HARPENDEN URBAN TRANSPORT PLAN

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Hertfordshire Highways
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Hertfordshire

Harpenden Urban Transport Plan

Report

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Executive Summary

This document presents the consultation draft of the Urban Transport Plan for Harpenden. Harpenden is a busy commuter town in Hertfordshire. The future of Harpenden is bright and transport will play a key role in helping to sustain the high quality of living that attracts people to town. However, transport issues identified in Harpenden can also act as a barrier to achieving the objectives set out in this and other policy documents such as the Hertfordshire Local Transport Plan and Hertfordshire's Sustainable Communities Strategy. If not managed, congestion and the demand for parking will prevent journeys to work from being made efficiently and make access by car to local services and amenities such as the rail station and town centre increasingly difficult. However, transport can also help Harpenden maintain the high quality of life that its residents have become used to by improving access, addressing safety and speeding concerns, and promoting more sustainable lifestyles. The transport issues identified in this Plan, if managed effectively and in a timely manner can contribute to the growth of strong, cohesive communities and will support the achievement of wider objectives.

Urban Transport Plans are produced by the County Council to set out a framework to focus transport improvements within a specific geographical area for the next 15 to 20 years. They are daughter documents of the Local Transport Plan which sets out the transport priorities for the whole of Hertfordshire. The aim of the Urban Transport Plans is to provide a clear definitive list of the transport issues for each area and where possible the potential solutions and improvements proposed to address them.

This document

This Urban Transport Plan sets out an analysis of the current travel patterns in Harpenden that have informed the development of the key transport issues identified within the Plan. The Plan objectives are as follows:

- supporting the economic vitality of local shops and businesses;
- reducing CO_2 emissions;
- providing a safer environment in which to live, work and visit;
- promoting healthy and active lifestyles;
- improving access to key services; and
- maintaining the high quality of life enjoyed by most.

Multiple site visits have also been undertaken to provide further confirmation of the key issues that need to be taken into account in the development of proposed interventions within this Urban Transport Plan.

The transport solutions and improvements are set out within the context of Hertfordshire County Council's overall transport objectives, particularly those set out within Hertfordshire's Local Transport Plan. As additional objectives and targets emerge from the development of the third Local Transport Plan, this Plan will be updated.

The process undertaken to develop the Plan has included the consideration of a long list of transport interventions developed through consultation with the community to address the key issues identified. An assessment of this list of schemes against the Plan objectives, Local Transport Plan funding criteria and deliverability criteria has also been undertaken that has led to the development of a list of schemes recommended for implementation. The interventions developed cover the following areas:

- **accessibility improvements to and at the rail station** including improved cycle parking provision, cycle routes to the station, better provision for buses, improved parking provision and better pedestrian routes into the station;
- **improvements to the cycle network** including improving the quality of existing routes, filling gaps identified in the current National Cycle Network, providing local links from the National Cycle Network to key destinations including the rail station and town centre, improving the levels of cycle parking provision, and promotion of cycling;
- **management of transport demand, improving sustainable transport and smarter choices** which includes resident led expansion to the controlled parking zone in Harpenden, encouraging greater uptake of Safe Routes to Schools, developing travel plans for major employers and active promotion of sustainable travel modes;
- **tackling safety concerns, speed compliance issues and walking issues** includes improvements to streets where speed compliance issues have been identified as a concern and verified, improving the pedestrian environment in Harpenden and improvements to pedestrian crossings; and
- **contributing towards other key issues including signage, access to hospitals and town centre improvements** including improvements to signage on the strategic road network, increasing the provision of Community Transport services and pedestrianisation of the High Street Service Road.

The figure overleaf illustrates the proposed schemes included in the Plan. Some of the schemes within the long list have not been recommended. These schemes have not performed well against the assessment criteria used either because they do not address the key issues identified in this Plan or the cost and deliverability issues identified represent show-stopping risks.

The option of a bypass has been considered as one of the potential schemes in response to congestion and through traffic issues raised during initial consultation. Options for a Harpenden Bypass have not been recommended at this stage as the route considered would be of limited journey time saving given the possible routings particularly in light of the recent M1 widening works. In addition, the environmental cost of Green Belt construction; and the economic impact of reducing 'passing trade' from the town centre were seen as reasons to reject this option at this time.

This scheme would have to be considered at a county or sub-regional level due to the scale and cost of a bypass, along with extensive analysis of the balance between local and through traffic, and consideration of the possible alternatives (many of which have been considered in this plan). It is recommended that levels of through traffic in Harpenden are monitored and that the case for a bypass is re-considered when the Urban Transport Plan is next reviewed.

A Route User Hierarchy has also been developed as part of this Urban Transport Plan. The Route User Hierarchy seeks to identify the priority that should be afforded to the different categories of road user (i.e. pedestrians, cyclists, mobility impaired, public transport, car and HGV) on different parts of the network. It has been designed to enable the transport interventions developed as part of this Urban Transport Plan to be seen in terms of the strategic priorities for the transport network and also that interventions are targeted at routes where they are most appropriate.

Next Steps

This Urban Transport Plan recommends schemes to be taken forward over a five year timeframe. The implementation plan included within Chapter 10 of this document sets out the schemes identified for implementation over the short, medium and long term and the indicative cost of each scheme.

The schemes identified for implementation over the short term are lower cost and easily implemented; those recommended for funding over the medium term will require further design feasibility and consultation and those schemes identified for funding over the long term will require additional funding.

PROPOSED URBAN TRANSPORT PLAN SCHEMES

Scheme Number	Description
AI 1	Southern station access from Crabtree Lane/Aysgarth Road to improve pedestrian access to the station.
AI 2	Increased levels of cycle parking at rail station to encourage mode shift from car.
AI 3	Improve urban realm of station, including safety improvements at station forecourt for cyclists and pedestrians.
AI 4	Footbridge and lifts
AI 5	Additional blue badge parking bays
AI 6	Improve enforcement of taxi bays at station
AI 7	Expand entrances to car parks to improve walk and cycle access.
AI 8	Improve junctions of Station Road and station access roads
AI 9	Decking station car parks (east)
AI 10	Minibus/taxi shuttle to/from surrounding villages and other Harpenden areas
CN 1	Improved access to the train station and town centre
CN 2	NCN Nickey Line (NCN 57) to the Train Station
CN 3	NCN Nickey Line (NCN 57) to Upper Lea Valley Greenway (NCN 57/6) link
CN 4 5	NCN Nickey Line (NCN 57) and Upper Lea Valley Greenway (NCN 57/6) to the town centre
CN6 6	Cycle/pedestrian routes from West Common to Harpenden Common
CN 7	Upper Lea Valley Greenway improvements
CN 8	Increase levels of cycle parking in town centre
CN 9	Increased levels of cycle information provision and promotion
CN 10	Redbourn to Harpenden cycle route and promotion of permissive cycle paths through Rothamsted Research
CN 11	Cycle route from Roundwood area in north of Harpenden to town centre avoiding A1081
DM 1	Expand Controlled Parking Zone
DM 2	Increased use of season tickets at car parks
DM 3	Improved off-street car park signage
DM 4	Encourage greater take up and promotion of Safe Routes to School
DM 5	Workplace Travel Plans for major employers
DM 6	Station Travel Plan
DM 7	Increase levels of sustainable transport information provision
DM 8	Active promotion of sustainable travel modes
DM 9	Improve access to local hospitals
DM 10	Real Time Information provision
DM 11	Ensure DDA compliance of bus vehicles and stops.
S 1	Speed Limit Compliance: Walkers Road
S 2	Speed Limit Compliance: Grove Road
S 3	Speed Limit Compliance: Wheathampstead Road
S 4	Improve existing pedestrian crossings across A1081 from West Common to Harpenden Common.
S 5	Improve pedestrian environment on narrow pavement under Nickey Line bridge on A1081.
S 6	Improve pedestrian environment on narrow pavement on Ambrose Lane on bridge over Nickey Line.
S 7	Improve pedestrian environment on Sun Lane over railway line.
S 8	Improve pedestrian environment on narrow pavement on Ox Lane
S 9	Leyton Road 20mph zone
S 10	Improve pedestrian environment on narrow pavement on Southdown Road passing under railway line
S 11	Improved pedestrian access to Wheathampstead
S 12	Improved pedestrian route from Harpenden to Harpenden Rugby Club along Redbourn Lane
S 13	Improved pedestrian facilities from Harpenden Common to the existing pedestrian network
OTH 1	Improved pedestrian facilities at roundabout on Bull Road
OTH 2	Re-signing Luton from A414 and St Albans from Luton via M1
OTH 3	A1081 / B652 town centre improvements
OTH 4	Increase promotion of Community Transport services and use Hospital shuttles
OTH 5	Increase use of hospital shuttle services
OTH 6	Remove zonal 7.5T weight limits and impose weight limits on minor roads and a Freight Quality Partnership
OTH 7	Improvements to the zebra crossing at junction of Station Road and High Street Service Road
OTH 8	Pedestrianisation of High Street Service Road

1 Introduction

Urban Transport Plans

1.1 Urban Transport Plans are daughter documents to the Hertfordshire Local Transport Plan and provide a long-term, 20 year strategy for transport in Hertfordshire's main urban areas, accompanied by five-year implementation plans that are reviewed annually. Urban Transport Plans should be integrated with wider policy and strategy documents, including the Hertfordshire Corporate Plan, Hertfordshire Sustainable Communities Plan, Local Area Agreements, emerging Local Development Frameworks, and other daughter documents of the Local Transport Plan amongst others. Consultation with Members and Officers at a district / borough and county level, as well as with local partners and communities, is central to the plan.

1.2 At the time of writing, new Central and Local Government policy is emerging; and being developed largely in response to addressing the budget deficit in the short term, and promoting economic growth and carbon reduction. It is acknowledged that any future changes to transport policy or local circumstances will require periodic review of the plan. This plan, as well as plans for other towns in Hertfordshire and the Local Transport Plan, is available on the County Council's website at http://www.hertsdirect.org/envroads/roadstrans/transplan/tcatp08/tcatp.

The Harpenden Urban Transport Plan

1.3 This Urban Transport Plan outlines interventions to address objectives and key issues relevant to Harpenden. In consideration of the objectives and key issues, many modes (e.g. walking, cycling, bus, community transport, and rail) and strategic areas for transport (e.g. accessibility, traffic management and parking) have been considered. The plan has been adopted by Hertfordshire County Council in its role as the Local Transport Authority, but has been developed in conjunction with the District Council and other local partners, and through public consultation.

Structure of the Plan

- Section 2 provides a background to the plan area, considering the socio-demographic fabric of Harpenden and travel patterns;
- Section 3 states the local objectives for Harpenden and county level Local Transport Plan targets that delivery of this Plan will contribute towards;
- Section 4 summarises transport issues, organised by Local Transport Plan target and funding areas;
- Section 5 is the strategy for transport in Harpenden;
- Section 6 contains the implementation plan for delivering the strategy; and
- Section 7 presents a summary of the measures recommended.

1.4 **Appendix A** presents the Assessment Summary Table for each scheme, **Appendix B** presents the Route User Hierarchy.

2 Background to the Plan Area

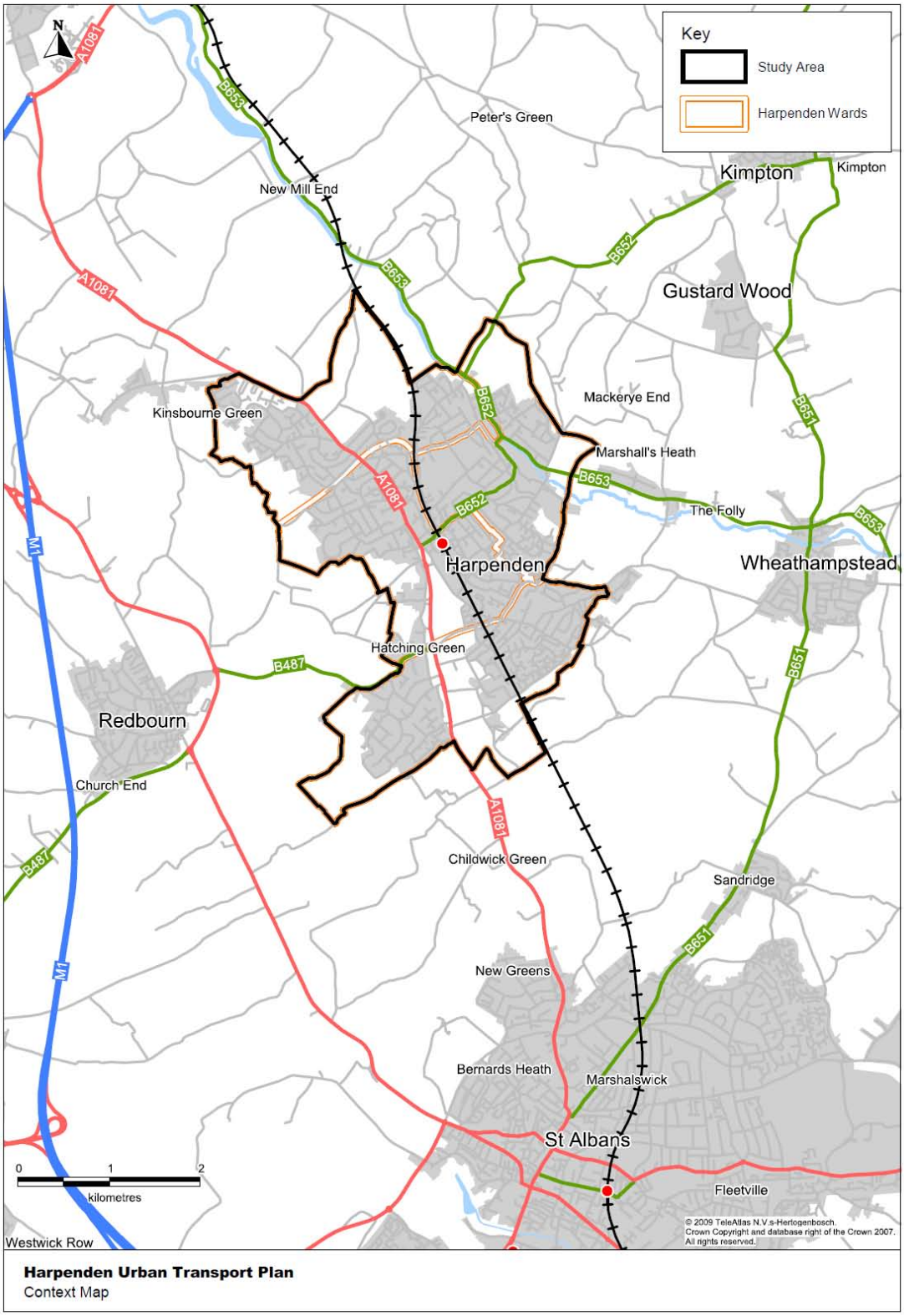
Introduction

2.1 Harpenden is located in Hertfordshire, to the north of St Albans and to the south of Luton. Figure 3.1 displays an overview of the study area, comprising the four wards of Harpenden (North, South, East and West).

2.2 Close to the M1 and served by First Capital Connect (rail), Harpenden benefits from excellent transport links to London, with typical journey times to the capital of just under half an hour by train. Rothamsted Research (formerly Rothamsted Experimental Research Station) to the west of the town is the town's single largest employer. The rest of the town's geography is the usual model of a central retail and commercial offer surrounded by largely residential neighbourhoods.

2.3 Harpenden is an affluent town, with a resident population of over 30,000 people, and with a large proportion of highly skilled professionals and higher than average car-ownership. Only 12% of households do not have access to a car compared with 27% nationally and nearly half of all residents have access to two or more cars.

FIGURE 2.1 HARPENDEN URBAN TRANSPORT PLAN – CONTEXT MAP OF STUDY AREA



Travel Patterns in Harpenden

2.4 Drawing on 2001 Census data, local surveys and demographic profiling, the travel patterns of Harpenden's residents and employees have been examined. The contributions of the individual modes of transport (i.e. walking, cycling, bus, rail and car) are discussed later while the following analysis presents an overview of the general pattern of travel in the area.

Census Journey to Work 2001

2.5 The 2001 Census indicated that Harpenden had 13,300 residents in employment with the majority (65%) working outside the town. The single largest employment draw is London with 25% of employed residents commuting to the capital. For those out-commuting, the dominant mode is car with a 65% mode share. Rail is also significant with a 22% mode share, while bus and cycle use is extremely low with just 1.4% and 1.2% mode share respectively. Table 2.1 illustrates the mode share for out-commuting.

TABLE 2.1 OUT-COMMUTING BY MODE

Mode	Proportion (%)
Car	65.3
Train	22.4
Walk	7.9
Bus	1.4
Cycle	1.2
Motorcycle	0.8
Other	1.0
Total	100

Source: 2001 UK Census

2.6 The 2001 Census indicated that approximately 9,000 people work in Harpenden with 50% coming in from outside the town, the vast majority from close neighbouring areas such as St Albans, Luton, Wheathampstead and Welwyn.

2.7 Despite excellent train links, in-commuting is more car orientated than out commuting, with around 87% arriving by car and only 4% using the train. This split is largely driven by high car ownership, the dispersed origin locations of in-commuters, good local road links, relatively cheap off-street and on-street car parking in the town and locations of key employers in relation to the station.

TravelStyle Profile

2.8 Using the bespoke demographic profiling software 'TravelStyle', a profile of Harpenden shows a wealthy population dominated by 'mature professionals'; a demographic characterised by above average income, high car ownership and an above average propensity to commute by rail. The second largest grouping in Harpenden is the 'Mid-Market', which has a characteristic of middle income and high car use. Figure 3.2 illustrates the TravelStyle profile for the town. Table 3.2 shows the accompanying characteristics of the individual groupings. Figure 3.3 shows the geographical spread of these groups.

2.9 The analysis shows a picture of a largely affluent town with higher income groups distributed evenly throughout. There are two distinct pockets in the north east of lower income groups - Batford and along Westfield Road; while 'young actives' are concentrated in the town centre and around the railway station as well as around local neighbourhood centres. This group has a higher propensity to use public transport and lower levels of car ownership than most other social groups.

FIGURE 2.2 HARPENDEN TRAVELSTYLE PROFILE

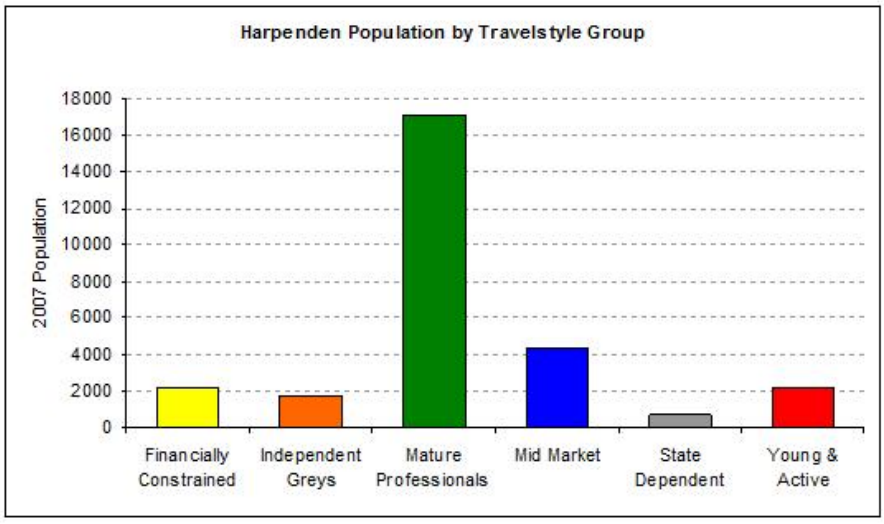
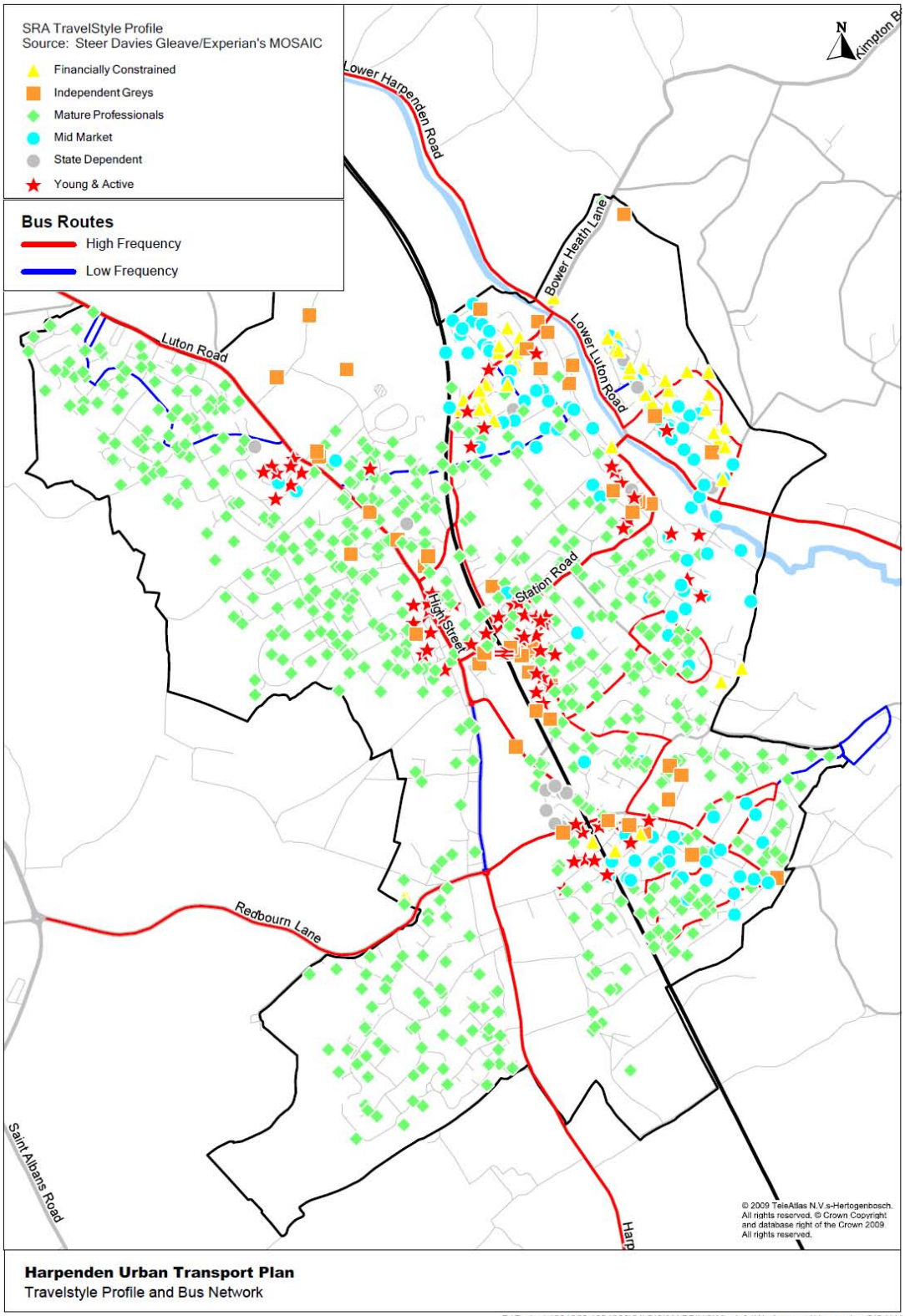


TABLE 2.2 TRAVELSTYLE CHARACTERISTICS

	Key characteristics (compared to general population)	Rail travel to London	Non London rail travel
Financial Constrained	Lower than average purchasing power and car ownership, more children at home.	Low	Low-Medium
Independent Greys	Mid-range purchasing power, lower car ownership and fewer children at home.	Medium	Medium
Mature Professionals	Above average purchasing power and car ownership. Less children at home.	Very high	High
Mid Market	Mid-range purchasing power, higher car ownership and more children at home.	Medium	Medium
State Dependent	Lower than average purchasing power and car ownership. Children at home average.	Very low	Low
Young & Active	Mid-range purchasing power, lower car ownership and fewer children at home.	High	High

FIGURE 2.3 HARPENDEN'S TRAVELSTYLE GEOGRAPHY (WITH BUS ROUTES)



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2.10 While rail is the dominant mode for London bound commuting, car based travel is still very much the norm. The TravelWise Cordon Surveys (i.e. traffic counts), undertaken for the council on a three year cycle, are based on travel on the main highway routes into and out of the town centre during the AM peak period. Between 1996 and 2008, 82% to 85% of AM peak journeys into and out of the town were made by car. Over the same period, bus use fluctuated between 8.4% and 12%, whilst pedestrian mode split was between 4.1% and 5.8%. Table 2.3 illustrates this change in mode share.

TABLE 2.3 CHANGE IN MODE SHARE ON MAIN ROUTES – TRAVELWISE CORDON SURVEYS

Year	Car (%)	Bus (%)	Walk (%)	Cycle (%)	Motorcycle (%)
1996	85.3	9.1	4.5	0.5	1.2
1999	82.6	12.0	4.1	0.8	1.3
2002	82.4	11.0	5.3	0.7	1.2
2005	85.1	8.4	5.3	0.7	1.2
2008	81.9	11.4	5.8	0.9	1.2

3 Local Objectives and Targets

3.1 This Urban Transport Plan outlines interventions to address transport objectives and key issues that have been identified through local consultation and data collection and analysis. The transport solutions and improvements also need to be within the context of the County Council's overall transport objectives, particularly those from the Hertfordshire Local Transport Plan. The third Local Transport Plan is being developed in parallel to the development of this plan, and as such, objectives and targets are being reviewed at the time of writing. As objectives emerge, so the plan will be updated. The existing indicators are contained within Table 3.2.

3.2 Table 3.1 overleaf provides the hierarchy of objectives that have helped inform the local objectives for this plan. Consideration has been given to the Hertfordshire Local Plan, Hertfordshire Sustainable Communities Strategy, Hertfordshire Local Transport Plan, and Mid-Herts Area Transport Plan, under five overarching themes. The local objectives flow from these documents and are as follows:

- Support the economic vitality of local shops and businesses;
- Reduce CO_2 emissions;
- Provide a safer environment in which to live, work and visit;
- Promote healthy and active lifestyles;
- Improve access to key services; and
- Maintain the high quality of life enjoyed by most.

The indicators and targets from the second round Hertfordshire Local Transport Plan (2006/7 – 2010/11) can be found overleaf. The objectives set for Harpenden are in the context of the objectives, indicators and targets for the Hertfordshire's second Local Transport Plan.

TABLE 3.1 HIERARCHY OF OBJECTIVES

Theme	Hertfordshire Corporate Plan	Hertfordshire Sustainable Communities Strategy	St Albans Sustainable Communities Strategy	Hertfordshire Local Transport Plan 2006 - 2011	Harpenden Urban Transport Plan
1 Supporting economic competitiveness and growth	Support economic wellbeing	Support the growth and retention of existing businesses and encourage high value inward investment	Being ambitious in developing new skills, industries and technologies and diversifying our economy, so that the District continues to be a premier place to live, visit and do business in the future	To manage the growth of transport and travel volumes across the county, and thereby secure improvements in the predictability of travel time	Support the economic vitality of local shops and businesses
		Bring about a step change in the provision, quality and use of public transport in Hertfordshire	Have a healthy, diverse and strong economy including a new focus on creative and knowledge industries, tourism and the green/environmental sustainability sectors	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	
		Improve the reliability of journey times and improve East to West travel	Offer employers a highly skilled and flexible local workforce	To obtain the best use of the existing network through effective design, maintenance and management	

Theme	Hertfordshire Corporate Plan	Hertfordshire Sustainable Communities Strategy	St Albans Sustainable Communities Strategy	Hertfordshire Local Transport Plan 2006 - 2011	Harpenden Urban Transport Plan
		Ensure effective long term management and maintenance of the transport network	Lead the way for innovative business development	To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources	
			Provide an integrated transport network offering green travel options and reducing traffic congestion		
2. Tackling climate change	Reduce carbon emissions	Meet the Government's targets for reducing Hertfordshire's carbon emissions	Be working towards carbon neutral status	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	Reduce CO_2 emissions
		Reduce the need to travel and encourage the use of alternatives to the car	Provide an integrated transport network offering green travel options and reducing traffic congestion	To raise awareness and encourage use of more sustainable modes of transport through effective promotion, publicity, information and education	
		Bring about a step change in the provision, quality and use of public transport in Hertfordshire		See other Local Transport Plan objectives	

Theme	Hertfordshire Corporate Plan	Hertfordshire Sustainable Communities Strategy	St Albans Sustainable Communities Strategy	Hertfordshire Local Transport Plan 2006 - 2011	Harpenden Urban Transport Plan
3. Contributing to better safety, security and health	Promote safe neighbourhoods	Ensure children and young people have a healthy weight	Tackling crime, anti-social behaviour and increasing feelings of community safety	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	Provide a safer environment in which to live, work and visit Promote healthy and active lifestyles
		Improve the health and wellbeing of all our residents in the 20% most deprived wards	Provide a safe environment and first class facilities for all	To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources	
		Improve access to services, including education and health, no matter where you live	Be a healthy place to live with access to high quality facilities and services which support active lifestyles		
		Improve life chances and access to healthcare for all, especially those in areas of deprivation and those with learning disabilities			

Theme	Hertfordshire Corporate Plan	Hertfordshire Sustainable Communities Strategy	St Albans Sustainable Communities Strategy	Hertfordshire Local Transport Plan 2006 - 2011	Harpenden Urban Transport Plan
		Improve access to the countryside, open spaces and cultural activities for recreation and health			
		Improve road safety			
		Ensure effective long term management and maintenance of the transport network			
4. Promoting greater equality of opportunity	Maximise independent living	Help older people maintain their independence	Everyone in the District, no matter where they live, has the opportunity to enjoy the same great quality of life and access the same services and facilities	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	Improve access to key services

Theme	Hertfordshire Corporate Plan	Hertfordshire Sustainable Communities Strategy	St Albans Sustainable Communities Strategy	Hertfordshire Local Transport Plan 2006 - 2011	Harpenden Urban Transport Plan
	Ensure a positive childhood and secure a good education for all	Ensure older people have the opportunities to be active members of our communities	Provide access to the same great quality of life and excellent services to all its residents	To develop an efficient, safe, affordable and enhanced transport system which is attractive, reliable, integrated and makes best use of resources	
		Improve access to services, including education and health, no matter where you live	Enable independent living for older people		
5. Improving quality of life and promoting healthy natural environment	Maximise independent living	Improve access to the countryside, open spaces and cultural activities for recreation and health	Ensuring that the District's valued landscapes, wildlife and heritage are accessible for everyone and are safeguarded for future generations to enjoy	To mitigate the effect of the transport system on the built and natural environment and on personal health	Maintain the high quality of life enjoyed by most
			Provide access to the same great quality of life and excellent services to all its residents		

TABLE 3.2 HERTFORDSHIRE LOCAL TRANSPORT PLAN INDICATORS AND TARGETS

Hertfordshire Local Transport Plan 2006/7 – 2010/11 Indicators
Public transport patronage
Bus service: user satisfaction
Bus punctuality
Passenger Transport Information: user satisfaction
Change in Area-Wide Traffic Mileage: vehicle kms per day
Mode Share of Journeys to School, age 5-16: percentage of pupils who travel to school using sustainable modes
School Travel Plan: percentage of schools with school travel plan
Accessibility: percentage of people who find it difficult to travel to a local hospital
Cycling Trips: average number of cycling trips per weekday across Herts
Road safety: Total Killed and Seriously Injured
Road safety: Total Children Killed and Seriously Injured
Road safety: Total Slight Casualties
Speed Limit Compliance: percentage level of compliance with 30mph speed limit
Principal Road Condition
Non-Principal Classified Road Condition
Unclassified Road Condition
Footway Condition
Ease of use of Rights of Way Network: percentage of the total length of footpaths and other rights of way that were easy to use by members of the public

4 Local Issues

Introduction

4.1 The key issues outlined in this chapter have been identified through consultation with the local community. These issues have then been further examined and developed based on available evidence, including policy and strategy statements from lead officers, site visit observations and the Route User Hierarchy.

4.2 The Route User Hierarchy seeks to identify the priority that should be afforded to the different categories of user (i.e. pedestrians, cyclists, mobility impaired, public transport, car and HGV) on different parts of the network. It has been designed to enable the transport interventions developed for the Urban Transport Plan to be seen in the strategic context of the network and help to ensure that interventions are targeted to routes where they are most appropriate.

4.3 The key issues are presented in this section by Local Transport Plan target area and other relevant transport areas (i.e. parking and freight) which are:

- Congestion;
- Accessibility and Bus;
- Rail;
- Cycling;
- Rights of Way and Quality of Life (including Walking);
- Road Safety;
- Speed Limit Compliance;
- Parking; and
- Freight.

Local Issues Identified

4.4 Harpenden is a thriving and pleasant market town in Hertfordshire. It benefits from low unemployment and a high quality of life. It has a pleasant physical and natural environment, with good access to leisure opportunities (primarily Harpenden's network of commons, sports clubs including cricket, golf, hockey, tennis, rugby and football, Public Hall, Park Hall and the Harpenden Sports Centre), good schools and relatively low crime rates. It also benefits from good rail access to London, Luton, St Albans, Luton and Gatwick Airports, as well as good road access to the international gateways of Heathrow and Stansted Airports via the strategic road network.

4.5 To support the wider policy goals it will be important for the Urban Transport Plan to support the economic vitality of local shops and businesses, improve access to key services such as the station, provide a safer environment, promote healthier and more active lifestyles, reduce carbon emissions and maintain the high quality of life enjoyed by most residents.

4.6 However, existing transport constraints are, and will continue to, impede this future vision unless addressed. Many of these stem from the very high levels of car ownership and usage combined with through traffic movements on the A1081. This results in excess demand for parking in the town centre and around the station, low take up of sustainable modes of transport, including cycling and bus access to the station resulting from gaps in the network. Safety concerns both perceived and as identified in the Hazardous Sites list (which records sites with a high proportion of reported road incidents – see para 4.19), along with speed compliance concerns also impede the take up of sustainable modes of travel such as walking and cycling.

4.7 Transport has a key role to play in delivering this future vision, not only through overcoming the constraints listed above, but by supporting Harpenden's vision. The main opportunities for achieving this future vision, around which the strategy will be focused, are through:

- **accessibility improvements** to and at the railway station;
- improvements to the **pedestrian and cycle network**, particularly in the town centre;
- the **promotion of sustainable transport** through Smarter Choices measures and other **demand management interventions**;
- tackling **safety concerns and speed compliance and walking issues** on a site and target audience specific basis;
- ensuring that **freight weight restrictions** are enforced; and
- opportunities to tackle **parking and traffic management** issues that exacerbate local access and congestion problems.

Congestion

4.8 Car is the dominant mode for commuting with key local employment destinations in Hemel Hempstead, Stevenage, Luton and St Albans. Both Luton and St Albans are directly accessible by rail from Harpenden.

4.9 High traffic flows on the A1081 due to the strategic highway function and land use types attracting both short distance local trips and medium distance through traffic causes congestion, particularly in the AM peak when the demand for access into Harpenden is highest. Collisions also contribute towards congestion and affect accessibility by causing punctuality problems. The congestion is evident from site visits and Harpenden has been identified as a congestion town. However, neither of the congested sites on the A1081 is classified as a designated urban route for congestion monitoring within the current Local Transport Plan.

4.10 The inclusion of the following key issues has therefore been considered in the context of further evidence and cumulative impacts on other Local Transport Plan target areas.

Key Issues

Ci1: A1081 southbound in AM peak from town boundary into town centre. This congestion 'hotspot' was identified through anecdotal reports in *Tackling Congestion in Hertfordshire* (Hertfordshire County Council, 2007) and was subsequently confirmed through consultation responses and site visits. The site is not a target monitoring site for the Hertfordshire Local Transport Plan, but was included as a key issue due to the cumulative impact of the observed congestion on accessibility, cycling, quality of life and public transport patronage.

Ci2: A1081 northbound in AM peak from junction with Redbourn Lane to town centre. This issue was primarily identified in consultation and confirmed through site visits. As before, the site is not a target monitoring site for the Local Transport Plan, but was included as a key issue due to the cumulative impact of the observed congestion on accessibility, cycling, quality of life and public transport patronage.

Ci3: Station Road in AM and PM peak between junctions with Cowper Road and A1081, including approaches from Milton Road, Carlton Road, Bowers Way and Station Approach (due to railway station access to /from A1081). This Station Road congestion 'hotspot' was identified through consultation and confirmed through site visits. The issue was included as a key issue due to the cumulative impact of the congestion on accessibility, cycling, quality of life and public transport patronage.

Ci4: Station Road towards Batford in morning peak and towards town centre in PM peak from junction with Lower Luton Road to junction with Marquis Lane. The Station Road congestion 'hotspot' is recorded in *Tackling Congestion in Hertfordshire* (Hertfordshire County Council, 2007). AM and PM peak congestion was subsequently observed through site visits. This issue was taken forward as a key issue due to cumulative impact of the congestion on accessibility, cycling, quality of life and public transport patronage.

Ci5: Through traffic. This key issue is a combination of site specific issues identified in Harpenden which contribute to congestion and vehicle delay on the A1081, impeding the road's function as a main distributor of traffic. The issue was identified through consultation and confirmed with the Route User Hierarchy and site visits.

Ci6: Congestion caused by car journeys to schools in the AM and PM peak, including students driving. This key issue was identified through consultation and confirmed through analysis of Journey to Work data, demonstrating a high car mode split.

Bus (Accessibility)

4.11 Improving access to key services is a Hertfordshire County Council objective, although Harpenden is not identified in the Local Transport Plan as an area that has accessibility issues, as measured by walking and public transport journey times, for local residents. However, access by bus to the town centre and railway station for some residents in Harpenden is poor; and is poor for all residents travelling to Queen Elizabeth II Hospital in Welwyn Garden City, St Albans, Watford General Hospital, and more recently Hemel Hempstead General Hospital. Luton and Dunstable Hospital can already be accessed directly from Harpenden by bus.

4.12 Commercial and supported bus services are subject to several constraints that affect their ability to provide access to key services. These issues increase journey times, preventing public transport access entirely or making access difficult through lack of information or easy to understand information, including knowledge of Community Transport services that are available.

4.13 The following accessibility key issues listed below are also key issues for bus services.

Key Issues

Ai1: Punctuality problems on bus services using A1081 due to congestion, particularly in AM and PM peak, and if service has passed through St Albans or Luton accumulating delay. This issue was identified through consultation and subsequently observed on site visits. It was taken forward as a key issue due to the perceived impact on other focus areas, including public transport patronage.

Ai2: PM peak services finish too early on urban and interurban to be viable commuter service. This issue was identified through consultation and confirmed by a review of local bus timetables.

Ai3: No direct bus link to hospitals in Hemel Hempstead, St Albans or Watford. Identified through consultation and confirmed by reviews of local bus timetables and maps.

Ai4: Lack of information about direct and connecting services to hospitals. Identified through consultation and subsequently observed on site visits.

Ai5: Long journey times due to circuitous routes for HA1 and HA2. Identified through consultation and observed on site visit.

Ai6: Low frequency of HA1 and HA2 services. Identified through consultation and confirmed as a key issue following reviews of local bus timetables and considered impact on other focus areas including public transport patronage.

Ai7: Low frequency of services to Hemel Hempstead. Identified through consultation and confirmed as a key issue following reviews of local bus timetables and data analysis of sustainable mode journey times from Harpenden.

Ai8: Lack of knowledge about Community Transport in Harpenden. Identified through consultation and confirmed by site visits.

Ai9: Low frequency of services to Redbourn. Identified through consultation and confirmed as a key issue following reviews of local bus timetables.

Ai10: Perceived poor quality of bus route mapping and information. This issue was identified through consultation and confirmed as a key issue following a review of bus stop information.

Ai11: Lack of up to date / real time information online, via mobile or at stop. This issue was identified through consultation and subsequently confirmed as a key issue following a review of bus stop information.

Ai12: Information at bus stops is unclear. This issue was identified through consultation and subsequently confirmed as a key issue following a review of bus stop information.

Ai13: Bus timetables difficult to understand. Issue identified through consultation and confirmed following reviews of local bus timetables.

Rail

4.14 London is the main destination for rail commuters, facilitated by frequent services with quick journey times to the capital. Analysis of other employment destinations suggests more opportunities could be made for rail based commuting, particularly to Luton and St Albans.

Key Issues

Ri1: Poor east-west rail links across Hertfordshire. There is no east-west rail connectivity across Hertfordshire, and this issue was raised during public consultation. This issue is recognised as a transport issue even though it is not identified as a policy priority by Hertfordshire County Council and is ultimately beyond the scope of the Urban Transport Plan but will be examined as part of the emerging third round Local Transport Plan. This issue was taken forwards to explore improvements to east-west connectivity.

Ri2: Train Operating Companies not allowing bicycles on train (during peak hours), or very few and only booked in advance. This issue was raised during public consultation and was subsequently observed. Though this issue is beyond the scope of the Urban Transport Plan it has been taken forward as a key issue to inform future recommendations to the relevant Train Operating Companies.

Ri3: Overcrowding on trains in AM peak. This issue was raised during public consultation and was subsequently observed. Though this issue is beyond the scope of the Urban Transport Plan it has been taken forward as a key issue to inform future recommendations to the relevant Train Operating Companies. The Thameslink Programme, including platform lengthening to accommodate longer 12-car trains, will help to address this key issue.

Ii1: Poor interchange at railway station between bus (no turning circle) and rail. This key issue is supported by Hertfordshire County Council's Rail Strategy (2006/07-2010/11) and has been identified through public consultation and an audit of the station.

Ii2: Lack of cycle parking at station. Identified in Hertfordshire County Council's Rail Strategy and has been identified through public consultation and an audit of the station.

Ii3: Poor access to railway station platforms. The lack of lift facilities makes it difficult for people with mobility impairments to access the platforms via the stairs. Identified in Hertfordshire County Council's Rail Strategy and has been identified through public consultation and an audit of the station. This is being addressed as part of the Department for Transport's 'Access for All' programme.

Ii4: No southern access to railway station (through car parks). Identified in Hertfordshire County Council's Rail Strategy and has been identified through public consultation and an audit of the station.

Ii5: Station car parks full by 8:30am. Identified by Hertfordshire County Council's Rail Strategy (2006/07-2010/11) and has been identified through public consultation and an audit of the station. In addition, data analysis shows a high proportion of journeys to work with a central London destination, representing a high level of demand for station car parking.

Ii6: No taxi rank on eastern side of station, and taxi rank on western side has six spaces but typically more taxis obstructing set down areas, disabled bays and car park entrance. Identified by Hertfordshire County Council's Rail Strategy (2006/07-2010/11) and has been identified through public consultation and an audit of the station.

Ii7: Narrow entrance for vehicles, pedestrians and cyclists on eastern car park entrance / exit point. Identified by Hertfordshire County Council's Rail Strategy (2006/07-2010/11) and has been identified through public consultation and an audit of the station.

Ii8: Lack of Blue Badge parking spaces. Identified by Hertfordshire County Council's Rail Strategy (2006/07-2010/11) and has been identified through public consultation and an audit of the station.

Cycling

4.15 Despite Harpenden's position in relation to the strategic cycle network, cycle use is limited. Opportunities exist for schools, workplaces and First Capital Connect, in partnership with district and county councils, to promote cycling (and walking), and provide additional infrastructure, such as extra cycle routes, increased levels and improved cycle parking, lockers, and showers.

4.16 The following key issues were primarily identified through public consultation, and were confirmed following cycle audits and analysis of the Route User Hierarchy. The County Cycling Strategy supports addressing such issues through the Urban Transport Plan.

Key Issues

Yi1: Lack of continuous cycle routes into town centre and to railway station (e.g. Southdown Road)

Yi2: Missing link on Upper Lea Valley Greenway from Westfield Road to Luton.

Yi3: Cycle rail on steps from Nickey Line to Hollybush Lane not functional.

Yi4: Poor crossing facilities at junction of Station Road, Station Approach and Victoria Road.

Yi5: Lack of cycle crossings across A1081 from West Common to Harpenden Common.

Yi6: Gaps between National Cycle Network routes.

Yi7: Lack of cycle routes to Kinsbourne Green.

Yi8: Lack of lighting on the Nickey Line.

Yi9: Lack of signposting to and from the Nickey Line.

Yi10: Cyclist safety concerns at junction of Nickey Line and A1081 due to quality and steepness of steps.

Yi11: Lack of signposting for all cycle routes.

Rights of Way and Quality of Life (including Walking)

4.17 Journey to work mode split is low in Harpenden for walking compared to comparable urban areas. Narrow footways over and under bridges act as a disincentive to walking, as do safety concerns regarding crossing the A1081 without the assistance of a signalised crossing. Parents are also reluctant to let children walk (or cycle) to school due to a lack of signalised road crossings and general road safety concerns.

4.18 The following key issues were identified through public consultation and were subsequently confirmed by site visits. Identified issues were taken forward as key issues when supported by evidence, and when the issue was understood to suppress the number of walking trips along key desire lines (e.g. on routes to schools and shops).

Key Issues

Wi1: Lack of pedestrian crossings across A1081 from West Common to Harpenden Common.

Wi2: Confusing pedestrian realm in the town centre

Wi3: Poor crossing facilities at junction of Station Road, Station Approach and Bowers Way.

Wi4: Narrow pavement under Nickey Line bridge on A1081.

Wi5: Narrow pavement on Ambrose Lane on bridge over Nickey Line.

Wi6: Narrow pavement on Sun Lane over railway line.

Wi7: Narrow pavement on Ox Lane passing under the Upper Lea Valley Greenway near Coldharbour Lane.

Wi8: Narrow pavement on Southdown Road passing under railway line (Skew Bridge).

Wi9: Signage clutter, particularly in the town centre, makes navigation difficult.

Wi10: Lack of continuous footpath to Harpenden Rugby Club along Redbourn Lane

Wi11: Lack of pedestrian facilities from Wheathampstead to Southdown

Wi12: Lack of pedestrian crossing facilities linking areas of Harpenden Common

Wi13: Wheathampstead Road – improved pedestrian access (whilst this would be outside Harpenden it is still relevant to the Plan)

Wi14: Lack of pedestrian crossing facilities at the junction of Walkers Road and Queens Road.

Wi15: Poor pedestrian crossing facilities – Bull Road roundabout.

Wi16: Poor street lighting in alleyway between Alzey Gardens and Highfield Avenue.

Road Safety

4.19 There are eight Hazardous Sites in Harpenden. These sites are identified on an annual basis by Hertfordshire County Council in the Hazardous Sites Report. This provides ranking of sites against the following criteria:

- Six or more injury collisions, any severity, in the previous three year period, in a 75m circle.
- Four or more injury collisions, any severity, in a one year period, in a 75m circle.
- Three or more child KSI collisions, in the previous three year period, in a 75m circle.
- Three or more KSI collisions, in the previous three year period, in a 75m circle.
- Two or more KSI collisions, in a one year period, in a 75m circle.
- Three or more injury collisions, any severity, in the previous three year period, in a 75m circle, with a contributory factor identified as a bend, dark conditions, wet conditions, or skidding (Mass Action).
- Three or more injury collisions, any severity, in the previous three year period, in a 75m circle, with a contributory factor of misjudged speed, inappropriate speed or too fast for conditions.
- Three or more injury collisions, any severity, in the previous three year period, in a 75m circle, with a contributory factor of excessive speed.

4.20 Ranking of these sites uses a weighting system that places a greater emphasis at locations where the collision has been either fatal or serious. The weighting process uses the Department for Transport annual Highways Economic Note that calculates the costs to the community of the different severities of collisions. The calculation provides a point scoring system for slight, serious or fatal collisions.

4.21 Before selection of a scheme, a cost-benefit analysis is carried out using the Highways Economic Note data on the average cost of an injury accident that enables a calculation to be made on the first year economic return of rate to ensure the costs of the scheme do not outweigh the benefits. These are sites which the County Council would consider as having a safety issue and are founded on data collected by the police. The issues identified through public consultation have been taken forward as key issues in cases where they meet Hazardous Site criteria and would be eligible for funding as part of the Local Transport Plan programme[1].

[1] Highways and Transport Programme Entry – Programme Criteria – Volume II, Hertfordshire County Council (2009) page 5

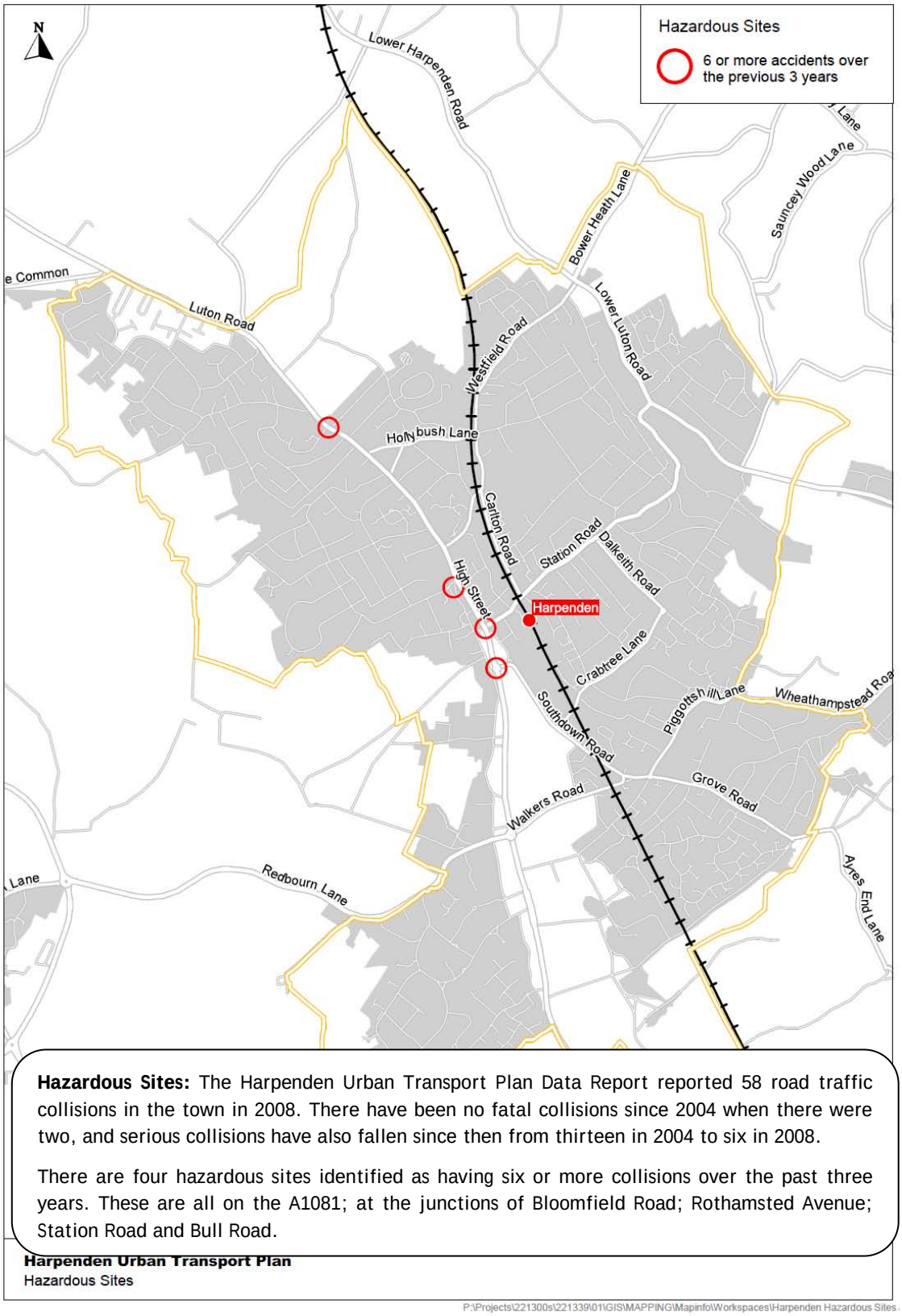
4.22 There are many other sites that residents consider to be dangerous due to speeding, excessive speed for the environment, inappropriate driver behaviour, lack of signalised road crossings, and parked cars reducing visibility and carriageway width. These issues have not typically been addressed directly, because they have not been identified as Hazardous Sites. These may be addressed elsewhere in the plan if they meet other Local Transport Plan funding area criteria. In addition, the County Council works with Hertfordshire Constabulary to identify priority sites for the use of Speed Indicator Devices (SIDs) to help monitor and control speed compliance.

Key Issues

Si1: Safety concerns at zebra crossing at junction of Station Road and High Street Service Road (due to poor lighting positioned too close to junction).

Si2: Other Hertfordshire County Council Hazardous Sites.

FIGURE 4.1 LOCATION OF HAZARDOUS SITES



Hazardous Sites: The Harpenden Urban Transport Plan Data Report reported 58 road traffic collisions in the town in 2008. There have been no fatal collisions since 2004 when there were two, and serious collisions have also fallen since then from thirteen in 2004 to six in 2008.

There are four hazardous sites identified as having six or more collisions over the past three years. These are all on the A1081; at the junctions of Bloomfield Road; Rothamsted Avenue; Station Road and Bull Road.

Speed Limit Compliance

4.23 Speed limit compliance was identified as an issue at multiple sites across Harpenden during consultation. Surveys were conducted to measure speed limit compliance in locations flagged by members of the public. Where 85% of vehicles were in excess of 10% above the speed limit (currently measured on roads with a 30mph speed limit), consideration was given to options to bring traffic inside the speed limit, or where appropriate, consider amending the speed limit.

4.24 The five roads where speed compliance was found to be an issue and where the observations have been supported by the survey data have been included as key issues.

Key Issues

Spi1: Appropriate speed limits on roads from A1081 across Harpenden Common (e.g. Cravells Road) and the impact that this has on leisure facilities especially Harpenden Common.

Spi2: Walkers Road (speeding and pedestrian accessibility issues)

Spi3: Grove Road from junction with Cross Lane to junction with Coleswood Road.

Spi4: A1081 from junction with Beesonend Lane to junction with Bull Road (40mph).

Spi5: Wheathampstead Road from eastern junction with Long Buftlers to junction with Piggotshill Lane.

Spi6: Review suitable speed limit on Leyton Road due to combination of land uses and vulnerable users crossing the road.

4.25 In addition, speed compliance can be monitored and managed with the use of Speed Indicator Devices (SIDs) to help monitor and control speed at sites such as:

- Lower Luton Road/Station Road junction;
- Station Road; and
- Grove Road.

Parking

4.26 The levels of in-commuting by car and anecdotal evidence from residents suggest that there is significant demand for private non-residential parking and on-street parking. High levels of free, short-stay, on-street parking exacerbates congestion, which in turn acts as a disincentive to people visiting Harpenden, yet free or low cost parking can help to support local businesses as there is less cost to the motorist of visiting the shops.

4.27 The key issues identified below were primarily identified through public consultation and have been taken forward or prioritised where there is a demonstrable link to other focus areas, including quality of life. The issues were confirmed by site visits and analysis of journey to work modal split data.

Key Issues

Pi1: Conflict between residential on-street parking and commuter / town centre employee parking on roads outside of Controlled Parking.

Pi2: Car parks full in the AM peak.

Pi3: Parking in town centre promoting car travel rather than sustainable access to town centre and schools.

Pi4: One hour on-street waiting restrictions in town centre causing additional trips and congestion with shoppers and town centre workers re-parking their vehicles.

Pi5: Demand exceeding supply of on-street parking spaces in the town centre.

Freight

4.28 The key issues regarding freight concern enforcement of the existing 7.5T freight limit on all Harpenden roads, except for access/egress. The key issues were identified through evidence from the police and members through the consultation process.

Key Issues

Fi1: Enforcing the 7.5T weight limit on the Lower Luton Road.

Fi2: Enforcing the 7.5T weight limit on the Wheathampstead Road.

Summary of the Key Issues

4.29 The consultation process undertaken as part of the Urban Transport Plan process generated an extensive list of important issues relevant to Harpenden which spanned all strategy areas of the study. Further analysis of each issue was undertaken which referred to the Route User Hierarchy, analysis of available data and site visits. Issues were then prioritised as key issues if the relevant evidence existed. The identification of key issues has enabled the development of intervention and strategy options to help support Harpenden's future vision. Table 4.1 lists the key issues and illustrates the relationship between the key issues and interventions that have been developed and Figure 4.2 shows a spatial overview of the key issues.

Scheme Development

4.30 The schemes outlined in this chapter have been developed in response to the identified key issues and in consultation with key stakeholders. Available data has also been utilised to further refine the schemes. The packages of short-listed schemes have been developed in response to both the performance of proposed interventions within the assessments process and also taking into account stakeholder feedback. The packages have also been developed to specifically contribute towards the key issues identified.

Scheme Assessment

4.31 Each of the schemes included in a long-list of possible schemes were assessed against the following criteria:

- Urban Transport Plan objectives addressed;
- Local Transport Plan targets and fit with programme entry/funding criteria; and
- deliverability criteria (i.e. public acceptability, funding / affordability, cost, feasibility, delivery risk).

4.32 Assessment against the Urban Transport Plan objectives resulted in a score between +3 and -3 depending on the contribution of the scheme towards each objective; similarly schemes were assessed against Local Transport Plan programme entry criteria. The deliverability assessment results in a score of low, medium or high, depending on the level of cost or risk for each scheme.

4.33 The Strategy consists of schemes developed to:

- improve accessibility to and at the station;
- improve the cycle network;
- manage demand, improve sustainable transport and smarter choices;
- tackle speed compliance; and
- contribute towards other issues, including signage, access to hospitals, and town centre improvements.

Programme of Measures Required

4.34 The schemes included in this section have been developed to contribute towards the key issues identified through consultation. These schemes are designed for implementation over the next 15-20 years. The implementation plan outlined in Section 6 covers the funding and implementation of each scheme for the next five years (2011/12 to 2016/17). The schemes developed take account not only of the existing supply of transport but also the future demand for transport. In particular we have developed schemes that offer high value for relatively low cost.

Schemes not recommended

4.35 Some of the schemes considered as part of the long-list have not been recommended, however, all issues identified during the course of this study have been passed onto the relevant District and County Council Officers, as well as local operators and the police. Officers, operators and the police will be responsible for considering how these issues should addressed. Issues identified relating to highway maintenance (including speed humps) and parking have been passed on to the relevant District and County officers. The parking issues identified will form part of any district-wide parking strategy. Some parking interventions have been included where they have a clear link to the delivery of other schemes and objectives.

Harpenden Bypass

4.36 The consultation did raise issues regarding congestion and through traffic, and the suggestion of a bypass was proposed by some stakeholders as a potential solution to these key issues. The route considered for a bypass was to link the A1081 to the north of the town to the A5183 near Redbourn. This option was appraised as part of the plan and was not recommended for further consideration. The route would be of limited use to the network in light of the recent M1 widening works which have increased capacity and increased resilience to delays and collisions. In addition, this route would direct traffic into the already constrained city centre network of St Albans. The scheme also performed poorly against environmental criteria and deliverability criteria (public acceptability, technical feasibility, cost and affordability). Improved signage of the existing network has been recommended to improve appropriate route choice for longer distance journeys.

TABLE 4.1 KEY ISSUES IDENTIFIED AND INTERVENTIONS

ISSUE REF. CODE	ISSUE SUMMARY	INTERVENTION REF. CODE / COMMENT
CONGESTION		
Ci1	A1081 southbound in AM Peak from town boundary into town centre	DM1; DM8; DM9; OTH1; OTH2
Ci2	A1081 northbound in AM peak from junction with Redbourn Lane to town centre	DM1; DM8; DM9; OTH1; OTH2
Ci3	Station Road in AM and PM peak between junctions with Cowper Road and A1081, including approaches from Milton Road, Carlton Road, Bowers Way and Station Approach (due to railway station access and access to / from A1081	AI8; DM6; DM7
Ci4	Station Road towards Batford in AM peak and towards town centre in PM peak from junction with Lower Luton Road to junction with Marquis Lane	AI8; DM1; DM6; DM7
Ci5	Through traffic	DM5; DM8; OTH2
Ci6	Congestion caused by car journeys to schools in the AM and PM peak, including students driving	DM1; DM4; DM5; DM8
BUS & ACCESSIBILITY		
Ai1	Punctuality problems on bus services using A1081 due to congestion, particularly in AM and PM peak, and if service has passed through St Albans or Luton accumulating delay	Outside remit of plan
Ai2	PM peak services finish too early on urban and interurban to be viable commuter service	AI8; Ai10
Ai3	No direct bus link to hospitals in Hemel Hempstead, St Albans or Watford	DM9; OTH4
Ai4	Lack of information about direct and connecting services to hospitals	DM9
Ai5	Long journey times from circuitous routes for HA1 and HA2	Outside remit of plan
Ai6	Low frequency of HA1 and HA2 services	Outside remit of plan
Ai7	Low frequency of services to Hemel Hempstead	Outside remit of plan
Ai8	Lack of knowledge about Community Transport in Harpenden	DM9; OTH3
Ai9	Low frequency of services to Redbourn	AI10

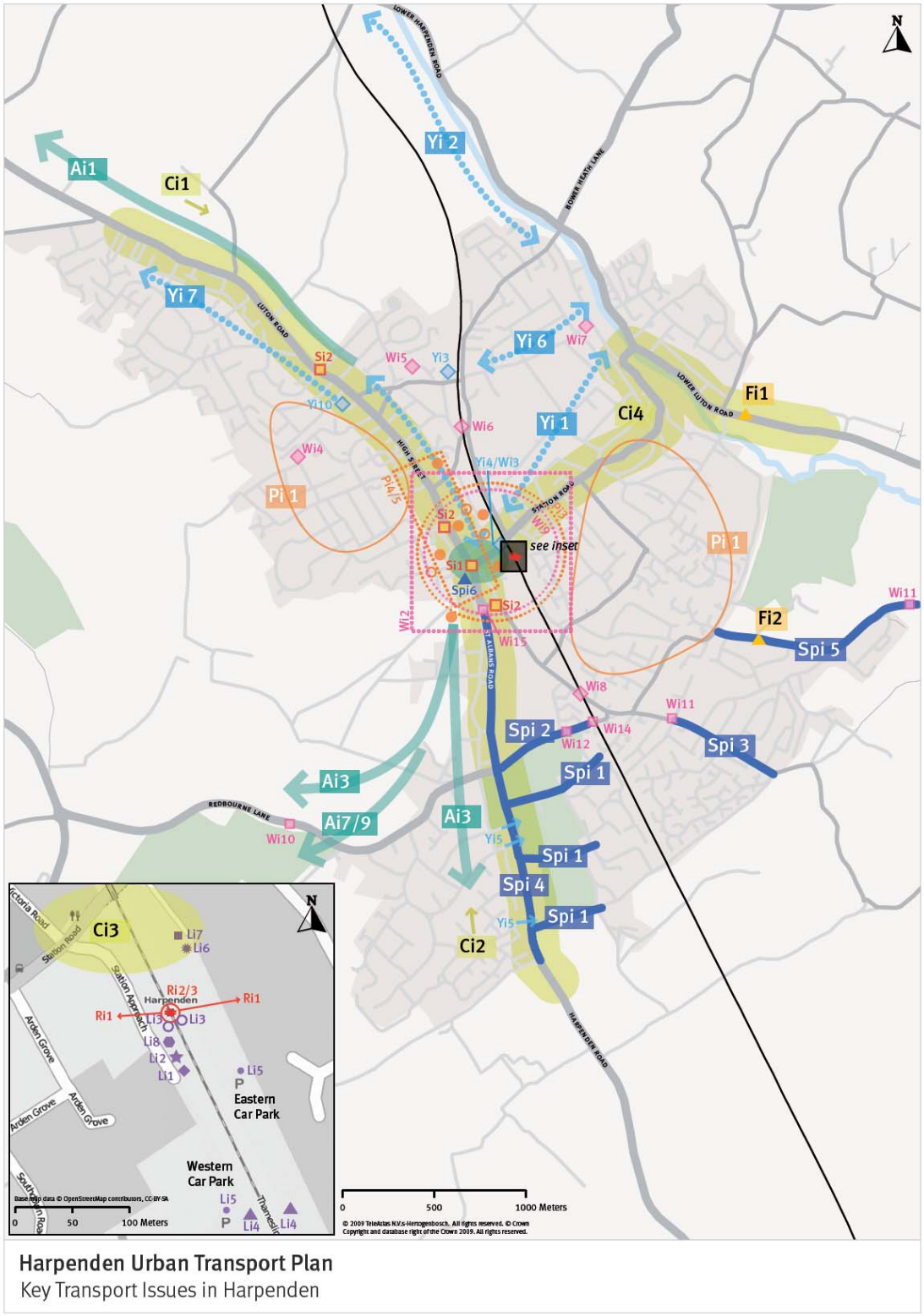
ISSUE REF. CODE	ISSUE SUMMARY	INTERVENTION REF. CODE / COMMENT
Ai10	Perceived poor quality of bus route mapping and information	Hertfordshire County Council bus stop improvement programme
Ai11	Lack of up to date /real time information online, via mobile or at stop	DM10
Ai12	Information at bus stops is unclear – cannot understand which buses operate along which road	Hertfordshire County Council bus stop improvement programme
Ai13	Bus timetables difficult to understand	Hertfordshire County Council bus stop improvement programme
RAIL		
Ri1	Poor east-west rail links across Hertfordshire	Beyond scope of Urban Transport Plan
Ri2	Train Operating Companies not allowing bicycles on train (during peak hours), or very few and only booked in advance	Beyond scope of Urban Transport Plan
Ri3	Overcrowding on trains in AM peak	Beyond scope of Urban Transport Plan
INTERCHANGE		
Ii1	Poor interchange at railway station between bus (no turning circle) and rail	AI9; AI10
Ii2	Lack of cycle parking at station	AI2; CN8
Ii3	Poor access to railway station platforms	AI4
Ii4	No southern access to railway station (through car parks)	AI1
Ii5	Station car parks full by 8:30am	AI9; AI10
Ii6	No taxi rank on eastern side of station, and taxi rank on western side has six spaces but typically more taxis obstructing set down areas, disabled bays and car park entrance	AI6
Ii7	Narrow entrance for vehicles, pedestrians and cyclists on eastern car park entrance / exit point	AI3; AI7; AI8
Ii8	Lack of Blue Badge parking spaces	AI5
CYCLING		
Yi1	Lack of continuous cycle routes into town centre and to railway station (e.g. Southdown Road)	CN1; CN2; CN4; CN5; CN6; CN11

ISSUE REF. CODE	ISSUE SUMMARY	INTERVENTION REF. CODE / COMMENT
Yi2	Missing link on Upper Lea Valley Greenway from Westfield Road to Luton	Beyond scope of Urban Transport Plan
Yi3	Cycle rail on steps from Nickey Line to Hollybush Lane not functional	CN2
Yi4	Poor crossing facilities at junction of Station Road, Station Approach and Victoria Road	CN2; OTH2
Yi5	Lack of cycle crossings across A1081 from West Common to Harpenden Common	CN6
Yi6	Gaps between National Cycle Network routes	CN3; CN4; CN7; CN10
Yi7	Lack of cycle routes to Kinsbourne Green	CN5
Yi8	Lack of lighting on the Nickey Line	Not addressed
Yi9	Lack of signposting to and from the Nickey Line	CN2; CN3; CN4; CN9
Yi10	Cyclist safety concerns at junction of Nickey Line and A1081 due to quality and steepness of steps	Steps currently closed for safety improvements
Yi11	Lack of signposting for all cycle routes	CN1; CN2; CN3; CN4; CN5; CN7; CN9; CN10; CN11; DM7
QUALITY OF LIFE / WALKING		
Wi1	Lack of pedestrian crossings across A1081 from West Common to Harpenden Common	CN6; S4
Wi2	Confusing pedestrian realm in the town centre	OTH2; OTH7; OTH8
Wi3	Poor crossing facilities at junction of Station Road, Station Approach and Bowers Way	AI8; OTH2
Wi4	Narrow pavement under Nickey Line bridge on A1081	S5
Wi5	Narrow pavement on Ambrose Lane on bridge over Nickey Line	S6
Wi6	Narrow pavement on Sun Lane over railway line	S7
Wi7	Narrow pavement on Ox Lane passing under the Upper Lea Valley Greenway near Coldharbour Lane	S8
Wi8	Narrow pavement on Southdown Road passing under railway line (Skew Bridge)	S9
Wi9	Signage clutter, particularly in the town centre, makes navigation difficult	OTH2
Wi10	Lack of continuous footpath to Harpenden Rugby Club along Redbourn Lane	S11

ISSUE REF. CODE	ISSUE SUMMARY	INTERVENTION REF. CODE / COMMENT
Wi11	Lack of pedestrian facilities from Wheathampstead to Southdown	S10
Wi12	Lack of pedestrian crossing facilities linking areas of Harpenden Common	S12
Wi13	Wheathampstead Road – Improved pedestrian access	S10
Wi14	Lack of pedestrian crossing facilities at the junction of Walkers Road and Queens Road	S12
Wi15	Poor pedestrian crossing facilities – Bull Road roundabout	S13
Wi16	Poor street lighting in alley way between Alzey Gardens and Highfield Avenue	Not addressed in Plan – referred to HCC Street Lighting team
ROAD SAFETY		
Si1	Pedestrian safety concerns at zebra crossing at junction of Station Road and High Street Service Road (due to poor lighting positioned too close to junction)	S4; OTH2; OTH7
Si2	Other Hertfordshire County Council Hazardous Sites	OTH2
SPEED LIMIT COMPLIANCE		
Spi1	Appropriate speed limits on roads from A1081 cross Harpenden Common (e.g. Cravells Road)	Not addressed
Spi2	Walkers Road (speeding and pedestrian accessibility issues)	S1
Spi3	Grove Road from junction with Cross Lane to junction with Coleswood Road	S2
Spi4	A1081 from junction with Beesonend Lane to junction with Bull Road (40mph)	Not addressed
Spi5	Wheathampstead Road from eastern junction with Long Buftlers to junction with Piggottshill Lane	S3
Spi6	Review suitable speed limit on Leyton Road	OTH6
PARKING		
Pi1	Conflict between residential on-street parking and commuter / town centre employee parking on roads outside of Controlled Parking Zone	AI2; AI9; DM1; DM2; DM3; DM4; DM5; DM6
Pi2	Car parks full in the AM peak	AI2; AI9; AI10; DM5; DM6; DM7

ISSUE REF. CODE	ISSUE SUMMARY	INTERVENTION REF. CODE / COMMENT
Pi3	Parking in town centre promoting car travel rather than sustainable access to town centre and schools	AI1; AI2; AI3; AI4; AI5; AI6; AI7; AI8; AI10; DM4; DM5; DM6; DM7
Pi4	One hour on-street waiting restrictions in town centre causing additional trips and congestion with shoppers and town centre workers re-parking their vehicles	DM2; DM3; DM5; DM6; DM7
Pi5	Demand exceeding supply of on-street parking spaces in the town centre	DM2; DM3; DM5; DM6; DM7
FREIGHT		
Fi1	Enforcing the 7.5T weight limit on the Lower Luton Road	OTH5
Fi2	Enforcing 7.5T weight limit on the Wheathampstead Road	OTH5

FIGURE 4.2 KEY TRANSPORT ISSUES IN HARPENDEN



Harpenden Urban Transport Plan
Key Transport Issues in Harpenden

Key Transport Issues Legend

Ci1 Ci2	A1081 congestion in AM peak
Ci3	Railway station access congestion in AM peak *(S)*
Ci4	Lower Luton Road/Station Road congestion in AM peak
Ci5	Through traffic
Ci6	Congestion to schools in the AM and PM peak, including students driving
Ai1	Punctuality problems on bus services using A1081
Ai2	Lack of evening services
Ai3	Poor bus access to hospitals in Watford, Hemel Hempstead and St Albans
Ai4	Lack of info on direct / connecting services to hospitals
Ai5	Relatively long bus journey times
Ai6	Low frequency of HA1 and HA2 services
Ai7 Ai9	Low frequency services to Hemel Hempstead and Redbourn
Ai8	Lack of knowledge about Community Transport in Harpenden
Ai10	Perceived poor quality of bus route mapping and information
Ai11	Lack of up to date /real time information online, via mobile or at stop
Ai12	Info at bus stops is unclear – cannot understand which buses operate along which road
Ai13	Bus timetables difficult to understand
Ri1	Poor east-west rail links *(S)*
Ri2	TOC not allowing bicycles during peak, or few booked *(S)*
Ri3	Overcrowding on trains in AM peak *(S)*
Ii1	Poor Bus/Rail interchange at Station *(S)*
Ii2	Lack of cycle parking at station *(S)*
Ii3	Poor access to railway station platforms *(S)*
Ii4	No southern access to railway station (through car parks) *(S)*
Ii5	Station car parks full by 8:30 am *(S)*
Ii6	No taxi rank on eastern side of station and taxis blocking access to station *(S)*
Ii7	Narrow station access through eastern car park *(S)*
Ii8	Lack of Blue Badge parking spaces *(S)*
Yi1	Lack of continuous cycle routes into town centre/rail station
Yi2	Missing link in Upper Lea Valley Greenway to Luton
Yi3	Cycle rail on steps to Nickey Line not functional
Yi4 Wi3	Poor crossing facilities
Yi5	Lack of crossings from West Common to Harpenden Common
Yi6	Gaps between National Cycle Network routes
Yi7	Lack of cycle routes to Kinsbourne Green
Yi8	Lack of lighting on the Nickey Line
Yi9	Lack of signposting to and from the Nickey Line
Yi10	Safety concerns on steps of Nickey Line
Yi11	Lack of signposting for all cycle routes
Wi2	Confusing urban realm in town centre
Wi4-8	Narrow footways under/over bridges
Wi9	Signage clutter in town centre makes navigation difficult
Wi10-Wi15	Lack of pedestrian facilities
Wi16	Poor Street Lighting
Si1-2	Hazardous sites
Spi1-5	Speed limit compliance
Spi6	Review suitable speed limit on Leyton Road
Pi1	Conflicting parking demand
Pi2	Car parks full in the AM peak
Pi3	Parking in town centre promoting car travel rather than sustainable access to town centre and schools
Pi4 Pi5	Excess demand for on-street parking
Fi1	Enforcing the 7.5T weight limit on the Lower Luton Road
Fi2	Enforcing 7.5T weight limit on the Wheathampstead Road

* Issue not shown on map *(S)* Station issue - see inset

5 Accessibility Improvements to and at the Station

5.1 *Accessibility Improvements to and at the Station* will help to encourage more people to travel by rail, as well as access the station by sustainable modes of transport. Improvements to the junctions of Station Road and to the station access roads will improve access by all modes and capacity improvements to the rail station car park will reduce the demand for on-street parking around the station. Improvements to the enforcement of the taxi bays at the station will help to improve localised vehicle movement by reducing levels on inconsiderate parking.

5.2 The *Accessibility Improvements to and at the Station* will also help to improve levels of cycling (especially the number of people cycling short journeys to the station) across Harpenden. There is also considerable interaction between the station access improvements and the station travel plan proposed as part of the *Demand Management, Sustainable Transport and Smarter Choices* package.

- Table 5.1 overleaf provides further details of each scheme and the key issues addressed.
- Figure 5.1 illustrates the location of walking and cycling improvements and Figure 5.2 displays the location of public transport and parking improvements.

TABLE 5.1 ACCESSIBILITY IMPROVEMENTS TO AND AT THE STATION

Scheme Number	Description	Key Issues Addressed
Ai1	Southern station access from Crabtree Lane/Aysgarth Close to improve pedestrian and cyclist access to the station.	Ii4; Pi3
Ai2	Increased levels of cycle parking and lighting at rail station on both sides of the tracks to encourage mode shift from car.	Ii2; Pi1, Pi2; Pi3
Ai3	Improve urban realm of station, including safety improvements at station forecourt for cyclists and pedestrians to encourage rail travel and improve information provision. Improvements would increase passengers' perceived security as well as creating a more legible and physically attractive environment.	Ii7; Pi3
Ai4	A second footbridge with lifts to platforms, to the north end of the station	Ii3; Pi3
Ai5	Increase number of blue badge parking bays	Ii8; Pi3
Ai6	Provide taxi ranks on both sides of railway tracks and improve enforcement.	Ii6; Pi3
Ai7	Expand entrances to car parks to improve walk and cycle access. The scheme includes widening the footways which will promote sustainable station access and rail usage.	Ii7; Pi3
Ai8	Improve junctions of Station Road and station access roads to enable better access to the station for pedestrians, cyclists and people with mobility impairments.	Ci3, Ci4, Pi3, Ii7, Wi3, Ai2
Ai9	Decking station car parks (east) and provide bus interchange and passenger waiting facilities on Station Road	Ii5, Pi1, Pi2, Ii1
Ai10	Improving bus access to the station: OPTION A - Minibus/taxi shuttle to/from surrounding villages and other Harpenden areas to provide access to the station at times of day when bus services are not currently available. OPTION B – Improved bus stop waiting facilities on Station Road.	Ii1, Ii5, Ai2, Ai9, Pi2, Pi3

FIGURE 5.1 STATION ACCESSIBILITY IMPROVEMENTS – WALKING AND CYCLING

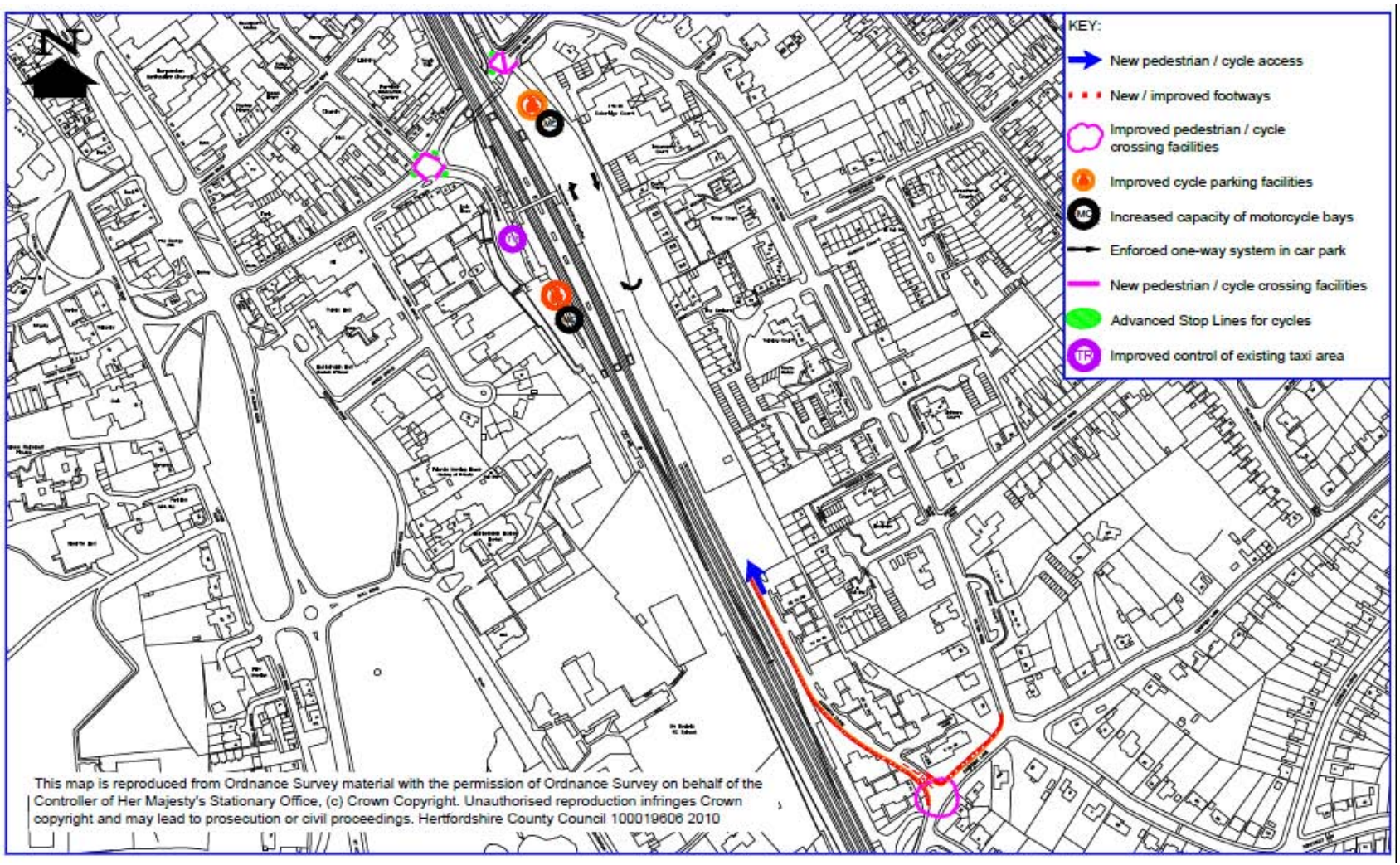
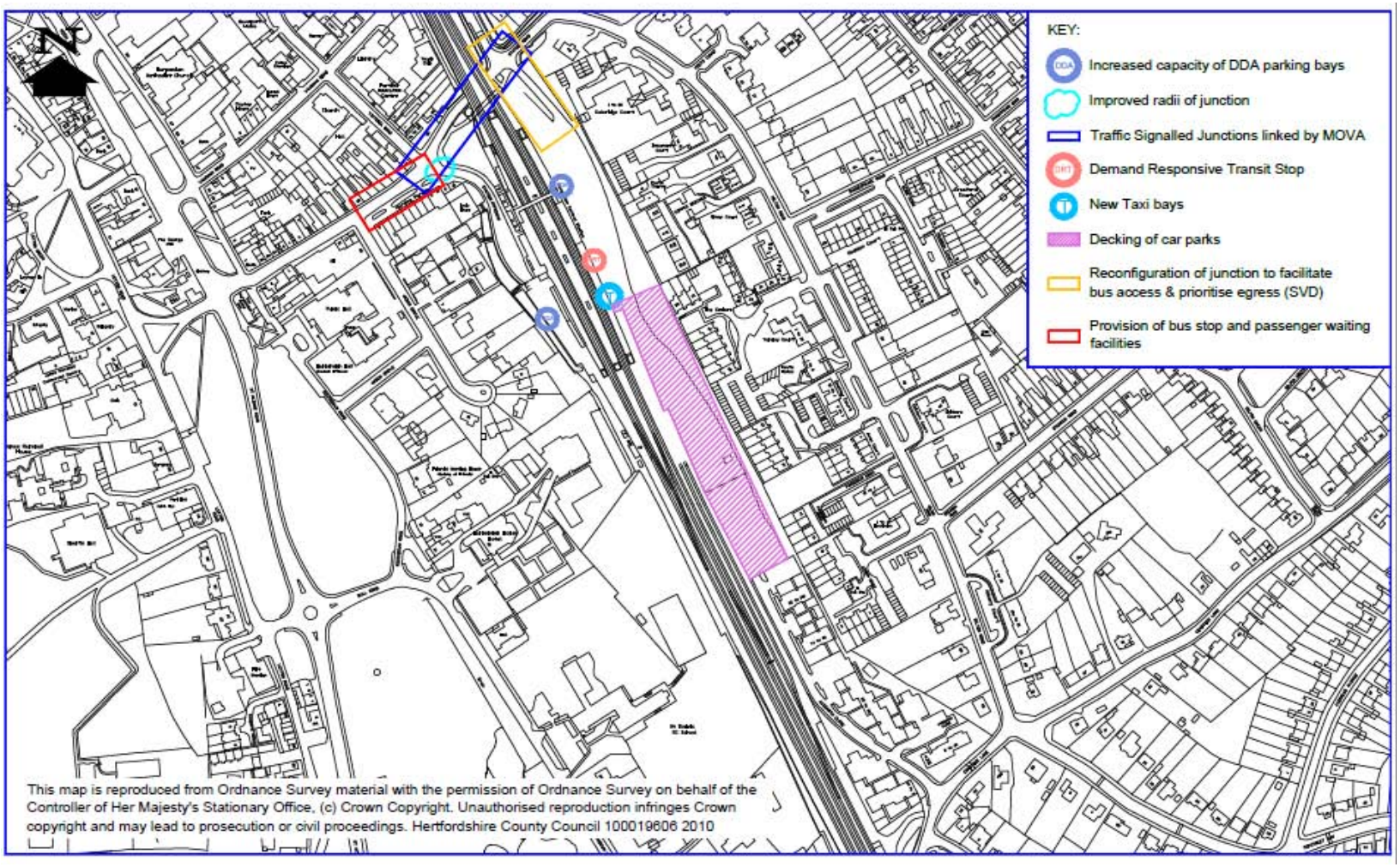


FIGURE 5.2 STATION ACCESSIBILITY IMPROVEMENTS – PUBLIC TRANSPORT



Accessibility Improvements to and at the Station		Scheme ref. AI1 to AI6
Scheme Name:	Station Masterplan Phase 1	
Links to UTP Key Issues		**Links to other schemes**
Ii2; Ii3; Ii4; Ii6; Ii7; Ii8; Pi1; Pi2; Pi3.		AI 1-10, DM6

Location/General Description

Harpenden Rail Station

Harpenden is served by one railway station which is located off Station Road. The town centre is located 250 metres to the west of the station. The railway line bisects the town, limiting east west linkages. The Train Operating Company for the station is First Capital Connect. There are four platforms at the station. Presently, only platforms 1 (southbound) and 4 (northbound) are served by a step-free route. As part of the Thameslink programme upgrade, the platforms at Harpenden are being extended to cater for 12 carriage trains to stop at the station from 2012, providing 50% more capacity on the line. Ticket gates are planned for all platforms and it will be important to ensure that safe routes for pedestrians and cyclists are provided through the car park as direct access onto platform 4 will be closed off when these are installed.

Two car parks serve the station, with a capacity of 670 parking spaces. The car parks are run by NCP. The car parks are fully utilised, and the eastern car park is often full by 8.30am and the western car park shortly thereafter. This results in unnecessary vehicle generation in the vicinity to the station as vehicles seek car parking.

Cycle parking is available at the station, with capacity of approximately 180 spaces split between the western car park and storage adjacent to platform 1.

Six 20 minute loading bays and six taxi bays are provided on Station Approach. There is insufficient area for vehicles to turn, often resulting in three point turn manoeuvres. At peak times, vehicle congestion and manoeuvres compromises pedestrian, cycle and vehicular safety.

Pedestrian Network

Pedestrian access to the station is provided from the north; no access exists from southern areas. The approach to the western entrance is on a gradient. A zebra crossing is provided close to the junction with Station Road to enable passengers to cross the road to the station side. There is a footway of limited width on the western side of Station Approach which is provides little benefit. From Victoria Road and the area to the north west of the station entails crossing at the signalled crossing located to the west of the Victoria Road/Station Approach/Station Road junction. Guard railing prohibits crossing on the eastern side of the junction. Carlton Road and Station Road comprise the approach to the eastern entrance. There is a signalled pedestrian crossing point immediately to the east of the car park access. Pedestrian facilities on the access road are provided by way of an at-grade link delineated by bollards to segregate pedestrians from vehicles to maintain safety. The link is approximately one metre in width and could benefit from widening. Pedestrian symbols and routes are marked in both car parks. This serves to provide pedestrian with safe area to walk. However, pedestrian safety may benefit from further improvements. Step-free access to platforms is currently available only to platforms 1 and 4.

Cycle Network

In the vicinity to the station there is limited on road/off-road cycle infrastructure. The National Cycle Network (NCN) Route 6 travels past the station by routing along the A1081, Southdown Road, Arden Grove, Station Road and Carlton Road. At the station, there is parking for approximately 180 bicycles. On site observations in January indicate that all spaces were utilised and we presume that in summer demand readily exceeds supply. Indeed some cycles may have been abandoned and this should be determined prior to increasing the space provided.

Drop-off and Taxis

Station Approach has six 20-minute loading bays, facilitating passenger drop-off and pick-up. This area is shared with six taxi bays which are well utilised and often oversubscribed which causes congestion and impacts on access to the car park and vehicle manoeuvring.

Disabled Parking

In total, for both station car parks, five disabled bays are provided and these are located adjacent to the ramped eastern entrance. With the planned improvements to the station, we anticipate that the number of passengers with mobility impairments, and hence the requirement for disabled parking, will increase.

Bus Network

The closest bus stops to the station, for the majority of routes, are located on Station Road to the west of the junction with Station Approach. Thus entailing a 120-150m walk from the station. Bus stops A and B are served by routes 45, 202, 365, part of 366, 620, 636, HA1 and HA2. At these stops, timetables are provided although other facilities such as a shelter, seating and real time information are not available. These stops do not currently have a lay-by facility and require traffic to wait whilst passengers board and alight. This is beneficial for buses to maintain journey times and reliability. The HA1 bus route stops on Milton Road. The HA2 bus route stops on Carlton Road. Single-decker buses operate on routes due to the height restriction under the railway lines of 3.8 metres.

Road Network and Car Parking

The railway line severs the town and few east-west road crossings exist. Station Road provides an important east-west distributor link and as a result is heavily trafficked throughout the day. The majority of roads in the area barely meet minimum carriageway width standards, thereby limiting opportunities to improve pedestrian, cycle and bus access. Right turning vehicles on Station Road block through traffic and vehicles rely on the good nature of other road users and the box junction feature at the Carlton Road junction to enable them to turn. Access to the station is provided by two access roads.

At the junction with Station Road, the mouth of the junction is exceptionally wide. Guard railing hinders visibility at the junction. The eastern approach is via a link road, along which parking is prohibited by double yellow lines. Pedestrians are segregated from vehicles by way of bollards. A one-way system appears to be in place, although this is not signed and largely ignored by vehicles wishing to drop off/pick up close to the station entrance. This causes some concern for safety, pedestrian and otherwise. The surfacing of both car parks could be improved to reduce trip hazards and damage to vehicles. Improved pedestrian priority and safety would be beneficial. There is no signage indicating to drivers that the car parks are full, resulting in unnecessary vehicle generation in the area. On-street parking spaces, for example Carlton Road and Milton Road, are restricted for a two hour period on weekdays. The charging regime means these spaces are significantly cheaper than the station car park and given their proximity to the station likely to be sought after by station users. These options will result in a re-allocation of parking spaces and may result in a small reduction in the overall number of spaces provided.

All of the station masterplan proposals are linked (Schemes AI 1 -10) and improvements to the station will also be supported by the station travel plan (Scheme DM6) and the improvements to pedestrian crossing facilities at the junction of Station Road and the High Street (Scheme OTH7).

See Masterplan Drawings for more details.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
AI1	Creating a southern access point from Crabtree Lane along Aysgarth Close for pedestrians and cyclists.	Footpaths in Aysgarth Close extend as far as the southern point of the eastern car park at the station. With little cost, and additional access point could be opened saving time for pedestrians and cyclists travelling from the south of Harpenden. Complementary parking measures may be required to prevent increased levels of on-street parking by commuters and safety issues from rail users dropped-off on / near Crabtree Lane and Aysgarth Close. Some parking spaces may need to be removed; however this could be mitigated by redesigning car park layout. *This option is recommended for further consideration.*	£50,000 to £100,000
AI2	Increase the level of cycle parking on both sides of the tracks.	There is currently excess demand for cycle parking spaces on both sides of the railway tracks with associated safety improvements. This would promote rail patronage as well as sustainable station access. Some parking spaces may need to be removed; however this could be mitigated by redesigning car park layout. *This option is recommended for further consideration.*	£2,000 to £5,000
AI3	Improve the urban realm of the station to encourage rail travel and improve information provision.	The current station urban realm, including Station Approach, discourages rail usage; particularly for pedestrians, cyclists and people with mobility impairments. Surfaces are uneven, the physical environment is dated, and there is a lack of wayfinding and information provision. Improvements would increase passengers' perceived security, as well as creating a more legible and physically accessible and attractive environment. *This option is recommended for further consideration.*	£250,000 to £500,000
AI5	Increase number of Blue Badge parking bays.	Improving access to platforms for people with mobility impairments will require increases in the number of parking bays to accommodate increased demand for rail usage. The increased number of parking bays will, in turn, promote usage and increase demand. *This option is recommended for further consideration.*	£5,000 to £10,000
AI6	Provide taxi ranks on both sides of railway tracks.	In partnership with First Capital Connect, Network Rail and local taxi operators, taxi ranks on both sides of the railway tracks would increase the level of parking for taxis and promote their usage, as well as promoting rail usage. It would also be the desire of the County Council and District Council to cause less obstruction to car park entrance on Station Approach and station drop-off, to encourage higher levels of walking and cycling. *This option is recommended for further consideration.*	£30,000 to £50,000
AI4	A second footbridge with lifts to platforms, to the north end of the station.	The Department for Transport has programmed and funded the intervention as part of its Access For All programme. The footbridge would provide step free access to all platforms from both sides of the station, improving access for people with mobility impairments, parents with small children, and those carrying heavy bags and cases. When ticket gates are installed, it will be necessary to ensure that safe routes across the car park are provided for cyclists and pedestrians as the direct access point onto platform 4 will be closed off.	£1m to £2m

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
Related Schemes First Capital Connect as part of their Thameslink upgrade programme is lengthening platforms to accommodate 12-car trains in order to increase passenger capacity.			

Accessibility Improvements to and at the Station	**Scheme ref. AI7 to AI10**
Scheme Name:	Station Masterplan Phase 2
Links to UTP Key Issues	**Links to other schemes**
Ci3; Ci4; Ii1; Ii5; Ii7; Wi3; Ai2; Ai9; Pi1; Pi2; Pi3.	AI 1-10, DM6

Location/General Description
The package of improvements will improve access to the station for pedestrians, cyclists, as well as improving interchange with public transport and increase car park capacity for car users. All of the station masterplan proposals are linked (Schemes AI 1 -10) and improvements to the station will also be supported by the station travel plan (Scheme DM6) the improvements to pedestrian crossing facilities at the junction of Station Road and the High Street (Scheme OTH7) and improved cycle links from the town centre to the station (Scheme CN1). See Masterplan Drawings for more details.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
AI7	Expand entrances to car parks to improve walk and cycle access	Access to the station from the east of the railway tracks can be difficult, and disincentives walking and cycling. A narrow footway often forces pedestrians and cyclists pushing their bikes into the road, which itself is narrow and barely wide enough for two vehicles to pass. Widening the footway would promote sustainable station access and rail usage. Widening the footway would require full feasibility reports on the structural aspects of the banks either side of the approach road. *This option is recommended for further consideration.*	£1m
AI8	Improve junctions of Station Road and station access roads	Congestion is caused by the levels of local, through and station traffic on Station Road, including turning movements. Congestion and a lack of signalised crossings for pedestrians and cyclists also disincentivise sustainable access. The construction of signalised crossings with Automatic Vehicle Technology detection for emergency vehicles, along with other technology which optimises phasing, would encourage walking and cycling, with minimal impact on congestion on Station Road. The signalisation of Station Road, Victoria Road and Station Approach is also proposed. The junctions would need to be subject of further feasibility testing to forecast whether congestion would increase or decrease along Station Road. *This option is recommended for further consideration.*	£1m

Options			
AI9	Decking Station Car Park (East)	Car parking is at capacity, and whilst improvements are proposed to promote sustainable access, growth in the catchment for the station and growth in demand for rail usage will increase the demand for car parking. Network Rail and the train operating company could implement this measure without County Council or District Council backing. It would be necessary to improve junctions of Station Road and station access roads if this intervention was implemented. This option includes provision of bus interchange and passenger waiting facilities on Station Road, immediately to the south of Station Approach. *This option is recommended for further consideration.*	£1m to £2m
AI10	Improving bus access to Harpenden Station	OPTION A - Local bus services typically stop operating at around 5:30pm to 6:00pm as demand for later PM peak services is not considered great enough to be commercially viable and County Council criteria do not support subsidising such services. Alternatives to providing bus services from the station forecourt and later into the evening could include providing a minibus or larger vehicle taxi shuttle to surrounding villages and areas of Harpenden furthest from the station. Further work would have to be undertaken to determine the feasibility/economic viability of providing such as service. OPTION B - Provision of interchange facilities on Station Road immediately to the south of Station Approach would encourage more people to use bus services to/from the station. This scheme would support the improvements to cycle links between the station and town centre proposed in scheme CN1. *This option is recommended for further consideration.*	£5,000 - £10,000 £250,000 - £500,000

6 Improvements to the Cycle Network

6.1 The schemes proposed will help to support the ongoing work conducted by Hertfordshire County Council and St Albans District Council to improve the local cycle network, strategic cycle routes, cycle mapping and raising awareness of cycle provision in Harpenden.

6.2 St. Albans District Council has already produced a cycle map which indicates the current network and the missing cycle links. The *Improvements to the Cycle Network* schemes proposed will improve the connectivity and continuity of existing National Cycle Network routes (the Nickey Line and Upper Lea Valley Greenway) with key destinations such as the town centre and railway station, encouraging more people to cycle and help reduce town centre congestion.

6.3 The new cycle (and pedestrian) routes proposed as alternatives to the A1081 will help to provide quieter routes for less confident cyclists. Improvements to cycle crossings between West Common and Harpenden Common will help to encourage more leisure cycling (and walking).

6.4 Provision of additional cycle parking in Harpenden town centre will address existing local congestion issues by encouraging more people to make shorter journeys by bike. Locating cycle parking near to key destinations such as shops and the library will also help to increase use of these facilities.

6.5 The travel planning included as part of the *Demand Management, Sustainable Transport and Smarter Choices* package will help to provide people with more information about their journey options and will help to ensure that the cycle improvements introduced as part of this package are well used.

6.6 The proposed *Accessibility Improvements to and at the Station* package together with the cycle routes proposed as part of this package will help to improve the number of people who consider cycling to the rail station.

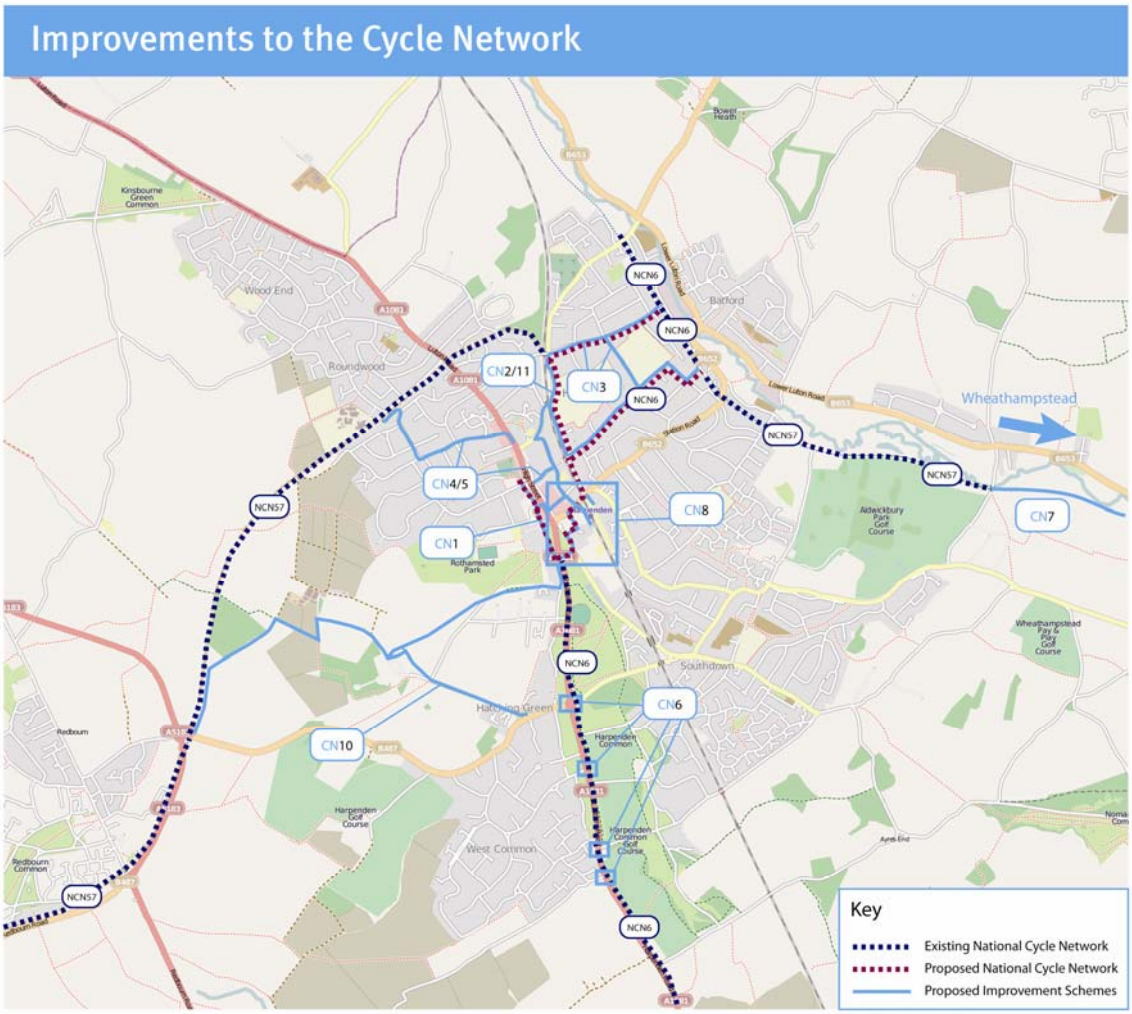
- Table 6.1 provides further details of each scheme and the key issues addressed and Figure 6.1 illustrates the location of each scheme.
- There are some schemes which are not referenced on the map but are included on the map key. These schemes are marked with an asterisk.

TABLE 6.1 CYCLE NETWORK IMPROVEMENTS SCHEMES

Scheme Number	Description	Key Issues Addressed
CN1	Improved cycle access to the train station and town centre. This would include additional routes to the station via Vaughan Road and Victoria Road to the station and from Bull Road via Southdown Road to the station.	Yi1; Yi11
CN2	Nickey Line (NCN 57) to the Train Station (and improved signage on existing routes). The routes would use Sun Lane/Bowers Way and Sun Lane/Carlton Road to link the station and Nickey Line.	Yi1, Yi3, Yi4, Yi9; Yi11
CN3	Linking of Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57). Ox Lane is a quiet route, providing improvements to the existing access.	Yi6, Yi9; Yi11
CN4 & 5	NCN Nickey Line (NCN 57) and Upper Lea Valley Greenway (NCN 6) to the town centre – this route will provide additional links via Sun Lane/Bowers Way and the existing route from Moreton End Lane to the Town Centre will be improved.	Yi1; Yi6; Yi7; Yi9; Yi11
CN6	Cycle/pedestrian routes from West Common to Harpenden Common – widen existing central islands and provide tactile paving	Yi1; Yi5, Wi1
CN7	Upper Lea Valley Greenway improvements. This scheme will improve the surfacing between Harpenden and Wheathampstead and help to provide a continuous route from Wheathampstead to Harpenden via NCN 6. In addition the junction between the Lea Valley route and Westfield Road would be improved.	Yi6; Yi11
CN8	Increase levels of cycle parking in town centre. This scheme will help to encourage people to make shorter journeys by bike, especially to local shops and facilities by providing additional cycle parking at key destinations.	Ii2
CN9	Increased levels of cycle information provision and promotion. This scheme will help to provide people with better information about their journey options and encourage them to travel by bike more regularly. The cycle map already produced by St Albans District Council can currently be found here (http://www.stalbans.gov.uk/transport-and-streets/walking_cycling/cycle-routes).	Yi9
CN10	Redbourn to Harpenden cycle route and promotion of permissive cycle paths through Rothamsted Research. This route will provide a much more direct link from the Nickey Line to Harpenden town centre.	Yi6; Yi11
CN11	Cycle route from Roundwood area in north of Harpenden to town centre avoiding A1081. This will provide an alternative route into the centre of Harpenden for cyclists who do not wish to use the A1081.	Yi1; Yi11

In addition to the schemes identified in Table 6.1, there is an aspiration to develop a parallel cycle route along the A1081 to provide alternative access to the town centre from the south of Harpenden. This could only be delivered if land became available or if West Common Way was adopted by Hertfordshire Highways.

FIGURE 6.1 LOCATION OF IMPROVEMENTS TO THE CYCLE NETWORK



Key	
CN1	Improved access to the train station and town centre
CN2	Linking of Nickey Line (NCN 57) to the Train Station
CN3	Linking of Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57)
CN4 & 5	NCN Nickey Line (NCN 57) and Upper Lea Valley Greenway (NCN 6 / 57) to the town centre
CN6	Cycle/pedestrian routes from West Common to Harpenden Common
CN7	Upper Lea Valley Greenway improvements
CN8	Increase levels of cycle parking in town centre
CN9	Increased levels of cycle information provision and promotion *
CN10	Redbourn to Harpenden cycle route and promotion of permissive cycle paths through Rothamsted Research
CN11	Cycle route from Roundwood area in north of Harpenden to town centre avoiding A1081

Improvements to the Cycle Network	**Scheme ref. CN1**
Scheme Name:	**Improved access to the train station and town centre**
Links to UTP key issues	**Links to other schemes**
Yi1; Yi11	S13, OTH2, OTH6, CN3, CN5, CN7

Location/General Description

This scheme will provide alternative routes to Harpenden train station, creating signed cycle ways to this key destination. Station Road is difficult to cycle along due to high traffic flows, many vehicle turning movements, and on-street parking. The proposed scheme would also provide an alternative route to Southdown Road where traffic speeds are fast and cyclist/pedestrian concerns over the speed of vehicles and levels of traffic flows have been identified.

From the Town Centre to Station: The route to the station would utilise Vaughan Road, leading onto Victoria Road then Station Approach.

From the south of Harpenden to Station: From Bull Road Roundabout down Southdown Road, then along Arden Grove and Station Road to Station Approach. Improvements to Station Road proposed as part of the station masterplan interventions (schemes AI1-10) will provide improved cycle facilities and bus stops adjacent to the junction with Arden Grove. The proposed route along Leyton Road between the Bull Road roundabout and Rothamsted Avenue (ref 4c on Plate 1) will also provide a link with the Leyton Road 20 mph zone (scheme OTH6).

These routes both avoid the key busy intersection of Station Road / High Street and Southdown Road. This would both keep cyclists away from Station Road, thus decreasing current levels of conflict and also give them a high quality alternative. Plate 1 illustrates the proposed scheme locations. This scheme is linked to the improvements to the cycle route linking the Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57) (Scheme CN3), the cycle route from the Upper Lea Valley Greenway (NCN 6 / 57) to the town centre (Scheme CN5) and the Lea Valley line proposed improvements (Scheme CN7).

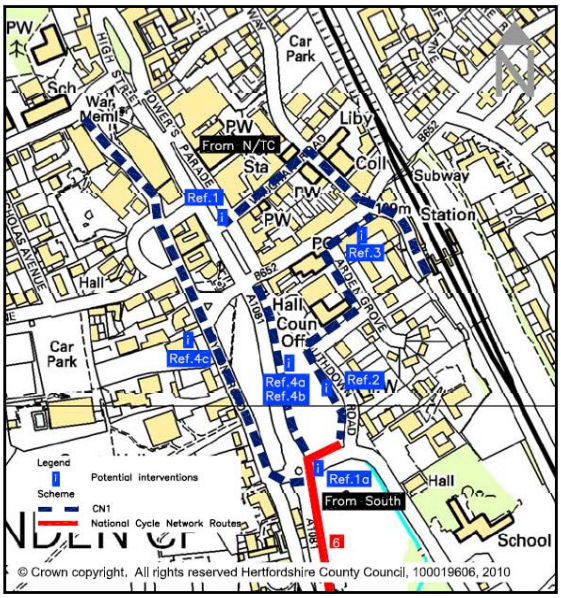


Plate 1 – Location of Proposed Schemes

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Signage from High Street / Vaughan Rd to train station (it is desirable to provide time and distance measures where possible).	Easy to implement, would also promote cycling/route. *This option is recommended for further consideration.*	£5,000 to £10,000
1a	Signage from Bull Road Roundabout to train station (it is desirable to provide time and distance measures where possible).	Easy to implement, would also promote cycling/route. *This option is recommended for further consideration.*	£5,000 to £10,000
2	Cycle lane improvements from Bull Road to Arden Grove	Some areas of route do contain fast traffic; a cycle lane would improve safety. *This option is recommended for further consideration.*	£235,000 to £315,000
3	Dual lane from Arden Grove to Station Approach	Utilising wide pavement to avoid busy junctions, create a dual cycle lane between two roads. *This option is recommended for further consideration.*	£190,000 to £260,000
4b	Widening footway into Common Land for a shared use cycle way	This option would widen the existing footway to 2.5m. This would require the use of common land and therefore has some associated deliverability difficulties. *This option is recommended for further consideration.*	£90,000 to £100,000
4c	Use and promotion of Leyton Road as alternative route	This option is recommended on the basis that Leyton Road is made into a 20mph zone as suggested in Schemes OTH2 and S13 (improvements of junction with Bull Road). *This option is recommended for further consideration.*	£5,000
5	Improve driver awareness along Southdown Road through provision of appropriate signs and road markings	This will help to improve safety, particularly for vulnerable road users including cyclists and children. *This option is recommended for further consideration.*	£5,000 to £10,000
4a	Conversion of existing footway along A1081 from Bull Street Roundabout to Station Road to a shared use cycle way	A measure that would promote cycling. The existing footway is too narrow to safely accommodate this option. *This option is not recommended for further consideration.*	£100,000 to £150,000

Improvements to the Cycle Network	**Scheme ref. CN2 & CN11**
Scheme Name:	**NCN Nickey Line (NCN 57) to the train station and route from Roundwood to town centre avoiding A1081**
Links to UTP key issues	**Links to other schemes**
Yi1; Yi3; Yi4; Yi9; Yi11	CN3, CN4, CN7, CN11

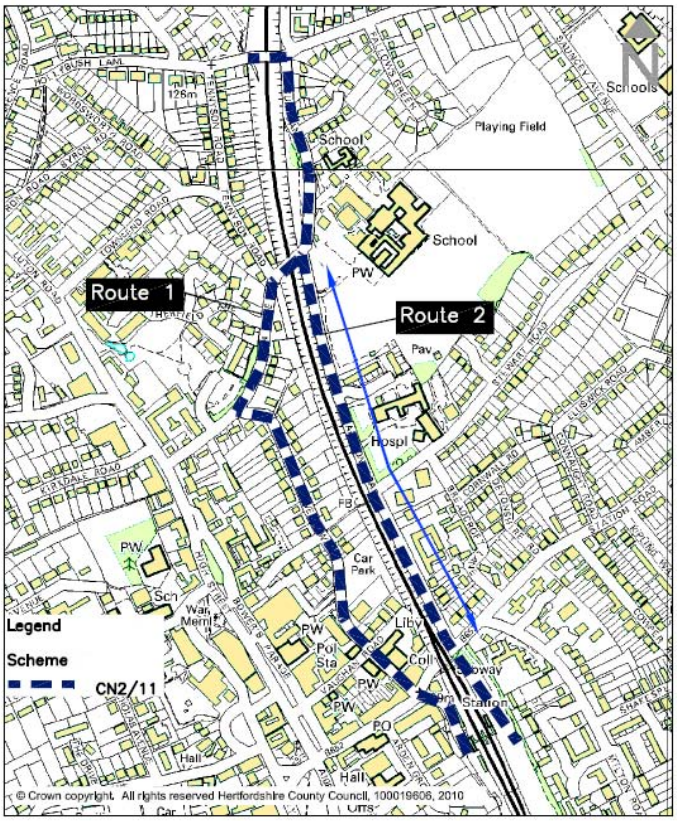
Location/General Description

Sun Lane / Bowers Way and Sun Lane / Carlton Road provide direct links from the Nickey Line to the train station; and it could also be a link for the Upper Lea Valley Greenway via CN1. It could be possible to direct people towards the station via Victoria Road to the station, which would connect with CN3 from town centre to station. As an alternative, Carlton Road could be used, but contains significant on street parking on one side, leaving only enough carriageway width for one vehicle. However, traffic along this road is light and slow moving, and could be suitable as a cycle route to the station. Plate 1 illustrates the location of these proposed routes.

Route 1: End of Nickey Line - Sun Lane - Bowers Way - Station Approach. This route also provides a link to the town centre from Roundwood.

Route 2: End of Nickey Line - Sun Lane - Carlton Road – eastern entrance to station / Station Road – Station Approach.

Plate 1 – Location of Proposed Routes



This scheme is linked to the improvements to the cycle route linking the Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57) (Scheme CN3), the cycle route from the Nickey Line to the town centre (Scheme CN4) and increased levels of cycle parking in the town centre (Scheme CN9).

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	A sign indicating route for accessing the train station from the end of the Nickey Line (it is desirable to provide time and distance measures where possible) and another sign at Sun Lane / Carlton Road junction or Sun Lane / Bowers Way junction.	Easy to implement. (DfT approval required) *This option is recommended for further consideration*	£5,000 to £10,000
2	Integrated Nickey Line and Upper Lea Valley Greenway Map at either end of link route, including links to town centre / train station	Quick win wayfinding measure. *This option is recommended for further consideration*	£5,000 to £10,000
3	Improve driver awareness through improved signage	Quick win wayfinding measure. *This option is recommended for further consideration*	£5,000 to £10,000

Improvements to the Cycle Network	Scheme ref. CN3
Scheme Name:	**Link between the Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57)**
Links to UTP key issues	**Links to other schemes**
Yi6; Yi9; Yi11	S8

Location/General Description

This route provides a link between the Nickey Line via the proposed signed route of the Upper Lea Valley Greenway, Ox Lane, Sauncey Avenue, Stewart Road and Cross Way.

The Upper Lea Valley Greenway and Nickey Line can be quickly and easily accessed via Ox Lane in a maximum of five minutes. There is currently no sign informing cyclists where to go to reach the Nickey Line / Upper Lea Valley Greenway from the other, nor any sign indicating access points to the Lea Valley line. The Nickey Line is currently accessed by steps, however the cycle rail on steps off Hollybush Lane is too close to railings and is very difficult to use. The junction of Ox Lane and Westfield Road contains two mini-roundabouts and is very busy during peak periods. This scheme links with the proposed improvements to pedestrian safety on Ox Lane passing over the Upper Lea Valley Greenway (Scheme S8).

Ox Lane would provide a suitable route between the Nickey and Upper Lea Valley Greenways. It is a quiet, residential road with traffic calming measures already implemented. The route from the Nickey Line via Ox Lane ends at steps leading up to the Upper Lea Valley Greenway running overhead, with the road continuing to Coldharbour Lane at a very narrow junction. Plates 1 and 2 indicate the typical signage on the Nickey Line and Plate 3 illustrates the proposed scheme location.

Plates 1 and 2 - Typical Signage at Entry Points

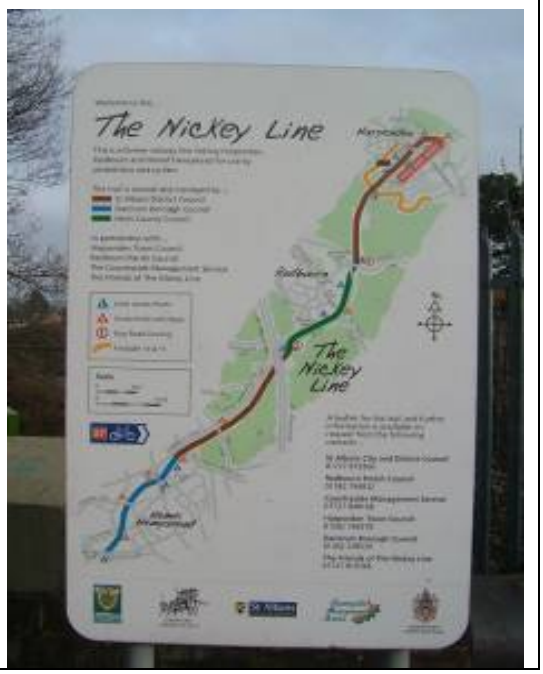
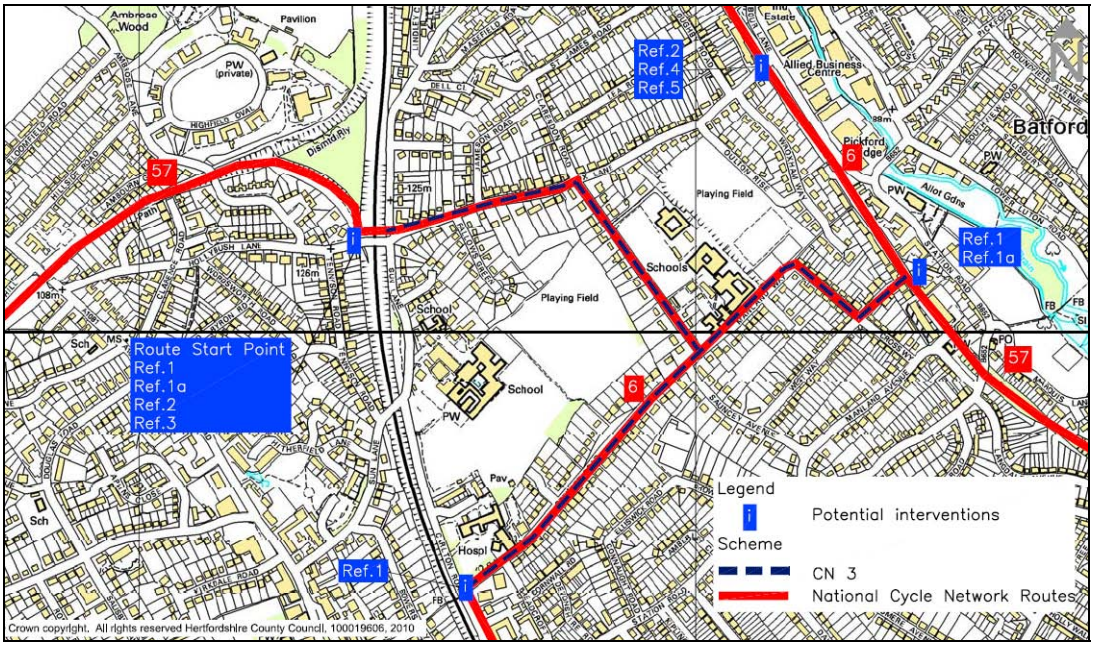


Plate 3 – Location of Proposed Route and Links to NCN Routes



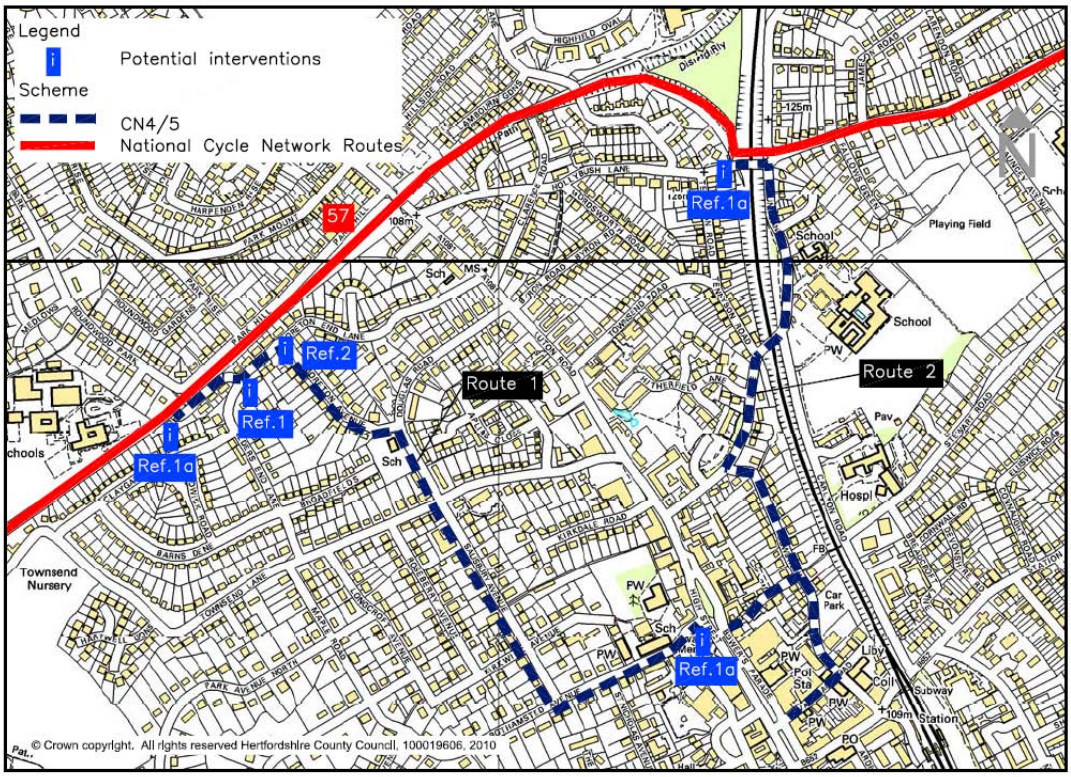
Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**

1	A sign indicating where to go to access points for Upper Lea Valley Greenway and Nickey Line in (it is desirable to provide time and distance measures where possible). Signage of key destinations to and from Nickey Line and Upper Lea Valley Greenway and signage between the Upper Lea Valley Greenway and Nickey Line.	Quick win measure. *This option is recommended for further consideration.*	£15,000 to £20,000
1a	Integrated Nickey Line and Upper Lea Valley Greenway Map at either end of link route, including links to town centre / train station	Easy to implement wayfinding measure. *This option is recommended for further consideration.*	£15,000 to £20,000
2	Dropped kerbs at Nickey Line and Upper Lea Valley Greenway access points	Very feasible way of improving access to lines. *This option is recommended for further consideration.*	£5,000 to £10,000
3	Improve / move unusable cycle rail on Nickey Line access steps	Feasible, further discussions with stakeholders/Hertfordshire County Council required to determine a solution. *This option is recommended for further consideration.*	£15,000 to £20,000
Options			
5	Re engineer to provide more cycle friendly access to Upper Lea Valley Greenway. Additional land would enable significant improvements to be made and an additional level would help to address this.	Potentially expensive, however some improvements should be made to the access point. *This option is recommended for further consideration.*	£250,000 to £500,000
4	Plug end of Ox Lane (where Upper Lea Valley Greenway runs overhead) to one way, creating a more cyclist friendly route (see also scheme S8).	Has potential, however would need more thorough investigation into potential effects. *This option is not recommended for further consideration following consultation with the Public and Members.*	£45,000 to £80,000

Improvements to the Cycle Network	Scheme ref. CN4 & 5
Scheme Name:	**NCN Nickey Line (NCN 57) and Upper Lea Valley Greenway (NCN 6 / 57) to the Town Centre**
Links to UTP key issues	**Links to other schemes**
Yi1; Yi6; Yi7; Yi9; Yi11	CN2, CN3

Location/General Description
This scheme identifies additional routes between the Nickey Line/Upper Lea Valley Greenway and Harpenden Town Centre. **Route 1:** Current route from Moreton End Lane access point to the town centre is via suburban roads, however the cycle signage is not comprehensive. **Route 2:** From the end of the Nickey Line on Hollybush Lane along Sun Lane, Bowers Way, then cutting through either Thompsons Close or Vaughan Road. This can also be signposted from the Upper Lea Valley Greenway utilising CN1. Plate 1 illustrates the location of both of these routes. The proposed improvements from the Nickey Line/Upper Lea Valley Greenway to the town centre will link to other cycle improvements including the cycle route from the Nickey Line (NCN 57) to the Upper Lea Valley Greenway (NCN 6 / 57) (Scheme CN3) and the cycle routes from the Nickey Line to the station (Scheme CN2). The planned improvements to these routes will help to encourage more people to travel by bike for shorter journeys, especially into the town centre.

Plate 1 Proposed Route from Nickey Line/Upper Lea Valley Greenway to the Town Centre



Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	A sign indicating where to go to access the town centre in (it is desirable to provide time and distance measures where possible), another sign at Sun Lane / Bowers Way junction	Quick win measure. *This option is recommended for further consideration.*	£5,000 to £10,000
1a	Integrated Nickey Line and Upper Lea Valley Greenway map at either end of link route, including links to town centre/station	Quick win wayfinding measure. *This option is recommended for further consideration.*	£15,000 to £20,000
2	Improve signage from Moreton End Land to town centre	Quick win wayfinding measure. *This option is recommended for further consideration.*	£5,000 to £10,000

Improvements to the Cycle Network	**Scheme ref. CN6**
Scheme Name:	**Cycle/Pedestrian crossings from West Common to Harpenden Common**
Links to UTP key issues	**Links to other schemes**
Yi1; Yi5; Wi1	S4

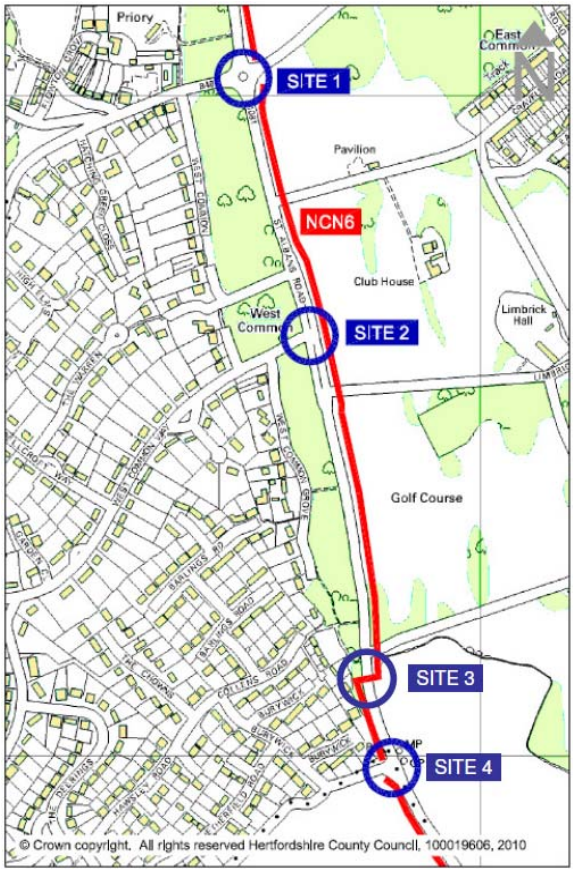
Location/General Description

West Common is located in the area to the west of the A1081 St Albans Road and to the south of the B487 Redbourn Lane. Stakeholders have identified that there is a lack of cycle/pedestrian crossings in this area between West Common and Harpenden Common. There is also a lack of signage at the junction of NCN6 and Beeson End Lane.

Scheme S6 proposes improvements to pedestrian crossing facilities. These pedestrian crossings could be upgraded to also allow cyclist movements (Toucan Crossings) at the same locations (see Plate 1). The scheme would also include provision of additional cycle facilities linking the crossings with NCN 57 and West Common routes to enable cyclists to safely access and utilise the crossings.

This scheme will link with proposals to improve pedestrian crossing facilities from West Common to Harpenden Common outlined in Scheme S4. Improvements to the crossing facilities for both pedestrians and cyclists will help to reduce the causes of collisions in this area.

Plate 1 – Location of Proposed Crossing Points



Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Site 1 and Site 2: Improve exiting crossing - widen the central island and provide tactile paving	It should be feasible to widen the existing splitter island to the east within the existing central hatching. This would provide a more attractive waiting area in the centre of the road, giving pedestrians greater confidence to cross the road in two halves. This option does not link two parts of the	£30,000 to £50,000

		cycle network, but does provide improved access to the cycle network (NCN6). Estimated costs do not allow for any upgrading of street lighting. *This option is recommended for further consideration*	
2	Site 2 only: Provision of toucan crossings and cycle facilities at crossing points between West Common and Harpenden Common	This option will help to improve cycle links between Harpenden, the Commons and the Upper Lea Valley Greenway (NCN 6 / 57) *This option is recommended for further consideration*	£120,000 to £150,000
3	Site 3: Raise driver awareness of pedestrian / cyclist island by trimming vegetation and improving signage & road markings on both approaches.	This option will help to improve the existing cycle links between Harpenden and NCN 6. *This option is recommended for further consideration*	£10,000 to £15,000
3	Site 4: Provide dropped kerbs, signage and marked cycle routes at junction of Beeson End Lane and NCN6	This option will help to improve the existing cycle links between Harpenden and NCN 6. *This option is recommended for further consideration*	£15,000 to £20,000

Improvements to the cycle Network	**Scheme ref. CN7**
Scheme Name:	Upper Lea Valley Greenway Improvements
Links to UTP key issues	**Links to other schemes**
Yi6; Yi11	CN1, CN3, CN5

Location/General Description

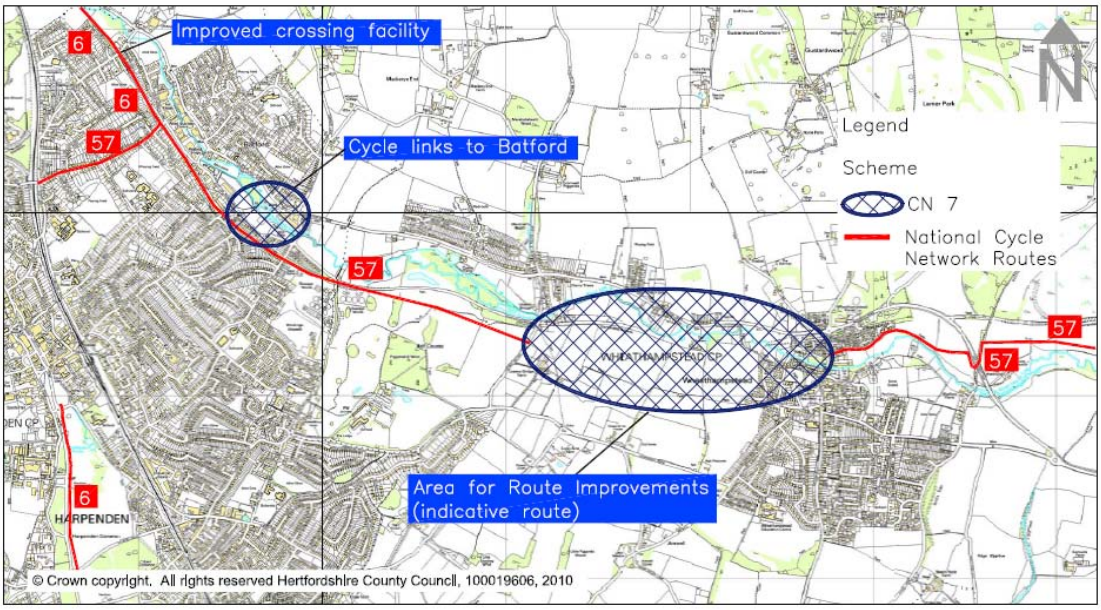
The Upper Lea Valley Greenway is a disused railway alignment that forms part of National Cycle Network (NCN) Routes 6 and 57 that within Hertfordshire runs between the boundary with Luton and Welwyn Garden City.

This scheme has been developed in response to stakeholder comments that the NCN routes around Harpenden require some work to ensure that there are no gaps in the network. Currently the route between Harpenden and Wheathampstead required some surfacing work to make it suitable for cycling. The improvements to this section of the NCN Route 57 and the links to Batford will encourage more people to cycle as it will improve connectivity between Harpenden and Wheathampstead.

In addition, the Upper Lea Valley Greenway currently crosses Westfield Road to the north of the proposed route improvements. Currently this crossing is difficult for cyclists due to the volume of traffic on Westfield Road. Crossing improvements would enable less confident cyclists to use the route and would also improve safety for pedestrians and cyclists. Figure 1 illustrates the area for route improvements and crossing facilities proposed.

The proposed improvements will help to improve the connectivity of the Upper Lea Valley Greenway. This scheme will support the development of the cycle routes from the Upper Lea Valley Greenway and the town centre to the station (Scheme CN1), the cycle route linking the Nickey Line (NCN 57) and the Upper Lea Valley Greenway (NCN 6 / 57) (Scheme CN3) and the development of the cycle route from the Upper Lea Valley Greenway to the town centre (Scheme CN5).

Plate 1 – Proposed Route Improvements



Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Improvements to surface of NCN 57 between Wheathampstead and Harpenden.	Improvements to the NCN route will help improve connectivity and encourage more people to use the local cycle network. *This option is recommended for further consideration.*	£100,000 to £200,000
2	Improve crossing facilities on Lea Valley line and Westfield Road.	Improvements to the crossing facilities will help improve safety and enable less confident cyclists to use the Upper Lea Valley Greenway. *This option is recommended for further consideration.*	£20,000 to £40,000

Improvements to the Cycle Network	**Scheme ref. CN8**
Scheme Name:	Increased levels of cycle parking in the town centre
Links to UTP key issues	**Links to other schemes**
Ii2	CN9

Location/General Description
A lack of cycle parking in the town centre has been identified as an issue by stakeholders and confirmed through site audits. Provision of cycle parking will encourage people to make shorter journeys by bicycle, especially to local shops and leisure facilities. There are several key principles for the provision and location of cycle parking facilities: 1) Parking must be visible and easy to use (Sheffield stands are recommended); 2) Appropriate lighting and signage must be provided; 3) Parking should be provided as close to key attractors as possible; 4) Provision of a few stands at several locations is preferable to many at the same location; and 5) Some specific locations of potential high cyclist volumes (e.g. rail stations, leisure facilities, hospitals) may require secure cycle parking facilities where bicycles may be left for longer periods of time. In order to ensure that the cycle parking provided is not subject to abuse, it is recommended that checks are made to ensure that people are only using the short stay cycle parking for a few hours at a time. Ideally, longer stay secure cycle lockers should also be provided. Any additional cycle provision should be provided in line with Hertfordshire County Council's Cycle Parking Standards (included in the Hertfordshire County Council Cycle Plan) There are co-dependencies between the delivery of this scheme and the improvement of cycle information and promotion (Scheme CN9). There would be a considerable advantage to delivering both of these schemes together as it would help to educate people about the cycle facilities available in Harpenden town centre. If cycle maps were produced, information on the location of cycle parking could also included as well as information on local cycle routes.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Provision of cycle parking in Harpenden town centre at key destinations.	Provision of additional cycle parking will help to encourage more people to make shorter journeys by bike, therefore contributing to a reduction in congestion. *This option is recommended for further consideration.*	£5,000

Improvements to the Cycle Network	Scheme ref. CN9
Scheme Name:	Increase levels of cycle information provision and promotion
Links to UTP key issues	**Links to other schemes**
Yi9; Yi11	CN1 – CN8, CN10

Location/General Description
St Albans District Council has already produced a cycle map for the district which is available on their website. This scheme is to provide promotion and raise awareness of the map amongst local residents and visitors to Harpenden. The scheme could include: 1) Publication of the cycle map and ensuring that copies are available at the rail station, library, local tourist destinations and in cycle shops in both Harpenden and St Albans. 2) Putting copies of the map in prominent positions at the train station and at key decision points in the town centre. 3) Organising cycle rides to publicise local cycle routes and to give people who attend copies of the cycle map. 4) Stalls at public events to promote cycling in Harpenden, make residents and visitors aware of the cycle improvements programmed in Harpenden, and to distribute the cycle map. The increased provision of cycle information will help to ensure that the cycle facilities proposed as part of other schemes are well publicised. In particular, improved cycle information will help to ensure that the cycle parking in the town centre is well used (Scheme CN8). The provision of better cycle information will help to encourage more people to cycle, particularly for short journeys. In addition to the promotion of permissive paths, provided as part of CN10, this scheme will help to ensure that information is provided about wider links to the whole cycle network.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Printing/ distribution of cycle map	This option is most suitable as it is low cost and could easily be delivered given the fact that the cycle map is already available. *This option is recommended for further consideration.*	£5,000 to £10,000
2	Cycle map signage	This option should be delivered together with the cycle route signage and publication of the cycle map. *This option is recommended for further consideration.*	£15,000 to £20,000

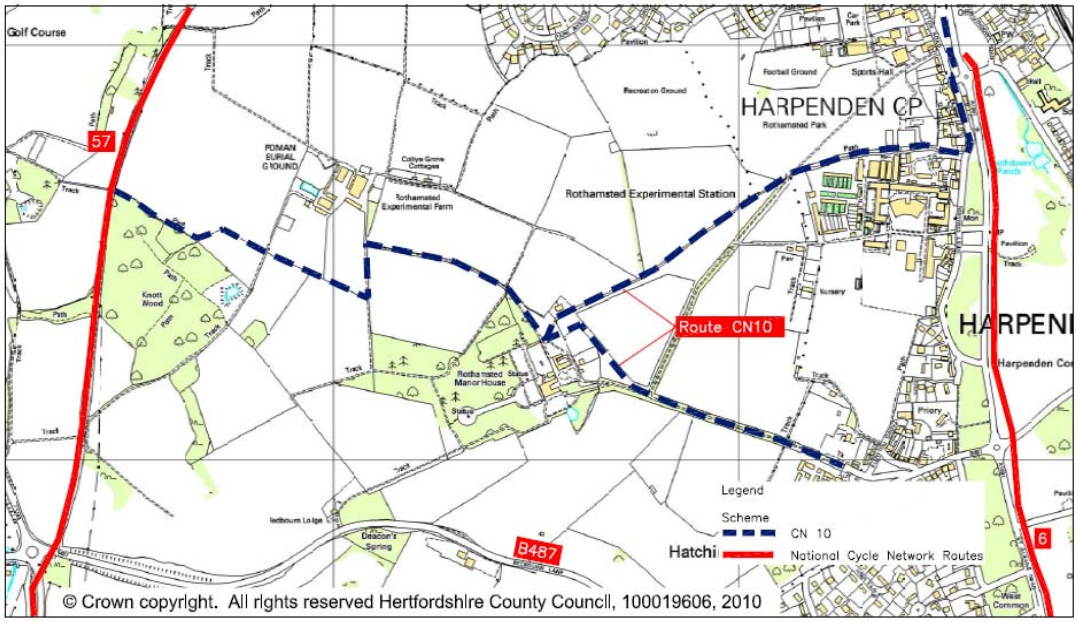
Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
3	Fun cycle rides	This option should be delivered when the map has already been publicised and the route signs have been installed. This should be delivered in coordination with local cycling organisations. *This option is recommended for further consideration.*	£5,000
4	Events	This option should be delivered when the map has already been publicised and the route signs have been installed. This should be delivered in coordination with local cycling organisations. *This option is recommended for further consideration.*	£5,000
5	Bikeability Cycle Audit and map	A Bikeability level map will help to provide information about the skill level required to use different parts of the cycle network. This would also provide a strong link with the Bikeability training being delivered within schools. *This option is recommended for further consideration.*	£10,000

Improvements to the Cycle Network	Scheme ref. CN10
Scheme Name:	Redbourn to Harpenden cycle route and promotion of permissive cycle paths through Rothamsted Research
Links to UTP key issues	**Links to other schemes**
Yi6; Yi11	CN9

Location/General Description

The Nickey Line currently provides a link between the north of Harpenden and Redbourn. This scheme includes additional journey options to the centre of Harpenden through the use of permissive paths through Rothamsted Research to link with the Nickey Line just north of the A5183/Redbourn Lane roundabout. This scheme would provide a more direct route between Harpenden and Redbourn and encourage more people to cycle and commute using this route. Additional promotion of the permissive paths through Rothamsted Research is also required and it is recommended that these routes are included on the St Albans District Council cycle map. Clear signage to indicate these permissive paths would also help to ensure that they are used by more cyclists.

Plate 1 – Location Map



Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Promotion and signage of existing permissive paths through Rothamsted Research and inclusion on St Albans District Council cycle map.	Will help to raise awareness of cycle route. *This option is recommended for further consideration.*	£10,000 to £20,000

7 Demand Management, Sustainable Transport and Smarter Choices

7.1 The *Demand Management, Sustainable Transport and Smarter Choices* package will help to tackle identified issues of localised traffic congestion, improve people's understanding of the journey options available to them and also improve their journey experience. The schemes proposed within this chapter will complement the ongoing Safe Routes to School and School Travel Planning work being undertaken by Hertfordshire County Council.

7.2 Localised congestion caused by on-street parking will be managed through the extension of the Controlled Parking Zone and provision of better signage and publicity about off-street parking options. Improved publicity about off-street parking season tickets will help to encourage better use of the facilities available and help to manage the number of people parking on street. This Plan supports the development of a parking strategy for St Albans District Council.

7.3 The introduction of a travel plan for the railway station and a workplace travel plan for Rothamsted Research will help to ensure that people will have access to better information about their journey options. Encouraging the uptake of Safer Routes to Schools initiatives will help to ensure that pupils and parents are aware of safe, sustainable travel options for their journey to school.

7.4 The overall journey experience will be improved through the roll out of Real Time Information provision throughout Harpenden for both bus and rail a faster rate that would otherwise be possible. Hertfordshire County Council will also work in partnership with bus operators to ensure that any new bus vehicles that are purchased are fully DDA (Disability and Discrimination Act) compliant and that the appropriate deadlines for DDA compliance are met.

7.5 The schemes proposed as part of this package will help to ensure that information about sustainable transport options is provided at both workplaces and the rail station which will help to ensure that the proposed cycle improvements are well used. DDA improvements to the bus journey experience for passengers will help to ensure that bus services will be better used. This in turn should help to tackle local congestion problems by reducing the number of shorter car journeys being made.

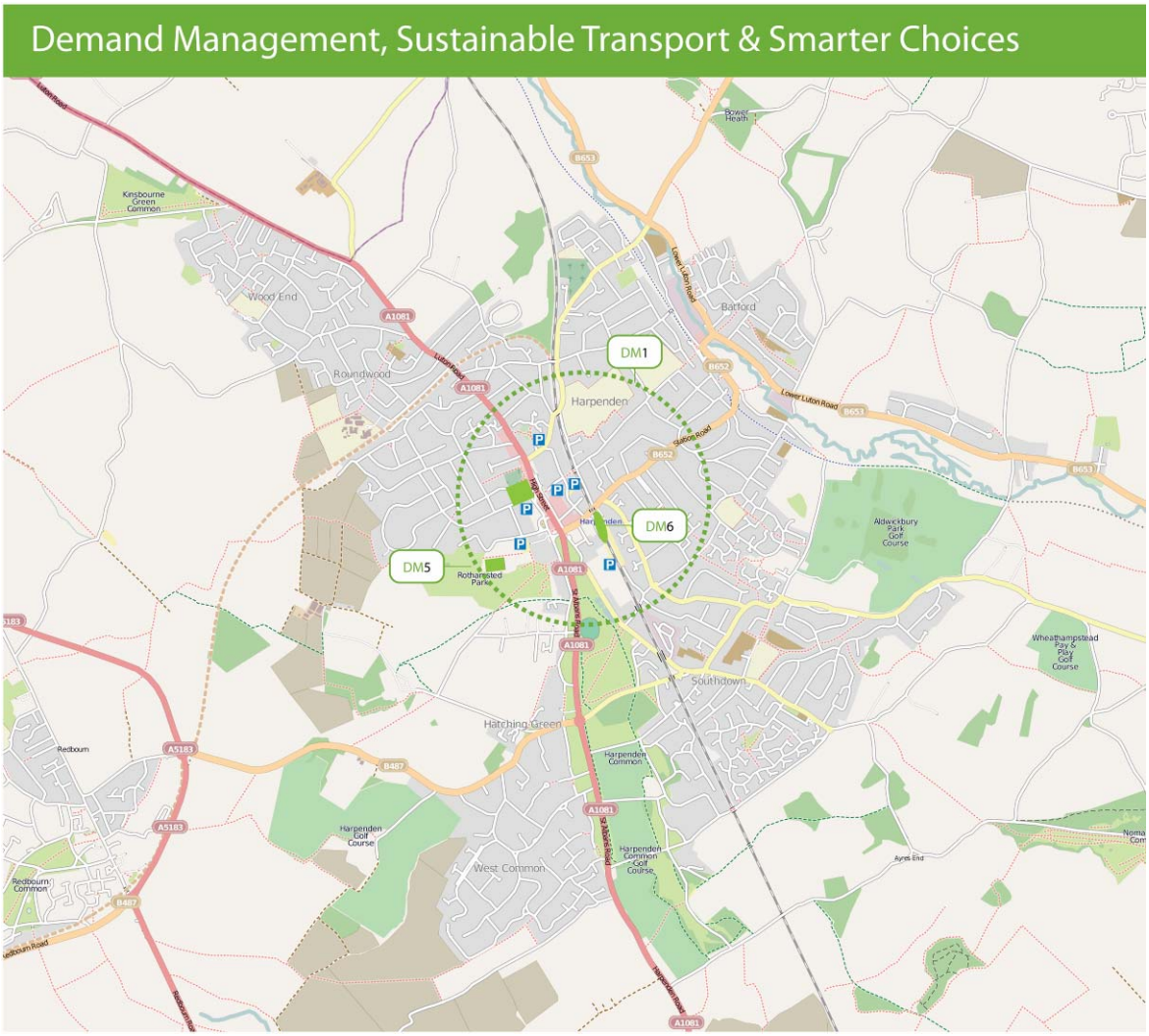
- Table 7.1 provides further details of each scheme and the key issues addressed and Figure 7.1 illustrates the location of each scheme.
- There are some schemes which are not referenced on the map but are included on the map key. These schemes are marked with an asterisk.

TABLE 7.1 DEMAND MANAGEMENT, SUSTAINABLE TRANSPORT AND SMARTER CHOICES SCHEMES

Scheme number	Description	Key Issues Addressed
DM1	Expansion of Controlled Parking Zone within Harpenden. This scheme will help to manage conflicts between resident, commuter and student on-street. The demand for expansion subject to consultation with stakeholders including residents on affected roads. (Managed by St Albans District Council). This links the development of a St Albans District Council parking strategy.	Pi1, Ci1, Ci2, Ci4, Ci6
DM2	Increased use of season tickets at public car parks. This will help to manage the demand for on street car parking and the conflicts that this creates. (Managed by St Albans District Council). This could be considered as part of a parking strategy for St Albans District Council.	Pi1, Pi4, Pi5
DM3	Improved off-street car park signage. Better signage will also help to promote off-street parking and encourage more people to use the off-street facilities instead of parking on-street.	Pi1, Pi4, Pi5
DM4	Encourage greater take up and promotion of Safe Routes to School. This will help to encourage more pupils to walk and cycle to school rather than being driven by their parents.	Pi1, Pi3, Ci6
DM5	Workplace Travel Plans for major employers (including Rothamsted Research), particularly through the development control process. Rothamsted Research is the largest employer in Harpenden and a workplace travel plan will help to encourage modal shift away from car for employees, thereby reducing local congestion.	Ci5, Ci6, Pi1, Pi2, Pi3, Pi4, Pi5
DM6	Station Travel Plan. This would help to manage the travel generated by the station as well as promoting rail usage and sustainable access to the station by walking, cycling, bus and car sharing.	Ci3, Ci4, Pi1, Pi2, Pi3, Pi4, Pi5
DM7	Increase levels of sustainable transport information provision. Improved information about journey options will help encourage more people to cycle more frequently. St Albans District Council have already produced a cycle map showing the existing network – this can be found here: http://www.hertsdirect.org/envroads/environment/countryside/walkingandriding/walkcyclemaps	Yi11, Ci3, Ci4, Pi2, Pi3, Pi4, Pi5

Scheme number	Description	Key Issues Addressed
DM8	Active promotion of sustainable travel modes including cycling and walking through targeted events and local media. Promotion of sustainable travel will help to provide information about sustainable travel options to encourage more people to consider alternatives to travelling by car.	Ci1, Ci2, Ci5, Ci6
DM9	Improve access to local hospitals	Ai3; Ai4, Ai8, Ci1, Ci2
DM10	Real Time Information provision. This scheme will help to encourage more people to use bus and rail services as they will have better information about the bus services available.	Ai11
DM11	Ensure DDA compliance of bus vehicles and stops. DDA regulations set out deadlines for bus DDA compliance and working with bus operators will help to ensure that these are met. Ensuring that bus stops are complaint will also help to ensure that bus services are accessible for all.	None

FIGURE 7.1 LOCATION OF DEMAND MANAGEMENT SCHEMES



Key	
DM1	Expand Controlled Parking Zone
DM2	Increased use of season tickets at car parks *
DM3	Improved off-street car park signage *
DM4	Encourage greater take up and promotion of Safe Routes to School *
DM5	Workplace Travel Plans for major employers
DM6	Station Travel Plan
DM7	Increase levels of sustainable transport information provision *
DM8	Active promotion of sustainable travel modes *
DM9	Improve access to local hospitals *
DM10	Real Time Information provision *
DM11	Ensure DDA compliance of bus vehicles and stops *

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM1**
Scheme Name:	Expansion of Controlled Parking Zone
Links to UTP key issues	**Links to other schemes**
Pi1; Ci1; Ci2; Ci4; Ci6	DM2, DM3

Location/General Description

The current extent of the Controlled Parking Zone within Harpenden is included in Plate 1. In addition to the streets identified in Figure 1, the Controlled Parking Zone additionally covers Lyndhurst Drive, Manland Way, Manland Avenue, Overstone Road, Dalkeith Road, Rothamsted Avenue, Sir Joseph's Walk, Spenser Road, Gilpin Green, Tennyson Road and Topstreet Way.

This scheme proposes an expansion of the Controlled Parking Zone, led by local residents to address several specific issues raised:

1) Conflict between residential on-street parking and commuter/ town centre employee parking on roads outside of the Controlled Parking Zone. In particular Crabtree Lane, Topstreet Way, Fairmead Avenue, Aysgarth Close, Rosebery Avenue, Longcroft Avenue, Park Mount and Park Hill.
2) A1081 southbound congestion in the AM peak from the town boundary into the town centre.
3) A1081 southbound congestion in the AM peak from the junction with Redbourn Lane into the town centre.
4) Congestion on Station Road towards Batford in the AM peak and towards the town centre in PM peak from the junction with Lower Luton Road to the junction with Marquis Lane.
5) Congestion caused by car journeys to schools in the AM and PM peaks, including students driving.

The Controlled Parking Zone can be expanded but this will be subject to consultation with stakeholders, including local residents groups, and have the support by residents along the streets affected.

The expansion of the Controlled Parking Zone should be delivered in conjunction with increase promotion of season tickets for off street car parks (Scheme DM2) and improvements to off street parking signage (Scheme DM3). This will help to ensure that alternatives to on street parking are available and that clear information is provided to encourage more people to use them.

Plate 1 – Current extent of Controlled Parking Zone in Harpenden

http://www.harpenden.gov.uk/Uploads/Site796/Files/CPZ-leaflet1.pdf

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Expansion of Controlled Parking Zone	This option would help to reduce peak hour congestion by providing more usable road space. Where particular parking issues have been reported by residents, extension of the Controlled Parking Zone would help to alleviate these problems. St Albans District Council would lead on this option. *This option is recommended for further consideration*	£25,000 to £30,000

Demand Management, Sustainable Transport & Smarter Choices	Scheme ref. DM2
Scheme Name:	Increased use of season tickets in public car parks
Links to UTP key issues	**Links to other schemes**
Pi1; Pi4; Pi5	DM1, DM3

Location/General Description

Public car park season tickets are currently available, but take-up has been relatively low. This scheme has been developed in response to two specific issues:

1) Conflict between residential on-street parking and commuter / town centre employee parking on roads outside of Controlled Parking Zone
2) Demand exceeding supply of on-street parking spaces in the town centre.

The current problem of high demand for on-street parking could in part be tackled by encouraging more people to use the off-street car parks in Harpenden.

In order to encourage more people to purchase season tickets, active promotion of the season tickets available and the pricing compared to parking in other locations (for example Harpenden Railway Station) should be considered.

The prices of the current season tickets available are included in Table 1 and the locations of off street car parks are included in Figure 1.

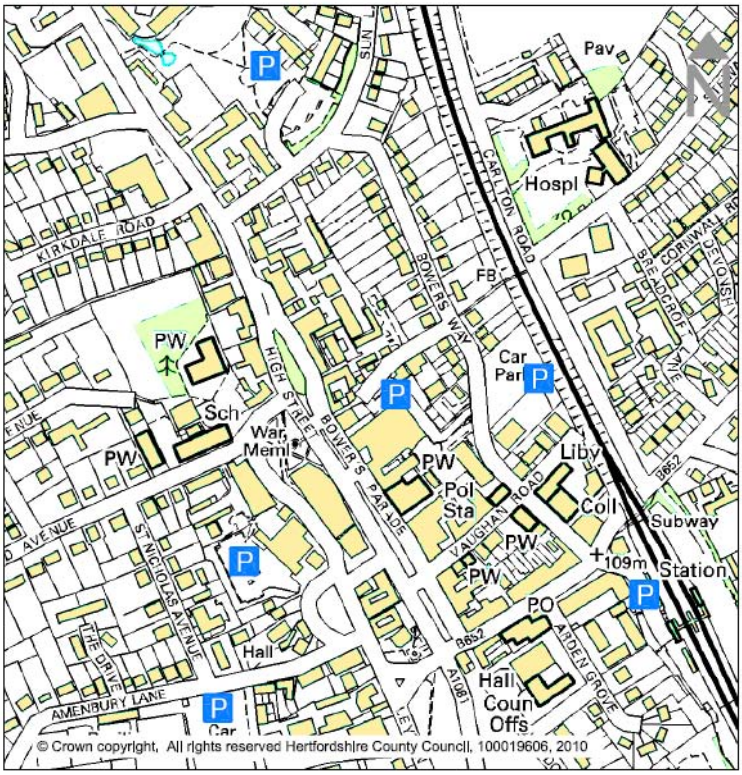
This scheme should be considered for implementation in coordination with the expansion of the Controlled Parking Zone (Scheme DM1) and the improvements in off street parking signage (Scheme DM3). These schemes together will help to ensure that information is provided on options for parking and that the off street options are publicised to ensure that they are utilised.

Table 1 – Prices of Current Season tickets for Off-Street Car Parks (July 2010)

Type	Current Price	Conditions
Weekly Tickets	£27.00	Purchased through ticket machine
Quarterly Season Tickets	£225.00	Any long stay car park.
Annual Permits	£45.00	Senior citizen permits (up to three hours).
Annual Season Tickets	£900.00	Applications available from NCP 0845 050 7080

Source: http://www.stalbans.gov.uk/transport-and-streets/parking/Parking-permits/Season-tickets/

Plate 1 – Locations of Off-Street Car Parks in Harpenden



A comparison of the off-street parking rates with on-street daily and station car parking rates illustrated in Table 2 shows that off-street car parking offers much better value for money than any other option in Harpenden.

Table 2 – Comparative Car Park Prices (Daily) (July 2010)

Type	**Daily parking charge**
Station car park	£6.20 per day
Off-street parking	£3.30 - £8.50 per day
On-street parking	Combination of free parking (some parking limited to one hour in town centre) and some £2.00 ticketed parking in CPZ near station.

Sources - http://www.nationalrail.co.uk/stations/hpd/details.html and Steve Deakin, St Albans District Council

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Increased promotion of season tickets	St Albans District Council would lead on this option which would help to alleviate current on-street parking problems by encouraging more people to park off street. *This option is recommended for further consideration.*	£5,000 to £10,000

Demand Management, Sustainable Transport & Smarter Choices	Scheme ref. DM3
Scheme Name:	Improve off-street parking signage
Links to UTP key issues	**Links to other schemes**
Pi1; Pi4; Pi5	DM1, DM2

Location/General Description

This schemes has been developed in response to two particular issues:

1) Conflict between residential on-street parking and commuter / town centre employee parking on roads outside of Controlled Parking Zone - Crabtree Lane, Topstreet Way, Fairmead Avenue, Aysgarth Close, Rosebery Avenue, Longcroft Avenue, Park Mount, and Park Hill; and
2) Demand exceeding supply of on-street parking spaces in the town centre.

It is likely that many people currently park on-street as this is the most visible parking option that they are aware of. Improvements in off-street car park signage would help to improve visitors' awareness of car parking availability. Signage could also encourage visitors approaching Harpenden from different directions to park in the car park most convenient for their ultimate destination.

Improvements to off street parking signage should be implemented together with the expansion of the Controlled Parking Zone (Scheme DM1) and the promotion of season tickets at public car parks (Scheme DM2). These schemes will help to ensure that information is provided on options for parking and that the off street options are publicised to ensure that they are utilised.

Options

Ref.	Potential Interventions	Assessment of suitability	Cost
1	Improvements in off-street car park signage	This scheme would help to encourage more off street parking and therefore reduce congestion in the town centre. *This option is recommended for further consideration.*	£5,000 to £10,000

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM4**
Scheme Name:	Encourage greater take-up and promotion of Safer Routes to School
Links to UTP key issues	**Links to other schemes**
Ci6; Pi1; Pi3	DM8, CN9

Location/General Description

This intervention will encourage the take up of Safer Routes to Schools and ongoing support for local schemes funded through the programme. Safe Routes to Schools projects take a holistic approach and can include a package of measures such as training in road safety skills for cyclists and pedestrians, initiatives such as walking buses, incentives and promotional activities, curriculum work, highway improvements and the provision of facilities such as cycle parking and waiting shelters.

The Safer Routes to School target group have developed a countywide ranking list. All schools are ranked on a number of criteria, including the number of children of school age living within one mile of the school, whether the school has an adopted/active school travel plan, whether the school participates in green travel initiatives and whether an existing Right of Way can be improved. These ranking lists are run and analysed annually, from which schemes and initiatives are selected. For School Travel Plans, the aim is to ensure that all school have a current plan, and therefore, prioritisation is primarily based on the willingness of the school to be part of the programme.

Evidence from Sustrans: (http://www.sustrans.org.uk/assets/files/Safe%20Routes/resources/toolkit/SRS_School_Travel_Introduction.pdf) suggests that for school travel initiatives to be effective they must include the whole school population. If projects can include the wider community and parents of school children then they have a greater chance of achieving changes in travel behaviour. Table 1 provides information about the schools which have travel plans in place or are in receipt of Safer Routes to School funding.

Safer Routes to Schools initiatives could include:

1) road safety skills training;
2) walking buses;
3) highway improvements; and
4) provision of cycle parking and waiting shelters.

Safer Routes to School should be promoted at the same time as the promotion of sustainable modes (Scheme DM8) and the promotion of the cycle network (Scheme CN9). This will ensure that as well as receiving information about Safer Routes to School, that parents are aware of the rest of the walking and cycling network. This will encourage them to make more journeys (especially journeys to school) by walking and cycling.

TABLE 1 TRAVEL PLANS AND 'SAFER ROUTES TO SCHOOLS' IN SCHOOLS WITHIN HARPENDEN

Name of School	Type of School	School Travel Plan?	Date	Part of Safe Routes to School?	What interventions have they received from SRS Programme?
Batford Nursery School	Primary	Yes	2005	No	
Crabtree Infants' School	Primary	Yes	2002, 2003 and 2004	Yes	Traffic calming measures on all roads around the school sites. Road narrowing at Grasmere Avenue and Dalkeith Road junctions with Crabtree Lane, and introduction of flat-topped road humps and junction tables. School crossing warning signs painted on all roads around the school sites and yellow school zigzags have been extended. Internal footpaths laid in 2003 - one providing a pedestrian route into the Infant School and a pushchair-friendly link between the two schools, and the other providing safe pedestrian access to the Junior School front entrance.
Crabtree Junior School	Primary	Yes	2002, 2003 and 2005	Yes	Traffic calming measures on all roads around the school sites. Road narrowing at Grasmere Avenue and Dalkeith Road junctions with Crabtree Lane, and introduction of flat-topped road humps and junction tables. School crossing warning signs painted on all roads around the school sites and yellow school zigzags have been extended. Internal footpaths laid in 2003 - one providing a pedestrian route into the Infant School and a pushchair-friendly link between the two schools, and the other providing safe pedestrian access to the Junior School front entrance.

Name of School	Type of School	School Travel Plan?	Date	Part of Safe Routes to School?	What interventions have they received from SRS Programme?
High Beeches Primary School	Primary	Yes	2010	Yes	New safer parking signs installed. Traffic calming measures on all roads around the school installed, including flat-topped road humps and junction tables. Traffic light controlled pedestrian crossing with additional speed humps installed on Piggotshill Lane. Junction with Topstreet Way changed to a mini roundabout.
Manland Primary School	Primary	Yes	2005	Yes	
Roundwood Primary School	Primary	Yes	2009	No	
Sauncey Wood Primary School	Primary	Yes	2010	No	
St Dominic Catholic Primary School	Primary	Yes	2007	Yes	
St Nicholas CE VA Primary School	Primary	Yes	2007	Yes	
The Grove Infant and Nursery School	Primary	Yes	2005	Yes	
The Grove Junior School	Primary	Yes	2005	Yes	
The Lea Primary	Primary	Yes	2007	No	Moorland Road re-surfaced, clear markings on road to identify 'keep clear' areas. 'School' signs installed

Name of School	Type of School	School Travel Plan?	Date	Part of Safe Routes to School?	What interventions have they received from SRS Programme?
School					on Westfield Road.
Wood End Primary School	Primary	Yes	2005	Yes	
Roundwood Park School	Secondary	Yes	2009	No	
Sir John Lawes School	Secondary	Yes	2009	No	Zebra crossing and traffic lights installed. Speed humps installed on Station Road.
St George's School	Secondary	Yes	2003 and 2006	No	
Aldwickbury School	Independent (Boys 4 -13)	No		No	
St Hilda's School	Independent (Girls 2 -11)	No		No	
The Kings	Independent (Mixed 2 - 15)	No		No	

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM5**
Scheme Name:	Workplace Travel Plans for major employers
Links to UTP key issues	**Links to other schemes**
Ci5; Ci6; Pi1; Pi2; Pi3; Pi4; Pi5	DM6

Location/General Description
Workplace travel plans have already been developed for some major employers, for example Sainsbury's. This scheme proposes the development of additional workplace travel plans for major employers who do not already have one in place and additional monitoring of existing travel plans. For this intervention to be most effective, it will be best to conduct travel plans through the development control process. Hertfordshire County Council has a process for engaging with employers through the development control process. Through traffic has been identified by stakeholders as a problem within Harpenden and the travel plan will have a positive impact on local traffic when implemented. The workplace travel plans for major employers should be implemented at the same time as the station travel plan (Scheme DM6) as this will help to ensure a consistent approach across all travel plans.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Development of travel plans for major employers (e.g. Rothamsted Research)	The travel plans will help to manage levels of traffic entering Harpenden in the AM peak. *This option is recommended for further consideration.*	£15,000 to £20,000

Demand Management, Sustainable Transport & Smarter Choices	Scheme ref. DM6
Scheme Name:	Station Travel Plan
Links to UTP key issues	**Links to other schemes**
Ci3; Ci4; Pi1; Pi2; Pi3; Pi4; Pi5	AI1-10, DM5

Location/General Description

A Station Travel Plan would help manage the travel generated by the station, as well as promote rail usage and sustainable access to the station by walking, cycling, bus and car sharing. The travel plan would provide information to residents and users of the station by providing information about train services, station facilities and interchange opportunities, as well as help prioritise which station improvements would have greatest impact in promoting rail usage and sustainable access.

This intervention would build on station survey data collected as part of the Urban Transport Plan Process to better understand current usage, passenger attitudes and behaviour, as well as non-user attitudes and behaviour.

Analysis of survey data would help prioritise interventions at the station and help identify the means by which these improvements should best be promoted through the provision of information at the station and for local residents to market train services and sustainable access to the station.

Best practice shows that promoting improvements as part of the package of measures at the station will maximise the benefits of the improvements for the town more widely, as well as for meeting study objectives and maximising the benefit for the train operating company.

The station travel plan should be implemented at the same time as the improvements to the station access (Schemes AI 1 to 10) and the travel plans for major employers (Scheme DM5). This will ensure that the travel plans all adopt a consistent approach and that the station travel plan takes account of the improvements to station access planned.

Options

Ref.	Potential Interventions	Assessment of suitability	Cost
1	Station Travel Plan	The travel plan will develop options for promoting station usage; promote sustainable access to the station reducing congestion on Station Road, improving safety and reducing carbon emissions; and help prioritise interventions as part of the Station Masterplan. The success of the travel plan will be dependent on the ability of the lead partner to bring together different key stakeholders and secure their buy-in for the delivery of all related interventions. The Train Operating Company (TOC) will be the lead partner in developing the travel plan, with Hertfordshire County Council and St Albans District Council as key stakeholders. *This option is recommended for further consideration.*	£30,000-£45,000 (includes promotion of the station travel plan)

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM7**
Scheme Name:	Increased levels of sustainable transport information provision
Links to UTP key issues	**Links to other schemes**
Yi11; Ci3; Ci4; Pi2; Pi3; Pi4; Pi5	DM8, CN9

Location/General Description

St Albans District Council has already produced a cycle map for the district which is available on their website. This scheme will improve availability of both cycle and walking information both on the web and in paper leaflets and posters. This scheme is aimed at improving information provision amongst local residents and visitors to Harpenden.

The scheme could include:

1) Publication of a walking map similar to the TravelSmart map already produced for some areas of Hertfordshire;
2) Ensuring that copies of the walking and cycling maps are put in prominent positions at the train station and at key destination points in the town centre; and
3) Improved pedestrian signage and wayfinding that indicates times taken to walk to key destinations.

This scheme should be implemented together with Schemes DM8 and CN9 as this will help to ensure an integrated approach to sustainable transport information provision and promotion.

Options

Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Publication and distribution of walking maps in partnership with local groups	This option is most suitable as it is low costs and can be easily delivered. *This option is recommended for further consideration*	£15,000 to £20,000
2	Improved pedestrian signage	The provision of pedestrian signage should be delivered together with the walking map, cycle route map and signage and in coordination with the ROWIP. *This option is recommended for further consideration*	£15,000 to £20,000

Demand Management, Sustainable Transport & Smarter Choices	Scheme ref. DM8
Scheme Name:	Active promotion of sustainable travel modes
Links to UTP key issues	**Links to other schemes**
Ci1, Ci2, Ci5, Ci6	DM7, CN9

Location/General Description

This scheme would involve the promotion of existing travel information including the St Albans District Council cycle map, walking maps and other public transport information. There are several ways in which the existing information could be publicised:

1) Publication on the internet on Hertfordshire County Council website;
2) Promotion of fun family walks and/or cycle rides (this has been costed as part of scheme CN9); and
3) Distribution of existing walk and cycle maps.

This scheme should be implemented together with scheme DM7 and CN9 as this will help to ensure an integrated approach to sustainable transport information provision and promotion.

Options

Ref.	Potential Interventions	Assessment of suitability	Cost
1	Active promotion of sustainable travel information in partnership with local groups	This option is low cost and would provide good value for money as it would help ensure that existing information would reach the target audience. *This option is recommended for further consideration*	£5,000 to £10,000

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM9**
Scheme Name:	Improve access to local hospitals
Links to UTP key issues	**Links to other schemes**
Ai3; Ai4; A18; Ci1; Ci2	DM10, DM11, OTH4

Location/General Description

Improving access to key services is a Hertfordshire County Council policy. Analysis of the current bus routes serving Harpenden suggests that there are no direct routes to local hospitals in Hemel Hempstead, St Albans or Watford; and there is a lack of information about direct and connecting services to hospitals. Within other Urban Transport Plans, improving walking and cycling access to local hospitals will be a priority.

Luton/Dunstable and the QEII hospital in Welwyn Garden City are both served by bus service 366 and 202 from Harpenden. An improved ticketing arrangement between Centrebus and Uno currently enables the inter-availability of tickets for passengers wishing to travel from Harpenden to Hemel Hempstead by bus.

Access to hospitals can best be provided through the expansion of existing community transport services and ensuring that these services are promoted.

Improving access to local hospitals should be implemented in coordination with the provision of real time information (Scheme DM10) and ensuring that bus stops and shelters are DDA compliant (Scheme DM11). This will help to ensure that as well as the bus services being well used, that the scheduled buses are accessible to all users. The increased use of hospital shuttle services (Scheme OTH4) may help to provide transport to hospitals to users who may not be able to access the bus services available.

Options

Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Expansion of existing community transport provision to Stevenage and St Albans hospitals.	The expansion of community transport offers a good opportunity to provide access to hospitals for people who may not be able to travel by car or existing bus services. *This option is recommended for further consideration*	£5,000 to £10,000

Demand Management, Sustainable Transport & Smarter Choices	Scheme ref. DM10
Scheme Name:	Real Time Information Provision
Links to UTP key issues	**Links to other schemes**
Ai11	DM11

Location/General Description

Hertfordshire County Council has already committed to rolling out Real Time Information Provision (RTIP) with part-funding from developer contributions (through Section 106 funding).

Improvements in RTIP can either take the form of bus stop flag indicators that provide information on the next bus to arrive (see Plate 1) or more sophisticated systems that provide information on the next buses to arrive, the routes served and other information including journey planning.

In addition to providing better information to existing passengers, RTIP will help to encourage more people to use bus services as they will be able to see how long they would have to wait for the next bus. RTIP via the internet or text services can also increase the appeal to a broader demographic encouraging use of bus services.

The provision of RTIP should be implemented in coordination with ensuring that bus services and shelters are DDA compliant (Scheme DM11). This will help to encourage more people to use bus services and to ensure that services are accessible to all.

Plate 1 – Example of bus stop flag RTI in Cambridge

Options

Ref.	Potential Interventions	Assessment of suitability	Cost
1	Roll out RTIP across Harpenden, including at the railway station	RTIP will help to encourage more people to use bus services and also provide better information to existing users. *This option is recommended for further consideration.*	Included in Countywide Automatic Vehicle Location RTIP project

Demand Management, Sustainable Transport & Smarter Choices	**Scheme ref. DM11**
Scheme Name:	Ensure DDA compliance
Links to UTP key issues	**Links to other schemes**
None	DM9

Location/General Description

This scheme will ensure that bus vehicles and bus stops are DDA (Disability and Discrimination Act 1995) compliant, with Public Service Vehicles Accessibility Regulations issued in 2000, and updated in 2004.

Bus vehicle compliance with DDA legislation

This legislation requires that all bus vehicles are DDA compliant by 2020. Specific requirements by type of vehicle and compliance dates are set out in Table 1. This process could be accelerated through working with bus operators to ensure that new vehicles purchased meet the relevant DDA standards.

DDA regulations for buses include the provision and size of wheelchair spaces; boarding lifts and ramps; vehicle entrances and exits; floors and gangways; signs and markings; communication devices; lighting; priority seats; steps; handrails and handholds; kneeling systems and route and destination displays. Each vehicle is required to have an accessibility certificate that confirms its compliance with the above regulations.

Table 1 – Deadlines for DDA compliance by vehicle type

Type of vehicle	**DDA compliance date**
Single decker (over 7.5T)	January 2016
Single decker (under 7.5T)	January 2015
Double decker	January 2017
Coach	January 2020

Bus stop compliance with DDA legislation

Hertfordshire is already investing in improving accessibility to bus stops through their Quality Bus Stop programme which is partly funded through the Local Transport Plan. Currently only nine bus stops in Harpenden out of a total of 124 have easy access kerbing. The stops which are already DDA compliant through the addition of easy access kerbing are located on the High Street, Milton Road, Aldwickbury Crescent, Grove Avenue, Welbeck Rise and Broadstone Road.

Location/General Description (DM11 continued)
DDA guidance set out in the Department for Transport's 'Inclusive Mobility' (2005) report provides standards for design of footways, other public areas and bus stops. Key guidelines include: 1) no-one should be required to walk more than 400m to a bus stop; 2) timetables and route maps should be displayed at eye-level and should include embossed lettering so that they can be read by blind and visually impaired people; 3) whenever maintenance work is carried out, highway authorities should take the opportunity to lift kerbs and provide a raised bus boarding area; and 4) seating should be provided where possible. Further information can be found at http://www.dft.gov.uk/transportforyou/access/peti/inclusivemobility. Improving the DDA compliance of bus stops and shelters should be implemented in coordination with improving access to local hospitals (Scheme DM9). This will ensure that as well as more people being able to use the bus to access local hospitals, that all users will have access to these improved services.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Work with bus operators to ensure new bus vehicles are DDA compliant.	Ensuring new vehicles are DDA compliant will help to ensure that bus vehicles are accessible to all. *This option is recommended for further consideration.*	N/A
2	Ensure that where maintenance work is carried out, improvements are made to bus stops and shelters in line with DfT guidance.	Ensuring new vehicles are DDA compliant will help to ensure that bus services are accessible to all. Currently nine out of 124 stops used by buses in Harpenden are DDA compliant in relation to provision of easy access kerbing. Obviously not all stop locations are suitable for the provision of DDA compliant kerbing but there are a considerable number of stops and shelters where DDA compliance could be improved. *This option is recommended for further consideration.*	£10,000 to £15,000 per bus stop

8 Tackling Safety Concerns, Speed Compliance and Walking Issues

8.1 The *Tackling Safety Concerns, Speed Compliance and Walking Issues* package of schemes will help to ensure that speed limits on local roads are adhered to. The schemes proposed will help to support Hertfordshire County Council's ongoing programmes of Speed Compliance and Road Safety.

8.2 The proposed re-design of key junctions to improve pedestrian safety will also help to reduce the number of pedestrian / cyclist / vehicle collisions. The proposed safety improvements will help to encourage more people to walk and ensure that those who use pedestrian facilities are protected from vehicle traffic. Better speed management will improve road safety in residential areas.

8.3 *Tackling Safety Concerns, Speed Compliance and Walking Issues* package will help to tackle specific local issues identified through the public consultation. In particular this package should help to contribute towards achieving modal shift to walking in coordination with the smarter choices, traffic management and other sustainable transport proposals.

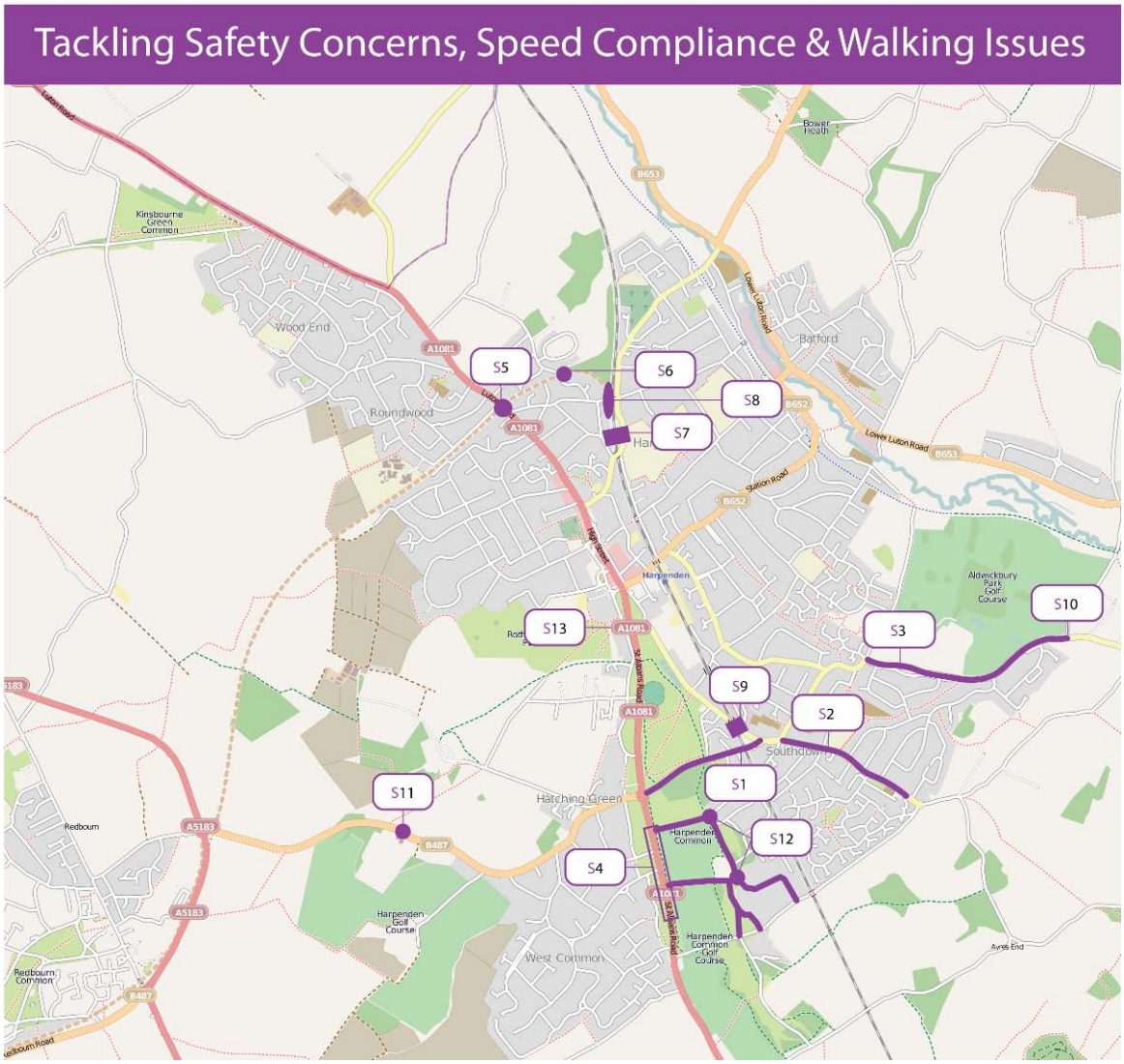
- Table 8.1 provides further details of each scheme and the key issues addressed and Figure 8.1 illustrates the location of each scheme.
- There are some schemes which are not referenced on the map but are included on the map key. These schemes are marked with an asterisk.

TABLE 8.1 TACKLING SAFETY CONCERNS, SPEED COMPLIANCE AND WALKING ISSUES

Scheme number	Description	Key Issues Addressed
S1	Speed Limit Compliance - Walkers Road. Additional signage and road markings together with relocation of the 30mph speed limit closer to the built up area (possibly by Queens Road) will help to reduce vehicle speeds.	Spi2
S2	Speed Limit Compliance - Grove Road between Cross lane & Coleswood Road. The installation of traffic signs and road markings to raise driver awareness of key hazards will help to reduce vehicle speeds and improve safety.	Spi3
S3	Speed Limit Compliance - Wheathampstead Road from Long Butlers to Piggottshill Lane. The preferred option of doing nothing and monitoring the situation and speeds is recommended.	Spi5
S4	Improve existing pedestrian crossings across A1081 from West Common to Harpenden Common. Widening of the existing island will help to improve pedestrian safety and provide a more attractive waiting area.	Wi1, Si1
S5	Improve pedestrian environment on narrow pavement under Nickey Line bridge on A1081. Installing signs and road markings and reallocation of roadspace will help to raise driver awareness of the presence of vulnerable road users on narrow footways.	Wi4
S6	Improve pedestrian environment on narrow pavement - Ambrose Lane on bridge over Nickey Line. Installing signs and road markings will help to raise driver awareness and reallocation of roadspace will help to provide other road users with more space.	Wi5
S7	Improve pedestrian environment on Sun Lane over railway line. Installing signs and road markings and reallocation of roadspace will help to raise driver awareness of the presence of vulnerable road users on narrow footways. Installation of shuttle working traffic signals will allow the footway to be widened.	Wi6
S8	Improve pedestrian environment on narrow pavement - Ox Lane passing over the Upper Lea Valley Greenway near Coldharbour Lane. Improving signage and reallocation of roadspace will help to raise driver awareness of pedestrians and help improve safety.	Wi7

Scheme number	Description	Key Issues Addressed
S9	Improve pedestrian environment on narrow pavement - Southdown Road passing under railway line. Installing signs and road markings and reallocation of roadspace will help to raise driver awareness of the presence of vulnerable road users on narrow footways. Installation of shuttle working traffic signals will allow the footway to be widened.	Wi8
S10	Improved pedestrian access to Wheathampstead	Wi11, Wi13
S11	Improved pedestrian route from Harpenden to Harpenden Rugby Club along Redbourn Lane	Wi10
S12	Improved pedestrian facilities from Harpenden Common to the existing pedestrian network	Wi12, Wi14
S13	Improved pedestrian facilities at Bull Road roundabout	Wi15

FIGURE 8.1 LOCATION OF TACKLING SAFETY CONCERNS, SPEED COMPLIANCE AND WALKING ISSUES MEASURES



Key	
S1	Speed Limit Compliance: Walkers Road
S2	Speed Limit Compliance: Grove Road
S3	Speed Limit Compliance: Wheathampstead Road
S4	Improve existing pedestrian crossings across A1081 from West Common to Harpenden Common
S5	Improve pedestrian environment on narrow pavement under Nickey Line bridge on A1081
S6	Improve pedestrian environment on narrow pavement on Ambrose Lane on bridge over Nickey Line
S7	Improve pedestrian environment on Sun Lane over railway line
S8	Improve pedestrian environment on narrow pavement on Ox Lane
S9	Improve pedestrian environment on narrow pavement on Southdown Road passing under railway line
S10	Improved pedestrian access to Wheathampstead
S11	Improved pedestrian route from Harpenden to Harpenden Rugby Club along Redbourn Lane
S12	Improved pedestrian facilities from Harpenden Common to the existing pedestrian network
S13	Improved pedestrian facilities at Bull Road roundabout

Speed Limit Compliance	**Scheme Ref: S1**
Scheme Name:	Walkers Road
Links with UTP key issues	**Links to other schemes**
Spi2	S2, S3, S12

Location / General Description

Walkers Road is a C - class local distributor road with a speed limit of 30mph. It is also a high frequency bus route. Speed and volume surveys undertaken in June 2006 on the Section between Queens Road and St John's Road, showed traffic volumes in the region of 10,000 vehicles per day, and 85th percentile speeds of approximately 38mph.

The 30mph section of Walkers Road under investigation is highlighted in red on Plate 1, and is approx 360m long and clearly made up of two sections.

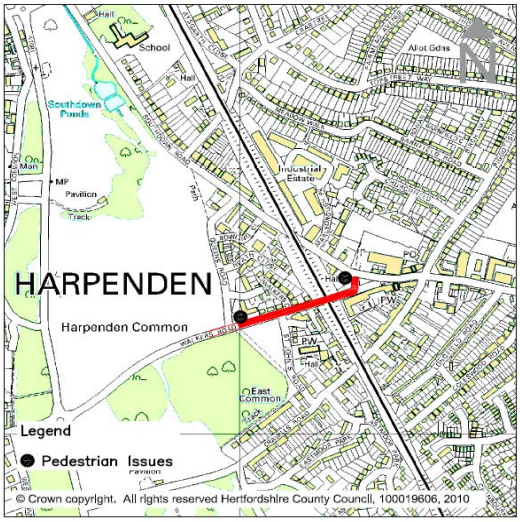


Plate 1 – Site Location

Section 1 – 30mph Limit to Railway Bridge

This Section is typically 6.3m wide (Plate 2) narrowing to 5.4m under the bridge (Plate 3). There is a reasonable footway on the southern side of the road, but no footway on the northern side to the west of Walkers Close as shown in Plate 2.

Section 2 – Railway Bridge to Southdown Road

This Section starts at 5.4m wide under the bridge and widens around the bend as it approaches the mini roundabout junction with Southdown Road. There is a reasonable width of footway on the southern side of the road that narrows to 1.4m wide through the bridge (Plate 5), but no footway on the northern side.

It should be noted that the crossing facilities in Walkers Road at the mini roundabout junction with Southdown Road are not satisfactory with poor visibility and ponding on the northern side, and no pedestrian refuge.

Location / General Description (S1 continued)

The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents in Section 1, and one slight injury accident in Section 2. Improvements to speed compliance will help to reduce the risk of collisions.

Plate 2 – Looking westbound past St Johns Road

Plate 3 – Looking eastbound towards Railway Bridge

When Section 1 is assessed against the Speed Limit Framework in the Hertfordshire County Council Speed Management Strategy it is debatable whether the whole length of Section meets the environment criteria for a 30mph speed limit. As can be seen in Plates 2 and 3 above there is no on-street parking to slow traffic, partly due to parking restrictions, but predominately because of the lack of residential properties in this Section. More specifically the Section west of St Johns Road only has frontages on the northern side, and these are set back from the carriageway and screened behind hedges, walls and fences. Unfortunately this setting is not naturally conducive to reducing vehicle speeds due to drivers' perception of the environment.

Location / General Description (S1 continued)

The location of the current 30mph speed limit terminal point, approx 100m west of Queens Road is in a Section of carriageway with open space on either side (Plate 4). This Section does not accord with the Speed Limit Framework in the Hertfordshire County Council Speed Management Strategy.

		
Plate 4 – Looking westbound towards Queens Road with the speed limit terminal point in the distance		*Plate 5 – Looking eastbound (Section 1)*

As can be seen in Plate 5 above Section 2 is more appropriate for a 30mph speed limit, and although no specific data is available, the environment with its narrow road width and sweeping left hand bend on the approach to the roundabout, should restrain speeds to acceptable levels.

The improvements outlined for Walkers Road will be supported by the proposed improvements to speed limit compliance on other roads in Harpenden including Grove Road (Scheme S2) and Wheathampstead Road (Scheme S3). These improvements to speed compliance will help to create a safer environment for pedestrians and cyclists and help to reduce the causes of collisions. This scheme will also compliment the provision of pedestrian crossings from Harpenden Common across Walkers Road and Cravells Road (Scheme S12).

Options

Ref	Potential Interventions	Assessment of suitability	Cost
1	SIGNAGE, ROAD MARKINGS AND DRIVER EDUCATION Install Traffic Signs and Road Markings to raise driver awareness of key hazards, and subsequently reduce speeds. Consider ways to target and educate drivers.	Provide Gateway feature at 30mph speed limit location to emphasis the change in speed limit. Road Markings could be renewed, and consideration given to the use of edge lines to visually narrow the carriageway, along with more prominent centre lines at junctions and "SLOW" markings at key hazards. *This option is recommended for further consideration*	£10,000 to £15,000

Speed Limit Compliance	Scheme Ref: S2
Scheme Name:	Grove Road from junction with Cross Lane to junction with Coleswood Road
Links to UTP key issues	**Links to other schemes**
Spi3	S1, S3

Location / General Description

Due to poor east/west routes across the county, local journeys between Wheathampstead and Redbourn may utilise Wheathampstead Road, Piggottshill Lane and Walkers Road to reach the B487 Redbourn Lane and vice versa.

Grove Road is located in the south eastern part of Harpenden and provides an alternative corridor via Pipers Lane, avoiding recently installed traffic calming measures on Piggottshill Lane

It is an unclassified Local Distributor road with a speed limit of 30mph. It is also a high frequency bus route. Speed and volume surveys undertaken in May 2006 on the Section just east of Sibley Avenue, showed traffic volumes in the region of 3,500 vehicles per day, and 85th percentile speeds of just over 35mph.

Plate 1 – Site Location

The Section of Grove Road under investigation is highlighted in red on Plate 1 to the left, and is approx 600m long and clearly made up of two Sections.

Section 1 - Coleswood Road to Broadstone Road

This Section is typically 6.3m in the Section outside the Grove Infant and Junior schools (Plates 2 and 3), widening to 6.8m as it approaches Broadstone Road, although it narrows locally to 6.1m at the zebra crossing shown in Plate 4. There are reasonable footways on both sides of the road, some of which are separated from the carriageway by a narrow verge.

Section 2 – Broadstone Road to Wellbeck Rise/ Cross Lane Roundabout

The Section is typically 6.8m wide for most of its length. There is a reasonable footway on the northern side, but no footway on the southern side as shown in Plates 6 & 7.

Location / General Description (S2 continued)

Plate 2 – Looking eastbound from Dark Lane

Plate 3 – Looking westbound past Dark Lane

As can be seen in Plates 2 and 3 above there is no on-street parking to slow traffic due to single yellow line daytime parking restrictions and the School Keep Clear Markings.

On the day of the site visit no on-street parking was observed in Section 2, which is predominantly due to the fact that properties have adequate off street parking provision (see Plates 5, 6 and 7 below). As in Section 1 this lack of parking does not help to restrict traffic speeds.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there has been one slight injury accident by Grove Avenue in Section 1, and one slight injury accident by Oakley Road in Section 2. Improvements to speed limit compliance will help to reduce the risk of collisions.

Plate 4 – Looking westbound from Broadstone Road (Inset - zebra crossing)

Plate 5 – Looking eastbound past Broadstone Road

Location / General Description (S2 continued)

As can be seen in Plate 7 below, the pedestrian crossing facilities from the Oakley Road junction on the southern side are poor, with the footway stopping short of Grove Road

When Section 2 is assessed against the Speed Limit Framework in the Hertfordshire County Council Speed Management Strategy it is debatable whether this Section fully meets the environment criteria for a 30mph speed limit. This is due to the fact that there are no residential properties on the southern side of the road, and the frontages on the northern side are set back from the carriageway (Plate 6). Unfortunately this setting is not naturally conducive to reducing vehicle speeds due to driver's perception of the environment.

The improvements outlined for Grove Road will be supported by the proposed improvements to speed limit compliance on other roads in Harpenden including Wheathampstead Road (Scheme S3) and Walkers Road (Scheme S1). These improvements to speed compliance will help to create a safer environment for pedestrians and cyclists and help to reduce the causes of collisions.

Plate 6 – Looking westbound from Oakley Road

Plate 7 – Looking eastbound from Oakley Road to Cross Lane

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	SIGNAGE, ROAD MARKINGS AND DRIVER EDUCATION Install Traffic Signs and Road Markings to raise driver awareness of key hazards, and subsequently reduce speeds. Consider ways to target and educate drivers	Although some of the features (e.g the zebra crossing) have warning signage, this could benefit from being refreshed. Road Markings could be renewed, and consideration given to the use of edge lines to visually narrow the carriageway, along with more prominent centre lines at junctions and "SLOW" markings at key hazards. *This option is recommended for further consideration*	£5,000 to £10,000
3	TRAFFIC CALMING WITH VERTICAL FEATURES Installation of Speed Cushions	It would be feasible to consider the installation of pairs of speed cushions at 75 – 100m spacing to achieve a speed reduction to approx 30mph. As the road is on a High Frequency Bus Route, cushion widths of 1.6m are recommended to minimise passenger discomfort. In Section 1 with a typical road width of 6.2m, the typical cross Section should leave 1m gaps between the kerbs and cushion to accommodate cyclists and a 1m gap in the centre of the road. In Section 2 where the road is 0.6m wider at 6.8m, these gaps could be increased to 1.2m. Care will need to be taken to locate the speed cushions away from private driveways. Consideration should be given to installing a flat topped road hump at the existing zebra crossing between Field Close and Piper Close. Equally the existing zebra crossing just to the west of Coleswood Road could be raised onto a flat topped hump, and this could serve as the starting feature in the system of road humps. The street lighting along the whole length of the route is likely to need upgrading to current standards and this has been allowed for in the estimate. *This option is recommended for further consideration*	£200,000 to £275,000
2	TRAFFIC CALMING WITH HORIZONTAL FEATURES Installation of Priority Working Chicanes	A considerable length of clear space is required to successfully install a set of chicanes. Given the number of private driveways and side roads along this Section of Grove Road, and the meandering alignment of the road, it may be difficult to find suitable locations for this type of feature. *Based on the above this option is not recommended*	N/A

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
4	TRAFFIC CALMING FLAT TOPPED ROAD HUMPS	Due to the length of the Section under consideration and the fact that the road is on a High Frequency Bus Route this option is not recommended.	N/A

Additional observations (not specifically related to Speed Limit Compliance)
Consideration should be given to improving the pedestrian crossing facilities at the junction of Oakley Road with Grove Road.

Speed Limit Compliance		**Scheme Ref: S3**
Scheme Name:	Wheathampstead Road from eastern junction with Long Buftlers to junction with Piggottshill Lane	
Links to UTP Key Issues		**Links to other schemes**
Spi5		S1, S2

Location / General Description

Wheathampstead Road is a 'C' class local access road with a speed limit of 30mph. It is also a low frequency bus route for part of its length. Speed and volumes surveys undertaken in December 2006 on the Section to the west of Aldwick Road, showed traffic volume in the region of 10,400 vehicles per day, and 85th percentile speeds of approx 36mph.

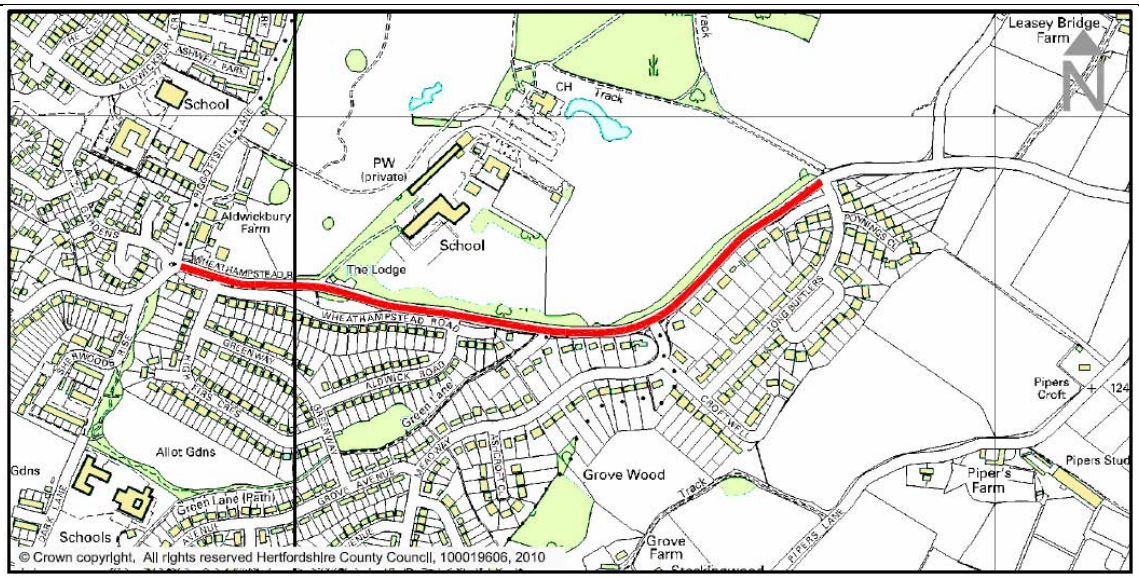


Plate 1 – Site Location

The section of Wheathampstead Road under consideration is highlighted in red on Plate 1 above and is approx 1km long. The actual 30mph speed limit terminal point is located approx 200m to the east of this Section by the junction with Leasey Bridge Lane. The road is of varying width along this Section but typically around 5.5m to 6.0m wide, and can be clearly split into two Sections.

Section 1 – Piggottshill Lane Roundabout to just east of Aldwick Road

This Section has no direct frontages other than the entrance to Alwickbury School and a couple of driveways by the roundabout. Properties on the southern side of the road are located on a parallel service road that is separated from the main carriageway by a very wide grass verge (typically greater than 8m wide), and as a result there are no footways on either side of the road.

Section 2 –East of Aldwick Road to Long Buftlers

This Section has frontages on the southern side of the road that are well set back from the road. There is a reasonable footway on this side that is separated from the road by a verge.

Location / General Description (S3 continued)

When Wheathampstead Road is assessed against the Speed Limit Framework in the Hertfordshire County Council Speed Management Strategy it is clear that the whole length does not meet the environment criteria for a 30mph speed limit. As discussed above the lack of frontages (Plates 2 and 3) and the fact that those present are set back from the carriageway and generally screened behind hedges, is not naturally conducive to reducing vehicle speeds due to drivers perception of the environment.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents in Sections 1 or 2. Improvements to Wheathampstead Road will help to ensure that vehicle speeds are reduced and consequently the risk of collisions is managed.

Plate 2 – Looking westbound from the junction of Aldwick Road

Plate 3 – Looking eastbound from the junction of Aldwick Road

There are however a few conflict points that need to be considered:

Point 1 - The entrance to Aldwickbury School as shown in Plates 4,5,6 and 7 below

Plate 4 – Looking westbound along Wheathampstead Road from the pedestrian crossing point opposite Aldwickbury School

Plate 5 – Looking eastbound along Wheathampstead Road from the pedestrian crossing point opposite Aldwickbury School

Location / General Description (S3 continued)

As can be seen in Plates 4 and 5 above there is good visibility from the crossing point on the southern side.

Plate 6 – Looking towards the entrance to Aldwickbury School

Plate 7 – Looking out of the entrance to Aldwickbury School at pedestrian footway links

Point 2 – The junction with Long Buftlers

Plate 8 – Looking westbound from the junction of Long Buftlers

Plate 9 – Looking eastbound from the junction of Long Buftlers

As can be seen in Plates 8 and 9 above there is limited visibility from vehicles exiting the junction.

The improvements outlined for Wheathampstead Road will be supported by the proposed improvements to speed limit compliance on other roads in Harpenden including Grove Road (Scheme S2) and Walkers Road (Scheme S1). These improvements to speed compliance will help to create a safer environment for pedestrians and cyclists and help to reduce the causes of collisions.

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	NEW FOOTWAY LINK Install new footway from Piggotshill Lane to Aldwickbury School Entrance	A new section of footway approx 200m long could be provided along the northern side of Wheathampstead Road using the existing verge. To enable this to be installed the existing foliage would need to be cleared and lamp columns relocated to the back of the highway boundary. The various sections of fence line along this section would also require straightening and this would require consultation with landowners to agree any necessary boundary changes. Whilst in the area the opportunity should also be taken to improve the bell mouth opposite leading to High Firs Crescent to improve safety.	£80,000 £90,000
2	DO NOTHING & MONITOR	Taking into account all of the points raised above, no interventions are recommended for this site. Given the assessment against the Speed Limit Framework in the Hertfordshire County Council Speed Management Strategy, it could be considered appropriate to increase the speed limit to 40mph. However the lack of visibility at the junction with Long Buftlers is difficult to rectify due to its location on the inside of the bend and the fact that private land would probably be required to improve the visibility splays. As the speeds are barely over the 35mph threshold for Speed Compliance, the most appropriate solution for this site would be to retain the 30mph speed limit and monitor.	£1,500

Rights of Way and Quality of Life (including Walking)	**Scheme Ref: S4**
Scheme Name:	Improve existing pedestrian crossings across A1081 from West Common to Harpenden Common
Links to UTP Key Issues	**Links to other schemes**
Wi1; Si1	CN6

Location / General Description

West Common is located in the area to the west of the A1081 St Albans Road and to the south of the B487 Redbourn Lane. The issue under consideration is the lack of pedestrian facilities from this area across the A1081 to Harpenden Common.

The existing footway along the A1081 from St Albans runs along the western side of the road until Cross Lane, where it transfers to the eastern side until Bull Road from which it continues on both sides into the town centre. Taking into account the "common land" status of this area, the most feasible way to address this issue would be to provide a crossing point where there is already a footway provision on both sides of the road.

There are currently only two locations where there is a footway on the western side of the A1081 to compliment the continuous section of footway on the eastern side (highlighted on Plate 1 below).

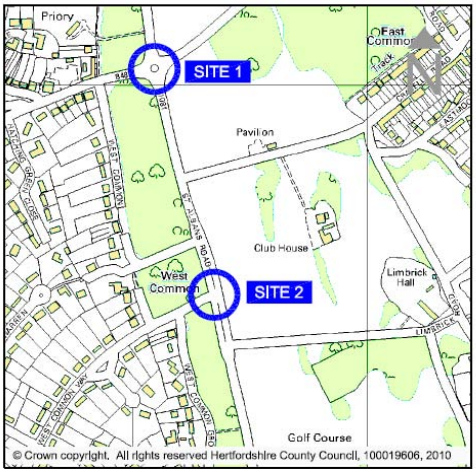


Plate 1 – Site Location

Site 1 - A1081 St Albans Road roundabout junction with the B487 Redbourn Lane and Walkers Road

There is a footway on the northern side of the Redbourn Lane that continues for a short distance on the western side of the A1081 to the north of the roundabout. As shown in Plate 2 below this currently has an uncontrolled crossing that utilises the narrow splitter island on the southbound approach to the roundabout.

Site 2 - A1081 St Albans Road junction with West Common Way

There is a footway on the western side of the A1081 for a short distance to the north and south of the junction of West Common Way, along with an uncontrolled crossing point that utilises the narrow central island (Plates 3 and 4 below). This footway network is currently used to access the bus stops on both sides of the carriageway at this location.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been two slight injury accidents at Site 1, and two slight injury accidents at Site 2.

Plate 2 – Aerial Photograph of existing pedestrian crossing to the north of A1081/B487 roundabout. (Island highlighted in red)

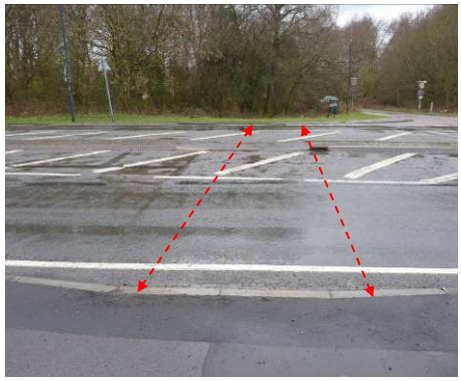


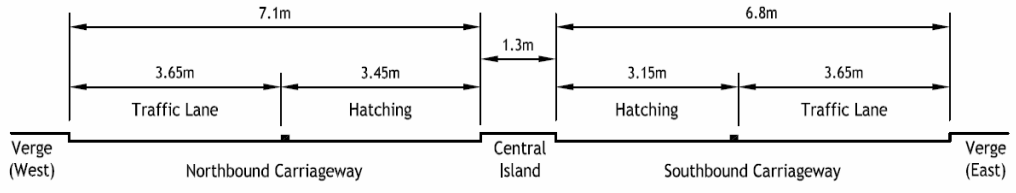
Plate 3 – View of narrow central island looking north towards existing crossing point.

The A1081 St Albans Road is an A class main distributor road with a speed limit of 40mph. It is also a high frequency bus route. Speed and volume surveys undertaken on the A1081 in October 2008 on the section just north of West Common Way, showed traffic volumes in the region of 20,000 vehicles per day, and 85th percentile speeds of approx 45mph.

Plate 4 – View of narrow central island looking north towards existing crossing point.

Plate 5 – Aerial Photograph of West Common Way junction with A1081 St Albans Road.

A typical cross section of the road widths by the existing crossing point can be seen below.



As illustrated above there is plenty of space within the hatched areas to widen the existing central island, making it more attractive to pedestrians and reducing the distance they need to cross. Indicative kerb lines have been highlighted in green on Plates 4 and 5 above. This widening has been biased to the western side of the road due to the southbound bus stop on the eastern side. Adequate lane width will need to be maintained to allow vehicles to safely pass a stationary bus.

This scheme is supported by improved pedestrian and cycle crossing facilities from West Common to Harpenden Common (Scheme CN6). This coordinated approach to improving pedestrian provision will help to encourage more people to walk and cycle short distances, especially to access the nearby leisure facilities.

Options for Site 1			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	IMPROVE EXISTING CROSSING Widen the central island and provide tactile paving	It should be feasible to widen the existing splitter island to the east within the existing central hatching. This would provide a more attractive waiting area in the centre of the road, giving pedestrians greater confidence to cross the road in two halves. Estimated costs do not allow for any upgrading of street lighting. Whilst this crossing location is being reviewed the opportunity should also be taken to ensure that other crossing facilities in the immediate vicinity are also considered to complete the surrounding pedestrian network. *This option is recommended for further consideration*	£30,000 to £50,000
2	CONTROLLED CROSSING – ZEBRA OR PUFFIN Installation of a Zebra or Puffin Crossing.	Zebra Crossings are only recommended in 30mph limits where approach speeds are less than 35mph. Puffin Crossings on speed limits above 35mph require speed discrimination, which would ideally require the crossing to be set back approx 40m from the roundabout. However this crossing would need to be located in very close proximity to the roundabout due to the extents of the available footway. Observed pedestrian flows in this area are very low and would not justify a formal controlled crossing facility. *Based on the above these options are not recommended*	N/A

Options for Site 2			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	IMPROVE EXISTING CROSSING Widen the central island and provide tactile paving	It should be feasible to widen the existing splitter island to the east within the existing central hatching. This would provide a more attractive waiting area in the centre of the road, giving pedestrians greater confidence to cross the road in two halves. For the purposes of the estimate an allowance of £15,000 has been included for any potential lighting upgrades that may be required. *This option is recommended for further consideration*	£30,000 to £50,000
2	CONTROLLED CROSSING – ZEBRA Installation of a Zebra Crossing.	Zebra Crossings are only recommended in 30mph limits where approach speeds are less than 35mph. Also observed pedestrian flows in this area are very low and would not justify a formal controlled crossing facility. *Based on the above this option is not recommended.*	N/A
3	CONTROLLED CROSSING – TOUCAN Installation of a Toucan Crossing.	Observed pedestrian flows in this area are very low and would not normally justify a formal controlled crossing facility. Detailed pedestrian/cyclist counts should be taken to establish whether a controlled crossing is justified. Depending upon the results of the surveys, the controlled crossing should take the form of a Toucan to provide cyclists access to the shared facility on the eastern side of the A1081. *This option is recommended for further consideration*	£120,000 to £150,000

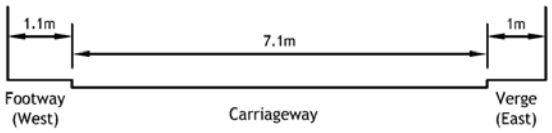
Rights of Way and Quality of Life (including Walking)		Scheme Ref: S5
Scheme Name:	Improve pedestrian safety on narrow pavement under Nickey Line bridge on A1081	
Links to UTP Key Issues		**Links to other schemes**
Wi4		S7, S8, S9

Location / General Description

Plate 1 – Site Location

The site is located on an 'A' class main distributor road with a speed limit of 30mph. It is also a high frequency bus route. Speed and volume surveys undertaken in March 2010 on the Section just east of Bloomfield Road, showed traffic volumes in the region of 18,600 vehicles per day, and 85th percentile speeds of just over 21mph.

A typical cross section of the road under the bridge can be seen below.



The accident data for the three year period from February 2007 up to and including January 2010 shows that there has been one slight injury accident to the north of the bridge, and two slight injury accidents to the south. Improvements to the pavement under the Nickey line bridge will help to reduce the risk of collisions involving pedestrians.

As illustrated above the existing carriageway width at 7.1m wide, is the correct width for a main distributor road. The footway on the western side is below the absolute minimum recommended footway width of 1.25m at its narrowest point, making the environment intimidating for vulnerable users. This situation is compounded by the enclosed environment, with high traffic volumes travelling in close proximity to pedestrians, and the associated traffic noise. This scheme is supported by improvements to pedestrian provision on the bridges on Ox Lane (Scheme S8), Southdown Road (Scheme S9) and Sun Lane (Scheme S7). This coordinated approach to improving pedestrian provision will help to encourage more people to walk short distances, especially to access the town centre and local schools.

Location / General Description		
		
Plate 2 – A1081 Luton Road looking north under the Nickey Line Bridge		*Plate 3 – View of narrow footway on western side*

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	RAISE DRIVER AWARENESS Install signs and road markings to raise driver awareness of the presence of vulnerable users on narrow footways.	This option is feasible on the northbound approach. The most suitable sign is "Pedestrians in road ahead". Although this should really be used where there is no footway, one could argue that as the footway is of sub standard width, pedestrian may stray into the road to pass each other. *This option is recommended for further consideration*	£5,000 to £10,000
3a	REALLOCATION OF ROADSPACE Locally narrow the road under the bridge to 6.5m, allowing the footway to be widen to approx 1.7m	This option could be feasible, however the height of the bridge will need to be checked in detail to ensure that there is no increased risk of bridge strikes. (At present there are no height restriction signs on the bridge) *This option should be investigated in more detail and is recommended for further consideration*	£25,000 to £35,000

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
5	NEW CONTROLLED CROSSING Install new Puffin Crossing, immediately south of junction with Hollybush Lane.	On-site observations in the vicinity of the issue raised, highlighted the lack of provision for pedestrians travelling between Park Hill and Hollybush Lane. This issue is due to the lack of footway on the eastern side of the A1081 under the bridge and the poor visibility looking northbound out of Hollybush Lane. It is recommended that pedestrian flows are taken at this location to confirm the level of facility that may be required. Depending upon the results of these surveys, it should be feasible to install a controlled crossing to the south of Hollybush Lane to address this issue. This crossing should be linked to the existing traffic signals at the junction with Park Hill. *This option should be investigated in more detail and is recommended for further consideration*	£145,000 to £155,000
2	SPEED REDUCTION Introduce speed management measures on approach to bridge.	As outlined above, traffic speeds in the vicinity of the bridge are already at a low level and therefore additional intervention is required It should also be noted that vertical traffic calming features are not appropriate within 25m of a structure. *Based on the above this option is not recommended*	N/A
3b	REALLOCATION OF ROADSPACE Introduce Priority "Give & Take" system to allow footway to be widened.	Priority working is not recommended for traffic volumes over 4000 vehicle per day *Based on the above this option is not recommended*	N/A
3c	REALLOCATION OF ROADSPACE Introduce One-Way Traffic System to allow footway to be widened.	This option is not feasible on an 'A' class main distributor road. *Based on the above this option is not recommended*	N/A

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
3d	REALLOCATION OF ROADSPACE Alter the phasing of the lights so that traffic only flows under the bridge in one direction at a time (similar to shuttle working), thereby allowing the carriageway to be locally narrowed	This option is not feasible on an 'A' class main distributor road, as it is likely that the junction would be over capacity in this configuration, resulting in additional traffic queues. *Based on the above this option is not recommended*	N/A
4	MODIFY STRUCTURE Widen existing structure to accommodate wider footways	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended, however if the structure is renewed in the future, the opportunity to provide wider footways should be considered.*	N/A

Rights of Way and Quality of Life (including Walking)	Scheme Ref: S6
Scheme Name:	Improve pedestrian safety on narrow pavement (Ambrose Lane on bridge over Nickey Line)

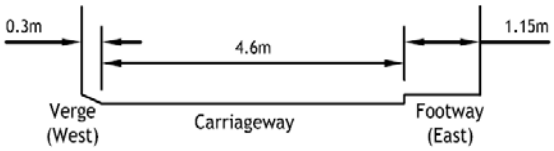
Links to UTP Key Issues	Links to other schemes
Wi6	S7, S8, S9

Location / General Description

Plate 1 – Site Location

The Site is located on an unclassified local access road with a speed limit of 30mph. Speed and volume surveys undertaken in June 2008 on the section immediately north of the bridge showed traffic volumes in the region of 3,000 vehicles per day, and 85th percentile speeds of approx 25mph.

A typical cross section of the road under the bridge can be seen below.



The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents. Improvements to the pedestrian facilities on the bridge will help to reduce the risk of collisions

As illustrated above the existing carriageway width at 4.6m wide, is substandard for two way traffic. The footway on the eastern side is below the absolute minimum recommended footway width of 1.25m, making the environment intimidating for vulnerable users. This scheme is supported by improvements to pedestrian provision on the bridges on Ox Lane (Scheme S8), Southdown Road (Scheme S9) and Sun Lane (Scheme S7). This coordinated approach to improving pedestrian provision will help to encourage more people to walk short distances, especially to access the town centre and local schools.

		
Plate 2 – Looking north over Nickey Line Bridge		*Plate 3 – Looking south over Nickey Line Bridge*

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	RAISE DRIVER AWARENESS Install signs and road markings to raise driver awareness of the presence of vulnerable users on narrow footways.	This option is feasible on both approaches. The most suitable sign is "Pedestrians in road ahead". Although this should really be used where there is no footway, one could argue that as the footway is of sub standard width, pedestrian may stray into the road to pass each other. *This option is recommended for further consideration*	£5,000 to £10,000
4	MODIFY STRUCTURE Widen existing structure to accommodate wider footway	As shown in Plate 2, the available space within the highway boundary is very limited with a gap of approx 1.5 - 2m between the eastern parapet and the existing fence line of the adjacent property. Therefore the most feasible way to widen the footway would be to remove the existing parapet on the eastern side and attaching a new structure onto the side of the bridge. As the existing parapet would need to be removed this new structure would need to be capable of carrying vehicle loading should a vehicle leave the carriageway. As part of this option, ramps could be provided to provide better access to the Nickey Line (currently via steps). *Although this option will be difficult/expensive to install given the land constraints, it should be investigated in more detail and is recommended for further consideration*	£500,000 to £600,000

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
2	SPEED REDUCTION Introduce speed management measures on approach to bridge.	As outlined above, traffic speeds in the vicinity of the bridge are already at a low level and therefore additional intervention is required It should also be noted that vertical traffic calming features are not appropriate within 25m of a structure. *Based on the above this option is not recommended*	N/A
3a	REALLOCATION OF ROADSPACE Introduce Priority "Give & Take" system to allow footway to be widened.	Due to the horizontal alignment (Plate 2 and 3) of the road there would be insufficient intervisibilty between vehicles approaching the bridge for different directions. *Based on the above this option is not recommended*	N/A
3b	REALLOCATION OF ROADSPACE Introduce One-Way Traffic System (northbound) between Lambourn Gardens and the south side of the bridge to allow footway to be widened.	This option may be feasible; however traffic would probably be displaced onto Hollybush Lane, which may not be acceptable to local residents. Speeds may increase on the one way section; however this should not be an issue as they are currently already very low due to the width and alignment of the road. Therefore **no** allowance has been made for traffic calming within the estimated cost. As the bridge is only 6m between parapets the suggested layout could be a 0.5m wide hard strip on the western side, 3m traffic lane, 2.5m shared cycle/footway on eastern side to allow contra-flow of cyclists. Although a 2.5m wide shared cycle facility may be sub-standard, the flows in this area are likely to be very low. *Following the public and member consultation this option is not recommended*	£50,000 to £60,000
3c	REALLOCATION OF ROADSPACE Install Shuttle Working Traffic Signals to allow footway to be widened.	This option would not be in keeping with the residential environment in which it would be placed. Also, the cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended*	N/A

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
5	PHYSICAL SEGREGATION Construct parallel footbridge on the eastern side of the bridge.	As outlined above the available space within the highway boundary is very limited. Unless land can be acquired, it is highly unlikely that it would be feasible to install a footbridge that would be significantly wider than the existing footway to make this option worthwhile. It terms of cost this option would be broadly comparable to the option of widening the existing structure. *Based on the above this option is not recommended*	N/A

Rights of Way and Quality of Life (including Walking)		**Scheme Ref: S7**
Scheme Name:	Improve pedestrian safety on narrow pavement (Sun Lane over railway line)	
Links to UTP Key Issues		**Links to other schemes**
Wi6		S6, S8, S9

Location / General Description

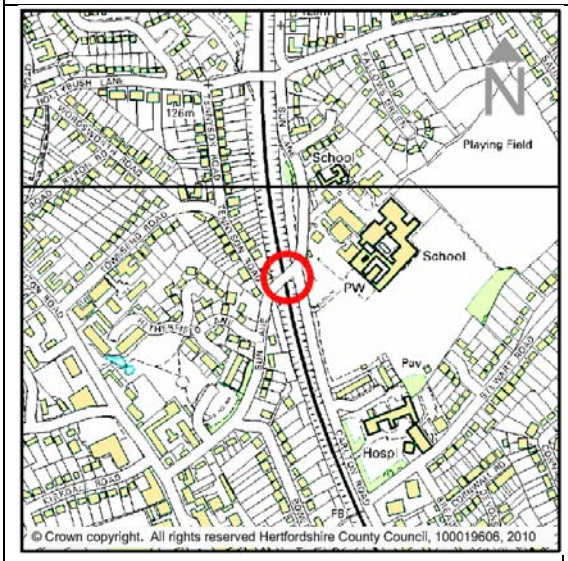
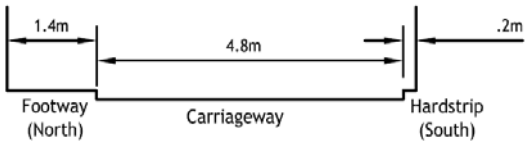


Plate 1 – Site Location

The site is located on an unclassified local distributor road with a speed limit of 30mph. It is also a high frequency bus route.

A typical cross section of the road under the bridge can be seen below.



As illustrated above the existing carriageway width at 4.8m wide, is substandard for a two-way traffic including buses. The footway on the northern side is generally wider than the absolute minimum recommended footway width of 1.25m; however this pinches down to 1.2m on the eastern side, making the environment very intimidating for vulnerable users.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents. Improvements to the pavement width will help to reduce the risk of collisions involving pedestrians.

Radar speed surveys undertaken in April 2010 on the section of Sun Lane outside St George's School, showed 85th percentile speeds of between 26 and 27mph. Although there is no specific traffic volume data available for this Section, based on data available for similar roads in Harpenden of the same classification, it is anticipated that traffic volumes are likely to be in the region of 5,000 to 10,000 vehicles per day.

As can be seen in Plates 2 and 3 below, the current kerb alignments naturally throttle the road at this location, and therefore it is anticipated that existing traffic speeds would be less than 30mph. This scheme is supported by improvements to pedestrian provision on the bridges on Ox Lane (Scheme S8), Southdown Road (Scheme S9) and Ambrose Lane (Scheme S6). This coordinated approach to improving pedestrian provision will help to encourage more people to walk short distances, especially to access the town centre and local schools.

		
Plate 2 – Looking northeast over Railway Bridge		*Plate 3 – Looking southwest over Railway Bridge*

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	RAISE DRIVER AWARENESS Install signs and road markings to raise driver awareness of the presence of vulnerable users on narrow footways.	This option is feasible. The most suitable sign is "Pedestrians in road ahead". Although this should really be used where there is no footway, one could argue that as the footway is of sub standard width, pedestrian may stray into the road to pass each other. *This option is recommended for further consideration*	£5,000 to £10,000
4	MODIFY STRUCTURE Widen existing structure to accommodate wider footways	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended as a short term option, however if the structure is renewed in the future, the opportunity to provide wider footways should be considered.*	£750,000to £1,000,000
2	SPEED REDUCTION Introduce speed management measures on approach to bridge.	As outlined above, traffic speeds in the immediate vicinity of the bridge are at a low level and therefore additional intervention is **not** required It should also be noted that vertical traffic calming features are not appropriate within 25m of a structure. *Based on the above this option is not recommended*	N/A

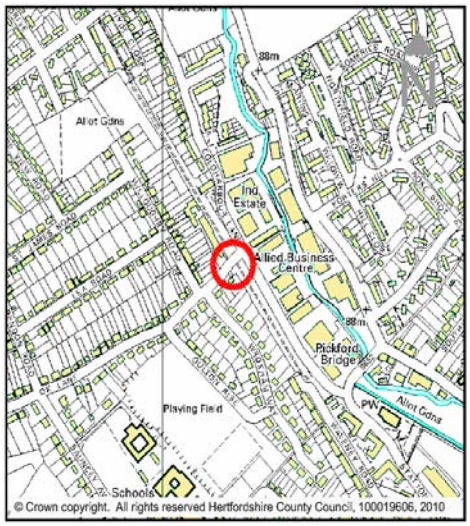
Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
3a	REALLOCATION OF ROADSPACE Introduce Priority "Give & Take" system to allow footway to be widened.	Due to the horizontal & vertical alignment of the road there would be insufficient inter visibility between vehicles approaching the bridge for different directions. *Based on the above this option is not recommended*	N/A
3b	REALLOCATION OF ROADSPACE Introduce One-Way Traffic System to allow footway to be widened.	This would have an adverse affect on the bus service, and is likely to be unpopular with local residents due to the volume of traffic that would be displaced onto alternative routes. *Based on the above this option is not recommended*	N/A
3c	REALLOCATION OF ROADSPACE Install Shuttle Working Traffic Signals to allow footway to be widened	Due to the close proximity of Tennyson Road and Carlton Road these will need to be included within the traffic signals. Therefore to assess whether this option is feasible the junction will need to be modelled to check that it will have sufficient capacity to accommodate a four phase signal junction. If capacity allows, the existing zebra crossing to the north of the bridge could be removed and substituted with either a pedestrian phase in the new signals or an uncontrolled crossing that could be used during the all red phase of the lights. Additional benefits of this type of installation, include potential reductions in traffic speeds as the signals would "rest on red" when there is no traffic demand. It would also overcome the issue of the substandard carriageway width. One down side of this option is that unfortunately due to the width of the existing structure and the footway network leading up to the bridge it would be difficult to provide a facility either on carriageway or footway to allow cyclists to contra-flow the traffic signals. No allowance has been made for resurfacing the junction within the estimate. *Following the public and member consultation this option is not recommended*	£175,000 to £275,000
5	PHYSICAL SEGREGATION Construct parallel footbridge	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended*	N/A

Rights of Way and Quality of Life (including Walking)	**Scheme Ref: S8**
Scheme Name:	Improve pedestrian safety on narrow pavement (Ox Lane passing under the Upper Lea Valley Greenway near Coldharbour Lane)

Links to UTP Key Issues	**Links to other schemes**
Wi7	CN3

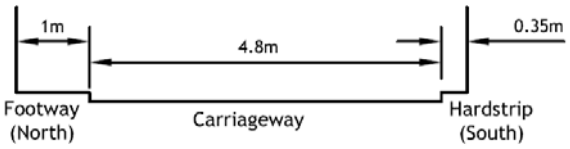
Location / General Description

Plate 1 – Site Location



The site is located on an unclassified local distributor road with a speed limit of 30mph. Speed and volume surveys undertaken in May 2006 on the section immediately southwest of the bridge showed traffic volumes in the region of 3,500 vehicles per day, and 85th percentile speeds of approx 23mph.

A typical cross section of the road under the bridge can be seen below.



The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents. Improvements to the pedestrian facilities will help to reduce the risk of collisions.

As illustrated above the existing carriageway width at 4.8m wide, is substandard for two way traffic. The footway on the northern side is below the absolute minimum recommended footway width of 1.25m making the environment intimidating for vulnerable users. This situation is compounded by the enclosed environment, with traffic travelling in close proximity to pedestrians, and the associated traffic noise. Associated cycle improvements are also proposed for Ox Lane. Details are provided in scheme CN3.

Plate 2 – Looking northeast under bridge

Plate 3 – Looking southwest under bridge

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	RAISE DRIVER AWARENESS Install signs and road markings to raise driver awareness of the presence of vulnerable users on narrow footways.	This option is feasible on both approaches. The most suitable sign is "Pedestrians in road ahead". Although this should really be used where there is no footway, one could argue that as the footway is of sub standard width, pedestrian may stray into the road to pass each other. *This option is recommended for further consideration*	£5,000 to £10,000
2	SPEED REDUCTION Introduce speed management measures on approach to bridge.	As outlined above, traffic speeds in the vicinity of the bridge are already at a low level and therefore additional intervention is required It should also be noted that vertical traffic calming features are not appropriate within 25m of a structure. *Based on the above this option is not recommended*	N/A
3a	REALLOCATION OF ROADSPACE Introduce Priority "Give & Take" system to allow footway to be widened.	Due to the close proximity to Coldharbour Lane there would be insufficient visibility between vehicles approaching the bridge for different directions. *Based on the above this option is not recommended*	N/A
3b	REALLOCATION OF ROADSPACE Introduce One-Way Plug approx 30m long in the section through the bridge to allow the footway to be widened. The one way plug would retain northbound traffic flow, and No Entry signs would be installed to face traffic on Coldharbour Lane	This option may be feasible, however traffic would probably be displaced onto Westfield Road, which may not be acceptable to local residents. As the majority of Ox Lane will remain two way, the potential issue of speeds increasing in One Way Systems should not be an issue. Therefore **no** allowance has been made for traffic calming within the estimated cost. The bridge is only approx 6.2m between its walls and as the highest part of the bridge is in the centre, a 3m wide traffic lane would leave 1.6m on either side. This would allow the footway to be widened by 0.6m on the northern side. On the southern side the existing kerb line could be retained leaving a 1.25m wide Contra-flow lane/bypass strip for cyclists. Contra-flow lanes should normally be 1.5m wide so special authorisation may be required from DfT in this instance. *Following the public and member consultation this option is not recommended*	£50,000 to £60,000

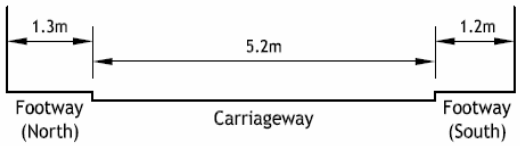
Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
3c	REALLOCATION OF ROADSPACE Install Shuttle Working Traffic Signals to allow footway to be widened.	Due to the close proximity to Coldharbour Lane it would not be practical to install this type of configuration. *Based on the above this option is not recommended*	N/A
4	MODIFY STRUCTURE Widen existing structure to accommodate wider footways	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended, however if the structure is renewed in the future, the opportunity to provide wider footways should be considered.*	N/A
5	PHYSICAL SEGREGATION Construct parallel footbridge	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended*	N/A

Rights of Way and Quality of Life (including Walking)	Scheme Ref: S9
Scheme Name:	Improve pedestrian safety on narrow pavement (Southdown Road passing under railway line)
Links to UTP Key Issues	**Links to other schemes**
Wi8	S5, S6, S8

Location / General Description

Plate 1 – Site Location

The site is located on a 'C' class local distributor road with a speed limit of 30mph. It is also a high frequency bus route. A typical cross section of the road under the bridge can be seen below.



As illustrated above the existing carriageway width at 5.2m wide, is substandard for a two-way traffic including buses. Both footways are close to the absolute minimum recommended footway width of 1.25m, making the environment very intimidating for vulnerable users. This situation is compounded by the enclosed environment, with traffic travelling in close proximity to pedestrians, and the associated traffic noise.

Although there is no traffic data available for this section of Southdown Road, speed and volume surveys were undertaken on the section of Southdown Road outside St Dominic's Roman Catholic School. This data shows traffic volumes in the region of 10,000 vehicles per day, and 85th percentile speeds of approx 34mph. Taking this into account it is anticipated that traffic volumes under the bridge are likely to be comparable.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there has been one slight injury accident in the vicinity of the bridge. The improvements to the pavement will provide additional space for pedestrians and help to reduce the risk of collisions.

As can be seen in Plate 2 and 3 below, the current kerb alignments naturally throttle the road at this location, and therefore it is anticipated that existing traffic speeds would be less than 30mph. This scheme is supported by improvements to pedestrian safety on other narrow pavements on Ambrose Lane (Scheme S6); on the A1081 under the Nickey Line bridge (Scheme S5) and on Ox Lane passing over the Upper Lea Valley Greenway (Scheme S8). This coordinated approach to improving pedestrian provision will help to encourage more people to walk short distances, especially to access the town centre and local schools.

		
Plate 2 – Southdown Road looking south east under the Railway Bridge		*Plate 3 – View of narrow footway on both sides*

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	RAISE DRIVER AWARENESS Install signs and road markings to raise driver awareness of the presence of vulnerable users on narrow footways, and reduce traffic speeds.	This option is feasible, however it will have limited impact on traffic speeds. The most suitable sign is "Pedestrians in road ahead". Although this should really be used where there is no footway, one could argue that as the footway is of sub standard width, pedestrian may stray into the road to pass each other. *This option is recommended for further consideration*	£5,000 to £10,000

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
3c	REALLOCATION OF ROADSPACE Install Shuttle Working Traffic Signals to allow footway to be widened.	This option could be feasible; the current kerb alignments naturally throttle the road at this location, and there is sufficient stacking space on both approaches and good inter-visibility, however further traffic modelling will be required to establish the levels of queuing that would occur. The existing road layout on the northern side of the bridge will need to be reviewed, and the nearest traffic island will need to be removed. The zebra crossing may also need to be relocated further away from the new Stop Line, or it could be removed and substituted with a pedestrian phase in the new signals. Additional benefits of this type of installation include potential reductions in traffic speeds as the signals would "rest on red" when there is no traffic demand. It would also overcome the issue of the substandard carriageway width. Due to its close proximity, further investigation would be required to assess whether the entrance to Southdown Industrial Estate on Marlborough Park would need to be included as a phase within the traffic signals. No allowance has been made for resurfacing within the estimate. *This option is recommended for further consideration*	£160,000 to £240,000
2	SPEED REDUCTION Introduce speed management measures on approach to bridge.	As outlined above, traffic speeds in the immediate vicinity of the bridge are likely to already be at a level at which additional intervention is **not** required It should also be noted that vertical traffic calming features are not appropriate within 25m of a structure. *Based on the above this option is not recommended*	N/A
3a	REALLOCATION OF ROADSPACE Introduce Priority "Give & Take" system to allow footway to be widened.	Priority working is not recommended for traffic volumes over 4000 vehicle per day *Based on the above this option is not recommended*	N/A

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
3b	REALLOCATION OF ROADSPACE Introduce One-Way Traffic System to allow footway to be widened.	This would have an adverse affect on the bus service, and is likely to be unpopular with local residents due to the volume of traffic that would be displaced onto alternative routes. *Based on the above this option is not recommended*	N/A
4	MODIFY STRUCTURE Widen existing structure to accommodate wider footways	The cost of this option would be disproportionate to the scale of the issue identified. *Based on the above this option is not recommended, however if the structure is renewed in the future, the opportunity to provide wider footways should be considered.*	N/A

Rights of Way and Quality of Life (including Walking)	Scheme Ref: S10
Scheme Name:	Improved pedestrian access to Wheathampstead
Links to UTP Key Issues	**Links to other schemes**
Wi11; Wi13	OTH2, OTH8, AI 1-10

Location / General Description

Along Wheathampstead Road, there are several footpaths e.g the Lea Valley walk (green dashed line on plate 1) which provide a link from Wheathampstead to the junction of Pipers Lane and Wheathampstead Road. The Lea Valley Walk provides good access between Wheathampstead and central Harpenden but access to Southdown is not currently possible unless pedestrians use the on-road route via Wheathampstead Road or Pipers Road which do not provide a continuous footway into Harpenden.

Plate 2 – End of footway at Long Buftlers - looking eastbound.

Plate 3 – End of footway at Wheathampstead - looking westbound from Brewhouse Hill junction

Consideration was given to the provision of footpath along Pipers Lane (to link with Grove Road), however this corridor is very narrow and this option is not feasible within the current highway.

Therefore the option under consideration, to provide this missing link, is the provision of footpath along Wheathampstead Road. This route will help to link Wheathampstead with Harpenden and other key destinations including Harpenden rail station, town centre and the rest of the Rights of Way network.

This scheme will help support other proposed improvements to the walking network and the pedestrian environment in Harpenden town centre by encouraging more people to access the town centre on foot from Wheathampstead. The improvements to the town centre include the pedestrianisation of the High Street Service Road (Scheme OTH8), A1081/B652 town centre improvements (Scheme OTH2) and improvements to and at the rail station (Schemes AI 1-10).

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Provision of footpath along Wheathampstead Road	It should be feasible to provide a footway along this section of Wheathampstead Road. As the footways at either end are on different sides of the road it will be necessary for pedestrians to cross the road at some point. Due to the alignment of the road at the Harpenden end and the poor visibility it causes, it would be preferable to cross the road at the Wheathampstead end. Therefore it is recommended that the footway is installed on the southern side of the road, and an uncontrolled crossing point installed within the 30mph section shown in plate 3. Consideration will need to be given to the level of vegetation removal required to install this footway and the ongoing maintenance issues of vegetation overhanging/restricting the width of any new facility. Estimated cost do not allow for the installation of any new street lighting *This scheme is recommended for further consideration*	£450,000 to £500,000

Rights of Way and Quality of Life (including Walking)	Scheme Ref: S11
Scheme Name:	Improved pedestrian route from Harpenden to Harpenden Rugby Club along Redbourn Lane
Links to UTP Key Issues	**Links to other schemes**
Wi10	None

Location / General Description

Pedestrian access from Harpenden to Harpenden Rugby Club has been identified as a key issue which prevents people from making journeys on foot. Harpenden Rugby Club is an important sports venue and it also provides facilities for weddings, birthdays and other events. Whilst this site has not been included in the list of Hazardous Sites, Stakeholders have identified safety concerns for pedestrians accessing the Rugby Club via Redbourn Lane.

The existing footway runs along the southern side of Redbourn Lane past Oakhurst Avenue to the last property before the Rugby Club, leaving a gap of approx 300m highlighted on plate 1 below. In general the verge along this section is fairly wide and with some removal of vegetation, it should be possible to provide a footway set back from the carriageway.

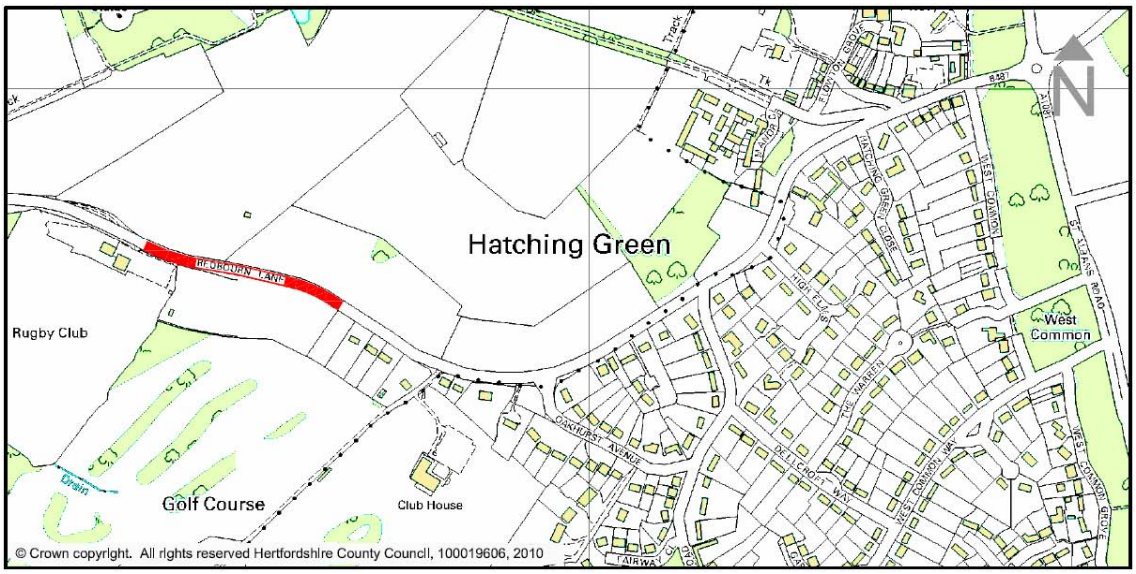


Plate 1 – Location Plan

Options

Ref	Potential Interventions	Assessment of suitability	Cost
1	Provision of new footway along Redbourn Lane.	This scheme is reasonably low cost and will provide an important link from the existing pedestrian network to the Rugby Club. *This scheme is recommended for further consideration*	£75,000 to £100,000

Rights of Way and Quality of Life (including Walking)	**Scheme Ref: S12**
Scheme Name:	Walkers Road – Pedestrian Crossings
Links to UTP key issues	**Links to other schemes**
Wi12; Wi14	CN6, S4, S1

Location / General Description

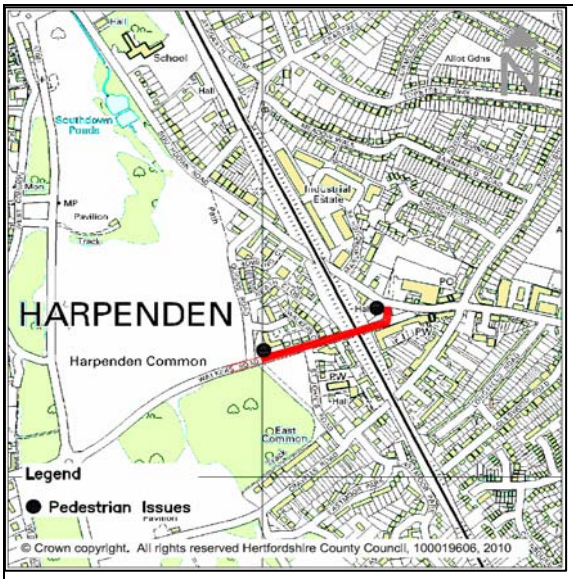


Plate 1 – Site Location

Walkers Road is a 'C' class Local Distributor road with a speed limit of 30mph. It is also a high frequency bus route. Speed and volume surveys undertaken in June 2006 on the section between Queens Road and St Johns Road, showed traffic volumes in the region of 10,000 vehicles per day, and 85th percentile speeds of approx 38mph.

Harpenden Common is located in the area to the east of the A1081 (to the east of West Common) and to the south of Walkers Road. Harpenden Common provides an invaluable leisure and sports facility for Harpenden and surrounding areas and forms an integral part of the green space network within Harpenden.

Stakeholders have identified that there is a lack of pedestrian crossings in this area, particularly at the junction of Walkers Road/Queens Road.

This scheme proposes the introduction of crossing facilities at the junctions of Walkers Road/Queens Road to provide access to Harpenden Golf Club and leisure facilities located nearby.

Whilst these sites have not been included in the list of Hazardous Sites, Stakeholders have identified safety concerns when crossing the road at these points to access Harpenden Common.

This scheme will link with proposals to improve pedestrian crossing facilities from West Common to Harpenden Common outlined in scheme S4 and proposals to improve the cycle crossing from West Common to Harpenden Common outlined in scheme CN6. This scheme will also compliment the improvements to speed compliance on Walkers Road (Scheme S1)

As shown on Plate 2 opposite there is no pedestrian facility on the southern arm of the roundabout with Southdown Road.

However due to the alignment of the road, there is very limited visibility looking south up Walkers Road from the western side outside the "Rose & Crown" public house.

As a result it would not be feasible to install a formal crossing facility in this location and pedestrian travelling from the eastern side of Walkers Road to the southern side of Southdown road would need to cross at the via Grove Road, the entrance to Somerfield and then Southdown Road.

Plate 2 – Looking north towards the roundabout junction with Southdown Road.

As can be seen on Plate 3 there is an existing uncontrolled crossing point to the south of Queens Road, however the crossing point for people using the common is actually approx 50m to the west as shown in Plate 4.

Plate 3 – Existing uncontrolled crossing point east of St Johns Road

Plate 4 – Looking eastbound towards Railway Bridge

Options for Walkers Road / Southdown Road junction			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Upgrade splitter island on south eastern arm to a pedestrian refuge.	Consideration should be given to improving the existing traffic island to accommodate pedestrians. *This option is recommended for further consideration*	£15,000 to £20,000

Options for Walkers Road near the Common			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	CONTROLLED CROSSING – PUFFIN Installation of a Puffin Crossing.	As there are currently two crossing locations in close proximity it may be beneficial to rationalise the location of the facilities to install a single crossing point to serve both pedestrian routes. Observed pedestrian flows in this area are very low and would not normally justify a formal controlled crossing facility. Detailed pedestrian counts should be taken to establish whether a controlled crossing is justified. *This option is recommended for further consideration*	£125,000 to £135,000

Rights of Way and Quality of Life (including Walking)		Scheme Ref: S13
Scheme Name:	A1081 junction with Bull Road	
Links to UTP key issues		**Links to other schemes**
Wi15		OTH6, CN1

Location / General Description

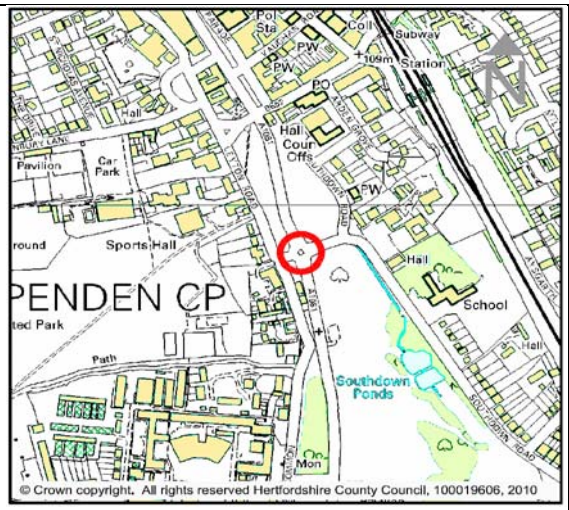


Plate 1 – Site Location

The A1081 St Albans Road is an 'A' class Main Distributor road with a speed limit of 30mph and traffic volumes in the region of 20,000 vehicles per day. It is also a high frequency bus route.

The issue under consideration is the lack of pedestrian facilities around the roundabout, which currently has traffic islands on three of its four arms, as shown in Plates 2-5. These islands are not particularly pedestrian friendly and only one has tactile paving.

The accident data for the three year period from April 2007 up to and including Mar 2010 shows that there have been six slight accidents in the immediate vicinity of the roundabout, three of which involved cyclists.

On the southbound approach to the roundabout there was also a serious accident involving a pedestrian.

This scheme will support the proposals for a 20mph zone on Leyton Road set out in scheme OTH6.

As can be seen in Plates 2 and 3 below the existing traffic islands on the A1081 could be widened within the existing hatching, and modified to incorporate tactile paving.

Plate 2 – Existing traffic island on northern arm

Plate 3 – Existing traffic island on southern arm

Although the traffic island on Bull Road (Plate 4) has tactile paving, the actual width of the island would benefit from widening within the hatching to reduce crossing distances and provide a more comfortable area for pedestrians to wait in the centre of the road.

Plate 4 – Existing traffic island on eastern arm (Bull Road)

Plate 5 – Western arm (Leyton Road) with no traffic island or dropped kerbs

The Leyton Road arm (Plate 5) does not currently have a traffic island which is almost certainly due to the fact that the width of the road would be unable to accommodate such a facility without affecting the turning movements of large vehicles.

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	IMPROVE EXISTING CROSSINGS Widen the central island and provide tactile paving on the 3 existing islands and provide drop kerbs on Leyton Road	It should be feasible to slightly widen the existing splitter islands on all 3 arms within the existing central hatching. This would provide a more attractive waiting area in the centre of the road, giving pedestrians greater confidence to cross the road in two halves. Estimated costs do not allow for any upgrading of street lighting. *This option is recommended for further consideration*	£40,000 to £50,000

9 Other Schemes

9.1 The schemes proposed as part of the *Other Schemes* package include improvements to pedestrian provision and removal of localised vehicle access which will help to improve congestion and pedestrian access in the town centre. Improved signage to Luton from St Albans and St Albans from Luton will help to reduce through traffic levels in Harpenden, reducing congestion.

9.2 Increasing the promotion of community transport services and increasing the use of shuttle buses to the hospital will help to improve access to public transport for people who have difficulty accessing bus services. These schemes will also help to support Hertfordshire County Council's bus network review.

9.3 Removal of the 7.5T weight limits and imposing weight limits on more minor roads will help to manage HGV access to the town centre. The introduction of weight limits on more minor roads will help to ensure that HGVs only use suitable roads.

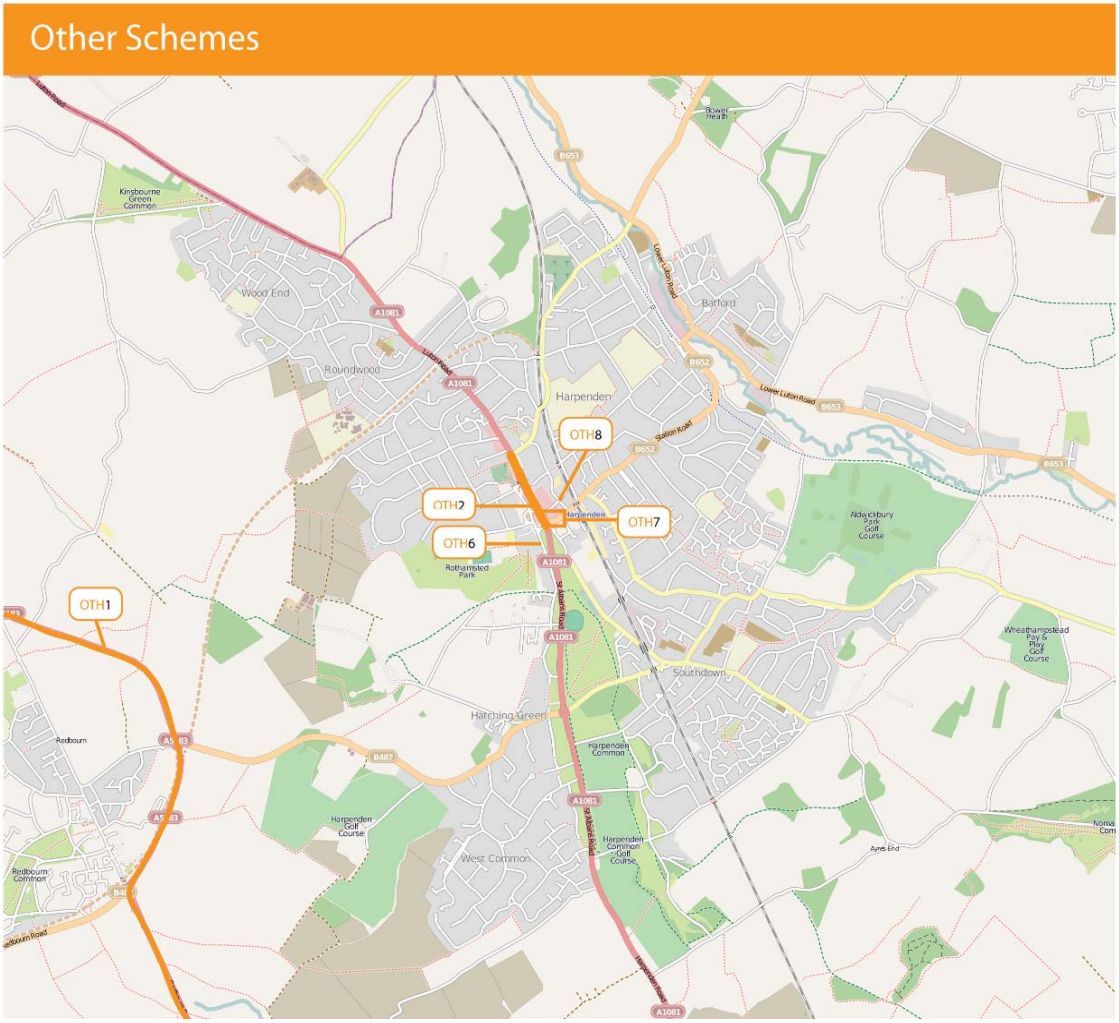
9.4 This package should be implemented alongside the Demand Management, *Sustainable Transport, and Smarter Choices* package and *Tackling Safety Concerns, Speed Compliance and Walking Issues* package.

- Table 9.1 provides further details of each scheme and the key issues addressed and Figure 9.1 illustrates the location of each scheme.
- There are some schemes which are not referenced on the map but are included on the map key. These schemes are marked with an asterisk.

TABLE 9.1 OTHER SCHEMES

Scheme Number	Description	Key Issues Addressed
OTH1	Re-signing Luton from A414 and St Albans from Luton via M1. This would reduce congestion by routing through traffic on the A414 onto the M1 rather than through St Albans and Harpenden.	Ci1, Ci2
OTH2	A1081 / B652 Town Centre improvements- pelican crossings replaced with other formalised crossings. Reduction/review of street signage and improvements to High Street Service Road and addition of zebra crossing across Station Road.	Si1, Si2, Ci1, Ci2, Ci5, Yi4, Wi2, Wi3, Wi9
OTH3	Increase promotion of existing Community Transport services. Improved information provision about CT services and a revised approach to distributing the information, would ensure that it reaches those most likely to use the services.	Ai8
OTH4	Increase use of hospital shuttle services. Increased promotion of hospital shuttle services to local hospitals would help to ensure that usage of these services increases.	Ai3
OTH5	Remove zonal 7.5T weight limits and impose weight limits on minor roads and a Freight Quality Partnership. This system would be easier to enforce than the current weight limits and partnership working with freight operators could help to provide information to drivers on routing and help to determine specific freight routes.	Fi1, Fi2
OTH6	Leyton Road 20mph zone	Spi6
OTH7	Improvements to the zebra crossing at junction of Station Road and High Street Service Road	Wi2, Si1
OTH8	Pedestrianisation of High Street Service Road between Station Road and Vaughan Road.	Wi2

FIGURE 9.1 LOCATION OF OTHER SCHEMES



Key	
OTH1	Re-signing Luton from A414 and St Albans from Luton via M1
OTH2	A1081 / B652 town centre improvements
OTH3	Increase promotion of Community Transport services*
OTH4	Increase use of hospital shuttle services*
OTH5	Remove zonal 7.5T weight limits and impose weight limits on minor roads and a Freight Quality Partnership*
OTH6	Leyton Road 20mph zone
OTH7	Improvements to the zebra crossing at junction of Station Road and High Street Service Road
OTH8	Pedestrianisation of High Street Service Road

Other Interventions	**Scheme ref. OTH1**
Scheme Name:	Re-signing Luton from A414 and St Albans from Luton via M1

Links to UTP key issues	**Links to other schemes**
Ci1; Ci2	None

Location/General Description
Luton is currently signed from the A414 east of St Albans via the A1081. Congestion could be reduced in Harpenden if through traffic passing through the London Colney Roundabout on the A414 was directed on to the M1 rather than through St Albans and Harpenden. Similarly, from Luton, St Albans could be signed along the M1 rather than A1081 to help reduce congestion in Harpenden during the AM peak.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Re-signing Luton from A414 and St Albans from Luton via M1	This intervention would help reduce town centre congestion in Harpenden, but would require the agreement of the Highways Agency which may deem displaced movements from the A1081 to the M1 as not suited for the strategic network. *This option is recommended for further consideration.*	£35,000 to £50,000

Other Schemes		Scheme Ref: OTH2
Scheme Name:	A1081 / B652 Town Centre improvements	
Links to UTP Key Issues		**Links to other schemes**
Si1; Si2; Si3; Ci1; Ci2; Ci5; Yi4; Wi2; Wi3; Wi9		OTH7, OTH8, CN1

Location / General Description

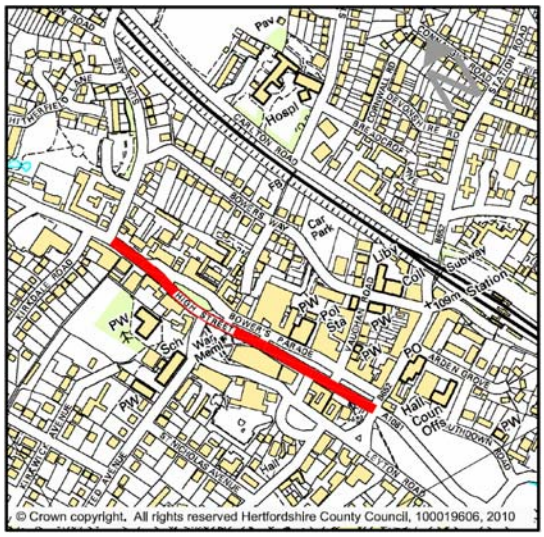


Plate 1 – Site Location

The High Street is an 'A' class main distributor road with a speed limit of 30mph. It is also a high frequency bus route.

With regard to vulnerable users, four of these accidents involved pedestrians, one of which was serious. The other serious accident involved a cyclist near the junction with Leyton Green.

There have also been three slight accidents near the zebra crossing south of Station Road, two of which involved pedestrians.

Speed and volume surveys undertaken in Apr 2008 opposite the War Memorial showed traffic volumes in the region of 20,000 vehicles per day, and 85th percentile speeds of 21 mph southbound and 25 mph northbound.

The accident data for the three-year period from April 2007 up to and including March 2010 shows that there have been twelve injury accidents, two serious and seven slight, in section of High Street between Sun Lane and Station Road. The improvements to the zebra crossing will help to prevent the risk of collisions.

The issue under consideration is improving pedestrian access and safety along the High Street, and improving the public realm. There are a number of existing pedestrian facilities within this section of High Street, as can be seen on Plate 2, although most of the traffic islands do not have dropped kerbs for pedestrians. This scheme is supported by the improvements to the zebra crossing at the junction of Station Road and the High Street (Scheme OTH7) and the pedestrianisation of the High Street Service Road (Scheme OTH8).

Location / General Description (OTH 2 continued)

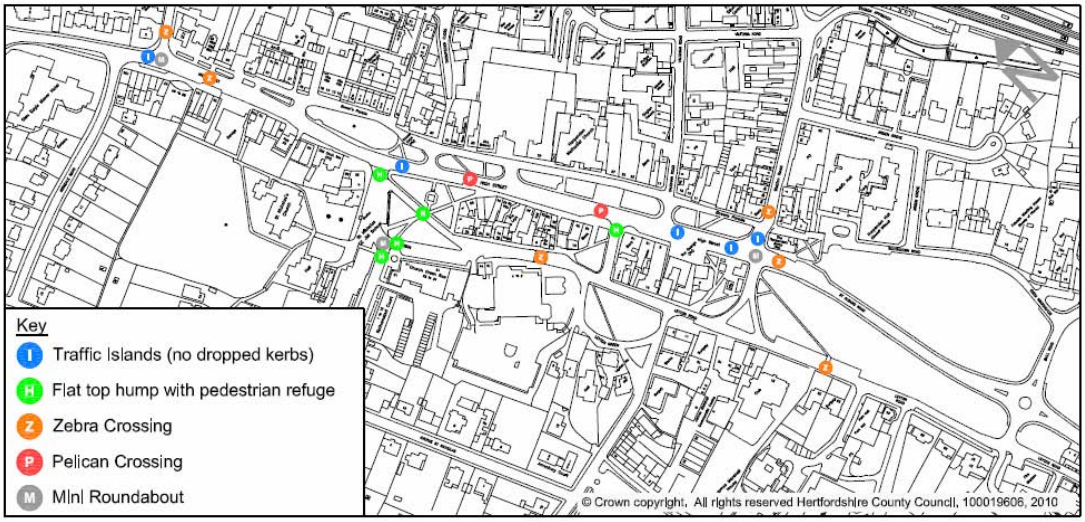


Plate 2 –Existing pedestrian facilities and other features along the High Street

As can be seen in Plates 3 and 4 below there are two existing zebra crossings to the south and west of the mini roundabout junction with Station Road.

Plate 3 – Looking west through the zebra crossing on Station Road to the mini roundabout junction with the A1081.

Plate 4 – Looking south towards the zebra crossing outside the Harpenden Arms Public House.

Both of the traffic island to the east (Plate 5) and to the north (plate 6) of the mini roundabout do not have dropped kerbs and are not designed for pedestrian use, although these are obvious locations for pedestrian facilities.

Location / General Description (OTH 2 continued)

		
Plate 5 – Splitter island with no dropped kerbs in the bell mouth of Station Road		*Plate 6 – Splitter island without pedestrian facilities to the north of the mini roundabout junction with Station Road.*

The traffic island just south of Vaughan Road (Plate 7), has a flush area in the centre of the carriageway but no dropped kerbs on either side of the road. Plate 8 below shows the existing pelican crossing just north of the junction with Leyton Green, where the carriageway has been narrowed to accommodate the crossing.

		
Plate 7 – Looking north through existing Island by Vaughan Road with no dropped kerbs.		*Plate 8 – Looking north through existing pelican crossing (looking north)*

The carriageway has also been narrowed to reduce the crossing distance for the pelican crossing near the War Memorial (Plate 9). The existing island just south of Rothamsted Avenue (Plate 10), has a flush area in the centre of the carriageway, but no dropped kerbs to facilitate pedestrians crossing.

Plate 9 – Looking south through existing Pelican Crossing linking Sainsburys to War Memorial

Plate 10 – Looking south through existing traffic island with no dropped kerbs by Rothamsted Avenue

Plate 11 below shows the raised crossing point and island in the junction of Rothamsted Avenue.

From the existing island just south of Rothamsted Avenue (Plate 10), there is a long section of the High Street with no pedestrian facilities until the zebra crossing just south of Sun Lane (Plate 12). However there are not as many pedestrian desire lines in this section, largely due to the hedged garden area on the eastern side of the High Street in the section to the north of the Cross Keys public house.

The zebra crossing to the south of Sun Lane (Plate 12), has a central island, however this does not have additional zebra crossing beacons. The traffic lane widths past the island also create a pinch point that could be detrimental to cyclists using the High Street.

If this scheme is implemented, consideration should be given to integrating it with the improvements to the zebra crossing at the junction of Station Road and the High Street (OTH7) and the pedestrianisation of the High Street Service Road (OTH8).

Plate 11 – Looking north at existing pedestrian island on raised table in bell mouth of Rothamsted Avenue

Plate 12 – Looking north through existing zebra crossing by Sun Lane

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	PEDESTRIAN IMPROVEMENTS TO TRAFFIC ISLANDS	Upgrade all existing traffic islands to pedestrian refuges and provide dropped kerbs and tactile paving to make DDA compliant. *This option is recommended for further consideration*	£40,000 to £50,000
3a	INSTALL TRAFFIC SIGNALS AT HIGH ST / STATION ROAD JUNCTION	This junction would benefit from a redesign to simplify pedestrian movements. A traffic signal junction could incorporate an all red phase for pedestrians, and the two existing zebra crossing could be removed. This option would address the safety issues, however further traffic modelling would be required to ascertain the capacity implications that this option could have. *This option is recommended for further consideration*	£400,000 to £500,000
4	ENHANCEMENT OF THE PUBLIC REALM FROM SUN LANE TO STATION ROAD	The section of High Street approx between Sun Lane and Station Road could be enhanced (similar to Berkhamsted High St). This option could include raising key pedestrian crossing locations on to flat topped road humps and narrowing the carriageway where possible. The opportunity should also be taken to reduce street clutter by rationalising signage throughout the area. Enhanced materials could be used to improve the public realm. The scheme would aim to be parking neutral. *This option is recommended for further consideration*	£1m to £2m

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
2	UPGRADE ZEBRA NEAR SUN LANE TO PUFFIN AND REMOVE ISLAND	The traffic island that forms part of the zebra crossing causes a pinch point that is detrimental to cyclists. By upgrading the crossing to a Puffin crossing the island can be removed and the carriageway narrowed to reduce the overall crossing distance. If this option was considered further, it should also include an examination of improvements that could be made to the two other crossings and whether these should be converted to puffin crossings. *Following the public and member consultation this option is not recommended*	£100,000 to £125,000
3b	UPGRADE EXISITNG ZEBRA CROSSING ON THE A1081 OUTSIDE THE HARPENDEN ARMS PUBLIC HOUSE TO A STAGGERED ZEBRA CROSSING	Should it not be possible to proceed with option 3a in the short term, this option for an accident remedial scheme could be implemented to address the accident history at this hazardous site.	£80,000 to £100,000

Other Interventions	Scheme ref. OTH 3 and 4
Scheme Name:	Increase promotion of Community Transport services and use of hospital shuttles

Links to UTP key issues	Links to other schemes
Ai8; Ai3	DM9

Location/General Description

These two schemes have been developed in response to several specific issues identified by Stakeholders:

1) no direct bus link to hospitals in Hemel Hempstead, St Albans or Watford; and
2) lack of knowledge about Community Transport in Harpenden.

This scheme proposes an increase in publicity and information provided about Community Transport and a revised approach to distributing this information to ensure it is reaching those most likely to use the services.

Increased promotion of the Hospital shuttle services available together with the improvement of access to local hospitals (Scheme DM9) will help to ensure that usage of these services increases.

It is recommended that information on Community Transport, Hospital shuttles and the direct services to local hospitals is provided at doctor's surgeries, hospitals, local information points and online.

Options

Ref.	Potential Interventions	Assessment of suitability	Cost
1	Improve publicity and information about community transport, hospital shuttle and direct bus services.	Improving information on the services available will help to ensure that the services are well used. *This option is recommended for further consideration.*	£5,000 to £10,000

Other Interventions	Scheme ref. OTH5
Scheme Name:	Remove zonal 7.5T weight limits and impose weight limits on minor roads and a Freight Quality Partnership
Links to UTP key issues	**Links to other schemes**
Fi1; Fi2	None

Location/General Description
There is a current vehicle weight limit of 7.5T on all through traffic, with heavier vehicles only permitted in Harpenden for access and egress. This system is currently difficult to enforce. The proposed replacement would see no entry signs with weight limits placed on specific minor roads that adjoin through roads in Harpenden. This could be easier to enforce with violations more readily identified. For access and egress to minor roads, the weight limit could be waived at certain times of day or require goods to be transferred using lighter vehicles. Partnership working with freight operators could help determine specific freight routes, provide information to drivers on routing, determine the exact nature of the restrictions, help update satellite navigation databases for freight vehicles etc.

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Remove zonal 7.5T weight limits and impose weight limits on minor roads	This intervention would reduce non-compliance with freight traffic orders, and help remove heavy goods vehicles from minor roads in residential areas and other roads where freight traffic is not appropriate. *This option is recommended for further consideration.*	£50,000 to £100,000
2	Develop a Freight Quality Partnership	Partnership working with freight operators will help to ensure specific freight routes are utilised. *This option is recommended for further consideration.*	£5,000 to £10,000

Other schemes		Scheme Ref: OTH6
Scheme Name:	Leyton Road 20mph zone	
Links to UTP key issues		**Links to other schemes**
Spi6		S13

Location / General Description

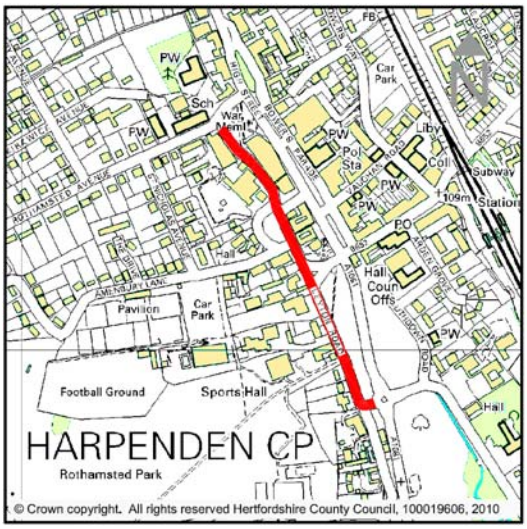


Plate 1 – Site Location

Leyton Road is an unclassified local access road with a speed limit of 30mph. There are two existing formal pedestrian crossing facilities supported by a series of informal crossing points at junctions, however the pedestrian network is incomplete and the footways are narrow in some areas. Also, as it runs parallel to the High Street, it has the potential to provide a quieter alternative route for cyclists.

The road could benefit from a 20mph zone due to the nearby leisure facilities, its town centre location, the presence of vulnerable road users and other land uses.

With regards to vulnerable users, the three 'slight' accidents involved pedestrians. The other 'serious' accident involved two cars near the access to Rothamsted Park.

There has also been a slight accident involving a pedestrian on the section of Church Green near the War Memorial.

This scheme will support the pedestrian improvements at Bull Road roundabout (Scheme S13).

Speed and volume surveys were undertaken in May 2009 at two locations. Firstly, near the spur opposite Station Road that showed traffic volumes in the region of 6,500 vehicles per day, and 85th percentile speeds of just under 22mph. Secondly, just south of the access point to Rothamsted Park that showed traffic volumes in the region of 7,200 vehicles per day, and 85th percentile speeds of just over 25mph.

The accident data for the three year period from April 2007 up to and including March 2010 shows that there have been four accidents resulting in injury (one serious and three slight) in the section of Leyton Road between Rothamsted Avenue and the Bull Road roundabout. A reduction in speeds along Leyton Road would help to address the risk of collisions.

The intervention under consideration is a 20mph zone incorporating improved pedestrian access and safety along Leyton Road, and improved public realm. This scheme would also improve the cycling environment. There are a couple of existing pedestrian facilities within this section of Leyton Road, as can be seen on Plate 2.

Location / General Description

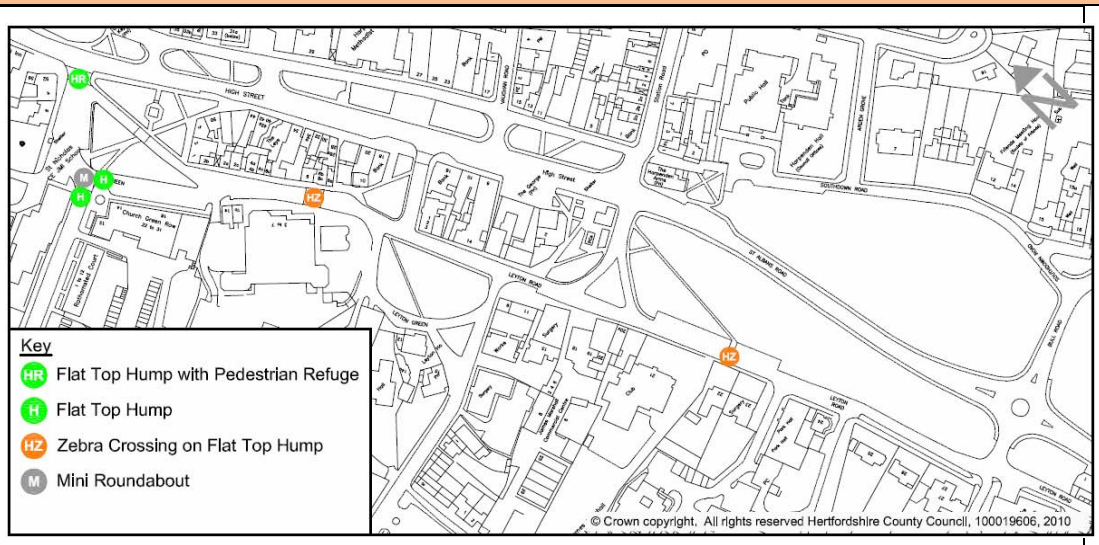


Plate 2 –Existing pedestrian facilities and other features along Leyton Road

Leyton Road is approximately 500m long and has a number of different types of land use along its length, as demonstrated in Plates 3 to 8 below. It can roughly be divided into four discreet sections.

Section 1 - Rothamsted Avenue to Leyton Green (Plates 3 & 4)

This section is an urban area with a variety of shops and high levels of on-street parking. As shown in Plate 2, there are two existing flat topped humps in this section, one of which incorporates a zebra crossing. Due to the combined effect of the humps and the parking, it is anticipated that traffic speeds in this area will be fairly low.

Plate 3 – Looking north past Marks & Spencer towards Church Green.

Plate 4 – Looking north through the existing humped zebra past Waitrose towards Church Green.

Location / General Description		
Section 2 - Leyton Green (Plate 5) The area around Leyton Green is more open with parking restrictions that keep the carriageway clear (Plate 5). As this stretch is more open it is anticipated that traffic speeds may be higher than more heavily parked sections.		
		Plate 5 – Looking south past Leyton Green.

Section 3 – Amenbury Lane to Town Hall (Plates 6 and 7)

This section runs along the side of Harpenden Common and is very open on the eastern side, but has some on-street parking, which helps to keep traffic speeds down. The flat-topped hump to the north of the Town Hall (Plate 7) is due to be modified this year to incorporate a zebra crossing, which will further help to reduce traffic speeds.

		
Plate 6 – Looking south from Amenbury Lane towards the Common		*Plate 7 – Looking north from the Town Hall*
Section 4 – Town Hall to Bull Road roundabout junction with High Street As can be seen in Plate 8, to the right, this section of Leyton Road is the most open of all the sections, with "No waiting at any time" parking restrictions keeping the carriageway clear. Therefore, due to this environment, traffic speeds are likely to be the higher than the previous three sections. It is also worth noting that the only 'serious' accident only Leyton Road occurred in this section.		
		Plate 8 – Looking south past the Town Hall towards the Bull Road roundabout.

Location / General Description			
Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	20 MPH ZONE	Town centre type environments have the potential for conflict between multiple users, some of which are vulnerable. This makes them suitable for consideration for a 20mph Zone. Traffic speeds along Leyton Road are already fairly low, and with the addition of a couple of speed reducing features, possibly Flat Topped Humps, in sections 2 and 4, it should be possible to reduce speeds to 25mph as required by Hertfordshire County Council's speed management strategy. Along with Leyton Road, the 20mph zone could also include Church Green, Leyton Green, the access to the Town Hall and part of Amenbury Lane depending upon traffic speeds. Provision of suitable public realm in the area and restriction of parking so that it does not obstruct the footway will also help to improve the pedestrian environment. As part of this scheme it will be necessary to review the street lighting in the vicinity of any new features, and the full extent of any street lighting improvements is difficult to quantify at this stage until further design work has been undertaken. For the purposes of this estimate an allowance of £50,000 has been made.	£200,000 to £250,000

Other Schemes	Scheme Ref: OTH 7
Scheme Name:	Improvements to zebra crossing at junction of Station Road and High Street Service Road
Links to UTP key issues	**Links to other schemes**
Wi2; Si1	OTH2, OTH8

Location / General Description

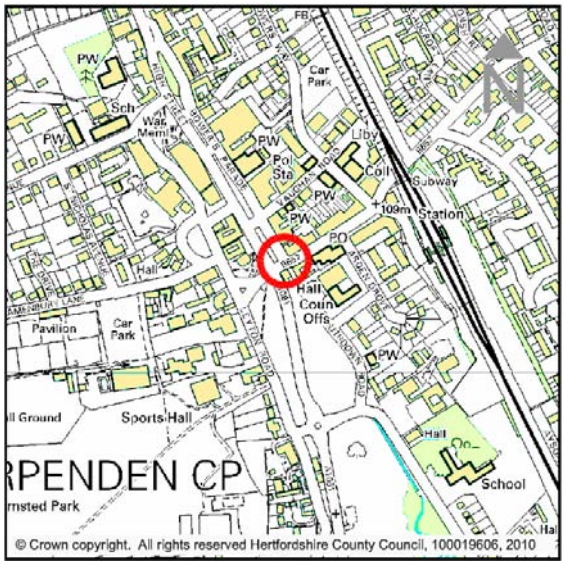


Plate 1 – Site Location

Station Road is a 'B' class secondary distributor road with a speed limit of 30mph. It is also a high frequency bus route.

Although there is no traffic data available for this section of Station Road, speed and volume surveys were undertaken in March 2010 on the section of Station Road near Overstone Road. This data shows traffic volumes in the region of 9,100 vehicles per day, and 85th percentile speeds of approx 32mph. Taking this into account it is anticipated that traffic volumes are likely to be slightly higher, as this location is nearer to the High Street and Station.

The accident data for the three year period from February 2007 up to and including January 2010 shows that there have been no injury accidents in the immediate vicinity of the zebra crossing, however in the two years preceding this period there were three injury accidents involving pedestrians, one serious and two slight. Improvements to pedestrian safety will help to reduce the risk of collisions.

The issue under consideration is pedestrian safety concerns caused by poor lighting and the crossing being located too close to the junction with the High Street. This scheme is supported by the pedestrianisation of the High Street Service Road (Scheme OTH8) and the improvements to the zebra crossing at the junction of Station Road and High Street Service Road (Scheme OTH2).

In terms of the lighting, as can be seen in Plate 2 below, the crossing has standard belisha beacons and does not have the extended columns with asymmetric lighting to highlight pedestrians, which is now the new standard for Hertfordshire. There is street lighting on both sides of the crossing (within 10m to 15m) on the southern side of the road; however this may not be providing the correct level of illumination for the crossing.

Location / General Description

Plate 2 – Looking west along Station Road towards Zebra crossing

Plate 3 – Poor alignment on southern side(left) leaving dead area of carriageway

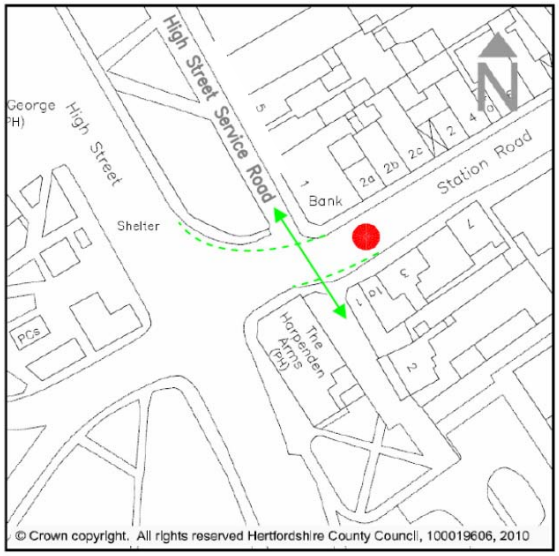


Plate 4 – Location of existing Zebra Crossing

The crossing (highlighted by a red dot in Plate 4) is located approximately 20m from the give way line of the mini roundabout at the junction with the High Street.

Although it has been commented that the crossing is too close to the junction, the pedestrian desire line (shown on Plate 4 with a green arrow) could be nearer to the junction, between the High Street Service Road (Plate 5) and the footpath that runs behind The Harpenden Arms Public House (Plate 6). This location is approximately 10m from the junction.

As can be seen in Plate 3 above the road alignment in this location is poor, leaving dead areas of carriageway, particularly on the southern side. Depending on the swept paths of large vehicles, this area could potentially be reclaimed as footway, as demonstrated by the green dashed line in Plate 3.

Plate 5 – Looking north across Station Road into the High Street Service Road.

Plate 6 – Looking south into footpath behind the Harpenden Arms public house.

Location / General Description

Options			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	UPGRADE CROSSING	Upgrade belisha beacons to include asymmetric lighting to highlight pedestrians on the crossing. Remark road markings *This option is recommended for further consideration*	£5,000 to £10,000

Options (if the High Street Service Road is pedestrianised)			
Ref	**Potential Interventions**	**Assessment of suitability**	**Cost**
2	HUMPED ZEBRA CROSSING	Relocate the zebra crossing onto a flat topped road hump in line with the High Street Service Road. Upgrade belisha beacons to include asymmetric lighting to highlight pedestrians on the crossing. *This option is recommended for further consideration*	£50,000 to £60,000

Other Schemes		Scheme ref. OTH8
Scheme Name:	Pedestrianisation of the High Street Service Road	
Links to UTP key issues		**Links to other schemes**
Wi2		OTH2, OTH4

Location/General Description

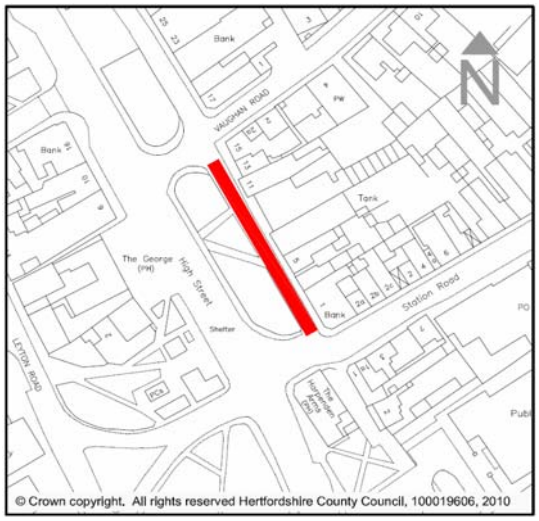


Plate 1 – High Street Service Road

Other interventions consider the improvement of the urban realm within the town centre. To promote walking and cycling and enhance the urban landscape of Harpenden's historic centre, currently the High Street Service Road is accessible by vehicles at all times.

This has been identified as an area of opportunity to increase pedestrian footfall to nearby shops, bars and restaurants with minimal impact on on-street parking levels. The proposed intervention would consider temporary or permanent closure to the Service Road from the junction of Station Road and the High Street to enable pedestrianisation with access for cyclists.

The loss of blue badge parking would be compensated for as nearby as possible within the town centre.

Delivery vehicles would be accommodated by the provision of a loading bay at the northern end of the pedestrianised section that would be accessed from Vaughan Road.

Consideration should be given to implementing this scheme in coordination with the improvements to the junction of Station Road and High Street (Scheme OTH7) and the replacement of pedestrian crossings on the A1081 (Scheme OTH2).

Options			
Ref.	**Potential Interventions**	**Assessment of suitability**	**Cost**
1	Temporary closure of the High Street Service Road between Station Road and Vaughan Road	A temporary experimental traffic order could be promoted to pedestrianise this section, with gates installed at either end. The existing blue badge park would be relocated elsewhere within the town centre. *This option is recommended for further consideration*	£20,000 to £25,000
2	Permanent closure of the High Street Service Road between Station Road and Vaughan Road	A traffic order could be promoted to pedestrianise this section, with a gate installed at the northern end and physical alterations to the kerbing and footway at the southern end to close off the road. *Following the public and member consultation this option is not recommended*	£40,000 to £50,000

10 Five Year Delivery Programme

10.1 This chapter sets out an implementation plan for the schemes recommended in Sections 5 to 9. Whilst the schemes are anticipated for delivery over a 15 to 20 year period, the implementation programme covers the actions and funding required over the five year delivery programme.

Implementation Plan

10.2 The Implementation Plan is presented in Table 10.1. (see separate file on line) Figure 10.1 presents the location of the schemes recommended within the Urban Transport Plan.

10.3 The schemes included in the Implementation Plan are split into short, medium and long term timescales.

- **Short term** schemes are lower cost and more easily implemented;
- **Medium term** schemes will require further design feasibility and consultation; and
- **Long term** schemes will require additional funding.

10.4 Two delivery areas have their own implementation processes separate to the plan. These are Safer Routes to Schools and Safety. Safer Routes to Schools encourages schools to participate in identifying and delivering interventions to promote increased levels of walking and cycling to schools as well as safety improvements in accessing schools. Schools apply to Hertfordshire County Council annually, and are then assessed and selected to be Safer Routes to Schools. With regards to safety, Hertfordshire County Council rank sites where collisions have occurred and been reported to the police, and ranks sites based on the number and severity of collisions at a single site. These 'Hazardous Sites' are ranked and then addressed based on their ranking. The list is reviewed annually. If Hazardous Sites that have not been given top priority or other site specific safety concerns are to be addressed, then other funding sources are required.

10.5 The schemes are presented in number order, and this does not reflect the priority status of each scheme.

Monitoring and Date of Plan Review

10.6 The implementation plan will be reviewed annually. The Urban Transport Plan as a whole may need to be updated periodically if local circumstances or policy significantly change, for example, through a change in local or national guidance.

10.7 Individual schemes will be subject to post-evaluation once delivered and this will be carried out in accordance with Hertfordshire County Council's guidance. There will also be annual monitoring carried out in Harpenden as part of the Local Transport Plan and Urban Transport Plan monitoring process and county-level performance management monitoring.

FIGURE 10.1 PROPOSED URBAN TRANSPORT PLAN SCHEMES

Scheme Number	Description
AI 1	Southern station access from Crabtree Lane/Aysgarth Road to improve pedestrian access to the station.
AI 2	Increased levels of cycle parking at rail station to encourage mode shift from car.
AI 3	Improve urban realm of station, including safety improvements at station forecourt for cyclists and pedestrians.
AI 4	Footbridge and lifts
AI 5	Additional blue badge parking bays
AI 6	Improve enforcement of taxi bays at station
AI 7	Expand entrances to car parks to improve walk and cycle access.
AI 8	Improve junctions of Station Road and station access roads
AI 9	Decking station car parks (east)
AI 10	Minibus/taxi shuttle to/from surrounding villages and other Harpenden areas
CN 1	Improved access to the train station and town centre
CN 2	NCN Nickey Line (NCN 57) to the Train Station
CN 3	NCN Nickey Line (NCN 57) to Upper Lea Valley Greenway (NCN 57/6) link
CN 4 5	NCN Nickey Line (NCN 57) and Upper Lea Valley Greenway (NCN 57/6) to the town centre
CN6 6	Cycle/pedestrian routes from West Common to Harpenden Common
CN 7	Upper Lea Valley Greenway improvements
CN 8	Increase levels of cycle parking in town centre
CN 9	Increased levels of cycle information provision and promotion
CN 10	Redbourn to Harpenden cycle route and promotion of permissive cycle paths through Rothamsted Research
CN 11	Cycle route from Roundwood area in north of Harpenden to town centre avoiding A1081
DM 1	Expand Controlled Parking Zone
DM 2	Increased use of season tickets at car parks
DM 3	Improved off-street car park signage
DM 4	Encourage greater take up and promotion of Safe Routes to School
DM 5	Workplace Travel Plans for major employers
DM 6	Station Travel Plan
DM 7	Increase levels of sustainable transport information provision
DM 8	Active promotion of sustainable travel modes
DM 9	Improve access to local hospitals
DM 10	Real Time Information provision
DM 11	Ensure DDA compliance of bus vehicles and stops.
S 1	Speed Limit Compliance: Walkers Road
S 2	Speed Limit Compliance: Grove Road
S 3	Speed Limit Compliance: Wheathampstead Road
S 4	Improve existing pedestrian crossings across A1081 from West Common to Harpenden Common.
S 5	Improve pedestrian environment on narrow pavement under Nickey Line bridge on A1081.
S 6	Improve pedestrian environment on narrow pavement on Ambrose Lane on bridge over Nickey Line.
S 7	Improve pedestrian environment on Sun Lane over railway line.
S 8	Improve pedestrian environment on narrow pavement on Ox Lane
S 9	Leyton Road 20mph zone
S 10	Improve pedestrian environment on narrow pavement on Southdown Road passing under railway line
S 11	Improved pedestrian access to Wheathampstead
S 12	Improved pedestrian route from Harpenden to Harpenden Rugby Club along Redbourn Lane
S 13	Improved pedestrian facilities from Harpenden Common to the existing pedestrian network
OTH 1	Improved pedestrian facilities at roundabout on Bull Road
OTH 2	Re-signing Luton from A414 and St Albans from Luton via M1
OTH 3	A1081 / B652 town centre improvements
OTH 4	Increase promotion of Community Transport services and use Hospital shuttles
OTH 5	Increase use of hospital shuttle services
OTH 6	Remove zonal 7.5T weight limits and impose weight limits on minor roads and a Freight Quality Partnership
OTH 7	Improvements to the zebra crossing at junction of Station Road and High Street Service Road
OTH 8	Pedestrianisation of High Street Service Road

11 Summary

11.1 Harpenden is an important commuter town within Hertfordshire. Its compact nature lends itself to walking and cycling and short bus trips, but low mode shares suggest that there is potential for a greater of trips being made by these more sustainable modes. The schemes developed within this Urban Transport Plan will help to improve facilities pedestrians, cyclists and public transport users.

11.2 The focus within this Urban Transport Plan has been on developing and recommending schemes that address the key issues identified, contribute towards the plans objectives, and represent low cost / high value investments. Quick win schemes that can be delivered in the short term have also been identified within the implementation plan (set out in Section 10).

Schemes Recommended

11.3 The schemes recommended for further consideration have been developed in response to key issues identified in consultation with the local community. The schemes recommended have been assessed against Local Transport Plan programme entry/funding criteria, Urban Transport Plan objectives, and deliverability criteria. The schemes are presented in five packages:

- The journey to work analysis has identified that trips being made in the morning peak to the station account for a significant proportion of journeys being made and Harpenden station is currently struggling to provide additional capacity for car access. The accessibility improvements to and at the station package will help to improve capacity for sustainable station access, particularly through improved pedestrian and cycling facilities. Improvements to car parking provision and junctions near to the station will help to relieve localised congestion and enable more people to commute to the station and travel by train. There accessibility improvements at the station will complement the improvements to the cycle network schemes.
- The strategic cycle network already provides links to some key destinations; however, the network is not continuous. Several schemes have been developed that will improve the cycle network. These schemes will provide the missing links between strategic National Cycle Network routes that serve Harpenden and key destinations including the town centre / railway station. Increased levels of cycle parking in the town centre and improved cycle information will help to encourage more people to consider cycling short journeys and relieve localised congestion.
- The demand management, sustainable transport and smarter choices schemes will help to relieve localised congestion by improving travel information at key workplaces and encouraging more people to use off-street parking. Improved bus services to hospitals and DDA access to bus vehicles and stops will help to ensure that access to key services by bus are available to all.

- Safety concerns, speed compliance issues and walking issues have been identified as key priorities by stakeholders. The schemes developed to tackle safety concerns, speed compliance issues, and walking issues will help to ensure that safety for all road users is improved in areas where speed compliance has been identified as an issue. Improved pedestrian provision will help to encourage drivers to be more aware of other road users and the increase in perceived safety will help to encourage more people to walk to key destinations.
- Other schemes recommended will help to address some of the varied key issues identified. The schemes proposed as part of this package will help to encourage better use and provision of bus and community transport services to local hospitals and access restrictions / imposition of weight limits on more minor roads in Harpenden. Improving signage for strategic traffic will help to reduce the amount of through traffic in Harpenden.

Conclusion

11.4 The schemes set out within this Urban Transport Plan will help to deliver the objectives for Harpenden set out in Section 3 and will address the key issues set out in Section 4.

11.5 The schemes proposed as part of this Urban Transport Plan include accessibility improvements to and at the station, improvements to the cycle network, demand management, sustainable transport and smarter choices, tackling safety concerns, speed compliance and other schemes including encouraging better use of community transport provision and access restrictions/imposition of weight limits on more minor roads in Harpenden.

11.6 The schemes identified will help to encourage more people to travel by more sustainable modes, especially for shorter journeys. Safety concerns of all road users has also been a key theme amongst the issues identified within this Urban Transport Plan. The schemes developed will help to ensure that speed compliance and the safety concerns of vulnerable road users are addressed within the town.

11.7 The five year delivery plan outlined in Section 10 suggests a number of schemes that could be progressed over the short term. Given the current funding pressures on all Local Authorities, the schemes that have been identified for development over the short term are also relatively low cost and easy to implement in terms of delivery and technical feasibility.

11.8 In order to achieve success, the strategy will require Hertfordshire County Council to work with multiple delivery partners and key stakeholder including schools and businesses together with local residents and cycle groups to ensure that the schemes set out in the Urban Transport Plan are delivered.

APPENDIX

A

ASSESSMENT SUMMARY TABLES

APPENDIX

B

ROUTE USER HIERARCHY

B1 ROUTE USER HIERARCHY

Introduction

This Technical Note sets out both the methodology that has been used to develop a Route User Hierarchy (RUH) for the Harpenden Urban Transport Plan (UTP) and the resulting RUH.

The RUH enables the identification of the priority that is to be afforded to different users on each section of route in the network taking into account strategic function, modal function and adjoining land-use.

The RUH is required for two main reasons:

- to assist in the development of the Harpenden UTP; and
- to assist the County Council in carrying out its network management duties resulting from the Traffic Management Act 2004.
- For the development of the UTP the RUH will:
- summarise the existing network and its strategic function, modal function and adjoining land-uses;
- enable gaps in strategic networks (for example cycle networks) to be identified;
- enable the issues identified during the consultation phase to be understood in terms of their impact on the function of the network; and
- provide assistance in prioritising schemes and interventions.

The RUH will enable the Traffic Manager to understand the potential impacts of any traffic diversions that might be planned, for example associated with road works, and to help ensure that appropriate diversionary routes are selected.

Route Categorisation

The route categorisation consisted of separately identifying the strategic function of the network (the existing road hierarchy), the adjoining land-uses, and the modal function. Each is described below followed by the overall route categorisation.

Strategic Function of Highways

We began by setting out the strategic function of the network in and around Harpenden. This used the data supplied by Hertfordshire County Council (HCC). The classification in use by HCC is set out in Table A.1 below with our own descriptions of function which will need to be verified by Herts Highways.

TABLE A.1 STRATEGIC FUNCTION OF HIGHWAYS

Urban	Rural	Function
Primary Route	Primary Route	Caters for longer distance traffic linking centres of regional importance. One below motorways and trunk roads in the national road hierarchy. Maintained by Transport Authority but approved by Department for Transport. Distinctive green backed road signs. Little frontage access or pedestrian traffic. Speed limits are usually in excess of 40mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
Main Distributor	Main Distributor	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access, catering for short - medium distance traffic. In urban areas speed limits are usually 40mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
Secondary Distributor	Secondary Distributor	Cater for local traffic with frontage access and with frequent junctions. In built up areas these roads have 30mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings.
Local Distributor / Access Road	Local Distributor / Access Road	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions.
Other	Other	Roads serving limited numbers of properties carrying only access traffic. In urban areas they are generally residential or industrial inter-connecting roads with 30mph speed limits random pedestrian movements and uncontrolled parking.

The strategic function of highways is illustrated in Figure A.1 and Figure A.2 for the wider area and for Harpenden respectively. This shows that there are no Primary Routes in Harpenden. The A1081, an Urban Main Distributor, is the highest strategic category of road. Figure A.3 shows the priority for cars across the network, demonstrating the car always has highest or joint equal highest priority on the road network.

Land-use

The land-use categorisation that has been adopted subdivides the urban strategic highway network in Table A.1 further.

The land-uses categories are intended to be the types of land-uses that might influence the priority afforded to different types of users on stretches of the network. For example routes that pass schools would expect to give a higher priority to pedestrians, and in town centres all users would need to be catered for.

We have identified the following land-use classification for these purposes:

- A – Town Centre;
- B – Local Shops;
- C – Education;
- D – Residential;
- E - Leisure;
- F – Out of town employment; and
- G – Rural.

The land-use classification should also be robust when applied to other towns in Hertfordshire

The land-use classification is set out in Figure A.4. Figure A.5 shows the strategic function overlaid on the land-use classification. Table A.2 sets out the classification in tabular form.

TABLE A.2 STRATEGIC FUNCTION & LAND-USE CATEGORISATION

Strategic Function		Land Use (Level of interaction with vulnerable users)													
		A	*Town Centre*	*B*	*Local Shops*	*C*	*Education*	*D*	*Residential*	*E*	*Leisure*	*F*	*Employment*	*G*	*Rural*
1	Primary Route	1A		1B		1C		1D		1E		1F		1G	
2	Main Distributor	2A		2B		2C		2D		2E		2F		2G	
3	Secondary Distributor	3A		3B		3C		3D		3E		3F		3G	
4	Local Distributor / Access Road	4A		4B		4C		4D		4E		4F		4G	
5	Other	5A		5B		5C		5D		5E		5F		5G	

Modal Function

The modal function identifies the modes that are already designated to use different routes. This includes:

- the rail network;
- high frequency bus routes as identified by the HCC Passenger Transport Unit – these are defined as bus routes with more than six services per day;
- low frequency bus routes as identified by the HCC Passenger Transport Unit with less than six services per day;
- segregated (off-road cycle routes) where traffic does not directly interact with cyclists including fully segregated routes and off-road routes shared with pedestrians;
- on-road cycle routes (including cycle lanes marked on roads) where traffic interacts directly with cyclists;
- pedestrian on-street access; and
- pedestrian rights of way as defined by HCC.

The rail network is illustrated in Figure A.6, high and low frequency bus routes in Figure A.7 (with network priority for buses in Figure A.8), the segregated and on-road cycle routes in Figure A.9 (with network priority for cyclists in Figure A.10), and the pedestrian access and rights of way in Figure A.11 (with network priority for pedestrians in Figure A.12).

Route Categorisation

The overall route categorisation is illustrated in Figure A.13. With the exception of the rail and pedestrian networks this includes the information described above in a single plan.

Figure A.14 shows the user(s) / mode(s) with highest priority on each link of the network.

Route User Hierarchy

The RUH seeks to identify the priority that should be afforded to the different categories of user on different parts of the network. The RUH should be used in conjunction with local knowledge and professional judgement to determine priorities and inform any decisions that are made for example by the HCC Traffic Manager.

The RUH considers the following users:

- pedestrians;
- cyclists;
- mobility impaired users;
- public transport;
- car; and
- HGV.

The RUH is set out in Table A.2. This shows a hierarchy for each route taking into account the strategic function and land-use. The general RUH provides a priority ranking for each user and is intended to represent situations where the route does not have a high frequency bus route or on-road cycle facilities. Separate RUHs are presented for high frequency bus routes and on-road cycle routes. Whilst there are a variety of combinations that might arise in reality, for example on-road cycle routes in high frequency bus corridors. These circumstances will be clear from the route categorisation presented above and in these cases judgement should be applied in interpreting the hierarchy.

The RUH shows the network for each key mode of transport overlain on the land-use of Harpenden, and the varying user priority afforded to each mode. From this combination of networks, land-use and user priority, it is possible to observe points of conflict and gaps in the network. These include where the A1081 and Station Road (B652) and the Lower Luton Road (B653), which give a high priority to the expeditious movement of car and HGV traffic, are in conflict with high frequency bus routes, and with town centre and educational land-uses which give high priority to pedestrians, cyclists and mobility impaired people. In addition, gaps in the cycle network, between the Nation Cycle Network routes and between the town centre and railway station, are apparent. The RUH also supports an issue raised through consultation several times of poor cycle access between West Common and Harpenden Common across the A1081 to where the off-road cycle network starts.

Conclusions

This technical note sets out the approach to developing a RUH for the Harpenden UTP. Subject to local refinement, the approach could be used for any location or route within Hertfordshire.

The RUH has been used in the development of the Harpenden UTP to assist with the prioritisation of transport interventions that have been identified. For example CN3 linking the Nickey Line (NCN 57) and the upper Lea valley Greenway (NCN 6 / 57), proposed routes were assessed against the RUH to understand priority for cyclists. The assessment of interventions against the RUH is contained within the Appraisal Summary Table in Appendix A.

It is important to note however that the RUH is only part of the overall assessment process and will not underpin all prioritisation decisions. It was used in conjunction with the objectives and deliverability criteria to identify the priority interventions in Harpenden.

The RUH has enabled the transport interventions developed for the UTP to be seen in the strategic context of the network and has helped to ensure that interventions are targeted to routes where they are most appropriate.

FIGURE B.1 STRATEGIC FUNCTION OF THE WIDER NETWORK

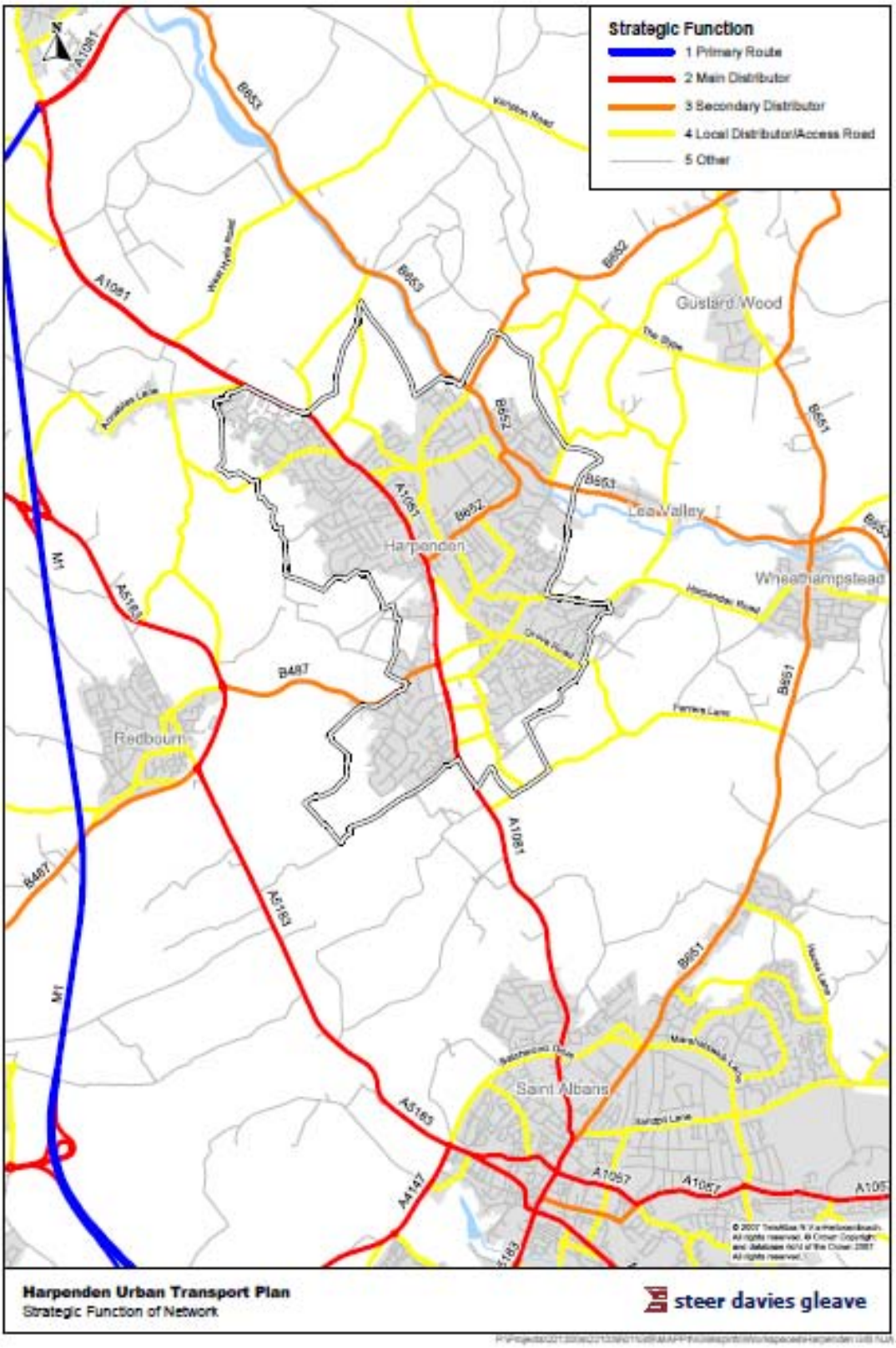


FIGURE B.2 STRATEGIC FUNCTION OF HARPENDEN NETWORK

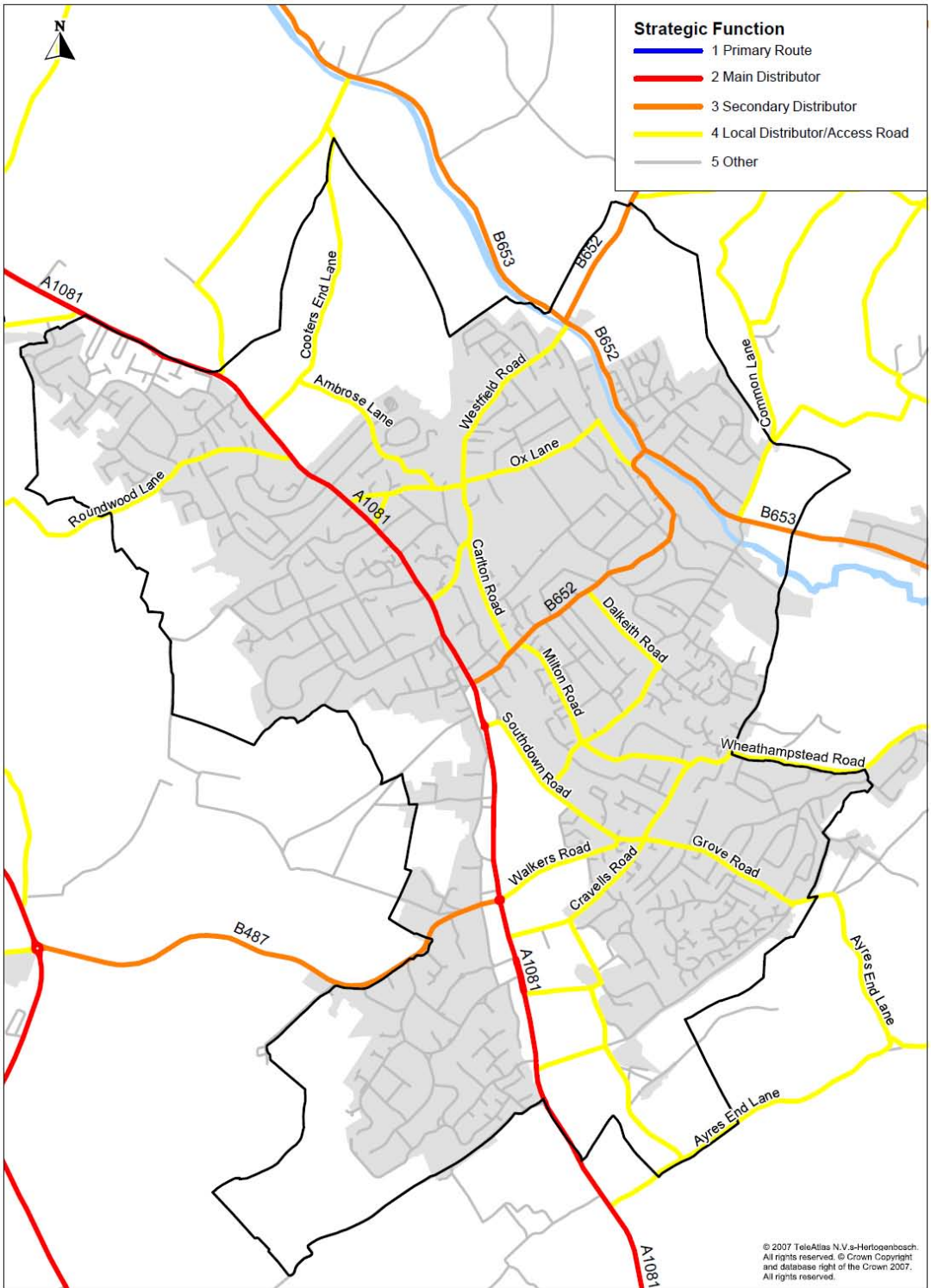


FIGURE B.3 NETWORK PRIORITY - CAR

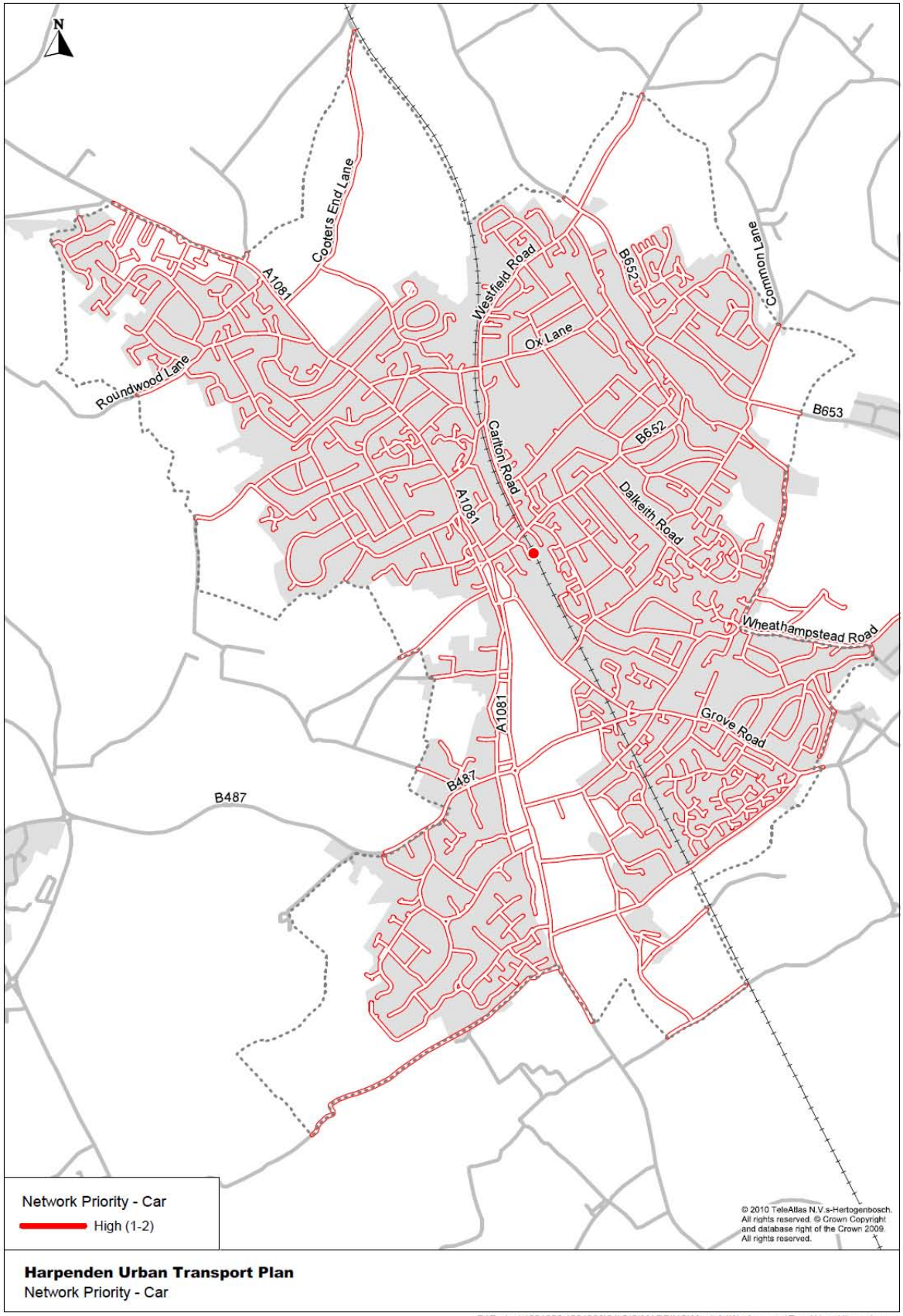


FIGURE B.4 LAND USE CLASSIFICATION

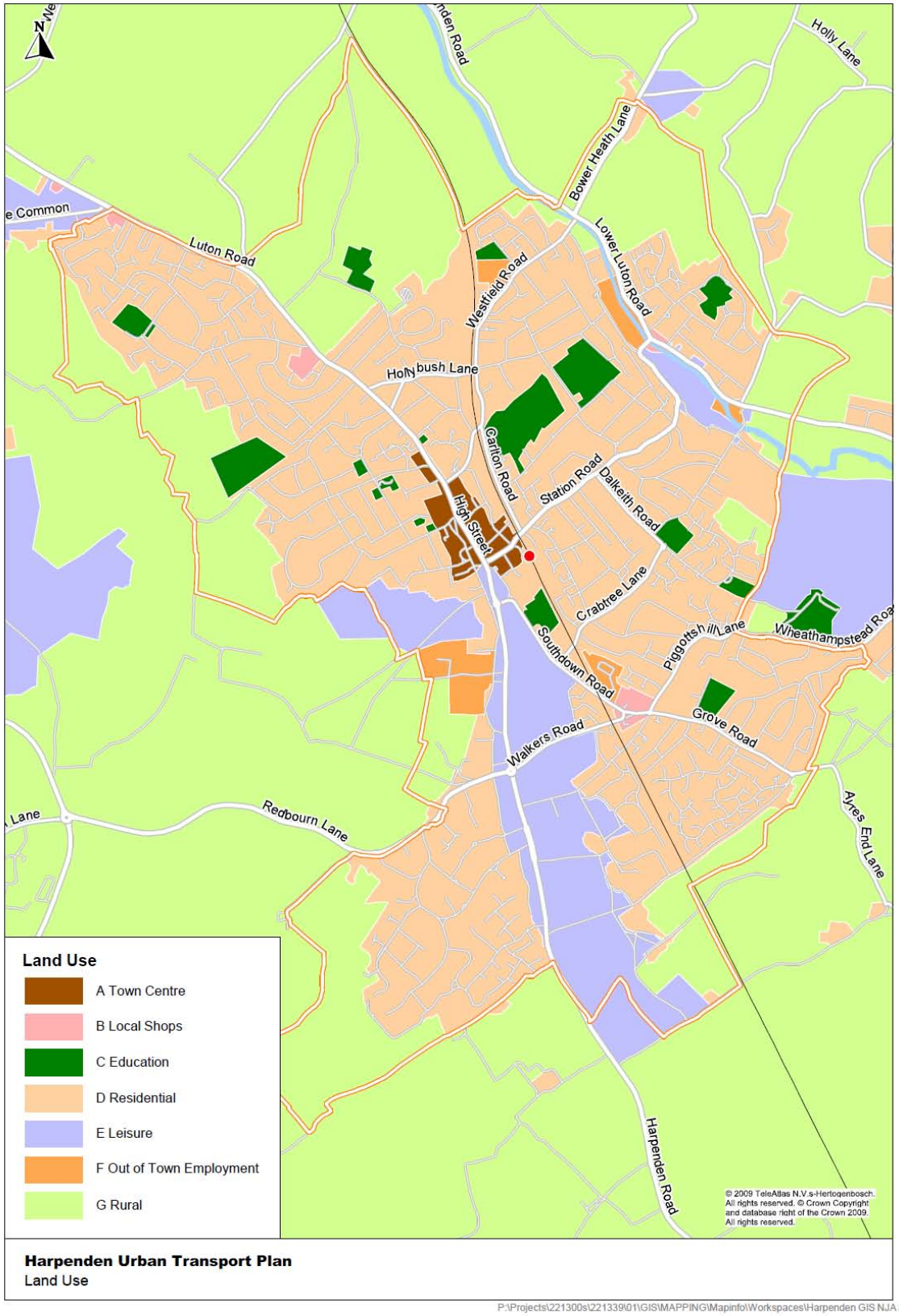


FIGURE B.5 LAND USE AND STRATEGIC FUNCTION OF NETWORK

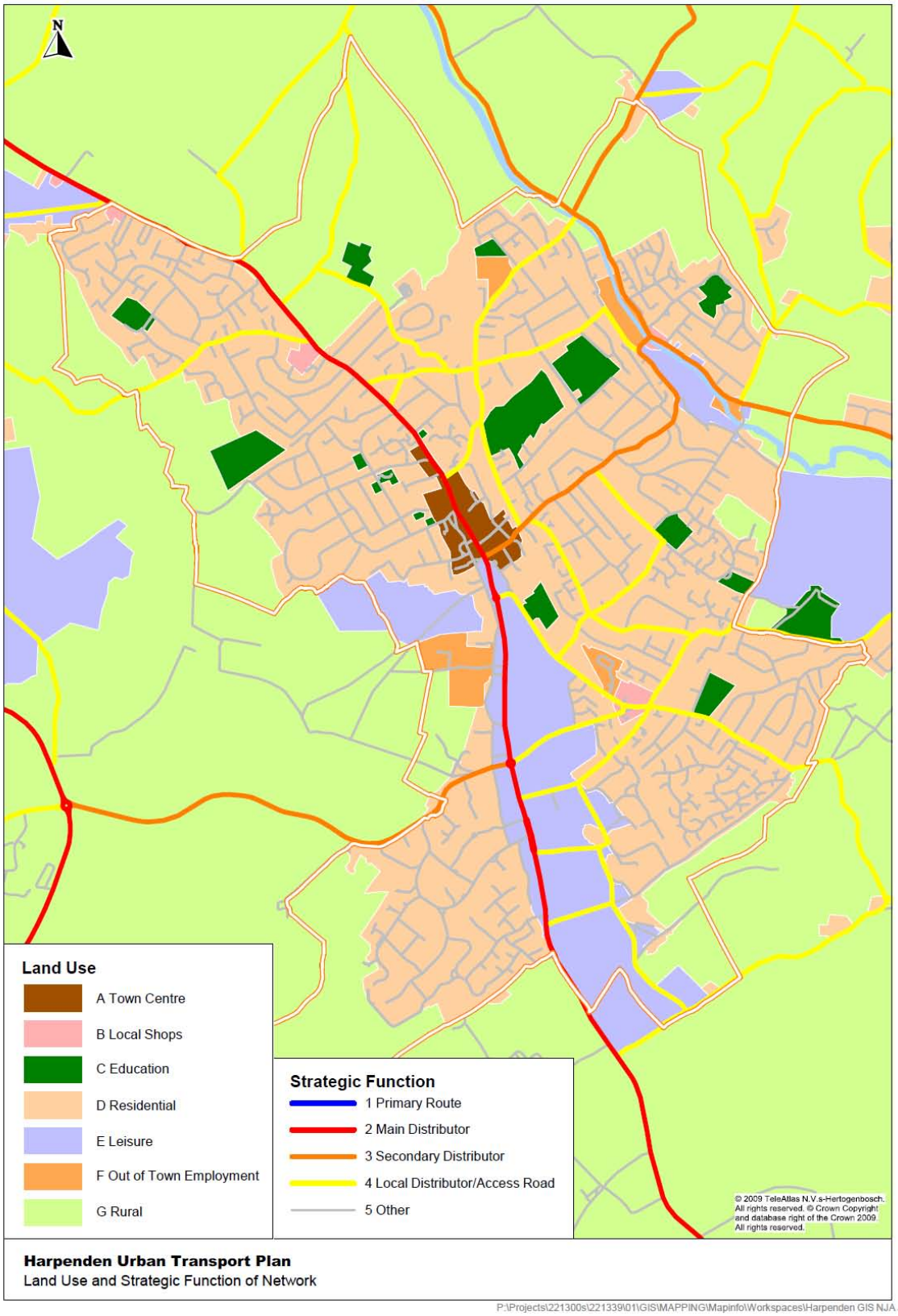


FIGURE B.6 RAIL NETWORK

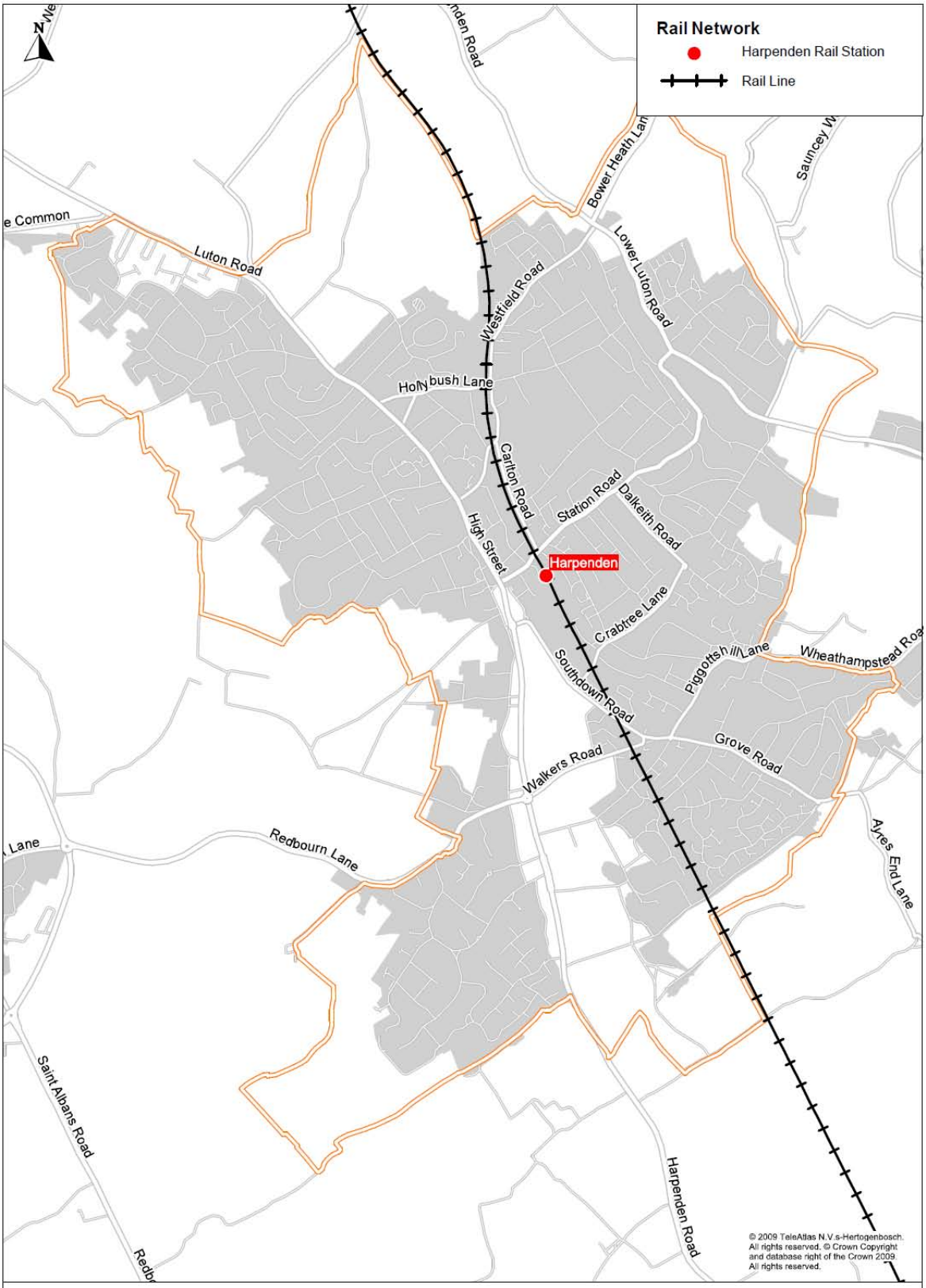


FIGURE B.7 BUS NETWORK

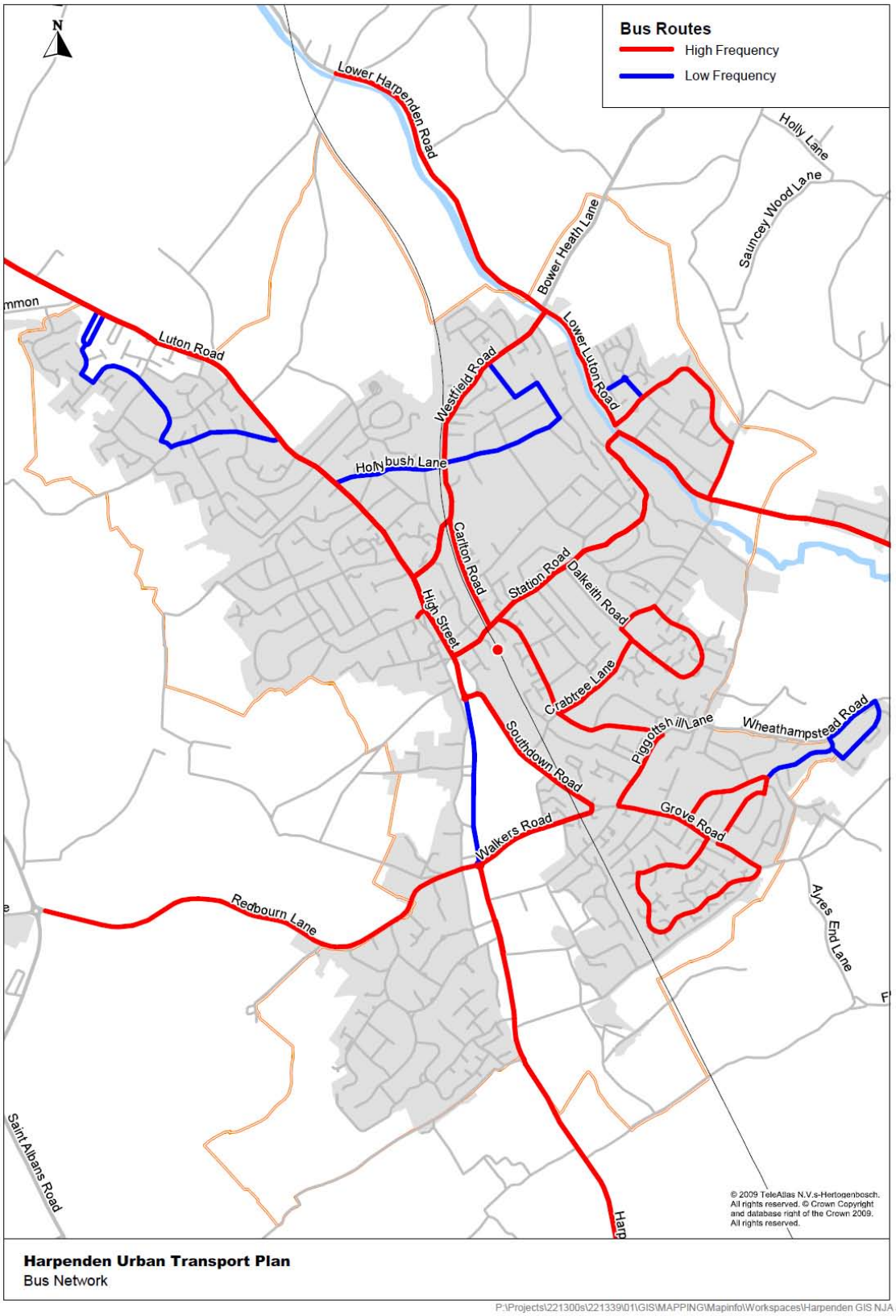


FIGURE B.8 NETWORK PRIORITY - BUSES

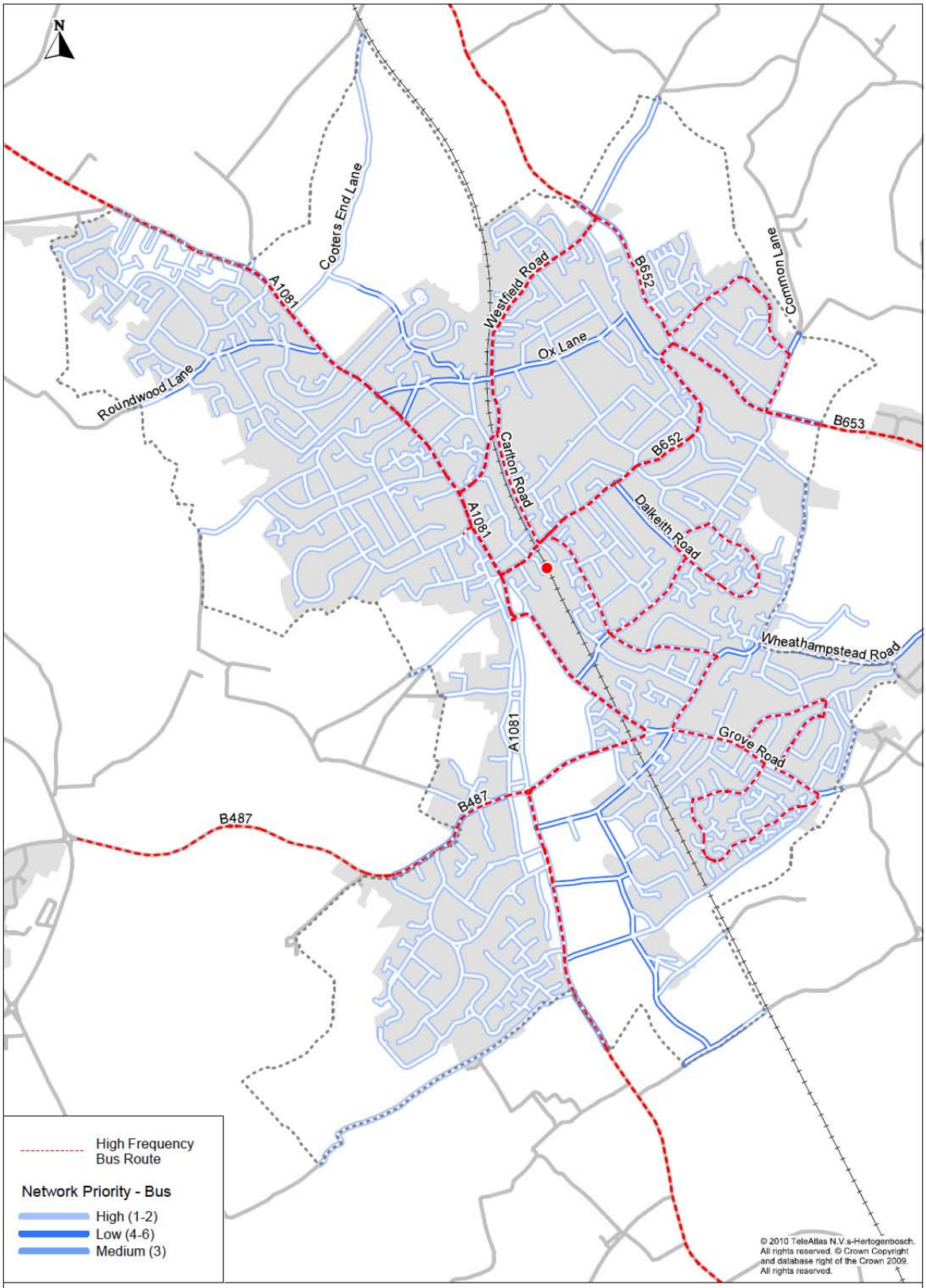


FIGURE B.9 CYCLE NETWORK

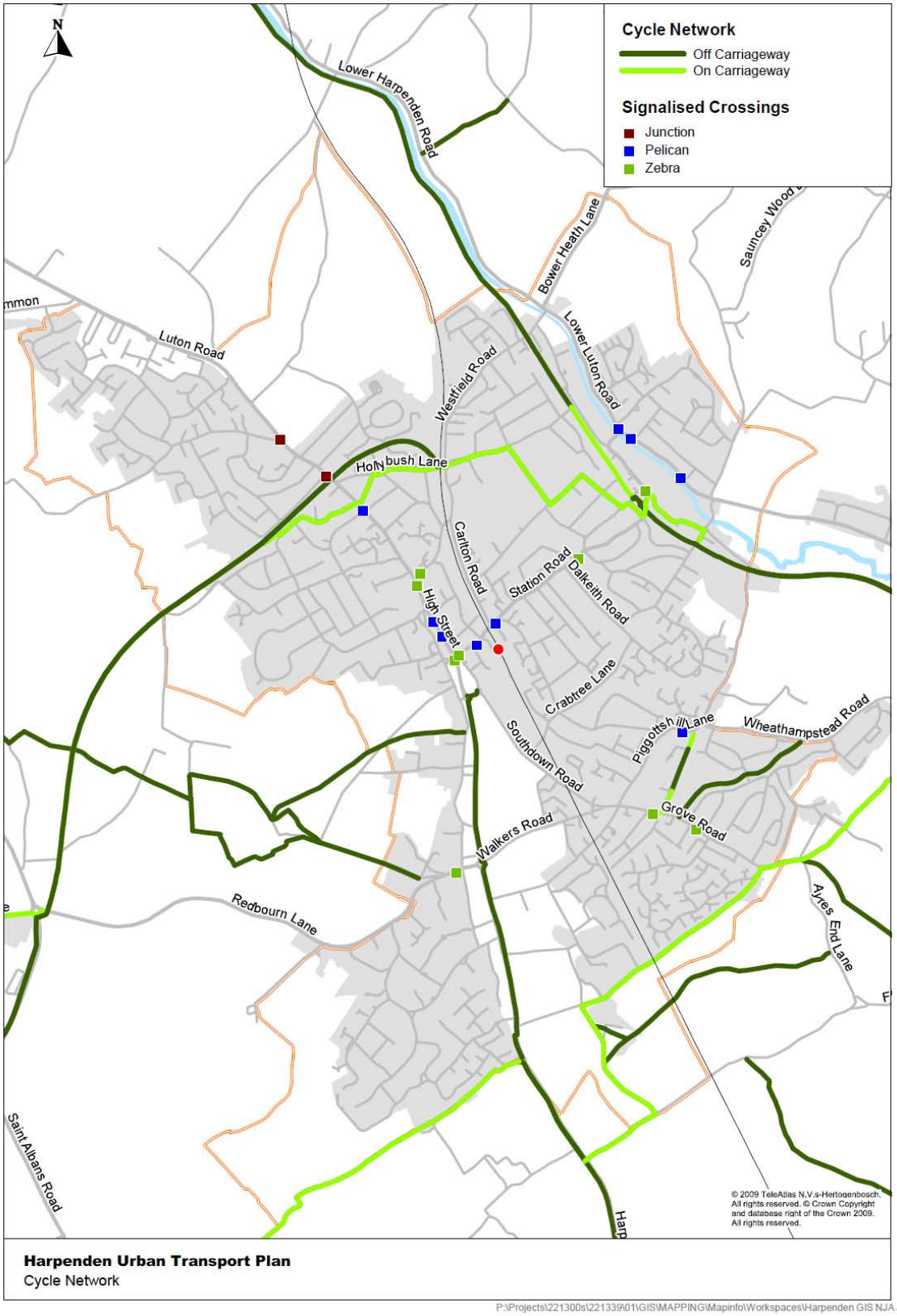


FIGURE B.10 NETWORK PRIORITY - CYCLISTS

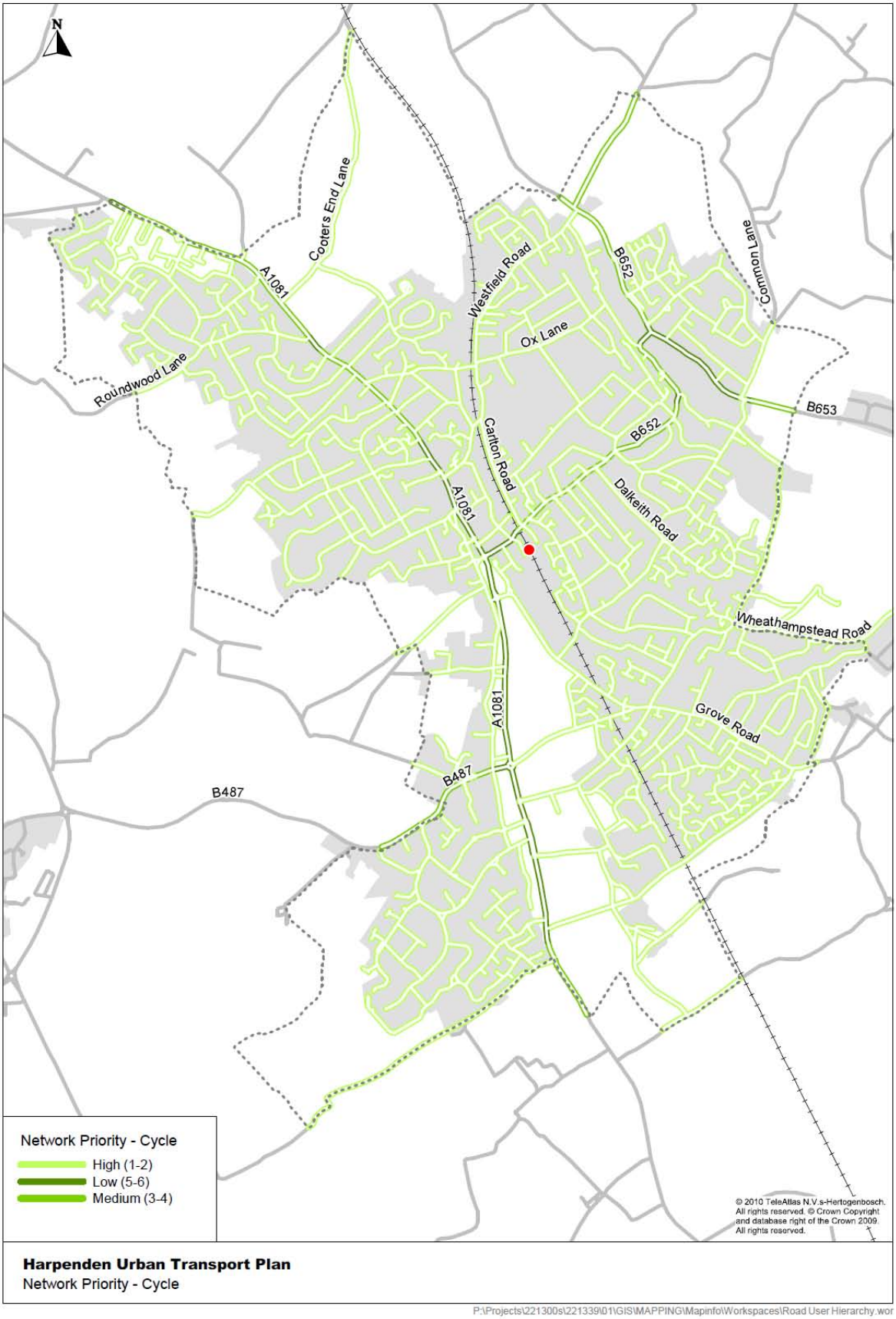


FIGURE B.11 PEDESTRIAN NETWORK

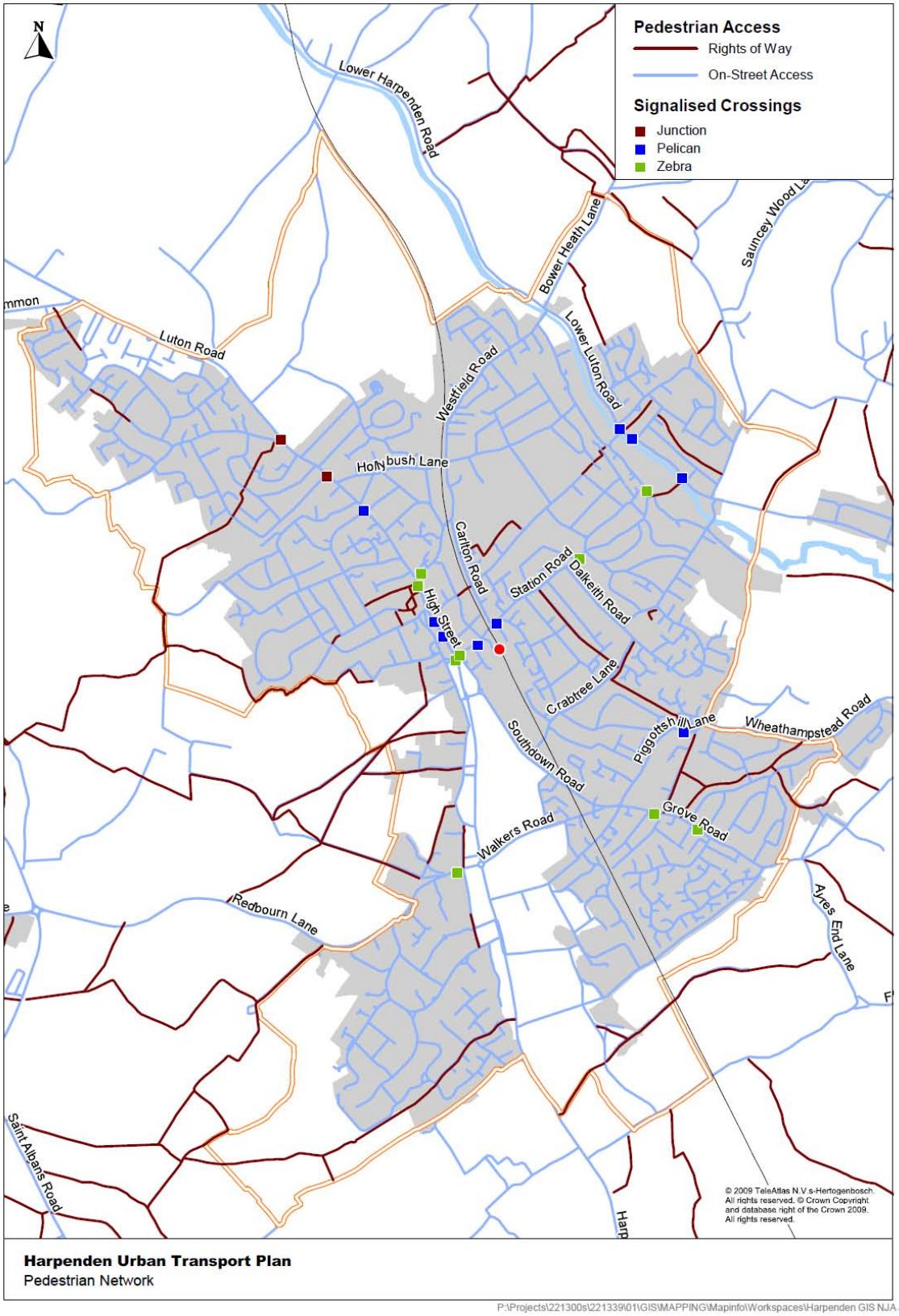


FIGURE B.12 NETWORK PRIORITY - PEDESTRIANS

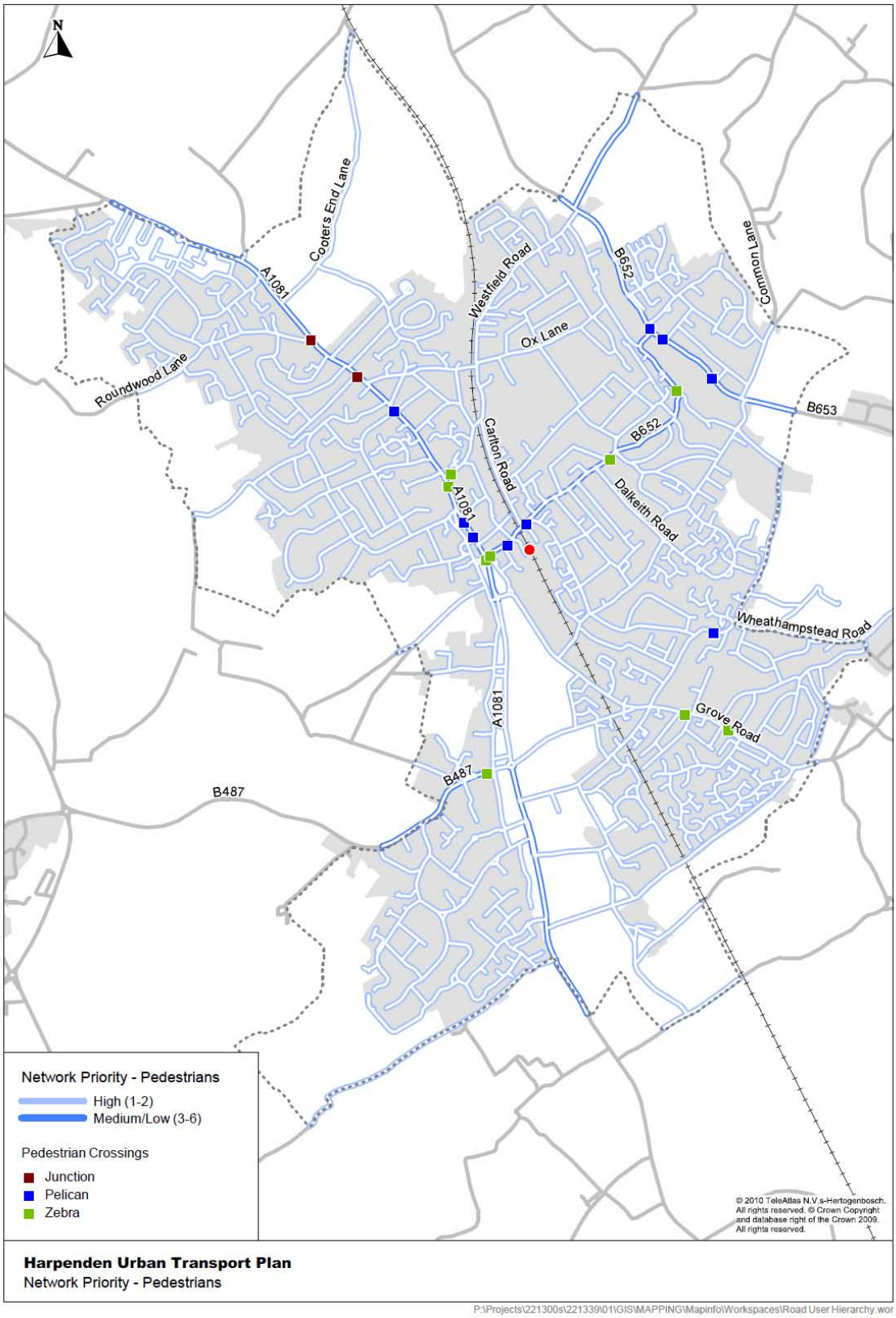


FIGURE B.13 LAND USE, STRATEGIC FUNCTION & MODAL FUNCTION

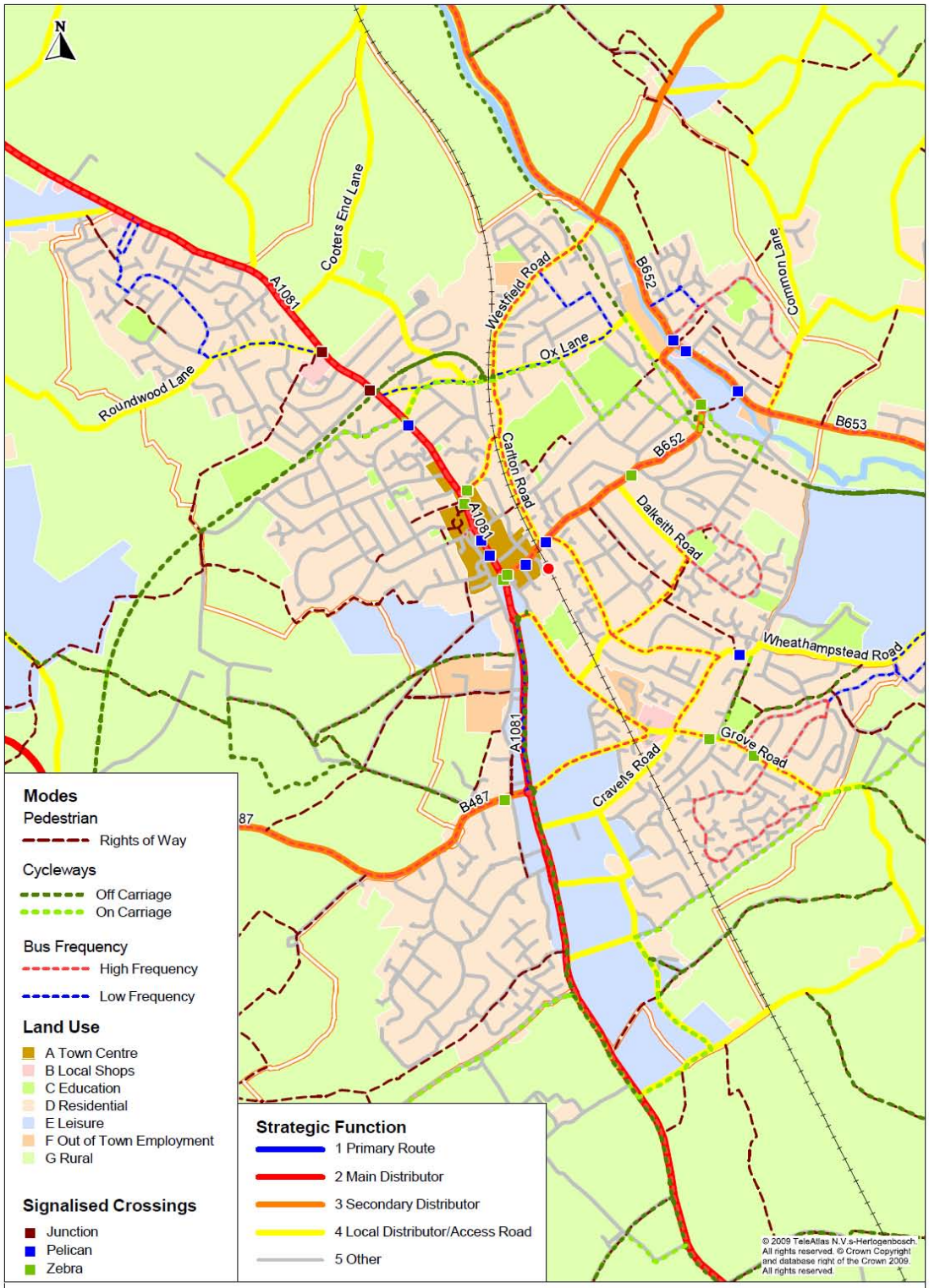


FIGURE B.14 NETWORK PRIOIRTY – ALL USERS / MODES

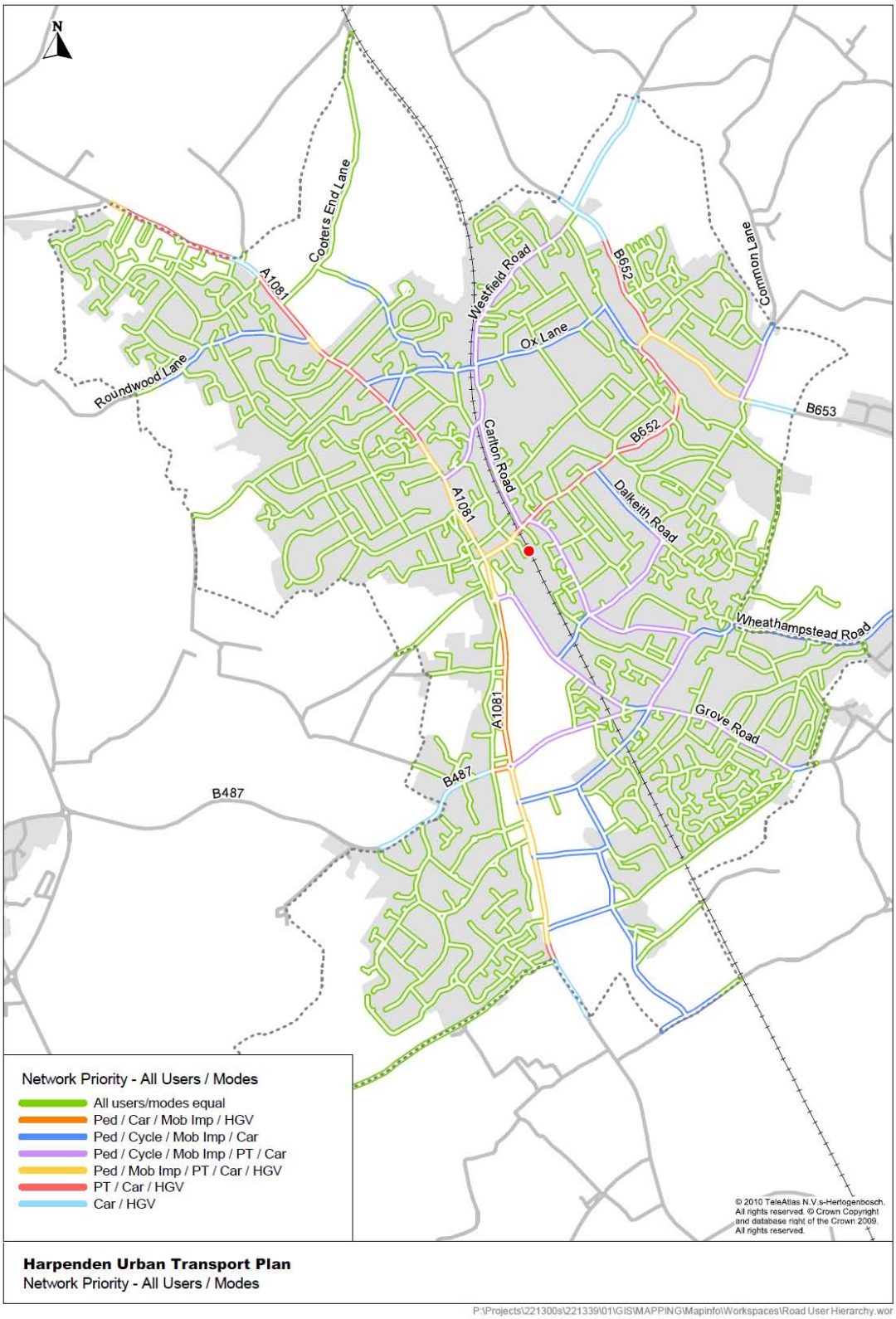


TABLE A.2 INDICATIVE ROAD USER HIERARCHY

Strategic Function		Land Use		General (1)						High Frequency Bus Route						On-road Cycle Route					
				Ped	Cyc	Mob Imp	PT	Car	HGV	Ped	Cyc	Mob Imp	PT	Car	HGV	Ped	Cyc	Mob Imp	PT	Car	HGV
1	Primary Route	A	Town centre	3	6	3	3	2	1	4	6	4	2	2	1						
1		B	Local shops	3	6	3	3	2	1	4	6	4	2	2	1						
1		C	Education																		
1		D	Residential																		
1		E	Leisure	3	6	3	3	2	1	4	6	4	2	2	1						
1		F	Out of town employment	3	6	3	3	2	1	4	6	4	2	2	1						
1		G	Rural	5	4	5	3	2	1	5	4	5	3	2	1						
2	Main Distributor	A	Town centre	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
2		B	Local shops	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
2		C	Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2		D	Residential	3	3	3	3	1	1	4	4	4	1	1	1	5	1	5	1	1	1
2		E	Leisure	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
2		F	Out of town employment	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
2		G	Rural	5	4	5	3	1	1	5	4	5	3	1	1	5	3	5	3	1	1
3	Secondary Distributor	A	Town centre	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
3		B	Local shops	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
3		C	Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3		D	Residential	3	3	3	3	1	1	4	4	4	1	1	1	5	1	5	1	1	1
3		E	Leisure	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
3		F	Out of town employment	1	6	1	5	1	1	1	6	1	1	1	1	1	1	1	1	1	1
3		G	Rural	5	4	5	3	1	1	5	4	5	3	1	1	5	3	5	3	1	1
4	Local Distributor / Access Road	A	Town centre	1	1	1	4	1	4	1	1	1	1	1	6	1	1	1	4	1	4
4		B	Local shops	1	1	1	4	1	4	1	1	1	1	1	6	1	1	1	4	1	4
4		C	Education	1	1	1	5	1	6	1	1	1	1	1	6	1	1	1	5	1	6
4		D	Residential	1	1	1	5	1	6	1	1	1	1	1	6	1	1	1	5	1	6
4		E	Leisure	1	1	1	5	1	6	1	1	1	1	1	6	1	1	1	5	1	6
4		F	Out of town employment	1	1	1	5	1	6	1	1	1	1	1	6	1	1	1	5	1	6
4		G	Rural	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	Other	A	Town centre	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		B	Local shops	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		C	Education	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		D	Residential	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		E	Leisure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		F	Out of town employment	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5		G	Rural	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Note 1 General includes most situations including where there are low frequency bus routes and segregated cycle routes.

CONTROL SHEET

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1.3	08/10/10	Draft for Public Consultation
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REVIEW

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