A Prospective Rapid Health Impact Assessment of the proposed Sports Stadium and Retail Development in Kirkby: Technical Report

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1 Introduction

This Health Impact Assessment (HIA) aims to identify the potential health effects of the proposed football stadium and associated retail development as part of the regeneration of Kirkby town centre. This is the technical report that accompanies the summary report which was submitted by DPP on behalf of Tesco as part of the revised planning application on May 15 2008¹. This report contains more detailed information about the HIA, including evidence from other assessments, literature and stakeholders as well as the community profile.

The assessment phase of the HIA was carried out during December 2007 to March 2008. The assessment was based on the planning application submitted in January. A revised application was made in May. This HIA has not taken into account the changes made to the original plans.

Tesco have submitted a hybrid planning application which involves a mix of detailed and outline elements. Tesco have applied for permission to build a new stadium for Everton Football Club (EFC), a Tesco superstore, a range of non food retailing, hotel, housing and car parking (detailed application). Outline planning permission is being sought for redevelopment of the existing town centre but the details are unclear at this stage. The proposal involves the demolition of 72 existing houses and other buildings on Cherryfield Drive. This includes accommodation for services such as the Liverpool Voluntary Society for the Blind, Princess Royal Trust Knowsley Carers Centre, Victim Support and Witness Service Merseyside and Kirkby Connexions Centre. Replacement housing will be built as part of the development.

The proposed stadium will have capacity for 50,000 spectators and shared and private hospitality facilities for corporate guests. There will be specific parking created for the stadium including 2 coach parks (capacity 245) and a decked car park. EFC plays an average of 24 home games per season. However this could vary depending on the success of the team. The Environmental Statement (ES) also refers to the possibility of the stadium being used to “host other sporting, leisure and cultural events and visitors”.

¹ Available at http://www.knowsley.gov.uk/consultation/kirkby/kirkby_tesco3a.html and http://www.liv.ac.uk/ihia/IMPACT_HIA_Reports.htm
Figure 1-1 Masterplan of proposal
2 Methodology

Introduction
This section describes the methodology, methods and procedures used in this HIA, together with the limitations of the study.

Methods and procedures
The assessment was conducted using a validated generic HIA methodology (Figure 2-1).

Figure 2-1 A generic HIA methodology

- Screening
- Scoping
- Conduct assessment
  - Report on health impacts and policy options
- Monitoring
- Impact and outcome evaluation
- Policy analysis
- Profiling
  - Qualitative and quantitative data collection
  - Impact analysis
  - Establish priority impacts
  - Recommendations developed
  - Process evaluation
The HIA methodology is underpinned by a set of values and principles as in Table 2-1.

**Table 2-1 HIA principles and values**

- HIA reflects a *socio-environmental model of health*
- HIA contributes to *reducing health inequalities*
- HIA is conducted using *ethical* research practices
- HIA methods and tools are *robust*
- HIA processes and the identification of impacts is *transparent*
- HIA uses *participatory approaches* with stakeholders affected by the project
- HIA contributes to *good governance*

A socio-environmental model of health is represented in Figure 2-2. It illustrates how the health status of a population is negatively affected by their exposure to various risk factors and conditions such as noise and air pollution, enhanced by various positive factors such as feeling in control, and protected by factors such as social support. A HIA will assess how a project will affect these health determinants and ultimately a population’s health outcomes.

**Figure 2-2 A socio-environmental model of health determinants**

Source: Dahlgren and Whitehead, 1991
Scoping
The scope of the assessment was determined by the HIA Steering Group. The aim was defined as:

‘To identify the potential health effects of the new sports stadium and associated retail development within the Kirkby Town Centre (the proposals), including their differential distribution, on the population of Knowsley by undertaking a HIA of these proposals using a validated generic HIA methodology’

The HIA is described as a Rapid HIA involving secondary (existing) and some primary (new) data collection and analysis.

In addition to the terms of reference for the HIA, describing the aims, objectives and methods, a scoping report was developed which described the geographical boundaries, and the outcomes from a stakeholder, data and document mapping process. During this mapping process, community and organisational stakeholder categories to be engaged were identified, including groups, organisations and named contacts. The indicator map defined relevant data to be collected, the specific indicator categories, operational definitions and data sources. In addition, relevant official documents to be collected and analysed were also defined.

Policy analysis
The policy analysis involved identifying the policy context of the proposals. Local, regional and national strategies relevant to the proposals, were collected, reviewed and analysed. It also involved reviewing the draft Environmental Statement (ES) and other impact assessments, in particular their findings.

Profiling
Developing the profile sets the context by describing the baselines health and socio-demographic position of the population affected by the proposal, in this case residents and communities proximal to the development. Developing the profile involved searching, collecting and analysing secondary data from a range of datasets, e.g., mortality and morbidity rates across the region.

Literature review
A brief review of relevant evidence from the published literature was undertaken. The purpose of this was to identify published evidence of the effects of similar developments, and where possible the effect of changes to these operations, on the health of populations. In addition, up to date evidence of the effects of key determinants known to be affected by the development such as transport, employment, regeneration, noise, air quality and accidents and their impacts on health was also reviewed. Databases searched included the World Health Organisation, Centre for Reviews and Dissemination, York, the NHS HIA Gateway, the NHS National Library for Health, Evidence Based Public Policy, and the Health & Safety Executive. Search terms and their combinations included, stadium, supermarket, regeneration, noise, air quality, monitoring, road traffic, transport, travel, employment, economy, urban design, green space, built environment health, effects, impacts.
Evidence from the literature is usually defined in terms of the confidence or ‘strength’ of the findings. For the purpose of this HIA a hierarchy of evidence from I to V was defined; this evidence hierarchy includes evidence from the literature as well as evidence from key informants and stakeholders. Level I provides the strongest evidence of effect and refers to ‘reviews of reviews’ or meta analyses, level II refers to systematic reviews or reviews of several HIAs; level III refers to single studies or HIAs, level IV evidence is from expert witnesses (key informants), level V evidence from stakeholders.

The limitations of the HIA prohibited a comprehensive literature search. As such, the search prioritised ‘reviews of reviews’ and systematic reviews. It has not been possible to review the research design of all of the studies identified and as such, it is not possible to comment on their quality and the findings from these. However, where a number of single studies reinforced each other this was considered reasonable evidence.

**Participatory approaches**

The purpose of participatory qualitative approaches is to gather evidence from the experience, knowledge, opinion and perceptions of stakeholders and key informants. ‘Stakeholders’ are defined as individuals or groups of people who have a stake in the policy or project under investigation; ‘key informants’ are experts or specialists in a specific policy field such as stadia and health. 16 categories of community and organisational stakeholders were defined in the mapping process. In addition, 3 categories of key informants were also defined. From this stakeholder map, groups and individuals to be engaged in the HIA were identified by both purposive\(^2\) and snowballing\(^3\) sample methods. This involved searching various databases, e.g., Knowsley Council for Voluntary Services, identifying schools surrounding the development, and discussing relevant contacts with community development, communications and diversity leads within the statutory agencies in Knowsley. As a result a database of over 200 contacts was developed. All contacts on the database were then invited to attend one of four local workshops – two during the day and two in the evening - held in the second week of February.

Due to the number of responses to the invitations it was decided to merge the 4 workshops into 2 workshops which were held on one afternoon and one evening. The workshops broadly followed the same format. The notes and flipcharts from these workshops were written up and analysed using content and thematic analysis.

In order to ensure adequate coverage of groups identified in the stakeholder mapping, in addition to the workshops, focus groups were carried out with the Kirkby Ageing Well Group and staff and visitors to Kirkby Library. All together, 56 stakeholders participated in these events.

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\(^2\) A non-random sampling method which aims to sample a group of people with a particular characteristic, e.g., older people

\(^3\) A non-random sample method which involves an initial group (e.g., community workers) identifying people they know with a particular characteristic e.g., older people
Stakeholder evidence is included throughout the report in the ‘literature and stakeholder’ sections and a summary report of the analysis of stakeholder evidence can be found in the appendix.

During the same period the interviews with some organisational stakeholders and key informants were also undertaken.

**Impact analysis**
Impact analysis, the characterisation of health impacts, was based on the analysis of all evidence that had been collected.

**Recommendations**
Recommendations specific to the identified health impacts were defined.

**Limitations**
There were a number of limitations to this study. There was a reliance on the timely access to data from other impact assessments and sources and this presented some issues. Related to this it was not possible to validate the quality of data and so their reliability. The Environmental Statement review carried out by Bureau Veritas identified a range of limitations to the EIA which has meant that the HIA was not able to extensively rely on the findings.

For this rapid assessment, the abundance of secondary data and extensive documentation for the planning application presented challenges.

It was not possible to assess the number of people exposed to noise and air pollution and exposure levels.

It was beyond the scope of this HIA to assess the mitigation measures proposed within the ES.

Finally, although there is always a necessary compromise between brevity and rigour in any study, the time and resources available prevented multiple methods being used, involved stakeholders self-selecting and limited the scope of the analysis.
3 Policy Analysis

3.1 Introduction
4.1 This section provides an overview of policies relevant to the proposal. It examines the rationale and context of the proposal; the synergy of the proposal with relevant policies and the relationship of the proposal to non-health care strategies, such as transport, environment, employment and economic development.

3.2 Policy map

A policy map was developed defining relevant legislation and policies against health determinant areas identified during scoping, including noise, air quality and transport.
<table>
<thead>
<tr>
<th>Level</th>
<th>Policy</th>
<th>Focus</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU</td>
<td>Directive 96/62/EC Air Quality Framework Directive</td>
<td>Air Quality</td>
<td>Establishes a framework under which the EU will set limit values or target values for specified pollutants. The Directive identifies twelve pollutants for which limit or target values will be set in subsequent daughter directives. They are: sulphur dioxide, nitrogen dioxide, particulate matter, lead, carbon monoxide, benzene, ozone, polyaromatic hydrocarbons, cadmium, arsenic, nickel and mercury.</td>
</tr>
<tr>
<td>WHO/UN</td>
<td>Healthy Cities</td>
<td></td>
<td>The WHO Regional Office for Europe established the Healthy Cities programme in 1986 with the aim of drawing together the principles of health for all and the strategic guidance of the Ottawa Charter for Health Promotion into a framework that could be applied in a local urban context. Healthy Cities acknowledges that communities have the right to participate in decision making processes and to articulate their own concerns and priorities and recognizes that the community participation can inherently promote health.</td>
</tr>
<tr>
<td>UK</td>
<td>Planning and Compulsory Purchase Act</td>
<td>Planning</td>
<td>The Planning and Compulsory Purchase Act 2004 aims to give effect to the Government's policy on the reform of the planning system. The Act requires the development of Regional Spatial Strategies, and the single Unitary Development Plan, was replaced by the requirement to produce a set of documents called a Local Development Framework. The vision; “To actively engage communities in the planning decisions that affect their lives so that people want to be involved, feel they are involved and see positive results from being involved”</td>
</tr>
<tr>
<td></td>
<td>Planning Policy Statement 6 – Planning for town centre</td>
<td>Town Centre planning</td>
<td>PPS 6 requires local authorities to carry out health checks of town centres where they collect information, preferably in cooperation with the private sector, on key indicators. Policy objectives are: (a) to sustain and enhance the vitality and viability of town centres; (b) to focus development, especially retail development, in locations where the proximity of businesses facilitates</td>
</tr>
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</table>
competition from which all consumers are able to benefit and maximizes the opportunity to use means of transport other than the car;
(c) to maintain an efficient, competitive and innovative retail sector; and
(d) to ensure the availability of a wide range of shops, employment, facilities and services to which people have easy access by a choice of means of transport.

2.24 In drawing up their policies and proposals, local planning authorities should consider the scale of leisure developments they wish to encourage and their likely impact, including the cumulative impact on the character and function of the centre, anti-social behaviour, crime and the amenities of nearby residents.

2.35 Local Authorities should ensure provision is made for a range of sites for shopping, leisure and local services, which allow genuine choice to meet the needs of the whole community, particularly the needs of those living in deprived areas.

2.49 Local authorities should have regard to:
   i) whether the site is or will be accessible and well served by a choice of means of transport, especially public transport, walking and cycling, as well as by car; and
   ii) the impact on car use, traffic and congestion.

3.22 LA should assess the impact potential changes to the quality, attractiveness, physical condition and character of the centre or centres and to its role in the economic and social life of the community.

| Planning Policy Statement 12 – Local Development Frameworks | Development | Paragraph 4.2 and 4.3 emphasise the need for frontloading the preparation of development plan documents by facilitating early involvement and securing inputs from the community and all stakeholders. The preparation process should include consideration of all the alternative options derived from the development of the evidence base, the authority’s awareness of local issues, the views of stakeholders and community involvement. |
| Planning Policy Guidance 13: Transport | Transport | Local Authorities should ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking, and cycling. |
| Planning Policy Guidance Note 17 – Planning for Open Space, Sport and recreation | Open spaces | 10. Existing open space, sports and recreational buildings and land should not be built on unless an assessment has been undertaken which has clearly shown the open space or the buildings and land to be surplus to requirements. For open space, ‘surplus to requirements’ should include consideration of all the functions that open space can perform.  
12. Development of open space, sports or recreational facilities may provide an opportunity for local authorities to remedy deficiencies in provision. For example, where a local authority has identified a surplus in one type of open space or sports and recreational facility but a deficit in another type, planning conditions or obligations may be used to secure part of the development site for the type of open space or sports and recreational facility that is in deficit. |
| Choosing Health DoH 2004 | Public Health | Set out the Government commitment to reduce health inequalities and better tailor health and care services to meet individual needs, under a number of headings:
- Health inequalities
- Helping Children and Young People lead healthy lives
- Improving mental health and well-being
- Improving Sexual health
- Information and Intelligence
- Investing in the Workforce
- Promoting Personal Health
- Reducing Harm and encouraging sensible drinking
- Reducing the Number of people who smoke
- Research and development
- Tackling Obesity |
| Our Health, Our Care, Our Say. A New Direction for Community Services. DoH 2006 | Health Services in the community | Sets out the strategic vision for health and healthcare services in the community, having four goals:
- Better prevention services with early intervention
- More choice and a louder voice for people
- To do more on tackling inequalities and improving access to community services
- More support for people with long term conditions (eg, self care)
These are to be achieved by
- Practice based commissioning
- Shifting resources into prevention
- More care undertaken outside hospitals and in the home
- Better joining up of services at the local level
- Encouraging innovation
- Allowing different providers to compete for services |
| A Sporting Future for All DCMS | Sport | Sets out government strategy on sport. Incorporates key proposals relating to
- Sport in Education
- Sport in the Community which incorporates Lifelong Participation, Playing Fields, Local Authority Sports Facilities, Sports Development and Social Inclusion, Club Development and the Role of Amateur and professional Sports Clubs
- Sporting Excellence
- Modernisation |
<table>
<thead>
<tr>
<th>Region</th>
<th>Area</th>
<th>Description</th>
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<tbody>
<tr>
<td>Regional</td>
<td>Spatial Strategy</td>
<td>The Plan, currently in draft form, sets out the scale, priorities and broad locations for future development across the region – providing a framework for where and how much development should take place. It covers a broad range of issues including housing, retail and the environment, and includes the Regional Transport Strategy. Policy LCR 3 refers to maintaining and enhancing the role of Kirkby to provide community facilities, services and employment: Policy W5 – retail development There will be a presumption against new out-of-centre regional or sub-regional comparison retailing facilities requiring Local Authorities to be pro-active in identifying and creating opportunities for development within town centres. Retail development that supports entrepreneurship, particularly increasing the number of independent retailers, should be supported.</td>
</tr>
<tr>
<td>Northwest Regional Economic Strategy</td>
<td>Economic strategy</td>
<td>The RES sets out a twenty-year economic strategy. It sets a framework for regional, as well as sub-regional and local action. Within the strategy 3 main drivers for achieving economic growth are identified; the region needs to improve productivity and grow the market. the region needs to grow the size and capability of the workforce. This needs to be underpinned by creating and maintaining the conditions for sustainable growth and private sector investment. This means investing in the region’s environment, culture and infrastructure (especially to link growth areas with more deprived communities), improving the quality of life, tackling deprivation, valuing diversity and social inclusion, and recognising the social and environmental implications of economic growth.</td>
</tr>
<tr>
<td>Merseyside Local Transport Plan</td>
<td>Transport</td>
<td>Vision: 'a fully integrated safe transport network for Merseyside which supports economic and social regeneration and ensures good access for all, and which is operated to the highest standards to protect the environment and ensure quality of life'. The transport plan contains information about current transport patterns in Knowsley. Knowsley Access Plan – Kirby residents face long travel times to local employment sites. Kirkby residents also have a minimum 30 minute journey time to their nearest hospital</td>
</tr>
<tr>
<td>Travel in</td>
<td>Transport</td>
<td>Contains a range of information about travel plans in Merseyside and specifically Knowsley</td>
</tr>
<tr>
<td>Merseyside 2006</td>
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<tr>
<td>----------------</td>
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<td></td>
</tr>
<tr>
<td><strong>Local</strong></td>
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</tbody>
</table>
| Knowsley Replacement Unitary Development Plan (2006) | Kirkby town centre and tower hill are identified as action areas. Tower Hill is identified as a location for housing development. Kirkby town centre is identified as a strategic employment location. 1. Kirkby town centre is designated on the Proposals Map as an Action Area within which comprehensive development or redevelopment shall be permitted for the following:  
• A major food store of up to 9,000 square metres in gross floorspace and/or comparison goods retail units; and a mixture of other town centre uses which shall complement the retail element and which may include a mix of the following uses:  
  • Professional and financial service uses (Class A2);  
  • Food and drink uses (Class A3);  
  • Office uses (within Use Class B1), particularly on first floors;  
  • Hotel (Class C1);  
  • Residential Institution (Class C2);  
  • Residential use (Class C3);  
  • Non-residential institutions (Class D1);  
  • Assembly and leisure uses (Class D2); and  
  • A petrol filling station. |
| Local Development framework | The key Local Development Documents (Core Strategy and Site Allocations Development Plan) will not be adopted until 2010. |
| Knowsley Statement of Community Involvement | The Statement of Community Involvement is part of the Local Development Framework for Knowsley. The Statement explains how Knowsley Council will involve the community in planning issues. |
| Annual Monitoring Report | Knowsley is required to produce an annual monitoring report as part of the Local Development Framework. The main purposes of the report are:  
• to review actual progress in terms of Local Development Document (LDDs) preparation against the timetable and milestones in the Local Development Scheme (LDS);  
• to assess the extent to which policies in LDDs are being implemented;  
• to explain, if policies are not being implemented, why and set out what steps are to be taken to make sure they are implemented, amended or replaced.  
The report covers spatial context, Core Output and Local Indicators, production of the Local Development Framework and conclusions. |
| Knowsley Community | The community plan outlines the vision for Knowsley over a ten-year period. The vision; |
### Plan

- Our vision for Knowsley is to encourage community wellbeing by developing an economy that is vibrant, with a wide range of job opportunities, where being a citizen is valued and lifelong learning and education is promoted.
- We wish to develop a Borough where the environment is safe, clean and attractive, where opportunity, health and social prosperity is available to all. The plan emphasises the importance of community involvement.
- There are 5 themes:
  - Community safety
  - Economy & employment
  - Education & training
  - Health & healthy living
  - Housing & environment.

### Building Schools for the Future

Includes plans for the restructuring of schools in Knowsley area. All Saints RC High School will close on 31 August 2009.

### Other

<table>
<thead>
<tr>
<th>Social Inclusion: Transport Aspects 2006</th>
<th>Transport and Social Inclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discusses the challenges of current transport modelling methods in relation to the (differential) impacts of transport on social inclusion.</td>
<td></td>
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</tbody>
</table>
4 Community profile

4.1 Introduction

The purpose of the health profile is to give a picture of the health and socio-demographic context of the areas adjacent to the proposals in order to better understand its potential health impacts and the particular population groups that may be affected. The profiling has involved collecting and analysing secondary (existing) data on a range of indicators that relate to the content and context of the proposal, and its possible impacts on health or health determinants. Indicators are measurable variables that reflect the state of a community or of persons or groups in a community.

The Public Health Intelligence Team at Knowsley PCT has produced a number of high quality reports on the health of people within Knowsley. Rather than duplicate this work already carried out and publicly available, the profile presents an overview of key indicators that have informed the HIA. Table 4-1 contains a list of links to reports and sources of information.

<table>
<thead>
<tr>
<th>Health profiles for North and South Kirkby Area Partnerships Boards</th>
<th><a href="http://tinyurl.com/yplcgx">http://tinyurl.com/yplcgx</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>DOH Community Health Profile:</td>
<td><a href="http://tinyurl.com/2hvju8">http://tinyurl.com/2hvju8</a></td>
</tr>
<tr>
<td>Neighbourhood statistics</td>
<td><a href="http://tinyurl.com/2y3dxo">http://tinyurl.com/2y3dxo</a></td>
</tr>
<tr>
<td>Audit Commission –area profiles</td>
<td><a href="http://tinyurl.com/27wee6">http://tinyurl.com/27wee6</a></td>
</tr>
</tbody>
</table>

The structure of the health profile is based upon the health determinant categories of the socio-environmental model of health (Dahlgren and Whitehead, 1993) that underpins HIA methodology, and health outcomes. Figure 4-1 shows the structure of the health profile. These are not discrete categories and some indicators fall into more than one category.
4.2 Geographical area

The geographic units of analysis for this HIA are the Kirkby North and South Area Partnership Boards which contain Central, Cherryfield, Northwood, Park, Shevington and Whitefield electoral wards (Kirkby). Knowsley Local Authority area, the North West Region and England have been selected for comparison.

Units of analysis are the areas/topics that are the focus of the analysis of the HIA. Where the level of aggregation of the secondary data used within the profile does not fit exactly to the units of analysis, the nearest equivalent data aggregation has been used. For example, because of limited availability of data for electoral wards that have had boundary changes some data is presented for 2001 ward boundaries (Cherryfield, Kirkby Central, Northwood, Park, Tower Hill and Whitefield). Some data is available at Lower Super Output Area (LSOA)\(^4\).

\(^4\) Super Output Areas (SOAs) are a geographic hierarchy designed to improve the reporting of small area statistics in England and Wales. LSOA have a minimum population 1000 and a mean 1500. The 34,378 Lower Layer SOAs in England and Wales (32,482 in England, 1896 in Wales)
Kirkby is a township within the borough of Knowsley. Kirkby is well connected with major roads such as A570, A565 and A580 providing access to motorways M58 and M57 (DTZ 2007a). It is predominately a post war town with most of its growth dating from the 1950s. This growth stopped in the 1970s and 1980s and the population declined. It has never reached its target population of 70,000 (currently around 40,000).

Kirkby has a clearly defined town centre which has a pedestrianised area on St Chad’s parade with a market square next to it. There are currently no large supermarkets but a range of smaller shops such as Somerfield, Netto and Iceland. There are a number of independent retailers which predominantly provide low cost products. There are also services such as a library, Post Office, One Stop Shop and Health Suite. Between the current town centre and the proposed development lies Cherryfield Drive. Here there are a number of services including Liverpool Voluntary Society for the Blind, Princess Royal Trust Knowsley Carers Centre, Victim Support and Witness Service Merseyside, YWCA - Kirkby Young Womens Centre and Connexions.

The proposed development will mainly occur to the south of the main centre on an area that is predominantly green open space. There is some residential housing, Knowsley Community College and a new leisure centre within the area.
Figure 4-2 Aerial photograph of Kirkby town centre
4.3 Health determinants

4.3.1 Biological factors

Population structure
Kirkby has a population of approximately 44,000, Knowsley 151,300 (Knowsley Public Health Intelligence Team 2007).

Table 4-2 Kirkby Populations by Area Partnership Board (APB) and Ward

<table>
<thead>
<tr>
<th>APB</th>
<th>Ward</th>
<th>Persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Kirkby</td>
<td>Northwood</td>
<td>7,310</td>
</tr>
<tr>
<td></td>
<td>Park</td>
<td>6,890</td>
</tr>
<tr>
<td></td>
<td>Shevington</td>
<td>8,460</td>
</tr>
<tr>
<td>South Kirkby</td>
<td>Cherryfield</td>
<td>7,820</td>
</tr>
<tr>
<td></td>
<td>Kirkby Central</td>
<td>7,080</td>
</tr>
<tr>
<td></td>
<td>Whitefield</td>
<td>6,560</td>
</tr>
</tbody>
</table>

Source (Knowsley Public Health Intelligence Team 2008c)

Age and Gender
Knowsley has a relatively young population compared to England. The average age of residents is 37.9 years (Knowsley Public Health Intelligence Team 2008b). Figure 4-3 shows the population structure of Knowsley by age and gender.

Figure 4-3 Knowsley Population Pyramid by Quinary Age Groups and Gender (2004 data, 2005 correction)
Ethnicity
Knowsley is predominantly white with less than 2% of the population non-white, this compares to the North West Region where approximately 8% of the population are non-white.

**4.3 Knowsley Ethnicity, 2004**

<table>
<thead>
<tr>
<th></th>
<th>Persons</th>
<th>Males</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>%</td>
<td>number</td>
</tr>
<tr>
<td>White</td>
<td>146,600</td>
<td>97.9%</td>
<td>69,500</td>
</tr>
<tr>
<td>Mixed</td>
<td>1,500</td>
<td>1.0%</td>
<td>700</td>
</tr>
<tr>
<td>Asian or Asian</td>
<td>600</td>
<td>0.4%</td>
<td>400</td>
</tr>
<tr>
<td>British</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black or Black</td>
<td>500</td>
<td>0.3%</td>
<td>300</td>
</tr>
<tr>
<td>British</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>700</td>
<td>0.5%</td>
<td>300</td>
</tr>
<tr>
<td>Total</td>
<td>149,800</td>
<td>71,100</td>
<td>78,700</td>
</tr>
</tbody>
</table>

Source: ONS, 2004

According to the Commission for Racial Equality (2007) the North West region ranks seventh out of the nine English regions in terms of its number of ethnic minority residents.

**4.3.2 Individual lifestyle factors**

**Alcohol**
The Knowsley Adult Health and Lifestyle Survey 2006 found that binge drinking is relatively high (31.4%) in comparison to the England level of 17.9% (2002-2004 combined). North Kirkby has the highest level of adult binge drinking out of the 6 area partnership boards in Knowsley with 36.3% whereas North Kirkby has 30.7%.

**Physical activity**
Results from the Knowsley Adult Health and Lifestyle Survey 2006 indicate that just over half (52.5%) of Knowsley adults lead a sedentary lifestyle (no vigorous activity on an average weekday and vigorous activity less than once a month). South Kirkby has 52.5% and North Kirkby 55.3%.

**Diet**
The Knowsley Adult Health and Lifestyle Survey classified people according to diet. Poor diet was identified as having 2 or more of the following behaviours:

- Fruit / fruit juice (not squash) consumed less than three times a week
- Vegetables / salad (except potatoes) consumed less than three times a week
- Fried foods consumed more than two times a week.
The proportion of people with a ‘poor diet’ has fallen from 26% in 2001 to 19% in 2006 across the adult population in Knowsley. Men are more likely than women to have a ‘poor diet’ (24% and 15% respectively). As with most other risk factors, areas with higher levels of deprivation have correspondingly higher levels of ‘poor diets’.

The percentage of people eating 5 or more portions of fruit and vegetables per day has more than doubled from 9% in 2001 to 18% in 2006 in Knowsley. South Kirkby also had a percentage of 18% whereas North Kirkby had a lower proportion with 15% (Knowsley Public Health Intelligence Team 2007). The Health Survey for England 2006 found that 28% of men eat 5 portions or more of fruit and vegetable a day compared to 32% of women. (Health Survey for England 2006. The Information Centre). Because of different data sources it may not be appropriate to compare England and Knowsley results.

**Smoking**

Generally people living in poorer areas in Knowsley are more likely to smoke than other people. Smokers in the most deprived areas of the Borough smoke 55% more cigarettes per day than smokers living in the least deprived areas (Knowsley Public Health Intelligence Team 2008a). Both South and North Kirkby are above the Knowsley average with 40% and 43% being current smokers compared to 33% overall in Knowsley (Knowsley Public Health Intelligence Team 2008d). The national average (Health Survey for England 2002-2004 combined) is 25.8%.

**Obesity**

Childhood obesity is an identified health issue in Knowsley with 12.6% of reception year children being obese and 19.3% of year 6 children. Rates of obesity in school children are higher in North Kirkby than in South Kirkby Area Partnership Board; see Figure 4-4 for further information.

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5 The large difference between Knowsley and England smoking prevalence may be partly due to different sources on information. The Knowsley Smoking Prevalence Survey is undertaken by way of a street interview. This means that it is less likely to cover people who would have been at work when the interview was undertaken which may lead to an overestimation of current smokers. The Health Survey for England is conducted using a stratified random probability sample of households.
4.3.3 Social and community networks

Satisfaction in local area
Householder satisfaction in the characteristics of the local area increased slightly from 84% to 86% in the North West between 1999-00 and 2006-7; this compares to an England average of 87% (Defra, 2007).

In the 2006 Best Value Survey of Knowsley, when asked to take everything into account, two-thirds of respondents said that they were either very satisfied or fairly satisfied with their local area as a place to live (13.3% and 51.9% respectively) (Mott MacDonald & KMBC 2006).

A housing needs survey carried out in Knowsley in 2007 asked residents what they liked and disliked about the area. They found that some 67.6% said they liked the area because of proximity to family and friends. Overall, 60.6% of households referred to peacefulness of the area. In terms of dislikes, the major issue mentioned by over 36.1% was shopping facilities, and 26.2% of respondents mentioned environmental maintenance (KMBC 2007).

Active community participation
Informal volunteering in the North West has increased from 31% to 38% of the population between 2001 and 2007; this compares to an average of 35% in England. Formal volunteering changed little from 26 to 30% of the population (England average 27%). Overall 52% of the population were regular volunteers (England average 48%) (Defra, 2007).
4.3.4 Living and working conditions

Employment and unemployment
Knowsley has the second highest Job Seekers Allowance claimant rate out of the 43 local authorities in the North West (Knowsley Public Health Intelligence Team 2008b). Knowsley has the highest proportion of Incapacity Benefit and Severe Disablement Allowance claimants in the North West. 13.6% of the working age population of Knowsley claim incapacity benefit and severe disablement allowance (May 2007) compared to 9.5% in the North West and 6.7% nationally (Knowsley Public Health Intelligence Team 2008c).

Working Age Population in Employment
The percentage of the working age population who are in employment (2006) in Knowsley (66.5%) is nearly ten per cent lower than the national average (76.05%); see Figure 4-5.

Figure 4-5 Percentage of the Working Age Population Who Are in Employment (2006)

Source: Audit Commission (2007)

Income Deprivation
The percentage of children in Knowsley (2005/06) that live in families that are income deprived is 43%, far higher than the national average of 18.27%; see Figure 4-6.
Figure 4-6 Percentage of Children (2005/06) that Live in Families that are Income Deprived

Source: Audit Commission (2007)

Figure 4-7 Percentage of household with dependent children (2001)

Source: ONS

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Area

% of households

Source: Audit Commission (2007)

Source: ONS
Qualifications

The percentage of 15 year old pupils in local authority schools in Knowsley (2005/06) achieving five or more GCSEs at Grade A*-C or equivalent is 44.4%, nearly 10% lower than the national average of 54.23%; see Figure 4-8.

Figure 4-8 Percentage of 15 yr old pupils achieving 5 or more GCSEs at grade A-C in Knowsley

![Percentage of pupils achieving 5 or more GCSEs in Knowsley and national mean](image)

Source: Audit Commission (2007)

Deprivation

‘Deprivation’ is a term that refers to a variety of social conditions experienced by people who lack certain resources in relation to others in the community, thereby making them ‘deprived’ compared to others in the population. It is frequently used as a comparative measure of socioeconomic position (SEP). Numerous studies have reported an association between social and material deprivation and poor health outcomes (Shaw et al, 2007). The Indices of Multiple Deprivation (IMD 2004) is a deprivation index at the small area level6. The Index is made up of seven distinct dimensions of deprivation called Domain Indices. These include income, employment, health and disability, education and skills/training, barriers to housing services, living environment and crime.

The Index of Multiple Deprivation (IMD) 2007 ranks Knowsley as the 8th most deprived local authority in England. Knowsley has the second highest ranking for local concentration in England indicating that there are high concentrations of deprivation in small pockets (Knowsley outline).

47 of the 90 LSOAs in Knowsley are within the 10% most deprived in England. In Kirkby 60% of LSOAs are in the top 5% of deprived areas in England and 73% are in the top 5% for health deprivation and disability. The map below illustrates deprivation levels in the Kirkby area.

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6 The Indices of deprivation 2004 are measured at the Lower Layer Super Output Area level (SOAs). SOAs were developed by the Office for National Statistics from the Census 2001 Output Areas. There are 32,482 Lower Layer SOAs in England. Lower Layer SOAs are areas smaller than wards and contain a minimum of 1,000 people and 400 households with a mean population of 1,500 people.
4.3.5 General socio-economic, cultural and environmental factors

Disorder/Anti-Social Behaviour
During 2006 there were 142.5 incidents of disorder/anti-social behaviour per 1,000 residents in Knowsley. Incidents tended to be most prevalent in areas of highest social deprivation with the highest being 211.3 per 1000 in Northwood electoral ward. The lowest rate of incidents occurred in Swanside electoral ward (77.4 per 1,000 residents) (Knowsley Public Health Intelligence Team 2008a); please see Figure 4-10 for further information.
Fear of Crime

96.2% of Knowsley residents surveyed said that they feel fairly safe or very safe outside during the day, 1% lower than the national average; see Figure 4-11. The percentage of Knowsley residents who feel very safe or fairly safe outside after dark is significantly lower at 63.7%, this compares to a national average of 70.5%; see Figure 4-12.
4.4 Health outcomes

Limiting long term illness
Knowsley has relatively high percentage of households containing someone with a limiting long term illness.
Figure 4-13 Percentage of households with one or more person with a limiting long-term illness

Life Expectancy
Life expectancy in Knowsley is below that of the English average. Life expectancy for females in Knowsley in 2004-06 was 79.0 years, compared to 81.6 years in England i.e. more than 2½ years lower. Life expectancy for males in Knowsley in 2004-06 was 74.4 years, compared to 77.3 years in England i.e. almost 3 years lower (Knowsley Public Health Intelligence Team 2008c).

Table 4-4 Life Expectancy by Ward at birth by ward (1999 to 2003 experimental statistics)

<table>
<thead>
<tr>
<th>Ward</th>
<th>Life expectancy at birth (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwood</td>
<td>70.4</td>
</tr>
<tr>
<td>Kirkby Central</td>
<td>72.6</td>
</tr>
<tr>
<td>Park</td>
<td>74.5</td>
</tr>
<tr>
<td>Tower Hill</td>
<td>75.8</td>
</tr>
<tr>
<td>Cherryfield</td>
<td>75.9</td>
</tr>
<tr>
<td>Whitefield</td>
<td>76.2</td>
</tr>
</tbody>
</table>

Source: National Statistics website release - 29 June 2006
Mortality
Knowsley has mortality rates for cardiovascular disease, cancer and respiratory disease significantly above national rates (Knowsley Public Health Intelligence Team 2008c). Latest mortality figures (2003-05) from the National Centre for Health Outcomes Development (NCHOD) rank Knowsley 3rd for all causes of mortality, 7th for circulatory disease, 4th for cancer and 2nd for lung cancer out of the 354 local authorities in England (1st having the highest mortality levels) (Knowsley Public Health Intelligence Team 2008c).

Health matrix
Table 4-5 provides an overview of a range of health indicators that provide an overview of the health status of residents in Kirkby. The green and red colour indicates whether Kirkby is ‘better’ or ‘worse’ than the Knowsley average. Information on England and the Northwest provide a further comparison (Knowsley Public Health Intelligence Team 2008c).
Table 4-5 Knowsley Health Matrix (2007)

<table>
<thead>
<tr>
<th>Area</th>
<th>General fertility rate (1)</th>
<th>Low birthweight (below 2500g) (1)</th>
<th>Decayed, missing or filled teeth (2)</th>
<th>Children with untreated tooth decay (2)</th>
<th>Under 18 conception rate (3)</th>
<th>Smoking prevalence (9)</th>
<th>Adult death (5)</th>
<th>Hospital admission rate (hospital stay) (6)</th>
<th>Hospital admission rate (COPD) (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowsley</td>
<td>58.3</td>
<td>8.1</td>
<td>3.02</td>
<td>58.8</td>
<td>45.6</td>
<td>32.6</td>
<td>20.0</td>
<td>1872.7</td>
<td>419.9</td>
</tr>
<tr>
<td>North West</td>
<td>59.8</td>
<td>8.1</td>
<td>2.00</td>
<td>43.1</td>
<td>45.2</td>
<td>24.0</td>
<td>24.0</td>
<td>1696.9</td>
<td>220.2</td>
</tr>
<tr>
<td>England*</td>
<td>60.3</td>
<td>7.9</td>
<td>1.47</td>
<td>33.3</td>
<td>42.0</td>
<td>24.0</td>
<td>24.0</td>
<td>1254.4</td>
<td>159.8</td>
</tr>
<tr>
<td>North Kirkby</td>
<td>64.4</td>
<td>8.5</td>
<td>3.8</td>
<td>68.2</td>
<td>43.2</td>
<td>24.6</td>
<td>20.0</td>
<td>2011.3</td>
<td>584.3</td>
</tr>
<tr>
<td>South Kirkby</td>
<td>61.2</td>
<td>9.0</td>
<td>3.4</td>
<td>67.3</td>
<td>51.4</td>
<td>39.7</td>
<td>20.6</td>
<td>2133.3</td>
<td>545.4</td>
</tr>
</tbody>
</table>

- Significantly higher than Knowsley (** significantly lower life expectancy than Knowsley**)
- Higher than Knowsley (** lower life expectancy than Knowsley**)
- Lower than Knowsley (** higher life expectancy than Knowsley**)
- Significantly lower than Knowsley (** significantly higher life expectancy than Knowsley**)

Sources:
1 ONS Vital Statistics Outputs (VS1 Tables) and ONS Annual Registered District Birth Extracts 2004-06
2 Dental Health Observatory – Oral Health Survey 2005-06
3 ONS, Teenage Pregnancy Unit and Knowsley Public Health Intelligence Team
4 Hoshin and Knowsley Public Health Intelligence Team – Knowsley Smoking Prevalence Survey 2007 and Health Survey for England 2003-05
5 Knowsley Adult Health & Lifestyle Survey 2006 and Health Survey for England 2003-05
6 Knowsley Informatics Team and Knowsley Public Health Intelligence Team
7 ONS Vital Statistics Outputs (VS3 Tables) and ONS Annual District Registered Death Extracts 2004-06
(Knowsley Public Health Intelligence Team 2008b)
**Road Traffic Accidents Casualties**

Table 4-6 shows data on the Killed and Serious Injury casualty rates (per 100 million vehicle kilometres, 2005–06).

<table>
<thead>
<tr>
<th>County/Unitary Authority</th>
<th>2005</th>
<th>2006</th>
<th>change on baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowsley</td>
<td>5</td>
<td>4</td>
<td>-1</td>
</tr>
<tr>
<td>Merseyside</td>
<td>9</td>
<td>8</td>
<td>-1</td>
</tr>
<tr>
<td>North West</td>
<td>7</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>England</td>
<td>6</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

- Includes cases where age was not reported

**Table 4-8 Slight casualty rate per 100 million vehicle kilometres**

<table>
<thead>
<tr>
<th>County/Unitary Authority</th>
<th>1994–98 average</th>
<th>2005</th>
<th>2006</th>
<th>change on baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merseyside</td>
<td>126</td>
<td>82</td>
<td>72</td>
<td>-43</td>
</tr>
<tr>
<td>Knowsley</td>
<td>85</td>
<td>46</td>
<td>42</td>
<td>-50</td>
</tr>
<tr>
<td>Liverpool</td>
<td>177</td>
<td>116</td>
<td>99</td>
<td>-44</td>
</tr>
<tr>
<td>St Helens</td>
<td>90</td>
<td>60</td>
<td>56</td>
<td>-38</td>
</tr>
<tr>
<td>Sefton</td>
<td>133</td>
<td>94</td>
<td>81</td>
<td>-39</td>
</tr>
<tr>
<td>Wirral</td>
<td>110</td>
<td>74</td>
<td>65</td>
<td>-41</td>
</tr>
</tbody>
</table>

**Table 4-9 Road traffic 1: 1994-98 average and 2006**

<table>
<thead>
<tr>
<th>County/Unitary Authority</th>
<th>1994-98 average</th>
<th>2006</th>
<th>change on baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merseyside</td>
<td>70.6</td>
<td>81.1</td>
<td>15</td>
</tr>
<tr>
<td>Knowsley</td>
<td>11.7</td>
<td>14.2</td>
<td>21</td>
</tr>
<tr>
<td>Liverpool</td>
<td>21.2</td>
<td>23.8</td>
<td>12</td>
</tr>
<tr>
<td>St Helens</td>
<td>11.6</td>
<td>13.3</td>
<td>15</td>
</tr>
<tr>
<td>Sefton</td>
<td>11.0</td>
<td>12.0</td>
<td>9</td>
</tr>
<tr>
<td>Wirral</td>
<td>15.0</td>
<td>17.8</td>
<td>19</td>
</tr>
</tbody>
</table>

Based on the above data Knowsley had the highest increase in road traffic between the baseline period 1994-98 and 2006 and the greatest decrease in casualties (KSI and slight) per 100 million vehicle kilometres. Knowsley is the best performing county/unitary authority.
in Merseyside for the reduction in road casualties (compared to Liverpool, St Helens, Sefton and Wirral.)
5 Potential health impacts of proposed Sports Stadium and Retail Development in Kirkby

5.1 Employment and local economy

Evidence from other impact assessments
The ES (DPP 2007a) considers the impact of the development on the socio-economic environment in the surrounding areas. It defines the current context in relation to economic performance at local and regional levels. The report highlights the economic decline in Kirkby and Knowsley which began in the 1970s. The population decline between 1971 and 1991 of almost 40,000 in Knowsley is identified alongside the loss over 20,000 jobs in Kirkby’s Knowsley Industrial Park. Major inward investment deals resulting in over 4,500 jobs since 1995 have helped counterbalance this trend and have led to Knowsley showing greater economic growth than other areas on the North West (1999-2003). Unemployment also dropped from over 20% in the 1980s to 4.6% in 2007. The report identifies major investment in Knowsley’s other town centres as negatively impacting on Kirkby.

The Retail Assessment (RA) describes the Kirkby town centre retail offer as “not attractive” having “poor quality retail offer and lack of attractions in the town centre as well as lack of other town centre related uses” (DPP 2007d). The RA provides an overall impression that the current town centre is lacking in facilities.

The proposed development is expected to attract approximately £21m a year into Kirkby (DPP 2007c).

Convenience goods
Within the town centre Somerfield is expected to suffer the biggest loss of £4.26m (approx 34% of its trade) and a further £3.13m would be diverted from other facilities. It is estimated that the town centre would lose £7.4 million in convenience goods trading to the development with approximately £0.5m from small shops in the town centre. This is approximately 27% of the town centre convenience goods trade. However the report proposes an overall cumulative positive impact (including the development) of around 206% compared to the baseline situation.

Comparison goods
The report estimates that the development will draw around £15.5m from the existing town centre. Some of this will be diverted to additional floorspace within the centre (rather than the edge of centre floorspace). This would result in a cumulative impact of approximately 19%. As with convenience goods, the report includes the development as part of the town centre retail offer and identifies a positive overall impact on the town centre’s comparison goods turnover.
Everton Football Club

The Regeneration Report identifies research showing that that 22 pence in every £1 spent by EFC stayed within the Merseyside economy directly via supply chain purchases (DPP 2007c). DPP have used this figure to estimate a potential benefit of EFC relocating to Knowsley to Knowsley based businesses of £800,000 - £900,000. EFC also anticipates an increase in turnover of 25% (£16.5m per year) (DPP 2007c).

DTZ estimates that an additional 1m people will visit Kirkby every year because of the stadium and they will spend approximately £11.5 million within the Knowsley economy.

Employment

The ES reports on unemployment and employment within Knowsley. The report identifies a lag between Knowsley and national levels of employed people in higher-level occupations (29% compared with 40% nationally and 36% regionally). Knowsley also lags in education qualifications. A particular issue identified in Knowsley is a large amount of in-commuting for higher skilled jobs.

It is expected that 515 construction jobs will be created (potentially lasting 6+ years) and approximately 1750 permanent jobs. It is expected that 1159 of those jobs will be taken by people living in Knowsley and 404 within Merseyside. 70% of the jobs created will require GCSE-level qualifications and below. The Regeneration Report identifies this as a benefit because it fits with Knowsley labour skills profile which shows 78% of residents have GCSEs or lower as their highest qualification.

Tesco is planning on actively recruiting local people and specifically targeting long term and more recently unemployed people, those receiving invalidity benefits and single parents. DTZ estimates that the development will lead to £22.2m being spent on gross wages per year (DTZ 2007a).

Key economic and employment findings from the assessments already carried out are as follows:

- Do nothing scenario – continued decline
- Construction phase – creation of 515 construction workers per year (potentially 6+ years)
- Operational phase – approximately 1750 permanent jobs. It is expected that 1,159 of those jobs will be taken by people living in Knowsley and 404 within Merseyside. 70% of the jobs created will require GCSE-level qualifications and below.
- Investment of £520 – £650 million. Expected to attract approximately £21m a year into Kirkby (DPP 2007c). Business Rates are expected to be approximately 34.45m per year.

A review of literature carried out as part of the Economic, Social and Cultural impact assessment by DTZ (2007b) for Knowsley Council found that “nearly all these studies agree that when measured against traditional metrics such as jobs and GVA, stadium
developments provide few tangible impacts. The jobs that are created are often low-paid and part-time, as the stadium is not in use every day of the year.”

The economic benefits tend to be only a gross benefit. “Centrally located stadium developments are still often only promoting a displacement of leisure and retail spending from elsewhere within a conurbation... there are few sectors that benefit from this displaced expenditure. Most visitors to a stadium spend little money outside of tickets, alcohol and food. Economic impact outside of the food and drink sector is therefore limited. In addition, the closure of roads and the increased litter and noise on match-days may actually reduce custom for businesses located close to stadiums” (DTZ 2007b).

Evidence from the literature and stakeholders

Tesco and employment
In 2006, 29.1% of the Tesco’s UK employees worked fewer than 16 hours per week, 39.6% worked between 16 and 35 hours and 31.3% worked 36 hours or more (EMCC 2007). The salary structure at Tesco is linked to a combination of job function and acquired competencies. Tesco offers its employees a benefits package that includes flexible hours and leave, profit-sharing, a defined-benefit pension, subsidised meals, childcare vouchers and health insurance. Flexible working hours are offered through a range of contractual arrangements. In the UK, Tesco reports that it is easier to fill part-time positions than full-time positions. (EMCC 2007). Figure 5-1 illustrates the age structure and sex of Tesco workforce.

Figure 5-1 Age and sex of Tesco employees

Source www.niace.org.uk/crow/docs/mark-roberts-tescos-presentation.ppt
Tesco set up Regeneration Partnerships where they develop new stores in deprived communities through linking with local organizations to identify and reclaim sites and by ensuring training and guaranteed employment for local residents (often focusing on the long-term unemployed), thus enhancing and regenerating the area. Investing in deprived areas brings new opportunities in the otherwise restricted planning environment for large new store development (Cummins et al. 2005a).

A case study examining the impacts of the opening of a Tesco Regeneration Partnership Supermarket in a deprived area in Glasgow found that it impacted positively on the overall retail structure of the area through improved food provision and choice, increased physical and economic accessibility and wider regeneration effects. However the research also suggests that there is considerable site specificity in regards to impacts (Cummins, Findley, Petticrew, & Sparks 2005a).

Employment and health

There is a body of knowledge that shows higher levels of employment leads to better health of the population. For example a study on the impact of unemployment rates on mortality in European Union (EU) countries showed a clear decline in mortality with increases in employment (Brenner, 2002). Employment also benefits mental health, for example through social interactions and involvement in a collective effort. In general being in work is better for health than having no job; however there do seem to be exceptions to this rule. Some work characteristics can be as damaging to health as unemployment. Workers in jobs that are poor quality, low paid and precarious (insecure) have similar health scores to the unemployed (Burchell, 1996).

There is an extensive evidence-base, underpinned by long-standing surveillance systems, which shows the relationship between different occupations, exposure to physical and chemical work hazards and risks to health. From the evidence, workers in the construction industry are known to have a higher than average prevalence of work-related ill health, e.g., musculoskeletal disorders (HSE, 2007), and are more at risk of workplace death and injuries, e.g., falls from height (Davies & Jones, 2005). There is also evidence of the differential distribution of health effects according to occupation, skill level, contract type, hours worked, gender, age and ethnicity. In the case of construction work, construction labourers and tradespeople were still identified as the most at risk occupations even after adjusting for risk differentials such as personal and work factors; the adjusted relative risk for construction labourers was 231 (Davies & Jones, 2005).

In the U.K, health problems most commonly associated with work are:
• Musculoskeletal disorders (MSD)
• Psychological disorders
• Injuries from accidents at work

In addition to specific occupational risk factors, there is also a growing literature on the relationship between the psychosocial work environment and employee health which transcends occupations (e.g. Artazcoz et al. 2005; Benavides & Delclos 2005; Ferrie et al. 2002).
Research has shown the psychosocial work factors that affect health include:

- High demand, low control jobs – increased risk of cardiovascular disease in people with jobs characterised by low control
- High effort, low reward jobs – Increased risk of cardiovascular disease
- Anticipation of job loss or job insecurity – increase in psychological disorders (especially anxiety, depression), self-reported ill-health, cardiovascular disease and associated risk factors
- High levels of worker support - offset some negative effects of job insecurity

In general working conditions that are low control and make high psychological demands on workers (‘job strain’ model) have an increased risk of:

- Coronary Heart Disease (CHD)
- MSD
- Psychological disorders
- Sickness absence

These risks have been shown to be independent of individual psychological characteristics; high demand, low control work is more common with less skilled jobs and lower socioeconomic groups. It is believed that psychological factors at work may play an important part in the social gradient in ill health.

Specific ‘job strain’ work characteristics associated with health-related problems at work includes:

- Changing nature of work, e.g., labour market flexibility
- High levels of repetitive, stressful work
- Increased time pressures
- Increased work intensification
- Increased multi-skilling demands

There is evidence that when there is a perceived imbalance between individual effort and reward this results in emotional distress or ‘active coping’ characterised by feelings of anger, frustration and dissatisfaction; this in turn is associated with changes in the nervous and hormone systems (neuro-hormonal response). Studies have shown a two to six times increase in relative risk of cardiovascular disease and a 2.6 and 1.7 times increase in psychiatric risk for men and women, respectively (Stansfeld et al. 2002).

Other health effects include:

- MSD
- Gastrointestinal disorders
- Fatigue
- Sleep disturbance
- Sickness absence
• Coronary restenosis (re-blocking of coronary arteries)

Trends in UK and EU employment show an increase in demand for labour market flexibility, e.g., part-time hours and fixed term contracts. There are physical and psychological health effects associated with both ‘actual’ job insecurity, e.g., temporary/fixed term contracts, and ‘perceived’ job insecurity, e.g., loss of valued features of a job. An increased use of health services has also been reported. Some recent work indicates that the most acute deterioration in health status occurs when employees move from secure to insecure jobs; these health effects are not mediated by the normal ‘job strain’ main psychosocial work characteristics such as low control suggesting that during organisational change a different type of ‘job strain’ model applies compared with a stable state organisation.

Research indicates that the negative impacts on health from working conditions and organisational change can be offset when workers are provided with information and given the opportunity to discuss possible changes. However there is also inequity in these opportunities with unskilled workers being least engaged in these exchanges. It has also been found that social support in the workplace ameliorates the effects of job strain.

It is clear that a healthy workforce is a key prerequisite for a productive, high performing economy. Barriers to employment due to ill-health may vary with occupational group; for example poor health in manual workers is seen as more of a barrier to the labour market than poor health in non-manual workers. Although evidence indicates unemployment is unlikely to be due to ‘direct health selection’, it has been shown that ill health is a risk factor for initial job loss and subsequent re-employment.

The economy and health
In the long term (over several decades) the health of populations improves with economic development in a country. However, in the short to medium term (a few to twenty years or so) there is mixed evidence regarding the relationship between economic growth and health. For example, there is some evidence of the lagged effects of the economy on mortality, with increases in mortality being produced by recessions several years before (Brenner, 1995). More recently using a GDP-unemployment model Brenner (2002) has predicted reductions in all cause mortality over a 2 to 14 year period across the EU with increases in GDP and employment related to an increase in per capita income. Other evidence (e.g., Granados, 2005; Ruhm, 2005), however suggests that declining mortality and morbidity accelerate during economic recession and level off or increase during economic growth. Different effects have also been found on different social groups, ethnic groups, ages, men and women; e.g., Granados (2005) showed that there were stronger effects for women and the non-white population. Pathways postulated to explain this include both the material and psychosocial effects of economic upturns: expansion of traffic and industrial activity directly raising accidental injury rates and increasing exposure to work related hazards, decreased immunity as a result of stress, reduced sleep, social support and interactions, and unhealthier lifestyles.

There is also evidence that countries of the same level of economic development achieve very different levels of life expectancy and child mortality; conversely countries with a much
lower GDP per person have achieved a similar health status to much richer countries (Sen, 2001). Economic growth therefore does not automatically produce improved health.

Finally, to reiterate a point made above while economic development can improve health, improved health can also promote economic development.

**Stakeholders**

Issues around employment and economy were brought up at all the workshops and focus groups. Stakeholders identified benefits including; increased employment, improvements to the local economy and also potential increases in trade to local businesses and shops. These benefits were seen to be contingent on how the proposals were implemented. For example, it was seen to be important that there is a requirement that a certain proportion of jobs should go to local people. There was considerable concern expressed that potential benefits to local shops, businesses and the existing town centre in general would only happen if the proposals for south of the existing centre were integrated into the existing town centre. For example the physical design of the proposals should ensure that shoppers would ‘naturally’ walk between the supermarket and town centre. It was also seen to be important that clear plans should be developed for the existing town centre and that the existing town centre should be developed at the same time or before the new developments.

There were concerns expressed that a majority of jobs would be ‘low quality’. Some stakeholders thought there was a match between jobs and qualification levels of many Kirkby residents. However, this was also seen as a potential negative impact, as these jobs were not seen to provide opportunities for development and career progression.

**Differential impacts**

Stakeholders identified local residents, young people and currently unemployed people as those most likely to benefit from improved employment opportunities. Existing shops and local businesses were identified as being likely to be impacted on positively or negatively depending on how the proposals are implemented.

There is evidence of clear labour market inequalities (LMI); e.g., in the UK people with disabilities and chronic health conditions, ethnic minority groups, lone parents, people with no qualifications, older people and women have lower employment rates than the working age population as a whole. There are also geographical LMI across the UK. Some of these groups have poorer health than the population as a whole according to a number of health measures, e.g., people who are chronically sick or disabled, Bangladeshis and Pakistanis, although as discussed above direct health selection is unlikely; as such there is a double disadvantage for these groups. In addition, there is some evidence that when employed these groups tend to be recruited into poor quality jobs – low pay, low skills, poor psychosocial and physical work environments, as well as being insecure.

**5.2 Physical environment**

**5.2.1 Built Environment**

A key aspect of this HIA is that it involves elements of urban form, or a combination of elements, that are not typically involved in HIAs of development projects. This results from
the size, nature and location of the development adjacent to an existing town centre and residential housing estates. An assessment of the health impacts of the urban form and built environment created and affected by the development is therefore necessary.

Although it is a relatively new direction for contemporary public health research, the associations between the built environment and health have been widely recognised in the UK since the infancy of town planning and public health over a century ago. There is a growing body of evidence to support the assertion that certain characteristics of the built environment have an impact on key determinants of health such as physical activity and social networks. These characteristics and the evidence are explored below.

**Evidence from other Assessments**

**Urban Design**

Knowsley MBC Urban Design Review (KMBC, 2008) ‘considers in depth, the urban design performance of the proposals and makes necessary recommendations’. The findings of the review highlight a range of ‘key design deficiencies’. These deficiencies include aspects of urban design that are key determinants of health. The conclusions of the review are presented within Table 5-1 together with summaries of how they relate to health determinants.
### Table 5-1 Key areas of Urban Design Deficiency (Knowsley MBC Urban Design Review, 2008) and their Relationship to Key Health Determinants

<table>
<thead>
<tr>
<th>Design Deficiency</th>
<th>Determinant/s of Health</th>
<th>Change in determinant</th>
</tr>
</thead>
</table>
| The development is not based on an urban structure appropriate for a town centre and is instead structured around large retail buildings and major areas of surface car parking in front of the retail development. It is a retail park added to a town centre and not a natural extension to the centre. | • Physical activity  
• Pollution  
• Accidents  
• Access to social and community networks and service  
• Economic  
• Civic pride/community identity | • Reduced physical activity/physically active transport from poor connectivity (internal and external to site) and car dominance  
• Restricted access to social and community networks  
• Increased pollution from car dominated transport  
• Increased road traffic accidents from car dominated transport  
• Car dominance may restrict access to community networks and services for non car users  
• A disharmonious relationship to the existing town centre may have a negative impact on local businesses  
• Lack of harmony may also negatively affect civic pride/community identity |
| The development lacks a strong and active evening economy to support the retail function. It also lacks an integrated residential component within the heart of the scheme, which can bring life and safety to the area | • Access to social and community network and services  
• Civic pride/community | • A missed opportunity to promote access to social and community networks  
• A missed opportunity to promote civic pride/community identity  
• Increased crime and fear of crime |
## The proposals lack townscape merit and fail to create a distinctive urban form.
Gateways and arrival points are not strongly defined. There are no clear focal points within the public realm and the buildings fail to create adequate enclosure and continuity.

<table>
<thead>
<tr>
<th>identity</th>
<th>Civic pride/community identity</th>
<th>Social and community networks</th>
<th>Poor quality environments reduce civic pride/identity</th>
<th>Connectivity (within the site and to surrounding areas) and meeting points are important for the promotion of social and community networks and physically active transport – a lack of focal points may have a negative impact on social and community networks</th>
</tr>
</thead>
</table>

## The development will create a ‘standard’ retail park environment on the edge of the existing town centre, rather than extending the existing town centre and creating a harmonious and complementary urban form.

<table>
<thead>
<tr>
<th>Civic pride/community identity</th>
<th>Economic</th>
<th>Civic pride/community identity</th>
<th>A disharmonious relationship to the existing town centre may have a negative impact on local businesses and may also negatively affect civic pride/community identity</th>
</tr>
</thead>
</table>

## The scheme creates poor integration with the existing town centre. In early phases there are no effective linkages to the existing town centre and bus station.

<table>
<thead>
<tr>
<th>Physical activity</th>
<th>Pollution</th>
<th>Accidents</th>
<th>Social and community networks</th>
<th>Reduced physical activity/physically active transport from poor connectivity (to existing town centre and bus station) and car dominance</th>
<th>Increased pollution from car dominated transport</th>
<th>Increased road traffic accidents from car dominated transport</th>
<th>Restricted access to social and community networks resulting from reduced physically active (including public transport) use</th>
</tr>
</thead>
</table>

## Everton Walk is potentially unsafe and unacceptable in design terms owing to lack of natural surveillance from nearby users.

<table>
<thead>
<tr>
<th>Crime</th>
<th>Increased crime and fear of crime</th>
</tr>
</thead>
</table>

## The wasteful and inefficient approach to car parking is unacceptable. Surface car parking (and coach and bus parking) dominates the development with the vast proportion of space within the scheme given over to hard standing (some use intermittently).

<table>
<thead>
<tr>
<th>Physical activity</th>
<th>Pollution</th>
<th>Accidents</th>
<th>Reduced physical activity/physically active transport from car dominance</th>
<th>Increased pollution from car dominated transport</th>
<th>Increased road traffic accidents from car dominated transport</th>
<th>Poor quality environments reduce civic pride/identity</th>
</tr>
</thead>
</table>
This creates a very low density, low intensity and inefficient development form;

The development will lack an appropriate mix of uses and does not include economically active upper floors in addition to and support of, the primary retail function of the development.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Physical activity</th>
<th>Low density developments promote car dominance and discourage physically active transport</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pollution</td>
<td>Increased pollution from car dominated transport</td>
</tr>
<tr>
<td></td>
<td>Accidents</td>
<td>Increased road traffic accidents from car dominated transport</td>
</tr>
</tbody>
</table>

The development lacks a strong and active evening economy to support the retail function. It also lacks an integrated residential component within the heart of the scheme, which can bring life and safety to the area.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Access to social and community network and services</th>
<th>Increased crime and fear of crime</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crime</td>
<td></td>
</tr>
</tbody>
</table>

The development lacks of a strong open space and public realm framework and of quality streets spaces and places therein. The impact on local ecology green space and Kirkby Brook is a major concern.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Access to social and community networks</th>
<th>A lack of open spaces and the loss of green spaces may reduce the availability of social and community areas/meeting places.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Green space</td>
<td>Reduced access to green space can negatively impact on perceived health, active travel and civic pride/community identity</td>
</tr>
<tr>
<td></td>
<td>Civic pride/community identity</td>
<td></td>
</tr>
</tbody>
</table>

The very basic approach to building design which ignores the context to a large degree and proposes monotonous and uninteresting buildings, which offer little sense of place. The architecture of the scheme needs to be improved substantially.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Civic pride/community identity</th>
<th>Poor quality environments reduce civic pride</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physical activity</td>
<td>Poor aesthetic quality of the built environment has a negative impact on physically active transport</td>
</tr>
</tbody>
</table>

There is a lack of clarity over accessibility and the extent of public realm through the scheme.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Access to social and community</th>
<th>Privately owned areas may present physical barriers to movement, particularly during the evenings when the areas may be closed to the</th>
</tr>
</thead>
</table>

44
and the stadium. Large areas of public space may be privatised as a result of the development.

<table>
<thead>
<tr>
<th>Physical activity</th>
<th>Social and community networks and services</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Physical activity</td>
<td>• Network and services</td>
</tr>
</tbody>
</table>

public. This may reduce physically active transport and prevent access to social and community networks and services.
Evidence from the literature and stakeholders

Evidence from the literature shows a wide range of associations between the built environment and health. Figure 5-2 shows a model of the associations between the components of the built environment, health determinants and health outcomes with examples of the existing evidence. A number of these associations are of direct relevance to the development proposal and they are considered below.

**Figure 5-2 The Built Environment and Health Model**

Source: Mala Rao et al, 2007

**Transport and Physical Activity**

Urban design can encourage car dominance or physically active travel (walking, cycling and public transport use). Recent reviews show consistent associations between neighbourhood design and active travel (e.g. Frank et al, undated; Saelens et al, 2003). There are a range
of other risk factors that are associated with car dominated transport; these are explored in section 5.3.

Physical activity is widely recognised as a key determinant of health, particularly in relation to the prevention of growing levels of obesity and associated illnesses such as diabetes and heart disease. The built environment has fundamental links to obesity (Swinburn, 2001).

The designs of our communities influence how we get to work or go shopping, and the availability of parks and commercial establishments that we might like to visit (Powell, 2005 cited in Active Travel, 2007). The design of neighbourhoods determines the availability and safety of outdoor play and whether our children can walk to school. Perceived safety issues and traffic danger may lead parents to stopping children playing in the street and walking or cycling to school with subsequent impacts on physical activity. As patterns of physical activity established in childhood are key determinants of adult behaviour, this has the potential to have far-reaching implications for health (Barton, 2003).

The attractiveness of streetscapes is also an important factor in encouraging active travel. The more attractive the street is to people, the higher the levels of walking are found (Hoehner et al, 2005 cited in Active travel, 2007).

More information about transport impacts can be found in section 5.3.

Access to Community/Social Networks and Services
See section 5.7

Inclusivity of Design and Access
Disabled people have often been denied access to facilities and services that able-bodied people have taken for granted. The difficulties that disabled people have experienced when accessing these facilities and services often relates, not to an individual's disability, but to the lack of thought and lack of awareness of society when designing the built environment around us and when establishing how services are provided (BFBC, 2007).

According to the Royal Institute of Chartered Surveyors (RICS) (2007) it is estimated that around 20 percent of the adult population (approximately 11.7 million people) in the UK are categorised as disabled under the definition of 'disability' in the Disability Discrimination Act 1995. In addition, there are a further 18 million people who would benefit from improved access into buildings, namely the elderly and families with young children.

The architectural and urban design of a development may impact (positively or negatively) on levels of social inclusion/isolation and the ability of certain groups (disabled people, the elderly and families with young children) to access community/social networks and services.

Crime
The relationship between the built environment/urban design and crime is widely recognised within the literature (Bone, 1989; CABE & DETR, 2001, Crowe, 1991; Colquhoun, 2007) and by government policy and guidance (e.g. Department of the Environment Circular 5/94 “Planning Out Crime”, Crime and Disorder Act 1998, PPG1, PPG3, PPG7, PPG12, PPG13, PPG15, PPG17) According to CABE Space (2003) research reveals how closely the quality of public spaces links to levels of health, crime and the quality of life in every neighbourhood.
The components of the built environment/urban design that have been associated with levels of crime and the fear of crime include:

- Neighbourhood and housing design;
- Accessibility and permeability of streets/areas;
- Surveillance (Natural and CCTV);
- Street Lighting;
- Density;
- Neighbourhood management and maintenance (Colquhoun, 2007).

**Lighting and Crime**

Precisely targeted increases in street lighting generally have crime reduction consequences. More general increases in street lighting seem to have crime prevention effects, but this outcome is not universal. Even untargeted increases in crime prevention generally make residents less fearful of crime or more confident of their own safety at night. Street lighting improvements, where successful, are associated with crime reductions in daytime as well as during the hours of darkness (Pease, 1999). However, it should be noted that poorly designed lighting schemes may result in negative impacts from excessive light pollution.

**Green Space**

The development proposal will result in the loss of an area of green space in Kirkby town centre.

According to CABE Space (2003) surveys repeatedly show how much the public values green spaces while research reveals how closely the quality of public spaces links to levels of health, crime and the quality of life in every neighbourhood. Some studies have found a relationship between the availability of green space and health. Maas et al (2006) found that the percentage of green space inside a one kilometre and a three kilometre radius had a significant relation to perceived general health. The relation was generally present at all degrees of urbanity. The overall relation is somewhat stronger for lower socioeconomic groups. According to Saelens et al (2003) green spaces, and their size attractiveness and proximity are instrumental in encouraging active travel.

Stakeholders have identified that the green space is well used for a range of activities that include pedestrian access to surrounding areas, walking/dog walking, use as a ‘quiet space'/place of rest', and dedicated sports and informal sports activities including football. Stakeholders have identified that the loss of green space will have negative impacts on health and wellbeing, particularly for people in local residential areas. They identified that these impacts may result from:

- Reduced access;
- Loss of ‘green links’;
• A potential reduction in physical activity for certain groups, mostly children and young people;

• Loss of ‘quiet space’/‘place of rest’;

• A reduction in the aesthetic quality of the area and the loss of wild flowers and local wildlife.

Stakeholders also identified some problems with certain parts of the existing green space including fly tipping and litter and commented that the development would reduce or eliminate these problems.

Light Pollution
See lighting and crime

Differential Impacts
A disproportionate burden of ill-health associated with the built environment is borne by certain groups within the population. Poor people are more likely to live in poor quality built environments and this contributes to poor health. Children and the elderly are particularly vulnerable not only because of a biological vulnerability but also because of the significant numbers of children and elderly who are poor (Lavin, 2006).

Elderly, youth, and secondary educated people in large cities seem to benefit more from presence of green areas in their living environment than other groups in large cities.

5.2.2 Noise

Evidence from other assessments

Stadium
The ES contains an assessment of Stadium related noise. The Environmental Statement Review identifies limitations with the noise assessment which mean that it is not possible at this stage to assess fully the potential impacts of stadium noise on health (Bureau Veritas 2008). We have however, taken the predicted noise level into consideration in order to get an indication of potential impacts.

Development
The ES identifies residential and non residential dwellings that are potentially affected by noise caused by the development. Non residential sites containing groups potentially vulnerable to noise related health impacts included 2 primary schools, a community college and a residential care home. The following tables give an overview of predicted noise levels at various sites.
### Table 5-2 Predicted Unmitigated Construction Noise Levels for Works South of Cherryfield Drive – Façade LAeq,10 hours dB

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Assessment Scenario</th>
<th>( \text{LA}_{eq,10 \text{ hours}} ) dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Foundation Works at Phases 1 and 2</td>
<td>71.6</td>
</tr>
<tr>
<td></td>
<td>Building Substructure Works at Phases 1 and 2</td>
<td>73.9</td>
</tr>
<tr>
<td>2</td>
<td>Foundation Works at Phases 1 and 2</td>
<td>60.8</td>
</tr>
<tr>
<td></td>
<td>Building Substructure Works at Phases 1 and 2</td>
<td>61.9</td>
</tr>
<tr>
<td>3</td>
<td>Foundation Works at Phase 1</td>
<td>56.9</td>
</tr>
<tr>
<td></td>
<td>Substructure and fabrication works at Phase 1</td>
<td>56.9</td>
</tr>
<tr>
<td></td>
<td>Fit-out Works at Phase 1 and Car Park Construction at Phase 4</td>
<td>65.3</td>
</tr>
<tr>
<td>4</td>
<td>Foundation Works at Phase 1</td>
<td>61.3</td>
</tr>
<tr>
<td></td>
<td>Substructure and fabrication works at Phase 1</td>
<td>61.4</td>
</tr>
<tr>
<td></td>
<td>Fit-out Works at Phase 1</td>
<td>58.8</td>
</tr>
<tr>
<td>5</td>
<td>Foundation Works at Phase 1</td>
<td>63.2</td>
</tr>
<tr>
<td></td>
<td>Substructure and fabrication works at Phase 1</td>
<td>63.2</td>
</tr>
<tr>
<td></td>
<td>Fit-out Works at Phase 1 and Car Park Construction at Phase 4</td>
<td>71.3</td>
</tr>
<tr>
<td>6</td>
<td>Foundation Works at Phase 2</td>
<td>57.8</td>
</tr>
<tr>
<td></td>
<td>Substructure and fabrication works at Phase 2</td>
<td>60.3</td>
</tr>
<tr>
<td>7</td>
<td>Foundation Works at Housing Phase 2</td>
<td>65.7</td>
</tr>
<tr>
<td></td>
<td>Fabrication Works at Housing Phase 2</td>
<td>72.5</td>
</tr>
<tr>
<td></td>
<td>Fit-out Works at Housing Phase 2</td>
<td>72.2</td>
</tr>
</tbody>
</table>

### Table 5-3 Predicted Unmitigated Construction Noise Levels for Works North of Cherryfield Drive – Façade \( \text{LA}_{eq,10 \text{ hours}} \) dB

<table>
<thead>
<tr>
<th>Demolition, Clearance, Site and Excavation</th>
<th>Foundation Works</th>
<th>Building Construction</th>
<th>Roads and Car Parks</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>65.9</td>
<td>59.8</td>
<td>60.1</td>
</tr>
<tr>
<td>9</td>
<td>69.6</td>
<td>61.4</td>
<td>61.7</td>
</tr>
<tr>
<td>10</td>
<td>64.9</td>
<td>59.8</td>
<td>60.1</td>
</tr>
<tr>
<td>11</td>
<td>68.4</td>
<td>65.5</td>
<td>65.7</td>
</tr>
</tbody>
</table>
Table 5-4 Maximum Predicted Road traffic Noise Level Change due to Construction Traffic, Free-field - dB(A)

<table>
<thead>
<tr>
<th>Location</th>
<th>Maximum Predicted Noise Level change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valley Road south of Hall Lane</td>
<td>0.6</td>
</tr>
<tr>
<td>Bewley Drive east of Valley Road</td>
<td>1.4</td>
</tr>
<tr>
<td>Cherryfield Drive adjacent to Webster Drive</td>
<td>1.8</td>
</tr>
<tr>
<td>A5028 Moorgate Road south of Bewley Drive</td>
<td>0.0</td>
</tr>
<tr>
<td>County Road south of Hall Lane</td>
<td>0.1</td>
</tr>
</tbody>
</table>

**Operational impacts**

**Tesco**

Night time HGV deliveries are predicted to increase noise levels by 4.2 dB. The highest predicted external night time noise level is 49.3dBA. A 28dB reduction through a brick facade is expected to mitigate this noise.

**Sports pitches**

At the closest proposed dwellings, noise levels of 52.3 dB LAeq,T and 78.0 dB AFmax are predicted during sports pitch use.

**Evidence from Literature and stakeholders**

Noise can be defined as “unwanted sound” (Berglund & Lindvall 1995). The same sound might be experienced in different ways at different times of the day, in different situations, different seasons, during different activities etc (MTIS 1985). The WHO noise guidelines state that equal levels of different noises can cause different magnitudes of annoyance (World Health Organisation 1999). For example, airport noise is considered to be more annoying than traffic (Miedema & Oudshoorn 2001a; Miedema & Oudshoorn 2001b). Because noise is such a subjective experience, it is a difficult area to research and health effects are often hard to quantify (Berglund & Lindvall 1995).

Health outcomes due to noise exposure are generally divided into two groups – direct and indirect outcomes of noise exposure. The link between noise exposure and direct (auditory) outcomes is well established whereas the link between indirect or secondary health effects is less clear. Impacts from exposure to aviation noise are likely to be indirect. In a review of research on noise and health Passchier and Passchier concluded that there was sufficient evidence that “exposure to noise constitutes a health risk” (Passchier-Vermeer & Passchier-Vermier 2000). The main health risks of noise identified by the World Health Organisation are:

- pain and hearing fatigue;
- hearing impairment including tinnitus;
- annoyance;
- interferences with social behaviour (aggressiveness, protest and helplessness);
- interference with speech communication;
- sleep disturbance and all its consequences on a long and short term basis;
- cardiovascular effects;
hormonal responses (stress hormones) and their possible consequences on human metabolism (nutrition) and immune system;
• performance at work and school.
(http://www.euro.who.int/Noise accessed 20 August 2007).

Noise is considered to be a non-specific biological stressor which results in a response that prepares the body for action (fight or flight) (Moeller 2006). Figure 5-3 illustrates a causal web for noise exposure

Figure 5-3 Causal web for noise exposure adapted from Pruss (2001)

The evidence base for the impact of noise and health has strengthened considerably since Passchier and Passchier carried out their review. New research and meta analysis of existing research have contributed to this (e.g Babisch 2006; Franssen et al. 2004; Michaud et al. 2007; Ohrstrom et al. 2006; van Kempen et al. 2002; van Kempen et al. 2006; van Kempen, Staatsen, & van Kamp 2005). In a recent review of research on noise and health annoyance, sleep disturbance and cardiovascular disease were considered to have a strong enough evidence base for inclusion in health impact assessments (van Kempen, Staatsen, & van Kamp 2005). The evidence around noise impacts on children’s cognition was also considered robust but difficult to apply at population level.

The WHO noise guidelines provide an overview of noise levels above which health is negatively impacted on.
Table 5-5 WHO noise guidelines

<table>
<thead>
<tr>
<th>Specific environment</th>
<th>Critical health effect(s)</th>
<th>LAeq [dB]</th>
<th>Time base [hours]</th>
<th>LAmax fast [dB]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor living area</td>
<td>Serious annoyance, daytime and evening</td>
<td>55</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Moderate annoyance, daytime and evening</td>
<td>50</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>Dwelling, indoors</td>
<td>Speech intelligibility and moderate annoyance, daytime and evening</td>
<td>35</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>Inside bedrooms</td>
<td>Sleep disturbance, night-time</td>
<td>30</td>
<td>8</td>
<td>45</td>
</tr>
<tr>
<td>Outside bedrooms</td>
<td>Sleep disturbance, window open (outdoor values)</td>
<td>45</td>
<td>8</td>
<td>60</td>
</tr>
<tr>
<td>School class rooms</td>
<td>Speech intelligibility, disturbance of information extraction, message communication</td>
<td>35</td>
<td>during class</td>
<td>-</td>
</tr>
<tr>
<td>and pre-schools,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>indoors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-school bedrooms,</td>
<td>Sleep disturbance</td>
<td>30</td>
<td>sleeping-time</td>
<td>45</td>
</tr>
<tr>
<td>Indoors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School, playground</td>
<td>Annoyance (external source)</td>
<td>55</td>
<td>during play</td>
<td>-</td>
</tr>
<tr>
<td>Outdoors in parkland</td>
<td>Disruption of tranquillity</td>
<td>#</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and conservation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# existing quiet outdoor areas should be preserved and the ratio of intruding noise to natural background sound should be kept low.

**Differential impacts**

Groups vulnerable to noise impacts include:
- Foetuses, infants and young children
- People with decreased personal abilities (old, ill or living with mental illness)
- People dealing with complex cognitive tasks
- People who are blind or have hearing impairment

Stakeholders expressed concern that noise could cause sleep disturbance in nearby residents. In particular, residents close to the access points to the retail development and close to the stadium were thought to be vulnerable to negative impacts from noise. Other population groups identified as being vulnerable to noise were older people and people with young families. These groups were thought likely to have sleeping patterns that might be disturbed by day time and early evening noise.

**5.2.3 Air quality**

**Evidence from other assessments**

The Environmental Statement Review states that the air quality assessment is inadequate and identifies a range of limitations (Bureau Veritas 2008). This means that the HIA cannot at this stage fully assess the potential impacts of changes in air quality and health.
Evidence from literature and stakeholders
In the UK, air quality guidelines are derived from EC Air Quality Directive (96/62/EC). These values are informed by the WHO guidelines on air quality (World Health Organisation 2006). However it should be noted that impacts on health may be observed at levels below the guidelines (World Health Organisation Europe 2006). The objective of the Directive is to improve air quality throughout Europe by controlling the level of certain pollutants and monitoring their concentrations.

The Committee on the Medical Effects of Air Pollutants’ report on long-term exposure to air pollution and mortality concluded that there is “little doubt that long-term exposure to air pollutants has an effect on mortality and thus decreases life expectancy” (COMEAP 2007). Air pollution is currently estimated to reduce the life expectancy of every person in the UK by an average of 7-8 months (Defra et al. 2007).

Exposure to air pollution is largely determined by the concentration of air pollutants in the environments where people spend their time and the amount of time they spend within them (WHO 2005).

Epidemiological studies have shown a significant relationship between variations in air pollution levels and mortality and hospital admissions for respiratory and cardiovascular conditions.

Construction may cause dust, which can be annoying. In terms of the health effects, construction activities produce mostly particles which are bigger than 10 micrograms. Particles of this size can be removed by our respiratory system so do not pose a significant threat to health. Dust will mainly be caused during the construction period. However, the machines that are potentially causing the dust can be a source of further air pollution. This is especially the case for off road machinery.

An important distinction should be drawn between the role that exposure to air pollution may play in triggering the symptoms of people who have asthma and its possible role in causing the disease in people who did not previously have asthma. In 1995 COMEAP looked in detail at asthma and outdoor air pollution (DoH, 1995). The report concluded that air pollution could exacerbate asthma. As regards causation of asthma, the report concluded that the available evidence did not suggest that this occurred. Some new evidence from single studies (e.g. Ven et al, 2001; McConnell, 2002) has appeared since 1995 and COMEAP are due to publish an updated review towards the end of 2008.

Differential impacts
Certain population groups are more susceptible to health impacts (see Table 5-6). Children, older people and people with lower socio-economic status may be physiologically more vulnerable. These population groups also tend to stay during the day in those places where they live so that when residential areas are exposed they potentially increasing their exposure compared to other groups.
Table 5-6 Susceptibility to air pollution

<table>
<thead>
<tr>
<th>Population group</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individuals already affected by chronic respiratory or cardiac diseases</strong></td>
<td>Higher death rates</td>
</tr>
<tr>
<td>such as COPD, pneumonia and ischemic heart disease. Also type 2 diabetes.</td>
<td>(World Health Organisation Europe 2006)</td>
</tr>
<tr>
<td><strong>Individuals with asthma</strong></td>
<td>Morbidity associated with exposure to PM as well as increases in symptoms, medication use and visits to hospital emergency departments.</td>
</tr>
<tr>
<td>(World Health Organisation Europe 2006)</td>
<td></td>
</tr>
<tr>
<td><strong>Population groups with lower socioeconomic status.</strong> Higher susceptibility</td>
<td>Increased risk of mortality and morbidity</td>
</tr>
<tr>
<td>is also found in the least educated sections of the population and residents of deprived inner cities.</td>
<td>(World Health Organisation Europe 2006)</td>
</tr>
<tr>
<td><strong>Older people</strong></td>
<td>The increases in mortality associated with particulate air pollution are greatest among the elderly.</td>
</tr>
<tr>
<td>When people age air pollution contributes to the development of cardiovascular and respiratory disease. This does not mean that the disease process did not begin a lot earlier but the clinical manifestation tends to appear in the older age groups.</td>
<td>(World Health Organisation Europe 2006)</td>
</tr>
<tr>
<td><strong>Children and infants</strong></td>
<td>The developing foetal lung, as well as the infant lung, is more susceptible to injury by lung toxicants (including air pollutants) at doses below the no-effect level for adults. Air pollution also impacts on the prevalence and incidence of cough and bronchitis and infant mortality.</td>
</tr>
<tr>
<td>Children include prenatal stage where the respiratory system is developing and when air pollution exposure of the mother can affect the development of the foetus. (World Health Organisation European Centre for Environment and Health 2005).</td>
<td></td>
</tr>
</tbody>
</table>

### 5.3 Transport

The impacts of the development on transport and health fall into two main categories. Firstly, changes to the volume, timing, nature and mode of transportation that result from the construction and operational phases of the development, for example increases in the number of vehicles accessing the area, have potential health impacts. These changes and resultant impacts are examined here.

Secondly, changes to the urban design of the area, for example road layout and connectivity between the site and surrounding areas, affect transportation and have potential health
impacts. These changes and resultant health impacts are examined within section 5.2 on the health impacts of the built environment.

**Evidence from other impact assessments**

**Construction and Workforce Traffic**
The Environmental Statement (ES) (DPP, 2007a) and IPS Transport Report (October, 2007) present estimations of the timing and volume of traffic (trip generation by time period), the type of vehicles (plant, materials and workforce traffic) and the distribution of vehicular movements (routes) during the construction phase of development. These estimations are summarised below.

**The construction phase**
According to the ES (DPP, 2007a) ‘the construction works for the stadium will take approximately 15 months, finishing up in October 2009. A further eight months will be required to commission the stadium and make the buildings operational and fitted out in full. The construction works for the Tesco and comparison retail units will take approximately 11 months, finishing in May 2009 (depending on the start date). The stadium and retail units will be operational by June 2010.

There would be an increase in heavy goods vehicles (HGV) traffic during the construction period. According to the ES, the potential impacts during the construction period would be of local extent. (ES, 2007).

The exact geographical distribution of health impacts will depend on the nature of impacts, for example, air pollution impacts will have different patterns of geographical distribution than impacts from road traffic accidents, and the successful monitoring and enforcement of construction routes as some construction vehicles may stray from agreed routes. In addition, it may be difficult to control the routes that are used by commuting construction workers and therefore isolate impacts to agreed routes.

**Construction Vehicle Routes**
The construction vehicle routes, identified within the ES, are summarised in the following diagram.
Figure 5-4 Proposed Construction Traffic Routes

Construction traffic
According to the ES (DPP, 2007a) ‘For the first three months of the construction period the average daily trips will be 98 two-way construction vehicle trips (plant and materials traffic). During this three month period there will be a minimum daily average of 87 two-way trips in July 2008 and a maximum daily average of 109 in September 2008. The peak period of
around 313 daily two-way trips will occur around February 2009…. This number will drop to an average of 162 daily two-way trips for a period of nine months, from April 2009 to December 2009. For the rest of the construction period there will be between about 120-140 two-way trips per day.’

**Workforce Traffic**
According to the ES (DPP, 2007a) ‘there would be large numbers of people working at the site. The maximum daily number of workforce vehicle trips would be around 2070 trips (two-way).’

**Combined Workforce and Construction Traffic**
According to the ES (DPP, 2007a), ‘in the worst case the combined total of workforce and plant vehicles would be in the region of 2382 two-way vehicle movements per day. This peak would occur in February and March 2009. For the peak month of workforce vehicle trips, which is March 2009, between 7am and 8am there would be an additional 1035 vehicles travelling along Valley Road for construction staff arriving at the site. The existing two-way flow along Valley Road between 7am and 8am is 910 vehicles. During the peak arrival time for workforce staff, Valley Road would experience about an 88% increase in traffic flow.’

**Operational Phase**
The IPS Transport Report (October, 2007) considers the impact of the proposal on traffic volume (trip generation) and distribution (trip distribution). It states that ‘it is possible that retail development … could attract in the region of an average of 1,700 vehicles per hour per weekday between the main retail opening hours of 8am to 7pm. In terms of the football stadium ‘a 55,000 seat stadium would generate 55,000 supporters in addition to players, officials etc’.

The retail development will result in large increases in the volume of traffic. The stadium development will result in large increases in traffic and pedestrians during peak match times together with high demand for public transport although ‘this generation is likely to occur within a relatively short period of time’ on match days.

**Evidence from the Literature and stakeholders**
Reviews of the evidence on the health impacts of transport identify a number of risk factors associated with transport (WHO, 2006 and Douglas et al, 2007). These factors include injuries from road traffic accidents (RTAs), pollution (air and noise), physical activity and access to community/social networks and services; each of these factors is considered below.

Many stakeholders expressed concern about the increased risk of RTA and congestion. Some were concerned that congestion would prevent them from accessing shops, services and social networks when games were on. Another common concern was that congestion would prevent emergency services being able to access patients.

**Injuries from RTAs**
Physical injuries (fatal and non-fatal) are the main consequence of road crashes (Douglas et al, 2007).
Increases in the numbers of vehicles and pedestrians, as predicted by the ES (DPP, 2007a) and IPS Transport Report (October, 2007), may increase the number of road traffic accidents. There is not however a straightforward association between the numbers of RTAs and the numbers of people killed or injured. In the UK, although there has been an increase in absolute numbers of crashes, the absolute numbers of those killed on the roads in 2004 was 36% lower than in 1950. Rates of road casualties (those killed or injured) have been consistently falling for over fifty years across most industrialised countries. Between 1980 and 2003, road traffic increased by 79%, whereas the number of road crashes resulting in personal injury fell by 15% (National Statistics & Department for Transport, 2004). This suggests that although increases in road traffic result in increases in RTAs, properly managed mitigation measures, for example, vehicle design, public awareness campaigns, speed restrictions and traffic calming may reduce injuries from RTAs. Data on the incidence and prevalence of RTAs and associated injuries within Great Britain and Knowsley is contained within the health profile.

Based on the data contained within tables 4.5 to 4.8 of the health profile Knowsley had the highest increase in road traffic between the baseline period 1994-98 and 2006 and the highest decrease in casualties (KSI and slight) per 100 million vehicle kilometres. Knowsley is the best performing authority in Merseyside for the reduction in road casualties (compared to Liverpool, St Helens, Sefton and Wirral.

**Mental Health Outcomes**


**Differential Impacts**

Stakeholders identified the following vulnerable groups; local residents, children, families, cyclists, older people, pedestrians. Vulnerable places identified included nearby primary and secondary schools, rest home and doctors surgery.

The majority of road crashes occur in built up areas. Based on 2004 data from the DfT, in the UK, around 65% of road crashes occur in built-up areas, 30% outside built-up areas and around 4–5% on motorways. Table 5-7 shows the accident rates by road type in Great Britain in 2004.
Table 5-7 Rates of crashes (all vehicles), users and pedestrians killed/seriously injured by road type (2004) (rate per 100 million vehicle kilometres travelled)

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Accident rates</th>
<th>Users killed/seriously injured</th>
<th>Pedestrians killed/seriously injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorways</td>
<td>9</td>
<td>1.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Urban A roads</td>
<td>70</td>
<td>6.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Urban B, C and unclassified roads</td>
<td>64</td>
<td>5.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Rural A roads</td>
<td>25</td>
<td>5.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Rural B, C and unclassified roads</td>
<td>46</td>
<td>8.9</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: National Statistics and DfT, 2005

The proposed development is in a built up area that is adjacent to a motorway and a number of larger urban roads; higher rates of RTAs occur in such areas.

Speeding is more common in less affluent areas (MacGibbon B, 1999) and disadvantaged groups are more likely to be involved in a road crash (Graham T, 2002). Traffic speed may be an important determinant of street activity, and reducing it through traffic calming may make it easier for people to choose active ways of travelling (Active Travel, 2007).

According to Health Douglas et al (2007) those living in deprived areas (such as Kirkby) experience a disproportionate amount of the harmful effects of cars, including injuries and deaths. In addition:

- disadvantaged groups are more likely to be involved in a road crash (Graham T, 2002);
- the pedestrian death rate for children from families in social class V is four times that of children of social class I (Roberts I and Power C, 1996);
- the road crash rate for children in Social Class V is falling more slowly than for children in social class I (Roberts I and Power C, 1996);
- speeding is more common in less affluent areas (MacGibbon B, 1999) and therefore the health outcomes of RTAs are more severe.

The World Health Organisation (2004) identify the population groups that are most affected by RTAs. The following groups have been selected from those identified by the WHO because they relate to either, or both, the construction or operational phases of the development. The groups are as follows:

**Children**

In Europe, road traffic injuries are the leading cause of death among children aged 5–14 years. They represent about 5% (about 5000) of the total estimated deaths from road traffic injuries per year. Based on data for England and Wales, two thirds of fatal injuries in schoolchildren result from road traffic crashes (Coupland C, 2003). Children are particularly vulnerable until the age of 9–10, owing to their weak capacity to concentrate attention on
traffic. They are considered to be especially vulnerable when motorized traffic is heavy or fast, visibility is limited or drivers’ attention is diverted.’

**Elderly People**

People over 60 years old are vulnerable to road traffic injuries because of physical fragility and a declining ability to cope with difficult traffic. In the European Region, more than 27,000 traffic deaths per year occur among elderly people. For example, older people account for nearly half of all fatalities in pedestrians in the European member states of the Organisation for Economic Co-operation and Development (OECD).

**Pedestrians, cyclists and motorcyclists**

Pedestrians, cyclists and motorcyclists usually suffer the most severe injuries as a result of road traffic collisions, and report more continuing health problems that require more assistance. On average, pedestrians and cyclists account for about 20% of those involved in serious accidents in the WHO European Region, but they are at disproportionate risk of death or injury compared with car users. In 1997, pedestrians and cyclists represented only 22% of the people involved in serious car crashes, but 33% of those killed. Risk analysis shows that the fatality risk for people using motorized two-wheeled vehicles is the highest of all modes of transport: on average, 20 times that of car occupants. Based on data for England and Wales, more than 75% of children fatally or seriously injured in road traffic crashes are pedestrians or cyclists (Coupland C, 2003).

**Workers**

Road traffic injuries are also an important cause of death not only to professional drivers but also to commuters. For example, road traffic crashes accounted for about 41% of all workplace fatalities reported in the EU in 1999.

**Tourists**

In the EU, road traffic crashes appear to be the leading cause of death among tourists, accounting for more than 50% of all fatalities, 20% of hospital admissions and 30% of visits to emergency departments as a result of road traffic injuries.

**Pollution**

Evidence from the literature pertaining to the health impacts of pollution from motor vehicles is considered within the Air Quality section.

### 5.4 Community and social capital

**Evidence from other impact assessments**

The assessment of the impact on the community within the ES was assessed as being inadequate in the review carried out (Bureau Veritas 2008). The ES identifies positive benefits to the local community from economic and employment impacts. There are expected to be some detrimental impacts on residents who will have to relocate but these are expected to be short term and over the long term these are expected to result in improvements overall. Locating EFC in Kirkby is expected to bring benefits to the community through the work of Everton in the Community (EITC). The raised profile of the
area through the football club is also expected to raise aspirations and improve community pride.

**Evidence from the literature and stakeholders**

Stakeholders identified positive and negative impacts on social capital and mental wellbeing from the proposed developments.

Stakeholders often referred to feeling that they have limited or no control and influence over the decisions being made. Related to this were issues such as:

- lack of trust towards Tesco and also KMBC. This has apparently been exacerbated by a lack of coordination in information supply by the parties involved (e.g. stakeholders reported some inappropriate forms of communication/engagement carried out by the potential developers such as mail out by Tesco providing conflicting information about residents parking, soliciting signatures at Aintree Hospital.)
- perception that residents views are not valued. Some comments were made that there was inadequate feedback from the results of the consultation events carried out in summer 2007.
- Some stakeholders felt there had not been enough information provided. A particular issue was the lack of detail for the plans for the existing town centre. Whereas other stakeholders were satisfied with the level of information supplied.
- Perception that process is undemocratic in terms of community involvement and also perception that councillors are not representing their community

A strong recurring theme was the strong sense of community that currently exists in Kirkby and the key role the town centre plays in this. The current town centre is seen to provide an environment that promotes and maintains social networks. Stakeholders often expressed concern that the proposals would negatively impact on the existing town centre and thereby negatively impact on the important role it plays in the community. Stakeholders who had a positive view of the proposals in general were more likely not to identify this as a potential negative and some also referred to the increased availability of shops making it more likely that they would do their shopping in Kirkby rather than travelling to other places such as Liverpool.

The potential loss of long established local businesses was also reported as a negative impact on the community. Although these shop owners/workers were not necessarily local residents they were perceived to be community members.

Stakeholders also identified Kirkby’s green entrance and other green space as having a key role in their community identity and pride. Some stakeholders expressed concerns that the potential loss of green space would change the experience of living in Kirkby (negatively).
Some stakeholders recognised potential benefits to the community such as an enhanced sense of community pride (“putting Kirkby on the map”).

There was concern expressed that the development would have a negative impact on residents who would have to relocate and also residents living directly next to the development. Some stakeholders stated that the communication between KMBC and householders who will have to relocate was confusing and causing stress in these residents, however, there were no direct reports from these residents.

The response to council run consultation events and also HIA workshops indicates a level of consultation fatigue.

Some stakeholders expressed concern about potential increases in crime, in particular crime on match days. Children were often perceived to be potential victims of crime. This fear of crime was also identified as a reason to restrict children from going outside without their parents.

Access
The ability of people to access health, social, retail and other services is an important determinant of health. Stakeholders have identified concerns that the proposed development may reduce the ability of local people to access key services, including shops, health and community services at certain times, particularly during peak match times.

Reduced access to community and social networks can lead to increased levels of social isolation for certain groups. According to House (2001) social isolation has been shown repeatedly to prospectively predict mortality and serious morbidity both in general population samples (House, 1988) and in individuals with established morbidity (Berkman 1995; Berkman, 2000), especially coronary heart disease (Brummett, 2001).

Social capital and health

Neighbourhoods where people know each other and trust each other and where they have a say in how their community is run can be a powerful support in coping with the day to day stresses of life that affect health. And having a stake in the local community gives people self-respect and makes them feel better (Department of Health 1999).

This quote from the 1999 White Paper on Health describes what is commonly called social capital. While definitions of social capital vary, key indicators of social capital include trust, civic engagement and social networks (van Kemenade 2003). Morrow’s investigation into social capital and children and young persons’ wellbeing found that “people’s sense of self-efficacy in relation to their social networks, neighbourhoods and local or national civic structures, and their related feelings of alienation or engagement, will have some health related effects” (Morrow 1999). Although the exact way this functions is still being debated (see for example (Muntaner, Lynch, & Davey Smith 2000);(Woolcock 1998)) it is generally accepted that communities with high social capital are healthier than communities with low levels ((Kawachi, Kennedy, & Wilkinson 1999);(Muntaner, Lynch, & Davey Smith 2000);(van Kemenade 2003)). It is seen as the essential link between economic and human development, and to reducing poverty and inequalities. It includes social relationships and
networks for social support, and the integration in a community; in addition it encompasses interactions between individuals and institutions (Muntaner, Lynch, & Davey Smith 2000).

If a person feels that they have a valued role, a sense of belonging, social networks and feel involved in their community they are more likely to perceive themselves as being healthy. Active community participation can, for example, reduce isolation, build confidence and act as a bridge to other forms of support.

The main factors that are thought to promote and protect mental wellbeing are:

- Enhancing control
- Increasing resilience & community assets
- Facilitating participation
- Promoting social inclusion

(Department of Health 2001).

Epidemiological studies have shown that social and emotional support can protect against premature mortality, prevent illness, and aid recovery (Berkman & Syme 1979; Giles et al. 2005). Higher participation in social activities is associated with better mental and physical health (Baum et al. 2000). Other research has linked civic participation and voluntary group membership to health (Rietschlin 1998). Low levels of political engagement has in turn been found to be related to lower levels of self rated health than people with higher levels of political engagement (Cummins et al. 2005b). In addition to protecting against physical ill health, social support contributes to positive emotional well being. Social support may influence health directly, e.g., by encouraging healthier behaviour such as smoking cessation and physical activity, and indirectly acting as an ameliorator of adverse health impacts (Hemingway & Marmot 1999). As described earlier, one of the positive impacts of employment on mental health is the social support and interactions with work colleagues.

There is mixed evidence about the relationship between community involvement and social capital with some authors reporting frustration and alienation as outcomes (Burton et al. 2004). There is strong evidence linking involvement in community organisations with increased social support and reduced isolation, as well as increased employability. In addition the development and involvement in community enterprises can facilitate the transition from informal to formal economic activity (Nathan, 2000). Chanan (1999) argues that community involvement should be an integral part of any development scheme contributing to the development of social capital. Halpern (1995) found substantial improvements in residents’ mental health when they were actively involved in the regeneration of their housing estate. Conversely, the powerlessness, apathy, disillusionment and frustration of communities when they have no say in decisions which affect their quality of life or are only involved in a tokenistic way, can seriously undermine social capital, future participation and the long term health of the population (Turok, Kearns, & Goodlad 1999). A systematic review of literature on community based initiatives found that the positive impacts outweigh the negatives. These impacts include:

- co-operation, communication and contact between participants and others, which fosters trust and further communication in future;
• ownership of the outcome of involvement and subsequent developments;
• a greater sense of identification with the local area;
• greater mutual tolerance of the constraints faced by the others involved; and
• a sense of partnership and some changed working practices. (Burton et al. 2004)

Control beliefs refer to individuals' beliefs regarding the extent to which they can control or influence outcomes (e.g., staying healthy, how they work) (Skinner 1996). The link between perceived control and positive health outcomes is empirically well-established (Bailis et al. 2001b). People who feel in control of their lives are generally healthier. Low control beliefs are thought to affect health outcomes through direct stress-induced physiological activation or unhealthy behaviours (Bailis et al. 2001a; Brunner 1997). Research has found that people of low socio-economic status report lower levels of control beliefs. Bosma (2005) found that people who have low control beliefs (e.g., powerlessness and fatalism) accounted for more than half of the raised mortality risk for people of low socio-economic status. As described earlier, in a work setting low control jobs ('job strain') are associated with increased risk of CHD, MSD and mental health problems and are also likely to have a lower socioeconomic position.

Control beliefs refer to individuals' beliefs regarding the extent to which they can control or influence outcomes (e.g., staying healthy, how they work) (Skinner 1996). The link between perceived control and positive health outcomes is empirically well-established (Bailis et al. 2001b). People who feel in control of their lives are generally healthier. Low control beliefs are thought to affect health outcomes through direct stress-induced physiological activation or unhealthy behaviours (Bailis et al. 2001a; Brunner 1997). Research has found that people of low socio-economic status report lower levels of control beliefs. Bosma (2005) found that people who have low control beliefs (e.g., powerlessness and fatalism) accounted for more than half of the raised mortality risk for people of low socio-economic status. As described earlier, in a work setting low control jobs ('job strain') are associated with increased risk of CHD, MSD and mental health problems and are also likely to have a lower socioeconomic position.

In addition to the impact of social support and control on health, there is a growing evidence base that the perception of public health risk is influenced by various risk attributes (Renn 1998)(Table 5-8), including levels of control.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Direction of influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>personal control</td>
<td>increases risk tolerance</td>
</tr>
<tr>
<td>institutional control</td>
<td>depends on confidence in institutional performance; can increase/decrease risk tolerance</td>
</tr>
<tr>
<td>familiarity</td>
<td>increases risk tolerance</td>
</tr>
<tr>
<td>voluntariness</td>
<td>increases risk tolerance</td>
</tr>
<tr>
<td>dread</td>
<td>decreases risk tolerance</td>
</tr>
<tr>
<td>inequitable risk</td>
<td>depends on individual utility, strong social incentive for rejecting risks</td>
</tr>
<tr>
<td>and benefits</td>
<td>amplifies attention to risk, often decreases risk tolerance</td>
</tr>
<tr>
<td>artificial risk</td>
<td>increases quest for social and political responses</td>
</tr>
<tr>
<td>blame</td>
<td></td>
</tr>
</tbody>
</table>

Psychometric research has suggested that people tend to categorise risks intuitively and according to composite dimensions: novelty and dread. The dread factor however is often coupled with low levels of personal control, which will then tend to amplify the perceived risk. It has been suggested that this is difficult to predict because of different institutional behaviour and population groups (individual control and social capital); however, for a given institution/population this will depend on the decision-making process, communication strategy, and serious incidents such as accidents (Health Council of the Netherlands: Committee on the Health Impact of Large Airports 1999).
Social capital and transport
Transport can contribute to social support by increasing access to people and places, including work and services. However road traffic volume can also affect social interactions; Appleyard (1981) showed that with light road traffic (2,000 vehicles per day) people living in the area had three times more social networks compared to people living on streets with heavy traffic (16,000 vehicles per day). See section 5.3.

Crime and disorder
Crime poses substantial risks to the health of victims and, consequently, generates additional demand for health services. Health impacts can be physical and psychological (Robinson & Keithley, 2000).

The London Health Observatory published a review of the evidence on the relationships between crime and health in 1999. The key, relevant, findings of the review are summarised below.

- There is a growing body of research concerned with the connections between crime and health in the US and the UK.
- Crime is associated with social disorganisation, low social capital, relative deprivation and health inequalities, and the same social environmental factors which predict geographical variation in crime rates may also be relevant for explaining community variations in health and wellbeing.
- Crime can and often does damage the physical and mental health of victims. The effects of victimisation include acute as well as chronic physical and mental health.
- Fear of crime is a very real and debilitating factor in many people’s lives limiting their lifestyles in a way which is detrimental to good health. Our perceptions of the incidence of crime and feelings of personal safety can have a widespread effect on the way we live our lives. The effects of fear of crime may be manifest in behaviour, for example we may avoid going out alone, stay at home more, never go out in the dark etc. These all inevitably tend to reduce involvement in the local community, and increase isolation. Both these factors will have some health impact (LHO, 1999).

Relocation of housing
The effects of residential relocation on a population vary by population sub-group. They also depend on the process adopted, particularly whether it is a forced relocation or a voluntary move. There is evidence of displacement of populations associated with housing clearance and the associated effects on the psychosocial well being of the displaced populations, as well as the social capital of the area. There is also evidence of the negative effects of housing renewal and relocation on household income, and the associated impacts on diet and health.

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Effects of relocation and the process of moving
Moving house is considered to be a health damaging life-event in (Hooper & Ineichen, 1979 in Douglas, Thomson, & Gaughan 2003). This is particularly so when there is a perceived lack of control in the decision to move, e.g., if there is limited opportunity to negotiate with the landlord or housing authority (Allen, 2000 in Douglas, Thomson, & Gaughan 2003). Housing relocation has been associated with loss of social networks (Fried, 1966 in Douglas, Thomson, & Gaughan 2003) and social aspirations (Yuchtman & Spiro, 1979 in Douglas, Thomson, & Gaughan 2003) that may counteract satisfaction with improved housing conditions.

The Chartered Institute of Housing (2005) indicated the importance of well planned demolition programmes to avoid the mistakes of the 1950s with relocation processes that provide appropriate financial packages, access to information and advice for residents, and sensitive support around their rehousing options.

Evidence indicates an individual context and meaning for housing and where we live with an associated range of possible effects resulting from moving and relocation.

Forced relocation
Evidence indicates that when there is a lack of control around moving house the health effects are more adverse. Recent evidence from the Netherlands (Kleinhans 2003) showed that even when relocation was forced outside their neighbourhoods due to the clearance and upgrading of social rented housing, residents were able to improve their housing situation if their priority rights in the housing market were preserved; movers who did not have this protection reported a decline in their position. The need for effective relocation processes including good communication was emphasised to reduce the effects of stress on residents. Another study in the USA, showed that involuntary moving may affect future formal social integration in the new location for both men and women; residential mobility was also said to have a profound effect on the mental health of women (Butler.E., McAllister, & Kaiser 1973).

Displacement effects
Some area and housing regeneration can lead to displacement of original residents (Walker & Bradshaw, 1999 in Douglas et al, 2003) and a change in the population dynamics of the neighbourhood with the associated breakdown of social networks and support systems; the importance of these relationships for psychosocial well being is well documented. In addition, these relationships contribute significantly to the assessed quality of an area. In one study in Yorkshire, Green et al (2005) suggest that social capital – trust, reciprocity and safety – accounts for 23% neighbourhood well being, compared with 13% each for environmental and fixed capital elements. Prior to regeneration of an area, they suggest that aspirational movers (people who can afford to move to a ‘better area’) move out; as regeneration proceeds ‘churn movers’ (residents with few resources) move out to similar deprived, less desirable areas primarily due to income. As an area regenerates ‘regeneration in-movers’ (residents with increasing household income) move into the area. This change in the population dynamic of the area affects those ‘regeneration in-movers’ and the ‘stayers’ with a positive impact on the neighbourhood prosperity and human capital, but a reduction in social capital.
Differential impacts

Over the last 25 years or so there has been an ever expanding literature on the differences in health status between different socioeconomic groups due to differential exposure to various risk factors and conditions; the lower the social position the greater the exposure to health hazards such as low income, unemployment, work-related risk factors, poor quality housing, various pollutants. In addition it is likely that exposure to one risk factor is associated with exposure to others (Blane 2006).

However, there are three consistent features of these health inequalities (Whitehead.M. & Dahlgren 2007):

- Health inequalities are not due to random variations but are systematic – morbidity and mortality increases with declining social position;
- Health inequalities are socially reproduced – social processes not biological determinants account for these differences – and are therefore modifiable. ‘No law of nature decrees that children from poorer families should die at twice the rate of rich families’
- Health inequalities are unjust.

Deprived areas are often identified as having low social capital. There is however debate about whether they actually have lower social capital or if the measures used to assess social capital are only measuring certain kinds of social capital that tends to exist in more affluent communities (Muntaner, Lynch, & Davey Smith 2000). Differences between communities in social capital have been identified as contributing towards health inequalities (Figure 5-5). Within communities there can also be differences in access to opportunities, information, networks and participation. “Groups excluded from aspects of community social capital are likely to be excluded from related social and economic wellbeing” (Kilpatrick & Abbott-Chapman 2005).
Some groups are at greater risk of victimisation than others, for example homeless people (LHO, 1999). Older people, women and people with mental illness appear to suffer disproportionately from fear of crime (Whitley & Prince 2005). Women and elderly people are found to have a comparatively low rate of victimisation and a subjectively high fear of crime. (Colquhoun, 2007) Young men, in contrast, have a high-risk rate and a lower fear.

Fear of crime has been found to be associated with self rated health (Chandola 2001; Green, Gilbertson, & Grimsley 2002). People who perceived their health to be in poor condition also worry more about crime than those who perceived themselves to be in good health (Chivite-Mathews & Maggs 2002). Mental health status is also strongly correlated to feelings of safety but this may be a consequence rather than a cause of feelings of safety (Building Research Establishment 2004). Perception of crime affects quality of life (Christmann & Rogerson 2004)

Crime may also impact on the health of those who are not directly victims themselves but who witness traumatic events or are affected by the victimisation of others close to them (LHO, 1999).

Although limited, available research suggests that criminal activity may also affect the health of the perpetrator. For example, qualitative research conducted by Ford (1995) provides an insight into some of the health effects on perpetrators: ‘You get a good kicking if you burgle the wrong house...quite a severe kicking in one or two cases.’ In addition, the impacts of conviction for crimes may include job loss and future difficulty in finding jobs, physical and psychological effects of imprisonment and relationship and family breakdown.
5.5 Lifestyle

5.5.1 Diet

Stakeholders reported mixed views on the potential impact of the development on diet and availability of food. Some were concerned that the potential negative impact on already existing shops could lead to a reduction in affordable healthy food. In particular stakeholders were concerned that the market could be negatively affected. Some older residents reported that they currently ‘shopped around’ at all the local shops so that they could find the best prices. They were concerned that they would not be able to afford to shop at Tesco and the more inexpensive shops might close thereby reducing availability and access to food and other goods. Whereas other stakeholders expect that the development will lead to improvements in availability and would also limit the need for them to travel further to other large supermarkets.

Human diet and nutrition has long been known to influence health outcomes (White 2007). A range of nutritional deficits, judged by current national recommendations in the UK, are more commonly found among those in lower socioeconomic groups, as well as among the elderly, teenagers, young adults and men. Many factors are known to contribute to dietary behaviour at a household or ‘family’ level, including disposable income; gender; the knowledge and skills of those purchasing, preparing, storing and serving food; influences such as advertising; and practical constraints within the household such as the availability and adequacy of facilities for preparation, cooking, cold and dry storage, and the consumption of food (White 2007).

Although some early studies suggested that ‘healthy’ foods may be more expensive and less available in poorer areas, more recent studies have failed to replicate these findings, showing instead that ‘healthy’ foods tend to be as, if not more, available in poorer areas and are lower in price. In a review of food access and obesity White concluded that research
presented so far does not provide strong evidence that food retailing in isolation affects diet and it is therefore reasonable to conclude that it is also unlikely to have a profound impact on obesity (White 2007).

Figure 5-7 illustrates the relationship between socioeconomic factors and diet which has been identified by research.
Figure 5-7 Hypothesized causal model for relationship between socio-economic factors and dietary intake, mediated by food retailing (White 2007)
5.5.2 Physical activity

Hazardous conditions restrict mobility and opportunities to lead a physically active life through cycling, walking and playing outdoors (WHO, 2004). Stakeholders identified concerns that the development (construction and operation) would have a negative impact on physical activity, particularly during peak match times.

Physical inactivity has been identified as a major risk to health. It is estimated to account for 500,000–1,000,000 deaths per year, corresponding to 5–10% of total deaths in the European Region’ (WHO, 2004). According to Frank et al (Undated), ‘public health research links physical activity to public health. On balance, the literature shows that regular physical activity:

- decreases the risks of cardiovascular disease, colon cancer, and diabetes mellitus;
- maintains muscle strength and joint structure and function;
- is necessary for normal skeletal development during childhood;
- may relieve depression, anxiety, and other mental illnesses;
- along with appropriate dietary patterns, may lower obesity levels.’

Construction Phase

During the construction phase of development a number of factors (identified within the ES and by stakeholders) may increase the public’s perception of hazard and create barriers to physical activity (walking, cycling and play) in locations (predominantly residential) in proximity to the development and associated transport routes, these factors include:

- increased numbers of heavy (construction) vehicles;
- increased traffic levels from workforce vehicles;
- damage and disruption to roads and pavements, in or adjacent to residential areas, creating physical barriers to movement on pavements and an increased perception of risk;
- generally increased levels of fear and intimidation, for example, fear of ‘stranger danger’.

Operational Phase

During the operational phase of development a number of factors (identified within the ES and by stakeholders) may increase the public’s perception of hazard and create barriers to physical activity (walking, cycling and play) in locations (predominantly residential) in proximity to the development and associated transport routes, these factors include:

- increased numbers of heavy (delivery) vehicles;
- increased traffic levels from people accessing the retail and stadium facilities, particularly during match times;
- increased traffic levels from workforce vehicles;
• workers (retail and stadium) parking in or adjacent to residential areas creating physical barriers to movement on pavements and an increased perception of risk;
• football supporters parking in or adjacent to residential areas creating physical barriers to movement on pavements and an increased perception of risk;
• workers and football supporters parking in or adjacent to residential areas leading to conflicts with residents;
• increased difficulty in crossing roads with increased levels of traffic;
• congestion of pavements and associated areas by pedestrians during peak (match) times;
• generally increased levels of fear and intimidation, for example, fear of ‘stranger danger’ and conflicts between residents and football fans.

The operational phase of development may also have a range of (positive) impacts that enable or encourage physical activity. The factors that may promote physical activity include:
• the provision of cycle parking facilities;
• the successful implementation of a sustainable transport plan;
• the sourcing of workers from the local area thereby facilitating walking and cycling as a means of transport to work;
• increased permeability of the development area;
• improvements to pavements and walkways;
• aesthetic improvements to the town centre;
• Improved socio-economic conditions may promote physical activity.

**Differential Impacts**

The distribution of impacts may vary across population groups. The groups or individuals that are more vulnerable to the negative impacts of the development during the construction and operational phases include:
• people with existing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• people at high risk of developing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• children;
• parents with children in pushchairs;
• the elderly;
• the disabled;
• people with mental illnesses including depression and anxiety;
• overweight or obese people;
• people in lower socio-economic groups/low income groups.

The groups that are most likely to benefit from the positive impacts of the development during the operational phase include:
• people with existing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• people at high risk of developing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• children;
• parents with children in pushchairs;
• the elderly;
• the disabled;
• people with mental illnesses including depression and anxiety;
• overweight or obese people;
• people in higher socio-economic groups*.

* the uptake and effects of any interventions to enable or encourage physical activity, for example, the provision of cycling facilities, may vary across different socio-economic groups.
For example, there is research evidence to suggest that those in more affluent groups adopt health promotion messages around healthy lifestyles more readily than their less advantaged counterparts (Gepkens A and Gunning-Schepers L, 1996, cited in Health Scotland, 2007).

5.6 Health services

Evidence from other assessments
There was no assessment carried out on the expected impacts of the development on health services. Within the proposals there are plans to redevelop the current primary care facilities. This may involve the co-location of health with other facilities in one building.

Evidence from literature and stakeholders
Knowsley Primary Care Trust identified the following potential issues arising from the proposed development:
• Pedestrian and vehicle access to current facilities at the existing Health Suite, St Chad’s NHS Walk-in Centre and Southdene Primary Care Resource Centre.
• The demand for Walk-in Centre services at the Kirkby Town Centre Walk-in Centre;
• Ambulance response times;
• The demand for services at Aintree Hospital Emergency Department;
• Patient and Staff Car Parking;
• The relationship between proposed new Primary Care Resource Centre and development.

A number of community stakeholders were concerned that match days could affect access to health services. In particular, there was concern that ambulances would be unable to achieve response time targets. There was also concern that the volume of spectators and traffic may make it difficult to access health services being provided in the town centre. In addition, some stakeholders identified potential impacts caused by increased demand on local health services and local hospitals. Some stakeholders were also concerned that co-locating services in one building could potentially cause problems in terms of physical accessibility since it would not be possible for all services to be on the ground floor.

The Federation of Stadium Communities also identified the ability of the emergency services to access and serve their homes and neighbourhood as a major concern for the local community on match-days. It was reported that spectators’ cars are often parked to a density or in a way that makes many local roads around the stadium impassable by an emergency vehicle. It is recommended that “the formation of a liaison group consisting of the emergency services, the local authority and representatives from the community should be established in neighbourhoods where large numbers of visitors come regularly. Mutually acceptable solutions and an understanding of the residents’ concerns may then be achieved, if not already in existence. A plan to improve things should be put in place and regularly monitored by the group. Every incident of emergency service vehicle call on a match day should be examined and monitored.” (Federation of Stadium Communities 1999).

There is limited research available on the impact of large developments on local health services. Cook et al (1999) found that local accident and emergency departments were not impacted on significantly by the Euro 96 football matches. Chan and Quinn (2003) examined the impact of events at a 20 000 seat capacity arena on emergency services and found that patients resulting from events at the arena rarely resulted in inpatient admissions.

5.7 Access to community/social networks, goods and services

Evidence from other assessments

Construction phase
During the construction phase of development a number of factors (identified within the ES and by stakeholders) may increase the public’s perception of hazard and create barriers to all forms of transportation use in locations (predominantly residential) in proximity to the development and associated transport routes. The factors that may impact on local people’s willingness and ability to access community/social networks and services are summarised below:
• increased numbers of heavy (construction) vehicles;
• increased traffic levels from workforce vehicles;
• damage and disruption to roads and pavements, in or adjacent to residential areas, creating physical barriers to movement on pavements and an increased perception of risk;
• generally increased levels of fear and intimidation, for example, fear of ‘stranger danger’.

Operational Phase
During the construction phase of development a number of factors (identified within the ES and by stakeholders) may increase the public’s perception of hazard and create barriers to all forms of transportation use in locations (predominantly residential) in proximity to the development and associated transport routes. This may limit certain groups from fully participating in the normal range of actives such as visiting friends or relatives and accessing shopping and health care facilities at certain times. The factors that may impact on local people’s willingness and ability to access community/social networks and services are summarised below:
• increased numbers of heavy (delivery) vehicles;
• increased traffic levels from people accessing the retail and stadium facilities, particularly during match times;
• increased traffic levels from workforce vehicles;
• increased difficulty in crossing roads with increased levels of traffic;
• inability of the public transport system to cope with peak demands including match times;
• workers (retail and stadium) parking in or adjacent to residential areas creating physical barriers to movement on pavements and an increased perception of risk;
• football supporters parking in or adjacent to residential areas creating physical barriers to movement on pavements and an increased perception of risk;
• congestion of pavements and associated areas by pedestrians during match times;
• generally increased levels of fear and intimidation, for example, fear of ‘stranger danger’ and conflicts between residents and football fans.

The operational phase of development may also have a range of (positive) impacts on local transportation that may facilitate access to community/social networks and services. These include:
• increased permeability of the development area;
• improvements to pavements and walkways;
• aesthetic improvements to the town centre;
• an increase in the number of shops;
• the provision of cycle parking facilities.
Evidence from literature and stakeholders

As already described in 5.4, Stakeholders identified concerns that the development (construction and operation) would negatively impact on people’s ability to access community/social networks and services, particularly during peak match times. This may increase levels of social isolation and prevent some people from accessing key services at certain times.

According to House (2001) social isolation has been shown repeatedly to prospectively predict mortality and serious morbidity both in general population samples (House, 1988) and in individuals with established morbidity (Berkman 1995; Berkman, 2000), especially coronary heart disease (Brummett, 2001).
5.8 The Stadium

Evidence from other assessments

The Stadium

The proposed stadium will have capacity for 50,000 spectators and shared and private hospitality facilities for corporate guests. Table 5-9 outlines the chain of events on a typical match day at Goodison Park. The new stadium will be able to accommodate approximately 10,000 extra fans.

Table 5-9 Typical match day at Goodison park

<table>
<thead>
<tr>
<th>Ref</th>
<th>Time Period</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>2 hrs 30 mins pre kick-off</td>
<td>Car parks open. Stadium staff arrive and open stadium / reception facilities. Club admin staff start to arrive / Megastore opens. Ancillary Staff arrive (Early Stewards, Box Office, Catering and Cleaning Staff) to prepare Stadium for day. Security stewards and blazer stewards arrive. Catering and hospitality staff / matchday hosts arrive. Corporate staff briefing. Stadium Manager checks stadium structures. Stadium Manager checks items powered by Generators. Corporate clients start to arrive. Head Stewards pre-match meeting. Main Stewards, security staff, police, medical / paramedics, St Johns Ambulance arrive. Onsite briefings for the above occur around the stadium.</td>
</tr>
<tr>
<td>2.</td>
<td>2 hrs 30 mins pre kick-off</td>
<td>Referees and assistants arrive. EFC players start to arrive. Ticket collection points opened. Referee pre-match meeting with police and Safety Officer. Police check around stadium</td>
</tr>
<tr>
<td>3.</td>
<td>1 hr 30 mins pre kick-off</td>
<td>Turnstiles are opened – All public areas opened and manned. PA Systems start, concourses opened, matchday entertainment, ground bars, TV’s switched on, Ladbrokes open. Match day control start the operation. Away team arrive. Fans start to arrive at the ground.</td>
</tr>
<tr>
<td>4.</td>
<td>45 mins pre kick-off</td>
<td>Approximately 12,000 fans in the stadium</td>
</tr>
<tr>
<td>5.</td>
<td>30 mins pre kick-off</td>
<td>Teams enter pitch for pre-match warm up. Approx 18,000 fans in the stadium</td>
</tr>
<tr>
<td>6.</td>
<td>15 mins pre kick-off</td>
<td>Dressing room bell is rung to alert the managers and players. Approx 25,000 fans in the stadium (In last 15 Minutes before Kick approx 1,000 fans per minute enter the stadium)</td>
</tr>
<tr>
<td>7.</td>
<td>Kick-off to final whistle period</td>
<td>Approximately all supporters will have cleared the stadium</td>
</tr>
<tr>
<td>8.</td>
<td>15 mins post final whistle</td>
<td>Stadium public areas checked and secured</td>
</tr>
<tr>
<td>9.</td>
<td>30 mins post final whistle</td>
<td>Match debrief with head stewards and Safety Officers. The last of the corporate supporters start to leave the stadium. Corporate areas of the stadium are check and cleared</td>
</tr>
</tbody>
</table>

There will be specific parking created for the stadium including 2 coach parks (capacity 245) and a decked car park (DPP 2007a). EFC plays an average of 24 home games per season (DPP 2007b). However this could vary depending on the success of the team. The ES also refers to the possibility of the stadium being used to “host other sporting, leisure and cultural events and visitors” (DPP 2007a).

Everton Football Club (EFC) has a charity associated with it called Everton in the Community (EITC). EITC is a registered charity with the aim to “To motivate, educate and inspire by harnessing the power of football and sport, improving the quality of the lives of all within our community, locally and regionally”. Heath and social wellbeing is one of the main
themes the EITC focuses on. The second main theme is the environment which includes determinants of health such as crime, regeneration, citizenship and environment. The ES states that “the new stadium facilities will allow Everton to significantly increase the current work of EITC and related activities, and it is expected that the current number of beneficiaries (100,000 in number) from Kirkby, Knowsley and surrounding areas will be substantially increased” (DPP 2007a). Current proposals for work in the Kirkby/Knowsley area include; healthy bus, school liaison officer, coaching sessions in local schools, mental health football teams, IT/study support centre.

Potential economic and employment impacts of the stadium are discussed in 5.1.

**Evidence from literature and stakeholders**

In a literature review carried out as part of the Economic, Social and Cultural Assessment mixed evidence was found about the impact of Stadia on local communities (DTZ 2007b). Stadia can bring about positive economic impacts however these may not benefit local communities. The review highlighted the need to identify and follow ‘critical success factors’ such as:

- Ensuring regular usage of facilities, for example, through conference rooms and restaurants. An example is given of Hull Community Stadium which has public library, café, IT suite, gym, and public sports facilities.
- Ensuring linkage with surrounding area
- Consider impact on existing local business and facilities and ensure stadium does not displace activity.
- Ensuring local communities have an influence on the development.
- Embed the development in the local community.

**Sports stadia as healthy settings**

Football stadia have been identified as potential “healthy settings” which can serve as a supportive environment for health promotion activities (Haig et al. 2007). A Healthy Stadium can be defined as:

...one which promotes the health of visitors, fans, players, employees and the surrounding community. It is a place where people can go to have a positive healthy experience playing or watching sport (Doonis 2007).

The Healthy Stadia concept is based on partnership working and requires a multi-stakeholder approach which is broken down into three elements:

1. Creating supportive and healthy working and living environments
2. Integrating health promotion into the daily activities of the setting
3. Developing links with other settings and with the wider community (Ratinckx & Crabb 2007).

The EU funded healthy stadia project currently being carried out has identified the following areas as key health related areas that Stadia can influence;
Smoking
Beverages
Food and snacks
Physical activity
Mental health
Green transport and the environment
Community engagement
Partnership working
Corporate social responsibility
Advertising and sponsorship
Health Champions

(Haig, Crabb, Parker, & Ireland 2007)

Stadia and diet
Stadia, such as the proposed new stadium in Kirkby, are often located in less affluent areas. Traditionally a high proportion of fans are working class, middle age men which are groups that are hard to target with healthy lifestyle messages and often have poor access to health care services (Parker 2007). Therefore they are likely to provide a good opportunity to influence health related behaviour of a traditionally hard to reach group.

It has been noted that there is often a disparity between services for players (state of the art training facilities, gyms, healthy catering, and first class medical services) and those for the fans and community. Sports are also often linked with unhealthy products such as fast foods, carbonated drinks, and alcohol (Parker 2007).

A review of literature found only passing reference to sports stadia and food (Ireland 2007). Ireland found in series of focus groups with male and female Everton supporters that the food currently on offer at Goodison was generally perceived to be poor quality and low on choice. Contradictions between “messages concerning healthy eating that their children were receiving at school and the unhealthy culture of fizzy drinks, burgers and hot dogs supplied at Goodison park”. Economic opportunities associated with a more effective catering service offering a wider healthier range of food and drink were identified (Ireland 2007).

Ireland concludes his study with a list of recommendations including:

- A call to public health to engage with stadiums to support them in promoting health.
- Football clubs should demonstrate social responsibility in their food and drink supply including offering a wider choice with healthier options.
- Football clubs should engage with supporters on food and drink options.
- Football clubs should consider responsibility to younger supporters and demonstrate consistency between healthy the lifestyle their players practice and food and drink supplied to supporters.
6 Impact analysis

6.1 Introduction
This section brings together the evidence from all the data collected from different sources and using different methods. It identifies and characterises the potential impacts:

- **Health impacts** – the health determinants affected and the subsequent effect on health outcomes;
- **Direction of change** – health gain (+) or health loss (-);
- **Likelihood of impact** – definite, probable, possible or speculative based on the strength of the evidence and the number of sources;
- **Latency** – when the impact will occur.

The definition of the likelihood of the impacts from the proposals will be mainly in the following qualitative terms. The likelihood of the impact is based on the assessed strength of evidence. For clarity throughout the section the potential impacts are in bold and the likelihood of an impact is underlined.

- **Speculative** = may or may not happen; no direct evidence to support (level V);
- **Possible** = more likely to happen than not; direct evidence but from limited sources (level IV);
- **Probable** = very likely to happen; direct strong evidence from a range of data sources collected using different methods (level II/III);
- **Definite** = will happen; overwhelming, strong evidence from a range of data sources collected using different methods (level I).

Where appropriate the geographical level of impact, e.g., the wards most affected, and/or particular groups that may be affected will described. The analysis will describe the potential impacts on the following prioritised health determinants and their subsequent impact on health outcomes:

- Employment and the economy
- Physical environment
  - Built environment
  - Noise
  - Air quality
  - Light
- Transport
- Community and social capital
- Lifestyle
- Health services
- Access
- Stadium
6.2 Employment and the economy

There is strong evidence of the positive effects of employment on physical and mental health. **Higher levels of employment in a population will probably be associated with lower mortality rates**; however, employment which is low paid, poor quality and insecure will **probably be associated with poor health equivalent to unemployed health scores**.

It is **probable that the proposals will lead to employment opportunities in Kirkby, Knowsley and the North West**; however, it was not possible to analyse the assumptions underpinning these employment forecasts. There is an apparent match between potential jobs and the labour skills profile for Kirkby and Knowsley with 70% of the jobs created requiring GCSE-level qualifications and below and 78% of residents have GCSEs or lower as their highest qualification. Planned local labour schemes to ensure employment opportunities go to residents of Kirkby may lead to a **possible increase in overall employment levels** in Kirkby. There is some evidence (level III) that the phasing of the development and the plans for integrating the existing town centre into the new development may negatively impact on the existing town centre. It is **speculated that the proposals may however lead to the loss of employment** in some existing town centre businesses in particular during early phases of the development where there is no direct connection into the existing town centre.

It is unclear what proportion of the jobs filled by local people will involve a move from unemployment into employment, whether this will involve an increase in household income, what type of jobs are being created and the type of contracts they may have.

It is **possible that a proportion of those jobs created and obtained by unemployed local people will be poor quality, low paid, fixed term and/or part-time**. For those people it is **probable that if their household income is lower than when they were unemployed, there will be negative long term health effects**. It should be noted that there will also be negative health consequences to the whole family in these circumstances.

Some population groups are currently disproportionately affected by labour market inequalities. It is **possible that schemes to specifically target long term unemployed, lone parents, older people and people with low skills could lead to potential health gains in these groups and a reduction in health inequalities**.

There is evidence of economic growth in the UK; however there is also evidence of increasing income inequalities across the UK. Countries with low levels of GDP but with low levels of income inequalities have similar health status to richer countries. In the long term economic growth associated with an increase in per capita income will result in reductions in mortality and other benefits to population health. In the short term health benefits from economic development may lag behind and morbidity and mortality may even worsen with economic upturn. It is **possible that the economic growth attributed to the proposals will result in improved health outcomes for Kirkby and Knowsley**. It is also **probable that the health gains will be experienced by those with increased per capita income**.
6.3 Physical environment

6.3.1 Built Environment

Urban design
There is strong evidence (level II) of the associations between urban design and physical activity/active travel. There is strong evidence (level I) that reduced physical activity has a range of negative impacts on health and wellbeing. It is probable that the proposed development will create barriers to physical activity/physically active transport. This will be a particular problem during match times. This will probably have negative impacts on health and wellbeing (see Physical Activity Section). It is speculated that some aspects of the urban design (e.g. the creation of new pathways) may promote physical activity.

Crime and the fear of crime definitely (level I) negatively impact upon health and wellbeing. There is strong evidence of the associations between urban design and crime/fear of crime. Evidence suggests that it is possible some elements of urban design (including access and use after dark) could impact on crime and fear of crime. This will probably have negative impacts on health and wellbeing. The groups that are most likely to be affected by negative impacts are:

- Older people, women and people with mental illness appear to suffer disproportionately from fear of crime;
- Young men, in contrast, have a high-risk rate and a lower fear.

There is evidence that the urban design of the proposed development will create conflicts between pedestrians and road traffic in certain locations thereby reducing safety. This will possibly increase Road Traffic Accidents (RTA) and associated casualty rates. This would result in probable impacts on physical and mental health. The groups that are most likely to be affected by negative impacts are:

- children;
- elderly;
- pedestrians, cyclist and motor cyclists;
- low income groups
- tourists.

There is some evidence (Urban Design Assessment) that the urban design of the proposed development will not enhance civic pride/identity. We can speculate that this is a lost opportunity to positively impact on health and wellbeing (See community and social capital section).

There is strong evidence that reduced access to social and community networks/services has negative health impacts. It is possible that the urban design of the proposed development will create barriers (e.g. conflicts between pedestrian and vehicle movement) to access to social and community networks/services at certain times.
This will **possibly have negative impacts on health and wellbeing**. The groups that are most likely to be affected by negative impacts are:
- people with existing chronic medical conditions;
- people with disabilities;
- the elderly;
- people with mental health problems including depression and anxiety;

**Green space**

There is evidence that the loss of green space (level III) will have a negative impact on physical activity. There is strong evidence that reduced physical activity has a range of negative impacts on health and wellbeing. The loss of green space will **probably has a negative impact on physical and mental health and wellbeing**. The groups that are most likely to be affected by negative impacts are:
- current and potential future users of the existing green space (e.g. people engaged in formal and informal sports, pedestrians and recreational walkers/dog walkers);
- people with existing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
- people at high risk of developing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
- children;
- people with mental illnesses including depression and anxiety;
- overweight or obese people;
- people in lower socio-economic groups/low income groups.

(see physical activity section)

There is evidence that the loss of ‘green linkages’ will reduce access to social and community networks and services during construction. This will **possibly result in negative impacts to health and wellbeing**. The groups that are most likely to be affected by negative impacts are:
- people with existing chronic medical conditions;
- people with disabilities;
- the elderly;
- people with mental illnesses including depression and anxiety;

There is evidence that the availability of green space has a relationship to perceived health. Stakeholders identified the green space as being a key element of civic identity in Kirkby. The loss of Green Space was identified as a negative impact of the development and was causing concern in many stakeholders. It is **possible that the loss of green space resulting from the development proposal will cause a reduction in levels of perceived health for residents living close to the development**. It is **speculated that the potential**
loss of green space is causing and will continue to cause stress and anxiety in some members of the local community and negatively impact on civic pride.

6.3.2 Noise

There is strong evidence that exposure to high noise levels (above 55 dB (A)) definitely negatively impacts health. In particular noise causes sleep disturbance, annoyance, cardiovascular and learning problems.

There is strong evidence that noise impacts on:
- Foetuses, infants and young children
- People with decreased personal abilities (old, ill or living with mental illness)
- People dealing with complex cognitive tasks (e.g., school children)
- People who are blind or have hearing impairment

It is probable that noise levels will increase with the development compared to the current situation during construction, operation and match days.

Population exposure levels are unknown so it is not possible to assess the scale of health impacts.

Assuming that the noise predictions in the ES are accurate, overall changes in noise levels resulting from construction level traffic will be minimal. However the construction itself will probably cause some noise levels above World Health Organisation (WHO) guideline levels.

The scale of operational level impacts is also unclear. There will be a probable increase in noise levels. In some circumstances this will be above WHO guideline levels. Noise will be caused by; traffic to and from the development including delivery vehicles, sport pitches, car park and plant. Residents close to Bewley Road, in particular, and those closest to the site access are likely to experience the greatest change due to traffic. Deliveries to the service yard and events at the stadium could potentially cause sleep disturbance to people living close to these locations. Match days will result in probable increases in noise levels. This will result in temporary exposures above WHO guideline levels for people living close to the stadium, parking and access routes.

Alongside residential areas, there are 2 primary schools, a community college and a residential care home that may be affected by noise. These sites are likely to contain people who are particularly vulnerable to negative health impacts resulting from exposure to increased levels of noise during construction and operational phases.

There is evidence of a possible negative impact on health. In particular, there are possibly negative impacts on:
- Annoyance
- Sleep disturbance
- Cardiovascular health
- Children’s learning
6.3.3 Air quality
There is strong evidence that air pollution definitely negatively impacts on health. In particular there is strong evidence that air pollution particularly impacts on:

- children,
- older people,
- people with low socio-economic/education status, and
- people with already existing conditions (respiratory, cardiovascular)

The traffic related to the development will be the main cause of changes in air quality. In addition the developments will cause construction dust, and pollutants emitted from the operation of energy plant.

From the air quality assessment it is not possible to identify the scale of changes in air quality or exposure levels in the local population. The proposals will cause a probable increase in air pollution when compared to current situation. It is possible that this will lead to negative impact on health.

Alongside local residents, schools and the residential care home may be particularly affected by changes in air quality. St. Joseph’s primary school was identified in the ES as potentially experiencing increases in NO₂ levels. Kirkby has also relatively high levels of respiratory/cardiovascular disease. These people are particularly vulnerable to negative health impacts resulting from air pollution.

6.3.4 Light
It is speculated that lighting could cause annoyance and sleep disturbance in residents living proximal to the development.

6.4 Transport
6.4.1 Injuries from Road Traffic Accidents
There is strong evidence that the development will result in increases in traffic during the construction and operational phases. There is not however a straightforward association between increases in traffic and RTAs and the numbers of casualties (KSI or Slight), particularly in Knowsley which is the best performing authority in Merseyside in terms of reducing road casualties.

It is definite that the development will result in increases in traffic during the construction phase and large increases in traffic during the operational phase with particularly large increases during peak match times. It is possible that the number of RTAs will increase. It is speculated that increases in road casualties may result from increases in traffic. However, this is dependent on the success of mitigation measures designed to reduce road casualties and the severity of casualties.

The impacts on health go beyond risk of injury, particularly for children. Perceived traffic danger may lead parents to stopping children playing in the street and walking or cycling to school with subsequent impacts on activity. Patterns of physical activity established in childhood are key determinants of adult behaviour. It is probable that increased levels of traffic will act as a barrier to physical activity.
There is evidence that children, elderly people, pedestrians, cyclists, motorcyclists, workers, tourists and people in lower socio-economic groups suffer disproportionately negative health impacts of road traffic accidents. It is probable that accidents that do occur will be overrepresented by people from these groups.

6.4.2 Pollution (air and noise)
See physical environment section

6.4.3 Access to Community/Social Networks and Services
See community and social capital section

6.5 Community and Social capital
There is strong evidence that inclusion, participation, enhanced feelings of control, strong individual and community networks act as protective factors against ill health as well as supporting mental wellbeing. It is probable that a population with high levels of these positive health factors will have relatively better mental and physical health outcomes and will have a level of protection against poor mental and physical health.

It is probable that current methods of communication and engagement with the local community concerning the development are causing stress, anxiety, distrust and feelings of lack of control in some local residents. For example, stakeholders reported some inappropriate forms of communication/engagement carried out by the potential developers (soliciting signatures at Aintree Hospital, information leaflets posted to local residents containing misleading information). It is speculated that this may cause longer term mistrust in all organisations involved.

There is some evidence that the perception of public health risk is amplified when there is a lack of trust in institutions or involvement in decision-making. For example, it is possible that feelings of low control, low involvement in decision-making will heighten the perceptions of public health risk from potential pollution from the development. It is possible that the potential public health risks pertaining to the existing burden of pollution (e.g. Sonae, Waste Site) and perceived corresponding relationship with high levels of cancer and respiratory conditions (especially asthma) may result in increased levels of stress and anxiety about the potential health risk from the development.

Some increased employment associated with the development will probably facilitate positive mental health associated with new positive social networks for those moving from unemployment into employment. It is probable that people with low skills will benefit most from these employment opportunities.

Stakeholders reported high levels of community pride and sense of community. Stakeholders identified the current town centre and existing green space as key elements of this. It is possible that the proposals will have a detrimental effect on community pride and local identity.
It is possible that forced relocation of residential housing will negatively impact on existing social networks and cause stress and anxiety for those residents. It is possible that the development will negatively impact on the privacy and safety of existing residents (in particular Whinberry Drive, Bewley Drive and Tithe Barn Lane).

There is some evidence (level III) that it is possible that the development may negatively impact on privacy and safety of residents proximal to the development.

6.6 Lifestyle

6.6.1 Diet
There is strong evidence that diet impacts on health. There some evidence that food retail access by itself does not have a profound effect on dietary consumption in the UK. Kirkby town centre already supplies access to affordable healthy foods such as fruits and vegetables. The proposals would probably increase the range and availability of healthy foods however this will have a marginal impact on health.

6.6.2 Physical Activity
There is evidence that an increase in hazardous conditions, or a perception of increased hazardous conditions, restrict physical activity. There is strong evidence that reduced physical activity has a range of negative impacts on health and wellbeing.

It is possible that the construction period of development may increase the public’s perception of hazard and create barriers to physical activity (walking, cycling and play) in locations (predominantly residential) in proximity to the development and associated transport routes. There is a possible negative impact on health.

It is possible that the operational period of development may increase the public’s perception of hazard and create barriers to physical activity (walking, cycling and play) in locations (predominantly residential) in proximity to the development and associated transport routes particularly during peak match times. There is a lack of clarity over accessibility and the extent of public realm through the scheme and the stadium. Large areas of public space may be privatised as a result of the development. It is possible that the development will create barriers to pedestrian and cycle movement. There is a possible negative impact on health.

It is speculated that the operational period of development may also have a range of positive impacts that facilitate or encourage physical activity. However, the scale of impacts is unclear and the realisation of positive impacts is in part reliant on the successful design, implementation and monitoring of interventions to promote physical activity. It is speculated that this may have a positive impact on health.

There is evidence that the distribution of impacts (positive and negative) may vary across population groups. The groups or individuals that are more vulnerable to the negative impacts of the development during the construction and operational phases include:

- current and potential future users of the existing green space (e.g. people engaged in formal and informal sports, pedestrians and recreational walkers/dog walkers);
• people with existing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• people at high risk of developing chronic conditions including cardiovascular disease, diabetes mellitus and brittle bone disease;
• children;
• parents with children in pushchairs;
• the elderly;
• the disabled;
• people with mental illnesses including depression and anxiety;
• overweight or obese people;
• people in lower socio-economic groups/low income groups.

6.7 Health services

There is some evidence (level IV) that construction, operation and in particular match days could negatively impact on ambulance response times.

KPCT has identified ‘a number of significant operational concerns’ relating to the impact of the development on access to and provision of health services:

• Pedestrian and vehicle access to current facilities at the existing Health Suite, St Chad’s NHS Walk-in Centre and Southdene Primary Care Resource Centre.
• The demand for Walk-in Centre services at the Kirkby Town Centre Walk-in Centre;
• Ambulance response times;
• The demand for services at Aintree Hospital Emergency Department;
• Patient and Staff Car Parking;
• The relationship between proposed new Primary Care Resource Centre and development.

6.8 Access to Community/Social Networks, goods and services

The ability of people to access health, social, retail and other services is an important determinant of health. Stakeholders have identified concerns that the proposed development may reduce the ability of local people to access key services, including shops, health and community services at certain times, particularly during peak match times.

There is some evidence that the development (construction and operation) would negatively impact on local residents’ ability to access community/social networks and services, particularly during peak match times. It is possible that this may increase levels of social isolation and prevent people from accessing key services at particular times.
There is speculative evidence that elements of the operational phase of development may also facilitate access to community/social networks and services which would positively impact on health. It is probable that the potential co-location of council (including library) and PCT services in one building could affect accessibility of those services. If services are shifted outside of the town centre (for example, services in council rented properties on Cherryfield Drive) this may reduce access to these services. It is speculated that this would have a corresponding negative impact on health. It is probable that this would particularly impact on already disadvantaged groups.

6.9 The Stadium

The sports stadium presents a unique opportunity to promote health and well being in Kirkby and the wider area. Sports stadia can act as healthy settings providing a supportive environment for health promotion activities. If EFC became a ‘healthy stadium’ it is probable that this would impact positively on health. In particular it could:

- Create a supportive and healthy working and living environment
- Integrate health promotion into the daily activities of the stadium
- Develop links with other health settings and with the wider community to promote health

Sports stadiums provide food directly but also influence the supply of food in the surrounding area. It is possible that without mitigation measures the sports stadium may increase availability of alcohol and unhealthy food. It is speculated that this could impact negatively on alcohol misuse and unhealthy eating patterns.

The stadium will also result in:

- Increase in employment opportunities for people in Kirkby, Knowsley and the North West associated with the Stadium development will lead to potential health gains (probable)
- A proportion of jobs at the Stadium (up to 400) will be filled by local people (probable)
- Increase in economic growth attributed to the Stadium will result in improved health outcomes for the region (possible)
- Match days will cause temporary exposure to noise levels above WHO guidelines for people living close to the stadium, parking and access routes (possible)
- Match day increases in noise may impact negatively on health (speculative)
- Match days will cause temporary increase in air pollution (probable)
- Match day increases in air pollution may negatively impact on health (speculative)
- Match days will cause a significant increase in traffic levels resulting in an increase in RTA (possible)
- The stadium may positively impact on community pride and identity (speculative)
• Match days will impact on local health services;
  o Increased demand for walk in services (possible)
  o Increased demand for Aintree Hospital Emergency Department (possible)
  o Pedestrian and vehicle access to local health services (possible)
  o Ambulance response times (possible)

• Match days may impact on local residents ability to access community/ social networks and services (possible)
<table>
<thead>
<tr>
<th>Health Impact</th>
<th>Direction</th>
<th>Likelihood</th>
<th>Timing: Construction/Operation, Latency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employment &amp; economy</strong></td>
<td></td>
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<tr>
<td>• Increases in employment opportunities for people in Kirkby, Knowsley and the North West associated with the development will lead to potential health gains</td>
<td>+</td>
<td>Probable</td>
<td>C/O Medium/long</td>
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<tr>
<td>• A proportion of jobs at Tesco Supermarket (50%, up to 400 jobs) will be given to local current long-term unemployed in the local area which may led to potential health gains for them and their family</td>
<td>+</td>
<td>Probable</td>
<td>O Medium/long</td>
</tr>
<tr>
<td>• Some loss of employment within existing town centre businesses</td>
<td>-</td>
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<td>O Medium/long</td>
</tr>
<tr>
<td>• A proportion of jobs may be low paid or poor quality jobs which may lead to poor health (equivalent to unemployment)</td>
<td>-</td>
<td>Possible</td>
<td>O Medium/long</td>
</tr>
<tr>
<td>• Some of these jobs (in particular construction jobs) may also be filled by people from outside Knowsley;</td>
<td>-</td>
<td>Speculated</td>
<td>O/C Short</td>
</tr>
<tr>
<td>• Schemes to specifically target long-term unemployed, lone parents, older people and people with low skills may lead to potential health gains and a reduction in health inequalities;</td>
<td>+</td>
<td>Possible</td>
<td>O Medium/long</td>
</tr>
<tr>
<td>• Increase in economic growth attributed to the proposals may result in improved health outcomes for the region;</td>
<td>+</td>
<td>Possible</td>
<td>C/O Long</td>
</tr>
<tr>
<td>• Health gains may be experienced by those with increased per capita income;</td>
<td>+</td>
<td>Probable</td>
<td>C/O Medium/long</td>
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<tr>
<td><strong>Built environment</strong></td>
<td></td>
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<tr>
<td>Aspect</td>
<td>Probability</td>
<td>Impact Time</td>
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<tr>
<td>Some aspects of urban design may create barriers to physical activity</td>
<td>Probable</td>
<td>Short</td>
<td></td>
</tr>
<tr>
<td>Some aspects of urban design may promote physical activity</td>
<td>Speculative</td>
<td>Short/medium</td>
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<tr>
<td>Some aspects of the design including usage after dark may impact on crime and fear of crime</td>
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<tr>
<td>The design may create conflicts between pedestrians and traffic in certain locations increasing risk of road traffic accidents</td>
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</tr>
<tr>
<td>The urban design of the development may not enhance civic pride/identity</td>
<td>Speculative</td>
<td>Medium/ long</td>
<td></td>
</tr>
<tr>
<td>The urban design of the development may affect access to social and community networks and services</td>
<td>Possible</td>
<td>Medium/ long</td>
<td></td>
</tr>
<tr>
<td>The loss of green space could reduce levels of physical activity in current and potential future users</td>
<td>Probable</td>
<td>C/O Short</td>
<td></td>
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<tr>
<td>The loss of green linkages may reduce access to social and community networks and services during construction</td>
<td>Possible</td>
<td>C Short</td>
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<tr>
<td>Loss of green space may lead to reduction in levels of perceived health status in residents close to the development</td>
<td>Possible</td>
<td>Medium/long</td>
<td></td>
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<tr>
<td>Loss of green space is causing and will continue to cause stress and anxiety in some members of the local community and negatively impact on civic pride</td>
<td>Speculative</td>
<td>C/O Short/medium</td>
<td></td>
</tr>
</tbody>
</table>

**Noise**

Increased noise levels may impact on:
- Annoyance
- Sleep disturbance
- Children’s learning
- Probable
- Possible
- C/O
- Short
- Medium/long
### Cardiovascular health

- There will be an increase in noise levels during:
  - Construction
  - Operation
  - Match day

- Construction will cause exposure to noise levels above WHO guidelines in residents and other people in proximity to the site leading to negative impacts on health

- Operation will cause exposure to noise levels above WHO guidelines in residents and other people in proximity to the site leading to negative impacts on health

- Match days will cause temporary exposure to noise levels above WHO guidelines for people living close to the stadium, parking and access routes

### Air quality

- The development will cause an increase in air pollution

- Increases in air pollution may lead to negative impacts on health

### Light

- Lighting may cause annoyance and sleep disturbance in residents living proximal to the development

### Transport

- Road traffic will increase with the development;
- An increase in the number of RTAs may result from increases in the volume of traffic and may lead to an increase in casualties;  
- RTAs will disproportionately impact on children, elderly people, pedestrians, cyclists, motorcyclists, workers, tourists and people in lower socio-economic groups;  
- Increases in traffic may act as a barrier to physical activity;  

**Community and social capital**  
- Current issues around communication with and engagement of the local community is causing stress, anxiety, distrust and feelings of lack of control in some local residents;  
- Perceptions of low control and low involvement in decision making about the development may heighten perceptions of public health risk from potential pollution;  
- Existing concern in the community about current sources of pollution and health risks may also heighten perceptions of public health risk from potential pollution;  
- Increased employment associated with the development may lead to positive mental health outcomes linked to the creation of new social networks for those moving from unemployment into employment;  
- The loss of green space and potential detrimental effects on existing town centre may negatively impact on community pride and identity;  
- Forced relocation of residential housing may negatively impact on existing
<table>
<thead>
<tr>
<th>Social Networks and Cause Stress and Anxiety.</th>
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</thead>
<tbody>
<tr>
<td>• The development may negatively impact on privacy and safety of residents proximal to the development</td>
</tr>
</tbody>
</table>

**Lifestyle – Diet and Physical Activity**

| • There may be an increase in the range and availability of healthy foods, this will have a marginal impact on health | + | Probable | O |
| • The construction period may increase perceptions of hazards creating barriers to physical activity | - | Possible | C Short |
| • The operational period may increase perceptions of hazards and create barriers to physical activity (in residential areas, those adjacent to transport routes and within the development). | - | Possible | O Short/medium |
| • Interventions to promote physical activity as part of the development may increase physical activity levels | + | Speculative | O Medium/long |

**Health Services**

| • Construction and operation may negatively impact on ambulance response times | - | Speculated | C/O Short |
| • Match days may negatively impact on ambulance response times | - | Possible | O Short |
| • Construction may hinder access to existing health facilities | - | Speculative | C Short |
| • Operation and match days may increase demand for walk in services | + - | Possible | O Short |
| • Match days may increase demand for Aintree Hospital Emergency Department | - | Speculative | O Short |
### The development may affect availability of patient and staff parking
- Speculative
  - C/O
  - Short

### How the planned new primary care centre is integrated into the development may impact on provision of services
- Possible
  - O
  - Short/medium

### Access
- Construction may impact on local residents ability to access community/social networks and services
  - Possible
  - C
  - Short

### Operation may impact on local residents ability to access community/social networks and services
- Possible
  - O
  - Short/medium

### Co-locating council and PCT services may impact on accessibility of these services
- Possible
  - O
  - Short/medium

### Shifting services out of the town centre may affect the accessibility of these services
- Possible
  - C/O
  - Short

### Shifting services out of the town centre may particularly affect the already disadvantaged groups increasing health inequalities
- Possible
  - C/O
  - Medium/long

### Stadium
- Increases in employment opportunities for people in Kirkby, Knowsley and the North West associated with the Stadium development may lead to potential health gains
  - Probable
  - C/O
  - Medium/long

### A proportion of jobs at the Stadium (up to 400) will be filled by local people
- Probable
  - O
  - Short

### Increase in economic growth attributed to the Stadium may result in improved health outcomes for the region
- Possible
  - O
  - Long

### Match days will cause temporary exposure to noise levels above WHO
- Possible
  - O
<table>
<thead>
<tr>
<th>guidelines for people living close to the stadium, parking and access routes</th>
<th></th>
<th>Short</th>
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</thead>
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<tr>
<td>• Match day increases in noise may impact negatively on health</td>
<td>-</td>
<td>Speculative O Short/medium/long</td>
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<td>Possible O Short</td>
</tr>
<tr>
<td>• The stadium may positively impact on community pride and identity</td>
<td>+</td>
<td>Speculative O Medium/long</td>
</tr>
<tr>
<td>• If EFC joins the Healthy Stadia network this may impact on the health of employees, fans and the local community</td>
<td>+</td>
<td>Probable O Medium/long</td>
</tr>
<tr>
<td>• The stadium may increase availability of alcohol and unhealthy food which may negatively impact on alcohol consumption and diet of fans and local community</td>
<td>-</td>
<td>Possible O Medium/long</td>
</tr>
<tr>
<td>• Match days will impact on local health services:</td>
<td></td>
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<td>o Increased demand for walk in services</td>
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<td>o Pedestrian and vehicle access to local health services</td>
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</table>
7 Conclusion and recommendations

Overall this development could result in a number of positive health impacts, however, the design as it stands does not maximise the positives and may potentially result in some negative health impacts. It is recommended that the design of the proposals should be reviewed and amended to address the identified potential health impacts.

7.1 Approach

Ensure the development is consistent with the PCT and KMBC priorities of creating and supporting a health promoting environment.

When looking at the potential impacts on health it is important to consider the scope of the impacts. For example, overall economic improvements are likely to occur beyond the boundaries of Kirkby. Without schemes such as local labour area agreements benefits through employment will not be maximised in Kirkby. Negative impacts such as noise and increased traffic will, however, occur primarily in those communities close to the development and it is important that these communities are specifically targeted when implementing recommendations.

The approach taken to the development should address the main factors that promote and protect mental wellbeing:

- Enhancing control
- Increasing resilience & community assets
- Facilitating participation
- Promoting social inclusion

As a large development whose activities impact on the health and quality of life of local residents, Tesco and Everton Football Club (EFC) should foster positive community relations and actively support communities.

Employment/Economy

As a major employer, landlord and commissioner, Tesco and EFC have a role to actively promote good working and procurement practices, including developing high quality jobs and local employment. As a community ambassador and good neighbour, Tesco and EFC have a role to actively support local communities and maximise their employment potential, including skills and entrepreneurial developments.

Physical Environment

Ensure the development does not create an additional environmental burden on the residents of Kirkby.

Built environment

The development presents an opportunity to promote physical activity and access within the town centre through high quality urban design. The design of the development should
enable and promote physical activity. This design should be sensitive to the characteristics of the site and surrounding areas.

**Noise**

It is recommended that the approach taken to manage and reduce noise emission and exposure should focus in the following order on:

1. avoiding or reducing noise at its source (“noise which is not generated cannot lead to noise exposure”).
2. reducing noise in its propagation (measures as close to the source as possible should be preferred, because such measures protect the highest number of people).
3. reducing noise at the receiver (these measures should only be used, if other measures are not sufficiently efficient and effective).

(CALM II Network 2007)

Take an integrated approach to noise emissions. For example, noise mapping and action plans for the development, local authorities, highways agency and railway companies should be considered together.

**Air quality**

There is strong evidence that air quality impacts on health significantly. As a contributor to air pollution in the area, the developers should reduce their impact as much as possible. In particular Tesco and their partners should continue to investigate ways of minimising air pollution from the different sources including; delivery vehicles, road traffic to and from the development, other activities such as the power raising plant.

**Transport**

The size, nature and location of the proposed development adjacent to the existing town centre in Kirkby will have significant and long-term impacts on transport in Kirkby. A wide range of effects on health determinants and subsequent health impacts have been identified.

The promotion of physically active transport, with the aim of creating an area that is dominated by the movement of people as opposed to cars, will address many of the health impacts arising from the proposed development. The developer should, in partnership with relevant bodies from the community, Local and County Authorities and Merseytravel, actively seek to facilitate and encourage physically active transport (walking and cycling).

**Social capital**

As a large institution whose activities impact on the health and quality of life of local residents, Tesco and EFC have a role as a good neighbour to foster positive community relations and to actively support communities.

**Health inequalities**

Tesco and EFC must ensure their actions do not increase health inequalities and work towards reducing existing inequalities in the communities impacted on by the development. This should involve evidence based appraisal of how the developments activities impact on inequalities.
### 7.2 Specific recommendations

<table>
<thead>
<tr>
<th>Health Impact</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employment &amp; economy</strong></td>
<td></td>
</tr>
<tr>
<td>• Increases in employment opportunities for people in Kirkby, Knowsley and the North West associated with the development may lead to potential health gains</td>
<td>1. Include the requirement for Local Labour Agreements</td>
</tr>
<tr>
<td></td>
<td>a. Fixed minimum % for construction and operation</td>
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<tr>
<td></td>
<td>2. Provide and promote interventions in local schools, colleges and training providers to promote the development of skills and innovation linked to potential employment opportunities</td>
</tr>
<tr>
<td>• A proportion of jobs at Tesco Supermarket (50%, up to 400 jobs) will be given to local current long-term unemployed in the local area which may lead to potential health gains for them and their family</td>
<td>3. Define targeted areas and groups, e.g., the unemployed and those on Employment Support Allowance, those less able to take up the employment opportunities from the development;</td>
</tr>
<tr>
<td></td>
<td>4. Promote and provide targeted support and interventions for these identified groups so that they are more able to benefit from employment opportunities throughout the development;</td>
</tr>
<tr>
<td></td>
<td>• It is important that these schemes are applied throughout the development to maximise potential health gains;</td>
</tr>
<tr>
<td>• Some loss of employment in existing town centre businesses</td>
<td>5. Follow the recommendations of KMBC Urban Design Review in regards to integration of existing town centre to ensure that local business are not negatively impacted on;</td>
</tr>
<tr>
<td></td>
<td>6. Ensure that regeneration of existing town centre does not lag behind development south of Cherryfield Drive;</td>
</tr>
<tr>
<td>• A proportion of jobs may be low paid or poor quality jobs which may lead to poor health (equivalent to unemployment)</td>
<td>7. Develop strategies to promote ‘job quality’ across occupations in the development</td>
</tr>
<tr>
<td></td>
<td>8. Audit and monitor the relative high/low quality jobs associated with the development</td>
</tr>
<tr>
<td></td>
<td>9. Include the requirement for best practice standards for construction worker health and safety, e.g., IOSH ‘Global Best Practice in Contractor Safety’, HSE</td>
</tr>
</tbody>
</table>
‘Working Well Together’, in the constructors’ tender specification and contracts for the proposals including the Code of Construction Practice. This should also incorporate a Green Construction Code.

- Some of these jobs (in particular construction jobs) will also be filled by people from outside Knowsley
  
  See recommendation 1

- Schemes to specifically target long-term unemployed, lone parents, older people and people with low skills could lead to potential health gains and a reduction in health inequalities
  
  See recommendation 3 & 4

- Increase in economic growth attributed to the proposals will result in improved health outcomes for the region

- Health gains will be experienced by those with increased per capita income

**Built environment**

- Some aspects of urban design may create barriers to physical activity
- Some aspects of the urban design of the development may promote physical activity
- Some aspects of the design including usage after dark could impact on

10. Consider the findings of the Urban Design Review (KMBC, 2008) in conjunction with the formal response of the Commission for Architecture and the Built Environment (CABE, 13th March 2008) and develop and implement actions to address the key design deficiencies identified. In particular consider:

- Conflicts between pedestrians, cyclists and motorists
- Traffic calming measures (including speed restrictions, road design and widths, signage and
<table>
<thead>
<tr>
<th>crime and fear of crime</th>
<th>sleeping policemen</th>
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</thead>
<tbody>
<tr>
<td>• The design may create conflicts between pedestrians and traffic in certain locations leading to road traffic accidents</td>
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<tr>
<td>• The urban design of the development may not enhance civic pride/identity</td>
<td></td>
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<tr>
<td>• The urban design of the development may affect access to social and community networks and services</td>
<td></td>
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<tr>
<td>• Linkages to public transport, for example through onsite links, onsite information/signage, shops offering change for PT users</td>
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<tr>
<td>• Public transport access to the site including hopper bus</td>
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<tr>
<td>• Pedestrian movement within the site and connectivity to surrounding areas</td>
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</tr>
<tr>
<td>• Capacity of public transport, local pavements/walkways and pedestrian crossing to cope with peak demands during match times</td>
<td></td>
</tr>
<tr>
<td>• Design of walkways through parking areas, including capacity to cope with peak demands from retail units and the football stadium, aesthetic quality, lighting, soft (green) landscaping, rest areas and issues of long-term maintenance</td>
<td></td>
</tr>
<tr>
<td>• Aesthetic quality of the development</td>
<td></td>
</tr>
<tr>
<td>• Access to and utilisation of the site during evenings and weekends, including the potential issues presented by private ownership</td>
<td></td>
</tr>
<tr>
<td>• Crime prevention and fear of crime</td>
<td></td>
</tr>
</tbody>
</table>

11. To ensure best practice for inclusive design the Merseyside Code of Practice on Access & Mobility should be followed (http://www.accesscode.info/) to ensure that public rights of way and off-street footpaths are designed to be accessible to disabled people.
- The loss of green space could reduce levels of physical activity in current and potential future users
- The loss of green linkages may reduce access to social and community networks and services during construction
- Loss of green space may lead to reduction in levels of perceived health status in residents close to the development

12. Incorporate additional areas of soft (green) landscaping into the development
13. Create a partnership (e.g. EFC, Tesco, community groups, BSF) to create and maintain green space
   - Involve the community in the identification of replacement green space
14. Consider findings of Green Space Assessment (KMBC) and the response to development control when available

<table>
<thead>
<tr>
<th>Noise and Air quality</th>
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</thead>
<tbody>
<tr>
<td>Increased noise levels impact on:</td>
</tr>
<tr>
<td>- Annoyance</td>
</tr>
<tr>
<td>- Sleep disturbance</td>
</tr>
<tr>
<td>- Children’s learning</td>
</tr>
<tr>
<td>- Cardiovascular health</td>
</tr>
<tr>
<td>- There will be an increase in noise levels during;</td>
</tr>
<tr>
<td>- Construction</td>
</tr>
<tr>
<td>- Operation</td>
</tr>
<tr>
<td>- Match day</td>
</tr>
<tr>
<td>- Construction will cause exposure to noise levels above WHO guidelines in residents and other people in proximity to the site leading to negative impacts on health</td>
</tr>
<tr>
<td>- Operation will cause exposure to noise levels above WHO guidelines in residents and other people</td>
</tr>
</tbody>
</table>

15. Provide information about the levels of exposure (dose and number exposed) for air quality measures and noise
16. Select night and day delivery in specified time slots with regards to reducing health impacts
17. Monitor and fine deliveries outside of time slots with money going to the community fund
<table>
<thead>
<tr>
<th><strong>Light</strong></th>
<th><strong>Transport</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lighting may cause annoyance and sleep disturbance in residents living proximal to the development</td>
<td>• Road traffic will increase with the development</td>
</tr>
<tr>
<td></td>
<td>• An increase in the number of RTAs may result from increases in the volume of traffic and may lead to an increase in casualties</td>
</tr>
<tr>
<td></td>
<td>• RTA will disproportionately impact on children, elderly people, pedestrians, cyclists, motorcyclists, workers, tourists and people in lower socio-economic groups</td>
</tr>
</tbody>
</table>

18. Identify whether light disturbance is a potential problem
   • Mitigate against if necessary

19. Specific measures should be developed, in consultation with affected local people, to address parking issues resulting from the construction and operational phases of development
   • Publicise parking plan
   • Carry out an assessment of park and ride facilities (current and future) focussing on reducing the need for car parking and providing space for green space
   • For all actions, consider the development of indicators to monitor and evaluate the effectiveness of implementation
   • The findings of evaluations should be actively used to amend and improved implementation
| Community and social capital | 20. Set up a Community Trust Fund which would have an annual investment from the developers to invest in projects that directly benefit areas affected by the development.  
- The fund should aim to improve quality of life and reduce health inequalities in the communities affected by the development  
- Investigate linking trust fund to Kirkby Regeneration Forum  
- The structure would involve community representation in determining how the fund is allocated. Trustees should also include nominees of KMBC, KPCT, Tesco, EFC, EITC  
- Coordinate fund activities with EITC programme  
- Establish a Health Forum linked to the Regeneration Forum which receives regular reports on health impact data related to the developments activities  
- Collect data in affected areas on social capital (social support, integration, networks, control beliefs, involvement in decision-making) mental health and perceived health risks and monitor  
- Produce and publicise a review of potential health risks |
impacts (e.g. noise and air quality) so that the public can understand and assess risk for themselves

21. Review formal and informal mechanisms to engage with local residents and communities

- Establish a communication group to coordinate communication related to the development. Membership should include KMBC, KPCT, Tesco, EFC, community representatives and other relevant partners where appropriate (e.g. Merseytravel)
- Develop and implement a coordinated community involvement and communications strategy
- Information about the ‘what’, ‘when’ and ‘how’ of the development of both the detailed proposal and the outline proposal areas (existing town centre) to be provided e.g. newsletter, information on green space, environmental issues, health etc
- Publicise the evidence from the consultation and present in easily understandable format; ideally from an independent group

<table>
<thead>
<tr>
<th>Impact</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased employment associated with the development may facilitate positive mental health linked to new positive social networks for those moving from unemployment into employment</td>
<td>See recommendations 1-9</td>
</tr>
<tr>
<td>The loss of green space and potential detrimental effects on existing town centre may negatively impact on community pride and identity</td>
<td>See recommendation 12-14</td>
</tr>
<tr>
<td>Forced relocation of</td>
<td>22. Define a relocation needs plan including health and</td>
</tr>
</tbody>
</table>
| Residential housing may negatively impact on existing social networks and cause stress and anxiety. | support needs, and duration (before, during, after)  
23. Develop specific packages of support for different population groups, e.g., older people, BME groups, people on low income, young people |
<table>
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<th></th>
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</thead>
<tbody>
<tr>
<td>• The development may negatively impact on privacy and safety of residents proximal to the development</td>
<td>See recommendation 10</td>
</tr>
<tr>
<td><strong>Lifestyle</strong></td>
<td><strong>Lifestyle</strong></td>
</tr>
</tbody>
</table>
| • There may be an increase in the range and availability of healthy foods, this will have a marginal impact on health | 24. KPCT, KMBC, EFC and Tesco investigate options for developing a coordinated approach for promoting health as part of the development. This could include;  
• Promoting the development as a healthy/health promoting development  
• Promoting healthy eating and living  
• Encouraging physical activity  
• Publicising local health services (e.g. screening) |
| • The construction period may increase perceptions of hazards creating barriers to physical activity | 25. Provide residents local to the development and the construction routes with information about the nature and timing of construction activities and provide accurate updates as appropriate  
26. Prevent workers parking in residential areas  
27. Prevent construction and worker vehicles parking on local pavements/walkways and green areas  
28. Monitor and maintain warning signs, lighting and barriers to a high standard to address issues such as vandalism  
29. Develop and implement a complaints procedure and act on complaints from local residents |
<p>| • The operational period may increase perceptions of hazards and create barriers to physical activity (residential areas, transport routes and within) | 30. High quality, inclusive urban design is key to the promotion of physically active transport. The development should be sensitive to the characteristics of the site and surrounding areas. For specific recommendations see Urban Design recommendations |</p>
<table>
<thead>
<tr>
<th>the development</th>
<th>31. Develop home delivery schemes to facilitate/encourage walking and cycling. Ensure this does not exacerbate existing inequalities (i.e. appropriate minimum purchase amount)</th>
</tr>
</thead>
</table>
| **Health services** | 32. Assess the operational concerns identified by KPCT including the capacity of local services to cope with increased demand particularly during peak match times  
33. Ensure that KPCT does not have to divert funds away from other areas to contend with changes in demand resulting from the development  
34. Form a liaison group consisting of the emergency services, the local authority, EFC and representatives from the community  
35. A coordinated strategy to address identified match day issues should be put in place and regularly monitored by the group  
36. Every incident of emergency service vehicle call on a match day should be examined and monitored. |
| **Access** | See recommendation 10-11  
See recommendation 9-11 |
<table>
<thead>
<tr>
<th>access community/ social networks and services</th>
<th>37. Ensure provision of new accommodation for services (e.g. PCT, KMBC, Library etc.) is accessible to all population groups</th>
</tr>
</thead>
</table>
| • Co-locating council and PCT services could impact on accessibility of these services | • Shifting services out of the town centre may affect the accessibility of these services  
• Shifting services out of the town centre may particularly affect the already disadvantaged groups increasing health inequalities |
| • Shifting services out of the town centre may affect the accessibility of these services | 38. Work together with services (e.g. Carers Centre) currently in the town centre to identify accommodation requirements to ensure that they remain accessible  
39. During construction ensure access to services is not compromised |
| **Stadium** | See recommendations 1-9 |
| * Increases in employment opportunities for people in Kirkby, Knowsley and the North West associated with the Stadium development may lead to potential health gains  
* A proportion of jobs at the Stadium (up to 400) may be filled by local people  
* Increase in economic growth attributed to the Stadium will result in improved health outcomes for the region |
- Match days will cause temporary exposure to noise levels above WHO guidelines for people living close to the stadium, parking and access routes
- Match days will cause temporary increase in air pollution

<table>
<thead>
<tr>
<th>• Match days will cause a significant increase in traffic levels resulting in an increased risk of RTAs</th>
<th>See recommendation 15-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. Consider the findings of the Urban Design Review (KMBC, 2008) in conjunction with the formal response of the Commission for Architecture and the Built Environment (CABE, 13th March 2008) and develop and implement actions to address the key design deficiencies identified. In particular consider:</td>
<td></td>
</tr>
<tr>
<td>• Conflicts between pedestrians, cyclists and motorists</td>
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</tr>
<tr>
<td>• Traffic calming measures (including speed restrictions, road design and widths, signage and sleeping policemen)</td>
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<td>• Capacity of local pavements/walkways and pedestrian crossing to cope with peak demands during match times</td>
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<tr>
<td>• Design of walkways through parking areas, including capacity to cope with peak demands</td>
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</tbody>
</table>

- The stadium may positively impact on community pride and identity

<table>
<thead>
<tr>
<th>• The stadium may positively impact on community pride and identity</th>
<th>41. EFC and EITC to provide the HIA steering group with a report on how they are planning on contributing to and supporting Kirkby and Knowsley residents. In particular, provide information on options including:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Use of meeting rooms at the club for local community groups</td>
<td></td>
</tr>
<tr>
<td>b. Discounts for local residents on admission charges for stadium facilities</td>
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<tr>
<td>c. Club sponsorship of community newsletters</td>
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<td>d. Christmas parties for senior citizens etc</td>
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<tr>
<td>e. Providing study support centre</td>
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<tr>
<td>42. Enterprise Agency (for an example see Middlesbrough in the Community)</td>
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</tr>
<tr>
<td>• If EFC joins the Healthy Stadia network this may impact on the health of employees, fans and the local community</td>
<td>43. EFC and EITC have an important role to play as a healthy setting for health promotion in Kirkby. In order to develop this:</td>
</tr>
<tr>
<td></td>
<td>• EFC should become a ‘healthy stadia’ in the EU Healthy Stadia Network.</td>
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<td></td>
<td>• As part of its role as a healthy stadia EFC should consider and adopt where appropriate examples of good practice identified in the EU Healthy Stadia project</td>
</tr>
<tr>
<td></td>
<td>• A healthy stadia group involving EITC, EFC, Healthy Stadia, KPCT, KMBC and other relevant partners should be established. This group would coordinate a partnership approach to health promotion</td>
</tr>
<tr>
<td></td>
<td>• This group could also create and maintain a partnership approach to the provision of recreational and leisure activity in the area including other relevant partners where appropriate (e.g. BSF). This may involve identifying and developing relevant funding streams which would, for example, allow younger players to access sports and other facilities</td>
</tr>
<tr>
<td>• The stadium may increase availability of alcohol and unhealthy food which may</td>
<td>44. EFC should demonstrate corporate responsibility through becoming an example of good practice in the supply of food and drink</td>
</tr>
<tr>
<td></td>
<td>a. This should include a requirement on food suppliers to provide healthy options</td>
</tr>
<tr>
<td>45. As community ambassadors EFC/ EITC should provide role models especially for young men encouraging physical activity and promoting health</td>
<td>46. Take measures to ensure that provision of food and drink in the development does not exacerbate unhealthy eating and drinking behaviour</td>
</tr>
<tr>
<td><strong>Negatively impact on alcohol consumption and diet of fans and the local community</strong></td>
<td><strong>See recommendation 32-36</strong></td>
</tr>
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<tr>
<td><strong>Match days will impact on local health services:</strong></td>
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<tr>
<td></td>
<td>o Increased demand for walk in services</td>
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<td></td>
<td>o Increased demand for Aintree Hospital Emergency Department</td>
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<td></td>
<td>o Pedestrian and vehicle access to local health services</td>
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<td></td>
<td>o Ambulance response times</td>
</tr>
<tr>
<td><strong>Match days may impact on local residents ability to access community/social networks and services</strong></td>
<td><strong>See recommendations 10, 19 and 40</strong></td>
</tr>
<tr>
<td></td>
<td>47. Provide local residents with accurate information about match times. Consider the implications of match times to the provision of public services, e.g. GP appointments</td>
</tr>
</tbody>
</table>

**Monitoring**

|  | 48. Tesco and KMBC must ensure their actions do not increase health inequalities and work towards reducing existing inequalities in the communities impacted on by the development. This should involve evidence based appraisal and monitoring of how the developments activities impact on health using this health impact assessment as a starting point |
References


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Appendix

Analysis of Stakeholder Evidence from Workshops

Introduction

This report provides a summary of the main themes identified by stakeholders during the HIA workshops and focus groups.

The aims of the workshops and focus groups were to identify:

- how the proposals potentially impact on health and wellbeing;
- differential impacts – which population groups may be particularly affected by the proposals;
- recommendations to
  - Maximise potentially positive health impacts
  - Minimise or negate potential negatives.

Health and wellbeing now

Most participants believe that there are relatively high levels of a range of health problems including; respiratory problems such as asthma, cancer, cardiovascular problems, poor dental health, teenage pregnancy, mental health problems and obesity.

There were also a range of factors that affect people’s health identified including; pollution (Sonae, housing construction materials, traffic, waste), low educational attainment, low aspirations, binge drinking, diet, smoking, unemployment, poverty, high levels of single parent families.

There were also positive factors identified including; access to greenspace and informal play areas, strong community spirit, friendly people, trust, stability, good social networks, good access to local schools, access to fresh good quality food from the market, good access for emergency services, access to services (health, council, shopping) within walking distance.

Potential health impacts

A summary of the main health impacts identified from both workshops is presented below;
<table>
<thead>
<tr>
<th>Health determinant</th>
<th>activity</th>
<th>Potential health impacts</th>
<th>Groups affected</th>
<th>Construction/ operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>Community involvement in planning process</td>
<td>Positive: Mental wellbeing Negative: Feelings of lack of control and influence Feeling that residents views are not valued Lack of trust towards KMBC, Tesco and EFC Reputation of Tesco Misleading information (e.g. mail out from Tesco) Lack of information- e.g. limited feedback from summertime consultation, unclear what plans are for current town centre Perception that process is undemocratic in terms of community involvement and also perception that councillors are not representing their community Issue is dividing community Change the experience of living in Kirkby</td>
<td>Residents, existing shop owners and employees</td>
<td>C</td>
</tr>
<tr>
<td>Operational stage</td>
<td>Mental wellbeing Participation and control-If process put in place Change the experience of living in Kirkby Change in perception of Kirkby</td>
<td>Mental wellbeing Participation and control-If process not put in place Aspirations- low quality jobs</td>
<td>Residents, young people</td>
<td>O</td>
</tr>
<tr>
<td>Crime and disorder</td>
<td>Match day Drunk and disorderly Hooliganism Environmental crime- litter, vandalism General crime Crowd control</td>
<td>Improved policing</td>
<td>Mental wellbeing fear of crime stranger danger stress and anxiety Physical health violence</td>
<td>Residents, older people, children and young people</td>
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<td>-------------------------------------------------</td>
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<tr>
<td></td>
<td>Normal operation environmental crime- litter, vandalism ASB Stranger danger General crime.</td>
<td>Improved policing</td>
<td>Mental wellbeing fear of crime stranger danger stress and anxiety social exclusion Physical health violence</td>
<td>Residents, Older people, children and young people</td>
</tr>
<tr>
<td>Construction</td>
<td>Site security May be used for Anti-Social behaviour</td>
<td></td>
<td></td>
<td>Residents, Construction workers</td>
</tr>
<tr>
<td>Greenspace</td>
<td>Loss of greenspace Also linked to potential changes is greenspace through BSF programme</td>
<td>Potential investment/improvements for remaining greenspace</td>
<td>Mental wellbeing Community identity and pride Loss of peaceful/stress reducing environment Physical wellbeing Reduced access to free accessible venue for physical exercise</td>
<td>Residents, people working in town centre, older people, children, families with young children</td>
</tr>
<tr>
<td>Physical environment</td>
<td>Air quality</td>
<td>Less need to travel for local residents - less car use</td>
<td>Increase in pollution from traffic Dust from construction</td>
<td>Residents, People with respiratory problems Residents, older people, people with young families Residents, older people, people with young families</td>
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<tr>
<td></td>
<td>Noise</td>
<td></td>
<td>Sleep disturbance stress sleep disturbance stress</td>
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<td></td>
<td>Light</td>
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<tr>
<td></td>
<td>Landfill</td>
<td>Risk that unknown substances in landfill could cause health problems</td>
<td></td>
<td>Residents, people employed in new development</td>
</tr>
<tr>
<td></td>
<td>Built</td>
<td>eye pleasing construction loss of greenspace construction phase and final design may discourage people from walking</td>
<td></td>
<td>Residents, visitors, school children</td>
</tr>
<tr>
<td>Environment</td>
<td>environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment and economy</td>
<td></td>
<td>Increased employment Improvement to local economy Increase in trade to local shops and businesses Potentially low quality jobs If existing shops negatively impacted on – unemployment. Existing shops include many individual owners that may lose livelihood Hidden costs- parking, council tax, insurance</td>
<td>Unemployed, young people, existing shops, residents</td>
<td></td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td><strong>Shops</strong></td>
<td><strong>Services- e.g. health, council, voluntary</strong></td>
<td></td>
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</tr>
</tbody>
</table>
| **Greater range of shops** | **New health and council facilities** | **Physical access might be restricted/affected during construction**  
Healthy food available all year round  
Community access to stadium facilities  
Good quality supermarket  
Easy access to EFC | **Residents, people with chronic illnesses, elderly, people with disabilities, YWCA, football fans** |
| **Existing shops may close** | | **Difficulty in physically accessing services**  
Current voluntary services around Cherryfield Drive may be moved out of town centre becoming less accessible (CVS, Carers Centre etc)  
Disruption to services during construction phase  
Emergency services may have difficulty accessing patients- 8 minute target | **O/C** |
| **Loss of affordable shops for low income** | | | |
| **Loss of market- fresh and affordable fruit, veg and meat etc** | | | |
| **Stadium may increase availability of unhealthy foods (takeaways) and alcohol** | | | |
| **Residents, people with chronic illnesses, elderly, people with disabilities, YWCA, football fans** | | |
| **Transport/traffic** | **Local schools may be able to increase income through parking charges** | **Increased risk of accidents**<br>In residential areas as well access roads<br>Barrier for local people accessing services<br>Social networks/social exclusion-traffic and parking makes it difficult for friends & family to meet- especially weekend games<br>buses not turning up<br>May also be exacerbated by other developments such as new incinerator<br>Emergency services may have difficulty accessing patients- 8 minute target<br>Increase in noise and air pollution<br>Access to parking | **Residents, Children, families, cyclists, older people, pedestrians, vulnerable places nearby such as primary and secondary school, Drs surgery** | **O/C** |
| --- | --- | --- | --- |
| **Air quality** | **Reduction in air quality**<br>Significant proportion of diesel vehicles (construction, delivery, buses) | **Residents, people with asthma or other respiratory problems** | **O/C** |
Ideas for recommendations
All participants were asked to identify recommendations for maximising the identified positive health impacts and minimising or negating the negatives. Some participants were reluctant to do this because they felt that by making recommendations they were somehow accepting that the proposals should/will go ahead.

Community
1. Consultation at all stages and effective communication e.g. newspapers, monthly newsletter
2. Activities for young people- links to mental health example of St Helens
3. Developers to provide something (e.g. community centre) after building
4. Relevant stakeholders should be aware of funding streams to allow younger players to access sports/facilities e.g. Sport England
5. EFC provide community access to facilities
6. KMBC should make public the evidence from the consultation and include quality, quantitative result that can be easily understood; including the percentage of people who objected. Ideally from an independent group.

Crime
7. Use existing alcohol laws to reduce ASB
8. Police/CSO more on the street

Greenspace
9. Create partnerships between e.g. EFC, Tesco, community groups, BSF to create and maintain greenspace
10. Integrate green/open spaces into the plans
11. Protect greenspace

Physical environment
12. Use precautionary principle in regards to environmental risks- don’t make it any worse

Employment/ economy
13. Use local workforce (80%) for construction and operation
14. Current plans should be amended to integrate with the existing town centre

Transport
15. Night and day delivery in specified time slots chosen in regards to reducing health impacts- this need to be monitored and enforced- consider fining deliveries outside of time slots with money going to a community fund
16. Same for construction traffic
17. Identify opportunities for park and ride- especially on match day leading to a reduction in the need for carparking and providing space for greenspace

Planning application
18. Application – conditions needed to tie up the detailed outline application – with the current outline application for the existing town centre details. Want details/commitments about what, how and when to be agreed for the existing town centre/market before permission is granted for the proposal. This needs to be legally binding/enforceable
19. Information about the ‘what’, ‘when’ and ‘how’ of the development of both the detailed proposal and the outline proposal areas (existing town centre) to be
provided by an independent body e.g. newsletter, information on green space, environmental issues, health etc.

20. Condition of planning consent that regeneration of the town centre must be phase 1- needs to be monitored and enforced

**Construction**

21. Provide building continuity (for organisations within organisations)
22. Ensure that there is adequate security on site
23. Especially Saturday night- needs to be 24 hour vandal proof
24. Developers put more into the community- especially holiday times
25. Clean up
26. Restricted hours- consult with the residents
27. Provide training for local young people
28. Use covered trucks
29. Brush tyres and clean roads
30. Coordinate road digging so that it is done at once (few as possible)
31. Restrict delivery hours
32. Provide a coordinator or contact point for residents
33. Water down before demolition
Workshop Evaluation

Kirkby - Health Impact Assessment (HIA) Workshop

**Workshop Evaluation Report**

14th Feb -12pm – 3pm.

Total 16 responses.

How useful was this workshop for you?

<table>
<thead>
<tr>
<th>Rating</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Useful</td>
<td>8</td>
</tr>
<tr>
<td>Quite useful</td>
<td>6</td>
</tr>
<tr>
<td>OK</td>
<td>2</td>
</tr>
<tr>
<td>Some Use</td>
<td>0</td>
</tr>
<tr>
<td>Little use</td>
<td>0</td>
</tr>
</tbody>
</table>

Comments

- A very informative and thought provoking Workshop.
- I found the room noisy, I wear a hearing aid.
- Was not sure how HIA feeds in to the planning process, seems to mirror issues which (hopefully) would be picked up by the “normal” planning process but possibly broader based.
- Useful to raise concerns – hopefully these will be passed onto relevant people.
- Talking with others has highlighted issues both positive and negative I may not have thought of.
- Informative.
- Useful information.
- Need to use a broader view of Kirkby.

What 3 words would you use to describe the workshop?

- Thought provoking. Enjoyable. Participation
- Useful. Friendly. Informative.
- Useful (to gauge local interest and issues perceived.) Wide ranging (topics covered) Overlapping (existing planning process.)
- Relevant. Informative. Useful,
- Interesting. Thought provoking
- Informative. Interesting. Comfortable
- Informative.
- Opportunity to contribute. Listened too. Good involvement.
- Useful information. Making you alert about situation.
- Helpful. Organised. Not boring
- Informative. Enlightening.
What suggestions do you have to make further workshops more useful?

- I personally prefer the discussion around the table and then the feedback from others.
- Not sure how this would be done, depends on the attendance and topics covered. Probably more time?
- Be more specific regarding positives/ negatives.
- Microphones
- None
- Need more information prior to the meeting. Other proposals etc.
- It’s not the format/nature or focus/subject. It’s the limitations in referring to the above i.e. a full airing of well informed pros and cons (and particularly political ones) needs to happen before recommendations are meaningful.
- More exercises / points of view.
- Suggest you go to Health Forum. On a Friday, once a month more general feeling, a broader view of Kirkby.
- None, Workshop was handled right.
- Could have been longer – more time allocated to specific issues.

What comments would you like to make about the venue and refreshments?

- Room bright
- Food grand
- Both good.
- OK
- Good facilities, fab food.
- Excellent
- Good
- Good
- Quite warm but relaxing. Refreshments were very nice.
- Good
- Good
- Good
- Very good.
- Very good.
- Nice venue but a little dated.
- Very good

What comments would you like to make about the presentations and facilitation?

- Presentation was fine.
• Generally ok but as always could have run longer (but maybe less people would attend)
• OK
• Excellent. To the point. Helpful. Maybe need to use microphones as the speaker quietly spoken.
• Facilitation was excellent and enabled lots of ideas and relevant discussion
• Good
• OK.
• Good
• Presented well by facilitator and table facilitators.
• Good
• Your staff need to listen when Presenter talking.
• Good
• Helpful
• Very good.
• Good
• Excellent.

What is one thing you will tell people in your group/organisation about HIA?
• How open and every person was able to voice their views be it for or against.
• Depends on what happens next
• That at last someone seems to value what we have to say.
• That HIA is a healthy, consultative process in any major local development issue.
• That I don’t know how much “clout” it has but it was worth attending.
• That while it feels good to have the opportunity to “have our say” – there is nothing to force the developers to take note of the recommendations.
• A useful experiment.
• Need feedback
• Hope it makes a difference.
• Much need in the community.
• Gained some insight into the wider issues of local population.
• Gained insight into groups feeling. Controlled meeting. Very well.
• Useful process.
• There is hope.

Kirkby - Health Impact Assessment (HIA) Workshop
**Workshop Evaluation Report**
14th Feb -6pm – 9pm.

Total 6 responses.
How useful was this workshop for you?

Very Useful = 4  Quite useful = 1  OK = 1  Some Use = 0  Little use = 0

Comments

- Bad day 14th
- Why have the Council not listened to people and said no to stadium and concentrated on just redeveloping Kirkby Town Centre.
- I just hope the Council and Knowsley PCT listen and understand the constructive criticism that Fiona and Sophie documented.
- Council should listen to the people of *Kirkby*

What 3 words would you use to describe the workshop?

- Constructive, information, views.
- Listening, passionate, relaxed.
- Potentially useful. I hope it benefits Kirkby people with the report. I hope it doesn't just tick a few boxes.
- Informative, friendliness, potentially useful.
- Constructive, informative, listening to others views.
- Constructive, informative

What suggestions do you have to make further workshops more useful?

- Day time.
- I think it needs to be publicised more widely to get more feedback.
- By having residents, business people and Councillors (mixed together.)

What comments would you like to make about the venue and refreshments?

- Fine
- None
- It’s not about venues. Venues don’t matter people’s feelings and lives matter. The venue could have been in the street.
- Fine- thank you.
- Good

What comments would you like to make about the presentations and facilitation?

- Very well done
- Good
- Good presentations.
• Good

What is one thing you will tell people in your group/organisation about HIA?
• Come along
• I am unable to give comments at this time so as not to influence your report!! –joking. I am confident that should I have to recommend it would be a positive one.
• Unsure until the reports / results come back.
• Depends whether it has any impact on the decision and whether our points are portrayed correctly and not manipulated.