Hemel Hempstead Urban Transport Plan

January 2009

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Hertfordshire

Hemel Hempstead Urban Transport Plan

Overarching Strategy Development

Report

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Contents

Tables and Figures

Appendices

0 Executive Summary

Introduction

0.1 In April 2007 Hertfordshire County Council (HCC) commissioned JMP Consultants (JMP) to develop an Urban Transport Plan (UTP) for Hemel Hempstead, Hertfordshire. The purpose of a UTP is to identify short, medium and long-term strategies to shape travel patterns and provide a transport framework for related policy issues. The framework developed within the UTP provides the focus for transportation improvements over the next 15 to 20 years. These are given final focus in section 8 and Appendix A. Appendix A provides the interventions, priorities, costs, lead agencies, and time-scales.

0.2 This Hemel Hempstead UTP supplements and expands the ambitions and proposals contained in the second Hertfordshire Local Transport Plan for the period 2006/07-2010/11.

0.3 The UTP covers only the Hemel Hempstead urban area which has a population of over 82,000 and a plan is shown in Figure 1.1.

Approach

0.4 A series of separate tasks were carried out within the development of the UTP report including:

- A review of relevant legislation and policy
- A review of available data and a gap analysis as well as a 'Health Check'
- A review of planned major developments
- Walking and cycling audits
- A survey of public transport use
- The development of targets
- A 'Planning for Real' event
- The identification of potential measures
- The appraisal of potential measures

Legislation and Policy Context

0.5 To be an effective strategic tool the Hemel Hempstead UTP will support national, regional and local policy objectives. Furthermore, any proposals within the UTP must abide by current legislation.

0.6 The legislation and policy review covered five levels of government but the focus was at the regional and sub-regional level:

- European Union;
- National (Department for Transport, Department for Communities and Local Government);
- Regional (East of England Regional Assembly, East of England Development Agency etc);
- County (Hertfordshire County Council); and
- District (Dacorum Borough Council).

0.7 The policy review provides the context for the analysis and assessment of current and future issues and problems in the area. With the publication of the Stern Report, *The Economics of Climate*

Change, and also *The Eddington Transport Study: the Case for Action*, national policy appears to be shifting further to the promotion of sustainable transport.

Development in Hemel Hempstead

0.8 Hemel Hempstead will experience significant major developments over the next 20 years:

- The redevelopment of Waterhouse Square/ Civic Zone.
- The regeneration of Maylands Business Park following the Buncefield oil terminal explosion.
- Major residential development around Hemel Hempstead proposed in the East of England Plan (EEP) – 12,000 dwellings by 2021, along with employment provision, and allowance for further growth to 2031.
- Hemel Hempstead Hospital - a number of services have recently been transferred to other facilities and more will follow in the near future.
- The Urban Capacity Study (2005) reviewed all sites in the town that could potentially be used for housing or other development. Potential development could arise in Apsley, Central Hemel and Nash Mills in addition to those planned in EEP.
- Other significant developments – the Kodak building, as well as the Spencer Park and Jarman Park are in the process or are planned to be redeveloped.

0.9 The cumulative effects of the proposed developments needs to be considered in order to fully understand the transport requirements in the town. It will be important to ensure that, wherever feasible, the growth in movement generated through developments is catered for by sustainable transport modes and the necessary transport and other infrastructure must also be provided to serve this expansion.

Issues and Opportunities

0.10 Mobility and transport is an integral part of society and a key issue for Hemel Hempstead. Increasing car ownership and usage in line with national trends result in a high dependency on the private car to satisfy movement needs. While the car is a convenient and versatile means of transport for many but at increasing social, environmental and economic cost the resulting increase in traffic volumes and road congestion contribute to and create a poorer quality environment. Unfortunately on average some four accidents occur every week in the town. However it is interesting to note that Hemel Hempstead is one of the most self contained towns in Hertfordshire where people work and enjoy leisure activities within the same locality.

0.11 While car dependency, the resulting highway infrastructure and the lack of alternative modes play an important part in the transport issues for Hemel Hempstead, there are a number of other challenges faced by the town such as promoting sustainable transport in improving public transport, congestion management, improved cycling and walking provision which are discussed further in this UTP.

0.12 The issues and opportunities identified have been gathered from several sources which include key stakeholder interviews, policy reviews, walking and cycling audits, the public transport survey, and a planning for real consultation day with stakeholders.

LTP2 Objectives

0.13 In its LTP Hertfordshire County Council sets out nine objectives for transport policy for the period up to 2010/11. These fall into the categories of safety, congestion, accessibility, air quality and quality of life. This UTP helps deliver these nine LTP2 objectives and the targets set by the County Council.

UTP Aims and Objectives

0.14 The purpose of the UTP is to identify short, medium and long-term strategies to shape travel patterns and provide a transport framework for negotiations associated with development control.

0.15 The aims of the UTP are to:

- Locate developments to reduce travel needs/ distances and encourage public transport, walking and cycling use;
- Provide opportunities to reduce car use through sustainable transport choices;
- Promote modal shift and active travel;
- Improve road safety, especially for non-car modes;
- Support 'smarter choices' travel demand management measures;
- Promote efficient freight and distribution;
- Reduce negative impact of transport on the environment; and
- Improve traffic management.

Strategy Development

0.16 The proposed new developments in and around Hemel Hempstead, whilst generating new trips, also provide an excellent opportunity to promote sustainable travel and reduce car dependency in the area. To achieve this, however, will require appropriate policy measures to ensure that access by public transport, on foot or cycle becomes a viable alternative option to travel by private car.

0.17 An outcome from the work of this plan is that further traffic modelling is now taking place.

Appraisal

0.18 These transport needs were subjected to an objective-led appraisal process. Each proposed measure was assessed not only for its contribution against the UTP objectives but also against a series of criteria representing the extent of deliverability. The 'deliverability' criteria encompassed the following four area:

- Policy fit (the extent to which the measure supported national, regional and local policy);
- Value for money (whether the measure provides value for money);
- Feasibility (whether implementation is technically feasible); and
- Acceptability (whether the measure is likely to be publicly and politically acceptable).

0.19 Each measure was given a rating of high, medium, low for all four areas and a weighted score applied accordingly.

0.20 A total score was generated for each measure combining the 'contribution to objectives' rating and the 'deliverability' rating from which the following the measures were then ranked and then classified in terms of priority: high; medium; or low.

0.21 In total 129 measures were identified that target on or more of the UTP objectives. Of these around 36 (28%) were considered to be high priority schemes in terms of both the range of objectives that they would target and their deliverability. A further 47 schemes (36%) were rated with medium priority with the final 46 (36%) considered to be lower priority, although still worthwhile. (This is discussed further in Chapter 8 and appendix A).

Proposed measures

0.22 The proposed measures that have been identified as meeting one or more of the UTP objectives are presented within seven key themes:

- Promoting Smarter Choice measures;
- Encouraging sustainable transport;
- Promoting passenger transport use;
- Promoting social inclusion;
- Highways and freight;
- Traffic and network management (including road safety); and
- Parking and Park & Ride.

Delivery Programme

0.23 A detailed programme of interventions and measures that comprise the Hemel Hempstead UTP has been set out, categorised by mode and type of measure.

0.24 The programme covers four distinct timescales:

- Very short term wins – measures that could be implemented within 2-3 years;
- Short term – measures that could be implemented over the next 5 years;
- Medium term – measures that could be implemented 5-10 years from now; and
- Long term – measures that could be implemented 10-20 years from now i.e. over the lifetime of the Local Development Framework.

Partnering

0.25 The active involvement of partners will be needed to ensure that all the proposed measures are implemented according to the required timescale. Amongst the multi-agency issues that will influence implementation are the following:

- Political drivers (e.g. EEP) for new housing developments will require close liaison with the Regional Assembly, for example regarding funding for transport infrastructure;
- The impact of the Buncefield explosion and need to liaise with national and regional agencies to regenerate the business park will be important for the Maylands Partnership;
- Partnerships for transport systems, e.g. no bus quality partnership currently exists in Hemel Hempstead, but might be considered;

- The Council will need to liaise with the healthcare and education sectors, Highways Agency and regional bodies e.g. the East of England Development Agency;
- Cross-boundary working with other councils, notably the City and District of St Albans and Three Rivers.

Preplanning and Consultations for the Plan

0.26 With all the developments for the area on line detailed discussions took place with interested parties (over 36 interviews at the commencement of the study). This work resulted in a 'Health Check' and as a result a further report was put together to make suggestions of how to solve the transport planning issues and a transport model was commissioned.

0.27 As work continued senior officers in Dacorum and HCC steered progress as a steering officers' forum was used to agree the way forward.

0.28 Elected members representing the Borough and the County met at regular intervals. As work continued a planning for real day was held where some 40 organisations from Hemel Hempstead were invited and many ideas and proposals of that day have been taken forward.

0.29 This document is now in the public domain and any further comments will be taken on board where appropriate. The Plan will be presented to the Dacorum Council for approval and then ratified by the County Highways and Transport Panel before being adopted.

Delivery of Schemes

0.30 It is anticipated the Plan will have its necessary Governance by Spring 2009. The Plan will be the agreed template for transport planning for Hemel Hempstead for the next five years.

1 Introduction

Context

What is an Urban Transport Plan?

1.1 In April 2007 Hertfordshire County Council (HCC) commissioned JMP Consultants (JMP) to develop an Urban Transport Plan (UTP) for Hemel Hempstead, Hertfordshire.

1.2 The purpose of a UTP is to identify short, medium and long-term strategies to shape travel patterns and provide a transport framework for related policy issues. The UTP should provide a practical tool for negotiations associated with development control but also consider links to wider policy issues such as health, education, social inclusion and community safety. The framework developed within the UTP will provide a focus for transportation improvements over the next 15 to 20 years.

Relationship with the Local Transport Plan

1.3 This Hemel Hempstead Urban Transport Plan supplements and expands the ambitions and proposals contained in the second Hertfordshire Local Transport Plan for the period 2006/07-2010/11 that was published in March 2006. It also elaborates on proposals contained in the West Hertfordshire Area Transport Plan (March 2007). Thus it is a more detailed plan that addresses the particular issues and challenges that affect the town which is only part of the Dacorum Borough Council area.

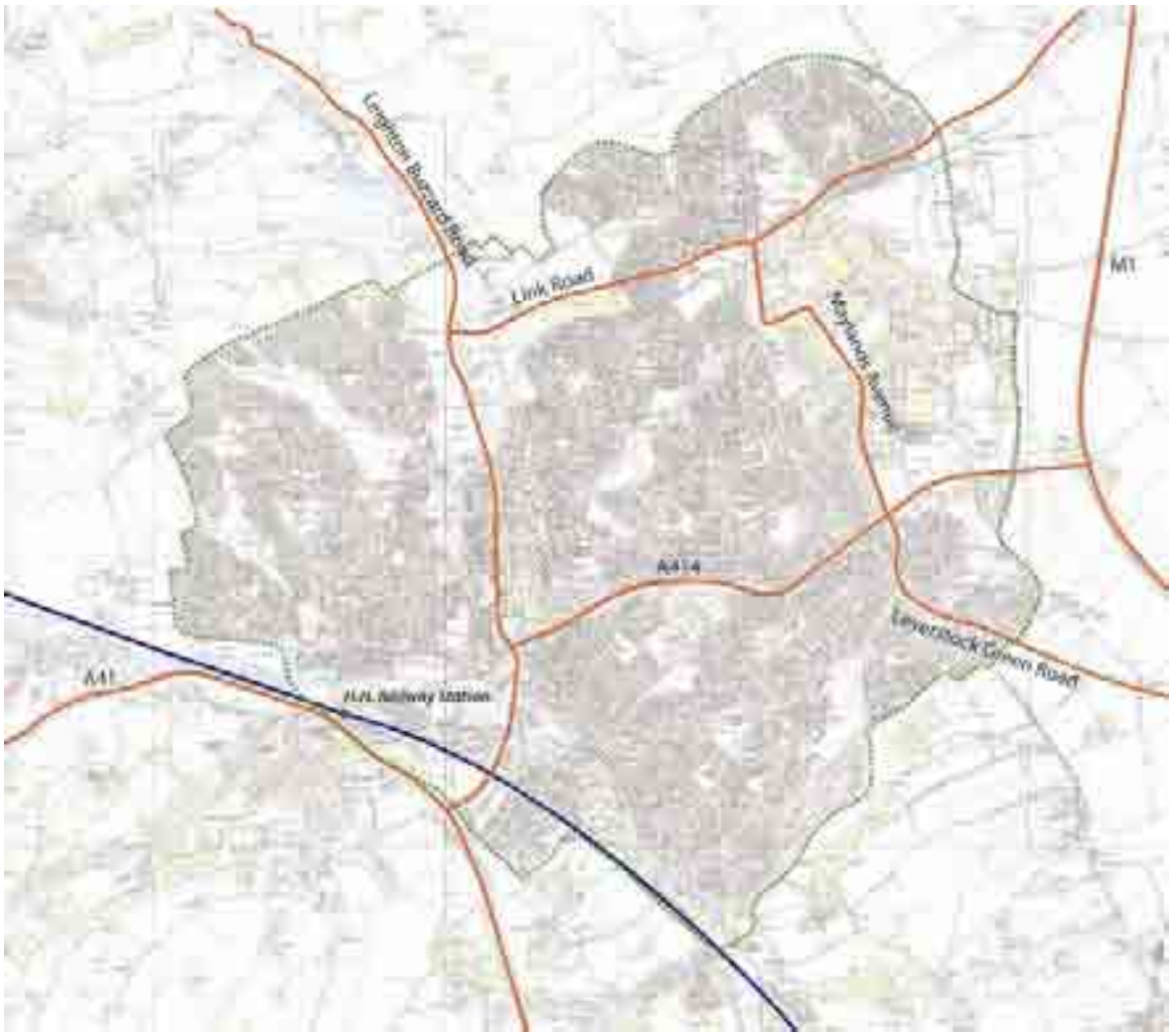
1.4 It should be noted, however, that highway maintenance is not part of the scope of this UTP, as it is covered by the Hertfordshire Transport Asset Management Plan (TAMP).

Geographic Area

1.5 The UTP does not cover the whole of the Dacorum Borough Council area, only the Hemel Hempstead urban area. This incorporates a population of over 82,000, approaching 8% of the residents of Hertfordshire. Whilst a large proportion of the area is residential there are also key employment areas, retail centres and leisure attractors.

1.6 **Figure 1.1** overleaf provides an overview of the study area.

Figure 1.1 Study Area



Approach

1.7 A series of separate tasks have been carried out within the development of the UTP report. These have focused on ensuring that the emerging strategies fit both within local, regional and national policy, as well as emphasising that they address the identified issues and objectives for Hemel Hempstead. These tasks are summarised in **Appendix B** and include the following:

- A review of relevant legislation and policy;
- A review of data and a gap analysis;
- A review of planned major developments;
- Officer and key stakeholder consultation;
- Preparation of the modelling report;
- Preparation of the 'Health Check' report;

- Walking and cycling audits;
- A survey of public transport use;
- The development of targets;
- ‘Planning for Real’ event;
- The identification of potential measures; and
- The appraisal of potential measures.

1.8 The report is structured as follows:

Section 2 reviews all the relevant legislation and local, regional and nation policy;

Section 3 examines the extent of current development in Hemel Hempstead and presents the potential future development opportunities;

Section 4 summaries the key transport issues within the town and the opportunities available for improvements;

Section 5 utilises the background data collated alongside the policy context to determine the key aims of the UTP. These aims are then qualified in terms of specific objectives and, where appropriate, targets;

Section 6 sets out the process of overall strategy;

Section 7 outlines the proposed measures; and

Section 8 sets out an overall programme for transport, including potential “very short term” and short-term scheme measures for implementation and medium/longer term areas for development.

2 Legislation and Policy Context

Overview

2.1 To be an effective strategic tool the Hemel Hempstead UTP should support national, regional and local policy objectives. National policy is primarily set out by the Department for Transport (DfT). Furthermore, any proposals within the UTP must abide by current legislation.

2.2 There is a vast array of legislation and policy documents which provide the context for the UTP. The extent of their influence depends on their strategic level and scope, timeframe, and relevance to local transport in a town such as Hemel Hempstead. Some documents are now quite dated (albeit still extant), while others are in draft form or are in the process of being revised or replaced.

2.3 The section below seeks to establish the key policy influences on the development of the Hemel Hempstead UTP.

European Policy

European Transport White Paper (2001)

2.4 The *European Transport White Paper*, although now seven years old and pre-dating the eastward expansion of the EU, still carries significance in setting the wider European transport policy framework. At its heart is the need to minimise the environmental impacts of transport across the EU while supporting local economic development and promoting sustainable forms of transport. It highlights a range of policy tools to help achieve this including the use of economic, fiscal, social, educational, urban transport and land-use planning policy to reduce the demand for, and the need to travel. Of particular relevance are international commitments to reduce CO2 emissions and the need to apply these at a local level, and the need to ensure that everyone has adequate access to mobility. This UTP has been developed within the framework of the European Transport White Paper.

National Policy

2.5 The development of the UTP has been influenced by a range of national legislation and policy. The principal documents, and their influence, are set out below.

Transport White Paper: The Future of Transport (DfT, 2004)

2.6 The 2004 Transport White Paper: *The Future of Transport*, sets out the Government's vision for transport over the next 30 years. Three key objectives relevant to Hemel Hempstead are that:

- The road network should provide a more reliable and freer-flowing service for both personal travel and freight, with people able to make informed choices about how and when they travel;
- Bus services should be reliable, flexible, convenient and tailored to local needs; and
- Walking and cycling should be developed as real alternatives for local trips.

Smarter Choices – Changing the Way We Travel (DfT, 2004)

2.7 *Smarter Choices – Changing The Way We Travel* is having an increasing influence on local authority transport policy in England, with its emphasis on changing travel behaviour and increasing the use of sustainable modes of transport through 'soft' measures. This document highlights the scope for 'modal shift' as a result of a range of measures aimed at increasing awareness and information and providing incentives to people to use alternatives to the car. Examples of Smarter Choices measures include travel plans, personalised travel planning and improved public transport information provision.

2.8 Smarter Choices have a significant part to play alongside physical infrastructure measures. Smarter Choices initiatives are aimed, in particular, at reducing commuter and school traffic and the associated congestion and pollution, but also at raising awareness generally about sustainable transport options.

Draft Local Transport Bill (2007)

2.9 *The Draft Local Transport Bill*, published in May 2007, is likely to influence transport in Hemel Hempstead in the future, although it is primarily concerned with the larger metropolitan conurbations. The Bill's three key strands are: reforms to bus policy; changes to transport governance in relation to Passenger Transport Authorities (PTAs); and changes to the road pricing approval process.

2.10 Of these three strands, the most relevant to Hemel Hempstead are the changes to bus regulation. New powers will give local authorities – in the case of Hemel Hempstead it would be Hertfordshire County Council - greater ability to enter into and specify the terms of bus quality contracts. In particular they will be able to subsidise services to increase the standard of service on a particular route (such as frequency, hours of operation or type of vehicle); and set minimum frequencies, timings and maximum fares. The Bill also extends the maximum length of bus subsidy contracts from five to eight years, and allows quality contracts to run for at least ten years with the option of renewal at the end. These provisions will allow the County Council to enter into more prescriptive bus quality contracts with bus operators in Hemel Hempstead to the benefit of passengers.

2.11 Although the Bill allows the creation of PTAs outside metropolitan areas under secondary legislation, the political indication is that this is unlikely to be pursued in Hertfordshire. The third strand of the Bill strengthens the powers for Local Authorities to implement road pricing schemes and re-invest the revenues into local transport improvements. This builds on the provision of the Transport Act 2000 which also permitted authorities to introduce workplace parking levies. Although, in theory, both road pricing and workplace parking levies are options for Hemel Hempstead, in practice they would need to the considered in a regional context where schemes are consistent and interoperable.

Other Documents

Making the Connections (2003)

2.12 The social inclusion agenda and its relationship to transport is set out in *Making the Connections* (2003). This emphasises the importance of improving access to employment and key services (including healthcare, fresh food shopping and leisure activities), particularly for those without access to a car. In view of the relatively low level of car ownership in Hemel Hempstead and relatively high levels of social deprivation in some areas, this agenda is of particular relevance.

Climate Change Bill (draft March 2007)

2.13 The climate change agenda, as highlighted by the Stern report, is embedded in the *Climate Change Bill* (draft March 2007). Achieving a shift to more sustainable modes of transport will play a key role in achieving the CO2 reductions required to meet the UK targets – a 60% reduction by 2050 is required. Transport is seen to be a major contributor to CO2 emissions and therefore this is a key issue to be addressed within the UTP.

Current Planning Bill

2.14 The *Planning Bill*, currently in Parliament, will introduce a new system for approving major infrastructure of national importance, including transport, and will replace current regimes under several pieces of legislation.

2.15 There will also be a new Community Infrastructure Levy on developments to finance infrastructure which would allow local authorities to raise money from developers to pay for facilities needed as a consequence of new developments, such as transport, schools, hospitals and sewage plants.

2.16 Given the extent of future development proposals in and around Hemel Hempstead the Planning Bill provides opportunities for associated transport provision.

Planning Policy Guidance Note 13

2.17 *Planning Policy Guidance Note 13 (PPG13: Transport)* integrates land-use and transport decisions. The key aims of PPG13: Transport are to:

- Promote sustainable transport choices for both people and for moving freight;
- Promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- Reduce the need to travel, especially by car.

2.18 PPG13 sets out the circumstances where it is appropriate to change the emphasis and priorities in provision between different transport modes, in pursuit of wider government objectives. The car will continue to have an important part to play and for some journeys, particularly in rural areas, PPG13 acknowledges that it will remain the only real option for travel. Conversely, in town centre areas, such as Hemel Hempstead, the opportunities to reduce the dependence upon the car are viable and so should be pursued.

Regional and Local Policy

East of England Plan

2.19 At a regional level the key influence is the *East of England Plan* (EEP) – the Regional Spatial Strategy. The EEP is the key driver for the planned expansion of Hemel Hempstead in terms of new housing (12,000 dwellings between 2001 and 2021, of which 1,860 were built as of March 2006) and employment development. Building the remaining 10,140 houses requires almost doubling the rate of construction from 370 units a year to 680. It will be important to ensure that the necessary transport and other infrastructure are provided to serve this expansion.

2.20 The EEP defines Hemel Hempstead as a key centre for development and change as well as being a major town centre and regional transport node. The measures in Policy T5 (Inter Urban Public Transport) include improved access, particularly by sustainable local transport to main line railway stations, improvement to rail services to enhance capacity and passenger comfort, facilities to support and encourage high quality interurban bus/coach services, particularly east-west links and

other situations where rail is not available, coordinated with rail and local public transport, and strategic park and ride with the aim of reducing car use. The Plan permits reviewing and altering Green Belt boundaries around the town. Much of the proposed new development could take place to the east of Hemel in the St Albans District Council area.

2.21 The EEP aims to make more efficient use of existing infrastructure, make greater provision for housing and achieve a better balance of homes/jobs in an area seen as having good underlying economic prospects. The vision for Hemel Hempstead aims to capitalise on its strategic links to Watford, proposed major development at Brent Cross/ Cricklewood, Central London and other growth points at Luton and Milton Keynes. The EEP calls for improved strategic infrastructure including creating the conditions for significant increased potential for public transport usage within the town, particularly within areas of new development, as well as better conditions for walking and cycling. Hemel Hempstead is also part of the Central Hertfordshire Transport Priority Area.

Hertfordshire Second Local Transport Plan

2.22 Hertfordshire's *Second Local Transport Plan* (LTP2) sets out the County Council's vision for the future of transport in Hertfordshire over the next 20 years. This is: '*to provide a safe, efficient and affordable transport system that allows access for all to everyday facilities. Everyone will have the opportunity and information to choose the most appropriate form of transport and time of travel. By making best use of the existing network we will work towards a transport system that balances economic prosperity with personal health and environmental well being*.'

2.23 The vision assumes that the car will remain the dominant form of transport in terms of the number of journeys made, but that its physical dominance will be reduced so as to allow everyone a choice of travel mode. This means:

- People will be and will feel safer travelling on Hertfordshire's roads;
- Hertfordshire will have a transport network that moves freely and efficiently transporting people and goods;
- People will have a reasonable cost and time to their journeys to access key facilities such as education, healthcare, work and shopping;
- People will have access to information to inform their travel choices by different modes to their choice of destination; and
- Hertfordshire will have a network that is managed in a sustainable manner to ensure residents do not have their quality of life impeded.

2.24 However Hemel Hempstead received little specific mention in the LTP2, which covers investment priorities for the period from 2006/07 to 2010/11, and no major transport schemes were planned for the town.

2.25 Dacorum Borough Council's priorities in relation to the LTP, as set out in its *Commitment Statement*, are:

- Tackling Congestion – through parking management and park and ride, and addressing the impact of congestion on air quality;
- Delivering Accessibility – through supporting non-commercial bus services and the concessionary fares scheme, implementing the Dacorum Cycling Strategy, and using the planning process to secure Section 106 monies for sustainable transport and to reduce the need to travel;

- Safer Roads – through accident reduction and safer routes to schools projects; and
- Better Air Quality – through continued monitoring, although there are no air quality management areas declared at present.

West Hertfordshire Area Transport Plan

2.26 The *West Hertfordshire Area Transport Plan* is one of a series of area transport plans emanating from the Herts LTP1. It provides a framework for West Hertfordshire, setting out the direction for transport improvements over the next 15-20 years. The plan covers Hemel Hempstead, Berkhamsted and Tring. Sixteen actions are identified covering a range of interventions in the area including parking management; local traffic management; safety improvements; funding for public transport; an emerging cycling strategy; and School Travel Plans. It does not set out a detailed programme of work.

Local Development Framework Core Strategy Issues & Options Paper (2006)

2.27 The *Local Development Framework* (LDF) will be prepared in general conformity to the EEP. There will be significance to transport needs of the emerging local development framework and Hemel 2020. The Core Strategy is the most important document of the LDF and will set out the framework for planning policy, identifying the pattern of development over the next 20 years. The Issues and Options paper covers:

- vision and objectives;
- sustainable development;
- the settlement development strategy;
- housing, employment and retailing;
- transport and infrastructure;
- community development;
- landscape, wildlife and bio-diversity; and
- monitoring and implementation.

2.28 The consultation paper sets out options for consideration, including eleven elements of a draft vision promoting an integrated transport network and the re-use of urban sites for new developments. The twenty-two draft objectives include the following:

- Encouraging high density development;
- Maximising the use of places with high transport accessibility;
- Initiating the regeneration of urban sites;
- Using previously developed land for development first;
- Reducing pollution;
- Reducing car use and encouraging the use of public transport, cycling and walking; and
- Providing convenient transport opportunities to meet residents' needs; and providing access to goods and services.

2.29 Three transport issues for Dacorum are highlighted in the paper, namely congestion, parking, and accessibility. The document also points out that the Council proposes to use planning obligations to secure investment for transport and access.

Hemel 2020: Our Vision, Our Future (2006)

2.30 This document describes the vision for the future of Hemel Hempstead, aiming to inspire future developments and respond to the town's regeneration challenges, some 60 years after the first Masterplan for the new town in 1947. It emphasises the need for sustainable housing and communities; a thriving town centre; the rejuvenation of the Maylands industrial area; and the need to improve the natural and natural environment. It does not set out any detailed proposals nor the timescale for implementation.

2.31 The current Local Plan, the emerging Local Development Framework and the Hemel 2020 document form the basis for future development planning in the town. This local planning is very important for providing the context for the UTP's aims and objectives (in particular in respect to the location of future development). Thus this plan will be revised as the locations for growth become clearer.

Hemel Hempstead Town Centre (including the Old Town Centre) Strategy

2.32 This strategy is based on work undertaken by the Hemel Hempstead Town Centre Management Partnership and builds on the success of the Hemel Hempstead Town Centre Plan (included in the Dacorum Borough Local Plan adopted in 1995) which led to the modernisation of the town centre.

2.33 The strategy is also a basis for action plans - programmes of projects and activities to be undertaken by the Hemel Hempstead Town Centre Management Partnership (HHTCM), or where HHTCM will seek to influence decisions by other agencies.

2.34 The vision aims to be the starting point for a stronger commercial performance and a high quality environment. Future development of the town centre is intended to build on the good accessibility and an attractive environment. It has four aims:

- To achieve a quality environment for the benefit of those who live, work and shop in the town centre;
- To maintain a high standard of day-to-day management and security for the comfort, convenience and safety of all town centre users;
- To provide a range of facilities and services for all age groups so as to add to the vitality and attraction of the town centre; and
- To promote, encourage and guide development and investment in order to attract new businesses and improve the viability of the town centre.

2.35 Many of the principles behind the Strategy are being taken forward through the work on Waterhouse Square/Civic Zone.

3 Development in Hemel Hempstead

Introduction

3.1 Current transport and travel behaviour in Hemel Hempstead is largely determined by the pattern of development that has evolved since the new town was created. Land-use planning decisions and settlement policy have a significant influence on travel behaviour. In developing the UTP it is therefore very important to understand both the existing array of land-use as well potential changes in the future.

3.2 The LDF Core Strategy sets out considerable scope for development in and around Hemel Hempstead with potential for higher density town centre development and development/redevelopment around the town. Such is the scale of this potential change it is important that not only are the implications for travel demand understood but that the opportunities for influencing the manner of this travel are pursued. In particular, the UTP needs to provide the framework to ensure that the development takes place in accordance with the principles of sustainable transport.

Existing Development in Hemel Hempstead

Background to Hemel Hempstead New Town

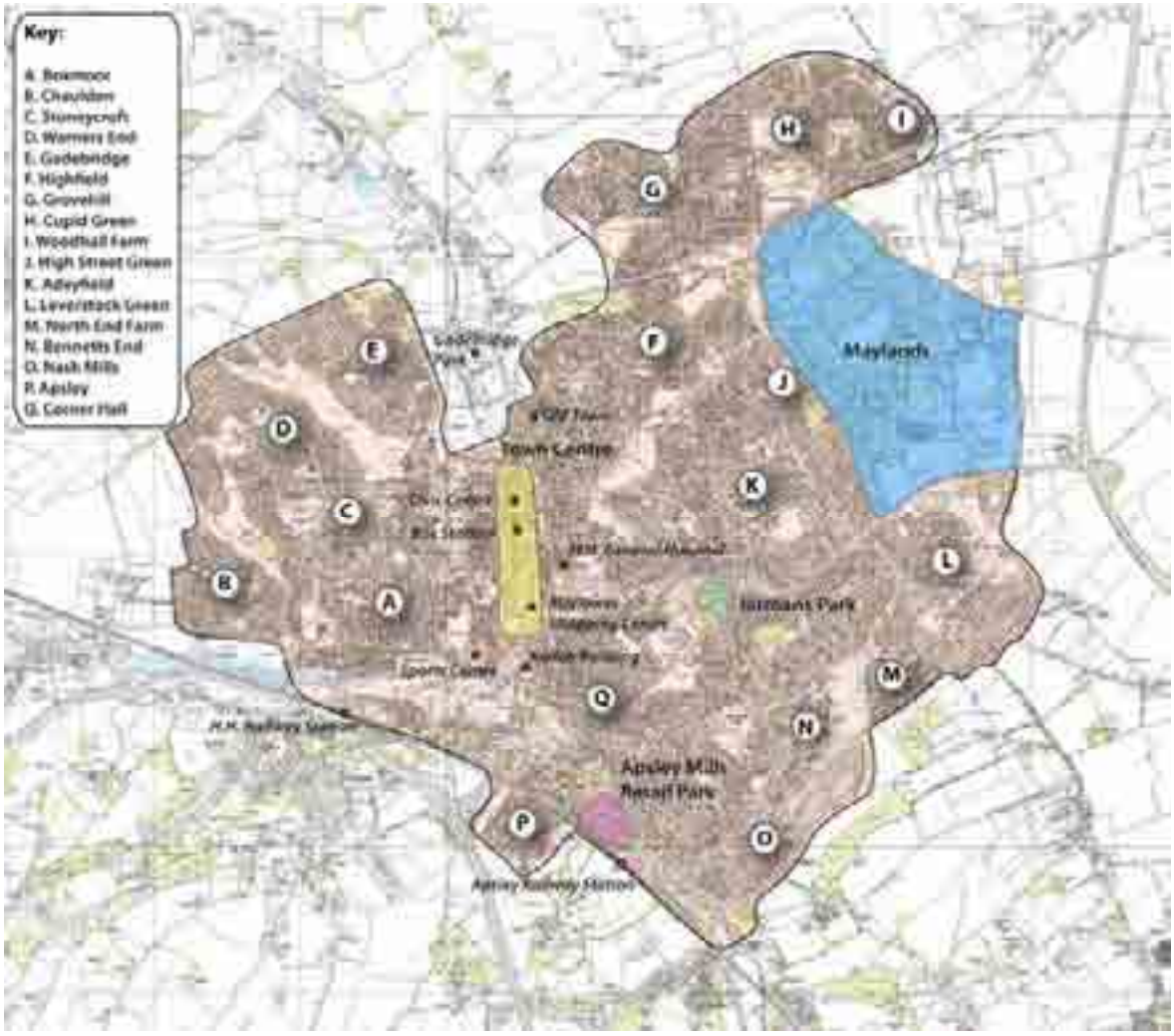
3.3 Hemel Hempstead was one of several new towns developed in Hertfordshire as part of post-war planning policy to cater for London overspill. The original 1947 development plan was a forward-looking, ambitious scheme with provision for parks and open spaces and other amenities as well as business centres, including Maylands. Much of the original plan has since been accomplished.

3.4 Now over 82,000 residents are housed in Hemel Hempstead, in 33,000 households. The main areas of development in the town as a whole can be segmented as follows:

- The Town Centre;
- The Old Town Centre;
- Existing Neighbourhoods; and
- Developments since the New Town was created.

3.5 A map of Hemel Hempstead featuring the residential and commercial areas, as well as key developments can be found in **Figure 3.1**.

Figure 3.1 Residential and commercial areas



The Town Centre

3.6 Hemel Hempstead town centre is over a mile long from the Plough roundabout in the south to Queensway in the north. It is bounded on the west side by Leighton Buzzard Road and housing areas beyond. On the east side the steep sloping valley side rises up to the hospital on Hillfield Road and other residential areas. The area incorporates the Dacorum Civic Centre, the Bus Station and Marlowes Shopping Centre.

3.7 The town centre is clearly defined by the geography of the area being at the confluence of two valleys (of the rivers Gade and Bulbourne). The structure of the town centre is also defined by the road network which enables through traffic to bypass the centre. Vehicles requiring access to car parks and premises have to circulate around the centre. This network does, however, have the tendency to sever the links between the town centre and surrounding areas.

3.8 The town centre has developed a number of distinct areas, or zones, which have predominant land use characteristics or common themes. These zones form the basis of the town centre strategy.

Civic Area

3.9 The area which contains the Dacorum Civic Centre is due to be redeveloped with additional housing, retailing and public agency functions (see below). At present the site also hosts the library, car parking, the police station, bus station and some retailing functions. The market used to be adjacent to the civic area, however now only the bric-a-brac market remains, as the general market has been relocated into the Marlowes.

Marlowes Shopping Area

3.10 The prime retail area in Hemel Hempstead has been consolidated around the Marlowes pedestrian area and in the Marlowes Centre. Nevertheless there are opportunities for further modernisation and redevelopment of existing buildings for retail use. The quality environment attracts shoppers. The present pedestrian environment is excellent and could be extended to other parts of the town centre as part of the Waterhouse Square development (see below).

Old Town Centre

3.11 Based around the High Street and Queensway, the historic quality of the built environment of the Old Town is recognised in its designation as a conservation area, containing buildings of special architectural or historic importance.

3.12 Whilst the Old Town was the original commercial centre of Hemel Hempstead it has declined in the economic strength. Its character, however, suggests an opportunity for quality specialist shops as well as local services for residents within the immediate catchment. The evening economy in the area is well developed and includes the Old Town Hall Arts Centre.

Apsley

3.13 To the south of the town lies Apsley, now a suburb and major retail centre. Originally the area was a centre for paper making, but it is now home to many warehouse outlets set in Retail Parks and includes a large J Sainsburys Supermarket. While this has led to growth in HGV movements improvements have been made to London Road to accommodate additional traffic.

Existing Neighbourhoods

3.14 Around the town centre Hemel Hempstead comprises several neighbourhoods, each with distinct characteristics and travel requirements. They are:

- Adeyfield – located on a hill to the east of the old town, this was the first of the new town districts to be started (Area K).
- Bennetts End – located on the rising ground to the south east and another original district of the new town (Area N).
- Boxmoor – a mostly Victorian developed district to the south-west which grew up because of its proximity to railway station and trains to London (Area A).
- Chaulden – a 1960s estate south west of the town (Area B).
- Corner Hall – south of the town centre with access to Apsley Rail Station (Area Q).
- Cupid Green – a 1960s estate north east of the town on the site of an old fireworks factory (Area H).
- Gadebridge – a later 1960s development located northwest of the old town. The area dominated by an expansive public park, with leisure facilities (Area E).

- Grovehill – a small estate towards the northern edge of Hemel Hempstead which contains a community centre and local playing fields (Area G).
- Highfield – a district of the original new town located north east of the Old Town (Area F).
- High Street Green – a residential area bordering Maylands, separated by a playing field and Mayland Woods (Area J).
- Leverstock Green – a village which existed before the new town and which has now been subsumed into it, although retaining its original village centre (Area L).
- North End Farm – a residential area in the south of Hemel which is north of Bunkers Park (Area M).
- Nash Mills – the southernmost ward of Hemel, which is dominated by green space, especially to the east and south. There is residential development in the central and western parts and an industrial estate in the west (Area O).
- Stoneycroft – a residential area (Area C).
- Warner's End – a residential area comprising high quality housing (Area D).
- Woodhall Farm – a housing estate on the north-eastern edge of town towards Redbourn built in the mid to late 1970s (Area I).

3.15 As part of the Hemel Hempstead 2020 project, the potential for environmental and access improvements at certain neighbourhood centres has been identified.

Developments since the new town was created

3.16 A number of significant changes have occurred in the town since the foundation of the new town.

3.17 The ***Jarman Park Leisure Centre*** was opened containing a cinema, ten pin bowling, ice rink, water park and night clubs. There is also an adjacent restaurant and superstore. Land was also reserved for a hotel, but to date this remains vacant.

3.18 The ***former Dickinsons factory site***, straddling the canal at Apsley, has been redeveloped with housing, a mooring basin, and a hotel. An office block is also planned.

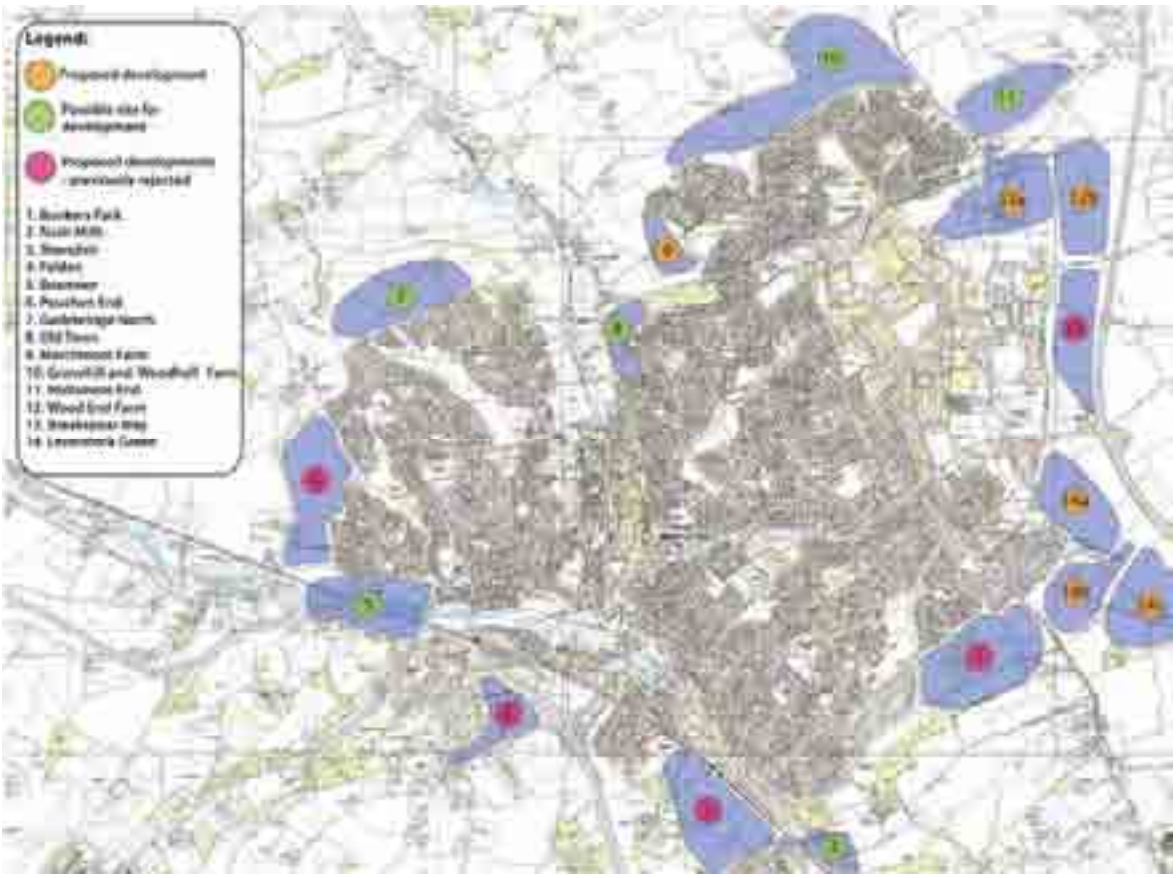
3.19 An ***indoor shopping mall*** (The Marlowes Centre) was developed adjacent to the south end of the Marlowes retail area and, in 2005 the ***Riverside development*** was opened effectively extending the main shopping precinct towards the Plough roundabout. These two developments have moved the "centre of gravity" of the retail centre further south.

Forthcoming Developments

3.20 Hemel Hempstead will experience significant major developments over the next 20 years. The current Local Plan includes housing proposal sites on the edge of town: Manor Estate (300), Leverstock Green (Green Lane – 100, Pancake Lane – 55), North East Hemel Hempstead (350), and Redbourn Road (30). The forthcoming urban development possibilities around Hemel Hempstead, extracted from the DBC's Core Strategy document, are highlighted geographically in **Figure 3.2** and the key proposals are described in the sections below. The sites are distinguished between proposed and previously rejected sites, proposed sites, and possible sites.

3.21 In addition to the development potential around Hemel Hempstead which is described in **Figure 3.2,** there are also a number of regeneration sites within the town centre area.

Figure 3.2 Urban development possibilities highlighted within the Core Strategy



Waterhouse Square/ Civic Zone

3.22 Proposals for the redevelopment of the town centre are well-advanced. This is a 14ha site bounded by Queensway, Marlowes, Bridge St. and Leighton Buzzard Road. It is likely to include:

- A new 'civic district' featuring a new town hall, library and college;
- A high quality shopping and entertainment district including a performance venue and new 80,000 sq ft supermarket;
- A river walk/cycle path along the banks of the River Gade linking Gadebridge Park to the new civic district and beyond;
- 1,000 residential units 2/3/4 bedroom houses overlooking the river and Marlowes;
- A new covered market and cinema;
- Rejuvenation of the Old Town with a new public space, new homes and traffic calming in Queensway; and
- New bus facilities, car and cycle parking.

3.23 The mixed-use nature of the development will bring residents, shoppers and visitors throughout the day and at night with implications for transport provision. The residential units will be provided with parking at less than one space per unit potentially putting pressure on the Hammerfield, Highfield and Gadebridge area, which may lead to a need for parking controls.

3.24 A new bus station is proposed as part of the Waterhouse Square / Civic Zone redevelopment. The main bus stops and shelters would be arranged around a new market square with the bus station acting as an interchange and serving less frequent routes In addition, car parks are planned alongside the Water Gardens between Bridge Street and Moor End Road.

Maylands Business Park

3.25 The *Maylands Masterplan* sets out a vision for the future development of the business park. The aim is to create it into a sustainable, well connected, green business park hosting high quality employment facilities and accommodation, within a pleasant environment, complemented by a range of shops, cafes and restaurants set in a network of open spaces. The development aims to reach the highest environmental standards and will incorporate an on-site Energy Centre. Thus a wider range of activities is likely to arise over time generating different movement patterns.

3.26 One objective of the Masterplan is to make Maylands an accessible place to work, through introducing high quality public transport, encouraging sustainable forms of travel via a variety of modes, and promoting ease of movement and reducing congestion in and around Maylands. The Masterplan establishes a number of Character Areas, including Maylands Gateway, the Face of Maylands, the Engine Room, and the Service Centre.

3.27 For Maylands Gateway, the Masterplan sets out several important elements for access and parking:

- New buildings should not be dominated by car parking. Parking should be avoided on the Breakspear Way frontage, and the potential for underground and undercroft provision explored.
- Secure and conveniently located cycle parking to be provided for each development.

3.28 HCC is still considering new vehicular access points into Maylands. For the Face of Maylands, the key parking and access points are that secure and conveniently located cycle parking should be provided for each development.

3.29 For the Engine Room, the key elements include sufficient space to be provided for lorry parking and manoeuvring. Secure and conveniently located cycle parking should be provided for each development. Parking at the front of buildings should be limited to two rows of vehicles.

3.30 In the Service Centre, sufficient space should be provided for lorry parking and manoeuvring, and secure and conveniently located cycle parking should be provided for each development.

3.31 A new access road is being considered by the HCC and would lead into Maylands through the Gateway to accommodate traffic from currently congested routes into Maylands. The eastern fringes of the Gateway could also include a Park and Ride facility serving both Maylands and the town centre, with a dedicated and secure HGV parking area.

Potential Development to the East of Hemel Hempstead

3.32 The *East of England Plan* (EEP) is the key driver for the planned expansion of Hemel Hempstead. Significant new housing (potentially 12,000 dwellings by 2021) and employment development is due to arise. EEP has recommended that the Green Belt boundaries around the town are reviewed, and altered, to accommodate the growth. Much of the proposed new development would take place to the east of Hemel in St Albans District.

3.33 EEP designates Hemel Hempstead as a key centre for development and change as well as being a major town centre and regional transport node. The Plan aims to make more efficient use of existing infrastructure, greater provision for housing and the achievement of a better homes/jobs

balance in an area with good underlying economic prospects. The plan also promotes the regeneration of the low density post-war town centre.

Potential Development in Apsley, Central Hemel and Nash Mills

3.34 The *Urban Capacity Study* (2005) reviewed all sites in the town that could potentially be used for housing or other development. The Study identified sufficient capacity for a large increase in housing within the town (2,500 dwellings by 2021) in addition to those planned in EEP. The main areas for expansion are likely to be Apsley, Central Hemel (including those in the Waterhouse Square redevelopment) and Nash Mills. This would represent a very large increase in accommodation that would have a significant impact on the transport networks.

Priorities for development from the LDF

3.35 The *LDF Core Strategies Issues and Options Report* has identified seven areas as priorities for future development:

- North East Hemel Hempstead – Wood End Farm/ Redbourn Road South
- West Hemel Hempstead – Chaulden/ Pouchen End
- Old Town/ Highfield Extension
- North Hemel Hempstead - Marchmont Farm
- North Hemel Hempstead – Grovehill and Woodhall Farm
- South East Hemel Hempstead - Leverstock Green
- South Hemel Hempstead - Shendish

Two other possible development areas for Hemel Hempstead lie within the St Albans District Council boundaries:

- North East Hemel Hempstead – Holtsmere End/ Redbourn Road North
- East Hemel Hemptead – Breakspear Way/ East of Buncefield

Hemel Hempstead Hospital

3.36 Hemel Hempstead Hospital (HHH) site currently has poor access on a very steep hill with difficult access on foot or by public transport and car. The site is very cramped with multiple buildings located on a small site with narrow roads and footpaths. A number of services have recently been transferred to other facilities and more will follow in the near future. The demands on HHH will therefore change as a result.

3.37 The longer term vision for the site depends upon a Hertfordshire-wide review of acute care provision. It is likely, however that HHH will provide primary care as a local general hospital with out-patients and day care facilities. The hospital authorities are unlikely to need the entire site after 2014. Nevertheless since there are problems at both HHH and Watford of poor accommodation for nurses etc the site could be redeveloped for this use.

3.38 The construction of a new link, to provide access into HHH from the A414 is still a possibility, since it might be funded by developers' contributions.

Other significant developments

3.39 The redevelopment of the Kodak building, as well as the Spencer Park and Jarman Park developments are the other most advanced schemes.

3.40 The Kodak building is due to include over 400 residential units, office and retail outlets. Planning permission has been given, subject to S106 contributions being agreed. The development will provide a new pedestrian link to the riverside area into Debenhams. Traffic generation from the building is a potential issue and therefore the exit from the building will be onto Leighton Buzzard Road and new traffic lights will be installed next to the existing ones on Leighton Buzzard Road. Car parking under the tower will be shared between residential and commercial users.

3.41 A development brief has been prepared for mixed use activities at Spencer Park and consultation undertaken but the site could become 100% residential. Progress on this development has been hindered by the influence of the Buncefield explosion but a Planning Agreement is due in summer 2008 and work is due to start during the winter of 2008/09.

3.42 Discussions are proceeding over the future redevelopment of Jarman Park, and Tesco had applied for a mezzanine level and decking for the car park but this has since been withdrawn. Retail warehousing is also likely to be located there. Additional possible developments include an Indoor Ski Centre on St Albans Hill and a new stadium on the eastern side of the town.

Impact of Development

Implications of new developments

3.43 The proposed developments in and around Hemel Hempstead will generate demands for extra movement, putting additional pressure on the existing transport networks. Much of this movement would be vehicular traffic, including freight movements, leading to additional congestion, more road accidents, worsening air quality and noise pollution. The traffic growth from these developments will need to be modelled to assess their impact in greater detail (Note: a transport model is currently being constructed for the town).

3.44 The cumulative effects of the links between all the proposed developments needs to be considered in order to fully understand the transport requirements.

3.45 It will be important to ensure that, wherever feasible, the growth in movement generated through developments is catered for by sustainable transport modes and the necessary transport and other infrastructure must also be provided to serve this expansion. Section 106 agreements will form an important aspect of securing funding for these measures.

4 Issues and Opportunities

Background

4.1 Mobility and transport is an integral part of society and a key issue for Hemel Hempstead. Increasing car ownership and usage in line with national trends result in a high dependency on the private car to satisfy movement needs.

4.2 The resulting increase in traffic volumes and road congestion contribute to and create a poorer quality environment. The car is a convenient and versatile means of transport for many but at increasing social, environmental and economic cost.

4.3 While car dependency, the resulting highway infrastructure and the lack of alternative modes play an important part in the transport issues for Hemel Hempstead, there are a number of other challenges within the transport context faced by the town which are described in this chapter. An important one to consider is the impact of potential future development in Hemel Hempstead, as this could have a significant effect on the transport network.

4.4 The issues and opportunities at the core of this section have been gathered from several sources which include key stakeholder interviews, policy reviews, a walking and cycling audit, a public transport survey, and a planning for real consultation day with stakeholders (a list of attendees can be found in **Appendix D**).

4.5 The issues and opportunities have been highlighted after each section and have been abbreviated and numbered (e.g. Congestion Opportunity 1=CO1 or Accessibility Opportunity 1=AO1) within the key areas of the UTP.

Socio-Economic Profiling

4.6 Nearly 82,000 residents are housed in Hemel Hempstead, in 33,000 households. Almost a further 60,000 people live in other parts of the Dacorum Council area that encompasses Berkhamsted, Tring and surrounding rural areas. In total over one million people live within 12 miles of the town.

4.7 Nearly half of residents in Hemel Hempstead are of working age (25-59). Less than 5,000 people are classified as being from ethnic groups according to the 2001 Census but 12% of the population, over 12,000 people, suffer from some kind of disability. By comparison with both the county and national population, Hemel has a higher proportion of under 4 year olds and of 10-14 year olds.

4.8 Any future developments will have an impact on the socio-economic profile of the town and should be considered when decisions are finalised.

Journey to Work

4.9 **Table 4.1** shows that the town's public transport mode share is on the low side. 9% of people use this mode to travel to work, compared to 13.7% in Hertfordshire, 10.9% in the East of England and 16.5% in the whole of England. This figure is also lower than the nearby towns of St Albans (20.5%), Watford (18.1%) and Luton (12.8%). This lower figure is due to high commuting into London and other Hertfordshire destinations.

4.10 The proportion of car drivers is subsequently higher than average, with 69.2%, compared to 64.4% in Hertfordshire, 64.7% in the East of England and 61.0% in the whole of England.

4.11 Non-motorised transport (NMT), i.e. walking and cycling, was slightly higher in Hemel than the rest of Hertfordshire (11.8% versus 10.6%) and slightly lower than the East of England (13.0%) and England (12.8%).

4.12 The average distance travelled to work (11.79 miles) was lower than the rest of Hertfordshire (14.65), the East of England (15.88) and the whole of England (13.31). Hemel has a lower share working from home than Hertfordshire and the East of England (8.1% versus 9.4% for the latter two). The share of public transport users in households without a car or van was high, compared to the region. The Hemel figure was 19.5%, compared to 12.5% for Hertfordshire, and 14.5% for the East of England. England overall had a higher share, with 30.45%. Nevertheless it is one of the most self-contained towns in Hertfordshire.

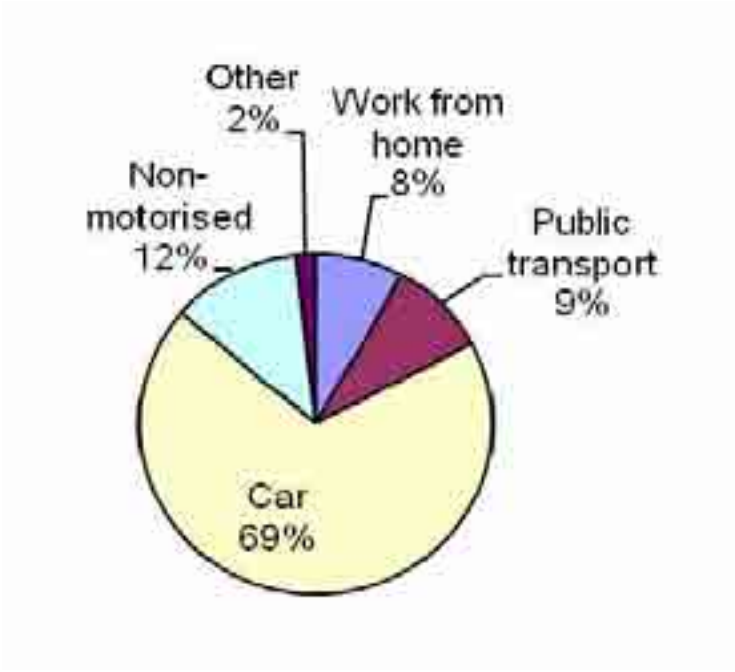
Table 4.1 Census 2001: Travel to Work town comparison (KS15 & KS17 data sets)

District/ Borough	Cars per household	Work from Home (%)	PT mode share (%)	Car mode share (%)	NMT mode share (%)	Distance travelled to work (in miles)	PT users in households without car or van (%)
Hemel Hempstead	1.27	8.1	9.0	69.2	11.8	11.79	19.5
Hertfordshire	1.34	9.4	13.7	64.4	10.6	14.65	12.5
East of England	1.27	9.4	10.9	64.7	13.0	15.88	14.5
England	1.11	9.2	16.5	61.0	12.8	13.31	30.45

Excludes motorcycles, taxis and 'other' categories; Source: Census 2001

4.13 An overview of the journey to work modes for Hemel Hempstead is illustrated in **Figure 4.1**.

Figure 4.1 Hemel Hempstead Journey to Work Mode



Source: Census 2001

CI1: High car use to work

Congestion

Car Ownership

4.14 According to Census data, Hemel has a higher level of car ownership than many comparable nearby towns, with 1.27 cars per household. This figure is, however, lower than the average car ownership across the county, though it is equal to the East of England figure.

4.15 While car ownership is high, over 20% of households lack access to a vehicle - higher than the average for Hertfordshire. But in parts of Gadebridge and Adeyfield around 40% of households lack access to a car. Fewer households in Hemel are multiple car owners than in the rest of the county; car occupancy rates appear to be growing.

Highway Description and Traffic Flows

4.16 Hemel Hempstead has several locational benefits in terms of transport. The town is served by the M1 motorway from London to Leeds - junction 8 is less than 2 miles away, while junction 20 of the M25 London orbital is less than 4 miles from the town centre.

4.17 The M1 is one of the busiest motorways in Britain and is a strategic link between London, the Midlands and the North and is adjacent to Hemel. The section between Junctions 6A and 10 is approximately 10 miles long, stretching from the M25 to Luton. It carries an average of 160,000 vehicles per day with long delays experienced at peak times. Works to widen the M1 constructing new parallel roads are due to be completed by autumn 2008. The objective is to reduce congestion and improve both safety and journey time reliability.

4.18 The M25 is one of Europe's busiest motorways, handling around 200,000 vehicles every day. It is at the core of the Highways Agency's national network, and there are plans for future widening to help tackle congestion and improve journey times. Widening plans entered the Government's Targeted Programme of Improvements in April 2004 and since then the Agency has been developing design, programming and procurement arrangements. The sections to be widened include from Junction 16 to Junction 23 (M40 - A1 (M)) – 22 miles that serve as a southern bypass for Hemel Hempstead.

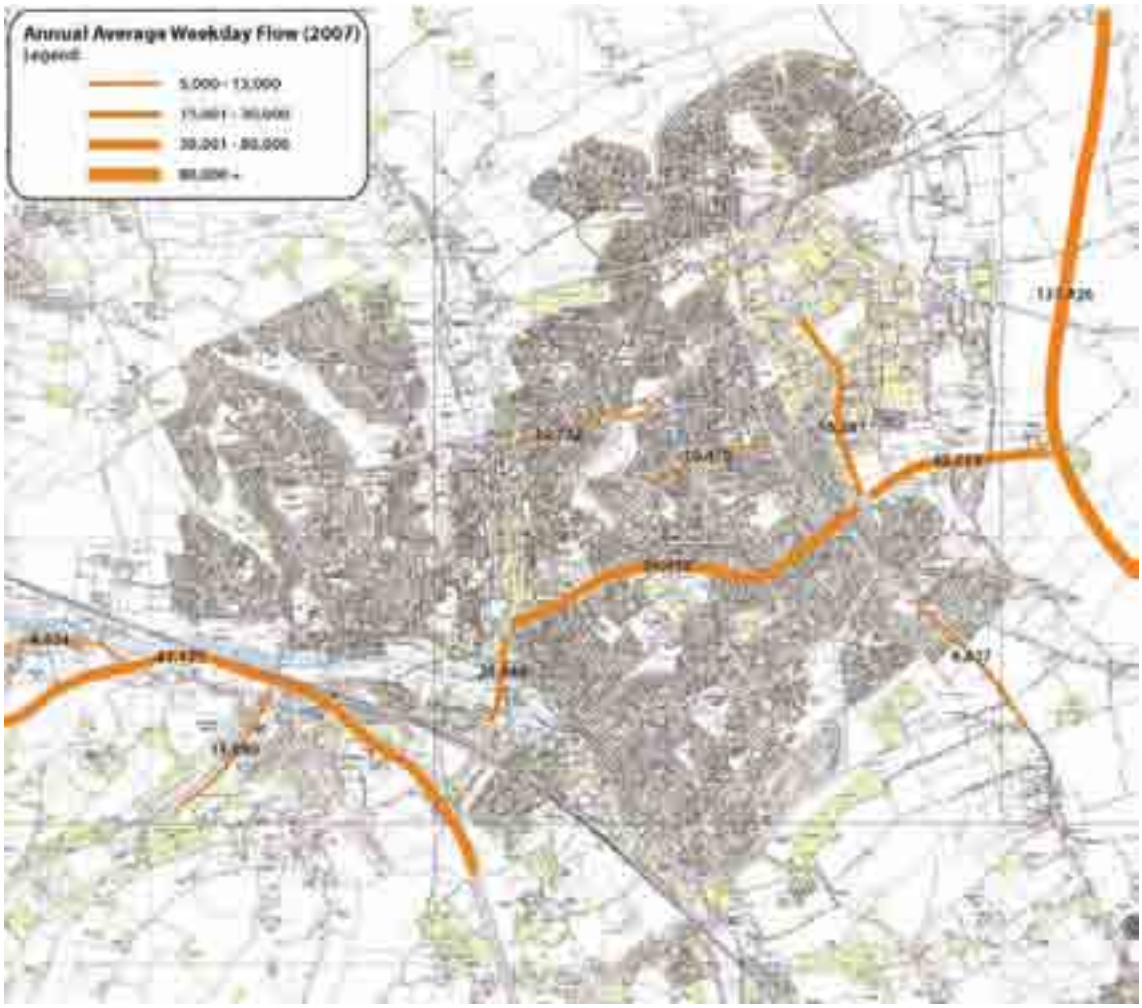
4.19 The M10 link from the M1 to the A414 and the M25 provides the town with connections towards the eastern ports and onwards towards the Channel Tunnel.

4.20 To the west, the A41 is now a dual carriageway and serves as a by-pass to the town. Although Hemel Hempstead lacks a designated ring road the A414, A4146 and A4147 currently serve this purpose, at least in part.

4.21 Close proximity to major motorways has disadvantages however. Suburban roads suffer whenever there is an incident on the motorways, or other main roads, that cause traffic to be diverted. This can delay buses and freight movements. In the past a northern bypass and a north east relief road have been proposed to help address the problems of congestion in the town centre.

4.22 Other than the motorways, the main traffic routes for Hemel Hempstead are the A414 (Breakspear Way, St Albans Road, Leighton Buzzard Road, and Two Waters Road) and the A41 bypass. **Figure 4.2** shows the traffic counts on the roads in the town where counts are made.

Figure 4.2 Traffic flows on key routes



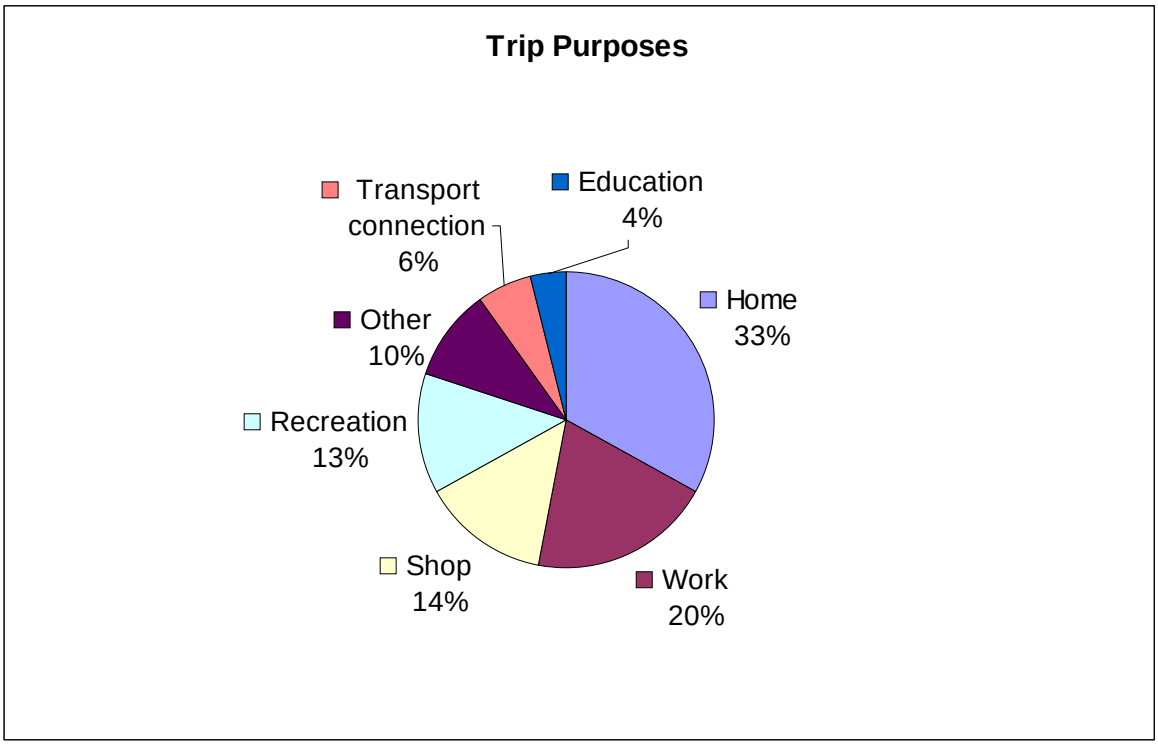
Source: Herts Highways

4.23 The *Hertfordshire Traffic & Transport Data Report 2007* shows that the total number of vehicle kilometres per day was 3.83 million on all roads and 2.70 million on HCC roads. This represents a decrease of -2.79% on all roads but an increase of 3.91% on HCC roads between 2006 and 2007. The highest recorded flow (annual average weekday) was on the M1 with 128,200 (in 2007).

4.24 The Data Report also includes local traffic forecasts, using 2001 as the base year. For Dacorum, an 18.8% increase is predicted by 2011 and a 30.8% increase is predicted by 2021. These increases are largely due to the proposed growth in new households and jobs in the district, as identified in the East of England Regional plan.

4.25 In the document *Tackling Congestion in Hertfordshire* (HCC 2007), with the exception of trips home, the main trip purposes are for work (20%), followed by shopping (14%) and recreation (13%). These figures (seen in **Figure 4.3**) cover the whole day and indicate that the causes of congestion are not simple and straightforward to solve.

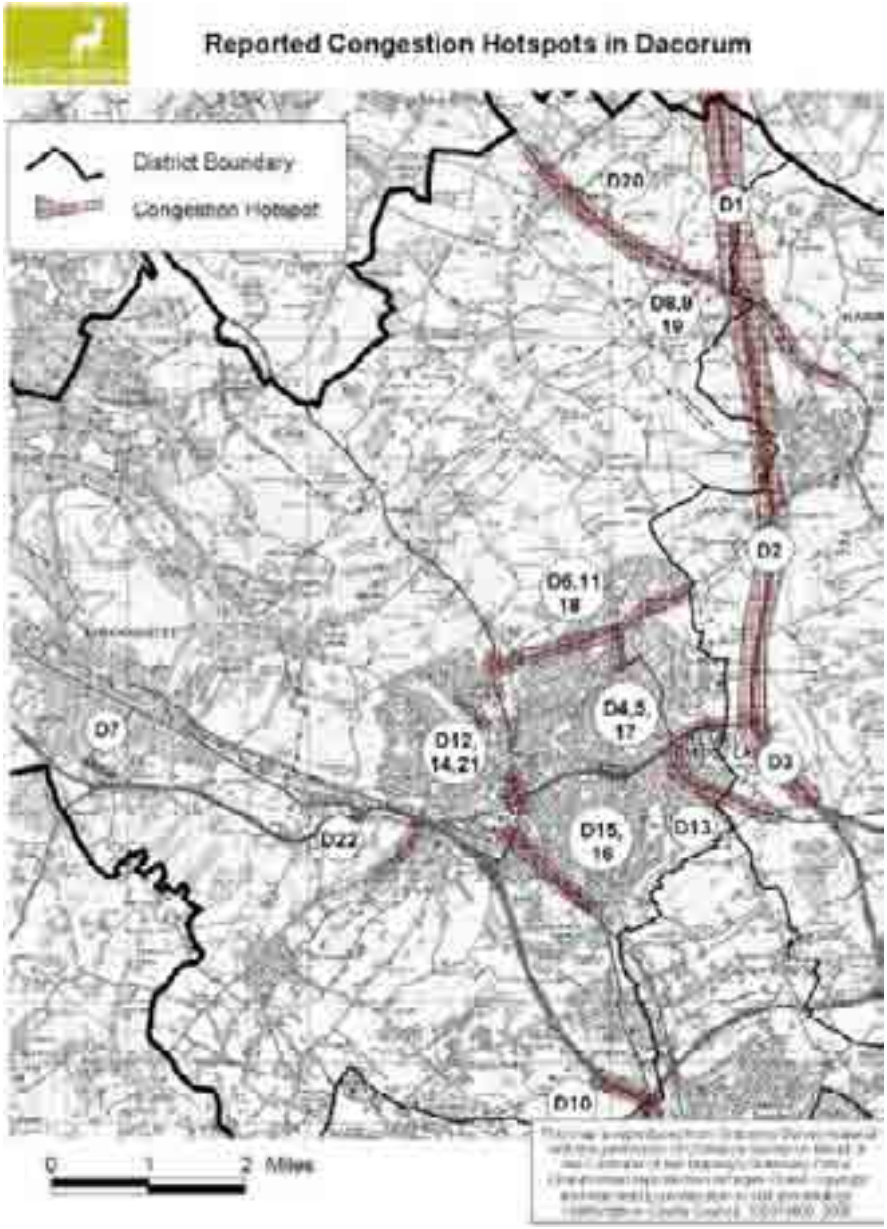
Figure 4.3 Trip Purposes in Hertfordshire (Hertfordshire Travel Survey 2005)



4.26 The main congestion hotspots can be seen in **Figure 4.4**. The main corridors affected within the town are Link Road, London Road, parts of Leighton Buzzard Road, parts of the A414, Redbourn Road and Leverstock Green Road. Outside the town, Box Lane, used to access the A41 and the M1, is also affected.

4.27

Figure 4.4 Congestion in Dacorum



Source: HCC - Tackling Congestion in Hertfordshire, 2007

Note: The locations are marked by a D for 'Dacorum' followed by the site number.

4.28 The new developments in and around Hemel Hempstead will generate demands for significant extra movement, putting additional pressure on the existing transport networks. Much of this movement would be vehicular traffic, including freight movements, leading to additional congestion, more road accidents, worsening air quality and noise pollution. The traffic growth from these developments will need to be modelled to assess their impact in greater detail.

4.29 The cumulative effects of the links between all the proposed developments need to be considered in order to fully understand the transport requirements.

4.30 It will be important to ensure that as much as possible of the likely growth in movement is catered for by sustainable transport modes but the necessary transport and other infrastructure must also be provided to serve this expansion.

4.31 Any new developments will have an impact on the highways and levels of traffic flows and congestion. This impact will need to be considered and mitigated as much as is feasible. Section 3.18 and Figure 3.2 highlighted the urban development possibilities, extracted from DBC's Core Strategy Issues & Options document.

CI10: Future developments will impact on the A414, Link Road, Leighton Buzzard Road, and public transport

4.32 The following issues and opportunities arose from the Planning for Real event in relation to highways and traffic flows.

CI1: High car use to work

CI2: Large commuting flows to London

CI3: Congestion on key highway routes

- **East-west on A414, back to M1**
- **Maylands roundabouts**
- **Plough Roundabout**
- **Box Lane to Bovingdon**
- **Two Waters Road**
- **Redbourn Road**
- **London Road**
- **Leighton Buzzard Road**

CI4: Congestion caused by conflicts between general traffic and HGV vehicles

CI7: Crowded rail services to London in peak periods

CI8: Delays to local bus services due to highway congestion

CI9: Links to new developments will put pressure on east-west routes

CO1: Promote sustainable transport modes for likely increase in personal trips to address current and future problems

CO2: Improve public transport

CO3: Encourage walking and cycling for local trips as well as for access to other modes (e.g. rail station)

SO1: Highways improvements

Junctions and Signals

4.33 A SCOOT signal with bus priority exists at junction A4251 London Road/B4505 Box Lane/Felden Lane (installed 05/12/05).

4.34 MOVA controlled signals can be found at the following junctions: A414 Link Road/A4215 London Road, Apsley Mills/London Road and A4251 Hempstead Road/Rucklers Lane.

4.35 The following opportunities regarding junctions resulted from the Planning for Real consultation event.

CO4: Junction improvements on A414

Road Schemes

4.36 The two committed road schemes for Hemel are the works on the M1 and M25.

4.37 The section of the M1 between junctions 6a and 10 is in the process of being widened and is due to be completed by the end of 2008. The objective is to reduce congestion and improve safety and journey time reliability.

4.38 As mentioned above, there are plans to widen the M25 from Junction 16 to Junction 23 which represent a southern bypass for Hemel. These plans were submitted in April 2004 and are in the process of being developed.

4.39 The two suggested schemes are a north east relief road and a northern bypass, neither of which has been approved.

4.40 The potential for a north east relief road has been identified to help address the problems of congestion, which arises especially when an incident on the motorways or other main roads causes traffic to be diverted onto the A414, A4146 and A4147. It was also proposed to serve Maylands.

4.41 A northern bypass was considered as part of the Hemel Hempstead Transport Plan (1995), with an indicative route linking the A41 near Bourne End to the M1 at its crossing with Redbourn Road. This option, however, was previously disregarded due to its environmental impacts.

CO5: North East Relief Road

Air and Noise Pollution

4.42 The proposed new developments will cause an increase of movement which will have an impact on air and noise pollution. This should be mitigated from the outset through improved infrastructure and the promotion of more sustainable transport modes.

4.43 Currently no AQMAs (Air Quality Management Areas) exist in Hemel Hempstead. Due to the relatively high levels of HGV traffic in the area air problems exist however, for example on the Leighton Buzzard Road. Problems also arise at Junction 8 of the M1 but the responsibility for the motorway lies with the Highways Agency, not the County or Borough Councils.

Parking

4.44 The Borough Council acquired Decriminalised Parking Enforcement (DPE) powers in 2003 and introduced a management regime in its car parks and on-street which gives priority to residents and short stay parking, with lesser priority being given to long stay, commuter parking. The enforcement regime run by the Council aims to control obstructive parking which can lead to traffic delays.

4.45 The Council manages 1200 off-street controlled spaces (inherited from the New Towns Development Commission in 1999) but these were not charged for until October 2003.

4.46 Four non-DBC managed car parks exist in Hemel:

- Marlowes (1995 created) 1200 spaces mainly for short stay parking;
- NCP: first of this design in UK; 200 spaces; 15 min segment charging;
- Riverside (next to Debenhams): 350 spaces owned by Arlington property; and
- Hospital: over 100 spaces.

4.47 New levels of charges for DBC-managed parking in the town have recently been approved. Nevertheless parking is generally cheap; the Water Gardens car park costs £0.50p for parking up to 1 hour and £1.70p for up to 4 hours. In the Old Town car parking costs just £1.10 a day while in Apsley it is also inexpensive – long-stay parking costs only £2.00 a day. Parking at the hospital is expensive however, £3 for up to 3 hours but £12.50 for over 5 hours, in order to deter staff from using their cars.

CI5: Abundance of parking in town centre and parking charges too low to discourage driving into centre or to support effective P&R

4.48 CPZs (Controlled Parking Zones) are being provided where a parking problem manifests itself and the residents support its introduction. Two CPZs exist adjacent to town centre: hospital (operates up to 8pm Monday – Saturday) and in town centre (operates up to 5pm Monday – Saturday). Two more are committed – Boxmoor and Old Town but there has been public opposition to these proposals. There is a possibility of a CPZ in Cotterells and Heath Lane which could be extended north to include Astley Road.

4.49 A small CPZ is planned on Lamsey Road (South of St Albans Road) on the same timescale as Cotterells. A new CPZ may be provided next to Kodak with extended hours but no Kodak residents will have access to Cotterells CPZ

4.50 A CPZ may be provided on Roughdown Road (near station) and Catlin Street. In Apsley a possible CPZ could be introduced in the Weymouth Street area but this could create possible problems for local shops.

4.51 The Council has recently ended funding the Hemel Hempstead Park & Ride scheme in Gadebridge Park which had been intended to provide an alternative for commuters working in the town centre as well as serve the hospital. In 2004 a report was prepared regarding Park & Ride for Herts Highways by the House consultants and presented to the Dacorum Borough. The conclusion was that “with the present parking fees charged in Hemel Hempstead it would be many years before Park and Ride in Hemel Hempstead would be a feasible proposition with the present policy. Hence consideration for increasing Park and Ride schemes has not been progressed."

4.52 A map of the main DBC and non-DBC car parks can be found in **Figure 4.5**. Additional parking is located in Apsley, Chaulden, Gadebridge, Grovehill, Highfield, Nash Mills and Woodhall Farm.

Figure 4.5 DBC and non-DBC car parks and major roads

4.53 The following issues and opportunities related to parking arose from the consultation event.

CI6: Congestion caused by double parking in some residential areas

CO6: Congestion management including travel plan development, development control requirements including car parking

SI2: Inappropriate parking

SO2: Parking enforcement

Sustainable Transport

Rail

4.54 Hemel Hempstead is served by London Midland and has several services running to London Euston, Milton Keynes Central, Tring and Northampton. London Midland is a new company which has combined the former Silverlink County and most of Central Trains into a single franchise.

4.55 Rail services also serve Bedford (via Bletchley) and St Albans (via Watford Junction). The growing city of Milton Keynes, also served by London Midland, is the gateway to the 400 mile-long West Coast Main Line, which is currently being upgraded and has services to Birmingham New Street Liverpool, Manchester, Preston, North Wales and Glasgow.

4.56 The ticket numbers at Hemel Hempstead and Apsley equal over 2 million every year. The majority, over 1.6 million, use Hemel Hempstead, including about 2% who interchange at the station (DfT).

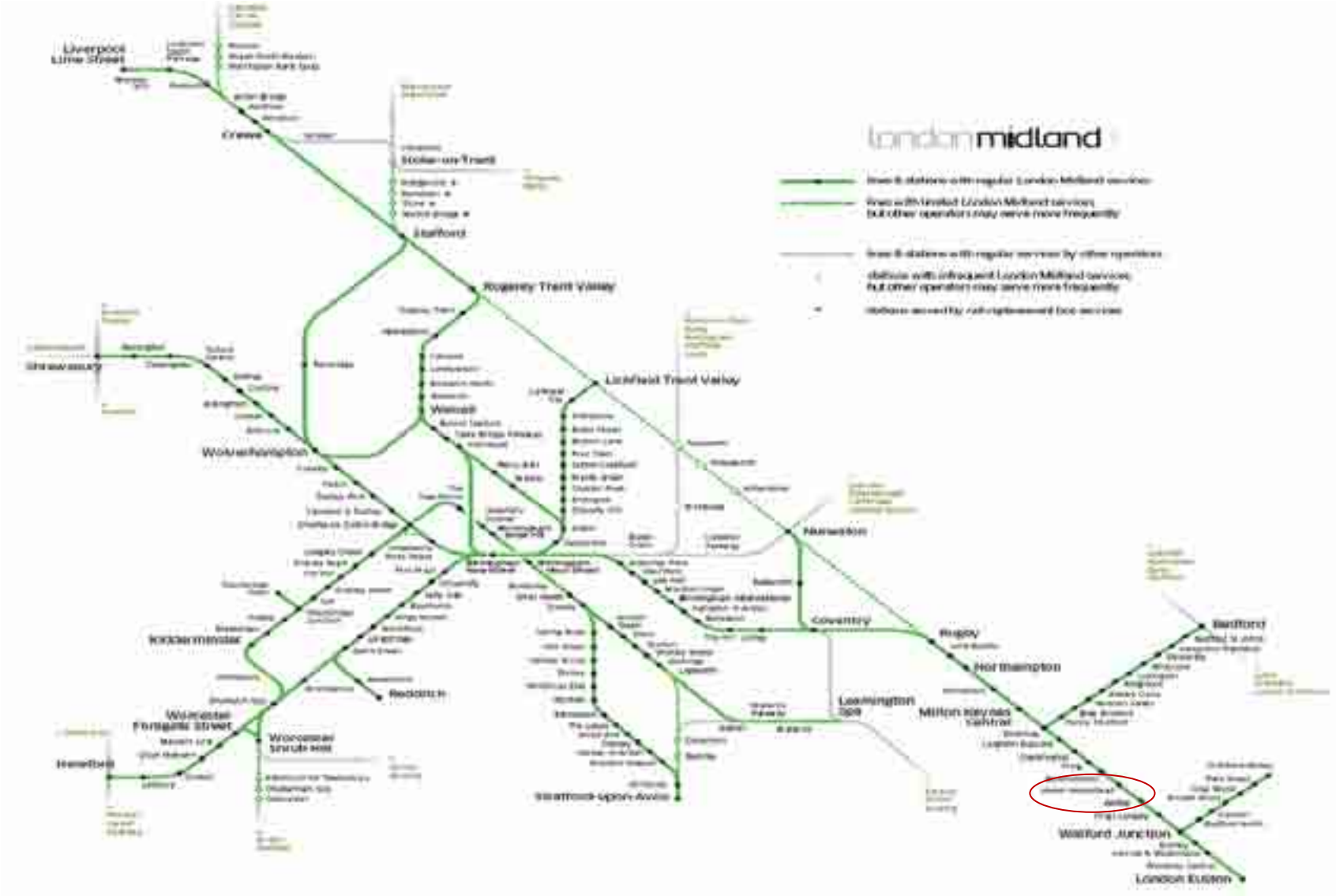
4.57 An overview of rail service frequencies from Hemel Hempstead can be found in **Table 4.2** and a map of the rail network can be found in **Figure 4.6**.

Table 4.2 Hemel Hempstead rail services

Line	Peak frequency	Off-peak frequency
Hemel Hempstead to London Euston	4 per hour	4 per hour
Hemel Hempstead to Milton Keynes Central	1 per hour	1 per hour
Hemel Hempstead to Tring	2 per hour	2 per hour
Hemel Hempstead to Northampton	1 per hour	1 per hour
Apsley to London Euston	2 per hour	2 per hour
Apsley to Tring	2 per hour	2 per hour

4.58 Nearby St Albans is also well situated for rail journeys. St Albans City railway station provides a fast and regular service into the capital, St Pancras International and Gatwick and Luton airports, as well as links to the East Midlands services, via Luton and Bedford. The East Coast mainline (at Stevenage) is also accessible, at a distance of about 30 miles by car.

Figure 4.6 Rail network map



4.59 As part of the South Midlands Route Utilisation Strategy there is a proposal for a rail link to Stansted, via Bletchley, that could open new opportunities in the future.

4.60 Unfortunately Hemel Hempstead station is separated from the town by Boxmoor so nearly all access is vehicular. There are 519 parking spaces at the station costing £5.50 per day. The occupancy rate (6th Jan to 2nd Feb 2008) was 100%. Hertfordshire County Council is establishing the feasibility and funding for a DDA-compliant access scheme at Hemel Hempstead station to make travel easier for the mobility impaired.

4.61 Access to the station is poor and movements for buses often require them to divert off the main road into the forecourt although plans are in progress to improve access.

AI1: Lack of public transport linkages between the main destinations

- **Hemel Hempstead railway station;**
- **Town Centre; and**
- **Maylands business park**

AI5: Poor reliability of trains

4.62 Apsley Station serves a local function by comparison to Hemel Hempstead so it provides a lower parking provision. It has only 23 parking spaces with a daily charge of £3 and again has a 100% occupancy rate.

AO1: Improved integration of public transport services

- **Rail station**
- **Waterhouse Square redevelopment**

Bus

4.63 Hemel Hempstead Bus Station is currently in Waterhouse Street, next to the Market. This is a very central location, with easy access to the pedestrianised area and shops, but the quality of the bus station is poor. It is due to be relocated as part of the Civic Zone/ Waterhouse Square redevelopment, over the next 5-10 years.

4.64 Bus and coach services are operated by several independent commercial companies, e.g. Arriva, UNO, Red Rose and Woottens, in and around Hemel Hempstead, although Arriva dominate the market. The network covers most of the town and around 5% of residents travel to work within the town by bus but the mode is used more by shoppers. Some rural routes and evening or Sunday services are run under contract to Hertfordshire County Council e.g the Woottens public transport link started July 2008.

AI6: Insufficient rail and bus services especially on Sundays, evenings and mornings

AI7: Poor bus linkages to Old Town

4.65 Bus services in and around Hemel Hempstead are often constrained by congestion. Due to the nature of the highway network it is difficult to provide extensive bus priority measures in some areas, such as the old town. Service levels are often inadequate – the train service into London operates at higher frequency than many local bus services – further reducing the attractiveness of buses. Inter-urban bus links exist to Watford, St Albans, Luton, Tring, Aylesbury and London

Victoria and widen the travel opportunities. Hemel Hempstead has good coach links to the main airports: London Gatwick is served by an hourly service from the bus station run by National Express which also serves Heathrow, Stansted and Luton airports.

AI3: Low bus frequency and reliability

AI4: Lack of timetable and route information

4.66 There is a lack of public transport linkages between the main destinations, especially Hemel Hempstead railway station, the town centre and Maylands Business Park. The lack of bus connections to the Old Town is especially difficult for the elderly and young people who have to walk or use taxis.

AI2: Lack of east-west connections

4.67 Hemel Hempstead is covered by the Intalink Partnership, a collaboration between local authorities and bus and train operators in Hertfordshire. This Partnership aims to achieve:

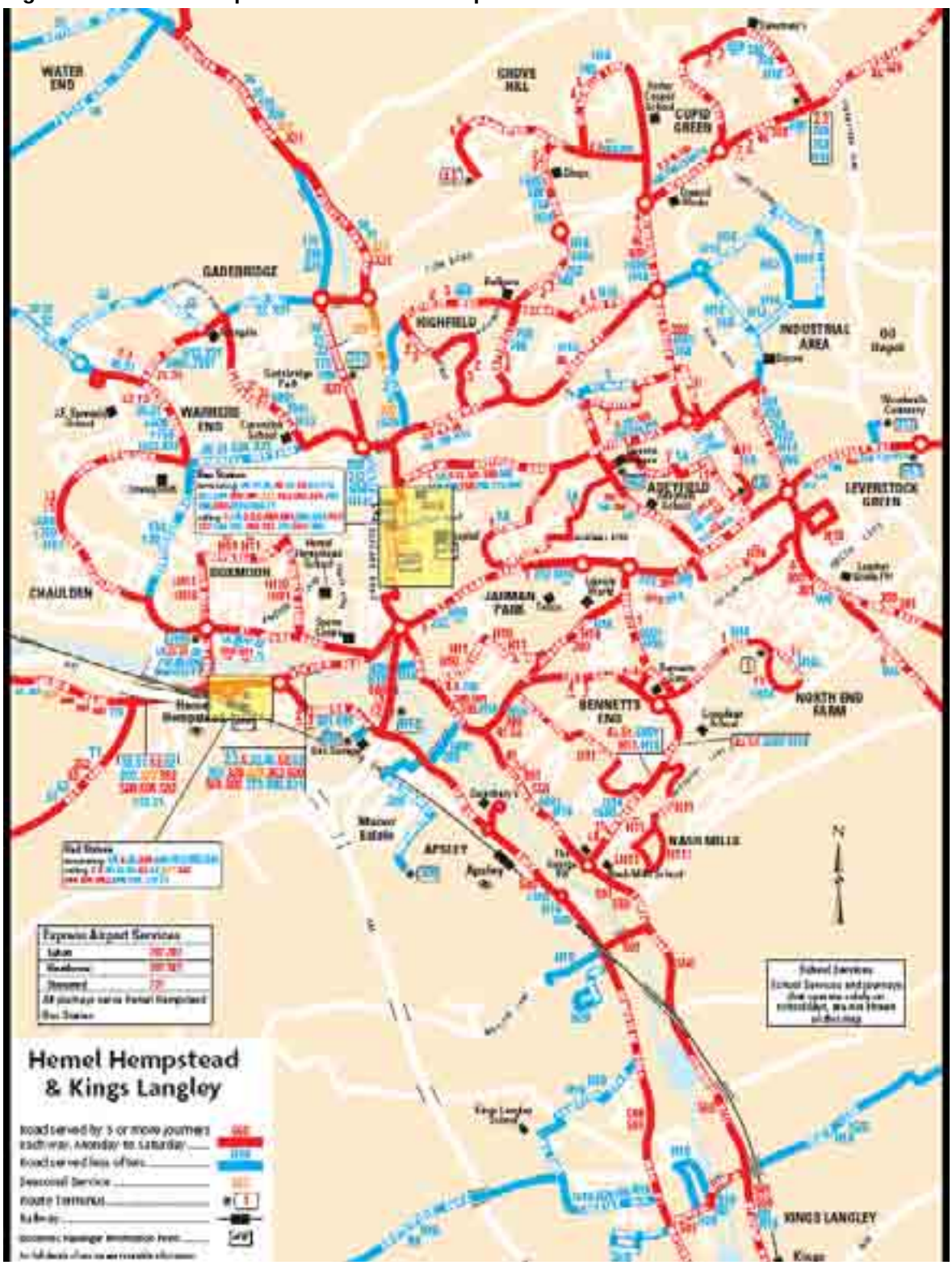
- Better customer information on bus and rail services in Hertfordshire;
- Better awareness of journey opportunities available by using passenger transport;
- Co-ordination between service providers;
- An integrated bus and rail network and ticketing (Plusbus); and
- Higher standards of information and service provision.

AO2: Improved information provision

- Real-time information

4.68 The map overleaf (**Figure 4.7**) shows the bus routes in Hemel Hempstead.

Figure 4.7 Hemel Hempstead bus network map



Source: Intalink website (June 2008) http://www.intalink.org.uk/Maps/Hemel-Hempstead.pdf

4.69 The main bus routes serving Hemel Hempstead are listed in **Table 4.3**.

Table 4.3 Main bus routes

Route Number	Route
500/32	Hemel Hempstead – Aylesbury via Berkhamsted and Tring
500/550	Watford – Hemel Hempstead section via Kings Langley
51/52	Hemel Hempstead – Chesham via Bovingdon
352	Hemel Hempstead – Watford via Bovingdon and Sarratt
46	Hemel Hempstead – Luton via Redbourn and Markyate
320	Hemel Hempstead – St Albans section via Harpenden
H2/3	Hemel Hempstead (Woodhall Farm & Chaulden)
H4/5	Hemel Hempstead (Bennetts End, Grovehill and Nash Mills)
H1/10/11/12	Hemel Hempstead (Adeyfield and eastern areas)
H13/14	Hemel Hempstead business area services
W5/6	Hemel Hempstead – Maple Cross via Watford and Rickmansworth
300/301	Hemel Hempstead – Stevenage via St Albans and Welwyn GC
634	Hemel Hempstead – Hatfield – Stevenage (Primarily for the University of Hertfordshire)

4.70 HCC have recently undertaken an area network review of buses in the county. The review suggested that the bus network should be separated into about 100 corridors across the county, or related routes, so as to identify local issues and enable appropriate strategies to be developed. It also proposed that, in the initial years, development work with operators concentrated on 20 of these, reflecting the resources likely to be available and the routes with the soundest case to promote passenger use. This does not mean that the other 80 are ignored as they will still have accessibility and needs issues to address.

4.71 The West/ Central Herts area needs review (including Dacorum, St. Albans and Welwyn/Hatfield) covered both local area issues and looked at themes which reflect different types of operation across all areas. It considered services provided and funded by local authorities as well as the issues affecting services run as commercial businesses. The County Council has policies and strategies to assist commercial provision, make them more successful in delivering LTP outcomes for the County and achieve a proper split of function and responsibility if this is possible.

4.72 The themes and challenges reviewed were:

- Urban bus operation;
- Small town bus services;
- Interurban and most rural services;
- Publicity and marketing;
- Punctuality and congestion; and
- Infrastructure.

4.73 The corridor analysis helped focus on which corridors should be developed and the following criteria were used:

- There is a significant level of business for improvement to yield a meaningful contribution to increasing LTP passenger targets;

- There is a sufficient flow of buses to justify highway measures and improvements in passenger facilities; and
- There should be a commitment by the operator or an external partner to improve vehicle quality and service marketing.

4.74 The corridors that are considered best to meet these criteria serving Hemel Hempstead are listed in the following table:

Table 4.4 Bus corridor improvements

Bus number	Bus route	Delivery programme
500/550	Hemel Hempstead – Watford	By end 2008
300/301	Hemel Hempstead – St. Albans – Stevenage	2008-09
W5/6	Maple Cross – Watford – Hemel Hempstead	2008-09
H2/3	Hemel Hempstead – Woodhall Farm & Gadebridge	2009-11
H4/5	Hemel Hempstead – Bennetts End/Grovehill	2009-11

4.75 The content of each corridor improvement would cover:

- Investment in either new or accessible vehicles to meet DDA requirements;
- Introduction of Quality Bus stop and shelter improvements at main stops to complement vehicle improvements;
- Package of marketing measures to increase awareness of the service and changes;
- Where necessary, the corridor would be part of a Bus Improvement Partnership covering wider issues relating to reliability, punctuality and service delivery;
- Attention to customer service and driver training issues; and
- Monitoring of performance by relevant partners to project.

4.76 Funding for these improvements is due not only from the County Council but also DBC, central government and developers.

4.77 However DBC have given notice to withdraw from the joint funding of contract bus services, with effect from 2009/10, and that it will be unable to meet the full contribution requirement in 2008/09. Plans are therefore being drawn up to modify service provision and manage the network within a reduced overall level of funding.

4.78 The County Council is now considering the network it can afford out of its own resources.

Public Transport Survey Results

4.79 The public transport survey carried out in spring 2008 (details are provided in **Appendix C**) highlighted the reasons for passenger transport use. One third of respondents use public transport because they have no access to a car, especially women, the young and the elderly. Another third travel by public transport due to its greater convenience or faster journey times, especially men and those travelling to work.

4.80 Public transport is used during peak periods mainly for the convenience or faster journey provided but at other times it is due to passengers not having access to a car. Nearly one fifth choose not to use a car and one tenth use public transport because it is cheaper than a car.

4.81 Public transport is used primarily for work trips (by 56% of male respondents and 40% of females). It is also used significantly for shopping (by 28% of women and 23% of men).

4.82 A significant number consider the connections to the key destinations to be poor, notably Jarman Park, Hemel Hempstead railway station (although more considered them to be good), Maylands, Apsley and the Old Town. Connections to the town centre are viewed as being good (by 60% of respondents).

4.83 Nevertheless public transport users generally feel that the journey rating is good: journeys were ranked as 'convenient/ very convenient' by three quarters of respondents but as 'difficult/very difficult' by a quarter. Four out of five stated that public transport is convenient or very convenient during the morning peak period. The main inconveniences cited were: price (by 30% of respondents); journey time (18%); and interchanging (15%).

4.84 Access to Hemel Hempstead and Apsley stations is mainly on foot (42% walk) but nearly one third (30%) go by car (as a driver or passenger) and one fifth by bus.

4.85 The survey, and consultation, highlighted a number of concerns of travellers, including: the inconvenient location of some bus stops; low bus frequencies and reliability (that especially affects the elderly); the lack of timetable and route information; long waiting times, insufficient sheltered seating for waiting; insufficient services, especially during the evenings and early morning on Sundays; bus driver attitudes toward passengers; and access to some schools being difficult by bus. Some schools' catchment areas are quite large so that people drive their children rather than have them take the bus while some road layouts at schools may not be suitable for bus routes.

4.86 The Nickey Line has been suggested as one option for a new bus corridor. However analysis has shown that it is not feasible for bus services, and is not suitable to provide a link between the town centre and Maylands.

Walking and Cycling

4.87 Around 10% of residents walk to work, although this mode is more important for shopping trips; only 1.5% cycle to work.

4.88 While Hemel Hempstead features a newly re-designed dedicated pedestrian zone and a large network of cycling routes outlined in the Dacorum Cycling Strategy, walking and cycling are often neglected in a town-wide context. Although some facilities exist, especially in the town centre, in general provision for walking and cycling elsewhere is poor.

4.89 The HCC cycling strategy has, however, identified Hemel Hempstead as having potential for cycling based as the population size, housing density (proportion of terraced housing) and self-

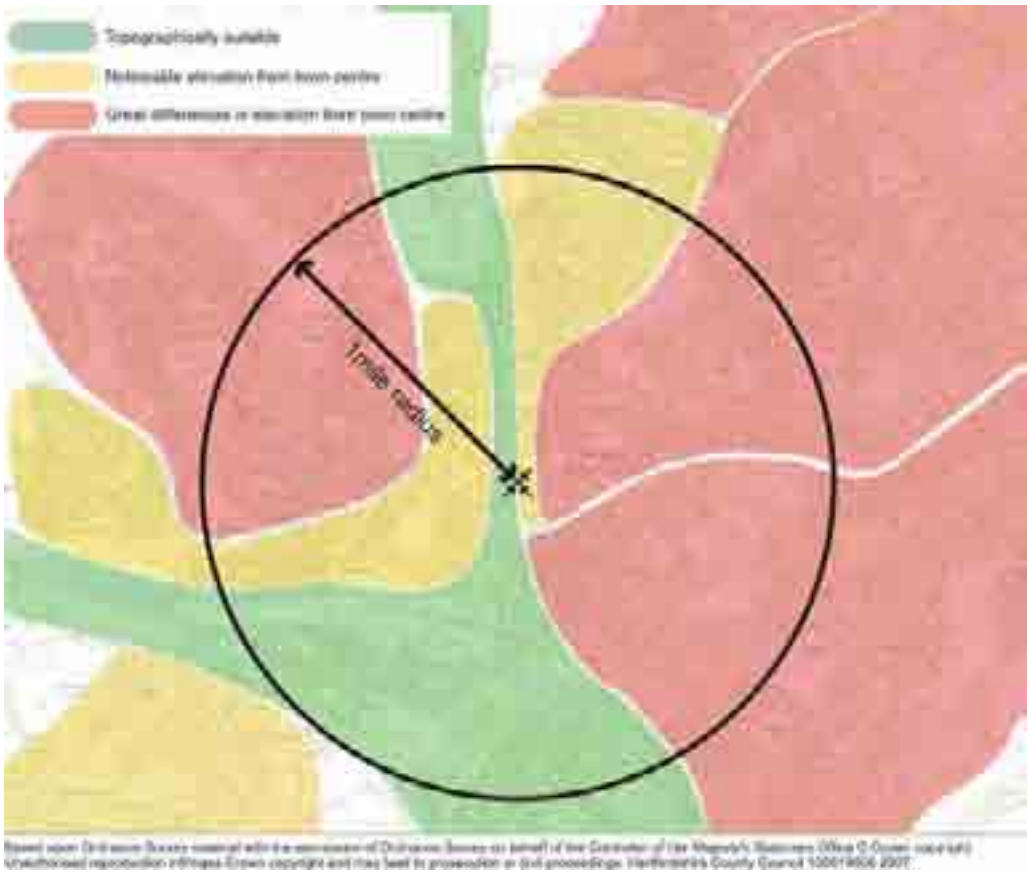
contained nature. These opportunities exist mainly in the eastern part of town (around Maylands) and in the river valleys which are mostly flat.

4.90 The main issues which impact on walking and cycling usage are:

- Topography;
- Barriers to movement;
- Connectivity and legibility;
- Interchange potential to other modes; and
- Streetscape and environment, including safety and security.

4.91 A map of the topography of Hemel Hempstead is included in **Figure 4.8** which highlights the one mile radius from the town centre (roughly Debenhams).

Figure 4.8 Topography assessment



4.92 The key routes for pedestrians and cyclists are perceived to be the main routes from the housing estates into the town centre, the railway station, to schools and to Maylands. The stakeholder consultation identified the main problems on these routes as:

- Poor road conditions and uneven roads on sections of highways where cyclists cycle, due to potholes, uneven surfaces, tarmac is breaking up, drains are sinking;
- Cycle tracks too narrow, where they exist;
- Severance caused by main roads notably the A414;
- Getting across the town;

- Navigating the Plough roundabout;
- Lack of dropped kerbs and formal crossings;
- Lack of seating;
- Lack of route continuity and signage;
- Difficulties for those with visual/ audio impairments;
- Traffic calming too narrow to accommodate cyclists in some areas; and
- Poor maintenance of cycle tracks.

4.93 The following issues and opportunities were gathered from the walking and cycling audit and well as the consultation event.

AI8: Pedestrian and cyclist movement and severance issues

- **Topography**
- **A414**
- **Narrow pavements**
- **Lack of crossings**
- **Plough roundabout**

AO3: Improve walking and cycling provision

- **Integrated route network**
- **Pedestrian / cycling environment**
- **Crossing facilities**
- **Routes to hospital**
- **Training, especially children**

Travel Planning and Behavioural Change

4.94 Over half of schools in the town have a travel plan (26 have implemented travel plans and a further 2 are about to be submitted).

4.95 Only four businesses have implemented workplace travel plans and a further 7 have been submitted, the majority of which are in Maylands.

4.96 Smarter Choices cover a range of ‘soft’ measures often designed to complement the provision of infrastructure that will encourage more sustainable travel. They include a range of measures such as public transport information and marketing, travel awareness campaigns, personalised travel planning, car sharing, car clubs, teleworking, teleconferencing, home shopping etc, often brought together within a travel plan.

4.97 Through requiring the adoption of area, residential, company, school or station travel plans, DBC can influence travel behaviour. Expenditure on such schemes whilst small can have large impacts.

CO7: Design for sustainable transport in the proposed new developments

Intelligent Transport Systems

4.98 No intelligent transport systems exist in Hemel Hempstead. There is an electronic bus information in the Marlowes area. Real-time information would be useful, especially at key interchange points, such as the rail stations and at key bus stops.

Accessibility

4.99 Hemel Hempstead was not specifically highlighted in the Hertfordshire Accessibility Strategy (July 2006, part of LTP2).

4.100 Accessibility relates to being able to reach sites of employment, shopping, education, leisure and health facilities, including those without a car and those who are mobility impaired.

4.101 Certain parts of Hemel Hempstead have less access to a vehicle than others, such as Gadebridge and Adeyfield. This should be taken into account when planning public transport provision.

4.102 Accessibility will need to be considered with any future peripheral urban extensions, particularly to the town centre and hospital. With changes to the organisation of health services accessibility will be very important in terms of linking residents in Hemel Hempstead to A&E services at Watford General Hospital.

Community Transport

4.103 Hemel Hempstead has various community transport providers.

4.104 Community Action Dacorum (CAD) provides a minibus service for voluntary groups in the area. It also coordinates transport for the local Good Companions Club.

4.105 Community Wheels has nine minibuses for hire to Dacorum-based groups concerned with the welfare of people who are elderly, young, disabled or in community activities. Seven of the vehicles have tail-lifts and can carry up to three passengers in wheelchairs.

4.106 Community Cars provide a special needs transport service for the residents of DBC who are unable to use public transport or taxis, due to infirmity, disability or any other reason, permanent or temporary. The scheme uses volunteer drivers and their own cars. A charge is agreed upon for the service. The service is available seven days a week, subject to the availability of a volunteer driver.

4.107 Hertfordshire Dial-a-Ride provides door to door transport for the elderly, disabled and those people who cannot easily use passenger transport. The vehicles used are designed to offer easy access and have tail-lifts/ramps that can be used by those who cannot easily climb steps or who use a wheel chair.

4.108 The scheme is available to residents of Hertfordshire who have a permanent disability, are in receipt of a mobility allowance or those who qualify on age. Membership of the scheme is required before the scheme can be used.

4.109 The service can be used for local journeys to shops, libraries, visiting friends or places of interest and local GPs and dentists. Dial-a-Ride does not provide transport to hospitals as an outpatient, to full time education or to social services/health service day centres.

4.110 Dial-a-Ride fares are comparable with passenger transport; the fares are quoted for a single journey.

4.111 A Shopmobility service is provided at the Marlowes Centre.

AI9: Needs of the disabled population (represents 12%)

Safety

Overall Accident Levels

4.112 On average some four accidents occur every week in the town, although the majority of these are classified as slight and these figures have been decreasing over the past four years, in line with national trends.

4.113 The Plough roundabout - where the A414 and A4146 meet - is particularly difficult for visitors to negotiate, although one of the six arms has now been closed to general traffic. Nevertheless it remains an area where traffic conflicts arise.

4.114 The total number of accidents in Hemel Hempstead reported for the years 2004 to 2007 was 691. Of these, there were 100 pedestrian and 49 cyclist accidents.

SI1: Accident hotspots

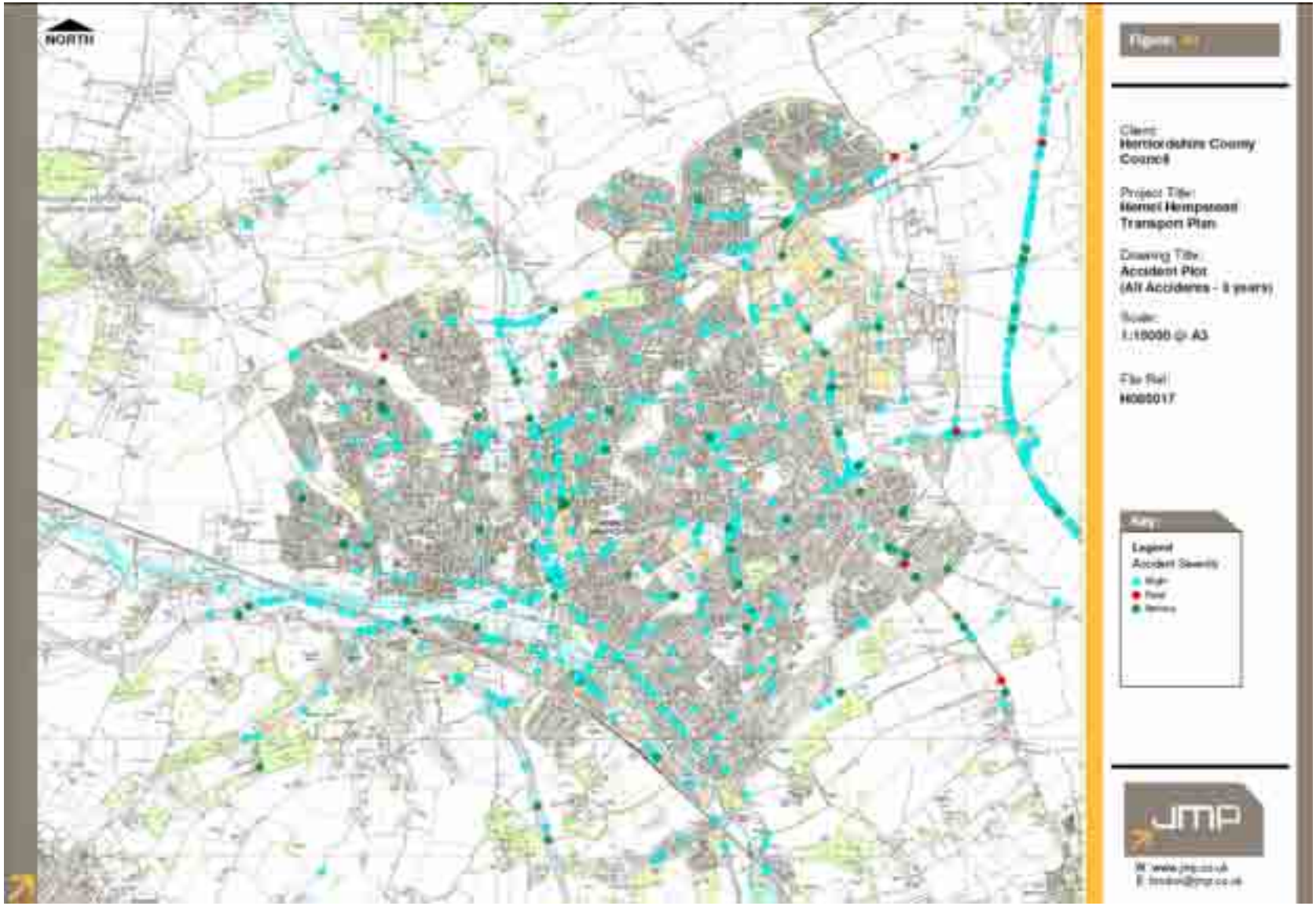
4.115 **Table 4.5** shows a summary of accidents over the last 3 years.

Table 4.5 All accidents by severity 2004-2007

Period	Fatal	Serious	Slight
October 2004 - September 2005	1	30	260
October 2005 - September 2006	3	29	263
October 2006 - September 2007	3	22	168
Total	**7**	**81**	**691**

Figure 4.9 shows the locations of accidents that took place between 2004 and 2007, according to degree of severity.

Figure 4.9 All accidents (2004-2007)



Child Safety

4.116 A child safety audit of killed or seriously injured (KSI) casualties identified Hemel Hempstead as being an area with high child KSI collisions. Nearly half of all child casualties in Hertfordshire occur while they are travelling in vehicles, and pedestrians account for over a quarter of such injuries. Work is planned to implement several schemes in Hemel Hempstead to help remedy the problem.

Table 4.6 Child accidents by severity 2004-2007

Period	Fatal	Serious	Slight
October 2004 - September 2005	0	13	67
October 2005 - September 2006	1	12	48
October 2006 - September 2007	1	2	42
Total	*2*	*27*	*157*

4.117 The data in the Herts LTP2 Road Safety Plan indicates, however, that in the county, these figures have been decreasing each year. From the baseline average of years 1994-98 until 2004, the numbers have fallen by 43%.

SO3: Use school travel plans to encourage road safety

Pedestrians

4.118 **Table 4.7** shows a summary of accidents over the last 3 years.

Table 4.7 Pedestrian accidents by severity 2004-2007

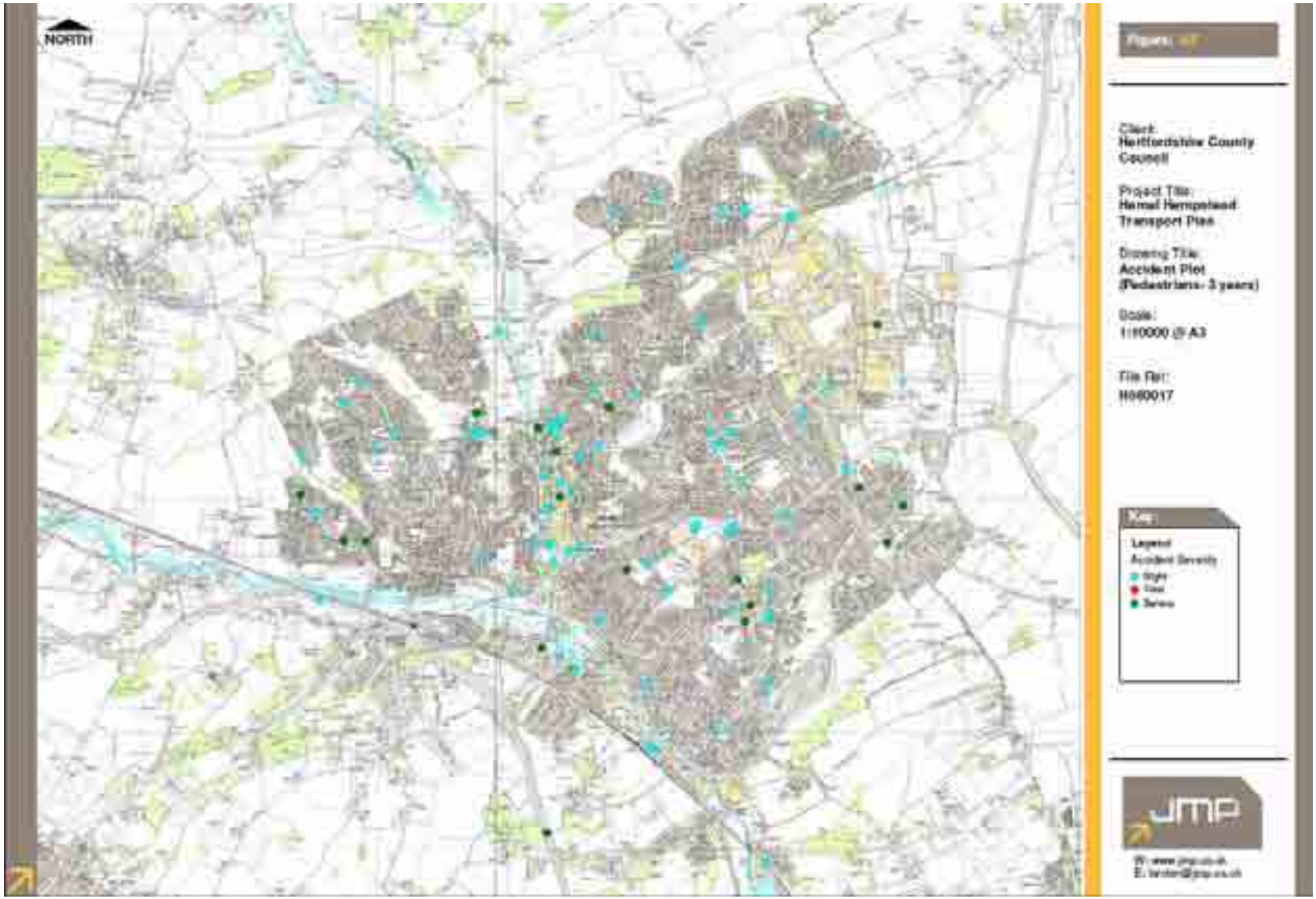
Period	Fatal	Serious	Slight
October 2004 - September 2005	0	7	26
October 2005 - September 2006	0	10	22
October 2006 - September 2007	0	5	30
Total	*0*	*22*	*78*

4.119 Only slight and serious accidents were recorded during the past 3 years. Accident locations are fairly dispersed, though a number are located across the town centre area, with a small cluster at the west end of Queensway and another adjacent to the intersection of Gadebridge Road and Warners End Road. Two serious accidents were recorded on the non-pedestrianised section of the Marlowes, two on Leverstock Green Road and two on Bennetts End Road.

4.120 At the consultation event the lack of crossing facilities was raised for Leighton Buzzard Road as well as the impermeability of the A414 for pedestrians.

4.121 A figure of all the pedestrian accidents from 2004-2007 can be found overleaf (**Figure 4.10**).

Figure 4.10 Pedestrian accidents (2004-2007)



Cyclists

4.122 One fatal accident was reported during the 3 year period and occurred on Maylands Avenue.

4.123 A small cluster of slight and serious accidents can be found on Station Road and around the Plough roundabout.

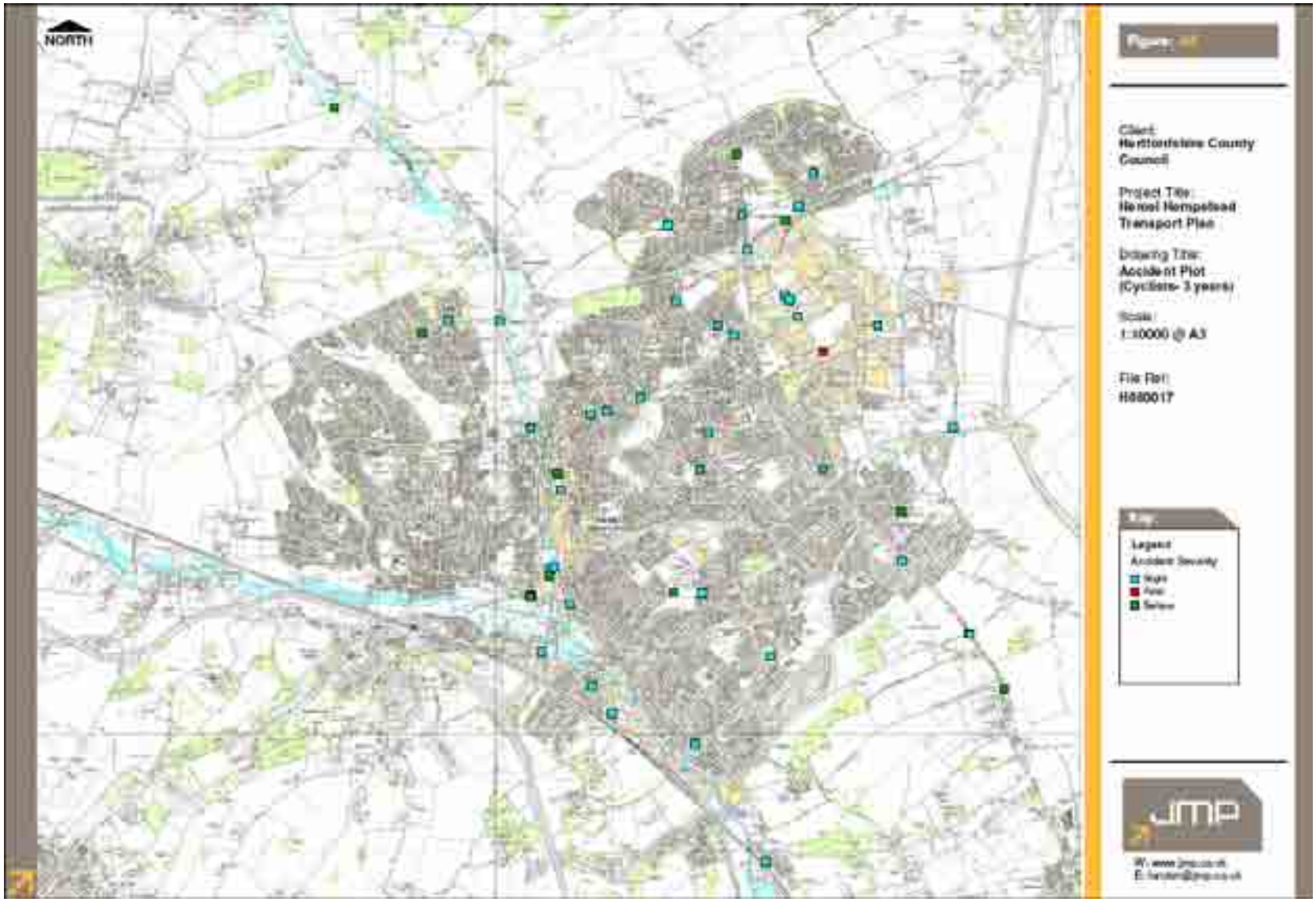
4.124 **Table 4.8** shows a summary of accidents over the last 3 years.

Table 4.8 Cycle accidents by severity 2004-2007

Period	Fatal	Serious	Slight
October 2004 - September 2005	0	4	18
October 2005 - September 2006	1	1	11
October 2006 - September 2007	0	5	8
Total	*1*	*10*	*37*

4.125 **Figure 4.11** shows the plots of these accidents.

Figure 4.11 Cycle accidents (2004-2007)



Freight and Distribution

4.126 Hemel Hempstead currently has three distinct freight and distribution requirements:

- access into and around the Maylands Business Park;
- access to the town centre shops (including Jarman Park); and
- access to the Apsley Mills Retail Park and nearby shops.

4.127 A new International Rail Freight Terminal at Radlett would create new opportunities for freight movement. Although this proposal was recently rejected, a new planning application is due to be submitted.

Maylands – The economic driver for Hemel Hempstead

4.128 Maylands Business Park is of significant regional economic importance, employing around 25,000 people. The Maylands Partnership was set up to maintain and improve Maylands and to work towards establishing a clear vision to attract inward investment.

4.129 Most freight from Maylands Business Park, where several logistics and distribution companies are located, goes onto the M1 (currently being widened) at junction 8, or uses the A414 to access the M25 via the M10, when travelling eastwards. Currently the site is suffering from the economic consequences of the Buncefield oil terminal explosion in December 2005. This had a dramatic impact on the Maylands Business Park: many jobs have been relocated, albeit temporarily, while companies resolved accommodation issues. But the employment position is not yet stable. As a result of the Buncefield explosion, and redevelopment of the Maylands site, much vacant property currently exists, particularly for distribution centres but also for offices.

4.130 Since the Buncefield explosion, the task of improving Maylands is considered to be more vital and urgent. A Masterplan has been prepared so that regeneration work can be undertaken as soon as possible. The aim is to restore confidence in the area to those businesses which are located there, to assist those businesses affected by the explosion to flourish and to attract new companies to Maylands.

4.131 Ultimately the Masterplan is intended to lead the regeneration of this key employment location as well as attracting investment, providing new jobs and business opportunities. This will attract more freight traffic to the area.

Town Centre and Jarman Park

4.132 In addition to the generation of lorry movements in Maylands, the town centre also generates deliveries by lorries, as do the retail establishments at Jarman Park. Heavy use is made of Leighton Buzzard Road by HGVs, both for access to the town centre as well as approaching the A41and the industrial units on London Road. It may be necessary to review the status of the road and to downgrade it from an A-road or to introduce some limits on HGV use in combination with other measures.

4.133 Jarman Park is served via the A414 dual carriageway and does not suffer from access problems for business other than the problem of peak-period congestion on the road.

4.134 Stores in the recently developed part of the town centre benefit from rear access for loading/unloading but businesses located at the northern end of Marlowes still rely on front door access. However these issues do not, at present, generate significant problems. Access by freight

to the town centre may be from the M1 along the A414 or alternatively from the A41 from the south into Hemel Hempstead via the Plough roundabout.

Apsley Mills Retail Park and Nearby Shops

4.135 Access to the Apsley Mills Retail Park and nearby shops is more of a problem. The narrow London Road and heavy car traffic from the surrounding residential areas already causes potential conflicts and congestion in the area.

International Rail Freight Terminal

4.136 An International Rail Freight Terminal was proposed at Radlett adjoining the M25 and the London to Bedford mainline railway. This proposal would have a significant impact in Hemel Hempstead by introducing more HGVs onto the A414/M10 and the surrounding roads. This proposal was recently rejected; however a new planning application is due to be submitted.

4.137 The following issues and opportunities were gathered from stakeholder interviews and the consultation event:

FI1: Lack of freight data

FI2: Heavy freight movement

FI3: Impact of Maylands regeneration on freight

FO1: Freight Quality Partnership study

FO2: Create lorry park at Maylands

FO3: Freight planning for new developments

Summary

4.138 The following table summarises the key issues arising from the review of the baseline conditions surveys. The identified issues were often detailed and added to by participants at the Planning for Real' day held in May 2008.

Key area	Current or Future	Issues	Opportunities
Congestion	***Current***	**CI1**: High car use to work	**CO1**: Promote sustainable transport modes for likely increase in personal trips to address current and future problems
		CI2: Large commuting flows to London	**CO2**: Improve public transport
		CI3: Congestion on key highway routes • East-west on A414, back to M1 • Maylands roundabouts • Plough Roundabout • Box Lane to Bovingdon • Two Waters Road • London Road • Leighton Buzzard Road	**CO3**: Encourage walking and cycling for local trips as well as for access to other modes (e.g. rail station)
		CI4: Congestion caused by conflicts between general traffic and HGV vehicles	**CO4**: Junction improvements on A414, signing of HGV routes, freight quality partnership
		CI5: Abundance of parking in town centre and parking charges too low to discourage driving into centre or to support effective P&R	**CO5**: North East Relief Road, Northern Bypass
		CI6: Congestion caused by double parking in some residential areas	**CO6**: Congestion management, including travel plan development, development control requirements (e.g. car parking), required
		CI7: Crowded rail services to London in peak periods	
		CI8: Delays to local bus services due to highway congestion	
	Future	**CI9**: Links to new developments will put pressure on east-west routes **CI10**: Future developments will impact A414, Link Road, Leighton Buzzard Road, and public transport	**CO7**: Design for sustainable transport in the proposed new developments with linkages to the existing built-up areas

Key area	Current or Future	Issues	Opportunities
Accessibility	***Current***	**AI1:** Lack of public transport linkages between the main destinations, Hemel Hempstead railway station; town centre; and Maylands business park	**AO1:** Improved integration of public transport services • Rail station • Waterhouse Square redevelopment
		AI2: Lack of east-west connections	**A02:** Improve information provision • Real-time information
		AI3: Low bus frequency and reliability	**A03:** Improved walking and cycling provision • Integrated route network • Pedestrian / cycling environment • Crossing facilities • Routes to hospital • Training, especially children
		AI4: Lack of timetable and route information	
		AI5: Poor reliability of trains	
		AI6: Insufficient rail/bus services especially on Sundays, evenings and mornings	
		AI7: Poor bus linkages to Old Town	
		AI8: Pedestrian and cyclist movement and severance issues • Topography • A414 • Narrow pavements • Lack of crossings • Plough roundabout	
		AI9: Needs of the disabled population (represents 12%)	**A04:** New developments

Key area	Current or Future	Issues	Opportunities
Safety	***Current***	**SI1**: Accidents hotspots	**SO1**: Highway improvements
		SI2: Inappropriate parking	**SO2**: Parking enforcement
			SO3: Use school travel plans to encourage road safety
Freight	***Current***	**FI1**: Lack of freight data	**FO1**: Freight Quality Partnership study
		FI2: Heavy freight movement	
	Future	**FI3**: Impact of regeneration of Maylands on freight	**FO2**: Lorry park at Maylands **FO3**: Freight planning in new developments

5 UTP Aims and Objectives

LTP2 Objectives

5.1 In its LTP Hertfordshire County Council set out nine objectives for transport policy during the period up to 2010/11. This UTP must support these nine LTP2 objectives.

Safety

1. To improve safety for all by giving the highest priority to minimising the number of collisions and injuries occurring as a result of the transport system.

Congestion

2. To obtain the best use of the existing network through effective design, maintenance and management.
3. To manage the growth of transport and travel volumes across the county, and thereby secure improvements in the predictability of travel time.
4. To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated, and makes best use of resources.

Accessibility

5. To develop a transport system that provides access to employment, shopping, education, leisure and health facilities for all, including those without a car and those with impaired mobility.
6. To ensure that the transport system contributes towards improving the efficiency of commerce and industry and the provision of sustainable economic development in appropriate locations.

Air Quality

7. To mitigate the effect of the transport system on the built and natural environment and on personal health.

Quality of Life

8. To raise awareness and encourage use of more sustainable modes of transport through effective promotion, publicity, information and education.
9. To reduce the need for the movement of people and goods through integrated land use planning, the promotion of sustainable distribution and the use of telecommunications.

County Council targets

5.2 The County Council sets out a range of performance indicators and their associated targets within LTP2; 17 mandatory indicators plus 5 locally developed indicators were included.

5.3 The County Council publishes progress in delivering targets through the LTP Annual Progress Report, and this will be assessed by DfT.

5.4 The county-wide targets listed in **Table 5.1** have been set for 2010/11. This UTP must contribute to their achievement. In setting targets the County Council must have regard to public expectations, DfT minimum standards and the likely available resources in the future for delivery programmes. Not all targets are of direct relevance to Hemel Hempstead. Of those that are, Table 5.1 identifies them and also the LTP2 indicator to which they relate.

Table 5.1 LTP Indicators and Targets

Indicator	Definition	Baseline (2003/04)	Target (2010/11)	LTP Objectives
Principal Road Condition	% of the network with negative residual life	8%	8%	2 ,4
Non-Principal Classified Road Condition	% where structural maintenance should be considered - non-principal roads	19.44%	19.44%	2, 4
Unclassified Road Condition	% where structural maintenance should be considered - unclassified Roads	19.29%	19.29%	2, 4
Footway Condition	% of footways where maintenance should be considered	52%	52%	1, 2, 4, 5
Killed and Seriously Injured	Number of people killed or seriously injured on roads in the authority (all ages)	1,084 (1994-98 average)	No more than 600	1
Children Killed and Seriously Injured	Number of children (aged less than 16) killed or seriously injured in the county	113 (1994-98 average)	No more than 56	1
Total Slight Casualties	Number of slight injuries (all ages)	5,509	No more than 5,509	1
Public Transport Patronage	Number of bus passenger journeys (i.e. boardings) per year in the county	31 million journeys per year	31 million journeys per year	3, 4, 5, 7, 8
Bus Service, User Satisfaction	% of bus users satisfied with the local provision of passenger transport services	55%	60% (2009/10)	4, 5
Bus Punctuality	%of buses keeping to schedule (for services at intermediate timetabled points)	80% (2004/05)	80%	2, , 4, 5
Accessibility	Percentage of people who find it difficult to travel to a local hospital	29%	24%	2, 3, 4, 5, 6, 8, 9

Indicator	Definition	Baseline (2003/04)	Target (2010/11)	LTP Objectives
Change in Area-Wide Traffic Mileage	Change in Area- Wide Traffic Mileage (vehicle-kilometres per day)	20.7 million	22.4 million	3, 7, 9
Cycling Trips	Number of cycling trips across the authority	2,397 trips per day (2004/05)	2,658 (11% increase)	2, 5, 7, 8
Congestion		To be established	To be set	2, 3, 4, 6, 7, 8, 9
Air Quality	New indicator to be developed	To be established	To be set	2, 3, 7, 8, 9
Mode Share of Journeys to School	% of pupils who travel to school using sustainable modes	57.5%	60% sustainable modes	3, 5, 8
Passenger Transport Information, User Satisfaction	% of users satisfied with local provision of passenger transport information	39%	50%	4, 5, 8
Rights of Way	% of the total length of footpaths and other rights of way that were easy to use by members of the public	61% (2004/05)	80%	2, 4, 5, 7, 8
School Travel Plans	% of schools with school travel plans	14%	83%	1, 3, 5, 7, 8
Speed Limit Compliance	% level of compliance with 30mph speed limit	56% (2004/05)	60%	2, 3, 4, 5, 7, 8

5.5 The proposed measures set out in the following chapters are designed to help achieve these targets and deliver the LTP objectives.

UTP Aims and Objectives

5.6 The purpose of the UTP is to identify short, medium and long-term strategies to shape travel patterns and provide a transport framework for negotiations associated with development control.

5.7 The aims of the UTP are to:

- Locate developments to reduce travel needs, travel distances and encourage public transport, walking and cycling use to improve accessibility;
- Provide opportunities to reduce car use through providing sustainable transport choices, for example through new development;
- Promote modal shift towards sustainable transport and active travel;
- Improve road safety, especially for non-car modes;
- Support 'smarter choices' travel demand management measures;
- Promote efficient freight and distribution;
- Reduce the negative impacts of transport on the environment; and
- Improve traffic management, including directing traffic onto suitable routes.

5.8 The overall approach adopted in this UTP is based on those measures and interventions identified by stakeholders as being significant:

- Public transport operations and technology, with a particular focus on bus and intermediate mode systems e.g. guided buses;
- Freight and sustainable distribution, whether road or rail-based, and with consideration of access to airport and port activities;
- Information technology and advanced transport telematics;
- Demand management, including 'smarter choices' and more radical options for physical re-allocation of road space and the possible introduction of pricing measures for use of infrastructure;
- Network management and congestion management including travel plan development, development control requirements including car parking;
- Quality of Life Improvements delivered through management of associated transport air and noise pollution by traffic management and public information techniques;
- Active Lifestyles Promotion – health improvements through cycling and walking schemes; and
- Promote the emerging Local Development Framework and Hemel 2020.

5.9 **Table 5.2** indicates how the UTP objectives relate to those set out in the Hertfordshire LTP, broken down into: congestion, accessibility, safety, environment and health, and freight.

Table 5.2 UTP Objectives

Congestion objectives

Hertfordshire Local Transport Plan	Hemel Hempstead Urban Transport Plan	Related Policy Documents
To obtain the best use of the existing network through effective design, maintenance and management	**C1**: Manage and make best use of existing infrastructure and services	HCC 2006: LTP2 HCC 2007: West Herts ATP
To manage the growth of transport and travel volumes across the county, and thereby secure improvements in the predictability of travel time	**C2**: Reduce demand for car travel, particularly journeys to work and school	DfT 2004 Transport White Paper: The Future of Transport DfT 2004 Smarter Choices – Changing The Way We Travel HCC 2006: LTP2 HCC 2007: West Herts ATP
To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources		HCC 2006: LTP2 HCC 2007: West Herts ATP
To reduce the need for the movement of people and goods through integrated land use planning, the promotion of sustainable distribution and the use of telecommunications	**C3**: Minimise the negative impacts of new developments on congestion	GO-East 2008: East of England Plan HCC 2006: LTP2 DBC 2006: LDF Core Strategy DBC 2006: Hemel 2020
To ensure that the transport system contributes towards improving the efficiency of commerce and industry and the provision of sustainable economic development in appropriate locations	**C4**: Encourage the use of sustainable modes as alternatives to the car	HCC 2006: LTP2
To raise awareness and encourage use of more sustainable modes of transport through effective promotion, publicity, information and education	**C5**: Develop travel plans, especially for schools, area travel plans, residential travel plans, businesses and S106 agreements	DfT: Smarter Choices – Changing The Way We Travel

Accessibility objectives

Hertfordshire Local Transport Plan	Hemel Hempstead Urban Transport Plan	Related Policy
To ensure that the transport system that provides access to employment, shopping, education, leisure and health facilities for all, including those without a car and those with impaired mobility	**A1**: Improve access to HH hospital by sustainable transport modes **A2**: Improve access to employment, especially in the town centre and Maylands, by sustainable transport modes **A3**: Improve access to schools by sustainable transport modes **A4**: Improve physical access to the transport network and city centre **A5**: Maintain and enhance the viability and vitality of retail centres, promoting local shopping and employment	DfT 2004: Smarter Choices – Changing The Way We Travel SEU 2003: Making the Connections HCC 2006: LTP2 HCC 2007: West Herts ATP DBC 2006: Hemel 2020
To reduce the need for the movement of people and goods through integrated land use planning, the promotion of sustainable distribution and the use of telecommunications	**A6**: Improved integration of land-use and transport planning	HCC 2006: LTP2 DBC 2006: LDF Core Strategy DBC 2006: Hemel 2020
To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources	**A7**: Improve east-west access by public transport	HCC 2006: LTP2

Safety objectives

Hertfordshire Local Transport Plan	Hemel Hempstead Urban Transport Plan	Related Policy
To improve safety for all by giving the highest priority to minimising the number of collisions and injuries occurring as a result of the transport system	**S1**: Improve safety for pedestrians and cyclists **S2**: Improve child safety **S3**: Reduce the number of road traffic collisions	DfT 2004 Transport White Paper: The Future of Transport DfT 2000: Tomorrow's roads: safer for everyone DfT 2002: Child Road Safety - Achieving the 2010 Target HCC 2006: LTP2 HCC 2007: West Herts ATP

Environment and Health Objectives

Hertfordshire Local Transport Plan	Hemel Hempstead Urban Transport Plan	Related Policy
To mitigate the effect of the transport system on the built and natural environment and on personal health	**E1**: Reduce the adverse impacts of transport on health and the environment **E2**: Minimise visual intrusion and community severance arising from transport infrastructure **E3**: Promote personal health through increased levels of walking and cycling	DfT 2004: Smarter Choices – Changing The Way We Travel HCC 2006: LTP2 HCC 2007: West Herts ATP

Freight Objective

Hertfordshire Local Transport Plan	Hemel Hempstead Urban Transport Plan	Related Policy
To reduce the need for the movement of people and goods through integrated land use planning, the promotion of sustainable distribution and the use of telecommunications	**F1**: Minimise negative impacts of freight accessing Maylands and the city centre through improved management	DfT 2004 Transport White Paper: The Future of Transport HCC 2006: LTP2

6 Strategy Development

Introduction

6.1 Having identified the aims and objectives of the UTP, this section assesses the development process of the overall strategy for achieving the stated targets. It examines the process of identifying measures and the principles behind the development of the delivery programme. Section 7 then provides an overview of the measures themselves and Section 8 presents the delivery programme.

Identification of measures

6.2 An extremely wide range of potential options could be implemented within the context of the UTP framework. Many of these relate directly to transport interventions to resolve current issues; however there are others that relate to the widespread future land-use and planning proposals and the impact these will have upon trip generation.

6.3 The proposed new developments in and around Hemel Hempstead, whilst generating new trips, also provide an excellent opportunity to promote sustainable travel and reduce car dependency in the area. To achieve this, however, will require appropriate policy measures to ensure that access by public transport, on foot or cycle becomes a viable alternative option to travel by private car.

Long-List

6.4 The initial strategy development process was to produce a 'Long-List' of potential measures through assessment of the issues and opportunities established in Section 4. Measures were derived from a variety of sources including:

- Analysis of the existing data, policies, etc.;
- Stakeholder consultation;
- The walking and cycling audits;
- The passenger transport survey;
- The HCC/DBC Planning for Real event; and
- Research sources[1].

6.5 The following areas provided the basis for the generation of measures and schemes:

- Network Management (ITS, signage)
- Smarter Choices (Travel Plans, Personalised Travel Plans, car clubs, car sharing, travel awareness campaigns)
- Social inclusion measures (mobility impaired access)
- Walking (Pedestrian routes, crossings, Rights of Way, street scene, signage)

[1] Developing Urban Transport Strategies (IHT, 1996),
Konsult (the Knowledgebase on Sustainable and Urban Transport, Leeds University- http://www.konsult.leeds.ac.uk/))
The Demand for Public Transport (TRL, 2004)
The EU Optimum2 Cookbook (European Commission, 2008)
Smarter Choices: Changing the Way We Travel (DfT, 2005)
The EU ELTIS website http://www.eltis.org

- Cycling (Cycle routes, crossings, street scene, signage, secure parking, ASLs)
- Local buses (new station, bus priority, increased frequencies, low-floor buses, bus stops, concessionary fares, subsidise old/ young people, QBP/PIP)
- Community transport and taxis (Dial-a-Ride, taxis for home to school/ hospital)
- Passenger rail (increased frequencies, capacity enhancements, integrated interchange)
- Improved integration (integrated timetabling, integrated ticketing)
- Improved information (PTP, RTPI, bus stop information)
- Travel demand restraint (road user charging, reduce parking availability, higher charges for parking, land-use planning)
- Highways (new roads, HOV/HGV lanes, wider roads, new links, highway maintenance including traffic calming features)
- AQMAs (LEZ)
- Parking and P&R (reduce parking standards for new developments, reduce parking availability, higher charges for long-stay parking, coach parking, motorcycle parking, HGV parking, price matching with nearby towns)
- Road safety improvements (safety cameras, re-engineering, encourage safer driving, visible speed limits, lower speed limits, greater enforcement, road safety training)

6.6 In addition, planning policy measures relating to developments were also considered.

Option Sifting and development

6.7 The initial long list was then subjected to a sifting process through comparison against the UTP objectives. Those measures which were not considered to provide a solution to one or more of the objectives were discounted.

Appraisal

Process

6.8 The measures were then subjected to an objective-led appraisal process. Each proposed measure was assessed not only for its contribution against the UTP objectives (set out in Table 5.2) but also against a series of criteria representing the extent of deliverability.

6.9 In terms of the assessment against the UTP objectives any measure that was considered likely to provide a strong contribution to achieving a UTP objective was ranked twice as important as a low contribution. In addition, those measures delivering against more UTP objectives scored higher accordingly.

6.10 The ‘deliverability’ criteria encompassed the following four areas:

- Policy fit (the extent to which the measure supported national, regional and local policy);
- Value for money (whether the measure provides value for money);
- Feasibility (whether implementation is technically feasible); and
- Acceptability (whether the measure is likely to be publicly and politically acceptable).

6.11 Each measure was giving a rating of high, medium, low for all four areas and a weighted score applied accordingly.

6.12 A total score was generated for each measure combining the ‘contribution to objectives’ rating and the ‘deliverability’ rating from which the measures were ranked and then classified in terms of priority: high; medium; or low.

Results

6.13 In total 129 measures were identified that target one or more of the UTP objectives. Of these around 37 (28%) were considered to be high priority schemes in terms of both the range of objectives that they would target and their deliverability. A further 47 schemes (36%) were rated with medium priority with the final 46 (36%) considered to be lower priority, although still worthwhile.

6.14 Section 7 provides an overview of the proposed measures, whilst Section 8 highlights the proposed delivery programme based upon the timeframes for delivery and the prioritisation.

7 Proposed measures

Overview

7.1 This section sets out the proposed measures that have been identified as meeting one or more of the UTP objectives. For ease of reference they are presented within seven key themes as follows:

- Promoting Smarter Choices measures
- Encouraging sustainable transport
- Promoting passenger transport use
- Promoting social inclusion
- Highways and freight
- Traffic and network management (including road safety)
- Parking and Park & Ride.

7.2 Each measure is provided a unique reference which is then referred to throughout the rest of the report.

Smarter Choices measures

7.3 Smarter Choices - the strategy of focusing on more sustainable transport options such as public transport, walking and cycling - play a key role in this UTP.

7.4 Potential options to take forward include the development of various types of travel plans to cover workplace and school travel as well as travel to leisure facilities and to destinations such as the hospital and the mainline stations. A key element of the Smarter Choices measures is to look at ways to discourage excessive car use and, in particular, single occupancy trips and therefore schemes incorporating car sharing and car clubs are considered very important. Overarching the whole Smarter Choices concept is a need to ensure greater awareness of different travel options and so ensuring the spread of knowledge is also important. This should encompass both high level marketing campaigns as well as individual personalised travel plans.

Expand school, workplace and area travel planning

7.5 Further school and workplace travel plans and area travel plans should be developed and promoted through the planning process, especially in the new development areas. All schools should have a Travel Plan, if they do not already have one, and even those that do need to be encouraged to keep them up-to-date and to implement measures, such as walking buses and safer routes to schools

7.6 All large firms (over 500 employees) should be encouraged to develop workplace travel plans. New Area Travel Plans should also be developed for businesses in areas such as Maylands. A Station Travel Plan could be developed for Hemel Hempstead along the lines of those proposed for St Albans and Hatfield by HCC. The Travel Plan for the hospital will need to be revised in view of the proposed operational changes. Personal travel planning can also provoke behavioural change, similar to a scheme currently being implemented in Watford.

7.7 Encouraging and promoting alternative work and shopping patterns, such as working from home, teleconferencing, Internet purchasing etc. addresses peak commuting traffic by removing the need

to travel at busy times. All these elements should be promoted within travel plans and travel awareness campaigns.

7.8 To summarise the proposed travel planning-based interventions:

- Develop and implement School Travel Plans (SC1): for all schools and for West Herts college since they need regular refreshing due to the turnover of pupils including the development of Joint School Travel Plans e.g. Astley Cooper and Eastbrook
- Introduce walking buses at primary schools (SC2) e.g. in Chaulden
- Introduce more Safer Routes to School measures (SC3) e.g. in Chaulden
- Workplace Travel Plans (SC4): encourage all large-scale firms to develop and implement travel plans. Ensure that all new developments produce appropriate travel plans, that they implement the agreed measures and that a robust process of monitoring is established.
- Leisure Travel Plans (SC5): work with leisure facilities (e.g. at Jarman Park and the ski centre) to encourage visitors and employees to access these sites and facilities by sustainable modes.
- Destination Travel Plans (SC6): pursue the development of travel plans for Hemel Hempstead Railway Station and the Hospital.
- Area Travel Plans including residential travel plans (SC7) – encourage and assist large-scale development areas, such as Maylands, to produce area travel plans encompassing all occupiers of the site. Also to encourage and assist local residential area plans.
- Personalised Travel Plans (SC8) – establish a project for providing individual households with travel planning advice in order to influence their travel behaviour. These measures should be targeted at areas where good public transport or walking/cycling infrastructure is provided to maximise the potential for behavioural change.

Promote car sharing and car clubs

7.9 Mode shift from single occupancy vehicles to more sustainable modes can be encouraged through promoting car sharing (ride sharing, specifically addressing car usage to businesses) and car clubs (commercial short notice car hire provision, short term car hire, specifically addressing car ownership and on-street parking issues). Car sharing (and perhaps a car club) should be developed in Maylands as part of the Area Travel Plan. These features should also be introduced for other new developments. Measures include:

- Promote and develop formal and informal car sharing schemes (SC9): e.g. for businesses in Maylands, and in new developments
- Promote and encourage car clubs (SC10): proactively encourage the development of car clubs in Hemel Hempstead with the provision of dedicated parking bays.

Promote travel awareness campaigns

7.10 Mode shift requires change in people's travel behaviour, a change which can only be initiated through awareness campaigns, e.g. addressing healthy and responsible lifestyles. Specific measures therefore include:

- Travel awareness campaigns (SC11);
- Prevent or discourage parents and pupils from driving to school through travel awareness campaigns and site specific travel strategies (SC12).

Sustainable transport measures

7.11 A detailed list of investment priorities was provided in the report on Walking and Cycling. The suggested improvements were ranked on the three criteria of:

- Completion of existing walking and cycling networks;
- Improved access for these modes to major developments; and
- Ease of implementation.

7.12 A particular concern exists over the access arrangements to schools in Hemel Hempstead. Encouraging more pupils to travel by sustainable modes will not only benefit the road network by reducing congestion due to the school run but it will also have benefits in terms of improved health and fitness for the students themselves.

Walking

7.13 Based on the audits and analysis undertaken, a number of potential improvements were identified which would improve the existing pedestrian network as well as connecting to the expanding new developments in Hemel Hempstead. These include:

- Investigate the appropriateness of guardrailing with the objective to improve the public realm in general (W1)
  - Rail Station
  - London Road / Station Road
  - Waterhouse Street
  - Heath Lane
- Add tactile information to accommodate the blind and partially sighted (W2)
  - London Road / Station Road
  - Waterhouse Street/Combe Street Roundabout
  - Waterhouse Street/Bridge Street Roundabout
- Introduce appropriate and improved signage to make walking routes easier to follow (W3)
  - St Albans Road
  - Fishery Lane
  - Gadebridge Lane
  - Piccotts End/Fletcher Way
  - Cambrian Way
  - Briery Way
  - Access to Nickey Line
  - Longlands
- Improve the pedestrian environment to make the walking experience more pleasant and enjoyable e.g. to the Nickey Line for pedestrians and cyclists (W4)
  - Waterhouse Street
  - Leighton Buzzard Road
  - Nickey Line
- Introduce seating to assist the elderly and infirm (W5)
  - Between the station and town centre

- Along the Grand Union Canal to Apsley

- Introduce new crossings, both formal (e.g. Pelican crossings) and informal (e.g. pedestrian refuges), to make crossing roads safer (W6)
  - London Road / Station Road at Cotterells
  - St Albans Road (e.g. at Jarman Park)
  - Cambrian Way
  - Gadebridge Lane
  - Great Elms Road
  - The Queens Square
  - Aycliffe Drive
  - Queensway (e.g. at junction with Allandale)
- Widen pavement extensions and resurfacing schemes to make walking easier (W7)
  - London Road / Station Road
  - Bennetts End Road
- Introduce new pavements to close gaps along key walking routes e.g. routes into town centre, access to the hospital and links to the Old Town from the town centre (W8)
  - Leighton Buzzard Road
  - Fishery Lane
  - London Road / Station Road
  - St Albans Road
- Re-design junction to assist pedestrians and make walking routes more direct (W9)
  - Allandale
- Change traffic priorities to favour pedestrians e.g. on Leighton Buzzard Road (W10)
  - Leighton Buzzard Road
- Improve access for pedestrian and cyclists, especially from the south (W11)
  - Apsley
  - Jarman Park
- Provide pedestrian and cycling links to employment zones from residential areas (W12)
  - Residential zones to Maylands
- Provide step-free access to the platforms at railway stations to assist the elderly and infirm as planned (W13)
- Introduce lighting to improve dedicated (often off-street) links, existing underpasses (where an at-grade crossing is inappropriate), and perceived safety and security (W14)
  - Plough roundabout
  - Fishery Lane
  - Gadebridge Park / underpass to park
  - Briery Way
  - St Albans Hill
  - Pennine Way
  - Queensway (under the Nickey Line)

Cycling

7.14 Cycling improvements will have a significant benefit in improving access for those without access to a private car as well as providing benefits in terms of health promotion. The key improvements build on the emerging Dacorum Cycling Strategy and are listed below:

- Introduce on-street cycle lanes where appropriate, or alternatively widen pavements to introduce off-street cycle tracks to enhance safety and to support new developments e.g. in Two Waters and Apsley (C1)
    - London Rd/ Station Rd
    - Plough roundabout / Leighton Buzzard Rd
    - Fishery Lane
- Introduce appropriate and improved signage to make routes easier to follow (C2)
    - Access to Nickey Line
    - London Rd/ Station Rd
    - St Johns Road
    - Grand Union Canal
    - Nickey Line
    - Fishery Lane
    - Cambrian Way/Fletcher Way
    - Briery Way
    - Longlands
- Provide cycle maps to enable understanding of routes, including at fixed locations around town (C3)
- Facilitate cycling access to the Grand Union Canal path by providing ramps (C4)
    - London/ Station Rd
    - Fishery Lane
- Increase and improve cycle parking (mainly in the town centre, at the rail station, at key employment sites such as Maylands, sports and leisure centres, and in local centres) with CCTV to make it more secure (C5)
    - Town centre
    - Rail Station
    - Maylands
    - Key employment sites
    - Local centres
    - Sports and leisure centres (e.g. Dacorum Leisure Centre, Longdean Sports Centre, Jarman Park)
- Introduce shared cycle tracks where appropriate, mainly in less urbanised locations (C6)
    - St Albans Road
    - Redbourn Road
- Widen pavements/towpaths to provide for cyclists to use (C7)
    - Queensway
    - Grand Union Canal
- Introduce CCTV at cycle stands (C8)
    - Marlowes

- Introduce lighting to improve security and personal safety (C9)
    - Briery Way
    - Marlowes
- Re-design junctions to assist cyclists and make routes more direct e.g. Advanced Stop Lines (C10)
    - Briery Way to Ellingham Road link
    - Leverstock Green Road
- Provide ramp access to the Nickey Line and connect the Nickey Line into Jarman Park (C11)
- Improve pedestrian/ cyclist infrastructure to improve access to schools (C12)
    - Longdean School
    - from Felden to Hemel Hempstead School
- Provide pelican crossings to assist cyclists crossing heavily trafficked roads (C13)
    - Longfield
- Develop the cycle network from NCN Route 57 (on Nickey Line) into town centre (C14)
- Introduce off-street cycle routes in green areas (C15)
    - Gade Valley
- Develop “green corridors” for cyclists e.g. NE-SW (C16)
    - The Wayside
    - Brickfield Ave
    - Longfield
    - Fourdrinier Way/ Malmes Croft
- Improve Plough Roundabout to ensure cyclists can use it safely (C17)
- Improve maintenance of highways especially adjacent to kerbs (C18)
- Improve links from Hemel Hempstead Station into town across the Boxmoor Trust Land along the canal (C19)

Passenger transport

7.15 With the planned population increase in Hemel Hempstead the enhancement of passenger transport systems should be a priority. Buses and rail provide higher capacity vehicles for moving people than the private car. Provision for easy access by public transport should be designed into all new developments. Where there is increased population the need for new bus services to integrate with residential areas will be considered.

7.16 The following interventions have been identified, partly in response to the passenger transport survey, as potentially beneficial changes.

Public Transport Information and Integration

- Improved information at bus stops to improve confidence in the network (PT1)
- Providing real-time passenger information at bus station and stops to provide confidence in bus services (PT2)
- Provide real-time information at railway stations (PT3)

- Ensure integrated timetabling (between bus services and with railway services) to make linked trips easier (PT4)
- Promote integrated ticketing (e.g. Plusbus) to enable easy transfer between buses and with trains to make linked trips easier (PT5)

Bus improvements

7.17 A variety of bus-based measures are proposed in order to encourage greater use of services and to reduce the dependency upon the private car in Hemel Hempstead. The proposals encompass improvements to service provision, changes in timetabling and ticketing, bus priority measures, as well as new capital infrastructure or vehicle provision.

Service Provision

7.18 In order to provide a public transport service that is both convenient and reliable to use continuous improvements are required to bus service provision within the town. The establishment of quality bus partnerships is one way of achieving this but, more generally, consideration of bus provision and service frequency is required in both peak and off-peak periods.

- Establish a Quality Bus Partnership and Performance Improvement Plan, involving bus operators and the local authorities, to assist in the planning of infrastructure improvements and service enhancements (B1)
- Improve the quality of bus service provision in terms of reliability, maintenance (including cleaning) and driver training (B2)
- Investigate the potential for higher service frequencies to encourage patronage e.g. to every 20mins (B3)
- Extend bus services onto new routes to provide a more comprehensive network e.g. from HH station to main destinations - Maylands, Apsley; from Maylands to town centre for shoppers; from Old Town to shopping area; to Jarman Park from residential areas; introduce orbital bus services; integrate bus services with the planned new residential areas (B4)
- Review the levels of subsidies to bus operators for non-commercial services for example at weekends and during the evenings to maintain service levels and provide for the elderly and young (B5)

Timetabling and Ticketing

7.19 It is important that the bus services meet the ever changing needs of travellers in Hemel Hempstead. This is particularly important within the context of the proposed scale of development in and around the town and the impact that this will have upon the movement of people. Continual reviews of timetabling are therefore important. In addition fares structures also need to be considered as a mechanism for encouraging travel by bus instead of by private car.

- Review of timetables to ensure that it matches customer needs (B6)
- Review the fares structure or lowering fares to encourage patronage (B7)
- Extend the concessionary fare schemes, e.g. for the young, to enable the socially excluded to access life-enhancing activities (B8)

Bus Priority

7.20 With congestion a particular issue along a number of corridors in Hemel Hempstead the use of bus priority measures provides a mechanism for ensuring greater reliability of bus services provision. In

addition, there will generally be an associated reduction in journey times for bus travel thus providing greater encouragement for people to use the services. A range of potential measures are proposed from bus priority at junctions through to bus only routings.

- Providing bus priorities on key routes such as bus lanes and transponders to ensure priority at traffic signals to make buses an attractive alternative to car use e.g. along A414 (B9)
- Constructing a kerb guided busway (or rapid transit system) on key routes to provide bus priority e.g. along the central reservation of A414 (B10)
- Improve road layouts for buses e.g. Leverstock Green (B11)
- New road provision for bus only routes e.g. link Hillfield Road and Turners Hill to provide easier access for buses into hospital and similar linkages between neighbourhoods (B12)

Infrastructure and vehicles

7.21 In addition to some of the proposed bus priority measures other infrastructure measures are proposed along with capital investment in vehicles to provide improved operating conditions.

- Improve access into schools for buses e.g. Hemel Hempstead School (B13)
- Review bus stop locations using mapping to locate stops more appropriately to be near main origins and destinations (B14)
- Introduce new vehicles including low-floor buses to enhance the journey experience (B15)
- CCTV on buses and at bus station to enhance security and personal safety (B16)
- Construct a new bus station as part of the Waterhouse Square development to attract passengers, relocating it closer to the town centre than car parking, and making it covered, safe and DDA compliant with enhanced access (B17)

Rail

7.22 Rail services provide an important element of the public transport service provision connecting Hemel Hempstead to nearby localities as well as into Central London. Improving the level of service provision is important in encouraging individuals to use rail as an alternative to private car trips. A range of measures are proposed from shorter-term stabilisation of the service timetable from Hemel Hempstead to longer-term investment in capacity.

- Stabilise railway service timetable (R1)
- Increased frequencies to make journeys easier (R2)
- Introduce CCTV onto rail stations to enhance safety and personal security (R3)
- Increased track capacity to enable more trains to be run (R4)
- Introduce longer trains to increase capacity (R5)
- Feasibility study of enhancing the station as a gateway to the town (R6)

Social Inclusion

Provide access for the mobility impaired

7.23 Inclusive design is a requirement for all transport-related infrastructure. A variety of measures should be provided to serve the needs of a range of mobility impaired groups, such as the provision

of ramps, lowered kerbs on strategic pedestrian routes, high kerbs at bus stops providing step-free access, and audible and tactile information on routes and crossings.

Set up a Community Transport Partnership to address the needs of the elderly and frail

7.24 Partnership working with a number of interest groups representing sometimes conflicting mobility needs is required to ensure inclusive design of new or amended transport infrastructure. Community transport and taxis are particularly useful for those with mobility impairments. Potential measures include:

- Improve street level access for pedestrians and the mobility impaired with dropped kerbs (CT1)
- Develop a Community Transport partnership using a social responsibility fund (CT2)
- Allow more taxis to collect passengers at the railway station, to enhance choice (CT3)
- Provide more subsidised home to school and home to hospital taxis to promote social inclusion (CT4)
- Expand the existing Dial-a-Ride service to cater for more people, especially for elderly (CT5)
- Use Demand Responsive Transport (DRT) to serve the hospital (CT6)

Highways and freight

7.25 As the LTP2 points out car trips will remain a very important mode of travel in Hertfordshire, including Hemel Hempstead. It is therefore important that a suitable level of network provision is maintained and that strategic enhancements are made where there is a clear justification in terms of enhancing accessibility and supporting the economic vitality of the town.

7.26 An important element of providing an efficient highway network is managing the impact of freight traffic into the town. Given the close proximity of the M1 there is good strategic access to the area for freight movements, however it is important that appropriate measures are put in place to ensure that freight can access the town itself without conflicting with other vehicular road users as well as non-motorised traffic.

Highway Improvements

7.27 A number of proposals have been identified to maintain and enhance the highway network:

- Improve road markings (H1)
- Designate “Green” corridors for use only by sustainable modes e.g. Bunkers Lane (H2)
- Re-design site entrances e.g. into Jarman Park to enable safer access (H3)
- Designate an AQMA at Junction 8 (H4)
- Widen roads e.g. Durranthill Road, A414 St Albans Road (H5)
- Re-design roads e.g. Bourne End slip road onto A41, Two Waters flyover (H6)
- Provide HOV/HGV lane (e.g. on A414) (H7)
- Maintain highways, including traffic calming features e.g. A414, Maylands Avenue, resurface Link Way (H8)
- Re-design junctions to improve safety e.g. Plough Roundabout, on A4146 Leighton Buzzard Road, Maylands and A414, between Box Lane and Felden Lane (H9)

- Re-design entrances and improve access for vehicles e.g. into Maylands especially for HGVs, at the junction of Green Lane, and into Cupid Green off Redbourn Road, as well as a Woodhall Farm egress (Sainsbury end of Shenley Road) (H10)
- Provide new roundabouts e.g. at junction of Leverstock Green Road and Bedmond Road (H11)
- Make roads narrower to provide more space for walking and cycling e.g. Leighton Buzzard Road (H12)
- Re-design roundabouts along A414 St Albans Road to increase capacity (H13)
- Construct a by-pass e.g. the North East Relief Road (as proposed in the Local Plan) or Northern Bypass (include provision for cyclists) (H14)
- Provide new bridges across railway line, river and canal e.g. into Manor Estate from Apsley, to complement the Durrants Hill Road bridge (H15)
- Introduce congestion charging/road pricing e.g. cordons at congestion hotspots (H16)

Freight

7.28 Managing freight traffic within the town is an important aspect of maintaining an efficient highway network. Ensuring that freight movements are understood and adequately catered for is essential. Consideration should be given to access routes for development sites, including any conflicts with passage through residential areas. Various options are proposed:

- Develop a freight travel plan (H17)
- Improve route maps for hauliers (H18)
- HGV parking in Maylands (H19)
- Introduce lorry ban in residential areas (H20)
- Introduce a Low Emission Zone to improve air quality e.g. along A414 (H21)
- Designated lorry routes e.g. into Maylands (H22)
- Freight transhipment facilities e.g. at Maylands (H23)

Traffic and network management

7.29 Efficient management of the existing highway network will generate benefits in terms of potential reductions in peak hour flows and more reliable journey times through the town.

Traffic Management and Road Safety

7.30 Traffic management and improving road safety are key elements of this UTP. Managing speeds is an important tool in achieving both these aims and the following measures might be pursued:

- Investigate average speed cameras to manage traffic flow e.g. along Leverstock Green Road, Green Lane, St Albans Road, Link Way (T1)
- Reduce speed limits e.g. Breakspear Way (currently 60mph) (T2)
- Enforce road traffic laws more effectively (T3)
- Introduce measures to reduce speeding e.g. in Chaulden, Bunkers Lane, Chambersbury Lane (T4)

- Provide more road safety training (T5)
- Introduce Home Zones e.g. Adeyfield (T6)
- Make the Old Town an historic core (T7)

Network Management

7.31 Improvements in traffic flows around towns can often be achieved through effective network management. As Hemel Hempstead continues to grow it is important that the impact of traffic growth is continually monitored and appropriate measures put in place to mitigate any adverse impacts. The use of Traffic Management Systems and Intelligent Transport Systems can be an important tool is making the most efficient use of network capacity. Alternative road configurations and operations can also enhance the flow of traffic.

- Review impact of new traffic lights onto Leighton Buzzard Road from Moor End Road (Kodak Building) (T8)
- Introduce traffic signals e.g. at A414 St Albans Road / Green Lane junction, A414 and Maylands Avenue (T9)
- Introduce Urban Traffic Management Systems (UTMC) and Intelligent Transport Systems (ITS) (T10)
- Install a one-way system in the Old Town (T11)
- Designate “Red Routes” to ban stopping and parking e.g. Queensway (T12)
- Provide roundabouts e.g. at junction of Shenley Road and Redbourn Road, and Cupid Green (T13)

Road Traffic Information

7.32 Providing appropriate information to drivers can significantly improve the movement of vehicles around town centres. Highlighting appropriate routing around Hemel Hempstead could help reduce the pressures on elements of the network. In addition variable message signs, particularly in relation to parking, can be an important element of reducing circular traffic movements around town centres.

- Provide signage for drivers (T14)
- Variable message signs (T15)

Parking and Park & Ride

7.33 Town centre parking policy can have a significant impact upon individuals’ choices when it comes to travel. If parking is readily and cheaply available then this will encourage people to drive into town centres. It is therefore important to effectively manage parking provision, whilst acknowledging that it remains important for the vitality of retail areas for individuals to have the option to park nearby. Ad hoc parking can cause congestion problems in sensitive areas and so it is important to maintain an appropriate balance in allowing convenient access to facilities whilst ensuring that the private car does not dominate the local environment. Restricting parking in sensitive areas, such as around schools, is therefore important.

7.34 A review of parking standards could not be undertaken by a single district in isolation as it would be more effective for any review and any possible reduction of parking standards to be undertaken on

a county-wide or sub-regional basis. Any possible reduction is better directed to where it could be related to other policies e.g. Accessibility Zones or public transport improvements, and to types of schemes to which it should normally relate (particularly commercial schemes which are regarded as destinations in their own right).

7.35 Dacorum Borough Council has significant influence over the arrangements for parking in the town. The following measures could be implemented:

Parking

- Introduce more CPZs around key destinations, especially those located in residential areas (P1)
- Remove parking around schools e.g. John Fitzgerald Kennedy School (P2)
- Discourage parking in sensitive locations e.g. St John's Road, around HH Station, High Street/ Piccotts End (P3)
- Enforce parking restrictions including preventing HGV parking on Three Cherry Trees Lane and removing double parking in residential areas (P4)
- Reduce car parking standards for new developments, on a County-wide or sub-regional basis (P5)
- Develop a secure HGV parking site e.g. off M1 junction 8 in Maylands (P6)
- Reduce parking availability (P7)
- Raise parking charges to encourage sustainable transport, P&R, and to manage traffic (P8)
- Provide coach parking e.g. in Maylands (P9)
- Provide more motorcycle parking at major destinations e.g. railway stations, Maylands, Marlowes (P10)
- Improve parking where appropriate e.g. at Adeyfield Community Centre, ski centre and provide new car parks in town centre (P11)
- Provide more parking for disabled drivers (P12)

Park and Ride

7.36 Park and ride can be an effective measure in encouraging individuals not to drive into congested town centre areas but to travel in by bus. In order to be successful there needs to be a clear incentive for individuals to use the service, either because it is more convenient, reliable or faster to use or that there is a financial saving.

- Facilitate P&R e.g. at Maylands (P13)

Contribution towards LTP2 objectives

7.37 As a package of overall measures each of the areas described above would make an important contribution towards achieving the objectives set for the LTP2; some will have a greater impact than others. **Table 7.1** overleaf highlights this:

Table 7.1 Contribution to LTP2 objectives

	Improve safety	Make best use of existing network	Manage growth of transport	Develop transport system	Provide better access	Contribute to economic efficiency	Mitigate impact on air quality	Raise awareness of sustainable modes	Reduce need for travel
Smarter Choices	√	√√	√√√			√	√	√√√	√√
Walking	√	√√	√√	√	√√		√√	√	√√
Cycling	√	√√	√√	√	√√		√√√	√	√√
Schools access	√	√√	√		√√√		√	√	√√
Buses	√	√√	√	√√	√	√	√	√	
Community transport					√√√				
Rail		√√	√	√		√	√		
Highways & freight						√√			
Traffic & network management	√	√√	√			√			
Parking & P&R		√	√						

8 Delivery Programme

8.1 **Appendix A** sets out the detailed programme of interventions and measures that comprise the Hemel Hempstead UTP. They are categorised by mode and type of measure. Information is given on the particular issues facing the town that the measures address, the UTP objectives to which the measure will contribute, the estimated costs, the lead agency tasked with taking it forward, the timescale for implementation, the indicative priority and the potential outcomes.

8.2 Measures have been categorised using a simple code:

Table 8.1 Code for measures

Code letter	Type of measure
SC	Smarter Choices interventions
W	Walking and pedestrian measures
C	Cycling measures
PT	Public Transport Information and Integration
B	Bus improvements
CT	Community Transport measures
R	Rail improvements
H	Highways and freight measures
T	Traffic and network management improvements, including road safety measures
P	Parking and P&R interventions

Programme Summary

8.3 This section summarises the programme over four timescales:

- Very short term wins – measures that could be implemented within 2-3 years;
- Short term – measures that could be implemented over the next 5 years;
- Medium term – measures that could be implemented 5-10 years from now; and
- Long term – measures that could be implemented 10-20 years from now i.e. over the lifetime of the Local Development Framework.

8.4 All costs are estimated and would need detailed re-examination prior to commencement of the measures. The costs of many measures have not been provided (and are marked as TBC – to be confirmed) since these costs will depend on a variety of factors such as the type of equipment used, the geographical extent of the measures, etc, some of which may be subject to political decisions.

8.5 While some measures are programmed for the medium/long-term, planning for their eventual implementation could, and in some cases should, take place in the short term if they are to progress even in the lengthy timescales anticipated. Many measures, especially larger schemes, will require detailed modelling or a continuing political commitment prior to adoption. Delays in securing planning permission or uncertainty in securing the necessary funding typically hinder progress.

8.6 Four summary maps showing examples of the measures for each timescale are included in Appendix F.

Very short term measures

8.7 Very short term measures are measures that could be implemented immediately, within 2-3 years.

8.8 Most require only small amounts of funding. The focus of these measures is upon improving walking and cycling routes in particular, although smarter choice measures could also be implemented within a short period. The very short term measures are outlined in **Table 8.2** with the priority status highlighted.

Table 8.2 Very short term measures

Code	Measure	Para-graph	Estimated cost	Priority Status
SC1	Develop and implement School Travel Plans	7.8	£10k per school	**HIGH**
SC2	Introduce walking buses for primary schools e.g. in Chaulden	7.8	£5k per school	**HIGH**
SC4	Workplace travel plans campaign	7.8	£100k	**HIGH**
SC5	Leisure Travel Plans (e.g. Jarman Park)	7.8	£30k per site	MED
SC6	Destination Travel Plans (Station, Hospital)	7.8	£30k per site	**HIGH**
SC7	Area Travel Plans (e.g. Maylands)	7.8	£60k per area	**HIGH**
W1	Pedestrian guardrail review (e.g. rail station, London/ Station Rd, Waterhouse St, Heath Ln)	7.13	£1-5k per site	MED
W2	Tactile paving at crossings (e.g. London Rd/ Station Rd, Bridge St roundabout, Combe St roundabout)	7.13	£1k-2k per crossing	MED
W3	Signage (e.g. St Albans Rd, Fishery Ln, Gadebridge Ln, Piccotts End/ Fletcher Way, Cambrian Way, Briery Way, Nickey Line, Longlands)	7.13	£500 per sign	LOW
W4	Pedestrian environment improvements (e.g. Waterhouse St, Leighton Buzzard Rd)	7.13	TBC	**HIGH**
W5	Canal path seating (station to town centre, Grand Union Canal to Apsley)	7.13	£2k per seat	LOW
W6	Informal & formal crossings/ refuges (e.g. Gadebridge Lane to park, Great Elms Rd, London/ Station Rd at Cotterells, St Albans Rd, Cambrian Way)	7.13	£2k-5k (Informal) TBC (formal)	**HIGH**
C1	Cycle lanes/ routes (e.g. London/ Station Rd, Plough roundabout/ Leighton Buzzard Rd, Fishery Ln)	7.14	£1k per 20 metres plus signage	**HIGH**
C2	Signage (e.g. St Johns Road, Grand Union Canal, Nickey Line, London/ Station Rd, Fishery Ln, Cambrian Way, Briery Ln, Longlands)	7.14	£500 per sign	LOW
C3	Cycle maps	7.14	£5k	MED
PT1	Improved bus stop information	7.16	£50k	MED
B6	Review timetables	7.19	TBC	**HIGH**
B14	Review bus stop locations	7.21	£250k	**HIGH**
CT1	Provide easier access for mobility impaired e.g. dropped kerbs	7.24	£3k per dropped kerb	MED
CT2	Set up a Community Transport partnership	7.24	£50k	LOW
CT3	Allow more taxis to collect at railway station	7.24	£10k	LOW

Code	Measure	Para-graph	Estimated cost	Priority Status
H1	Improve road markings	7.27	£50k	LOW
H17	Freight Travel Plans	7.28	£20k	MED
H18	Route maps for hauliers	7.28	£10k	LOW
P1	Expand CPZ schemes (e.g. around railway stations)	7.34	£50k per scheme	MED
P2	Remove parking around schools	7.34	£20k per school	**HIGH**
P3	Restrict parking in sensitive areas (e.g. St Johns Road, rail station, High St/ Piccotts End)	7.34	£20k	MED
P4	Enforce parking restrictions in residential areas	7.34	£10k	**HIGH**

Short term measures

8.9 Short term measures are those that could be implemented over the next 5 years. **Table 8.3** lists such measures alongside their priority status.

Table 8.3 Short term measures

Code	Measure	Para-graph	Estimated cost	Priority Status
SC3	Safer Routes to School (e.g. Chaulden)	7.8	£25k per school	**HIGH**
SC8	Personalised Travel Plans	7.8	£15 per person	**HIGH**
SC9	Car sharing (e.g. Maylands, new developments)	7.9	£100k	MED
SC10	Car clubs	7.9	£250k	MED
SC11	Travel awareness campaigns	7.10	£200k	**HIGH**
SC12	Prevent or discourage pupils/parents from driving to school	7.10	£100k	MED
W7	Pavement widening (e.g. London/ Station Rd, Bennetts End Rd)	7.13	£2.5k-5k per 10 metres	**HIGH**
W8	Pavement extension (e.g. Leighton Buzzard Rd, Fishery Ln, London Rd/ Station Rd, St Albans Rd)	7.13	£5k per 10 metres	**HIGH**
W9	Junction re-design (e.g. Allandale)	7.13	£75k-100k	MED
W10	Change traffic priorities to favour pedestrians (e.g. Leighton Buzzard Rd)	7.13	£15k-20k per signals	MED
W11	Improve access for pedestrians and cyclists into some areas (e.g. Apsley, Jarman Park)	7.13	£50k per scheme	MED
W12	Provide pedestrian and cycling links to employment zones from residential areas	7.13	£15-£50k per scheme	MED
C4	Canal access route/ramp (e.g. London Rd/ Station Rd, Fishery Lane)	7.14	£20k per 10 metres of narrow path	MED

Code	Measure	Para-graph	Estimated cost	Priority Status
C5	Cycle parking (e.g. at rail station, Maylands, local centres, sports and leisure centres)	7.14	£1k-2k (one Sheffield stand); £5k-10k (for cover)	**HIGH**
C6	Shared cycle track (e.g. St Albans Rd, Redbourn Rd)	7.14	£10k per 10 metres	**HIGH**
C7	Pavement/towpath widening (e.g. Queensway, Grand Union Canal)	7.14	£2.5k-5k per 10 metres	**HIGH**
C8	CCTV at cycle stands (Marlowes)	7.14	£25k (additional to existing CCTV system)	LOW
C9	Lighting (eg. Briery Way, Marlowes)	7.14	Up to £100k	LOW
C10	Junction re-design (e.g. Briery Way to Ellingham Road link, Leverstock Green Road)	7.14	£75k-£100k	LOW
C11	Ramp access (e.g. Nickey Line)	7.14	£20k per simple, short ramp	MED
C12	Improve access to schools on foot/ cycle (e.g. Longdean School)	7.14	£20k per school	**HIGH**
PT4	Integrated timetabling between bus and rail	7.16	TBC	**HIGH**
B1	Quality Bus Partnership/ Performance Improvement Plan	7.18	£25k	**HIGH**
B2	Better maintenance (incl. cleaning)	7.18	TBC	MED
B7	Review fare structures/ lower fares	7.19	£20k	MED
B13	Improve access into schools for buses	7.21	£25k-£150k per school	MED
R1	Stabilise timetabling	7.22	TBC	**HIGH**
R6	Feasibility study of enhancing the station as a gateway to the town (R6)	7.21	£25k	MED
CT4	Taxis for home to school/ hospital	7.24	TBC	LOW
CT5	Expand Dial-a-Ride	7.24	TBC	MED
CT6	DRT to serve the hospital	7.24	TBC	MED
H2	Designate “Green” corridors for use only by sustainable modes (e.g. Bunkers Ln)	7.27	TBC	MED
T1	Average speed cameras e.g. Leverstock Green Rd, Green Ln, St Albans Rd, Link Road	7.30	£200k per camera	LOW
T2	Lower speed limits e.g. Breakspear Way	7.30	£30k per link	LOW
T3	Effective enforcement	7.30	TBC	LOW
T4	Traffic calming (e.g. Chaulden, Bunkers Ln)	7.30	£10k per 100m	MED
T5	Road safety training	7.30	£30k	MED
T8	Review impact of new traffic lights on Leighton Buzzard Road	7.31	£20k	LOW

Code	Measure	Para-graph	Estimated cost	Priority Status
T14	Improved signage	7.32	£150k	LOW
P5	Reduce parking standards for new developments	7.34	£20k	MED
P6	Develop a secure HGV parking site	7.34	£200k	LOW
P7	Reduce parking availability (e.g. in Waterhouse Square)	7.34	£10k per location	MED
P8	Higher charges for long-stay parking	7.34	£25k	MED
P9	Provide coach parking (e.g. in Maylands)	7.34	£200k	LOW
P10	Provide motorcycle parking (e.g. railway stations, Maylands, Marlowes)	7.34	£50k	LOW
P11	New car parks (e.g. in town centre)	7.34	£5m	LOW
P12	Parking for disabled drivers	7.34	£50k	MED
P13	P&R (e.g. at Maylands)	7.35	£1.5m	**HIGH**

Medium term measures

8.10 Medium term measures are those that could be implemented some 5-10 years from now. Such interventions tend to be larger and will require more detailed planning if they are to proceed. Many bus and rail improvements could be achieved within this timescale. They are listed in **Table 8.4** overleaf.

Table 8.4 Medium term measures

Code	Measure	Para-graph	Estimated cost	Priority Status
W13	Step-free access to platforms (rail station)	7.13	TBC	MED
W14	Lighting (e.g. Plough Roundabout, Fishery Ln, Underpass to Park, Briery Way, St Albans Hill)	7.13	Up to £100k	MED
C13	Pelican crossings (e.g. Longfield)	7.14	50k-75k (Pelican)	**HIGH**
C14	Develop network from NCN Route 57	7.14	£50k per 100m	**HIGH**
C15	Introduction of off-street cycle routes (e.g. Gade Valley)	7.14	£50k per 100m	**HIGH**
C16	Green corridors for cyclists (e.g. The Wayside, Brickfield Ave, Longfield, Fourdrinier Way)	7.14	£50k per 100m	**HIGH**
C17	Improve Plough Roundabout to ensure cyclists' safely	7.14	£500k (off-road)	**HIGH**
C19	Improve links from Hemel Hempstead Station into town	7.14	£500k	MED
PT2	Real Time Passenger Information at bus stops	7.16	TBC	**HIGH**
PT3	Real Time Passenger Information at rail stations	7.16	TBC	**HIGH**
PT5	Integrated ticketing between public transport services	7.16	TBC	MED
B3	Increased bus frequencies	7.18	TBC	**HIGH**
B4	Extension of bus services (e.g. orbital service)	7.18	TBC	**HIGH**
B5	Subsidy to operators	7.18	TBC	LOW
B8	Wider concessionary fare scheme	7.19	TBC	MED

Code	Measure	Para-graph	Estimated cost	Priority Status
B9	Bus priority on key routes (e.g. on A414)	7.20	£1million	**HIGH**
B10	Guided busway (e.g. on A414)	7.20	£2m per km	LOW
B11	New road layouts e.g. Leverstock Green	7.20	TBC	LOW
B15	New vehicles (e.g. low-floor buses)	7.21	£100k / vehicle	MED
B16	CCTV on buses and at station	7.21	£500k	LOW
B17	New bus station at Waterhouse Square	7.21	£3m	LOW
R2	Increased rail frequencies	7.22	TBC	LOW
R3	CCTV at railway stations	7.22	£250k	LOW
H3	Re-design entrances to sites e.g. Jarman Park	7.27	£500k	MED
H4	Air Quality Management Area at Jct 8 of M1 and Plough Roundabout	7.27	£80k	LOW
H5	Widen roads (e.g. on A414 and A4146)	7.27	£150k / 100m	LOW
H6	Redesign roads & junctions (e.g. Bourne End slip road, Two Waters flyover)	7.27	£250k-£500k	LOW
H7	HOV/HGV lanes (e.g. on M1, A414)	7.27	£250k	LOW
H8	Maintain highways (e.g. A414, Maylands Ave, Link Road)	7.27	£250k	LOW
H9	Junction improvements & roundabouts (e.g. Maylands & A414, Plough Roundabout, Box Ln/ Felden Ln)	7.27	£500k - £750k per junction	MED
H10	Re-design entrances and improve access for vehicles (e.g. Green Ln into Maylands, Redbourn Rd into Cupids Green, Woodhall Farm egress)	7.27	£500k per access	LOW
H11	Provide new roundabouts (e.g. Leverstock Green Rd/ Bedmond Rd)	7.27	£500k each	LOW
H12	Make roads narrower (e.g. Leighton Buzzard Rd)	7.27	£5k per 10m	LOW
H13	Re-design roundabouts (e.g. A414)	7.27	£100k - £500k	LOW
H19	HGV park in Maylands	7.28	£200k	MED
H20	Lorry bans (e.g. in residential areas)	7.28	£100k	LOW
H21	Low Emission Zone (e.g. along A414)	7.28	£500k	LOW
H22	Designated lorry routes (e.g. into Maylands)	7.28	£500k	LOW
H23	Freight transhipment facilities (e.g. Maylands)	7.28	£5m	LOW
T6	Home Zones (e.g. Adeyfield)	7.30	£500k / street	MED
T9	New traffic signals (e.g. on A414 with Green Lane, with Maylands Ave)	7.31	£40k per junction	LOW
T10	Urban Traffic Control/ Intelligent Transport Systems	7.31	TBC	MED
T11	Install a one-way system in the Old Town	7.31	TBC	LOW
T12	Designate “Red Routes” to ban stopping and parking (e.g. Queensway)	7.31	£300k	LOW
T15	Variable Message Signs	7.32	£2m	MED

Long term matters for further consideration

8.11 Long term potential measures could be implemented within 10-20 years from now i.e. over the lifetime of the Local Development Framework to coincide with the new housing developments planned in the EEP. Major construction schemes typically would take this length of time to be implemented, even if planning were to be started soon. **Table 8.5** identifies these measures.

Table 8.5 Long term matters for consideration

Code	Measure	Para-graph	Estimated cost	Priority Status
B12	New bus-only road e.g. linking Hillfield Road & Turners Hill	7.20	£2m per km	MED
R4	Increased track capacity on West Coast Mainline	7.22	TBC	LOW
R5	Longer trains	7.22	TBC	MED
H14	New road construction (e.g. North East Relief Road)	7.27	£3m - £5m per km	MED
H15	New bridges e.g. over canal	7.27	£2m - £5m per km	LOW
H16	Congestion charging/ road pricing	7.27	TBC	LOW
T7	Make the Old Town an historic core	7.30	TBC	LOW
T13	Provide roundabouts (e.g. Shenley Rd/ Redbourn Rd)	7.31	£500k each	LOW

The involvement of partners

8.12 The active involvement of partners will be needed to ensure that all the proposed measures are implemented according to the required timescale.

8.13 Amongst the multi-agency issues that will influence implementation are the following:

- Political drivers (e.g. EEP) for new housing developments will require close liaison with the Regional Assembly, for example regarding funding for transport infrastructure;
- The impact of the Buncefield explosion and need to work with national and regional agencies to regenerate the business park will be important for the Maylands Partnership;
- Partnerships for transport systems, e.g. no formal bus quality partnership currently exists in Hemel Hempstead, but might be considered;
- The Council will need to work with the healthcare and education sectors, Highways Agency and regional bodies e.g. the East of England Development Agency;
- Cross-boundary working with other councils, notably the City and District of St Albans.

Appendix A

Hemel Hempstead UTP Interventions

Hemel Hempstead UTP Interventions Tables

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Smarter Choice measures							
SC1	Develop and implement School Travel Plans	C2; C3; C4; C5; A3; E3	C1; S1; S2; E1	£10k per school	HCC	Quick-win	HIGH
SC2	Introduce walking buses for primary schools	C2; C4; A3; S1; S2; E1; E3	C1; C5	£5k per school	DBC	Quick-win	HIGH
SC3	Safer routes to school	C1; C4; C5; A3; S1; S2; E3	A4; A6	£25k per school	HCC	Short-term	HIGH
SC4	Workplace travel plans campaign	C2; C3; C4; C5; A2; E3	C1; S1; E1	£100k	DBC	Quick-win	HIGH
SC5	Leisure Travel Plans (Jarmans Park)	C2; C4; C5; E3	C1; S1; E1	£30k per site	DBC	Quick-win	MED
SC6	Destination Travel Plans (Station, Hospital)	C2; C4; C5; A1; E3	C1; S1; E1	£30k per site	HCC	Quick-win	HIGH
SC7	Area Travel Plans (e.g. Maylands)	C2; C3; C4; C5; A2; E3	C1; A5; A6; S1; S2; E1	£60k per area	Mayland Partnership (for Maylands)	Quick-win	HIGH
SC8	Personalised Travel Plans	C1; C2; C4; C5; E3	A1; A2; A3; A4; S1; S2; S3; E1	£15 per person	HCC	Short-term	HIGH
SC9	Promote and develop car sharing (e.g. Maylands, new developments)	C1; C2; C3	C5; A2; S3; E1	£100k	DBC Mayland Partnership (for Maylands)	Short-term	MED
SC10	Promote and encourage car clubs	C1; C2; C3	C5; A2; S3; E1	£250k	HCC	Short-term	MED
SC11	Travel awareness campaigns	C1; C2; C4; C5; E3	A1; A2; A3; S1; S2; S3; E1	£200k	HCC	Short-term	HIGH

SC12	Prevent or discourage pupils from driving to school	C2; C4; C5; A3; E3		£100k	HCC	Short-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Walking							
W1	Pedestrian guardrail review (e.g. rail station, Waterhouse St)		C4; A2; A4; S1; E2; E3	£1k-5k	HCC Thornfields (for Waterhouse St development)	Quick-win	MED
W2	Tactile paving at crossings (e.g. London/ Station Rd, Bridge St roundabout)		C4; A1; A2; A3; A4; S1	£1k-2k per crossing	HCC	Quick-win	MED
W3	Signage (e.g. St Albans Rd, Fishery Ln, Gadebridge Ln)	C1	C3; A5	£500 per sign	HCC	Quick-win	LOW
W4	Pedestrian environment improvements (e.g. Waterhouse St, Leighton Buzzard Rd)	C2; C4; A2; A5; E2; E3	C3; A1; A4; S1; S3; E1	TBC	HCC Thornfields (for Waterhouse St development)	Quick-win	HIGH
W5	Canal path seating (station to town centre/ Grand Union Canal to Apsley)		C1; C4; E3	£2k per seat	British Waterways (for canal)	Quick-win	LOW
W6	Informal & formal crossings/ refuges (e.g. Gadebridge Lane to park, Great Elms Rd, at Jarmans Park)	A2; A3; A4; S1; S2; E3	C2; C3; C4; A5	£2k-5k (Informal)	HCC	Quick-win	HIGH
W7	Pavement widening (e.g. London/ Station Rd, Bennetts End Rd)	C4; A2; A3; A4; S1; S2; E3	C3; E1	£2.5k-5k per 10 metres	HCC	Short-term	HIGH
W8	Pavement extension (e.g. Leighton Buzzard Rd, Fishery Ln)	C4; A2; A3; A4; E3	E1	£5 per 10 metres	HCC	Short-term	HIGH

W9	Junction re-design (e.g. Allandale)	C3; A4; S3	A4; S1; S2; E2	£75k – £100k per junction	HCC	Short-term	MED
W10	Pedestrian crossings (e.g. A414, Cambrian Way)	C4; A2; A3; A4; E3		£15k-20k per crossing	HCC	Short-term	MED
W11	Improve access for pedestrians and cyclist to some areas	C4; A2; A3; A4; E3		£50k per scheme	HCC	Short-term	MED
W12	Provide pedestrian and cycling links to employment zones from residential areas	C4; A2; A4; E3	A5	£15k-£50k per scheme	HCC	Short-term	MED
W13	Step-free access to platforms (rail station)	C4; A2; A3; A4; E3		TBC	London Midland	Medium-term	MED
W14	Lighting (e.g. Plough Roundabout, Fishery Ln, Underpass to Park)	C4	A2; A4; A5; S1; S2; E2; E3	Up to £100k	HCC	Medium-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Cycling							
C1	Cycle lanes/ routes (e.g. London/ Station Rd, Plough roundabout/ Leighton Buzzard Rd)	C2; C3; C4; A2; A3; A4; S1; S2; E3	C5; A1	£1k (20 metres) plus signage	HCC	Quick-win	HIGH
C2	Signage (e.g. St Johns Road, Grand Union Canal, Nickey Line)	C1	C3; A2; A3	£500 (per sign)	HCC	Quick-win	LOW
C3	Cycle maps		C1; C2; C3; C5; A2; A3; A4	£5k	DBC	Quick-win	MED
C4	Canal access route/ramp (e.g. London/ Station Rd, Fishery Lane)	A2; A4; E3	C4; A3; S1; S2	£20k (10 metres of narrow path)	British Waterways	Short-term	MED
C5	Cycle parking (e.g. at rail station, Maylands)	C1; C2; C3; C4; A2; A3; E3	C5; A4	£1k-2k (one Sheffield stand); £5k-10k (for cover)	HCC London Midland (for rail station)	Short-term	HIGH
C6	Shared cycle track (e.g. St Albans Road, Redbourn Road)	C2; C3; C4; A2; A3; S1; S2; E3	C5; A4	£10k per 10 metres	HCC	Short-term	HIGH
C7	Pavement widening (e.g. Queensway, Grand Union Canal)	C4; A2; A3; A4; S1; S2; E3	C3; E1	£2.5k-5k per 10 metres	HCC British Waterways (for canal)	Short-term	HIGH
C8	CCTV at cycle stands (Marlowes)	C4	S1; S2	£25k (additional to existing CCTV system)	DBC	Short-term	LOW
C9	Lighting (e.g. Briery Way, Marlowes)	C4	S1; S2; E3	Up to £100k	HCC	Short-term	LOW

C10	Junction re-design (e.g. Briery Way to Ellingham Road link, Leverstock Green Road)	C3; S3	A4; S1; S2; E2	£75k-£100k	HCC	Short-term	LOW
C11	Ramp access (e.g. Nickey Line)	A2; A3; A4; E3	C1; C4; E2	£20k per simple, short ramp	HCC	Short-term	MED
C12	Improve access to school by cycle / on foot	C4; A2; A3; A4; S1; S2; E3	C1; C2; C3	£20k per school	HCC	Short-term	HIGH
C13	Pelican crossings (e.g. Longfield)	C4; A2; A3; A4; S1; S2; E3	C2; C3; A1	£50k-£75k (Pelican)	HCC	Medium-term	HIGH
C14	Develop network from NCN Route 57	C2; C3; C4; A2; A3; A4; S1; S2; E3	C5; A1	£50k per 100m	Sustrans	Medium-term	HIGH
C15	Introduction of off-street cycle routes	C2; A4; A5	C2; A4; A5	£50k per 100m	HCC	Medium-term	HIGH
C16	Green corridors for cyclists	C4; A2; A3; S1; S2; E1	C2; A4; A5	£50k per 100m	HCC	Medium-term	HIGH
C17	Improve Plough Roundabout to ensure cyclists' safety	C4; A2; A3; S1; S2; E1	C2; A4; A5	£500k	HCC	Medium-term	HIGH
C18	Improve maintenance of highways	C4; A2; A3; S1; S2; E1		£100k	HCC	Medium-term	MED
C19	Improve links from Hemel Hempstead Station into town	C4; A2; S1; E1		£500k	HCC	Medium-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Public Transport Information							
PT1	Improved bus stop information	C1; C4	C2; C3; C5; A2; A3; A7	£50k	Bus operators	Quick-win	MED
PT2	Real Time Passenger Information at bus stops	C1; C2; C4	A1; A2; A5	TBC	HCC	Medium-term	HIGH
PT3	Real-time information at stations	C1; C4; A4; A5	C2; A4; A5	TBC	Train operators	Medium-term	HIGH
PT4	Integrated timetabling between bus and rail	C1; C4; A2; A3	C2; C3; A1; A2; A3; A5; A7	TBC	Bus operators Train operators	Short-term	HIGH
PT5	Integrated ticketing between public transport services	C1; C2; C3; C4	A2; A3; A5	TBC	Bus operators Train operators	Medium-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Bus							
B1	Bus Quality Partnership/ Performance Improvement Plan	C1; C3; C4; A2; A3	C2; A1; A5	£25k	HCC Bus operators	Short-term	HIGH
B2	Improve bus service quality	C1; C4; A7		TBC	Bus operators	Short-term	MED
B3	Increased bus frequencies	C2; C3; C4; A2; A3; A4; A7	A5	TBC	Bus operators	Medium-term	HIGH
B4	Extension of bus services	C1; C2; C3; C4; A2; A3; A4; A7	A5	TBC	Bus operators	Medium-term	HIGH
B5	Subsidy to operators	C1; C2; C4	C3	TBC	HCC	Medium-term	LOW
B6	Review timetables	C1; C4	C2; C3; C5; A1; A2; A3; A4; A5; A7	TBC	Bus operators	Quick-win	HIGH
B7	Review fare structures/ lower fares	C1; C2; C3; C4	A5	£20k	Bus operators	Short-term	MED
B8	Wider concessionary fare scheme	C1; C2; C4	C3; A1; A2; A4	TBC	HCC	Medium-term	MED
B9	Bus priority on key routes (e.g. on A414)	C2; C4; A1; A2; A3; A4; A7	A5; E1	£1million	HCC	Medium-term	HIGH
B10	Guided busway (e.g. on A414)	C2; C4; A1; A2; A3; A4; A7	A5; E1	£2 million per km	HCC	Medium-term	HIGH
B11	New road layouts at Leverstock Green	C3; A4; S3	C1; A5	TBC	HCC	Medium-term	LOW

B12	New bus-only road e.g. linking Hill Field Road & Turners Hill	C4; A1; A4; A7	C2; C3	£2 million per km	HCC	Long-term	MED
B13	Improve bus access into schools	C4; C5; A3	C2; E1	£25k-£150k per school	HCC	Short-term	MED
B14	Review of bus stop locations	C1; C4; A2; A3	C2; C3; A4; A5; A6; A7; E1	£250k	HCC	Quick-win	HIGH
B15	New vehicles (e.g. low-floor buses)	C2; C4	C3; A2; A3; A4; A5	£100k per vehicle	Bus operators	Medium-term	MED
B16	CCTV on buses and at station	C4	S2	£500k	Bus operators	Medium-term	LOW
B17	New bus station	C2; C4	C3; A5	£3m	Thornfields	Medium-term	LOW

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Community Transport							
CT1	Provide easier access for mobility impaired e.g. dropped kerbs	A1; A2; A4; S1	E2	£3k per dropped kerb	HCC	Quick-win	MED
CT2	Set up a CT partnership	A1; A4	C1	£50k	DBC	Quick-win	LOW
CT3	Allow more taxis to collect at station	A4	C2	£10k	DBC	Quick-win	LOW
CT4	Taxis for home to school/ hospital	A1; A3	S2	TBC	DBC	Short-term	LOW
CT5	Expand Dial-a-Ride	A1; A2; A4	C4	TBC	DBC	Short-term	MED
CT6	DRT to serve the hospital	C2; C4; A1	E1	TBC	DBC	Short-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Rail							
R1	Stabilise timetabling	C1; C4; A2; A3	C2; C3; A1; A2; A3; A5; A7	TBC	London Midland	Short-term	HIGH
R2	Increased frequencies	C2; C4	A5	TBC	London Midland	Medium-term	LOW
R3	CCTV at railway stations	C4	C1; C2; S1	£250k	London Midland	Medium-term	LOW
R4	Increased track capacity	C4	C2; A4; A5; E1	TBC	Network Rail	Long-term	LOW
R5	Improved integrated interchange	C1; C4	C2; A4; A5; E1	TBC	London Midland	Long-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Highways and Freight							
H1	Improve Road Markings	S3	C1	£50k	HCC	Quick-win	LOW
H2	Designate "Green" corridors for use only by sustainable modes	C2; C4; S1; S2; E1; E3		TBC	HCC	Short-term	MED
H3	Re-design entrances to sites e.g. Jarmans Park	C3; A4; S3	A5; S1; S2	£50k	HCC	Medium-term	MED
H4	Air Quality Management Area e.g. at Jct 8 of M1 and Plough Roundabout	E1	C4	£50k	HCC Highways Agency	Medium-term	LOW
H5	Wider roads (e.g. on A414 and A4146)	C3	A4	£150k per 100m	HCC	Medium-term	LOW
H6	Redesign roads & junctions e.g. Bourne End slip road	C3; A4; S3	S1; S2	£250k-£500k	HCC	Medium-term	LOW
H7	HOV/HGV lanes (e.g. on MI, A414)	C1	C4	£250k	Highways Agency	Medium-term	LOW
H8	Maintain highways (e.g. A414, Maylands Av, Link Way)	C1		£250k	HCC	Medium-term	LOW
H9	Junction improvements & roundabouts (e.g. Maylands & A414)	A4; A5; S3	C3	£500-£750 per junction	HCC	Medium-term	MED
H10	Re-design entrances and improve access for vehicles	A4; A5; S3	C3	£500k per access	HCC	Medium-term	LOW
H11	Provide new roundabouts	C3; A4; A5; S3		£500k	HCC	Medium-term	LOW

H12	Make Roads narrower	C1		£5k per 10m	HCC	Medium-term	LOW
H13	Re-design roundabouts	C3; A4; A5; S3		£100k-£500k	HCC	Medium-term	LOW
H14	New road construction (e.g. Northern Ring Road, North East Relief Road)	C3; A4; S3; F1	A5; A6	£3-£5m per km	HCC	Long-term	MED
H15	New bridges e.g. over canal	C3	A4; A5; F1	£2-£5m per km	HCC	Long-term	LOW
H16	Congestion charging/ road pricing	C1; C2; C3; C4; E1	A1; A2; A3; A7; S3; E3	TBC	HCC	Long-term	HIGH
H17	Freight Travel Plans	C1; C3; C5; A5; F1		£20k	HCC	Quick-win	MED
H18	Route maps for hauliers	C1; F1	C3; A5	£10k	HCC	Quick-win	LOW
H19	HGV park in Maylands	C3; A5; F1	S3	£200k	Maylands Partnership	Medium-term	MED
H20	Lorry bans (e.g. in residential areas)	C3; S1; S2	S3	£100k	HCC	Medium-term	LOW
H21	Low Emission Zone (e.g. along A414)	C4; E1	F1	£500k	HCC	Medium-term	LOW
H22	Designated lorry routes (e.g. into Maylands)	C3; S1; S2; F1		£500k	HCC	Medium-term	LOW
H23	Freight transhipment facilities	C3; A5; F1		£5m	HCC	Medium-term	LOW

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Traffic and Network Management							
T1	Safety cameras (average speed)	S1; S2; S3		£200k per camera	HCC	Short-term	LOW
T2	Lower speed limits e.g. Breakspear Way	S1; S2; S3		£300k per link	HCC	Short-term	LOW
T3	Effective enforcement	S1; S2; S3		TBC	Police	Short-term	LOW
T4	Traffic calming	S1; S2; S3; E1	C2; C4; E4	£10k per 100m	HCC	Short-term	MED
T5	Road safety training	S1; S2; S3		£30k	HCC	Short-term	MED
T6	Home Zones (e.g. Adeyfield)	C2; C4; S1; S2; E1; E3	E2	£500k per street	HCC	Medium-term	MED
T7	Historic core zone for Old Town	A5	E2	TBC	HCC	Long-term	LOW
T8	Review impact of new traffic lights on Leighton Buzzard Road	C1; C3; A4		£20k	HCC	Short-term	LOW
T9	New traffic signals e.g. on A414	C1; C3	S1; S2; S3	£40k per junction	HCC	Medium-term	LOW
T10	Urban Traffic Control/ Intelligent Transport Systems/ VMS	C1; C3	S1; S2; S3; F1	TBC	HCC	Medium-term	MED
T11	Install a one-way system in the Old Town	C1; A4; A5		TBC	HCC	Medium-term	LOW
T12	Designate "Red Routes" to ban stopping and parking	C1		£300k	HCC	Medium-term	LOW
T13	Provide roundabouts at key junctions	C1; A4; A5		£500k	HCC	Long-term	LOW
T14	Improved signage	C1	C3; A2; A3	£150k	HCC	Short-term	LOW

T15	Variable Message Signs	C1	A4; S1; S2; S3; F1	£2m	HCC	Medium-term	MED

	Measure (intervention)	HH UTP objectives addressed		Estimated cost of measure	Lead agency	Time-scale	Indicative priority
		Major Contribution	Minor Contribution				
Parking and Park & Ride							
P1	Expand CPZ schemes (e.g. around railway stations)	C1; C2; C3; C4	A5; A6; S1; S2; S3; E1; E3	£50k per scheme	DBC	Quick-win	MED
P2	Remove parking around schools	C1; C2; C4; S1; S2; S3	C5; A3; E1; E2; E3	£20k per school	DBC	Quick-win	HIGH
P3	Restrict parking in sensitive areas	C1; C2; C3; C4	A1; A5; S1; S3; E1; E3	£20k	DBC	Quick-win	MED
P4	Enforce parking restrictions in residential areas	C1; C2; C3; C4	A1; A5; S1; S3; E1; E3	£10k	DBC	Quick-win	HIGH
P5	Reduce parking standards for new developments	C1; C2; C3; C4; A6	E1; E3	£20k	DBC	Short-term	MED
P6	Provide secure lorry parking	A6; F1		£200k	DBC	Short-term	LOW
P7	Reduce parking availability (e.g. in Waterhouse Square)	C1; C2; C3; C4, A6	E1; E3	£10k per location	DBC	Short-term	MED
P8	Higher charges for long-stay parking	C1; C2; C3; C4	A6; E1; E3	£25k	DBC	Short-term	MED
P9	Provide coach parking (e.g. in Maylands)	C4; A5	E1	£200k	Maylands Partnership	Short-term	LOW
P10	Provide motorcycle parking	C4; A5		£50k	DBC	Short-term	LOW
P11	New car parks (e.g. in town centre)	A5		£5m	DBC	Short-term	LOW
P12	Parking for disabled drivers	A1; A2; A4		£50k	DBC	Short-term	MED
P13	P&R (e.g. at Maylands)	C2; C3; C4; A2; A5	A6; A7; E1	£1.5million	Maylands Partnership	Short-term	HIGH

Costs are estimates. All costs would need re-examination prior to commencement. The costs of many measures have not been provided (and are marked as TBC – to be confirmed) since these costs will depend on a variety of factors such as the type of equipment used, the extent of the measures etc, which may be subject to political decisions.

Prioritisation of schemes is based upon how well they achieve the objectives of the UTP as well as a measure of deliverability encompassing policy fit, value for money, feasibility and public/political acceptability.

Appendix B

Approach

Methodology

1.1 The preparation of the Hemel Hempstead UTP involved several tasks which are summarised below. Variations to the planned methodology were introduced at the request of HCC in view of the initial findings of the study.

Legislation and Policy Review

1.2 A brief, but comprehensive, policy review of the major legislation and policy documents that affect the District was undertaken. This task involved the critical assessment of national, regional and local policies. With the publication recently of the Stern Report, *The Economics of Climate Change*, and also *The Eddington Transport Study: the Case for Action*, national policy appears to be shifting further to the promotion of sustainable transport. The policy review provided the context for the analysis and assessment of current and future issues and problems in the area.

1.3 The review covered five levels of government but the focus was at the regional and sub-regional level:

- European Union;
- National (Department for Transport, Department for Communities and Local Government);
- Regional (East of England Regional Assembly, East of England Development Agency etc);
- County (Hertfordshire County Council); and
- District (Dacorum District Council).

1.4 This review focussed on those issues not covered by the policy review undertaken for the West Herts Area Transport Plan, particularly the latest policy developments.

Data Review / Gap Analysis

1.5 A review of existing data available to the officers of HCC and DBC, covering local information and referring to relevant national and regional data of relevance to the district, was undertaken. This task critically assessed the outputs from existing data available to produce a demand analysis and assessment of current and future issues and problems in the context of the current population and the proposed increased growth. The data review included the following:

- Policy data e.g. projected growth figures, congestion data, air quality;
- Census;
- LATS (London Area Transport Study) 2001;
- Traffic and transport data;
- Road accident figures;
- Commercial data e.g. employee numbers within the Hemel Hempstead area;
- Mapped information e.g. showing key locations, transport infrastructure, street lighting etc; and
- Public opinion e.g. from the MORI Survey for LTP2.

1.6 Important gaps in our understanding of travel behaviour in the town were identified. These led to us undertaking audits to identify where improvements might be made to the walking and cycling networks as well as a survey of passenger transport use.

1.7 This task also involved a review of current models covering the capability, availability and suitability of both available strategic and local models for the area. As a result of this task a report was prepared recommending that a new model be developed for the town and this has subsequently been commissioned.

Planned Major Development Review

1.8 Major growth at Hemel Hempstead has been recommended by Government Inspectors who examined the draft East of England Plan. This involves substantial new building within the town but also in the Green Belt around Dacorum, particularly to the east.

1.9 The current position with regard to the major committed and planned development for Hemel Hempstead was established and a review undertaken of the current procedures for engaging with the private sector developers with a view to maximising the potential for joint working between the Council and developers that will ensure that the UTP can meet future development needs.

1.10 A matrix of planned development, with their proposed timescales, was developed to identify and summarise the scale of investment that may occur in the town.

1.11 Four particular developments are likely to have a significant impact upon the town:

- The provision of housing within the town from the Urban Capacity Study;
- The redevelopment of Waterhouse Square (the Civic Zone);
- The regeneration of the Maylands Business Park following the Buncefield explosion in 2006; and
- The planned expansion resulting from the East of England Plan.

Officer and Key Stakeholder Consultation

1.12 A series of interviews with officers from HCC and DBC, as well as other key stakeholders, were undertaken to ascertain their views on current and future problems in the town as well as possible opportunities and interventions. The methodology adopted employed a pro-forma to enable a comparison of the results to be carried out.

1.13 Consultees provided information through a face-to-face interview or by telephone where the latter was not possible. Outline information encompassed the following:

- Timescale for interventions
- Key stages of planned interventions
- Expected costs of planned interventions
- Funding sources
- Certainty of funding
- Partners involved

- Expected impact of planned interventions on transport and land-use in Hemel Hempstead
- Likelihood of progress within planned timescale
- Potential risks of planned interventions
- Other comments

1.14 While this format proved applicable to developers providing information on a particular project, other interviews regarding uncertain proposals were recorded in a more flexible format. Interviews focussed around the assessment of risks determining the likelihood of a development coming forward. The following categories of risk were identified:

- Environmental risks;
- Political risks; and
- Funding/ financial risks.

1.15 The outputs from the previous tasks were summarised in the 'Health Check' report that identified the key issues that the UTP would need to address.

Health Check

1.16 Following on from the legislation and policy review, the data review and gap analysis, the review of planned major developments and the consultations with officers and stakeholders, a 'Health Check ' report was prepared. This identified the key issues and problems that would need to be addressed in the UTP.

1.17 Alongside this, a report to the Board of Hemel2020 was prepared, recommending that a new land-use and transport model be developed for the town. This is now under development.

Walking and cycling audits

1.18 Walking and cycling audits of primary and secondary routes in and around Hemel Hempstead were undertaken to identify locations where useful improvements could be made to existing infrastructure in order to make these modes more attractive to users.

1.19 These audits identified the existing, and possible future, barriers to walking and cycling. The focus was on identifying where cycling and walking routes are inconsistent, are of a poor quality or indirect, and would benefit from investment. Thus the audits enabled the identification of possible solutions to observed problems.

Public Transport Survey

1.20 In order to better understand the travel behaviour and needs of public transport users in Hemel Hempstead, a postal return survey for rail and bus passengers was undertaken. The aim of the survey was to help fill the current gaps in knowledge and to improve the evidence base of the UTP.

1.21 The survey was circulated at the railway stations (Hemel Hempstead and Apsley at peak morning period) and also at the bus station as well as on the Maylands business park. Further copies were made available at the offices of Dacorum Borough Council, libraries, Connexions, West Herts Community

College, the Old Town Theatre, community centres and shops. The survey was undertaken on two days, March 10th and April 15th 2008.

1.22 Over 200 responses were received and entered into an Access database and the results analysed for inclusion into the UTP. Many suggestions for improvements were made by respondents many of which form part of the implementation programme.

1.23 Along with the responses to the Maylands Partnership travel survey that focussed on car commuting, an improved database of the travel behaviour in the town was developed.

Developing Targets

1.24 Based on the LTP2 objectives, a set of transport targets were developed for the Hemel Hempstead UTP.

Planning for Real event

1.25 Towards the end of the project a key stakeholder workshop, the Planning for Real event, was held. The list of delegates is attached in Appendix D and included both Elected members as well as representatives of local organisations.

1.26 The format or the Planning for Real day involved presentations of the key issues with break out groups for detailed discussions based on maps of the town. This enabled a range of issues/concerns to be highlighted along with potential solutions to the transport challenges faced by the town to be identified. Many of these proposals are contained in the list of measures in Appendix A.

Identification of measures

1.27 The current situation with regard to transport problems in Hemel Hempstead was reviewed in detail, including several site visits. This review identified transport measures already implemented and how successful these have been, those that have not been successful and the reasons why. Thus opportunities for new measures were highlighted.

1.28 An extremely wide range of potential options could be implemented within the context of the UTP framework. Many of these relate directly to transport interventions to resolve current issues; however there are others that relate to the widespread future land-use and planning proposals and the impact these will have upon trip generation.

1.29 The initial strategy development process was to produce a ‘Long-List’ of potential measures through assessment of the issues and opportunities. Measures were derived from a variety of sources including:

- Analysis of the existing data, policies, etc.;
- Stakeholder consultation;
- The walking and cycling audits;
- The passenger transport survey;

- The HCC/DBC Planning for Real event; and
- Research sources[1].

1.30 The following areas provided the basis for the generation of measures and schemes:

- Network Management (ITS, signage)
- Smarter Choices (Travel Plans, Personalised Travel Plans, car clubs, car sharing, travel awareness campaigns)
- Social inclusion measures (mobility impaired access)
- Walking (Pedestrian routes, crossings, Rights of Way, street scene, signage)
- Cycling (Cycle routes, crossings, street scene, signage, secure parking, ASLs)
- Local buses (new station, bus priority, increased frequencies, low-floor buses, bus stops, concessionary fares, subsidy, QBP/PIP)
- Community transport and taxis (Dial-a-Ride, taxis for home to school/ hospital)
- Passenger rail (increased frequencies, capacity enhancements, integrated interchange)
- Improved integration (integrated timetabling, integrated ticketing)
- Improved information (PTP, RTPI, bus stop information)
- Travel demand restraint (road user charging, reduce parking availability, higher charges for parking, land-use planning)
- Highways (new roads, HOV/HGV lanes, wider roads, new links)
- AQMAs (LEZ)
- Parking and P&R (reduce parking standards for new developments, reduce parking availability, higher charges for long-stay parking, coach parking, motorcycle parking, HGV parking)
- Road safety improvements (safety cameras, re-engineering, encourage safer driving, visible speed limits, lower speed limits, greater enforcement, road safety training)

1.31 In total, 129 individual measures were identified that target one or more of the UTP objectives.

[1] Developing Urban Transport Strategies (IHT, 1996),
Konsult (the Knowledgebase on Sustainable and Urban Transport, Leeds University- http://www.konsult.leeds.ac.uk/))
The Demand for Public Transport (TRL, 2004)
The EU Optimum2 Cookbook (European Commission, 2008)
Smarter Choices: Changing the Way We Travel (DfT, 2005)
The EU ELTIS website http://www.eltis.org

Appraisal

1.32 A comprehensive list of measures (in addition to those already implemented or planned as part of LTP2) was assessed in order to identify what measures could solve the priority issues in Hemel Hempstead. An objective-led appraisal process was applied. Each proposed measure was assessed not only for its contribution against the UTP objectives but also against a series of criteria representing the extent of deliverability.

1.33 In terms of the assessment against the UTP objectives any measure that was considered likely to provide a strong contribution to achieving a UTP objective was ranked twice as important as a low contribution. In addition, those measures delivering against more UTP objectives scored higher accordingly.

1.34 The 'deliverability' criteria encompassed the following four areas:

- Policy fit (the extent to which the measure supported national, regional and local policy);
- Value for money (whether the measure provides value for money);
- Feasibility (whether implementation is technically feasible); and
- Acceptability (whether the measure is likely to be publicly and politically acceptable).

1.35 Each measure was giving a rating of high, medium, low for all four areas and a weighted score applied accordingly.

1.36 A total score was generated for each measure combining the 'contribution to objectives' rating and the 'deliverability' rating from which the following the measures were then ranked and then classified in terms of priority: high; medium; or low.

Preparation of the Hemel Hempstead UTP 2008

1.37 This stage finalised the contents of the Hemel Hempstead UTP, ensuring that it is highly relevant to the changing policy context, delivery framework and institutional structures. It was based on the evidence and data collected. The UTP is structured around the objectives of the Hertfordshire LTP2 whilst meeting local needs.

1.38 An Implementation Table was developed with a range of proposals for Hemel Hempstead. The package of measures will form the basis of funding bids with each measure having clear justification whilst operating in a sustainable transport strategy.

Appendix C

Public Transport Survey

Public Transport Survey Summary Results

Responses

Age

- 55% respondents aged 26-60
- 38% over 60
- 7% under 25 (including 1% under 18)

Gender

- 51% male
- 49% female

Key results

All the reports generated by the database are recorded on the CD. Other reports can be generated on request.

Passenger transport use

- 47% used bus
- 39% used train
- 2% used taxi
- Other 12%

Reasons for Passenger Transport use

- No access to a car (35%); greater convenience/ faster journey (31%); choose not to use a car (17%); cheaper than a car (9%)
- 43% of females and 27% of males use PT due to lack of access to a car
- 37% of males and 27% of females use PT due to its greater convenience/ faster journey times
- Those aged 26-60 use PT due to convenience/ faster journey (45%) or no access to car (24%)
- Those aged 19-25 use PT due to no access to a car (79%) or greater convenience (14%)
- PT is used during peak periods mainly for the convenience/ faster journey – other times due to no access to a car

Trip purpose

- Females use PT for going to work (40%) and shopping (28%)
- Males use PT for going to work (56%) and shopping (23%)
- PT used for work trips (70%) in 26-60 age group and 10% for shopping

Connections

- 41% view connections to HH rail station as good/ very good – 27% difficult/ very difficult (rest don't know)
- 5% view connections to Jarmans Park as good/ very good – 38% as difficult/ very difficult
- 13% view connections to Maylands as good/ very good – 24% as difficult/ very difficult
- 22% view connections to Old Town as good/ very good – 23% as difficult/ very difficult
- 60% view connections to Town Centre as good/ very good – 12% as difficult/ very difficult
- 22% view connections to Apsley as good/ very good – 25% as difficult/ very difficult

Main inconveniences

- Price (30%)
- Journey time (18%)
- Interchanging (15%)

Journey rating

- Convenient/ very convenient (77%); difficult/very difficult (23%)
- 80% say PT is convenient/ very convenient during morning peak period

Station access

- 42% walk
- 30% car (driver or passenger)
- 19% bus
- 7% taxi
- 2% cycle

Appendix D

List of ‘Planning for Real’ Attendees

List of Attendees

Name	Organisation
Cllr. Alan Anderson	Dacorum Borough Council
Cllr. Peter Channell	Hertfordshire County Council
Cllr. Herbert Chapman	Dacorum Borough Council
Cllr. Ken Coleman	Hertfordshire County Council
Cllr. Gary Cook	Hertfordshire County Council
Cllr. Margaret Coxage	Hertfordshire County Council
Cllr. Ian Laidlaw Dickson	Hertfordshire County Council
Cllr. Terence Douris	Hertfordshire County Council
Cllr. Alan Fantham	Dacorum Borough Council
Cllr. Lloyd Harris	Dacorum Borough Council
Cllr. Nick Hollinghurst	Hertfordshire County Council
Cllr. Stephen Holmes	Dacorum Borough Council
Cllr. David Lloyd	Dacorum Borough Council
Cllr. Michael Moore	Dacorum Borough Council
Cllr. Ian Reay	Dacorum Borough Council
Cllr. Richard Roberts	Dacorum Borough Council
Cllr. Elam Singam	Hertfordshire County Council
Roy Bain	Maylands Partnership
Tim Bellamy	East of England Regional Assembly
Richard Blackburn	Dacorum Borough Council
Rachel Boxall	Herts Chamber of Commerce
Gerard Burgess	London Midland
James Dale	Hertfordshire County Council
John Dales	Urban Initiatives
James Doe	Dacorum Borough Council
Nigel Downes	WSP
Pat Gray	Older Persons Forum
Pam Halliwell	Dacorum Borough Council
Robert Hollins	Entec
David Hughes	Hertfordshire County Council
Keith Hutchinson	Highways Agency
Trevor Land	Hertfordshire County Council
Andy Knight	Sustrans
Sanjay Patel	Hertfordshire County Council
Caroline Player	Age Concern
Peter Snow	Maylands Partnership
Helena Spencer	Entec
Derek Wadland	Hertfordshire County Council
Keith White	Hertfordshire County Council
Lynn Basford	JMP
Derek Palmer	JMP
Peter Harries	JMP
Nasrin Azarkadeh	JMP

Appendix E

Glossary

Glossary

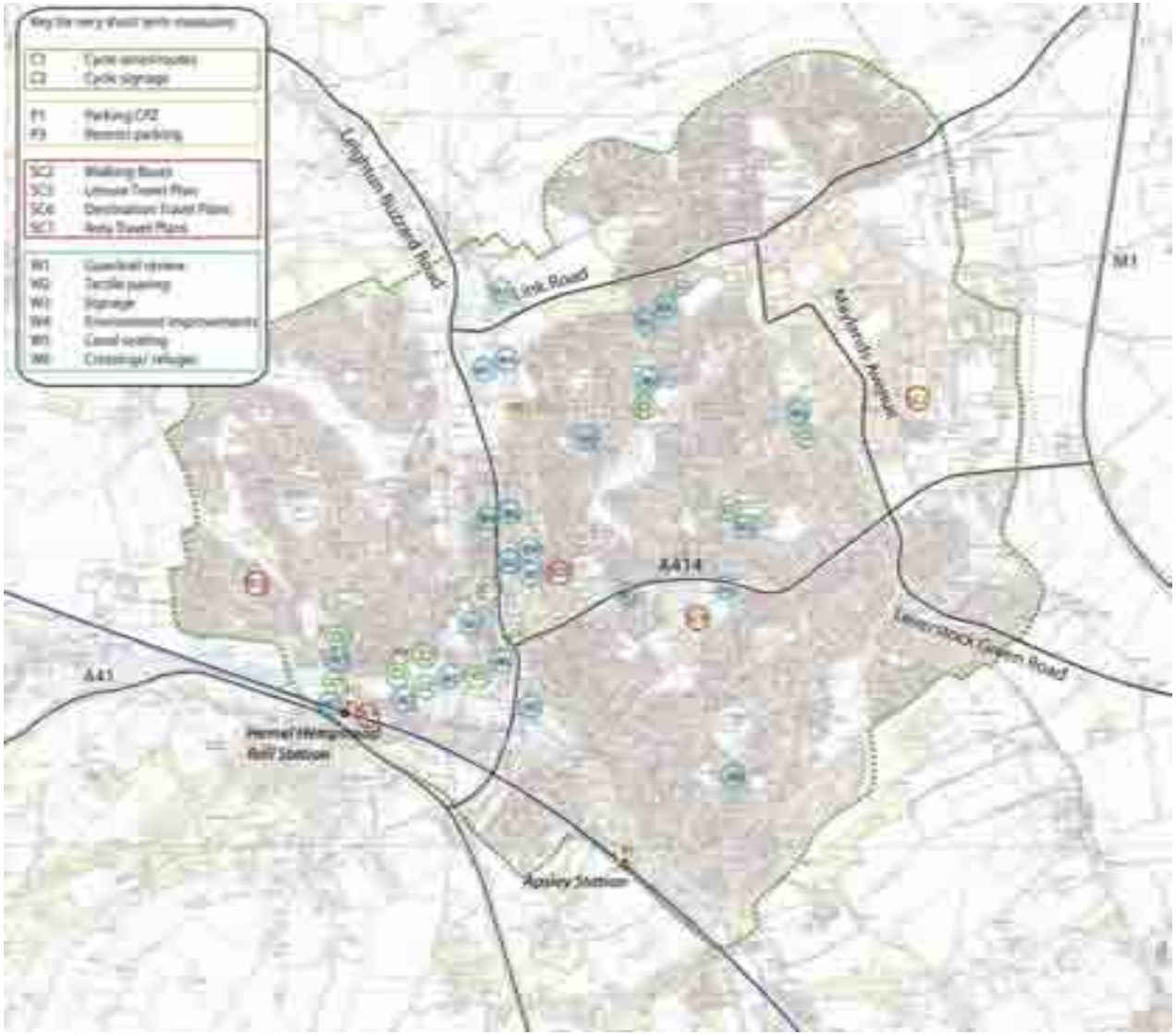
Acronym	Explanation
AQMA	Air Quality Management Area
ASL	Advanced Stop Line
ATP	Area Transport Plan
CAD	Community Action Dacorum
CCTV	Closed Circuit Television
CO_2	Carbon Dioxide
CPZ	Controlled Parking Zone
CT	Community Transport
DBC	Dacorum Borough Council
DDA	Disability Discrimination Act 1995
DfT	Department for Transport
DPE	Decriminalised Parking Enforcement
DRT	Demand Responsive Transport
EEP	East of England Plan
EU	European Union
HCC	Hertfordshire County Council
HGV	Heavy Goods Vehicle
HHH	Hemel Hempstead Hospital
HHTCMP	Hemel Hempstead Town Centre Management Partnership
HOV	High Occupancy Vehicle
IHT	Institution of Highways & Transportation
ITS	Intelligent Transport System
LDF	Local Development Framework
LEZ	Low Emission Zone
LTP2	Second Local Transport Plan
NCP	National Car Parks

NMT	Non-Motorised Transport
NCN	National Cycle Network
P&R	Park and Ride
PIP	Punctuality Improvement Plan
PPG	Planning Policy Guidance
PT	Public Transport
PTA	Passenger Transport Authority
PTP	Personalised Travel Plan
QBP	Quality Bus Partnership
RoW	Rights of Way
RSS	Regional Spatial Strategy
RTPI	Real Time Passenger Information
S106	Section 106 agreement (from the 1991 Town & Country Planning Act)
TRL	Transport Research Laboratory
UTMC	Urban Traffic Management System
VMS	Variable Message Sign

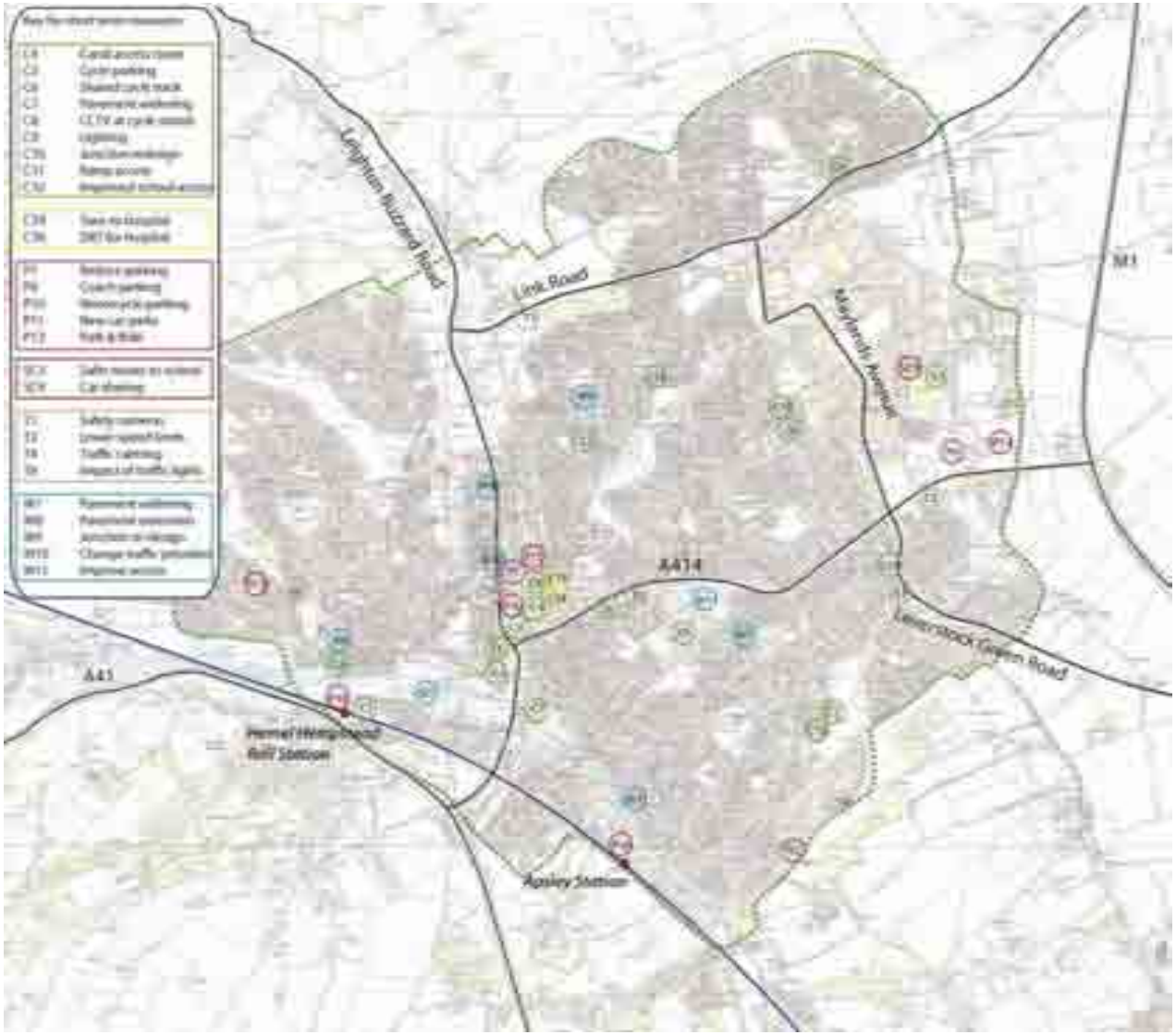
Appendix F

Summary Maps

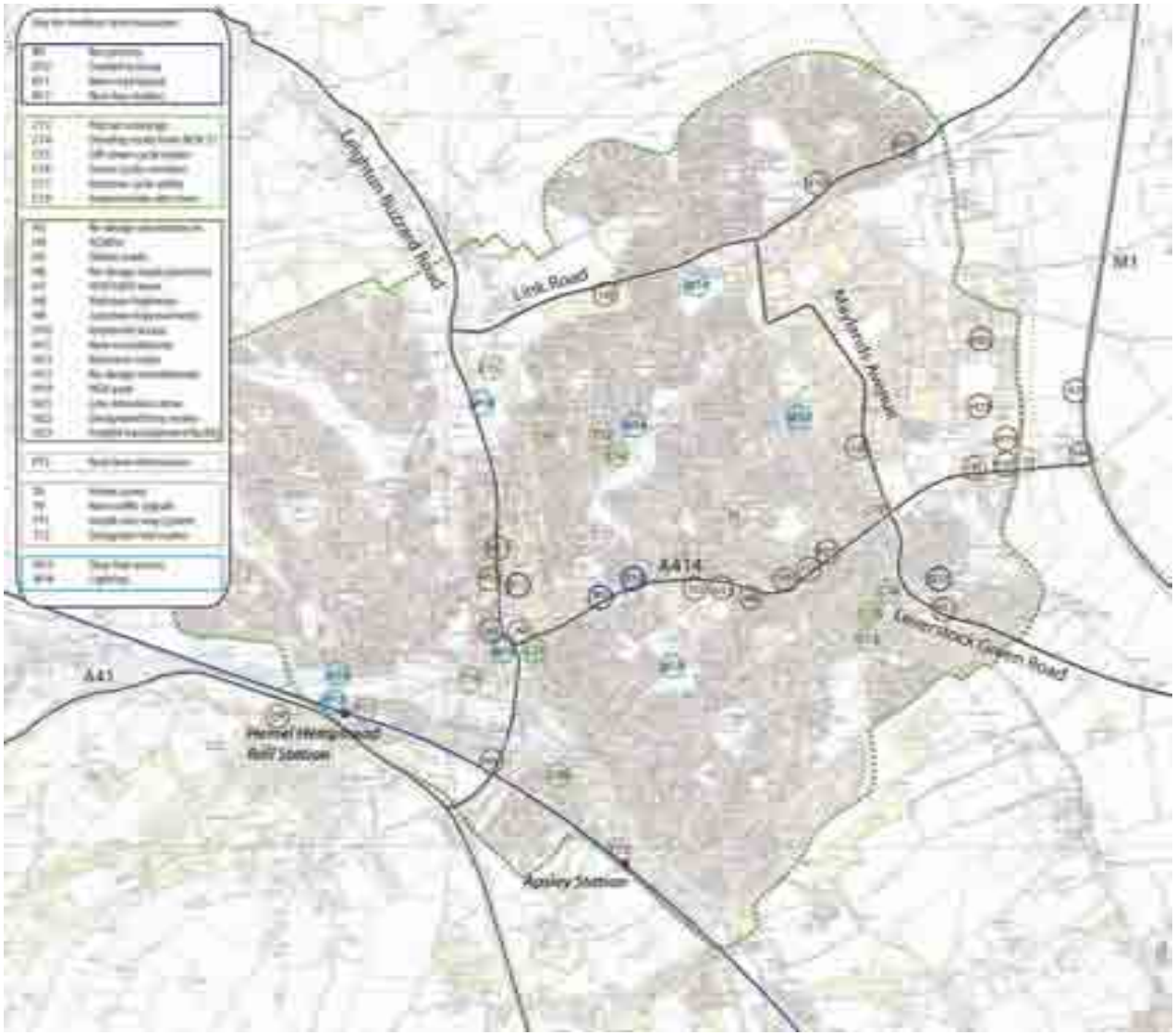
Very short term measures



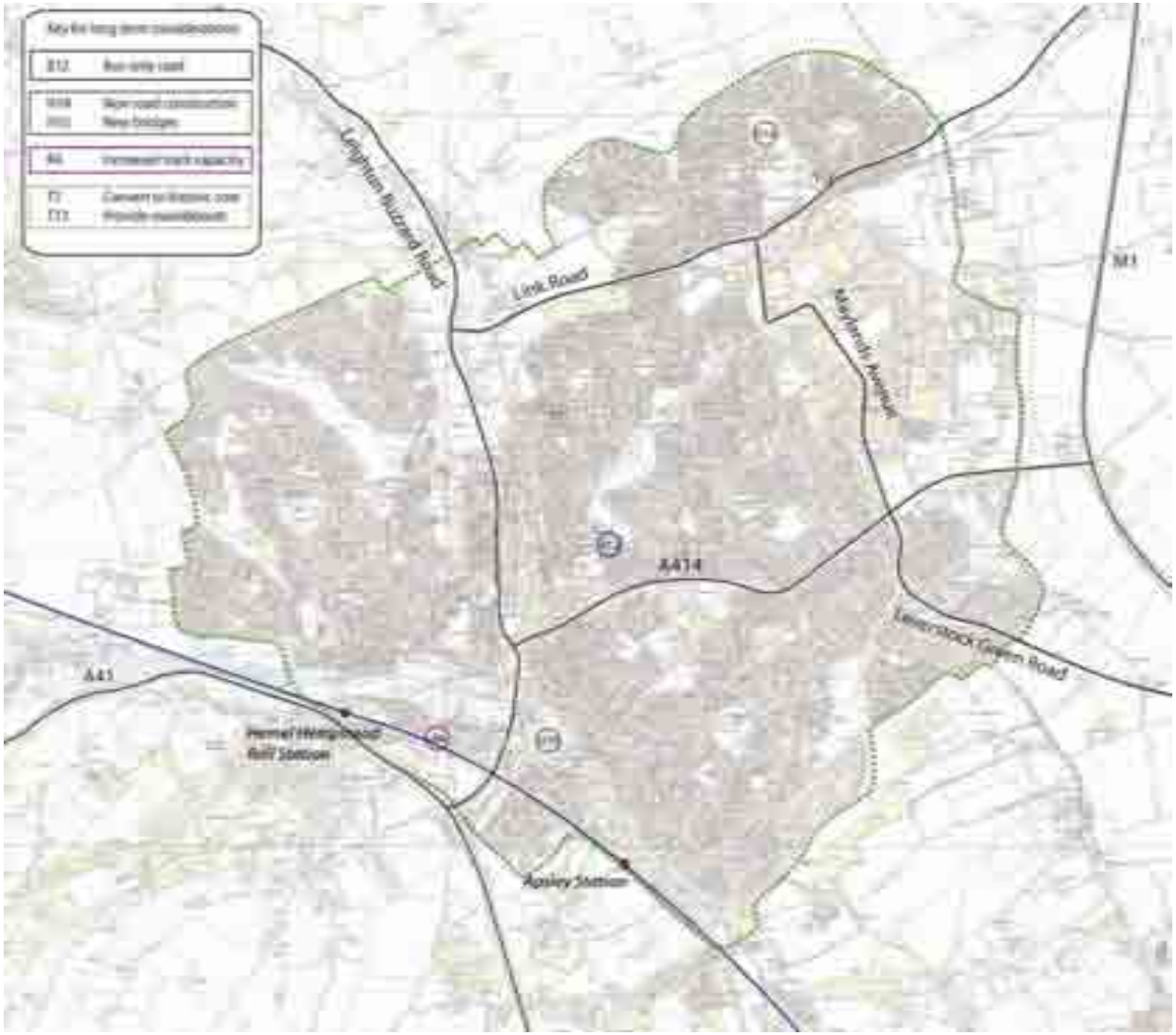
Short term measures



Medium term measures



Long term measures



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