may undermine its use:<br><br>• Condition of bus fleet<br>• Access for people with disabilities<br>• Personal safety while waiting for and on buses<br>• Substance misuse on buses<br>• Integration with rail system<br>• Lack of perceived appeal for younger people (Q, S) | Incentives to encourage and improve alternative modes of transport are required, for<br><br>-safer, more attractive buses<br>-continuous cycling lanes<br>-continuous rail link<br>-park and ride facilities<br>-safer bicycle lanes<br><br>Need to identify and address barriers to modal shift<br><br>Enforcement is a perceived issue |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

### 8.3.4 Mental Health and Well-being (Table 8.5)

There was a good sense of community in the area and overall people seem happy to live in Ballyfermot. Issues such as high volumes of traffic, through traffic and the use of sub-standard buses in the area were identified as having a negative impact on health by causing increased stress. However the adverse effect on mental health suggested by the higher than average prescribing of sleeping tables and tranquillisers is likely to be multi-factorial with transport being a contributory factor. Further evidence of experiencing increased stress, though not directly related to transport, is suggested by higher than average smoking rates. Possible measures to address this include increased awareness of local smoking cessation programmes and enforcement of the smoking ban on public transport.

The local community perceives traffic congestion as being a problem. However, according to traffic flow investigations carried out on Ballyfermot Road by Dublin City Council, a significant percentage of traffic is local. There may therefore be a mismatch of perception versus reality of the traffic congestion.

| Table 8.5 Identification of Potential Health Impacts | | |
|---|---|---|
| **Key Concerns: 4. Mental Health & Wellbeing N = 8** | | |
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| Good transport and traffic policy can contribute to a good sense of community (Q, D) | Some features of the current transport arrangement are perceived as contributing to stress<br>• Volume of traffic<br>• Quality of public transport<br>• Through traffic<br>These issues may contribute to, but do not explain, mental health problems underlined by high prescribing rates, and some health behaviour. (Q, S) | Only 15% of through traffic in Ballyfermot is not local. Traffic level is perceived as being very heavy by the local community. There is a mismatch of perception vs reality of neighbourhood problems and sources of problems. |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

### 8.3.5 Traffic Lights and Parking (Table 8.6)

Traffic lights affect the flow of traffic. Slowing down the traffic has resulted in a reduction in road traffic accidents, which has had a positive impact on safety for pedestrians and vehicle users. Measures put in place were felt to be working but some issues were identified, especially for the non-motoring population. These included the number and sequencing of traffic lights and parking. Specifically, in relation to traffic lights, continuing efforts are needed to get a balance between the needs of drivers and pedestrians. However, this can be difficult to achieve. From the qualitative study one set of traffic lights at Tescos was particularly mentioned as being problematic.

| Table 8.6 Identification of Potential Health Impacts | | |
|---|---|---|
| **Key Concerns: 5. Traffic Lights & Parking N = 5** | | |
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| Slow down traffic resulting in reduction in road traffic accidents. (C, D)<br><br>Safety for pedestrians (C, D)<br><br>Increased availability of spaces because of pay parking (C, D) | Timing of traffic lights for crossing at specific traffic lights perceived as problematic eg Tesco (Q)<br>Lack of awareness and behaviour by pedestrians and road users (Q)<br>Parking still in short supply, a barrier to access (E)<br>Parking as a barrier to social contact - severance (Q)<br>Lack of wheelchair access (Q)<br>Safety around parking at schools (Q)<br>Outsiders parking in residential areas for Park and Ride purposes (Q)<br>Locals parking in residential areas for business to avoid pay parking (Q) | Measures put in place are working but some issues re traffic lights especially for the non-motoring population. Traffic issues such as parking, sequencing of traffic lights, the number of traffic lights, the type of roundabouts etc having a major impact on people<br><br>Awareness issue re availability of parking and behaviour<br><br>More local parking outside residential areas required |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

It was recognised that there was increased availability of parking spaces due to the introduction of disc parking. However parking spaces are still in short supply, causing problems with access to services particularly for short term errands such as access to bank ATM machines. The use of disabled car parking spaces by non-disabled persons was also highlighted as an issue.

Lack of wheelchair parking and lack of enforcement was identified as a negative impact as was safety when parking at schools. People parking on footpaths resulted in restricted access. Outsiders parking in neighbourhood, using the area as a park and ride facility and security were also identified as negative impacts.

### 8.3.6 Air Quality and Noise (Table 8.7)

Results from the "Air Pollution and Noise Monitoring" study showed that there was no major impact on air quality. However, air pollution could be a potential problem as Ballyfermot lies is in an area of thermal inversion which has been a contributory factor to its air pollution problems in the past. There was some excedence of international standards for noise levels on two major roads. It is recommended that air quality and noise levels in Ballyfermot be kept under periodic surveillance particularly during the winter months when traffic congestion is at its highest.

**Table 8.7 Identification of Potential Health Impacts**

| Key Concerns: 6. Air Quality & Noise N = 8 | | |
|---|---|---|
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| Air pollution measurements are within acceptable levels, measurements lie within EU limits so no impact on air quality likely (C, D) | Perceptions remain that air pollution is a potential problem (Q, S)<br>Some exceedence of noise levels near major roads (C, D)<br>Impact of trucks on noise levels (Q, P) | |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

### 8.3.7 Access (Table 8.8)

Parking at shops and schools was deemed to be a problem for the community, especially for certain vulnerable groups, when accessing services locally. There was also a lack of availability of services and facilities locally, forcing people to travel outside the area. This raised the issue of affordability of public transport.

**Table 8.8 Identification of Potential Health Impacts**

| Key Concerns: 7. Access N = 4 | | |
|---|---|---|
| **Potential Impacts*** | | **Comments / Recommendations** |
| **Positive** | **Negative** | |
| Services are in place which promote access to essential facilities and footpaths in good condition (Q, P) | Some services and facilities are not available locally, and people have to travel outside the area (Q, P)<br>Unequal access due to issues such as affordability and physical access may be an issue for vulnerable groups and exacerbate social exclusion (Q, P) | |

**Measurability: Q = qualitative; E= estimable; C= calculable*
*Risk of impact: D= definite; P= probable; S= speculative*

### 8.3.8 Journey Times (Table 8.9)

Journey times have lengthened in the area in recent years due to increased congestion. This has had a positive impact in that it has contributed to the decrease in accidents. Potential negative impacts include increased stress, potential for accidents; potential for air pollution, perception of the neighbourhood as being congested and adverse effects on behaviour and lifestyle. People tended not to see their behaviour as part of the problem for example by using cars when they could have used public transport.

**Table 8.9 Identification of Potential Health Impacts**

**Key Concerns: 8. Journey Times N = 3**

| Potential Impacts* | | Comments / Recommendations |
|---|---|---|
| **Positive** | **Negative** | |
| Slower traffic leads to decreased road traffic accidents (Q, D)<br><br>Less rapid throughput of traffic contributes to a good sense of community (Q, S) | Increased travel time through Ballyfermot leading to increased stress, also a perceived potential for accidents (Q, S)<br><br>May contribute to a negative perception of neighbourhood (constantly congested with through traffic) (Q, P)<br><br>May also impact on behaviour and contribute to lifestyle issues, but does not completely explain them (Q, S) | People do not see their behaviour as part of the problem i.e. using cars when they could use public transport<br><br>Lack of awareness that people themselves are part of the problem |

**Measurability: Q = Qualitative; E= Estimable; C= Calculable*
*Risk of impact: D= Definite; P= Probable; S= Speculative*

## 8.4 Summary

The principal health impacts identified by the Steering Group were:

- Impacts on physical and mental health, safety, use of public transport, traffic lights and parking, air quality and noise, access and journey times
- A summary of these is shown in tables 8.2 - 8.9.

**References**


1. *Scott-Samuel, A, Birley M, Ardern K, (2001). The Merseyside Guidelines for Health Impact Assessment. Liverpool: The Merseyside Health Impact Assessment Steering Group, 1998.*
2. *Central Statistics Office, Small Area Population Statistics. Census 2002. Dublin: Government of Ireland 2003.*

# Chapter 9
# DISCUSSION

## 9.1 Introduction

This chapter aims to determine if the objectives set out in the HIA have been achieved and to describe the experiences and the lessons learnt in conducting a HIA.

The overall objective was to conduct a HIA on traffic and transport initiatives particularly traffic calming, in the Ballyfermot area, and to use the findings and recommendations to:

- Influence the development of future transport policy including road safety initiatives in the Ballyfermot area
- Inform the second review of the Dublin City Council Road Safety Plan
- Provide a health focus to the Air Quality and Noise Monitoring Project carried out concurrently by Dublin City Council
- Influence the resource allocation for future health service development and delivery in the Ballyfermot area.

It was expected that the project would also:

- Stimulate collaboration and coordination across the different sectors around initiatives which promote healthy transport activity
- Engage the community to pro-actively participate in decision-making and to develop an effective partnership for conjoint working between the community, statutory and voluntary sectors, to influence planning and service development in the Ballyfermot area
- Promote understanding across sectors of the relationship between transport and health
- Develop learning around the practice of HIA.

## 9.2 What has been achieved so far?

It is too early to say at this juncture whether the HIA has influenced the future development of transport policy in the Ballyfermot area and a project evaluation will need to be completed before this can be determined conclusively. However, there has been greater awareness of the links between transport and health and the potential effects on health of the major new developments taking place in the Cherry Orchard Area. The HIA has also provided the opportunity to develop road safety, walk to school and other initiatives and for the community to become actively involved in these.

The second review of the Dublin City Council Road Safety Plan has already taken place. However DCC are in the process of drawing up a new Road Safety Plan for the next five years and will provide opportunities to have an input into the new plan.

Linkage of the quantitative data collected as part of the HIA with the in depth assessment of air quality carried out during the timeframe of the HIA allowed us to demonstrate that air pollution levels are within acceptable limits and thus it is likely that other factors are also acting to cause the relatively poor physical and mental health identified in Ballyfermot residents, despite a very different public perception. Negative health behaviours, principally smoking, the result of increased stress from socio-economic disadvantage, are the principal contributors to the pattern of ill health identified. Notwithstanding this, air pollution measurements need to be continuously monitored especially adjacent to the main thoroughfares to ensure they continue to lie within acceptable limits as defined by international standards.

Doing the HIA has uncovered a raft of health issues that clearly need a response. All disadvantaged areas are targeted as a priority for resource allocation by the ERHA and health boards. The documented assessment of need carried out as part of the HIA process, has highlighted the health inequalities in Ballyfermot and will facilitate this process in the local health board, SWAHB.

A key principle at the outset of the appraisal process was to develop recommendations, which would stimulate joint actions by the community and statutory sectors and hence develop an effective partnership for conjoint working that would influence planning and future service development in the Ballyfermot area.

We would consider that we have increased awareness across the different sectors of how transport and health are interlinked. All meetings of the Steering Committee were held in the Civic Offices in Ballyfermot where the URBAN II offices are located thus giving an identity to the HIA. URBAN II is a European wide initiative, thus it affords considerable opportunity for dissemination of the findings of the HIA across its European network and hence for promoting understanding across sectors of the relationship between transport and population health.

The involvement of The Institute of Public Health in Ireland (IPH), an all Ireland body, representing statutory, voluntary and community sectors, which aims to address inequalities in health, is a key force for disseminating the learning from this HIA. The recent initiative taken by the Institute to develop an all Ireland multidisciplinary training programme for HIA based on action learning is to be welcomed. The Institute have also set up a National HIA network for those interested in HIA, which will be expanded to include members from the community and voluntary sectors that have an interest in HIA.

## 9.3 Limitations of the HIA and Lessons Learnt

This was the first endeavour of its kind in the south of Ireland. Most HIAs target broader transportation policy than the initiatives undertaken in Ballyfermot: they have addressed for example, development of different modes of transport, modal change and new roads. In addition, many leading published transport HIAs are prospective in nature. Although it was intended to carry out a prospective HIA in line with international best practice, this was not possible as delays with engaging partners, lack of knowledge on HIA and delays in obtaining funding were all contributory factors. Conducting a literature review was also time consuming. The resulting HIA was retrospective in nature as the measures were in a large part completed before the HIA commenced. It is important also to note how difficult it is for the community to become involved and stay involved given their other commitments.
Difficulties in accessing data and the non-availability of certain data was another important contributory factor. Although the researchers were able to produce routine health statistics on a small area, the lack of timeliness of information for example in relation to deaths is a clear disadvantage. Hospital admissions data only reflects severe cases. The lack of readily available computerised data from primary care, for example, on acute respiratory illness presenting to general practices is a major deficiency, although our data on prescribing rates acted as a proxy for this. A special survey would have been needed to obtain this from general practice which would have been additionally time consuming and expensive.

In retrospect Dublin Bus should have been represented on the Steering Committee. We did have representation from Dublin Transportation Office at initial meetings but the bus service was really the only form of public transport used. However this did not become clear until the focus groups were conducted.

## 9.4 Wider Issues

Although this HIA is context-specific there are wider issues in relation to the development of HIA that affected the Ballyfermot HIA.

The lack of a statutory basis for carrying out HIA is a major inhibitory factor in the development of HIA at national and also at local level and militates against systematic cross-sectoral working. Development of HIA in Ireland is in its infancy. Although the Health Strategy[1] states that Health Impact Assessment will be introduced as part of the public policy development process and that HIA will be carried out on all new Government policies, this has not happened to date. It is clear that assessing the health impacts of major new transport policies would result in wider recognition of the effect of transportation policy on social exclusion and would hopefully result in more equitable transport policies.

At local level, the lack of a statutory basis means that one is dependent on achieving co-operation from the various sectors on an ad hoc project basis instead of HIA being part of the business plan of the organisation. Had HIA been on a statutory footing, much of the time spent in engaging the different sectors in this HIA would have been circumvented.

If HIA were a statutory requirement, local authorities would be required carry out HIAs on all major new policy initiatives either alone or as part of an integrated impact assessment. The HIA process would be mainstreamed throughout the authorities and be assisted in doing so by the relevant health authority/board and the IPH.

A national strategy on physical activity would clearly have a major influence on affecting joint efforts by the health boards and local authorities working with communities to encourage walking and cycling and promote public transport usage. Measures to improve participation in physical activity would need to be fully integrated with transport policy at national level and become a joint policy of the health and local authorities at regional and local level. It is expected that the National Taskforce on Obesity will address this issue.

The local authorities collect air pollution measurements routinely. Similarly accident data are collected by the National Roads Authority and passed on to the local authorities. The Health Authority/health boards routinely collect health statistics. Yet there is no established mechanism for systematic data exchange between the health and local authorities hence the added value that would be obtained from integrating this data is absent. Within the new health reforms, with the replacement of the ERHA and the health boards by a single body, the Health Services Executive, there is an opportunity to explore mechanisms for data exchange and integration of accident, air quality and routine health monitoring data.

## 9.5 Summary

- Despite the time taken to carry out the project, most of the initial objectives set out are on track. A subsequent formal evaluation is required to determine if they are met.
- The limitations of the HIA are discussed and how the wider issues relating to the development of HIA in Ireland affected the Ballyfermot HIA.

**References**

1. *Department of Health and Children. Quality and Fairness. A Health System for You. Health Strategy. Dublin: The Stationery Office, 2001*

# Chapter 10
# RECOMMENDATIONS

## 10.1 Introduction

Following identification and weighting of the major impacts identified at the Appraisal Day, and taking account of the findings from the local research and review of the international literature, the Steering Group members drafted recommendations. The objective was to make recommendations which could jointly be carried out by the relevant stakeholders e.g. the health board, local authority and transport authority working with the local community to maximise the positive health impacts of transport. One example of this is the linking together of the Traffic Department's policy to encourage motorists out of their cars and onto public transport which is safe and attractive for people to use, to the health objective of increased participation in physical activity. Recommendations were subdivided into local recommendations pertaining specifically to the HIA in Ballyfermot, which could be carried out jointly by the stakeholders and those primarily the responsibility of the relevant stakeholders i.e. DCC, Dublin Bus, SWAHB and the community.

## 10.2 Joint Local Initiatives pertaining to the HIA in Ballyfermot

### 10.2.1

A key recommendation is that a **local action group** be convened in Ballyfermot to identify how the issues identified by the HIA may be addressed locally. This group will include local key stakeholders in the area i.e., members of DCC, SWAHB, the Gardai, Dublin Bus, schools and representatives from the community. The broad representation on this multi-sectoral group will ensure recognition of the local issues raised relating to transport and health and development of feasible solutions. Representatives could be nominated by the URBAN II board as it already has representation from many of the aforementioned bodies.

### 10.2.2

The group will develop a **joint action plan** and will be responsible for its implementation. The action plan will be communicated to residents. This will be facilitated by URBAN II for a period of one year but will need to be reviewed after that time. Some commitment to sustainability will be required after 2006 when URBAN II funding will cease.

The group will be charged with ensuring that the actions identified will be managed and completed within an agreed timeframe. It is recommended that projects identified will be up and running by 2006.

### 10.2.3

In keeping with other areas of socio-economic disadvantage, the HIA found that the health of the residents in Ballyfermot is poor, when compared with the Eastern Region as a whole. Promotion of active transport i.e. walking and cycling and public transport is a common agenda for those involved in health promotion and traffic management. Promotion of increased physical activity needs to be made a priority for multi-sectoral working between the health and local authorities in the Eastern Region with links strengthened between Local Authority Transport Planners and Health Promotion Managers to provide integration and added value. A **joint strategy to promote increased physical activity** is recommended. This was recognised as being a shared area of responsibility for the SWAHB, DCC and the community, to be led by SWAHB. The local Health Promotion Committee will look at how best this strategy can be implemented in the light of a proposed new regional taskforce to address obesity. Residents should be encouraged to use alternative means of transport such as walking and cycling and be made aware of the health benefits of moderate exercise. Projects that could be developed and supported as part of this strategy include:

- Community-based developments such as community sport initiatives and mini-marathons
- Safer walking routes to be developed in local parks such as a local Slí na Sláinte route.

### 10.2.4

**Joint initiatives to improve road safety will be undertaken.** Training on codes of behaviour when cycling should be developed and provided to older primary school children. There is one Road Safety Officer in DCC for the city. The SWAHB and Home School Liaison Officer will need to link with the Road Safety Officer to progress this issue.

### 10.2.5

**'Walking Bus' and other safe routes to school initiatives** need to be developed and supported by SWAHB in conjunction with the Local Area Office of DCC and in partnership with local schools. A pilot "Safe Routes to School" programme is currently being carried out in Griffith Avenue by DCC and this could be assessed with regard to its suitability for Ballyfermot.

### 10.2.6

Personal safety, poor timetabling and the general unattractiveness of the buses serving Ballyfermot were identified as issues in the HIA. These findings need to be brought to the attention of Dublin Bus. It is recommended that the local group work with Dublin Bus to **make travel by bus a safer and more attractive option.** For instance, an electronic messaging system/passenger information system might be installed for customers as a priority, informing people when the next bus is due. In addition, the Steering Group recommended that a confidential phone line be made available by Dublin Bus specifically to report anti-social behaviour on buses and at bus stops.

### 10.2.7

Increased awareness of the safety needs of the elderly and disabled persons in relation to traffic and transport is needed. Disembarking from buses and insufficient time to cross roads were identified as issues. Despite the high proportion of disabled people in Ballyfermot, only a few buses facilitate access. **Transport policy developed by Dublin Bus needs to be examined in terms of its support of older and disabled people particularly in relation to issues such as access, safety, routes and timetables.**

### 10.2.8

It is recommended that a **local safety awareness campaign** be developed by DCC, in conjunction with the local implementation group, for all road users regarding safety when crossing the roads, and that awareness programmes for bus drivers and pedestrians be developed in partnership with Dublin Bus to address issues such as older people alighting safely from buses.

### 10.2.9

There is a need for **better local enforcement of legislation** affecting transport policy such as parking restrictions and enforcement of no smoking on buses. Joint action is needed from the local Garda Siochana, Dublin Bus and the community on this.

### 10.2.10

The potential for **exchange and integration of data**, including accident, air quality and routine health data, between the National Roads Authority and the health and local authorities should be explored. The ERHA will take the lead on this in the Eastern region.

## 10.3 Local Recommendations for DCC

### 10.3.1

It is recommended that DCC endeavour to target resources to promote active transport i.e. walking and cycling in Ballyfermot, within the agreed priorities of the South Central Area Committee (SCAC) and in line with Dublin City Council policy. The SCAC consists of local representatives who agree the works programme for the South Central Area of Dublin. **Initiatives to make walking and cycling more attractive**, need to be encouraged by DCC such as improved lighting, paths, changing facilities, bike lock-ups and bike racks (including at bus stops). There is a continuous plan to improve and upgrade cycle lanes. It may also be possible to map out cycle routes in local parks. However, in relation to other transport initiatives, initiatives around cycle lanes and routes may not be cost-effective in the short–term because of their low current usage and perceptions around usage, especially around safety issues.

### 10.3.2
There is a general lack of awareness of developments in transport policy. **Access to information on changes in transport policy** needs to be improved for local residents. Better use of local media sources is one way to address the lack of awareness. Possible actions, pending feasibility and agreement of staffing implications, might include:

- Articles in local newspapers including the URBAN II publication, ID10 when issues or changes arise in local transportation policy
- Setting up a phone line in the Regional Office of DCC for traffic/transportation queries
- Slots on the Ballyfermot Access Radio Station which might be a suitable medium for raising awareness and encouraging debate about the links between transport and health in Ballyfermot.

### 10.3.3
While there is already an effective mechanism in place between DCC and local representatives to deal with traffic issues on a request basis through the DCC Traffic Advisory Group (TAG), changes to the works programme carried out as a result of requests are not necessarily communicated to residents. The Local Area Office will review its processes in terms of **feedback to the local community** on the outcome of requests to the TAG.

### 10.3.4
DCC will continue to **monitor traffic flow** in the area particularly in the light of the new link road to Park West and the major development in the Cherry Orchard Area.

### 10.3.5
DCC will work towards **preserving the relatively good air quality** in Ballyfermot and ensure continued compliance with National and European legislation. Air quality measurements will continue to be monitored with regard to the potential effects on air pollution from the new developments in Cherry Orchard.

### 10.3.6
DCC will aim to **preserve the existing 'quiet areas' in Ballyfermot** and work towards reducing high noise levels in areas identified in the study.

### 10.3.7
Efforts to **improve the sequencing of traffic lights** need to be re-examined. The traffic lights at the Tesco junction seemed to cause particular annoyance. Possible actions include the inclusion of a countdown for pedestrians at this junction.

## 10.4 Local Recommendations for the SWAHB

### 10.4.1
Currently within the SWAHB all designated disadvantaged areas are identified as priority areas for service planning and resource allocation. It is recommended that the SWAHB endeavour to target resources to improve health and reduce health inequalities in Ballyfermot within this framework.

### 10.4.2
Personnel in the Health Promotion Department of the SWAHB have specific responsibility for Dublin West regarding health promotion initiatives. It is recommended that the **Health Promotion Department continue to seek resources to develop local health promotion teams and services** and work with the General Manager of the Community Health Services in relation to this.

### 10.4.3
The Community Health Services serving Community Care Area Dublin West of the SWAHB are located in the grounds of Cherry Orchard Hospital. **The Community Health Services, in liaison with the SWAHB, will interact with URBAN II initiatives** to give maximum health benefit for the local population from existing health services.

### 10.4.4
It is recommended that a **member of staff with a broad understanding of public health be assigned** from the local Community Care Area Dublin West to the local implementation group to promote health and physical activity in Ballyfermot. The General Manager of Dublin West, who is member of the URBAN II Board, is supportive of this.

### 10.4.5
Better dissemination of information regarding the health benefits of using public transport may have a positive impact on affecting a shift towards using public transport. This would impact significantly on local traffic congestion. Similarly, channels of information to the public regarding the benefits of a healthy lifestyle, need to be improved. It is recommended that SWAHB and in particular, the local Health Promotion Committee work in partnership with the local community through URBAN II to develop a **health awareness strategy** for Ballyfermot. A possible means of delivering such a strategy would be through regular **local health fairs**, perhaps on an annual basis. These would give an opportunity to:

- Disseminate information more widely on health services available in the area
- Raise awareness about healthy lifestyles among the local population
- Provide health promotion information on:
  - Exercise
  - Alcohol
  - Smoking
  - Healthy lifestyles
  - Accident prevention

### 10.4.6
It is recommended that communication be strengthened regarding the services provided by the Community Health Services in Dublin West, including health promotion, mental health and addiction services. A Directory of Services for Dublin West is available. However, more needs to be done to ensure that residents are aware of what services are available in the area. A **local directory of services** for Ballyfermot might be a feasible solution.

### 10.4.7
A number of local Sports Partnerships already exist between the area health boards and the local authorities. Funding could be sought for **development of a local sports partnership** for Dublin South Central (which serves Ballyfermot), which could work with the schools and parents to exploit opportunities to improve physical activity in the area.

### 10.4.8
It is recommended that opportunities for **targeting the health of teenagers** in the area be explored. This will require the further development of links by the health service with the URBAN 'Youth' sector to explore the potential for joint working to improve youth health, along with a range of healthy lifestyles initiatives including drug awareness.

## 10.5 Recommendations for the Local Community

In the process of carrying out the HIA, it was recognised that the local community spirit is strong and active. It is also understood that specific initiatives such as walking, bus, training in road safety for children and safe parking at schools will not be successful without the active involvement of the local community who are in daily contact with the schools and will not be sustainable without their involement.

### 10.5.1

The Ballyfermot Community will need to take an **active role in promotion of initiatives**, which will decrease car usage and promote physical activity in the area. This will include:

- Encouragement of walking and cycling on local trips
- Active involvement with schools to improve safety and encourage walk to school initiatives
- Efforts to discourage the inappropriate use of car parking spaces and working with the gardai towards enforcement.

### 10.5.2

It is recommended that members of the community take **an active role in ensuring the promotion of public transport use** in Ballyfermot. Through the joint local action group, the barriers to using public transport identified in the report should be brought to the attention of the relevant authority and steps taken to decrease vandalism on buses. One suggestion made by the Steering Committee was that Dublin Bus makes a confidential phone line available for reporting anti-social activity on public transport.

### 10.5.3

The residents should seek **involvement in other local URBAN II and SWAHB initiatives** to improve health awareness through the local implementation group.

# Appendix 1
# REVIEW OF BALLYFERMOT TRAFFIC CALMING SCHEME

## Introduction

The original Ballyfermot traffic calming scheme was carried out in the early 1990s.The area in question is divided into four quadrants by two very busy regional roads. These are Kylemore Road (R112) which runs in a north-south direction and Ballyfermot Road (R833) which runs in an east-west direction (map 4.3). The North Clondalkin QBC has just opened on Ballyfermot Road and a major village improvement scheme is due to commence in Ballyfermot village in the near future.

The areas covered by this review are the mainly residential roads in the four quadrants contained by these regional roads.

## Objectives

The objectives of this review of the scheme were to:

- Review all existing traffic calming measures provided in the original scheme
- Rectify any problems that have subsequently arisen.
- Provide traffic calming on any roads which were not included in the original scheme where necessary.

## Methodology

The methodology consisted of:

- A survey of all existing traffic calming measures on roads in the area under review
- Speed surveys and safety appraisal on roads which were not traffic calmed in the original scheme
- Investigation of representations received from elected members, community groups and individuals regarding specific problems and traffic safety issues in their areas. Further representations were invited by means of advertisements in local newspapers.

## Existing Traffic Calming

There are at present 30 roads in the Ballyfermot area which have some form of traffic calming. This consists mostly of standard 4.5 metre ramps as shown below.

**Table 1.1 Traffic Calming Measures**

| | Total Number |
|---|---|
| 4.5 metre ramps | 103 |
| 10 metre ramps on bus route | 5 |
| Mini – roundabouts | 11 |
| Road Closures | 5 |

Particular problems in relation to anti–social behaviour at the road closures have arisen in the Raheen / Cloverhill area where residents have requested that bollards be replaced with high-rise kerbs. A full list of all roads with existing traffic calming is shown in Table 1.2

| Table 1.2 Roads with existing traffic calming (Dec. 2000) | | | |
|---|---|---|---|
| **Road Name** | **4.5 metre ramps** | **10 metre ramps** | **Other** |
| Blackditch Road | 8 | - | bollards |
| Cherry Orchard Avenue | - | - | mini-roundabouts(3)<br>roundabouts(2) |
| Claddagh Road | 7 | - | |
| Cleggan Avenue | 2 | - | - |
| Cleggan Park | 2 | - | - |
| Cleggan Road | 4 | - | - |
| Clifden Road | - | - | mini-roundabouts(3) |
| Cloverhill Hill Road | - | - | bollards |
| Convent Lawns | 2 | - | - |
| Cremona Road | 7 | - | - |
| Croftwood Drive | 4 | - | - |
| Drumfinn Avenue | 5 | - | - |
| Drumfinn Road | 2 | 5 | - |
| Gallanstown Drive | 3 | - | - |
| Garryowen Road | 5 | - | mini-roundabout |
| Gurteen Avenue | 2 | - | - |
| Gurteen Park | 2 | - | - |
| Kylemore Avenue | 4 | - | - |
| Landen Road | 10 | - | - |
| Le Fanu Road | 8 | - | - |
| Muskerry Road | 4 | - | - |
| O'Hogan Road | 4 | - | mini-roundabout |
| O'Moore Road | 1 | - | - |
| Oranmore Road | 3 | - | mini-roundabout |
| Raheen Drive | - | - | bollards |
| Raheen Park | - | - | bollards |
| Rossmore Avenue | 4 | - | - |
| Spiddal Road | 3 | - | mini-roundabout |
| Thomond Road | 7 | - | - |

## Speed surveys

Speed surveys and traffic counts were carried out on roads where no traffic calming measures had previously been implemented.

The roads which were surveyed were: Ballyfermot Road, Blackditch Road, Cherry Orchard Avenue, Clifden Road, Rossmore Road, Lally Road and Decies Road. The 85th percentile speed on these roads ranged from 25 to 39 miles per hour (mph) with the highest speeds being recorded on roads with bus routes.

Additional traffic calming measures were recommended on the roads which met the criteria for the installation of ramps.

## Accidents

The available accident database for the period 1995-98 was reviewed for the roads, in the Ballyfermot traffic calming scheme. Most of the accidents recorded resulted in minor injury and were distributed randomly through the area.

## Representations

Representations from individual residents, community groups, elected members and previous motions and questions for the South Central Area Committee were investigated. Additional measures were proposed where traffic calming criteria were met, where justified on safety grounds or where there was a confirmed joy-riding problem.

## Bus Routes

Many of the roads, which were not previously traffic-calmed, contained bus routes and as such were not suitable for standard 4.5 ramps. These roads include Clifden Road, Raheen Park, Cherry Orchard Avenue, Decies Road and parts of Blackditch Road, Lally Road, Spiddal Road and Oranmore Road. On these roads speed cushions were proposed.

While speed cushions do not match the effect of ramps, they can still reduce and control the speed of smaller vehicles such as cars and still have a minimum impact on buses and emergency vehicles. Studies on Captain's Road in Crumlin show that speed cushions reduce speeds by up to 17%.

## The Ranch Area

The Ranch area includes First Avenue, Liffey Street South, Park Street, Phoenix Street West and St Mary's Avenue West. These roads mostly consist of residential terraced houses with no front gardens with the result that the roads serve both for traffic and as a play area. The roads are typically six metres wide and approximately 130 metres long and would not normally meet the warrants required for traffic calming as regards length, speed or traffic volume. However, in the light of repeated requests from residents and public representatives due to the problems of joy riding and consequent danger to children, it was proposed to install ramps on each of the roads in this area.

# Recommendations

Subject to consultation with the Fire Officer and the Garda Commissioner and notification of local residents the main recommendations of this review were as follows:

2. Standard 4.5 metre ramps to be installed on Ballyfermot Avenue, Ballyfermot Crescent, Ballyfermot Drive, Ballyfermot Parade, Colepark Avenue, Colepark Drive and Colepark Road in conjunction with the Ballyfermot Village Improvement Scheme as already approved by TAG.
3. Speed cushions to be installed on the following roads which contain bus routes: Decies Road, Clifden Road, Raheen Park, Cherry Orchard Avenue and parts of Lally Road, Blackditch Road, Spiddal Road and Oranmore Road.
4. Existing bollards at Raheen Drive, Raheen Park and Cloverhill Road to be replaced by high rise kerbs as requested by the residents.
5. Missing concrete bollards at the junction of Muskerry and Ramillies Road to be replaced.
6. Standard 4.5 metre ramps to be installed on Cherry Orchard Drive and St Laurence's Road as already approved by TAG.
7. Standard 4.5 metre ramps to be installed on roads in The Ranch area: First Avenue, Liffey Street South, Park Street West, Phoenix Street West and St Mary's Avenue West.
8. Standard 4.5 metre ramps to be installed on Moycullen Road, Claddagh Green, Carna Road, Inagh Road, Gurteen Road and Rossmore Road.

A full list of roads with proposed traffic calming measures is shown in Table 1.3 overleaf.

| Table 1.3 Roads with proposed or additional traffic calming (Dec. 2000) | | | |
|---|---|---|---|
| **Road Name** | **4.5 metre ramps** | **10 metre ramps** | **Other** |
| Ballyfermot Avenue | 5 | - | - |
| Ballyfermot Crescent | 4 | - | - |
| Ballyfermot Drive | 5 | - | - |
| Blackditch Road | - | 4 | - |
| Ballyfermot Parade | 5 | - | - |
| Blackditch Road | - | 4 | - |
| Carna Road | 2 | - | - |
| Cherry Orchard Avenue | 3 | 10 | - |
| Cloverhill Road | - | - | High Rise Kerb |
| Cherry Orchard Drive | 6 | - | - |
| Claddagh Green | 4 | - | - |
| Clifden Road | - | 5 | - |
| Colepark Avenue | 3 | - | - |
| Colepark Drive | 4 | - | - |
| Colepark Road | 4 | - | - |
| Decies Road | - | 8 | Mountable Roundabouts(2) |
| Gurteen Road | 2 | - | - |
| Inagh Road | 2 | - | - |
| Lally Road | 4 | 2 | - |
| Lough Conn Road | - | - | - |
| Moycullen Road | 2 | - | - |
| Spiddal Road | 1 | 4 | - |
| The Ranch (5 Roads) | 10 | - | - |
| Oranmore Road | - | 4 | - |
| Raheen Drive | - | - | High Rise Kerb |
| Raheen Park | - | 2 | High Rise Kerb |
| Rossmore Road | 10 | - | - |
| St Laurence's Road | 8 | - | - |

# Appendix 2
# TRAFFIC FLOW INVESTIGATIONS - BALLYFERMOT ROAD

## Introduction

The issue of traffic congestion in Ballyfermot is a concern of local residents, businesses and elected members. This study was undertaken to investigate congestion and delays on Ballyfermot Road and to look at the contribution of through traffic to this congestion. Economic growth, increased car ownership and underdeveloped public transport are factors that contribute to congestion on roads such as the M50 and the Chapelizod By-Pass. Measures to reduce or alleviate congestion are also examined.

## Methodology

The investigation looked at the following issues:

- The **Use** of the road facility (via modal split and volumes of traffic). This aspect has been addressed via vehicle counts, conducted at relevant intersections.

  *Vehicle count surveys were conducted on 5 February 2002. Recording stations were set up at various locations on Ballyfermot Road, effectively capturing traffic entering (on the western side entering from Coldcut Road / Kennelsfort Road) and leaving on (the eastern side leaving via Con Colbert Road / Inchicore Road) the road, as well as at a midway station.*

- The **Experience** from a user point of view. This has been obtained by recording the travel duration along Ballyfermot Road at various times of the day.

  *A travel duration survey was carried out on Wednesday, 6 March 2002 extending from 08h20 to 17h30.*

- The **Function** of the road (understanding of whether traffic is "local" or "through"). This has been done through the use of "vehicle recognition surveys", using video-recording methods and analysis.

  *Vehicle recognition surveys were conducted on Thursday 7 March 2002. Recording stations were set up at 3 locations on Ballyfermot Road, effectively capturing traffic entering and leaving the road, as well as at a midway station.*

| Table 2.1 Traffic Counts and Modal Splits (vehicle no's) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Time** | **Transport Mode** | **Ballyfermot Rd** | | | | **Coldcut Rd** | |
| | | **Passing Cherry Orchard** *(eastbound)* | | **Passing Sarsfield** *(eastbound)* | | **Passing Cherry Orchard** *(westbound)* | |
| 8h00 – 9h00 | Cars | 839 | (91%) | 756 | (85%) | 336 | (91%) |
| | HGV's | 20 | (2%) | 46 | (5%) | 13 | (4%) |
| | M/cycles | 24 | (3%) | 32 | (4%) | 5 | (1%) |
| | Cycles | 9 | (1%) | 31 | (3%) | 3 | (1%) |
| | Buses | 28 | (3%) | 26 | (3%) | 14 | (4%) |
| 9h00 – 10h00 | Cars | 608 | (91%) | 655 | (87%) | 26 | (70%) |
| | HGV's | 22 | (3%) | 41 | (5%) | 1 | (3%) |
| | M/cycles | 17 | (3%) | 18 | (2%) | 1 | (3%) |
| | Cycles | 10 | (1%) | 12 | (2%) | 9 | (24%) |
| | Buses | 13 | (2%) | 24 | (3%) | 0 | |
| 10h00 – 10h30 | Cars | 184 | (90%) | 436 | (89%) | 12 | (75%) |
| | HGV's | 7 | (3%) | 34 | (7%) | 0 | |
| | M/cycles | 4 | (2%) | 11 | (2%) | 0 | |
| | Cycles | 2 | (1%) | 5 | (1%) | 4 | (25%) |
| | Buses | 8 | (4%) | 9 | (2%) | 0 | |

| Table 2.2 Travel Duration along Ballyfermot Road (minutes) | | | |
|---|---|---|---|
| **Eastbound Departing** | **Duration** | **Westbound Departing** | **Duration** |
| 8:00 | 10.10 | 8:20 | 6.22 |
| 8:30 | 9.40 | 8:40 | 7.22 |
| 8:50 | 7.16 | 9:00 | 5.50 |
| 9:10 | 8.48 | 9:20 | 6.49 |
| 9:30 | 7.21 | 9:40 | 6.49 |
| 9:50 | 8.04 | 10:30 | 6.34 |
| 10:45 | 8.03 | 11:00 | 7.30 |
| 11:15 | 6.32 | 11:30 | 6.06 |
| 11:45 | 7.02 | 11:55 | 8.13 |
| 12:10 | 8.10 | 12:30 | 8.08 |
| 12:45 | 8.06 | 12:55 | 6.35 |
| 13:30 | 7.52 | 13:40 | 7.27 |
| 13:50 | 8.55 | 14:05 | 6.37 |
| 14:20 | 8.36 | 14:30 | 7.24 |
| 14:40 | 8.28 | 14:55 | 17.44 |
| 15:20 | 6.45 | 15:30 | 14.52 |
| 15:50 | 7.12 | 16:00 | 9.55 |
| 16:15 | 7.55 | 16:25 | 12.26 |
| 16:40 | 11.40 | 17:05 | 20.42 |
| 17:30 | 8.44 | 17:45 | 38.51 |
| **Average** | **8.08** | **Average** | **10.39** |
| **Maximum** | **11.40** | **Maximum** | **38.51** |
| **Minimum** | **6.32** | **Minimum** | **5.50** |
| **Avg Speed** | **22.7 km/h** | **Avg Speed** | **22.3 km/h** |

| Table 2.3 Registration number recognition survey | | |
|---|---|---|
| | **Ballyfermot Road** | |
| | **Entering Cherry Orchard** *(eastbound)* | **Leaving Sarsfield** *(eastbound)* |
| Time | 8h00 – 10h30 | 8h00 – 11h00 |
| Total Count | **1,751** | **1,556** |
| Through-traffic | **451** (26% of "entering") (29% of "leaving") | |

| Table 2.4 Time distribution of through-traffic | | | |
|---|---|---|---|
| | **Average Duration** | | |
| **TOTAL COUNT = 451** | **< 15 min** | **15 – 30 min** | **> 30 min** |
| Count | 263 | 59 | 129 |
| Percentage of **Total Count** | 58% | 13% | 29% |





# Results

## Traffic counts and modal splits (Table 2.1)

In terms of the **modal split** along Ballyfermot Road, the percentage of cars (of total traffic volume) leaving the route is consistently seen to be in the order of 86%, whilst the number of HGV's encountered leaving the route is seen to be approximately 5%. In effect therefore, approximately 16 cars are observed for every 1 HGV on the route, irrespective of the time. This proportion is deemed acceptable considering the location and importance of Ballyfermot Road and so might not ordinarily be viewed as a contributing factor in terms of traffic congestion.

A significant observation, however, is that whilst 5% of HGV's are seen to be leaving Ballyfermot Road at the western end, only 2% to 3% are noticed entering, indicating a substantial source of additional HGV's somewhere along the route. Cars, however, account for approximately 90% of the overall mode entering Ballyfermot Road, whilst they only account for approximately 85% of the leaving mode, indicating legitimate destinations along the route.

In terms of the **volume** of traffic entering Ballyfermot Road at its western extreme and subsequently leaving at its eastern extreme the results must be considered together with the vehicle registration survey. In terms of simple volume spreads, however, while 891 vehicles (all modes) pass eastbound along Ballyfermot Road between 8h00 and 9h00, this drops off substantially to 87% during 9h00 and 10h00 and 58% from 10h00 onwards.

## Travel Duration (Table 2.2)

The average duration of travel as well as the distance between extents of Ballyfermot Road is used to determine the average speed along the section during various times of the day. In terms of the data obtained during the study, this could be deemed the most conclusive in terms of highlighting problems of congestion along the route.

The average speeds throughout the day are approximately 22 km/h, deemed to be a steadily moving speed. Furthermore, the average time of 8.08 minutes eastbound during the morning as well as the small variation in times is considered acceptable for the distance traversed.

Although the average duration and speed in the westbound evening peak is also acceptable (10.39 minutes and 22.3 km/h respectively), between 14h30 and 15h30 as well as after 17h00 the duration is seen to rise quite dramatically. The earlier increase (14h30 to 15h30) is attributable to the normal operational times of schools in the area, however the evening variation (after 17h00) is likely to be attributed to typical evening peak traffic.

### Registration number identification (Tables 2.3 and 2.4)

Out of a total of 1,751 eastbound vehicles captured on video recordings passing Cherry Orchard Hospital, 545 (i.e. 31%) are seen to be leaving at the Sarsfield Road junction. This in turn amounts to 35% of the total number leaving Ballyfermot Road at the eastern end. Only 451 of these vehicles (i.e. 87%) could be accurately "time-stamped" in order to be used for further studies.

The distribution of the through-traffic in terms of "time spent" reveals that 58% of the 451 through vehicles record a time within 15 minutes, whilst 13% complete the journey within 30 minutes. The remaining 29% of the through-vehicles complete the journey in a time greater than 30 minutes, indicating legitimate destinations within the study area.

Considering the average travel duration (Table 2.2), it would therefore be reasonable to assume that approximately 58% are using Ballyfermot Road simply as a through-road. If however, a large number of drop-offs (e.g. school, business) were taking place then this proportion would be expected. However detailed origin-destination surveys would need to be undertaken to determine this.

## Conclusions

In terms of the limited studies conducted along Ballyfermot Road, the following may be concluded:

- A large proportion of the Heavy Goods Vehicles (HGV's) exiting Ballyfermot Road heading in an easterly direction are originating at some point along the road.
- Approximately one-third of the overall traffic passing Cherry Orchard on the western end of Ballyfermot Road is seen to leave again on the eastern end at the junction with Sarsfield Road. **After consideration of average surveyed travel times, a total of 15% of the through-traffic is therefore considered to be utilizing the road simply as a through-road.**
- Average travel times along Ballyfermot Road are in the order of 8 to 10 minutes, equating to average speeds of approximately 22 km/h. Both of these measures are deemed acceptable considering the location and importance of Ballyfermot Road. The evening variations, however, indicate that additional volumes of through-traffic are contributing significantly to congestion along Ballyfermot Road.

## Possible Remedial Measures

Based on the information obtained from preliminary studies along Ballyfermot Road, possible scenarios in order to address traffic congestion are presented below. Option 4 is the preferred option (Table 2.5).

| Table 2.5 Possible options to address traffic congestion in Ballyfermot | | |
|---|---|---|
| **Option 1: Road Closure** | | |
| **Description** | **Advantages** | **Disadvantages** |
| Closure of the westerly entrance onto Ballyfermot Road from the bypass. | Any through-traffic could simply not gain access onto Ballyfermot Road. With time, alternative routes and habits would be formed.<br><br>Ballyfermot Road would not experience traffic volumes of any significance, apart from adjoining local users.<br><br>Reduction in traffic congestion would significantly reduce travel times along Ballyfermot Road. | **All** traffic, including legitimate local traffic (residents, buses) would be severely inconvenienced.<br><br>Residents would need to determine their own alternative routing.<br><br>Business could be affected by loss of legitimate market.<br><br>Congestion would be realised at other points on the road network.<br><br>Emergency services response times severely affected |
| **Option 2: Ban turns** | | |
| **Description** | **Advantages** | **Disadvantages** |
| A less severe option compared to Road Closures.<br><br>e.g.ban the left turn to Ballyfermot from the Chapelizod By-Pass | Same as Road Closures, although less effective as some through-traffic would still gain access. | **Some** traffic, including legitimate local traffic (residents) would be severely inconvenienced.<br><br>Residents would need to determine their own alternative routing.<br><br>Business could be affected by loss of legitimate market.<br><br>Effectiveness dependent on Enforcement measures |
| **Option 3: Signal gating** | | |
| **Description** | **Advantages** | **Disadvantages** |
| A reduction in green time for westbound traffic at the Con Colbert Road / Sarsfield Road junction (between 15.00 and 19.00 hours | Buses and taxis would not be impeded and travel times for these modes might even decrease.<br><br>Reduced through traffic | **Some** local traffic would be severely inconvenienced. Severe delays for residents of Lower Ballyfermot trying to access their homes from the east<br><br>Increased queues and delays on Con Colbert Road for traffic waiting to enter Ballyfermot Road<br><br>Increased traffic in Chapelizod and Inchicore |

| Table 2.5 Possible options to address traffic congestion in Ballyfermot (cont'd) | | |
|---|---|---|
| **Option 4.** | **Management of Ballyfermot Road in conjunction with new link road from Park West to Cloverhill** | |
| **Description** | **Advantages** | **Disadvantages** |
| Completion of QBC<br>SCATS<br>Additional pedestrian signals<br>Extra time to ped signals to discourage through traffic<br>CCTV cameras | Improved traffic management<br>Control of side road traffic<br>Improved bus journey times<br>Better pedestrian facilities<br>Alternative route for industrial estate traffic via Link Road | Delays remain for residents |

# Appendix 3
# AIR QUALITY STANDARDS

Ireland's air quality standards are set in accordance with various EU Directives. These Directives were integrated into national legislation by the Air Quality Standards Regulations 2002 (Statutory Instrument. No. 271 of 2002), which were introduced on June 5th, 2002. These regulations specify limit values for six pollutants: sulphur dioxide (SO2), oxides of nitrogen (NO2), particulate matter (PM10), lead (Pb), benzene (C4H4) and carbon monoxide (CO) in ambient air. The limit values for sulphur dioxide, lead and carbon monoxide come into effect from January 2005, and for the other pollutants listed above, the effective date is January 2010. Table 3.1 below presents the limit values:

**Table 3.1 Air Quality Standards Regulations 2002**

| Pollutant | Limit Value* | Permitted Exceedances | Attainment Date |
|---|---|---|---|
| Sulphur Dioxide ($SO_2$) | 125 µg/$m^3$ (24-Hour)<br>350 µg/m (1-Hour) | 3 per year<br>24 per year | 2005 |
| Nitrogen Dioxide ($NO_2$) | 40 µg/$m^3$<br>200 µg/m (1-hour) | Annual Mean<br>18 per year | 2010 |
| Particulate Matter (PM10) | 50 µg/$m^3$ (24-hour)<br>40 µg/$m^3$ | 35 per year<br>Annual Mean | 2005 |
| Carbon Monoxide (CO) | 10 µg/$m^3$ | Maximum daily 8-hour mean | 2005 |
| Lead (Pb) | 0.5 µg/$m^3$ | Annual Mean | 2005 |
| Benzene | 5 µg/$m^3$ | Annual Mean | 2010 |
| Ozone (O3)** | 180µg/$m^3$ (1-hour) | Population Threshold | 2010 |

* *micrograms per cubic metre/ milligrams per cubic metre*

** *EU Framework Directive on Air Quality*