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[Warrington JSNA Health of Ethnic Populations Chapter](#)

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[Warrington Joint Strategic Needs Assessment Index](#)

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Warrington Joint Strategic Needs Assessment (JSNA) 2011 - Wider Environmental Context and Transport Chapter



The Joint Strategic Needs Assessment (JSNA) considers a wide range of factors that affect the health and wellbeing of the people of Warrington. The objective of the JSNA is to involve partner organisations, such as the local NHS, local authorities, Police, Fire and third sector organisations in order to provide a top level, holistic view of current and future need within the borough. The JSNA is used to agree key priorities to improve the health and wellbeing of all our communities at the same time as reducing health inequalities.

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Executive Summary

The ways in which places develop and function influence people's living, working and travel patterns, the shape of the local economy, and people's opportunities to access jobs, education, services, fresh food, and exercise (Royal Town Planning Institute, 2009). Our physical environment, therefore, influences our health in many ways. For example, through our opportunities to be physically active, general quality of life, levels of social inclusion and through exposure to noise, pollution and danger.

To some extent, individuals can exercise choice as to where they live and work, and therefore the physical environments they are exposed to and influenced by. However, for the majority of the borough's residents, choice is strongly inhibited by the availability of homes and jobs, as well as personal circumstances, such as the individual's skills level and financial capacity. Whilst the physical environment will contribute to the improvement of the physical and mental health of some of the borough's residents and, in doing so, help to diminish inequalities in health, the physical environment in other places within the borough will exacerbate health and wellbeing issues and increase inequalities.

This chapter seeks to explore whether any environmental factors, either individually or collectively, specifically exacerbate or mitigate health and wellbeing outcomes in Warrington. Factors considered include those which can be grouped under the following broad headings:

- Environmental quality
- Accessibility
- Transportation and road safety

Specific indicators considered by this chapter, under these broader terms, include:

- Residents' satisfaction with their local area
- Safety and wellbeing
- Access to green spaces
- Ease of access to services, facilities, and employment, education and training opportunities
- Number of people killed or seriously injured and slightly injured on Warrington's roads
- Noise exposure within the borough
- Air pollution present within the borough
- Impacts of Climate Change within the borough

Consideration of these indicators has shown that:

Environmental Quality

- Warrington's residents are generally satisfied with their local area as a place to live, with an increasing trend of satisfaction levels increasing and dissatisfaction levels decreasing – indicating environmental quality is generally good.
 - Resident satisfaction levels do vary according to geographic location within the borough and the Warrington Together Survey (Warrington Borough Council, 2010) identifies that those within the Central (70%) and the Stronger Together¹ neighbourhood areas (55%) are less likely to be satisfied with their local area than respondents living in the rest of the borough.
- With regards to safety and wellbeing in local areas, and specifically the perception of crime, the Warrington Together Survey (Warrington Borough Council, 2010) identifies that the perception of crime is much higher in the Central and the Stronger Together neighbourhood areas.
- With regards to open and green spaces, which present opportunities for exercise, and therefore health benefits, analysis of open space provision data, held by Warrington Borough Council (WBC), suggests many areas of the borough have a below average quantity of such spaces.

- However, the Warrington Together Surveys (2008 and 2010) identify that only 12% and 13% (respectively) of respondents identified parks and open spaces within their areas as in need of improvement and, hence, the quality of open and green spaces is generally good.
- Complaints about noise from the borough's residents² are increasing with complaints about domestic noise and annoyance increasing more rapidly than complaints about other sources of noise. This mirrors a national trend (Health Education Authority, 2000).
- To date, three Air Quality Management Areas have been declared for Warrington, within which, air quality objectives are at risk of being exceeded. It is estimated that some 388 residential properties are located within these.
- There is a growing recognition of the potentially significant impacts from climate change on human health (Parliamentary Office of Science and Technology, 2004). Expected changes include:
 - Warmer, drier summers
 - Milder, wetter winters
 - Rising sea levels
 - More very hot days
 - More intense downpours
 - Uncertain changes in storms
- Whilst a certain amount of climate change is already unavoidable, cutting carbon emissions and other greenhouse³ gases will help to prevent further, more severe consequences.
 - In 2009, the Department of Energy and Climate Change (DECC, 2008) reported that the majority of Warrington's carbon emissions (38%) were from transportation, with Industrial and Commercial emissions accounting for 37%, and domestic emissions 27%⁴.
 - In 2009, CO₂ emissions per capita in Warrington were slightly higher than the average for the North West region and the UK as a whole.

Accessibility

- Various Warrington Borough Council Annual Monitoring Reports suggest that the majority of new homes within the borough are well located with regards to accessing key services by public transport.
 - However, Warrington Hospital is evidently the least accessible key service from new homes by public transport. Comparison against regional data suggests that this issue is not unique to Warrington (4NW, 2010).
- 2001 Census data identifies that the percentage of households within Warrington without access to a car or a van is 21%, which is significantly lower than the regional (30%) and national (27%) averages.
- 2001 Census data on the method of travel to work shows that slightly fewer people in Warrington (7%) travel to work via active travel measures (such as walking or cycling) compared to the regional average (8%), but the rate equals the national level.
 - Conversely, significantly more people in Warrington (49%) travel to work via a private motor vehicle compared to the regional (41%) and England (40%) average.

Transportation and Road Safety

- The most obvious impact of transport on health is accidents. Road Safety improvement on Warrington's roads has been encouraging over the last decade, with a long term downward trend with regards to the number of people killed or seriously injured or slightly injured⁵.
- In 2011/12, Warrington Borough Council invested £335k⁴ of Local Transport Plan capital investment in Safety and Security measures.
- The Council's Traffic Management and Road Safety team have undertaken 27 Safety Audits of highway improvements.
- In 2012/13, Warrington Borough Council will commence the implementation of 20mph speed limits on all residential roads.

Key Issues and Gaps

The following have emerged as the key issues within the borough from consideration of environmental factors:

- Improving public transport accessibility to Warrington Hospital.
- Improving satisfaction levels within the borough's Stronger Together areas as places to live.
- The perceived fear of crime is much higher in the Stronger Together and Central areas of the borough.
- Significantly more people in Warrington (49%) travel to work via a private motor vehicle compared to the regional (41%) and England (40%) average.
- An ongoing need to reduce exposure to air pollutants, specifically nitrogen oxide, within the borough's three formally designated Air Quality Management Areas.
- A long term downward trend continues to be sustained within the borough with regards to a reduction in the number of road traffic accidents, and consequently casualties, including those seriously injured or killed.
- A need to work with industries in an attempt to reduce their carbon emissions, owing to industries within the borough contributing more significantly to CO₂ emissions in comparison to the UK average.

Recommendations for Commissioning

Given that so little of the urban area in Warrington changes each year, it takes a long time to rectify past errors. Hence, it is imperative to ensure that new development does not exacerbate health inequalities and make it harder for people to live healthy lives. It is also important that opportunities to address issues and positively improve health outcomes are taken.

Ensuring appropriate strategic policies and programmes which address the underlying environmental and transport context that can influence health is considered the most pertinent action. In this regard, it should be noted that:

a) The Council's emerging Local Development Framework Core Strategy (Pre-Publication Draft, Dec 2011) includes policies that seek to achieve the following objectives:

- To be as accessible as possible whilst reducing the need to travel and providing opportunities to move people and goods by non-car modes (Objective W4).
- To minimise the impact of development on the environment through the prudent use of resources and ensuring development is energy efficient, safe and resilient to climate change (Objective W6).
- **Improve links between residential areas and areas of opportunity for employment and to provide more local employment opportunities within or within easy reach of the borough's areas of deprivation (Objective T3).**
- **Reduce crime, the fear of crime, and anti-social behaviour, particularly in the Town Centre and most deprived neighbourhoods through good design, high quality and visible environments, and by raising aspirations and social responsibility through education and training for employment (Objective HP2).**
- **Identify, conserve, diversify and, where appropriate, extend the existing multi-functional network of Green Infrastructure⁶ in the urban and rural areas of the borough, incorporating:**
 - **Places for outdoor relaxation and play**
 - **Local food production**
 - **Improved health and wellbeing – lowering stress levels and providing opportunities for exercise (Objective HP5)**
- To reduce emissions of greenhouse gasses and the borough's carbon footprint⁷ by:
 - Encouraging the use of less energy for transport, and using energy more efficiently in our homes and businesses
 - Generating more energy from renewable and low carbon sources (Objective S1)

- **Reduce the impacts of climate change and secure improvements to air quality within the borough through the sustainable location of development and reductions in congestion, as a result of demand management measures and realistic alternatives to using the private car (Objective T9).**
- **Ensure that provision is made for Green Infrastructure as an integral part of all new development, in order to provide social, economic and environmental benefits close to where people live and work (Objective GI2).**
- To achieve high quality, inclusive and sustainable design of buildings, places, spaces, sites and streets (Objective BE2).
- **To require that all new development tackles the threat of climate change and is capable of adapting to its effects (Objective S3).**

b) The Council's Local Transport Plan 3 (WBC, 2011a) provides a framework for decisions on future transport investment based around the following objectives which seek to build and manage a transport network in the borough that:

- Is integrated and customer focused and reduces the need to travel by car.
- Enables the regeneration of the borough and supports economic growth.
- Maintains the highway, minimises congestion for all modes of travel and enables Warrington's 'smart growth'.
- **Improves everyone's access to health, employment, education, culture, leisure and the natural environment.**
- Improves everyone's access to the town centre by all modes of travel.
- **Enhances accessibility for those in disadvantaged communities or groups.**
- **Improves neighbourhoods and residential areas.**
- **Improves safety and security for all modes of travel.**
- Enhances the image and profile of the town.
- **Improves the quality of public space, making Warrington more welcoming.**
- **Protects and enhances the natural environment.**
- **Reduces the impact of traffic on air quality in Warrington and helps to reduce carbon emissions and tackle climate change.**
- **Makes Warrington safer, sustainable and healthier.**
- Integrates with transport networks outside Warrington to enhance the sustainability of cross-boundary travel.

More targeted intervention may be necessary within the Stronger Together areas of Warrington, where residents' perceptions of their area as a place to live, and hence their host environment, is much lower than other areas within the borough.

Footnotes

¹ *The Stronger Together areas of Warrington include parts of Bewsey, Dallam, Greater Blackbrook, Longford, Orford, Grasmere and Greenwood. Stronger Together aims to ensure local people can influence decisions about their neighbourhood. It ensures that service providers like the council, NHS and Police co-ordinate their activities to address local priorities and help individuals, service users and groups to tell us what works best in their area.*

² *Based on figures obtained from WBC Environmental protection service.*

³ *Greenhouse gases, like carbon dioxide (CO₂), trap heat in the atmosphere which would otherwise escape into space. As more heat gets trapped, the earth below heats up too.*

⁴ *These figures represent the full dataset and not those considered to be under the scope of Local Authority control only.*

⁵ *Based on data supplied by the Warrington Borough Council Traffic Management & Road Safety Manager.*

⁶ *Green Infrastructure is a strategically planned and delivered network of high quality green spaces and other environmental features. It should be designed and managed as a multifunctional resource capable of delivering a wide range of environmental and quality of life benefits for local communities. Green Infrastructure includes parks, open spaces, playing fields, woodlands, allotments and private gardens (Natural England).*

⁷ A 'carbon footprint' is the amount of carbon dioxide that enters the atmosphere because of the electricity and fuel a person or group uses. It is measured in tonnes of carbon dioxide. The size of a carbon footprint mostly depends on how much energy is used to heat a building, the electronics and appliances used and the kind of transport used.

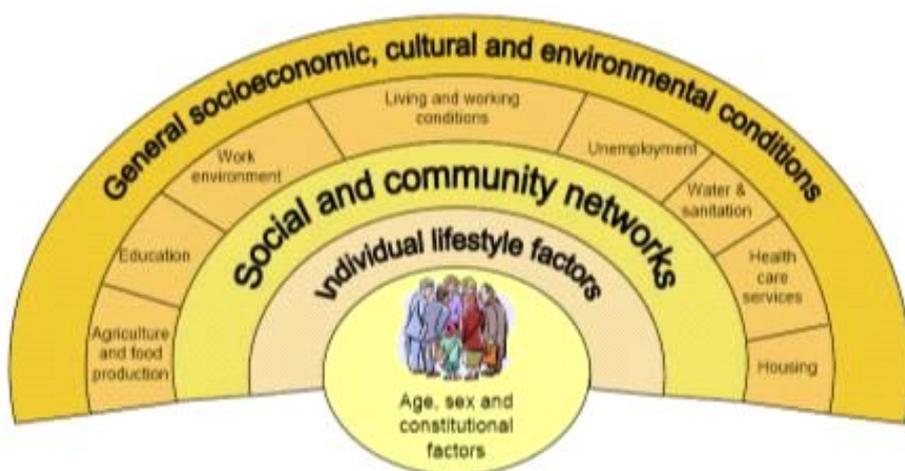
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Introduction

This chapter considers how environmental factors can contribute to and influence health issues.

In recent years, much evidence has shown just how important the physical, social and economic environment in which we live and work is for our health. This evidence, which comes from multiple sources, has been widely accepted by leading agencies, such as the World Health Organisation, and confirms the theory of academics, such as Dahlgren and Whitehead (1991), who's well known 'Social Model of Health' seeks to demonstrate the complex relationship between an individual, their environment and their health.

Figure 1: Social Model of Health (Dahlgren & Whitehead, 1991)



Dahlgren and Whitehead's model attempts to map influences on health. Layers include personal behaviour, social and community influences, and structural factors, many of which are collectively grouped under what is widely termed our physical 'Environment'.

Whilst we know, based on the work of Dahlgren and Whitehead, that environmental factors do influence and impact on health, this chapter seeks to explore whether any environmental factors, either individually or collectively, specifically exacerbate or mitigate health and wellbeing outcomes in Warrington. Factors considered include those which can be grouped around the following headings:

- Environmental quality
- Accessibility
- Transportation and road safety

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1) Who's At Risk and Why

The ways in which places develop and function influence people's living, working and travel patterns, the shape of the local economy, and people's opportunities to access jobs, education, services, fresh food, and exercise (Royal Town Planning Institute, 2009). Our physical environment, therefore, influences our health in many ways. For example, through our opportunities to be physically active, general quality of life, levels of social inclusion and through exposure to noise, pollution and danger.

It is therefore evident that the health of Warrington's residents is influenced by environmental factors because it is widely accepted that the physical environments we live in exacerbate or mitigate health and wellbeing outcomes (see Dahlgren and Whitehead 1991). Whilst in some areas of the borough the physical environment will contribute to improving the residents' physical and mental health, and in doing so help to diminish inequalities in health, the physical environment in other places within the borough will exacerbate health and wellbeing issues and increase inequalities.

Whilst everybody's health will be influenced by the physical environment in which they live and work, the extent of the effects also depend on an individual's circumstances, such as their age and level of physical and mental health and wellbeing. For example, the elderly, owing to their physical health, may find it more difficult to access services by walking and cycling. Ensuring that these services are adequately served by public transport services or locating suitable accommodation closer to these services may be more important to this group, as opposed to younger or more active residents who are able to walk or cycle further. Similarly, those with underlying health issues such as asthma or respiratory problems will be more susceptible to poor air quality arising from road traffic congestion or proximity to a high concentration of industrial and polluting premises (Health Education Authority, 2000).

To some extent, individuals can choose where they live and work, and therefore the physical environments they are exposed to and influenced by. However, for the majority of the borough's residents, choice is strongly inhibited by the availability of homes and jobs, as well as personal circumstances, such as the individual's skills level and financial capacity. Whilst for some of the borough's residents the physical environment will contribute to improving their physical and mental health, and in doing so help to diminish inequalities in health, the physical environment in other places within the borough will exacerbate health and wellbeing issues and increase inequalities.

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2) The Level of Need in the Population

This section seeks to explore whether a number of precise environmental factors, for which there is data available, either individually or collectively, specifically exacerbate or mitigate health and wellbeing outcomes in Warrington. Factors considered include those which can be grouped around the following headings:

- Environmental quality
- Accessibility
- Transportation and road safety

2.1) Environmental Quality:

2.1.1) Satisfaction with Local Area: There are no objective measures which definitely determine the degree of quality of an environment. Instead, it depends on the perceptions of environmental quality from those people who live, work or perhaps pass through an area.

The Warrington Together 2010 Survey Report (WBC, 2010a) offers a valuable insight into what Warrington's residents consider important in making somewhere a good place to live. Respondents were asked to identify five elements they deemed most important in making somewhere a good place to live. The local area was defined as that within 15-20 minutes' walk of a respondent's home. As can be seen from Table 1, the elements considered important vary according to geographic location within the borough.

Table 1: Things Most Important in Making Somewhere a Good Place to Live (significant differences compared to average for all other areas)

Neighbourhood	Significantly Higher	Significantly Lower
Central	Clean streets (44%) Parks and open spaces (34%) Activities for teenagers 13 to 19 (25%) Wage levels and cost of living (24%) Road and pavement repairs (23%) Quality of street lighting (18%) Facilities for children 5 to 12 (11%)	Health services (28%) Shopping facilities (13%) Access to nature (11%) Level of traffic congestion (11%) Level of pollution (2%)
East	Level of crime (65%) Access to nature (34%) Public transport (31%) Cultural facilities (24%)	Wage levels and cost of living (6%) Quality of street lighting (5%) Facilities for children 5 to 12 (3%)
South	Facilities for children under 5 (11%)	Level of crime (38%) Quality of street lighting (7%) Facilities for children 5 to 12 (3%)
Stronger Together	Affordable decent housing (58%) Quality of street lighting (37%) Activities for teenagers 13 to 19 (31%) Road safety (20%) People from different backgrounds get on well together (19%) Wage levels and cost of living (18%) Facilities for children aged 5 to 12 (15%)	Level of crime (30%) Health services (20%) Education provision (14%) Levels of traffic congestion (9%) Access to nature (8%)
West and Town Centre	Level of crime (62%) Facilities for children 5 to 12 (12%)	Cultural facilities (10%)

(Source: Warrington Together Survey 2010)

From an overview perspective, the Warrington Together 2010 Survey (WBC, 2010a) identified that, with regards to satisfaction levels, respondents were generally satisfied with their local area as a place to live. When the results from the 2010 survey are compared against those from previous surveys, as in Chart 1, it can be seen that there is a trend of an increasing percentage of residents being very satisfied and a trend of a reducing percentage of residents being dissatisfied.

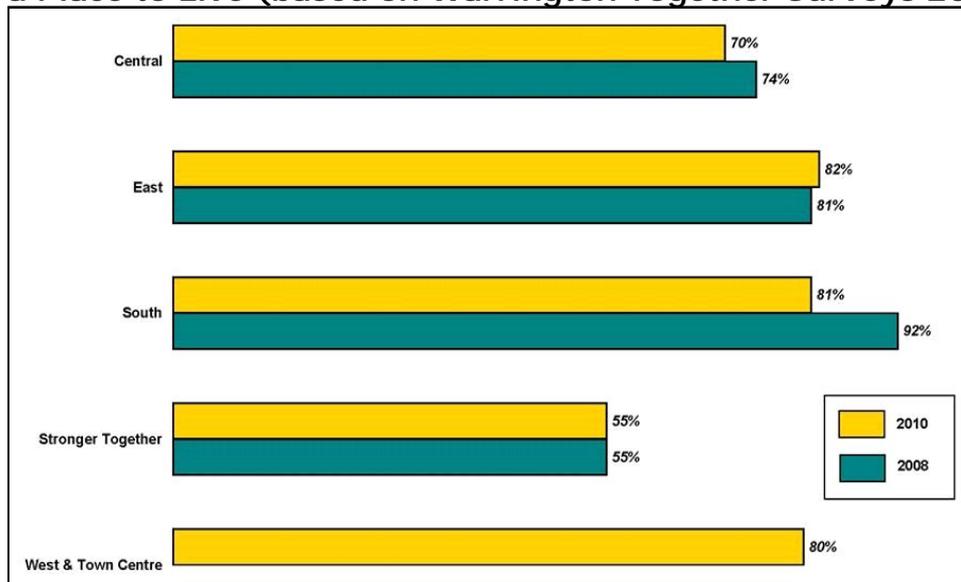
Chart 1: Resident Satisfaction Levels with Regards to their Local Area as a Place to Live (based on Warrington Together Surveys 2006, 2008 and 2010)



(Source: Warrington Together Survey 2010)

Resident satisfaction levels also vary according to geographic location within the borough, as illustrated in Chart 2. Owing to study methodology, only data from the 2008 and 2010 surveys can be compared for this topic.

Chart 2: Resident Satisfaction Levels, by Sub-Area, with Regards to their Local Area as a Place to Live (based on Warrington Together Surveys 2008 and 2010)



(Source: Warrington Together Survey 2010)

Chart 2 shows that those within the Central (70%) and the Stronger Together neighbourhood areas (55%) are less likely to be satisfied with their local area than respondents living in the rest of the borough. Satisfaction levels have decreased the most in South Warrington from 92% in 2008 to 81% in 2010.

As can be ascertained from Table 1, there are many elements which influence residents' satisfaction levels with their host environments, many of which are discussed in more detail in other JSNA chapters (for example, Crime, Housing and Children 0-5 years). It is evident, owing to the range of elements, that joint and coordinated cross-agency/partner interventions are essential to improve perceptions in those areas which record the lowest levels of satisfaction. In this regard, the Stronger Together areas remain a clear priority for further action. Comparison of perception levels in the Stronger Together areas against health indicators specific to these areas will identify the extent to which there is a correlation between the two. This will highlight the importance of improving the wider environment if health outcomes are to be improved.

2.1.2) Safety & Wellbeing: Anecdotal and incidental research indicates that crime, and therefore a fear of crime, has a detrimental effect on health, specifically mental wellbeing (Simmons, 2002). Environments which are free from crime, and from the fear of crime, are important in sustaining healthy and sustainable communities. The Planning Policy Statement Delivering Sustainable Development (Office of the Deputy Prime Minister, 2005) recognises that good planning and design have a major role to play in reducing crime and people’s fear of it.

The Warrington Together Survey 2010 (WBC, 2010a) offers a valuable insight into how the borough’s residents feel about safety issues in the areas in which they live. Residents were asked how much of a problem specific aspects that can contribute to a perceived fear of crime cause in their local area. The results can be seen in Table 2, which identifies that the perception of crime is much higher in the Stronger Together and Central areas of the borough.

Table 2: Problems in the Local Area (significant differences compared to average for all other areas)

Issue	All	Significantly Higher	Significantly Lower
Teenagers hanging around the streets	44%	Stronger Together (60%) Central (70%) Town Centre and West (55%)	South (27%)
People using or dealing drugs	34%	Stronger Together (70%) Central (48%)	South (25%)
Rubbish or litter lying around	29%	Central (44%)	East (18%)
People being drunk or rowdy in public places	27%	Stronger Together (43%) Central (38%)	South (21%)
Vandalism, graffiti and other deliberate damage to property or vehicles	26%	Stronger Together (48%) Central (35%)	South (18%)
Noisy neighbours or loud parties	14%	Stronger Together (42%) Central (22%)	East (4%)
Victimisation	12%	Stronger Together (32%)	South (7%)
Abandoned or burnt out cars	6%	East (14%)	South (2%) Town Centre and West (1%)

(Source: Warrington Together Survey 2010)

Whilst not all of the measures listed in Table 2 are a direct consequence of the environment, many do have direct links. For example, ensuring spaces are overlooked and in the public eye can help prevent vandalism and graffiti as the offender is less likely to feel they may get away with it; an increased volume of bins can help mitigate the need to discard litter; and planning in facilities and provision for teenagers such as skate parks, teenage shelters etc. can help to ensure youths congregate in places and ways which do not adversely affect the perception of crime (Hampshire and Wilkinson, 2002).

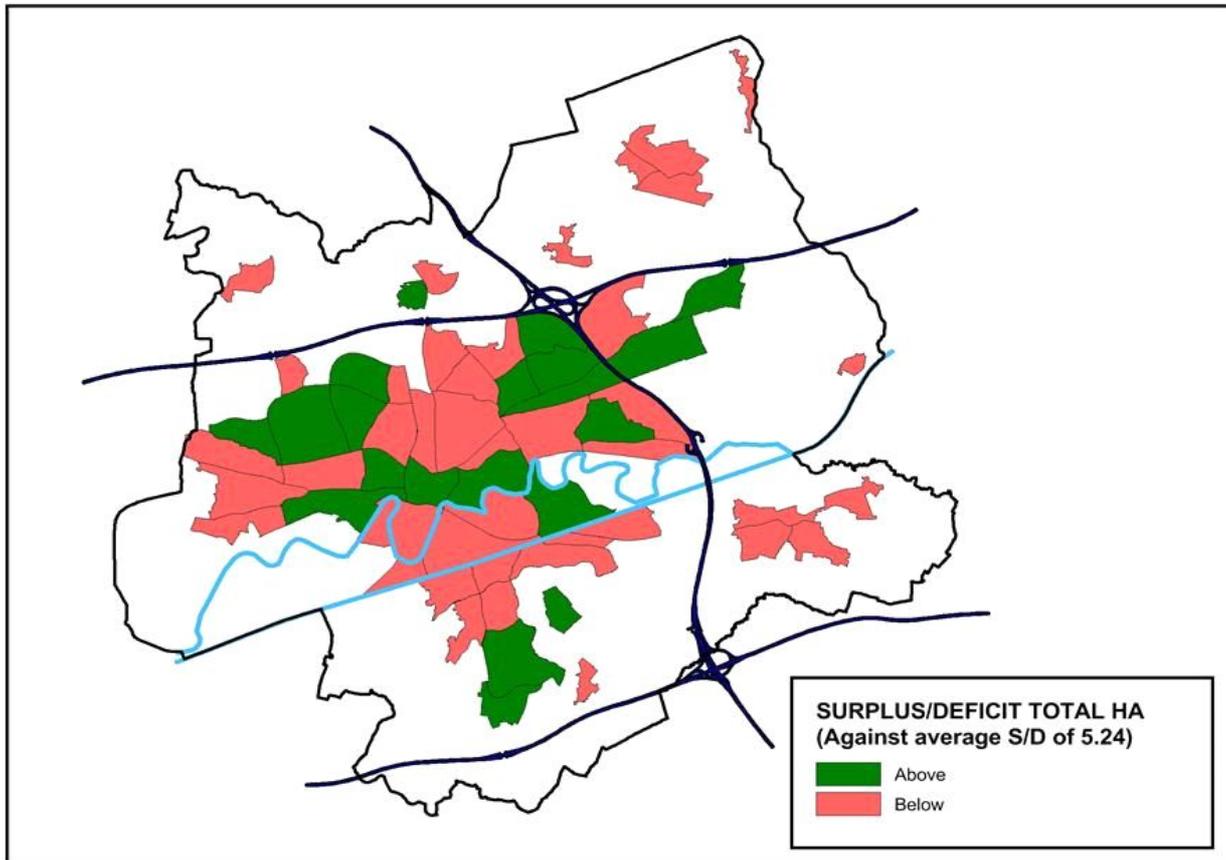
The Council has published planning guidance (WBC, 2010b) which seeks to ensure, with regards to all new development proposals, that the design aims to reduce opportunities for crime and increase opportunities for community safety. Continuing to apply this guidance and ensuring that consideration of the issue of crime constitutes a material consideration in the determination of formal planning applications will be important in helping to safeguard or improve the mental wellbeing of the borough’s communities.

2.1.3) Access to Green Space: Evidence shows that green space and nature is good for human health (Natural England, 2010). *"Natural green places provide natural solutions to many 21st century health issues – obesity and inactivity; heart disease and strokes; depression and mental illness"* (Natural England, 2010, pg. 4). Green spaces and natural areas also help to promote social interaction and cohesion, which is important for mental wellbeing (Royal Town Planning Institute, 2009). Importantly, given that most spaces are free to access, they provide cost-effective treatment and improve people’s lives.

Living in a neighbourhood with greenery and good quality, accessible parks can contribute to a healthy and physically active life. The borough’s Local Development Framework Core Strategy (WBC, 2011b) is supported by a Supplementary Planning Document (SPD) entitled *Open Space and Recreation Provision* (WBC, 2007a). The SPD seeks to aid policy implementation in protecting and enhancing open space and, where warranted, requires new developments to provide new areas of open green space. Appendix 1 of the SPD draws on information from the Council’s Open Space Audit to identify whether, based on a simple calculation of available open

space (in hectares) per 1000 population, specific open space neighbourhoods (also defined in the SPD) within the borough enjoy above or below average levels. The results of this are identified in Map 1, where it can be seen, with the exception of a belt through Central Warrington, that those areas which fare best are those which were built through the New Town programme.

Map 1: Access to Open/Green Space, by Open Space Neighbourhood, Warrington



(Source: Warrington Borough Council, 2007a)

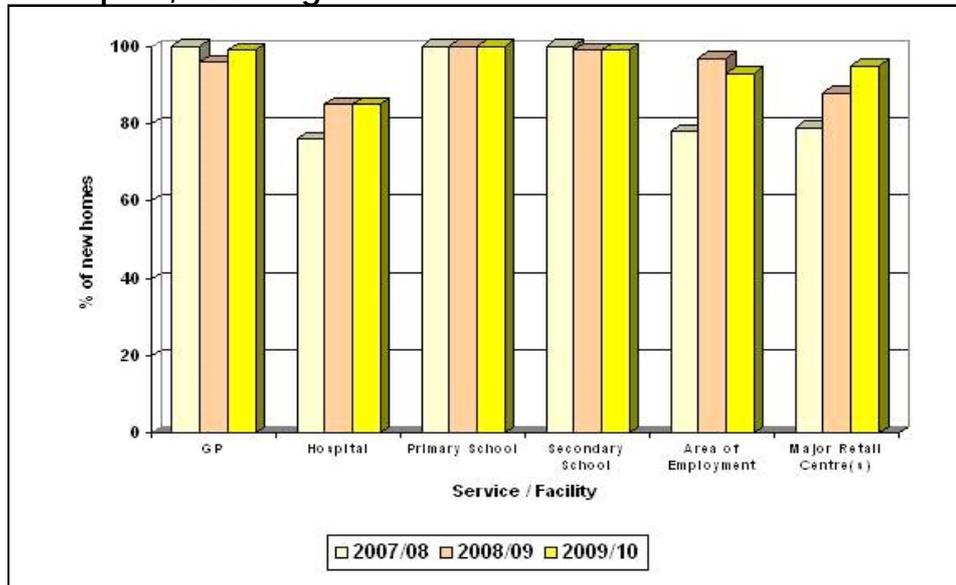
Parks and open spaces were ranked as the joint (along with education provision) 5th most important factor in making an area a good place to live through the Warrington Together 2010 Survey (WBC, 2010a). This serves to demonstrate the importance of open/green spaces within the wider environment, due to the many functions such spaces can perform.

The quality of open/green spaces is also an important consideration. There can be enough spaces in quantitative terms but if the quality of spaces is poor, their value to the community may be reduced and the extent of the opportunities they present for health benefits may be lessened (Department of Communities and Local Government, 2002). There is limited data published on the quality of Warrington's open and green spaces. The Warrington Together Surveys, however, provide a useful indication with the 2006, 2008 and 2010 surveys all indicating that only 12-13% of respondents identified parks and open spaces within their areas as in need of improvement (WBC, 2010a; 2008; 2006).

2.2) Accessibility: Ease of access to services, facilities, and employment, education and training opportunities can impact on the health of an individual (Royal Town Planning Institute, 2009). Those who are unable to or find it difficult to access services and opportunities, including health care, can feel socially excluded or experience stress, which in turn can lead to depression and/or anxiety. For example, individuals or households without a car may find it difficult to access employment opportunities, particularly if these are primarily concentrated in car dependent locations that are not well served by public transport. In this situation, individuals can feel socially isolated and worry significantly about financial hardship. If this worry is prolonged, it may impact on both their physical health and their mental wellbeing.

Accessibility is difficult to comprehensively and consistently measure. Various Warrington Borough Council Annual Monitoring Reports do, however, report on the percentage of new homes that are within 30 minutes of key services by public transport. The purpose of the indicator is to assess the effectiveness of plans and strategies in ensuring that all new development is genuinely accessible to services, with the focus on public transport. Performance against this measure in Warrington can be seen in Chart 3.

Chart 3: Percentage of New Homes Within 30 Minutes of Key Services by Public Transport, Warrington

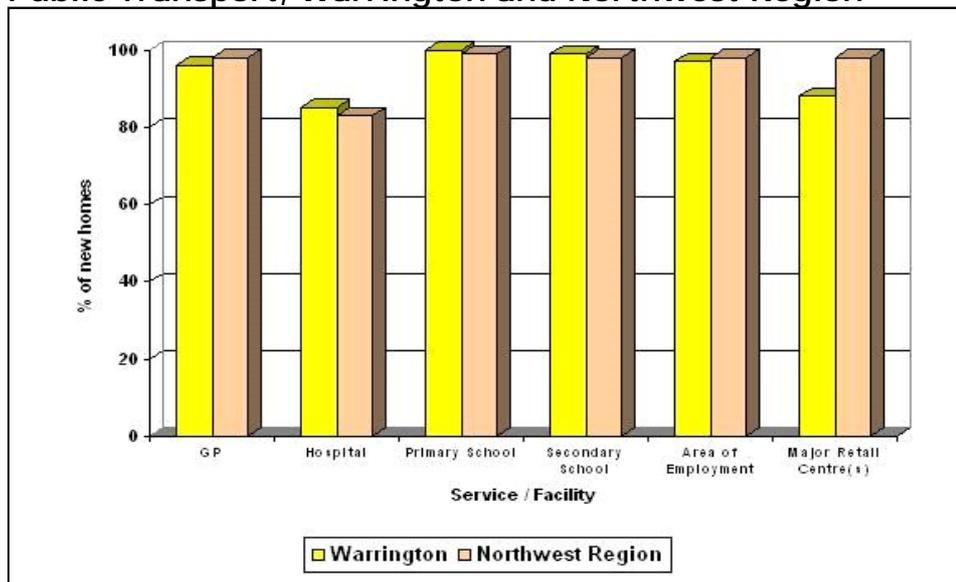


(Source: Warrington Borough Council Annual Monitoring Reports)

Chart 3 illustrates that in most instances the majority of new homes within the borough are well located with regards to accessing key services by public transport. Warrington Hospital, however, is evidently the least accessible key service from new homes by public transport.

No data has been published to facilitate a comparison against national averages but data is available to enable a limited comparison at the regional level, using directly comparable data for 2008/09 published by 4NW (2010) in their regional annual monitoring report. This comparison is set out in Chart 4.

Chart 4: Percentage of New Homes in 2008/09 Within 30 Minutes of Key Services by Public Transport, Warrington and Northwest Region



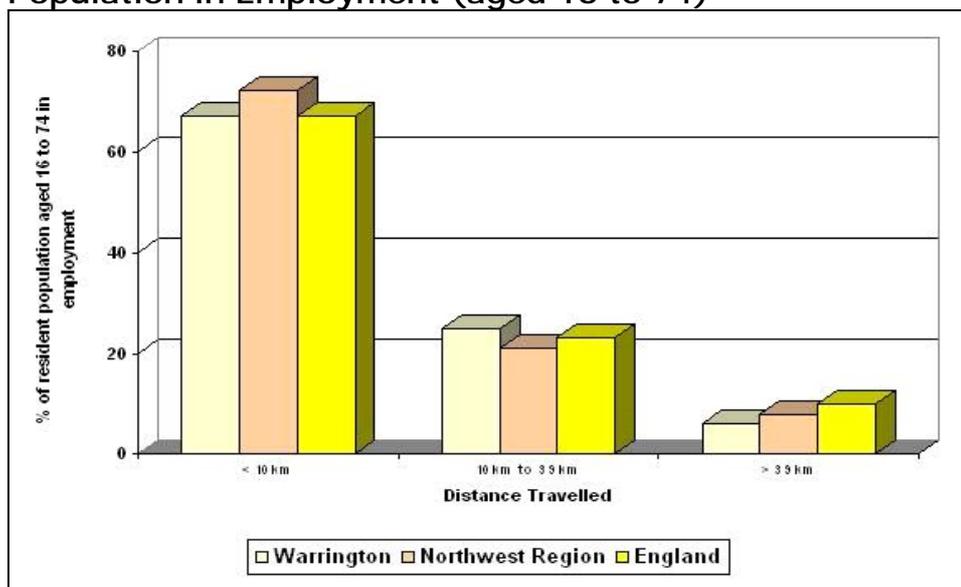
(Source: Warrington Borough Council Annual Monitoring Reports and 4NW, 2010)

Interestingly, the issue of public transport access to a hospital does not appear to be unique to Warrington, with the limited comparable data available suggesting that this may be a regional trend. Unfortunately, no data is available at a sub area level within the borough.

Reliance on public transport is theoretically greater where households are without access to a car or van. 2001 Census data, however, identifies that the percentage of households within Warrington without access to a car or a van is 21%, significantly lower than the regional (30%) and national (27%) averages. This data also shows that the percentage of households with one car/van is similar in Warrington to the regional and national situation, at approximately 43%, but that there is a higher percentage of households in Warrington with two or more cars/vans (36%) than both regionally (26%) or nationally (29%). ([ONS will be releasing census 2011 data during 2013 and will be available here.](#))

With specific regards to access to employment opportunities, 2001 Census data can be used to analyse how far the resident population travel to work. This analysis is set out in Chart 5, which shows that 67% of people in Warrington travel less than 10km to reach work. This is lower than the regional average, but comparable to the England average. Whilst medium distance commuting (10km to 39km) is slightly higher within the borough compared to both the regional and national averages (25% against 21% and 23%, respectively), long distance commuting (more than 39km) is less than both the regional and English averages (6% against 8% and 10%, respectively). In conclusion, this analysis suggests that Warrington enjoys relatively comparable access to employment opportunities that those at the regional and national levels do.

Chart 5: Distance Travelled to Work, Expressed as a Percentage of the Resident Population in Employment (aged 16 to 74)



(Source: 2001 Census)

In terms of the method used to travel to work (for the resident population aged 16 to 74), 2001 Census data again offers an insight as to whether employment opportunities are local enough to be accessed by active travel measures, such as walking and cycling. These constitute as physical exercise and are good for health and wellbeing. Slightly fewer people in Warrington (7%) travel to work via active travel measures compared to the regional (8%) average but the rate is equal to the national level (7%). Conversely, significantly more people in Warrington (49%) travel to work via a private motor vehicle compared to the regional (41%) and England (40%) average. This pattern most likely owes to the fact that significant elements of Warrington's built environment were purpose-built under the New Town programme, which ran from the 1960s through to the 1990s. At this time, new housing estates and employment opportunities were built in peripheral locations and were often purposely designed for private motor vehicle access, as opposed to pedestrians or cyclists. The consequence of this legacy for health is that if people living and working in these areas are denied the opportunity to walk or

cycle for daily trips and needs, through the lack of safe paths or cycle ways, they are more likely to rely on motorised transport at the expense of physical exercise.

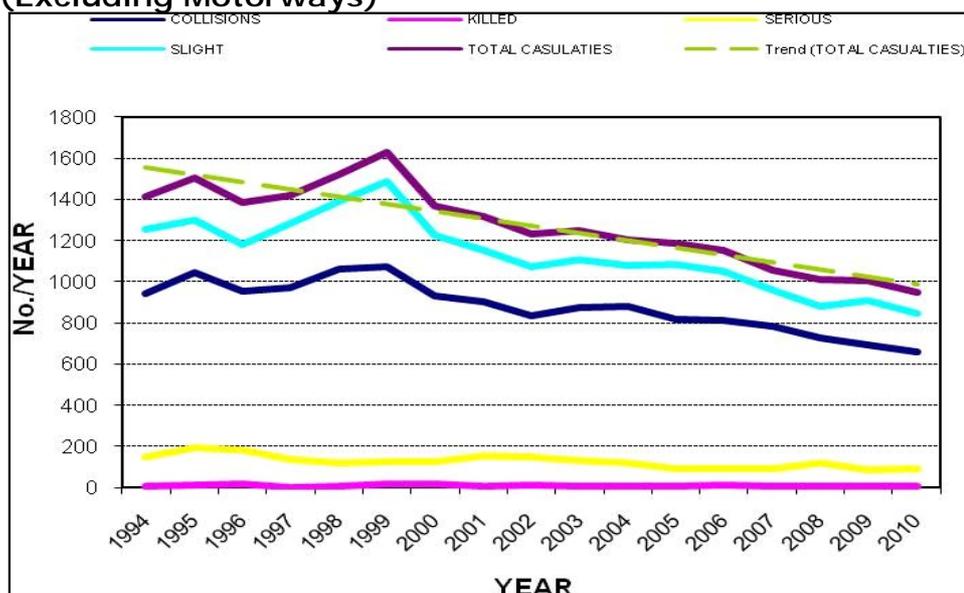
2.3) Transport and Road Safety: Transport can have a direct impact upon health through the pollution and noise it generates. It can also influence our perceptions through issues such as congestion or safety. In areas where road traffic levels are higher, for example, parents may be reluctant to let children play outside, or children themselves may perceive this to be an unsafe environment. Similarly, routes with high congestion or particularly high accident levels may be avoided by pedestrians or cyclists who miss out on the opportunity of physical exercise in favour of travelling by private motor vehicle.

The most important impact of transport on health is accidents. Road Safety improvements in Warrington have been encouraging over the last decade, with reductions in casualties meeting the targets for 2010¹.

For the local road network (excluding motorways), from 1994-1998, on average, there were 853 collisions, resulting in 1,205 casualties each year. Of these, 146 people were killed or seriously injured and 1,060 were slightly injured.

In 2010, this rate had reduced to 558 (-35%) collisions, with 763 (-37%) casualties. 88 (-40%) people were killed or seriously injured and 675 were slightly injured. In 2011, there were 457 collisions, with 94 killed or seriously injured and 623 with slight injuries. Although there has been a slight increase in the annual figure of people killed or seriously injured, the long term downward trend continues to be sustained.

Chart 6: Road Traffic Accident Long Term Trends on Warrington’s Local Road Network (Excluding Motorways)



The Council’s Traffic Management and Road Safety team’s primary objective is to reduce the number of collisions and resulting casualties. This is achieved through coordination and commitment to 3 types of intervention:

- Engineering – identifying and introducing remedial measures to improve road safety and ensuring that new highway projects operate safely.
- Education – promoting road safety through targeted information campaigns, training and increased public awareness.
- Enforcement – ensuring that road users adhere to restrictions that are essential for the safe operation of the network, particularly driving at safe speeds.

These interventions are inter-related and are based on a data-led approach to ensure that effort and funding is targeted at areas where it will deliver the greatest potential benefit in reducing casualties.

In 2011/12, Warrington Borough Council invested £335k¹ of Local Transport Plan capital investment in Safety and Security measures. This includes 5 Local Safety Schemes, specifically targeted at collision reduction; 7 speed limits schemes that have completed the recommendations of the Cheshire-wide Speed Limit Review; and a new pedestrian crossing facility on Moss Gate, Birchwood. The Traffic Management and Road Safety team have also undertaken 27 Safety Audits of highway improvements. Collision reduction opportunities are a key consideration in the promotion of all highway improvement projects and maintenance schemes.

In 2012/13, Warrington Borough Council will commence the implementation of 20mph speed limits on all residential roads. This is a significant investment for Warrington and is expected to take 5 years to complete. Implementation could be accelerated to 3 years if Warrington's bid for the Local Sustainable Transport Fund is successful. The objectives of the 20mph speed limit project are to:

- Promote greater ownership of streets and public space by residents
- Provide a more cycle friendly environment
- Promote wider travel options as attractive alternatives to the car
- Reduce the number and severity of collisions

All of these objectives have evident positive health outcomes.

2.4) Protecting the Environment: The environment around us can have a direct impact on health. Environmental factors such as waste (its disposal/management), industry and transport are major generators of noise, vibration and air pollutants, all of which can negatively impact on the health of the surrounding population if not managed appropriately. As urban areas tend to have a greater exposure to higher levels of noise and air pollution, the negative effects on the health of these communities can be greater than those experienced by rural communities (Royal Town Planning Institute, 2009). This latter point is of significance in Warrington, given that 82.9% of the borough's households live in an area classified as urban, as opposed to rural (WBC, 2007b).

2.4.1) Noise Exposure: Excessive noise can seriously harm human health. It can disturb sleep, cause cardiovascular and psychophysiological effects, reduce performance, and result in reductions in social behaviour (Health Protection Agency, 2010).

Nationally, complaints about noise are increasing, with complaints about domestic noise and annoyance increasing more rapidly than complaints about other sources of noise (Health Education Authority, 2000).

This national trend is replicated at a local level also. In 2010/11, the Council's Environmental Protection service received 602 noise related complaints, 80% of which were categorised as domestic. Provisional data for 2011/12 identifies approximately 850 noise related complaints, with 79% of these being categorised as domestic. Directly comparable data is not available prior to 2010 and so it is not possible to identify any trends.

2.4.2) Air Pollution: Air pollution poses a significant risk to health, with concentrations of the UK's main airborne chemicals proven to lead to issues ranging from mental impairment through to cancer and in extreme cases, with excessive exposure, even death.

Those at greatest risk from air pollution are people whose health is already impaired, such as those with existing lung and heart diseases. Children are also particularly sensitive to the harmful effects of air pollution because they breathe more air, drink more water and eat more food relative to their size than adults (Royal Town Planning Institute, 2009).

Under Part IV of the Environment Act (1995), Warrington Borough Council has a statutory duty to review and assess air quality within its area. The assessment of air quality is made against standards for seven pollutants described in the Air Quality Objectives (England) Regulations (2000, amended 2002). The pollutants currently covered by the Objectives, and the health risks associated with exposure to each (Health Education Authority, 2000), include:

- **Benzene** – long term exposure is linked with leukaemia.
- **1-3 Butadiene** – long term exposure is linked with cancers of the bone marrow and leukaemia.
- **Carbon Monoxide** – lethal when exposed to high and concentrated levels. At levels below this, exposure can precipitate angina in those susceptible and reduce mental performance, resulting in confusion and reduced co-ordination.
- **Lead** – can damage a range of biochemical systems in the body, with the most sensitive being those involved in blood formation, the nervous system and the kidneys.
- **Nitrogen Dioxide** – long term exposure is linked to respiratory diseases, including asthma, with short term exposures proven to increase reactivity to allergies.
- **Particulate Matter (PM10)** – can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Can cause health problems for everyone but children, the elderly, exercising adults, and those suffering from asthma or bronchitis are especially vulnerable to PM10's adverse health effects.
- **Sulphur Dioxide** – effects of exposure include a variety of acute and chronic outcomes with regards to lung function.

Each of these pollutants has a target date set for compliance with the Air Quality Objectives. If Air Quality objectives are currently being exceeded or if the objectives are unlikely to be met by the appropriate target date, Warrington Borough Council is required to declare an Air Quality Management Area (AQMA) for the specified area and pollutant. Within Warrington, a combination of on-site air quality monitoring and off-site modelling is used to identify areas where Air Quality Objectives are at risk of being exceeded. To date, three Air Quality Management Areas have been declared for Warrington, as shown in Table 3. Following the declaration of the AQMA, a further and ongoing assessment of air quality is carried out and an Air Quality Action Plan (AQAP) is developed.

Table 3: Air Quality Management Areas (AQMAs) in Warrington

AQMA	Date Declared	Pollutant
All Motorways which pass through the borough (50m buffer from road centreline)	2003	Nitrogen Dioxide
Parker St, Warrington Town Centre	2006	Nitrogen Dioxide
Sankey Green, Warrington Town Centre	2010	Nitrogen Dioxide

(Source: WBC, 2011c)

Further information about each AQMA is available on the Warrington Borough Council website (WBC, 2011c). In each case, Nitrogen Dioxide is the pollutant for which the AQMA has been declared and the main source of Nitrogen Dioxide in each AQMA is thought to be road traffic.

Those living in and around the designated AQMA's are at increased risk of health impacts related to air quality. It is estimated that about 388 residential properties are located within the borough's AQMA's, with the majority of these being within the Parker Street AQMA.

Footnotes

¹ Figures obtained from Warrington Borough Council Traffic Management & Road Safety Manager via email dated 13th March 2012.

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3) Current Services in Relation to Need

It is in the public interest to mitigate the causes of, and subsequently to adapt our environments to become resilient to, the effects of climate change. With regards to adaptation, there are strong synergies between the measures used to mitigate and adapt to climate change and those associated with addressing health issues more directly (Royal Town Planning Institute, 2009). These measures include:

- Promoting walking and cycling to reduce car use and carbon emissions.
- Building energy efficient homes to reduce carbon emissions and fuel poverty, and to protect against temperatures from extreme winter lows and summer highs ([fuel poverty data, charts and maps available here](#)).
- Delivering mixed-use development and multi-use community buildings that reduce the need to travel, by providing services close to where people live, thereby reducing carbon emissions and providing opportunities for social interaction.
- Providing parks and open spaces that provide a “green lung” for towns and cities, whilst providing a safe and quality space for leisure and exercise.
- Enhancing employment opportunities by providing the structure for a diverse, strong economy that reduces inequalities.

3.1) Reducing Risks by Minimising Global Emissions: Whilst a certain amount of climate change is already unavoidable, cutting carbon emissions and other greenhouse gases will help to prevent further, more severe consequences. In Warrington, it is essential that carbon emissions are reduced as far as possible in order to work towards achieving a low carbon future.

In 2009, the majority of Warrington’s carbon emissions were from transportation (38%), with industrial and commercial emissions only slightly lower at 37%. Domestic emissions were the lowest at 27% (DECC, 2008). Transport emissions in Warrington account for a much higher proportion than other North West areas, or the UK as a whole. This is not surprising, given that 60% of these emissions come from motorways, which surround Warrington with major infrastructure routes.

Addressing road transport is essential to reducing our emissions in the future. Petrol cars produce 35% more Carbon Dioxide (CO₂) per passenger per kilometre than local buses and 66% more than rail. Reducing reliance on private cars as a primary means of travel is therefore an important action. We will also need to work with freight providers to reduce road transport and ensure efficient use where it remains.

Table 4: Carbon Dioxide Emissions (kilo tonnes CO₂), by Sector, by Area, 2009

	Industry & Commercial		Total Domestic		Transport		Total Emissions
Warrington	645	37%	425	24%	669	38%	1,751
North West	22,043	43%	15,221	29%	13,903	27%	51,602
United Kingdom	198,727	44%	136,522	30%	124,510	27%	454,969

If motorway emissions are excluded from the figures to provide a more comparative picture across the UK and North West, further areas for focus can be identified (DECC, 2008).

Table 5: Carbon Dioxide Emissions (kilo tonnes CO₂), by Sector, for Emissions Under Local Authority Influence, 2009

	Industry & Commercial		Total Domestic		Transport		Grand Total	Per Capita Emissions
Warrington	633	48%	425	32%	263	20%	1,321	6.7
North West	17,640	42%	15,221	36%	9,057	22%	41,918	6.1
United Kingdom	159,52	41%	136,52	35%	96,828	25%	392,872	6.4

In 2009, per capita¹ CO₂ emissions in Warrington were slightly higher than the average for the North West region and the UK as a whole.

As can be seen from Table 5, the largest contributor to per capita CO₂ emissions in Warrington in 2009 was estimated to have been industry, commercial and agriculture. At nearly half of all emissions, this was relatively higher than the figures for the UK as a whole (41%). This finding indicates a potential challenge for the Council to work with industries in an attempt to reduce their carbon emissions whilst maintaining economic growth.

Warrington's Communities Strategy (WBC, 2011d) sets an ambitious target to reduce per capita emissions by 40% against 1990 levels. An interim target was set by the Climate Change Strategy (WBC, 2007) to reduce community emissions by 20% by 2020.

Footnotes

¹ *Per capita- For each individual i.e. 'per person'.*

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4) Projected Service Use and Outcomes in 3-5 Years and 5-10 Years

4.1) Impacts of Climate Change: There is a growing recognition of the potentially significant impact of climate change on human health (Parliamentary Office of Science and Technology, 2004). It is certain that global changes to climates is already happening; and it is certain that, regardless of measures that are taken to reduce emissions in the future, changes to weather patterns in the UK will be seen in the next few decades.

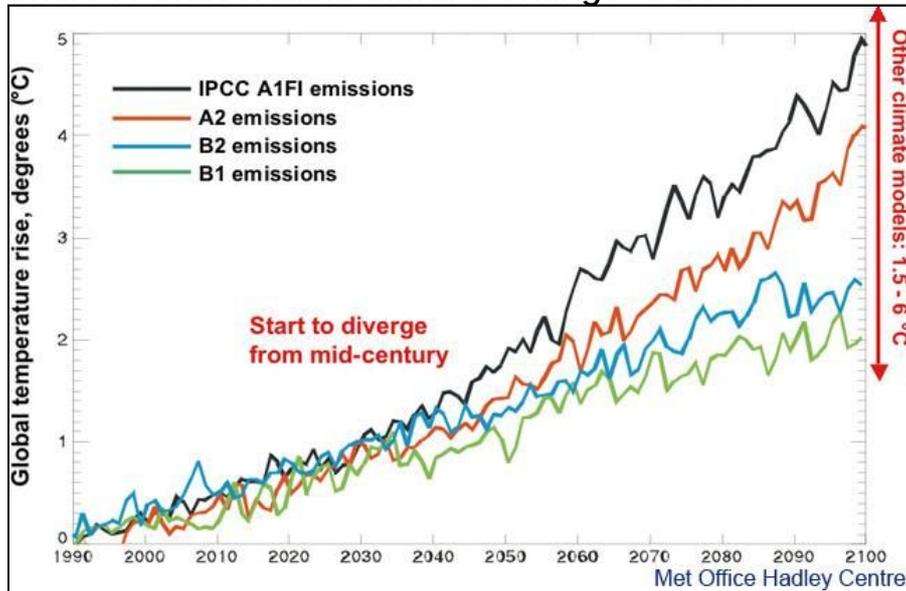
Expected changes include:

- Warmer, drier summers
- Milder, wetter winters
- Rising sea levels
- More very hot days
- More intense downpours
- Uncertain changes in storms

Chart 7 shows the potential changes in global temperature that we can expect in the future. The likely temperature changes depend on how we manage to reduce our carbon emissions, and how the world might change in terms of different technologies. The lines on the chart start to diverge in around 2030, depending on the choices we have made across the world. For example, the black line (labelled IPCC A1F1) shows the likely temperature increase in a world of continuing economic expansion and where we are still reliant on fossil fuels for most of our energy needs. The green line (labelled B1) shows the likely temperature in a world where the emphasis is on local solutions to economic, social, and environmental sustainability, and where our global emissions have been reduced substantially.

These potential temperatures have been modelled and agreed by hundreds of scientists across the world and represent the best estimate of what can be expected in the future. Depending on the choices made, we can expect average global temperature rises between 1.5°C and 6°C. The chart shows that even if carbon emissions are sharply reduced now, there will still be a certain amount of change.

Chart 7: Unavoidable Climate Change to 2050



These changes will have a significant impact on the health and wellbeing of Warrington residents. The UK Climate Change Risk Assessment (2012) provides an assessment of the risk to the UK caused by climate change across eleven sectors, including health. Over 40 indirect and direct risks were identified for the health sector (Hames & Vardoulakis, 2012), with those most significant being:

- Temperature mortality and morbidity (heat)
- Temperature mortality and morbidity (cold)
- Summer air pollution mortality/morbidity (ozone)
- Extreme weather event mortality (flooding and storms)
- Effects of floods/storms on mental health
- Sunlight/UV exposure
- Extreme weather event injuries (flooding and storms)

4.1.1) Temperature: Heat-related mortality currently accounts for around 1,100 premature deaths per year and is estimated to cause over 100,000 patient-days in hospital per year. This is substantially more during 'heat wave' years such as 2003 and 2006. Within the next few decades, the temperatures seen in these years will be considered normal summer temperatures. It is expected that there will be an approximate 60% increase in heat-related premature mortality and morbidity by the 2020s, an approximate 200% increase by the 2050s, and an approximate 400% increase by the 2080s, compared to current levels. These figures do not take into account ageing populations (which would increase the risks) or adaptation to changing weather, such as the use of heat alerts and passive cooling in buildings, which would reduce risks.

A compensating opportunity for climate change is the likely substantial reduction in cold-related deaths and hospitalisations. The current estimated 26,000 to 57,000 premature deaths and 2,600,000 to 5,800,000 patient-days in hospital per year due to cold in the current climate could be substantially reduced by the 2050s and approximately halved by the 2080s.

4.1.2) Air Pollution: Ground level ozone is generated by a complex mix of atmospheric conditions and chemical air pollutants, including nitrogen dioxides (primarily traffic related) and volatile organic compounds. It is anticipated that warmer summer weather will increase ground level ozone generation, particularly in towns and cities. At present, ground-level ozone is estimated to cause around 10,000 premature deaths and 33,000 respiratory hospital admissions per year in the UK. It is estimated that up to 2,900 additional premature deaths and 10,000 additional respiratory hospital admissions may occur in the UK when applying the current estimates for the 2080s for the current day demographics. This risk may disproportionately affect people with pre-existing respiratory conditions, such as asthma.

4.1.3) Extreme Weather Events (Flooding and Storms): Currently, flooding and storms account for relatively few incidents in the UK. However, this is forecast to change as sea levels rise and heavy downpours become more frequent and intense. This is a particular risk for Warrington, which is built largely on the flood plain of the River Mersey, with about three quarters of the urban area lying between 5 and 12 metres above current sea level. The risk of flooding is an ever-present threat in Warrington. The Mersey and its five tributaries are the main cause of flood risk, especially at high tides, with the tidal limit of the Mersey located at Howley Weir.

Current estimates of deaths in the UK due to extreme event flooding and storms are given as 18 per year. This number could approximately double by the mid-2050s and triple by the mid-2080s due to climate change. There is limited evidence to indicate how many people are at risk of injury as a result of flooding and storms, however it can be assumed that there are 20 injuries for every 1 death (Hames & Vardoulakis, 2012). Future injury risk is expected to increase proportionally with deaths.

The number of flood victims suffering from anxiety, depression or other mental health issues is difficult to predict, partly due to differing definitions used in studies. However, the numbers of people affected in England and Wales per year are projected to be between 4,000 and 7,000 by the 2050s and between 5,000 and 8,000 by the 2080s, based on the current day demographics.

Flooding events have a very substantial effect on the general society, such as long term mental health effects, environmental effects, and economic impacts that are significant, despite not directly causing death or injury.

4.1.4) Sunlight/UV Exposure: It is shown that there is a likely increase in the future incidence of skin cancer by the end of the century. This is more likely to affect southern areas of the UK and will be a lower risk in Warrington.

4.1.5) Water, Food and Vector-Borne Diseases: The risk assessment showed that increased temperatures and changes in seasonal precipitation patterns are likely to lead to more favourable conditions for the spread of certain waterborne, foodborne and vector-borne diseases in the future. This risk was not subject to a detailed analysis on the assumption that the public and environmental health infrastructure is likely to prevent substantial changes in the prevalence of these diseases in the UK. However, there are likely to be capacity and resource implications for dealing with greater incidence of such diseases in the future and this will need to be planned for.

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5) Evidence of What Works

Steps to Healthy Planning by the Spatial Planning and Health Group (SPAHG, 2011) concluded that spatial planning has a clear and strong influence on healthy choices made by individuals and that the impact of the built environment on health issues is therefore an important area for consideration by those responsible for spatial planning.

As discussed previously, given that so little of the urban area in Warrington changes each year, it takes a long time to rectify past errors. Recognition of this has led to a number of publications that set out approaches and guidance on this topic. These aim to ensure that any plan or policy affecting the wider environmental context, including transport provision, are subject to assessment and emerge as health positive as possible. These publications include:

- *Healthy Urban Planning*. (Barton & Tsourou, 2000).
- *Integrating Health into the Core Strategy – A guide for Primary Care Trusts in London*. (NHS London, 2009a).
- *Watch Out for Health – A checklist for Assessing the Health Impact of Planning Proposals*. (NHS London, 2009b).
- *Delivering Healthy Communities: RTPI Good Practice Note 5*. (Royal Town Planning Institute, 2009).

A number of more specific and technical publications related to some of the precise themes explored within this chapter contain evidence based policy recommendations for local authorities. These include:

- *Health Update: Environment and Health – Air Pollution*. (Health Education Authority, 2000).
- *PH31 Preventing Unintentional Road Injuries amongst Under 15's – Road Design: Ten questions to ask, checklist for preventing unintentional injuries*. (National Institute for Health and Clinical Excellence, 2010).
- *Nature Nearby – Accessible Natural Greenspace Guidance*. (Natural England, 2010).
- *Secured by Design*- The official UK Police flagship initiative supporting the principles of 'designing out crime'. (Association of Chief Police Officers, 1989).

It should also be noted that the World Health Organisation (WHO) advocate the use of Health Impact Assessments (HIAs) as a means of assessing the health impacts of policies, plans and projects. HIAs help decision-makers to make informed choices about alternatives and improvements to ensure that policies and proposals actively promote health. A range of support tools and initiatives are available from the WHO's website (see References).

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6) (Target) Population/Service User Views

Much of the information included in Section 2 (Level of Need in the Population) was drawn from the Warrington Together Survey (WBC, 2010a), the results from which include a range of comments made by residents in the borough.

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7) Unmet Needs and Service Gaps

The following have emerged as the key issues within the borough from consideration of environmental factors:

- Improving public transport accessibility to Warrington Hospital.
- Improving satisfaction levels within the borough's Stronger Together areas as places to live.
- The perceived fear of crime is much higher in the Stronger Together and Central areas of the borough.
- Significantly more people in Warrington (49%) travel to work via a private motor vehicle compared to the regional (41%) and England (40%) average.
- An on-going need to reduce exposure to air pollutants, specifically nitrogen oxide, within the borough's three formally designated Air Quality Management Areas.
- A long term downward trend continues to be sustained within the borough with regards to a reduction in the number of road traffic accidents, and consequently casualties, including those seriously or fatally injured.
- A need to work with industries in an attempt to reduce their carbon emissions, owing to industries within the borough contributing more significantly to CO2 emissions in comparison to the UK average.
- Climate change will pose risks to populations in Warrington, particularly those in areas subject to flooding. There is an increased risk to more vulnerable populations, such as older people and those with pre-existing health conditions.

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8) Recommendations for Commissioning

A key aim is to ensure that new development does not exacerbate health inequalities and make it harder for people to live healthy lives. It is also important that opportunities to address issues and positively improve health outcomes are taken. Thus, ensuring that appropriate strategic policies and programmes are in place to address the underlying environmental and transport context that can influence health is considered the most pertinent action. In this regard, it should be noted that:

a) The Council's emerging Local Development Framework Core Strategy (Pre-Publication Draft, Dec 2011) includes policies that seek to achieve the following objectives:

- To be as accessible as possible whilst reducing the need to travel and providing opportunities to move people and goods by non-car modes (Objective W4).
- To minimise the impact of development on the environment through the prudent use of resources and ensuring development is energy efficient, safe and resilient to climate change (Objective W6).
- **Improve links between residential areas and areas of opportunity for employment and to provide more local employment opportunities within or within easy reach of the borough's areas of deprivation (Objective T3).**
- **Reduce crime, the fear of crime, and anti-social behaviour, particularly in the Town Centre and most deprived neighbourhoods through good design, high quality and visible environments, and by raising aspirations and social responsibility through education and training for employment (Objective HP2).**
- **Identify, conserve, diversify and, where appropriate, extend the existing multi-functional network of Green Infrastructure in the urban and rural areas of the borough, incorporating:**
 - Places for outdoor relaxation and play
 - Local food production
 - **Improved health and wellbeing – lowering stress levels and providing opportunities for exercise (Objective HP5)**

- To reduce emissions of greenhouse gasses and the borough's carbon footprint by:
 - Encouraging the use of less energy for transport, and using energy more efficiently in our homes and businesses
 - Generating more energy from renewable and low carbon sources (Objective S1)
- **Reduce the impacts of climate change and secure improvements to air quality within the borough through the sustainable location of development and reductions in congestion, as a result of demand management measures and realistic alternatives to using the private car (Objective T9).**
- **Ensure that provision is made for Green Infrastructure as an integral part of all new development, in order to provide social, economic and environmental benefits close to where people live and work (Objective GI 2).**
- To achieve high quality, inclusive and sustainable design of buildings, places, spaces, sites and streets (Objective BE2).
- **To require that all new development tackles the threat of climate change and is capable of adapting to its effects (Objective S3).**

b) The Council's Local Transport Plan 3 (WBC, 2011a) provides a framework for decisions on future transport investment based around the following objectives which seek to build and manage a transport network in the borough that:

- Is integrated and customer focused and reduces the need to travel by car.
- Enables the regeneration of the borough and supports economic growth.
- Maintains the highway, minimises congestion for all modes of travel and enables Warrington's 'smart growth'.
- **Improves everyone's access to health, employment, education, culture, leisure and the natural environment.**
- Improves everyone's access to the town centre by all modes of travel.
- **Enhances accessibility for those in disadvantaged communities or groups.**
- **Improves neighbourhoods and residential areas.**
- **Improves safety and security for all modes of travel.**
- Enhances the image and profile of the town.
- **Improves the quality of public space, making Warrington more welcoming.**
- **Protects and enhances the natural environment.**
- **Reduces the impact of traffic on air quality in Warrington and helps to reduce carbon emissions and tackle climate change.**
- **Makes Warrington safer, sustainable and healthier.**
- Integrates with transport networks outside Warrington to enhance the sustainability of cross-boundary travel.

More targeted intervention may be necessary within the Stronger Together areas of Warrington, where residents' perceptions of their area as a place to live, and hence their host environment, is much lower than other areas within the borough.

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9) Recommendations for Needs Assessment Work

It is evident that certain environmental and transport factors impact on health, as documented within this chapter. Whilst this information is monitored in Warrington, direct links or behaviour changes, as a result of the wider environmental context, are not identified at the local level. Therefore, it is difficult to fully inform policy formulation or the appropriate allocation of resources and to evaluate their impacts in relation to health improvements. Future JSNAs may want to look more closely at cross analysis of environmental context information against specific health information, so that clear local correlations and priorities can be identified.

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