

HERTFORD AND WARE URBAN TRANSPORT PLAN

November 2010



Appendix E - Mead Lane

Appendix E Mead Lane Access Master Plan Study

Contents

1	Introduction	6
2	Key Constraints	19
3	Junction Options Testing	28
4	Paramics Option Modelling	37
5	Development Proposals and Sustainable Transport Strategy	41
6	Emergency Access	46
7	Conclusions	48

Appendix A	Scheme Feasibility Pro-formas
Appendix B	Emergency Access Options
Appendix C	Junction Constraints
Appendix D	Stakeholder Consultations
Appendix E	Revised Access Link Layout
Appendix F	Postcode Analysis of Consultation Results

GLOSSARY OF TERMS

A1	Land uses classified as 'Shops' in the Use Classes Order 1987
A2	Land uses classified as 'Financial and Professional Services' in the Use Classes Order 1987
A3	Land uses classified as 'Restaurants and cafes' in the Use Classes Order 1987
A4	Land uses classified as 'Drinking Establishments' in the Use Classes Order 1987
A5	Land uses classified as 'Hot Food Takeaways' in the Use Classes Order 1987
Base Year	Year taken to represent the existing situation
C1	Land uses classified as 'Hotels' in the Use Classes Order 1987
CPZ	Controlled Parking Zone
D1	Land uses classified as 'Non residential Institutions in the Use Classes Order 1987
D2	Land uses classified as 'Assembly and Leisure' in the Use Classes Order 1987
DB32	Design Bulletin 32 – highway design guidance prior to MfS
Degree Sat.	How close to capacity a junction is
DMRB	Design Manual for Roads and Bridges
EHC	East Herts Council
GEH	Goodness of Fit Statistic to gauge the level of calibration and validation achieved between the observed data and the modelled data
GTP	Green Travel Plan
HCC	Hertfordshire County Council
HGV	Heavy goods Vehicle
LDF	Local Development Framework
LGV	Light Goods Vehicle
LINSIG	Traffic signal testing computer model
LMVR	Local Model Validation Report
LTP	Local Transport Plan
MDL	UTP Mead Lane Measures
MfS	Manual for Streets – latest guidance on highway design and layout
MMQ	Mean Maximum Queue

Modal Shift	Change in use of one mode of transport to another (such as car to bus)
PCU	Passenger Car Unit – all vehicles are combined as PCU's
Paramics	Micro-simulation traffic modelling software package
STC2	Local Plan Policy STC2 - Primary Shopping Frontages
STC3	Local Plan Policy STC3 - Secondary shopping Frontages
S106	Section 106 (of the Town and Country Planning Act 1990)
TRO	Traffic Regulation Order
TRICS	Database of observed trip generation survey data by land use type
UTC	Urban Traffic Control
85th Percentile	The amount which is not exceeded (such as 85% of queue lengths recorded across a given time period do not exceed a certain length)

1 Introduction

1.1 BACKGROUND

1.1.1 As part of the Hertford and Ware Urban Transport Plan (UTP) a sub-study was commissioned to help develop an Access Masterplan for the Mead Lane area. The aim of this Mead Lane Access Masterplan Study is to review the current transport situation within the Mead Lane area of Hertford and identify the potential to allow further sustainable development within the site. A transport model has been established as part of the UTP to test options for this area.

1.1.2 The Mead Lane area has a number of access issues which restrict its development potential and limit the opportunity for visual improvement of the area. Part of the Mead Lane Employment Area located to the east of Marshgate Drive comprises a large parcel of land that is considered suitable for a mixed use scheme of development as part of a wider comprehensive environmental improvement scheme for the area. However, it currently has a number of access issues that restrict its development potential. The redevelopment of the area is underpinned by Policy HE5 of the East Herts Local Plan Second Review, Adopted April 2007, which supports such proposals provided that the current access difficulties in the area can be surmounted. In such circumstances it is anticipated that a planning brief for the Mead Lane area as a whole would be prepared.

1.1.3 Hertfordshire County Council (HCC) Highways Development Control policies have not allowed any further development of the site without a second point of access to limit the impact on the nearby highway network including Mill Road, Ware Road and the A414. However, it has been identified that the existing HCC guidance is based on DB32 guidance which has now been superseded by Manual for Streets (MfS). MfS does not place a specific limit on the number of houses which can be supported by a single point of access.

1.1.4 The location and scope of the Mead Lane study area is shown below in Figure 1.1.

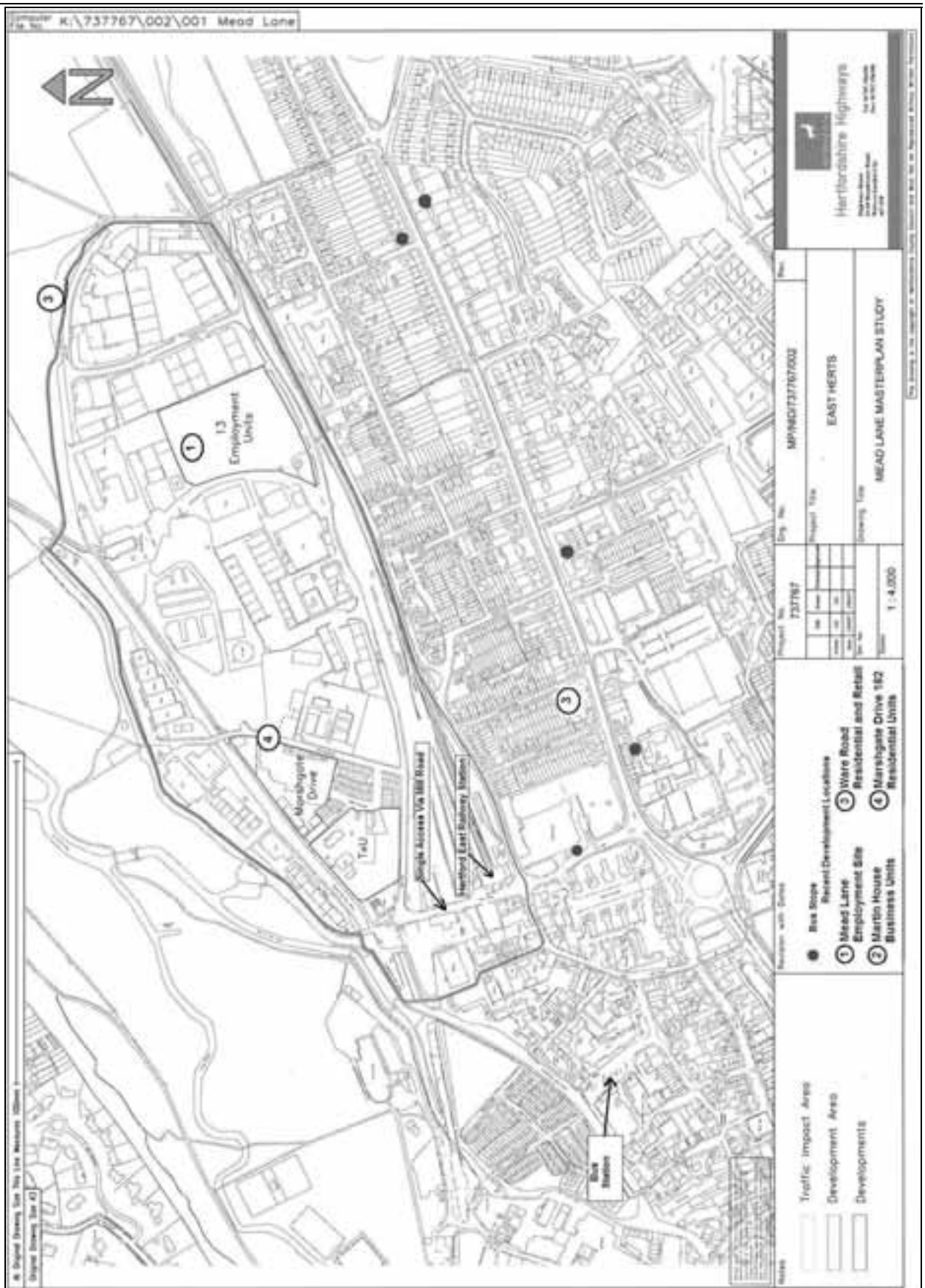


Figure 1.1 Mead Lane Study Area Location

1.1.5 As shown in Figure 1.1 above, the Mead Lane area is situated immediately adjacent to the Hertford East railway station and occupies a parcel of land to the north of the railway line to London Liverpool Street which connects Hertford with Ware. The northern boundary of the site is formed by the River Lea. The red line development boundary includes mixed use development to the west of Mill Road, opposite the Hertford East railway station.

1.1.6 The green area in Figure 1.1 shows the extent of the highway network being considered for traffic impacts. The areas edged in blue are the recent significant developments that have been completed or have been granted permission and are underway, as follows:

- TxU site for residential development;
- Marshgate Drive with 182 residential units; and
- Mead Lane for additional employment units.

1.2 ACCESS AND PARKING

1.2.1 There are currently no bus services operating directly to the site, which limits the uptake of bus travel for journeys to work. However, the town centre bus station is also within feasible walking distance from the site with the former TxU site and adjacent housing units within an 800m walk distance from the bus station. There are bus stops on Ware Road within 600m of the premises at the south end of Merchant Drive and also adjacent to Tesco's.

1.2.2 In terms of highway access, the Mead Lane area is constrained in that there is only a single vehicular access route via Mill Road at the western end of Mead Lane at present. Mill Road is linked to Hertford town centre via the A119 and A414 at the Bluecoats roundabout which is already extremely congested during peak hours.

1.2.3 Severance issues, caused by the Rivers to the northwest and the railway line to the south of Mead Lane, prevent direct access from nearby residential areas such as the Bengoe area to the northwest and Kingsmead to the south of the railway line.

1.2.4 It has been observed that the Hertford East rail station car park is not well utilised as commuters choose to park in nearby residential streets free of charge, instead of making payment for their parking. This displaced parking is a problem affecting the roads within Mead Lane study area which are not currently subject to a CPZ. However, the CPZ in this area is currently being considered for extension. The following roads within the Mead Lane area and surrounding streets are subject to the Hertford East CPZ zone H3 residential parking permit scheme:

- Holden Close (property numbers 1 to 36 only);
- Marshgate Drive (property numbers 1 to 27 odds);
- Mead Lane;
- Priory Street (property numbers 2 to 10 evens) and 1 & 2 Charlotte Quay;
- Railway Street (property numbers 75, and 98 to 138 evens);
- St. John's Street;
- Townshend Street;
- Villiers Street; and
- Ware Road (property numbers 1 to 35 odds, including the Hertford Methodist Church and Pioneer Hall).

1.2.5 Hours of operation for Zone H3 are Monday to Saturday 8am - 6pm (excluding Bank and Public holidays).

1.2.6 It is also worth noting that the EHC Hartham Lane car park is within walking distance of the railway station car parking and has lower charges.

1.2.7 Currently it can be congested at the junction of Mill Road with Mead Lane, but this is partly due to the construction works currently underway. The parking on Mead Lane also causes congestion.

1.2.8 Despite the accessibility constraints identified above, given the proximity of the site to the rail station and Hertford town centre, the location has the potential to be more sustainable than edge of town or out of town locations. Hence, the need to identify a sustainable strategy for facilitating the future development of the site.

1.3 HERTFORD EAST STATION

1.3.1 Hertford East Station is located on Mill Road and is managed by National Express East Anglia. The station is staffed on Monday to Friday full time and on Saturday until 2.30pm, with no Sunday staffing.

1.3.2 Cycle storage is available for 8 bicycles and is partially sheltered. There is a small car park available providing 17 spaces which is operated by National Car Parks Ltd. The car park charges for Hertford East are as follows:

- £10.00 peak (daily);
- £3.00 off-peak (daily);
- £719.00 annually;
- £2.00 after 16.00 Monday-Friday;
- £2.00 Saturday; and
- £1.00 Sunday.

1.3.3 A taxi rank is available outside the booking hall and the nearest bus services operate from the bus stop located outside Tesco in Mill Road which is opposite the station. PlusBus tickets are available at this station.

1.4 LAND USE AND COMMITTED DEVELOPMENT

1.4.1 The composition of land uses within an area can significantly influence the character and transport pressures upon the surrounding network. The majority of the Mead Lane area is currently established light industrial development, providing 2224 jobs (according to UK 2001 Census Journey to Work statistics). The majority of employers are low density, small-scale, local employers who do not employ more than 50 personnel. However, part of the Mead Lane area (East of Marshgate Drive) is currently designated as an employment area within the East Herts Local Plan 2007 and it is envisaged that employment would remain as the main land use element within the new masterplan.

1.4.2 There have been several recent planning applications considered in relation to this area which include a change of use to residential. The committed developments to be taken into account within the Mead Lane Access Masterplan Study are in Table 1.1.

Ref No	Name	Type	Description	Status	Town
1 (EH/475/2006)	Mead Lane	Committed Development 1000sqm or more.	New business units within use classes B1, B2 & B8	Grant	Hertford
2 EH/78/2008	Martin House, Unit 7 Fountain Drive	Committed Development 1000sqm or more	Construction of two storey extension to existing factory unit (approved previously on 3/06/98 - app 3/98/0281/RP) with tensile fabric canopy to existing offices entrance - plus single storey loading bay to north elevation with new secondary vehicular access for small van deliveries	Grant with conditions	Hertford
3 EH/621/2007	26 Ware Road	Committed Development 1000sqm or more.	Demolition of existing buildings and the erection of a ground floor retail unit, 5 no. two bed and 5 no. one bed residential units with underground parking	Grant with conditions	Hertford
4 EH/244/2007	Land off Marshgate Drive	Residential Development 182 units or more.	Demolition of existing light industrial buildings & construction of 182 new residential units with covered car parking, new access & external landscaping	Approved	Hertford

Table 1.1 Mead Lane Committed Development

1.4.3 An application on Mead Lane for business units within use classes B1, B2 and B8 has been granted permission, and land at Marshgate Drive has approval for 182 residential units. Approval has also been granted for an extension to an existing factory unit on Fountain Drive. S106 contributions have been secured for these three developments which has been ring fenced for funding the Mead Lane Access and masterplanning study as part of the Hertford and Ware UTP and any subsequent implementation works.

1.4.4 The former TXU site on Mead Lane is also nearing completion with 130 residential flats including reduced car parking and a car club. This development is anticipated to generate an additional 35 trips in each of the AM and PM peak hours which would impact directly on Mead Lane, Mill Road and the Bluecoats roundabout;

1.5 JOURNEYS TO WORK

1.5.1 Since the Mead Lane area is largely made up of employment land uses at present, the majority of trips can be attributed to Journeys to work and business-related travel. Analysis of the Journey to Work data by origin, destination and main mode from the UK 2001 Census suggests that only 32% of workers employed within the Mead Lane area currently live in the Hertford and Ware conurbation, with 21% living in Hertford and 11% living in Ware. Many of these local workers travel to Mead Lane by non-car modes as shown in Figures 1.2 and 1.3 below:

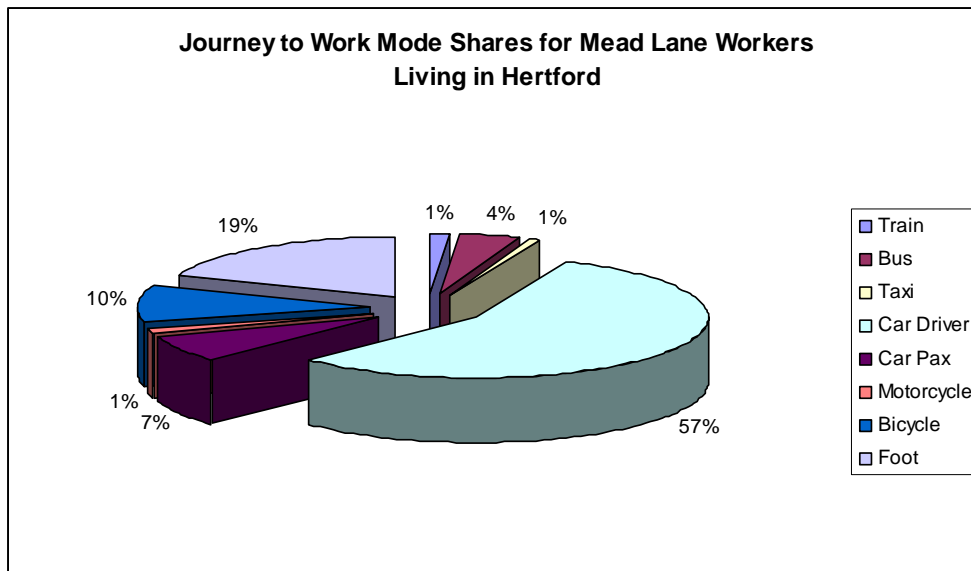


Figure 1.2 Journey to Work Mode Shares for Mead Lane Workers Living in Hertford

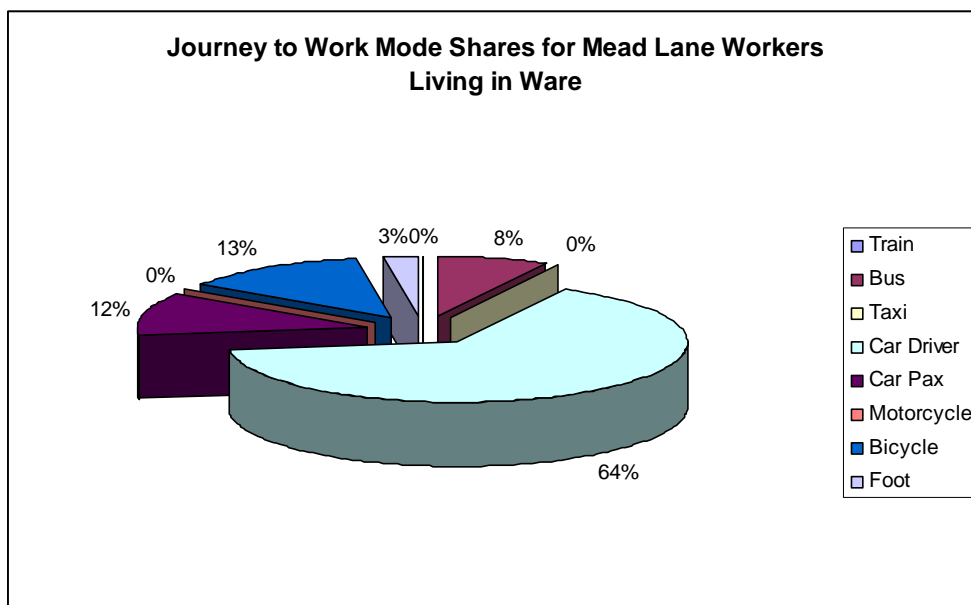


Figure 1.3 Journey to Work Mode Shares for Mead Lane Workers Living in Ware

1.5.2 The majority of workers in the Mead Lane area (68%) travel from outside the Hertford and Ware UTP area and 86% of these travel as a car driver as shown in Figure 1.4 below.

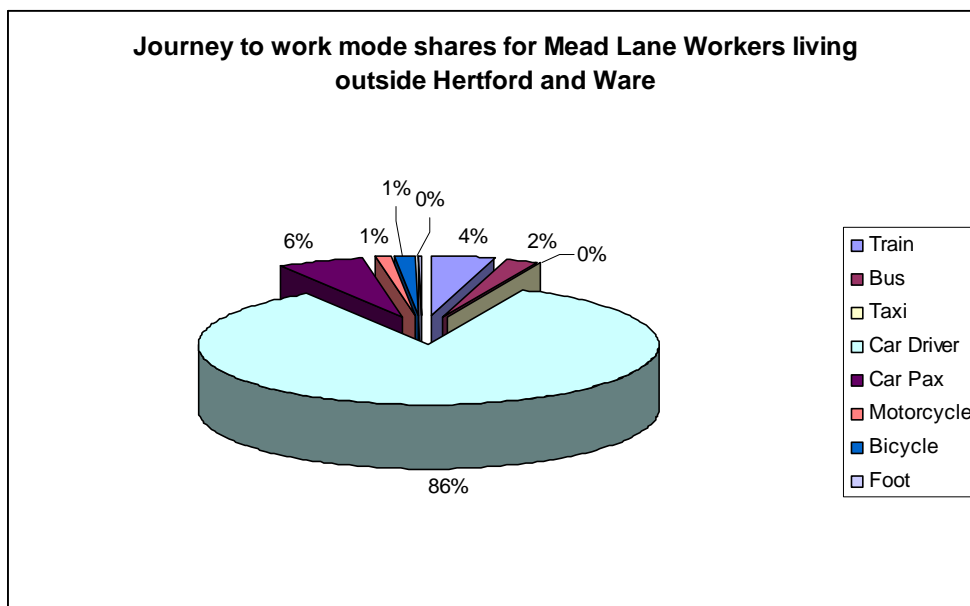


Figure 1.4 Journey to Work Mode Shares for Mead Lane Workers Living Outside Hertford and Ware

1.5.3 The overall mode shares for Mead Lane Workers are shown in Figure 1.5 below:

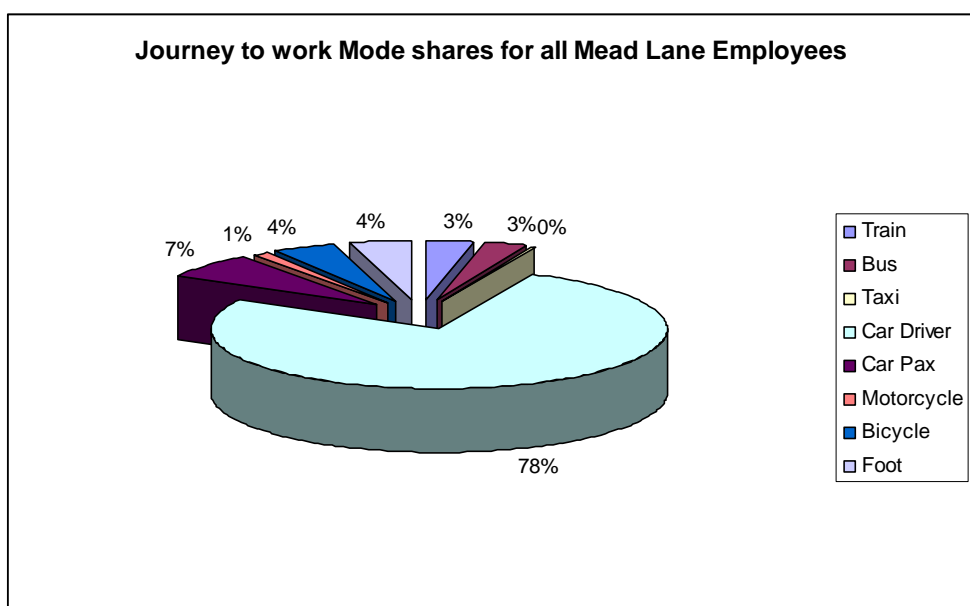


Figure 1.5 Journey to Work Mode Shares for all Mead Lane Employees

1.5.4 The high car dependency of Mead Lane workers and large proportion of trips from outside the study area places significant pressure on the surrounding highway network, especially the A414 and Bluecoats roundabout junction.

1.6 PROPOSED LAND USE STRATEGY FOR THE NEW MASTERPLAN

1.6.1 EHC and HCC envisage that the Mead Lane area should be regenerated to provide a more balanced land use composition and improved access. EHC has proposed a potential land use strategy which is shown in Figure 1.6.

1.6.2 This suggests that there would be an increase in residential uses within the site and that the residential land would be located to the western end of the Mead Lane area, closest to the town centre and Hertford East Railway Station.

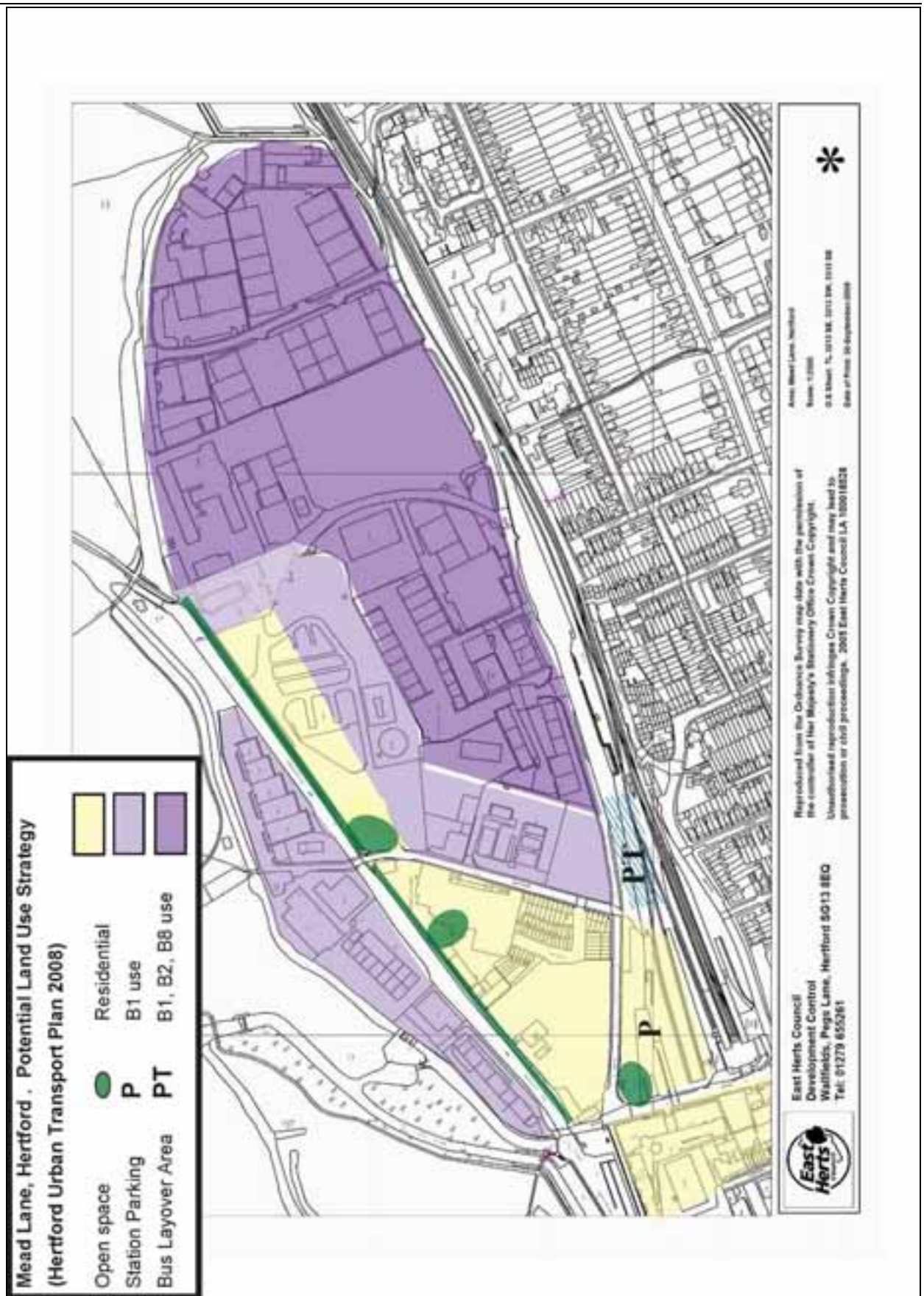


Figure 1.6 Mead Lane Potential Land Use Strategy (proposed by EHC)

1.6.3 The potential land use strategy also suggests that the north western part of the area to the east of Marshgate Drive and to the south of the river would comprise mainly residential development, with a central buffer of B1 uses to separate the residential

development from the (mainly) existing B2 and B8 uses. Open spaces would be included along the river frontage of the site, adjacent to the Marshgate Drive bridge and adjacent to the Hertford East rail station.

1.6.4 Overall, the aspiration of any new masterplan needs to take into account a mix of uses which could include:

- Limited residential development;
- Riverside access;
- Passenger transport improvements;
- Potential additional car parking facilities to support the use of Hertford East Station;
- Improved vehicular, pedestrian and cycle access;
- Other supporting land uses such as hotel and leisure; and
- Open spaces and landscaping of the area.

1.6.5 Sections 7.1.7 and 7.1.8 discuss the range of potential land uses for the site which have been identified within the Mead Lane Masterplanning Study undertaken as part of the UTP.

1.7 PROPOSED ACCESS AND MOVEMENT STRATEGY

1.7.1 EHC has also put forward a proposed movement strategy which is shown in Figure 1.7. In terms of highways and access, an emergency access would be needed to the site to support the proposed land use strategy, (based on the scale of committed residential developments alone). With increased B8 development, the site access needs to be suitable for large heavy vehicles. HGV routing also needs to be taken into account and wider mitigation of the traffic impact of this would need to be considered for off site junctions within the wider highway network.

1.7.2 As identified above, improvements also need to be made to improve sustainable access to the site for pedestrians, cyclists and public transport.

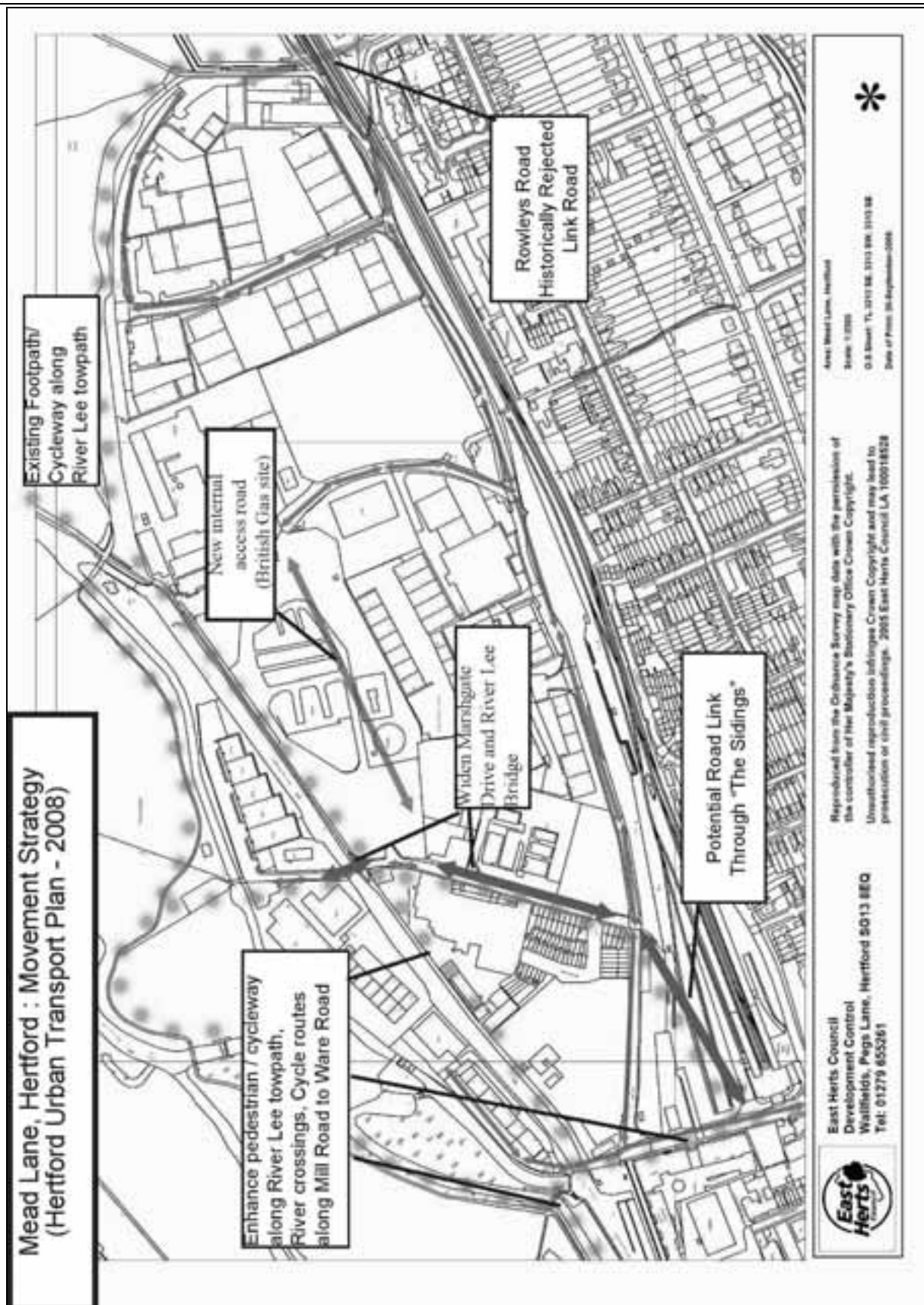


Figure 1.7 Mead Lane Proposed Movement Strategy (proposed by EHC)

1.7.3 In terms of non-car access, the proposed movement strategy suggests enhancing the pedestrian/cycleway along the river towpath, with linkages to cycle routes along Mill Road and Ware Road.

1.7.4 The above proposed movement strategy indicates that potential widening of Marshgate Drive and the River Lea bridge is envisaged, with a potential new link through the rail sidings. Other vehicular access routes appear to be secondary, although a new internal access link would be created through the former British Gas site.

1.7.5 The above proposed movement strategy does not rule out the option for a secondary highway access into Rowley's Road at the eastern end of the site, although historically this has been investigated and rejected.

1.8 SECOND ACCESS TO MEAD LANE

1.8.1 The HCC guidance 'Roads in Hertfordshire – A guide for New Developments' would allow a major access road (i.e. Mill Road) to serve no more than 300 dwellings or equivalent development. This number has already been exceeded through existing development and recently permitted planning applications as detailed above.

1.8.2 However, despite the requirements of the above guidance seeking the creation of a second access into the Mead Lane area, consultation with Network Rail has categorically ruled out this option as a result of policies relating to the safety record of level crossings throughout the UK. Based on previous consultation and anecdotal evidence, creating a new level crossing at the eastern end of Mead Lane is also likely to attract significant public opposition to the proposals which would increase traffic travelling through the Kingsmead residential area. In addition, the following issues were identified that have demonstrated that a bridge at this location should be discounted.

- Environmental and visual impact due to the required height for the bridge to cross the railway;
- The significant cost of building such a structure;
- Required land-take to accommodate the ramps that would impact on existing residential properties and the potential for employment development in Mead Lane;
- Land previously reserved for construction of a second access at Rowley's Road has now got flats built on it and these would need to be compulsorily purchased (CPO) to construct such a bridge.

1.8.3 Furthermore, recent access restrictions which have been imposed within the Kingsmead area have been shown to improve residential amenity.

1.9 HERTFORD EAST STATION IMPROVEMENTS

1.9.1 Since the site is adjacent to Hertford East Station, the new future planning brief/masterplan will additionally attempt to improve integration between bus and rail services, exploring opportunities to incorporate a new interchange area within the Mead Lane site. The arrangements for station car parking also need to be considered as there is currently limited capacity for car parking at the station and the overflow demand is known to impact on surrounding streets. It may therefore be necessary to extend the Hertford East CPZ to apply to all of the Kingsmead residential area as part of the station enhancement proposals, and this is included in Appendix A in scheme Pro-forma MDL4.

1.9.2 Pedestrian access to the station currently involves crossing the roundabout outside the station. This would be improved to provide greater priority for pedestrians. Cyclists also have no priority at this location. These improvements are included in Pro-forma MDL3 in Appendix A.

1.9.3 At this stage preliminary discussions have been held with National Express and Network Rail and they are supportive in principle of the proposals for improved interchange at Hertford East Railway Station. HCC have also registered interest with the BRB (Residuary) Ltd. for utilising the sidings land for a transport use. All proposals for station improvements and access via the rail sidings will need to be subject to further consultation with Network Rail and passenger transport operators as well as emergency services.

1.10 MASTERPLANNING

1.10.1 The balance of land use for the new masterplan needs to take into account the existing and permitted developments. It should provide a carefully selected composition which aims to reduce the peak hour traffic generation of the Mead Lane area. It is envisaged that the increase in residential land use would help to balance the tidal flows. Increasing the B8 development component would reduce employment density and incur a more even spread of traffic movements throughout the day, rather than simply being focussed upon the peak hours. However, B8 development is inherently reliant upon heavy vehicles and therefore places different pressures on the surrounding highway network, which also require careful consideration (and mitigation). In addition, if B8 were to be increased this would impact on residential amenity.

1.10.2 The proposal to create a second point of access has been re-visited with Network Rail during a workshop with rail operators. Network Rail stated that they are not prepared to allow the existing pedestrian level crossing to the east of Mead Lane to be upgraded to a vehicular route as Network Rail have a strategy of not allowing additional level crossings for safety reasons.

1.10.3 The main option for improving the rail station at Hertford East and integrating bus and rail services, involves redeveloping the station sidings area to the north of Hertford East station as a rail user car park and a public transport interchange as part of a residential scheme. This however, requires agreement from Network Rail and the BRB (Residuary) Ltd. and needs to be integrated with the land use strategy identified by EHC. Currently this land parcel is suggested for residential development by EHC with car parking underneath. Albeit it is noted that transport interchange is an important element of the proposals.

1.11 MODELLING SCENARIOS TESTED FOR MEAD LANE

1.11.1 A Paramics model has been developed to test proposals at Mead Lane and specifically highway operational impacts. The trip generation implications of the EHC potential land use strategy have been identified and tested on key junctions, with the existing access arrangements. These junctions are:

- A414 Bluecoats; and
- Mill Road and Ware Road Junction.

1.11.2 As explained above, Network Rail will not accept use of the pedestrian level crossing for vehicles. In addition, any bridge across to Rowley's Road would not be feasible in terms of costs, visual intrusion and impacts property. Therefore no further testing of a second access at Rowley's Road has been considered.

1.11.3 Consideration has also been given to the role and impact on car trips of sustainable modes of travel. Green Travel Plans (GTP's) and Personal Travel Planning (PTP's) and restrictions on car parking and access have been explored for the Mead Lane area through two different strategies:

- Car based access focusing on current levels of car use and delivering a masterplan based on catering for associated car trips; OR

-
- A sustainable transport strategy that seeks to reduce car use (or a reduced level of capacity requirement through junction upgrades) and consider whether achievable and/or deliverable and level of impact it may achieve.

1.11.4 Further sensitivity tests for changing the land use allocation have also been considered using the EHC proposed land use strategy. This has considered taking into account increasing residential development, or increasing B8 development for example but with the key aim of releasing development.

2 Key Constraints

2.1 PARAMICS MODEL

2.1.1 The development of a 2009 validated Paramics model for the Mead Lane area has been used to identify the current network constraints in the vicinity of the Mead Lane employment area.

2.1.2 Various data was collected during the development of the base model including vehicle turning counts and queues which are used in this chapter to provide the evidence base for giving further consideration to the need for improved access to the site to release development potential.

2.1.3 Traffic surveys were carried out at the following locations:

- Mill Road / Mead Lane access junction;
- Mead Lane / Marshgate Drive; and
- Mill Road / Railway Street (outside Hertford East railway station).

2.1.4 A figure showing the locations of the junctions that are currently over-capacity and restricting access to Mead Lane are shown in Appendix C.

2.2 OBSERVED TRAFFIC FLOWS

2.2.1 Table 2.1 indicates the quantity of trips currently arriving and departing from the Mead Lane area via Mill Road during the AM and PM peak hours.

Time	Arrivals to Mead Lane via Mill Road	Departures from Mead Lane via Mill Road
08.00-08.15	95 (25%)	35 (26%)
08.15-08.30	94 (25%)	37 (27%)
08.30-08.45	94 (25%)	31 (23%)
08.45-09.00	94 (25%)	33 (24%)
Total	377	136
17.00-17.15	30 (25%)	141 (37%)
17.15-17.30	31 (26%)	93 (26%)
17.30-17.45	30 (25%)	103 (27%)
17.45-18.00	28 (24%)	42 (10%)
Total	119	379

Table 2.1 Vehicle trips to and from Mead Lane in the peak hours

2.2.2 Table 2.1 shows that the current total trips arriving at Mead Lane via Mill Road during the morning peak hour from 8am-9am is 377 vehicles with 136 departures during the same period, with a flat demand profile for arrivals and departures over the morning peak hour.

2.2.3 In the evening peak hour the current number of vehicles departing from Mead Lane via Mill Lane is 379 with 119 arrivals. The profile of demand for arrivals is fairly flat whilst the profile of demand for departures is more pronounced with 37% of departures during the 17.00-18.00 period departing between 17.00-17.15.

2.3 OBSERVED AND MODELLED TURNING COUNTS

2.3.1 At the junctions that provide access to the Mead Lane area and that are in the vicinity of the site junction turn counts were carried out. These were used for model validation purposes and based on these the model validates within acceptable limits. The key junctions of relevance are detailed below with the main flows through each junction highlighted in bold italics for both the AM and PM peak.

Origin	Destination	Observed Flow AM	Observed Flow PM
Bluecoats (N=Fore St; E=Ware Rd; S=London Rd; W=Gascoyne Way)			
North	East	20	16
North	South	83	148
North	West	128	123
East	North	20	41
East	South	96	202
East	West	807	683
South	North	50	90
South	East	210	246
South	West	1330	1250
West	North	43	26
West	East	523	568
West	South	1030	1176
Mill Road (N=Mill Rd; E=Ware Rd; W=Ware Rd)			
North	East	59	160
North	West	211	466
East	North	72	101
East	West	715	460
West	North	312	203
West	East	436	628
Hertford East (N=Mill Rd; E=Railway St; S=Mill Rd; W=Railway St)			
North	East	13	102
North	West	7	21
North	South	144	279
East	North	86	9
East	West	65	17
East	South	104	43
South	North	209	50
South	East	11	22
South	West	27	31
West	North	77	33
West	East	48	186
West	South	101	179
Stanstead Road (N=Cromwell Rd; E=Ware Rd; S=Stanstead Rd; W=Ware Rd)			
North	East	1	3
North	South	19	12
North	West	40	8
East	North	3	5
East	South	12	66
East	West	464	346

Origin	Destination	Observed Flow AM	Observed Flow PM
South	North	2	3
South	East	39	54
South	West	327	209
West	North	6	19
West	East	384	528
West	South	193	595

Table 2.2 Comparison of Observed and Modelled Turning Counts

2.3.2 The model area is shown in Figure 2.1, including the locations for the junctions shown in Table 2.2.

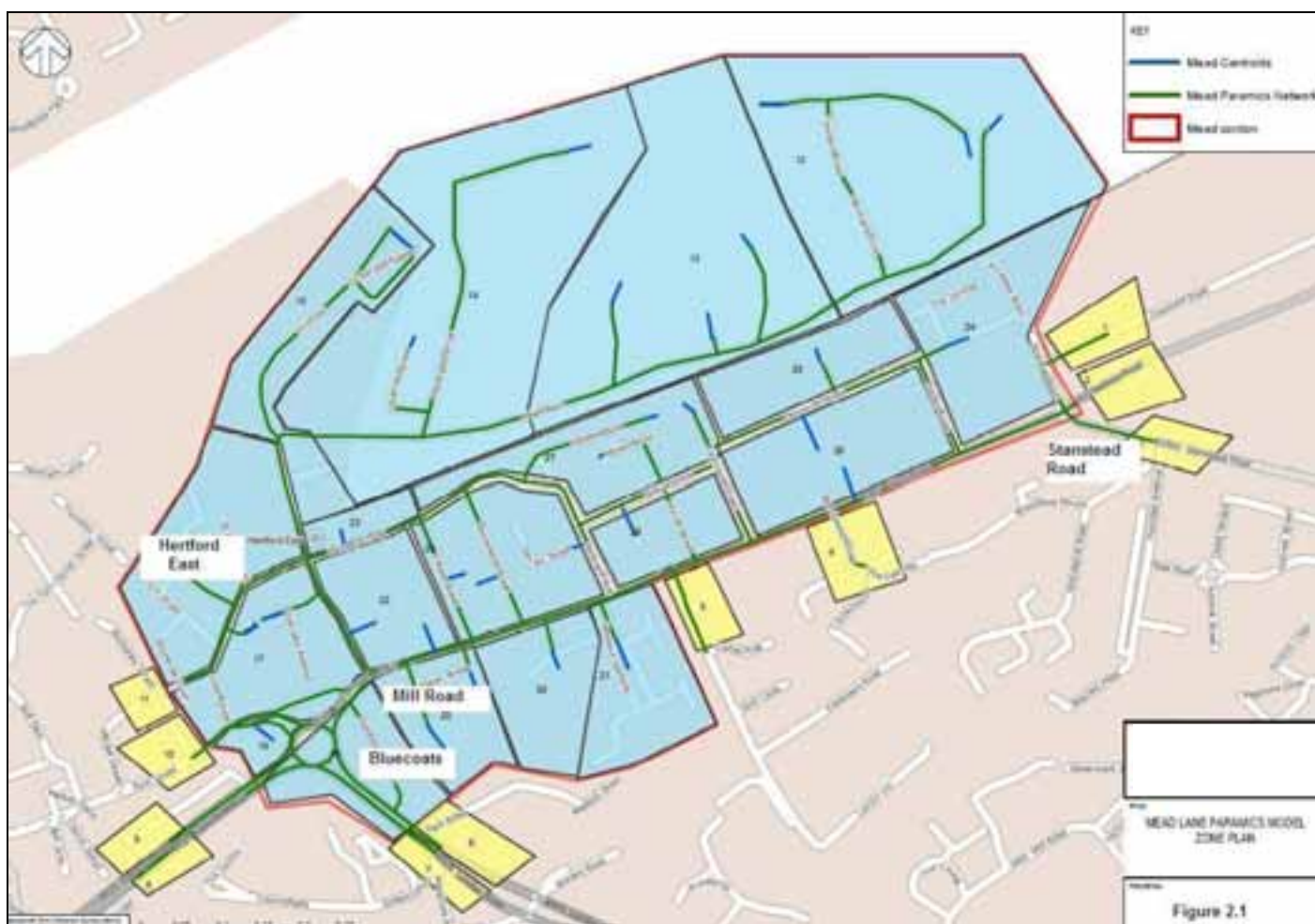


Figure 2.1 Extent of Paramics Model and Junction Locations

2.3.3 The primary flows at Bluecoats roundabout are between the south and west (London Road and Gascoyne Way) both in the morning an evening peak hours. Other dominant flows are from Ware Road to Gascoyne Way and vice versa.

2.3.4 At the Mill Road junction the most dominant flow is east to west in the morning peak and west to east in the evening peak. In the PM peak there is also a relatively high demand for trips from Mill Road towards Bluecoats (466 trips) and in the opposite direction in the AM peak (312 trips).

2.3.5 At the roundabout outside Hertford East station the dominant flow is from south to north in the morning peak and from north to south in the evening peak.

2.3.6 At the Ware Road and Stanstead Road junction the dominant flow is east to west in the morning peak and west to east in the evening peak. High demand flows are also experienced from Stanstead Road into Ware Road towards Hertford in the morning peak and in the opposite direction in the evening peak.

2.4 MODEL CALIBRATION AND VALIDATION

2.4.1 A full Local Model Validation Report (LMVR) has been produced as part of the model development process and this has been agreed with Hertfordshire County Council. An overview of the calibration and validation processes and key validation statistics based on DMRB guidance are provided below.

2.4.2 The model has been calibrated in accordance with the guidance on model validation provided within the DMRB (Design Manual for Roads and Bridges), using observed turning count data for calibration, and journey time and queue surveys for validation. The DMRB acceptance criteria for model validation is shown in Figure 2.2 below

Criteria and Measures	Acceptability Guideline
<u>Assigned Hourly flows * compared with observed flows</u>	
1. Individual flows within 15% for flows 700 - 2,700 vph) > 85% of cases
2. Individual flows within 100 vph for flows < 700 vph	
3. Individual flows within 400 vph for flows > 2,700 vph	
4. Total screenline flows (normally > 5 links) to be within 5%	All (or nearly all) screenlines
5. GEH statistic:	
i) individual flows : GEH < 5	> 85% of cases
ii) screenline (+) totals: GEH < 4	All (or nearly all) screenlines
Notes	
+ Screenlines containing high flow routes such as Motorways should be presented both including and excluding such routes	
* links or turning movements (but see Paragraph 4.4.37).	

Figure 2.2 DMRB Acceptance Criteria

2.4.3 The trip matrix has been constructed from a range of surveys carried out on the 2nd July 2009 and also utilising some existing turning count information. This data has been combined with a visual inspection of the network and matrix estimation.

2.4.4 For the matrix estimation process all available turning count data has been used. In the development of a trip matrix this ensures the best possible trip matrix is obtained by using all available data. The queue and journey time data are not used in the matrix estimation process and therefore are considered as independent data which have been used for validation purposes.

2.4.5 A GEH value of 0 reflects a perfect fit, values up to and including 5 reflect a good fit, a value between 5 and 10 represents an acceptable fit and values over 10 represents a poor fit. Table 2.3 below provides a summary of the AM peak hour assessment.

	GEH <5		GEH <6		GEH <10	
Count/Link	Pass	%	Pass	%	Pass	%
104	99	95.2	103	99	104	100

Table 2.3 AM Peak GEH Summary Statistics

2.4.6 Table 2.3 illustrates that the morning peak model well exceeds DMRB criteria with 95.2% of links with a GEH score of less than 5 and 99% with a value of less than 6. The average value across all 104 movements is 1.48. Table 2.4 shows the evening peak period.

	GEH <5		GEH <6		GEH <10	
Count/Link	Pass	%	Pass	%	Pass	%
104	99	95.2	103	99	104	100

Table 2.4 PM Peak GEH Summary Statistics

2.4.7 Table 2.4 illustrates that the evening peak model exceeds DMRB criteria with 99% of links with a GEH score of less than 5 and 100% with a value of less than 6. The average value across all counts is 1.37.

2.4.8 This illustrates that in terms of vehicle flow the model provides an accurate representation of the observed data.

2.4.9 The Paramics model validation has been undertaken against the surveyed queue and journey time data. Registration plate data has also been used to ensure the right magnitude of trips are routing through the Mead Lane model area.

2.4.10 The DMRB does not provide a definition for the validation of queue data, but practice over recent years has been to demonstrate that the modelled queue is of the same order as the observed. When observing a junction the queue will fluctuate significantly both through the period and from day to day. It is never therefore expected, or required to exactly replicate observed queues within the model

2.4.11 However, queues are typically very sensitive to fluctuations in demand and even if the same people traversed the network everyday, queue patterns and peaks would vary significantly.

2.4.12 The Paramics queue output compared with the observed has been assessed on the basis of a 95% confidence limit, which allows for the variation in queue within the Paramics model to be assessed against the observed values. All junctions show similar queue profiles for the observed versus the modelled situation.

2.4.13 Overall the analysis demonstrates that where the modelled journey lengths do not fall within the confidence interval the model typically has longer journey times. It is therefore considered robust.

2.5 OBSERVED AND MODELLED JUNCTION QUEUES

2.5.1 The results of these queue length surveys show that at certain times of day there are capacity constraints within the immediate vicinity of the site in terms of access to and from the area. These have been reflected as far as possible in the Paramics model which will be used for future scheme testing.

WARE ROAD / MILL ROAD

2.5.2 Queues on Ware Road at the Mill Road junction are currently worse in the AM peak (maximum 680m) compared to a maximum of 30m in the PM peak.

2.5.3 Queues from Mill Road into the Ware Road junction are currently worse in the PM peak (maximum 240m) compared to a maximum of 110m in the AM peak.

2.5.4 This indicates the tidal flow of trips into and out of the Mead Lane area.

FORE STREET / GASCOYNE WAY / LONDON ROAD / WARE ROAD (BLUECOATS)

2.5.5 In the AM peak the worst queues are experienced on London Road reaching a maximum of more than 800m throughout the majority of the peak hour. In the PM peak on London Road the queues extend to more than 400m.

2.5.6 On the A414 Gascoyne Way eastbound approach to Bluecoats roundabout the maximum queue in the AM peak is more than 250m compared with a maximum queue in the PM peak of around 400m which occurs throughout the peak hour.

2.5.7 Queues from Fore Street vary between reaching a maximum of 150m in the evening peak and approximately 55m in the AM peak hour.

WARE ROAD / STANSTEAD ROAD / CROMWELL ROAD

2.5.8 Queue surveys were not carried out at Ware Road / Stanstead Road but in the Paramics model queues on Stanstead Road and Ware Road westbound are most evident reaching up to 225m on Stanstead Road in the AM peak hour and 60m on Ware Road. In the PM peak the queues are eastbound on Ware Road reaching a maximum of 125m and 90m on Ware Road westbound.

MILL ROAD / RAILWAY STREET (HERTFORD EAST)

2.5.9 The queues at this location are greatest southbound on Mill Road in the PM peak reaching a maximum in the region of 130m, compared with 22m in the AM peak. The westbound entry from Railway Street experiences a maximum queue of 55m in the PM and 50m in the AM peak. The eastbound entry to the roundabout at Hertford East rail station from Railway Street has a maximum queue of 45m in the AM and 32m in the PM peak.

2.5.10 This is also a critical point on the network for buses and therefore any proposals need to be mindful of causing any additional delay to bus services.

2.6 CURRENT AND FUTURE ACCESS CONSTRAINTS

2.6.1 The current vehicular access constraints mainly occur due to the single point of access to the area via Mill Road which is largely restricted by the Mill Road signals and the Bluecoats roundabout and any further development within the site will add to the existing capacity constraints at these locations.

2.6.2 Within the site there are also a number of areas where access is currently restricted and these are provided below.

MEAD LANE

2.6.3 Mead Lane currently has on-street parking throughout the day on the northern side of the road which restricts two-way access beyond Marshgate Drive into the estate. This would need to be considered in any future development on the site to either restrict or formalise parking areas to maintain efficient access to the site along Mead Lane, as outlined in Pro-forma MDL4 at Appendix A.

MILL ROAD / DICKER MILL & MARSHGATE DRIVE

2.6.4 The vehicular access from Mill Road into Dicker Mill is also restricted by the bridge over the river. There is a lot of pedestrian and cycle activity in this area due to the intersection of the footpaths and cycle paths and the river crossing which further restricts vehicular access. The access for vehicles over the bridge on Marshgate Drive to the area to the north west of the river is also relatively restricted by the bridge over the river, although there is sufficient width for two vehicles to simultaneously pass each other at this location.

2.6.5 This area is allocated for B1 use in the EHC proposed 'Potential Land Use Strategy'. It is suggested that the primary access point for this area should be via Marshgate Drive and that the developments would need to have an efficient sustainable access strategy.

ROWLEY'S ROAD AREA

2.6.6 There is currently no vehicular access from Cromwell Road into Rowley's Road. Vehicular access to Rowley's Road is currently via Fairfax Road and Tamworth Road. The route from Ware Road between Cromwell Road and Rowley's Road is currently blocked using concrete bollards. The road width is also very restricted at this point with a ditch running along the eastern side of the road.

2.6.7 Improvements to provide better cycle and pedestrian access are included in Pro-forma MDL5 at Appendix A. These would need to be subject to further discussion and agreement with Network Rail.

2.7 ORIGINS AND DESTINATIONS OF MEAD LANE USERS

2.7.1 Interpretation of the model matrix indicates the number of trips originating from different areas of the model and provides an indication of the number of existing trips that may route to an alternative access if one is provided in the future. Table 2.5 shows the trips by model area.

	To Mead Lane Zones (8-9am)	To External Zones to West (pm)	To External Zones to East (pm)	Total Trips (pm)
From External Zones to West (am)	254	~	~	~
From External Zones to East (am)	58	~	~	~
Total Trips (am)	377	~	~	~
From Mead Lane Zones (5-6pm)	~	181	148	379

Table 2.5 Mead Lane vehicle trip origins and destinations

2.7.2 This indicates that 67% (254) of trips arriving at Mead Lane in the morning peak hour originate from the external zones to the west of the model (includes Caxton Hill, London Road, Gascoyne Way, Fore Street and Market Street). Furthermore 15% (58) have external origins to the east (includes Cromwell Road, Ware Road, Stanstead Road and Beechwood Close). The remainder of the trips originate from the other internal model zones making up 18% of the total trips. A point on Ware Road to the east of Caxton Hill has been used to separate the trips into east and west.

2.7.3 In the evening peak hour 48% (181) of trips are departing from the Mead Lane area and heading to the external zones to the west (includes Caxton Hill, London Road, Gascoyne Way, Fore Street and Market Street) and 39% (148) are travelling to the external zones to the east (includes Cromwell Road, Ware Road, Stanstead Road and Beechwood Close). The remaining 13% of departures are going to the internal model zones which are more local to the site.

2.7.4 The committed development on the site is also likely to further exacerbate the current traffic conditions at the junctions in the vicinity of the site.

2.8 EMERGENCY ACCESS ISSUES

2.8.1 Advice in Manual for Streets and other such guidance outlines that separate emergency access is not always required and a specific figure should not be attributed to the number of dwellings accessed from a single point. However, Manual for Streets also states that consultation should be undertaken with emergency services in relation to the appropriateness of access for them. However, considering the large mix of residential and commercial development in this area, even if capacity can be achieved through a single point of access, Hertfordshire County Council Highways Development Control officers have stated that a separate form of emergency access should serve it.

2.8.2 Providing suitable emergency access is important and it has therefore been considered that this can be achieved through a segregated emergency access arrangement, without the need for a second point of access. It should be noted that with an option including access and interchange over the sidings land (see Appendix B) the single point of access is over only a very short section, some 30-40m as a "loop" arrangement is created within the site to ensure access to all locations within the site by two separate routes from a point close to the station building. The highway is also wide enough (at about 14m minimum) to allow emergency vehicles to pass should there be an incident in front of the station. This is discussed further below and shown in Pro-forma MDL3 in Appendix A.

2.8.3 As noted from the photo below, the canopy in front of the Hertford East Station could not be utilised for emergency vehicle access, see Figure 2.3. Further detail on Emergency access is provided in Chapter 6.



Figure 2.3 Frontage of Hertford East Railway Station

3 Junction Options Testing

3.1 MEAD LANE JUNCTION CAPACITY ASSESSMENT

3.1.1 This chapter summarises option testing that was carried out for the proposed changes revised junction layouts at the A414 Bluecoats roundabout and the Mill Road / Ware Road “Tesco” junction. The purpose of the assessment is to identify any junction improvement options that may provide enough capacity to facilitate developments in the Mead Lane area.

3.1.2 The assessment has been carried out in LINSIG and Paramics. The validated Paramics model of the Mead Lane area has been used for those options tested in Paramics. A base network model of the Bluecoats and “Tesco” junctions has been created in LINSIG to use as a base for the options tests and in order to compare the results to the existing situation.

3.1.3 The LINSIG base model has not been validated and due to the limitations of modelling signalised roundabouts in LINSIG (where short lanes cannot be easily modelled around the circulatory) the results from the base model should not be taken at face value. Specifically blocking back around the roundabout has not been modelled.

3.1.4 Both this Chapter and Chapter 4 do not include the implications of the Sainsbury's development in relation to the re-distribution of trips away from Tesco's.

MILL ROAD/WARE ROAD JUNCTION

3.1.5 The options proposed for the Ware Road / Mill Road junction were:

- **Option A:** Change highway lane markings to allow two lanes straight ahead from Ware towards the A414 and re-phase signals for right turn stacking in middle of junction together with allowing the Mill Road nearside lane to provide for both left and right turns; and
- **Option B:** This would provide the same as the above, but would possibly require additional land (from the frontage of Tesco area on Ware Road) to allow for a 70m taper and two lane merge east of the junction. This allows the left turn lane currently going from Ware Road to Mill Road to become a left / ahead shared movement lane.

3.1.6 These are shown below in Figure 3.1.

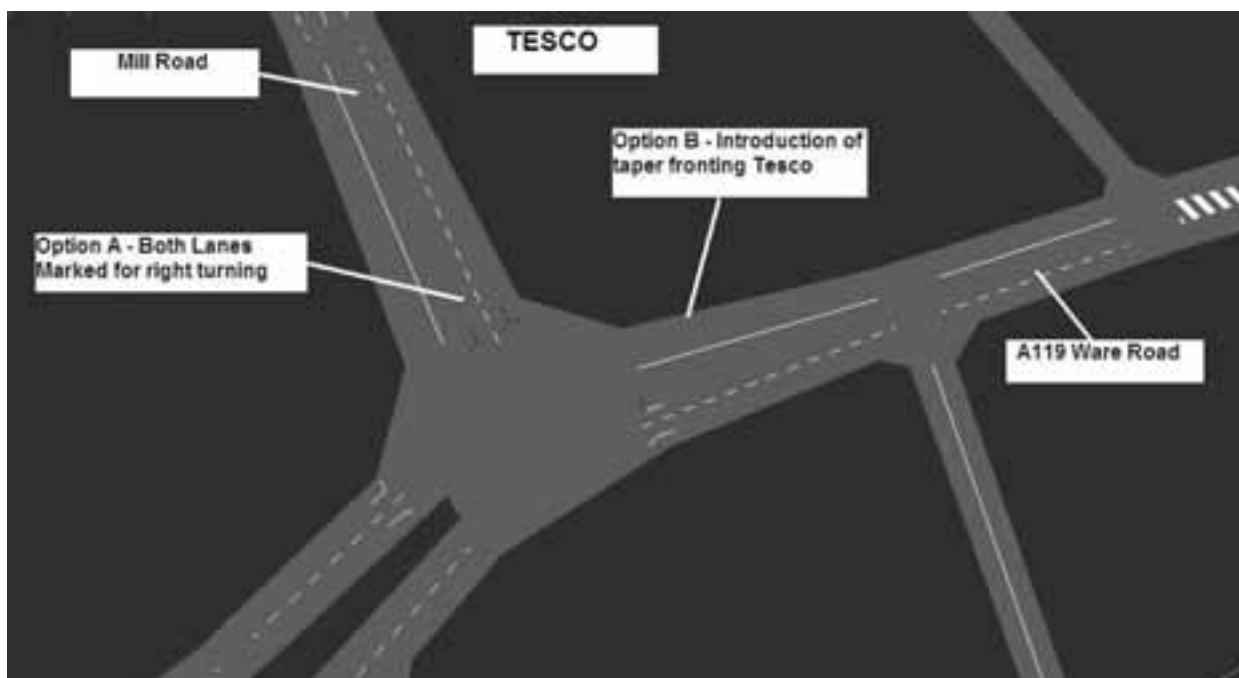


Figure 3.1 Options Tested for the Mill Road Junction

3.1.7 Option A above has been tested using LINSIG. The addition of Option A to the junction would provide improved grouping of vehicles from the two arms into the reservoir feeding the Ware Road entry to Bluecoats. This would cause the Bluecoats arm to act more efficiently, with a better saturation flow while on green. As such the incorporation of Option A would provide increased capacity on entry from the Ware Road and Mill Road arms.

3.1.8 The addition of Option B to the junction would balance out the uneven lane usage observed between the straight ahead and left turn lanes on Ware Road eastbound on entry to the Mill Road / Ware Road junction. This re-balancing of the flows would reduce the blocking back from the straight ahead lane queue that currently occurs, especially in the PM peak.

A414 BLUECOATS

3.1.9 The options tested for the A414 Bluecoats junction are as follows. Options 2a, 2b, 3a and 3b have been tested incorporating the changes from Option A at Ware Road / Mill Road.

- **Option 1a:** Free flow lane left from A414 to A414 Gascoyne Way without an extra lane;
- **Option 1b:** Free flow lane left from A414 to A414 Gascoyne Way with an extra lane (noting highway and subway constraints);
- **Option 2a:** Replacement of roundabout with a 4-arm fully signalised junction (with banned right turn in to Fore Street);
- **Option 2b:** Replacement of roundabout with a 4-arm signalised junction where the A414 southern entry is split to provide a left turn free flow lane separate from the 4 arm junction (with banned right turn in to Fore Street);

- **Option 3a:** Replacement of roundabout with a 3-arm fully signalised junction (without Fore Street). All traffic using Fore Street assumed to re-route to Mill Road; and
- **Option 3b:** Replacement of roundabout with a 3-arm signalised junction (without Fore Street) where the A414 southern entry is split to provide a left turn free flow lane separate from the 3 arm junction. All traffic using Fore Street assumed to re-route to Mill Road.

3.1.10 The above options are shown in Figure 3.2.

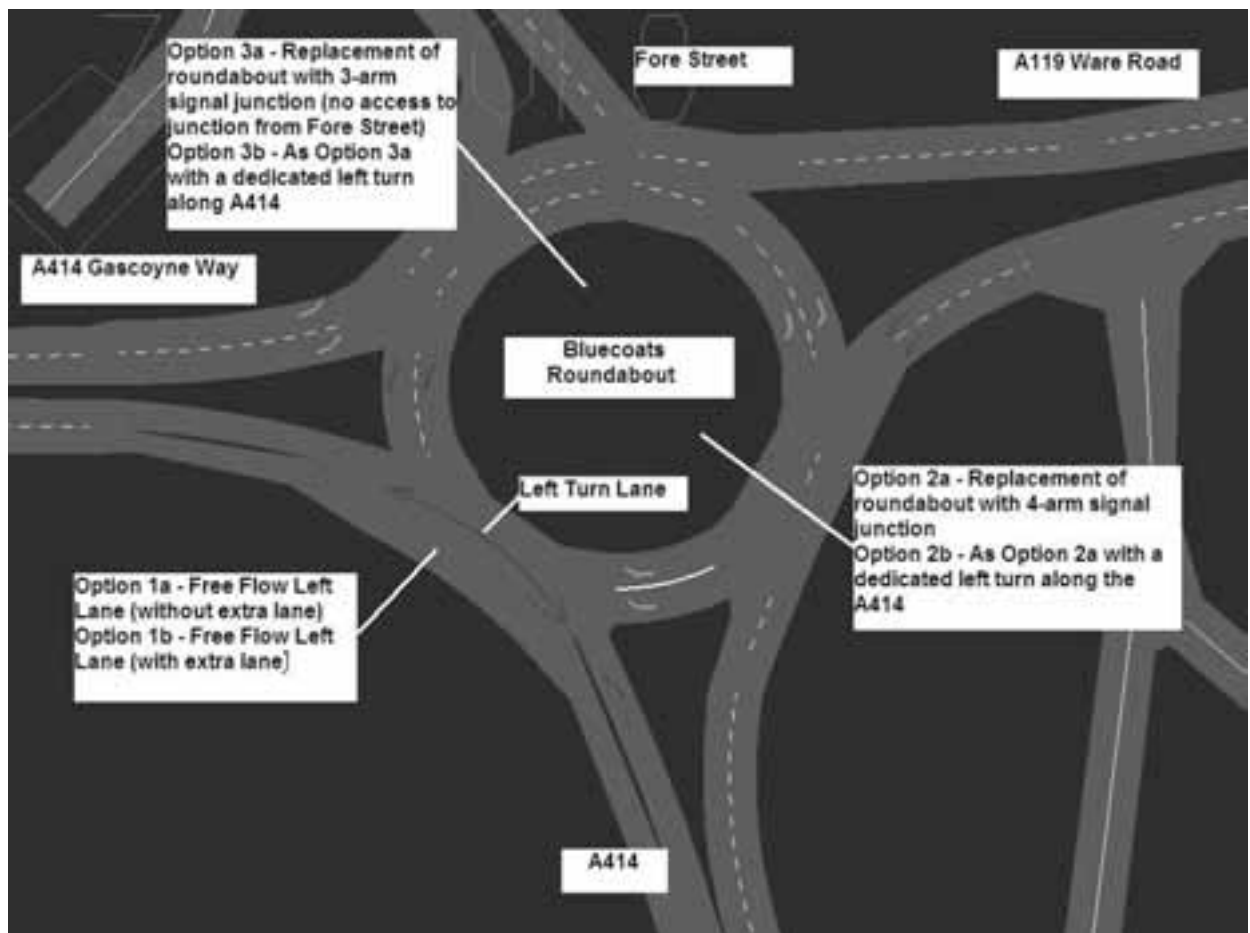


Figure 3.2 Options Tested for A414 Bluecoats Roundabout Junction

3.1.11 Options 1a and 1b have been tested using Paramics with the validated Mead Lane model modified to test the proposed changes. Options 2a, 2b, 3a and 3b have been tested in LINSIG to provide preliminary results, with a base model having been constructed in LINSIG to provide a comparison against the tested options. Options 2a and 2b ban the right turn movement from Ware Road to Fore Street due to the low turning flow and the availability of a right turn from the Ware Road / Mill Road junction to access the Fore Street area from this direction.

3.1.12 The number of lanes used for each junction option has been limited due to the potential space available. The A414 links from the west and south have been limited to 5 lanes total from the entry and exit, with one lane flared to reduce the required length of lanes.

3.2 JUNCTION LAYOUT CONSTRAINTS

3.2.1 The existing layouts have many constraints. At this stage the options have been assessed on capacity grounds, as unless a capacity solution can be demonstrated the feasibility of implementation need not be assessed. Therefore the constraints, such as the subway under the Bluecoats roundabout, have not been considered. The maximum number of lanes that can be accommodated at the junction has been limited in the assessment to realistic values. Full assessment of whether the lane layout actually fits has not been carried out at this stage.

3.2.2 Any capacity freed up in this assessment is likely to cause queues elsewhere in Hertford. By unlocking the flows here, longer queues are likely to occur at the Hale Road / A414 roundabout, possibly blocking back to the Bluecoats junction and thereby affecting capacity. Full assessment of any option chosen should be carried out to provide a detailed answer of viability of the scheme.

3.2.3 Flows have been input into LINSIG as PCU values, where light vehicles have been taken as 1 PCU and heavy vehicles as 2 PCU's.

3.2.4 Saturation flows have been left at the default of 1800 PCU's per hour per lane. Using the "geometrically calculated" option in LINSIG for saturation flows would provide higher values in virtually all cases, providing more capacity through the junction. Considering the operation of the junction currently and comparing that to the base model results, it is not considered that an increase in capacity through the junction would benefit the modelling process, and use of 1800 PCU's per hour per lane provides a more robust assessment especially as without fully drawing up the scheme we cannot be sure of the geometric parameters.

3.2.5 The existing roundabout layout allows U-turn movements for all directions. By considering Options 2a, 2b, 3a and 3b where the roundabout is replaced by a crossroads junction, U-turn movements will not be available. This is of specific note for both the left out exit from the multi-storey car park along Gascoyne Way, and the left out from Mangrove Road. Both of these left out junctions produce some U-turn movements which otherwise would have to travel further to be able to turn around. It is possible that signalised junctions could be provided for both movements in order to allow all movement exits instead of left out only exits. These junctions would require careful consideration to allow provision within the available highway boundary and linking of the signals with any signals at the Bluecoats junction.

3.3 CAPACITY RESULTS - EXISTING SITUATION (WITHOUT COMMITTED DEVELOPMENT)

3.3.1 The Mead Lane Paramics model shows large scale queues on the London Road and Ware Road approaches during the AM peak, and large scale queues on the London Road, Gascoyne Way, and Mead Lane approaches during the PM peak. In the AM peak hour London Road queues back over 800 metres to the Foxholes roundabout and beyond towards the A10. Ware Road queues approximately 300 metres in the westbound direction during the AM peak. During the PM peak hour London Road queues approximately 400m westbound, Gascoyne Way queues approximately 400 metres and beyond eastbound, and Mead Lane queues approximately 100 metres southbound.

3.3.2 The results from the LINSIG model for the existing situation are summarised in Table 3.1 below. “Degree Sat.” refers to the Degree of Saturation of the junction, or how close to capacity it is. The guidance provided with LINSIG suggests that 90% should be used as a value indicating the arm is operating at capacity, and values above 90% have been highlighted in red for clarity. “MMQ” refers to the Mean Maximum Queue at the junction, or the maximum back of the queue under normal operation each cycle. The MMQ is stated as PCU’s per lane in all cases in this report. One PCU is equivalent to a vehicle taking up approximately 6m of road space when stationary. In some queues that move slowly, a single PCU takes up more than 6m due to more headway being left between vehicles in the queue.

3.3.3 The base “without committed development” model has been generated using the current signal timings included within the Paramics model in order to test the existing situation, as validated. Double-cycle times have been used to simulate how pedestrian phases are used at the Mill Road / Ware Road junction, based upon on site observations.

3.3.4 Flows used are those from the 2008 Hertfordshire County Council Bluecoats / Mill Road junction count, modified to match the 2009 Hertford counts carried out for the Hertford and Ware Transport Plan, as PCU’s. These flows are consistent with the flows used to validate the base year Paramics model.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	89.2	20.1	93.1	20.9
Gascoyne Way	93.1	22.4	104.9	50.9
Fore Street	76.4	5.7	97.8	12.8
Mill Road	80.5	7.5	112.9	45.6
Ware Road	84.3	19.7	60.9	9.5

Table 3.1 Base Model Results (Linsig)

3.3.5 Table 3.1 shows the junction is operating very close to capacity along the A414 during the AM, and significantly over capacity on many arms during the PM. During the AM peak there is more queuing recorded (and shown in the Paramics model) than the results from this assessment show. This is due to the interaction with the Parliament Square roundabout to the west and blocking back from the internal sections on the roundabout. During the AM peak the internal westbound Ware Road arm is shown to get to a congested state, with a Degree of Saturation of 89.2% and a MMQ of approximately 15 PCU’s per lane; this would cause less capacity to be available to Mill Road and Ware Road than shown currently as the actual stacking space is approximately 12 PCU’s per lane.

3.3.6 The PM peak results tie in well with the results from the Paramics model, although again the blocking back around the junction would be likely to cause less capacity to be available and more queuing to be evident.

3.4 CAPACITY RESULTS – JUNCTION OPTIONS

3.4.1 Options 1a and 1b options at the Bluecoats roundabout have tested a free flow lane from London Road to Gascoyne Way in the westbound direction. These options have been inspected visually.

3.4.2 There are major issues with both options primarily due to land-take. Option 1a constrains the roundabout to 1 lane on the circulatory, causing major issues with blocking

back from the Parliament Square roundabout. By providing a left turn free flow lane the signal timings at the entry to the Bluecoats roundabout can be redistributed, providing more time for the circulatory past this entry. This provides an increase in capacity on to the Gascoyne Way exit. These capacity increases for the traffic entering the Gascoyne Way link to the Parliament Square roundabout causes blocking back from this link, blocking the roundabout and back up the hill to London Road.

3.4.3 The single lane entry for London Road on to the roundabout constrains the straight ahead and right movements significantly, causing additional problems when taking into account the number of vehicles attempting to move from the left lane to the right, primarily caused by vehicles exiting Mangrove Road. This movement blocks the left hand free flow lane, causing capacity losses.

3.4.4 Option 1b has issues with the access from the free flow lane on to Gascoyne Way, where the length of taper is not sufficient to fit a full merge-in length. This causes safety problems where vehicles have to stop at the end of the merge length and then merge into gaps in the traffic from a stationary position. Option 1b may not fit in the space required; development of this option would have to take into account that the free flow lane would take up the land currently used by a pedestrian subway and therefore other pedestrian solutions would have to be implemented.

3.4.5 The results for the testing of the Options 2a, 2b, 3a and 3b are summarised in Table 3.2 to 3.5. Phases, stages and signal timings for the proposed options have been optimised. The signal timings have been adjusted after optimisation to try to avoid potential blocking back through the internal part of the model where possible.

3.4.6 Options 2a, 2b, 3a and 3b have been assessed in LINSIG and optimised for Practical Reserve Capacity (PRC) prior to adjustment. Cycle times in these options have been adjusted to 180 second double-cycles from 152 seconds and 144 seconds for the existing AM and PM peak double-cycles respectively. It is possible that lower cycle times would work better than the 180 second double-cycle tested due to blocking back inside the junction network, although this is not easily assessable with LINSIG due to the way it models links. Further testing with Paramics would need to be carried out in order to test the full impact of blocking back with these options, if they were to be taken forward.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	120.3	185.4	122.9	50.8
Gascoyne Way	134.8	207.1	133.0	216.8
Fore Street	74.4	7.2	91.6	11.4
Mill Road	57.9	5.4	66.2	9.6
Ware Road	43.7	7.6	57.3	6.5

Table 3.2 Option 2a Results (Linsig)

3.4.7 Table 3.2 shows that, in order to avoid blocking back on the Ware Road westbound internal arm, the A414 in both directions would have a significant queue generated on it in both peak periods. As above, the Ware Road westbound internal link has been adjusted to be at capacity.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	90.3	10.9	107.5	28.0
Gascoyne Way	353.7	528.6	235.4	463.3
Fore Street	74.4	7.2	91.6	11.4
Mill Road	72.3	6.8	87.1	11.3
Ware Road	68.8	17.5	69.4	13.7

Table 3.3 Option 2b Results (Linsig)

3.4.8 For the AM period model it was not possible to adjust the queues on the internal link on Ware Road westbound to prevent them blocking back and resulting in excessive queues along Gascoyne Way.

3.4.9 Table 3.3 shows that Gascoyne Way is significantly over capacity. The internal link of Ware Road westbound has a Degree of Saturation of 105.8% and a Mean Maximum Queue of 59.4 PCU's. This would cause significant exit blocking for the Mill Road and Ware Road movements, resulting in a much higher actual Degree of Saturation and MMQ than that stated in Table 3.3.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	103.2	64.4	101.2	20.7
Gascoyne Way	111.0	100.2	113.3	121.0
Fore Street	-	-	-	-
Mill Road	72.1	11.0	71.6	14.4
Ware Road	62.2	9.3	75.2	10.8

Table 3.4 Option 3a Results (Linsig)

3.4.10 Table 3.4 shows that Option 3a provides significant benefit to the Mill Road and Ware Road directions, at some detriment to London Road and Gascoyne Way. Considering the current size of queue along the A414 in both directions in each of the AM and PM peaks, it is possible that this option could provide some improvement over the existing layout.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	90.3	10.9	107.5	28.5
Gascoyne Way	235.8	424.7	161.1	316.8
Fore Street	-	-	-	-
Mill Road	89.2	14.0	91.7	15.8
Ware Road	79.5	23.7	82.3	16.1

Table 3.5 Option 3b Results (Linsig)

3.4.11 Table 3.5 shows that the A414 would be significantly affected by the Ware Road westbound internal link. The Ware Road westbound internal link has a Degree of Saturation of 96.9% and a MMQ of 35.8 PCUs. All arms are over capacity or close to capacity in both AM and PM peaks, with both the Ware Road and Mill Road entry arms likely to be further over capacity than shown due to exit blocking.

3.5 IMPACT OF COMMITTED DEVELOPMENTS

3.5.1 A broad assessment of the impact of adding committed development traffic is on any spare capacity generated by the junction options is summarised below. It should be noted that the flows from the committed development schemes are very low, of the order of 10 vehicles per movement. Only option 3a has had the committed development traffic added as a sensitivity test as it appears to be the best option of the ones tested above and this is shown in Table 3.6.

3.5.2 The committed development traffic has not been added to the Paramics model as it is assumed that the variation in the model provided will be larger than the volume of flow required to be added.

	AM		PM	
Arm	Degree Sat.	MMQ	Degree Sat.	MMQ
London Rd	107.5	64.4	103.2	22.4
Gascoyne Way	111.0	100.2	113.3	121.0
Fore Street	-	-	-	-
Mill Road	78.7	11.6	74.5	15.5
Ware Road	66.7	9.5	76.8	11.4

Table 3.6 Option 3a Results with Committed Development (Linsig)

3.5.3 A comparison of Table 3.4 to Table 3.6 shows that the committed development has negligible impact on the junction performance.

3.6 JUNCTION OPTION SELECTION

3.6.1 Options A and B need to be tested with Paramics to find out the full impact of the changes. Signal timings would need to be re-considered as pedestrian phases have a big impact on the timings and stage layout and changing lane usage causes some of the traffic phases to change. Signal timings at Bluecoats roundabout would then need to be re-assessed to see what impact the lane marking changes would have.

3.6.2 Option 1a provides some benefit through the early part of the assessment, but as traffic builds up problems occur at the Parliament Square roundabout and block back to the Bluecoats junction. It is possible that further solutions to the Parliament Square roundabout could be implemented to create increased capacity, although it is not certain that this would

completely clear the problem as queues further along the network may be caused, then creating further problems.

3.6.3 It is possible that Option 3a could be developed to provide further capacity to the Mead Lane area. Adjustment of the timings could be carried out to provide more priority to the Mead Lane area over the A414 arms, although this would cause excessive queuing similar to that currently experienced along the A414 in both directions. Initial assessment shows that for another 50 PCU trips arriving and departing from each zone in the LINSIG model during the AM peak, with the signal times adjusted as previously, the A414 would queue for an additional 20 vehicles along London Road (Degree Sat 105% on both arms), and an additional 50 vehicles along Gascoyne Way (Degree Sat. 123%). However, this option does require shutting off Fore Street access at the Bluecoats junction, and assessment of additional changes to accommodate the current U-turn movements would need to be carried out.

3.7 CONCLUSIONS

3.7.1 The results of the modelling work confirm that the local highway network is reaching capacity. A traditional (highway capacity-based) approach to development control is therefore unlikely to be acceptable in addressing the need to release further development of the site. It is acknowledged that the highways options tested do provide some minor relief in the vicinity of the site with upgrades to the Bluecoats roundabout in place. However the proposed improvements simply shift the queuing to an alternative location on the A414 and the proposed improvements are hence unlikely to represent good value for money.

4 Paramics Option Modelling

4.1 TRAFFIC MODELLING

4.1.1 The Mead Lane traffic generation has been assessed using the Paramics model to determine the amount of development and associated vehicular trips that can be accommodated on the existing road network without significantly affecting capacity.

4.1.2 Where significant impacts have been observed, improvement packages have been considered to assess the operation of the proposed improvement schemes.

4.2 NETWORK AND DEMANDS

4.2.1 Three networks have been used, with two different demand sets. The networks used are:

- Validation network (existing situation);
- Option 1 – Improvement scheme network at Mill Road only; and
- Option 2 – Improvement scheme network includes Option 1 together with improvements at A414 Bluecoats.

4.2.2 Option 1 entails re-marking the road at the Mill Road signals to provide right turn capability from the current left turn only lane.

4.2.3 Option 2 entails the improvements with a free-flow left turn lane added at the Bluecoats roundabout for A414 London Road westbound traffic.

4.2.4 The demand sets used are:

- Existing demands; and
- Proposed development mix demands.

4.2.5 The existing demands are those used in the validated model (existing situation).

4.2.6 The development mix demands have been generated from a high level assessment of land uses for the Mead Lane estate. No allowance is made for background traffic growth as all development planned in the local area is specifically accounted for.

4.2.7 The number of trips contained in each demand set for just the Mead Lane estate (zones 12 to 15 as shown in Figure 2.1) is summarised in Table 4.1.

	AM			PM		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Existing Demands ¹	1075	424	1499	367	899	1266
Development Mix Demands	1283	627	1910	468	1148	1616

¹ This has been calculated based on built out committed development using the land areas identified in Figure 4.1

Table 4.1 Trips generated by Mead Lane estate in each demand set per period

4.2.8 Table 4.1 shows that there is an increase in total trips of approximately 25% in the AM and PM peak periods with the proposed development mix for the Mead Lane estate.

4.2.9 It has been assumed approximately half the site is industrial estate use, one quarter office use, and one quarter residential. From this it has been assumed that 1/3rd of the site

area for each land use represents gross floor area for the purpose of trip generation. Residential land use has been assumed to provide 40 houses per hectare.

4.2.10 Trip rates have been obtained from TRICS for mixed residential dwellings, B1 and industrial estates to calculate the resultant trip generation.

4.2.11 The assumptions used for finding sites from TRICS were to exclude sites in Scotland, Wales, Ireland, Northern Ireland, and Greater London, then exclude all sites listed as free standing or out of town. The size of sites was limited to exclude sites that are too large for the development area. Survey days were limited to Tuesday, Wednesday and Thursday (neutral days).

4.2.12 The assessment has assumed total redevelopment of the site and hence all existing trips have been removed. This is for modelling purposes only and does not reflect the fact that the majority of existing employment uses to the east of Marshgate Drive and all residential developments to the west of Marshgate Drive are expected to remain. The assumed redevelopment of the site is in line with Figure 4.1.

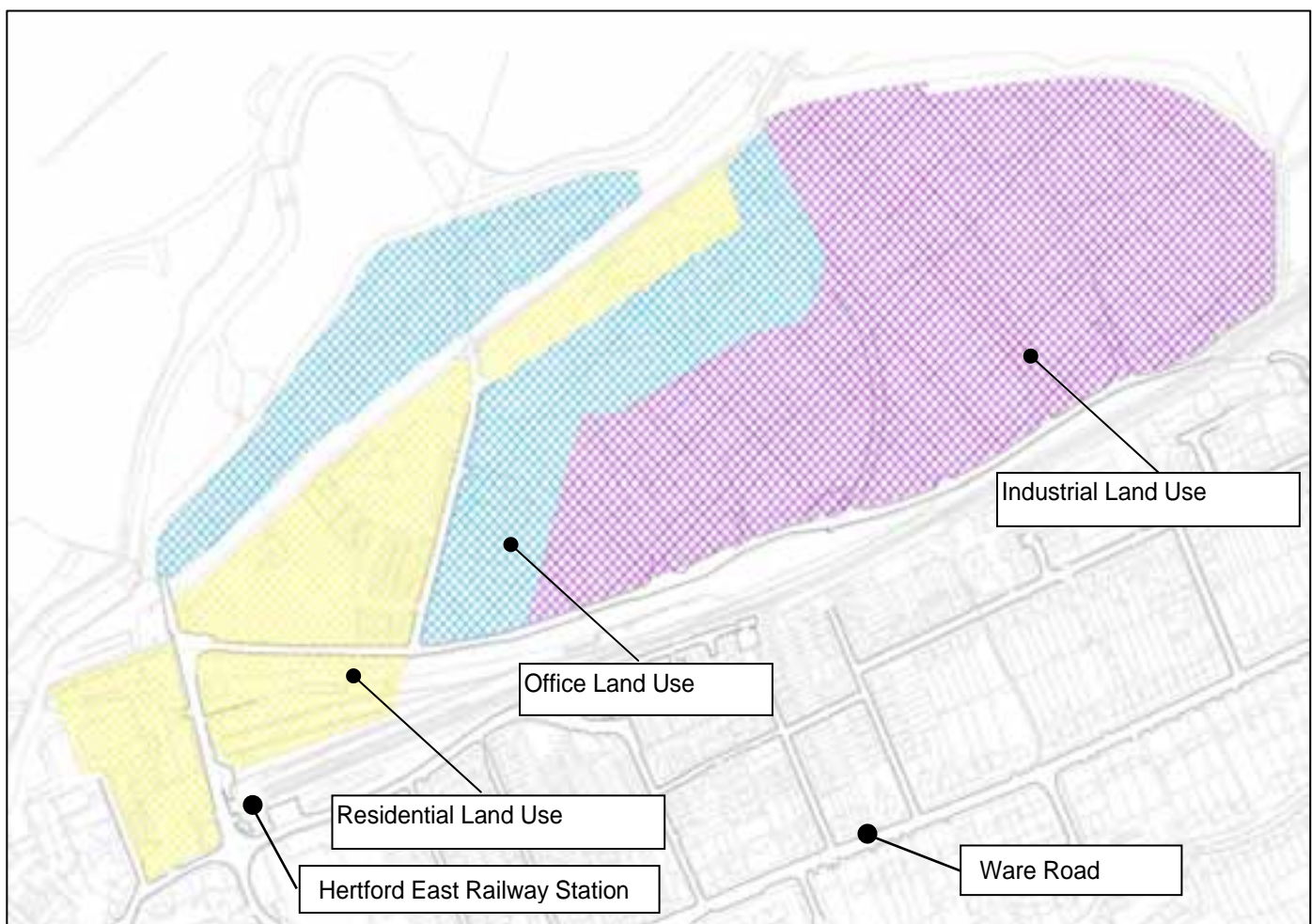


Figure 4.1 Proposed development mix land uses

4.2.13 The development mix demand set also changes the release profile for vehicles in order to reflect the changes of land use. The trip rates and demand profile rates for the different land uses have been generated from TRICS. The resulting development mix demands and profile produces more total trips with a flatter release profile than the existing land use.

4.2.14 The distribution of trips across the matrix is consistent between the development mix demands and the existing demands i.e. we have assumed the proposed development will have the same distribution of traffic.

4.3 ASSESSMENT SCENARIOS

4.3.1 The scenarios tested are:

- A: Validation (existing situation) network with existing demands;
- B: Validation (existing situation) network with development mix demands;
- C: Option 1 improvement scheme with existing demands;
- D: Option 1 improvement scheme with development mix demands;
- E: Option 2 improvement scheme with existing demands; and
- F: Option 2 improvement scheme with development mix demands.

4.3.2 Each scenario has been tested for both the morning and evening peak periods.

4.4 RESULTS

4.4.1 The results for each scenario are reported as

- Total network journey time;
- Average journey time per vehicle; and
- Queues.

Time Period	Scenario	Total Network Journey Time (s)	Vehicles	Average Journey Time Per Vehicle (s)
AM	A	1644921	5726	287
	B	1730301	5863	295
	C	1658988	5735	289
	D	1731945	5871	295
	E	1316671	5736	230
	F	1444465	5872	246
PM	A	1444762	6221	232
	B	1744631	6374	274
	C	1562495	6216	251
	D	1658280	6378	260
	E	1479138	6215	238
	F	1642686	6380	257

Table 4.2 Journey Time Assessment

4.4.2 Table 4.2 shows that as a result of the proposed development journey time increased by 8 seconds per vehicle (from 287 to 295) in the morning peak on the existing network. The introduction of the Mill Road improvement scheme reduces average journey time by 9 seconds to 278 compared to the existing situation. The introduction of the Bluecoats roundabout improvement further reduces this by 32 seconds to 246.

4.4.3 In the PM peak as a result of the proposed development delay increased by 42 seconds per vehicle (from 232 to 274) in the evening peak on the existing network. The introduction of the Mill Road improvement scheme reduces average journey time by 24 seconds to 250 but is still greater than the existing average journey time.

4.4.4 The introduction of the Bluecoats roundabout improvement offers no benefit in the evening peak period and results in a minor increase in average journey time.

4.4.5 It is evident that the introduction of the free-flow left turn slip road as part of the Option 2 improvements significantly reduces the total network journey time and the average vehicle journey time through the model. This is unsurprising due to the level of queuing shown on the A414 London Road entry to the Bluecoats roundabout in the validated model which is predominantly removed by the proposed improvement scheme.

4.4.6 From visual inspection it appears that although resolving the queuing problems at the Bluecoats roundabout, the proposed improvement creates a bottleneck on entry to the Parliament Square roundabout.

4.4.7 During the AM peak period there is little difference in queuing on the major arms assessed between all 6 scenarios, other than that in the Option 2 scenarios (E and F) there is a significant decrease in the level of queue within the model for the A414 London Road entry to the Bluecoats roundabout.

4.4.8 During the PM peak period there are significant differences between scenarios.

4.4.9 The proposed development with the existing network shows an increase in queue at the Hertford East station mini roundabout, Mill Road southbound entry (from the Mead Lane estate), peaking at around 250 metres.

4.4.10 When the Mill Road Improvement is included, there is a significant reduction in queuing, bringing the queue back to the level experienced in the validation model. This queue then re-appears in Scenario F, where the free-flow slip lane for the left turn from the A414 London Road is included. This is a result of the exit to the Bluecoats roundabout being reduced to one lane for the westbound traffic, disadvantaging the Mill Road / Ware Road traffic compared to the A414 London Road traffic. This cannot be rectified even with the signal timings changed to give more green time to the circulatory flow at the roundabout.

4.5 MODELLING CONCLUSIONS

4.5.1 The Option 1 improvements provide clear benefit for very little change to the highway network, while the solely Option 2 improvements (free-flow slip lane) provides a significant overall benefit to the highway network but disadvantages the Mead Lane estate traffic.

4.5.2 However, as noted in Chapter 3, the proposals for improvements to the highway network are likely to significantly impact on other sections of the A414. Therefore they do not form part of the proposals for Mead Lane as set out in this report and are not considered essential to deliver additional development at Mead Lane.

4.5.3 This assessment of modelling further development shows that a larger volume of traffic could be accommodated with the current junction layouts. This would need to be achieved through a development mix which gives a more even spread of traffic throughout the day and balances the existing tidal flows of the employment land uses.

4.5.4 No allowance in this analysis has been made for internalisation of trips on the Mead Lane estate, or the impact of strategies such as travel plans for the site.

5 Development Proposals and Sustainable Transport Strategy

5.1 INTRODUCTION

5.1.1 Chapters 3 and 4 above have demonstrated that highway junction improvements are unlikely to be deliverable due to wider impacts on the A414. However, it is possible that a more balanced mix of land uses on the site could enable more efficient use of the existing infrastructure and available capacity.

5.1.2 This Chapter therefore considers the potential for utilising any existing available capacity on the highway network in combination with sustainable development proposals to enable additional development. It goes on to outline the potential additional development that could be accommodated with a sustainable transport strategy in place and making best use of the proposed UTP measures.

5.2 POSSIBLE DEVELOPMENT QUANTUM

5.2.1 A workshop with key officers was held in January 2010 to report on the findings of the modelling work and to consider the potential for additional development at the Mead Lane site. The workshop participants included Development Control Officers and Planning Officers from EHC and Highways Development Control officers and Network Management representatives from HCC.

5.2.2 The results of the modelling work confirm that the local highway network is reaching capacity and a traditional (highway capacity-based) approach to development control is unlikely to be acceptable in addressing the need to release further development of the site. Whilst it is acknowledged that the highways options tested do provide some minor relief in the vicinity of the site with upgrades to the Bluecoats roundabout in place, the proposed improvements simply shift the queuing to an alternative location on the A414 and the proposed improvements are unlikely to represent good value for money.

5.2.3 It is therefore envisaged that a more pragmatic, sustainable approach to delivering development could be considered and the mix of land uses could be planned so as to minimise the impact during peak highway periods.

5.2.4 Given the potentially sustainable location of the site, taking into account the proposed UTP improvements, it is envisaged that the future trip generation of the site could be reduced. This would allow better use of the existing capacity of the local highway network and potentially accommodate additional development on the site. Proposed measures in the UTP include improved sustainable access for pedestrians, cyclists and public transport and the general visual improvements which would be provided within the vicinity of the rail station.

5.2.5 The calculations used to identify the amount of potential development are set out below.

5.2.6 The starting point for the calculations is the observed trips arriving and departing from Mead Lane and expected trip generation of the committed developments identified from Transport Assessments supplied by HCC Development Control officers. The calculations were undertaken for the 3 hour AM and PM periods assumed within the Mead Lane Paramics model produced by WSP (7-10am and 4-7pm respectively). The observed and committed development trip generation components are summarised as in Table 5.1.

	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
Observed Trips	1028	373	1401	355	893	1248
Committed Development ¹	155	175	330	145	93	238
Existing + Committed	1183	548	1731	500	986	1486

¹ Based on Observed Counts plus addition of committed development from available Transport Assessments

Table 5.1: Observed and Committed Development Trips

5.2.7 Several factors have been considered to impact on the trip generation including the implications of the Sainsbury's development on Tesco related journeys. This was not included within the Mead Lane transport modelling work. This is considered within our capacity assessment as a committed development and therefore the trips which would be re-distributed from the existing Tesco superstore adjacent to the Mead Lane site have been deducted from the trip generation of the Mead Lane Masterplan area. The expected level of peak hour diverted trips from Tesco was obtained from tables in Appendix D of the Sainsbury's TA Addendum (Macmullen's site, Hertford - Addendum Statement of Common Ground between HCC and Savell Bird Axom, September 2009).

5.2.8 The traffic flows in the Sainsbury's TA Addendum only cover the AM and PM Peak hour of 8-9am and 5-6pm, the re-distributed trips have been extrapolated to a 3 hour time period based on trip generation data for supermarkets taken from TRICS database. This showed that the trip generation for a typical 3 hour peak period is approximately 2.5 times the one hour peak total. Hence the trip totals quoted within the Sainsbury's tables have been multiplied by 2.5 and subtracted from the existing plus committed development total as in Table 5.2.

	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
Sainsbury's TA one hour	27	11	38	43	47	90
2.5 x one hour	67	28	95	108	117	225
Existing + Committed - Sainsbury's	1116	520	1636	392	869	1261

Table 5.2 Tesco trips diverted to Sainsbury's

5.2.9 The UTP package of measures which has been designed to encourage the use of sustainable travel modes in preference to single occupancy car driver trips has also been taken into account. As a conservative estimate, based on experience of the results of other similar studies, it has been assumed that the UTP would additionally reduce the vehicle trip generation of the Mead Lane site by 2.5%.

5.2.10 With the committed developments in place, there is also additional potential for internalisation of trips (for example employees living on the site). Therefore a further 5% reduction of employee trips for the existing development and an associated trip reduction for committed residential development has also been taken into account.

5.2.11 This gives the trip generation, in Table 5.3 when applied to the existing and committed with Sainsbury's total.

	AM			PM		
	Arr	Dep	Total	Arr	Dep	Total
UTP savings (2.5%)	28	13	41	10	22	32
Internalisation on existing + committed (5% emp)	7	6	13	5	6	11
Associated residential internal trip reduction	6	7	13	6	5	11
Existing + Committed - Sainsbury's-UTP-internal	1075	494	1569	371	836	1207

Table 5.3 Existing and Committed Development Trip savings

5.2.12 The above result is then considered to be the committed capacity of the site. Comparing this total with the existing plus committed total as shown in Table 5.1 gives the theoretical spare capacity created by the UTP, Sainsbury's and internalisation of trips as shown in Table 5.4.

	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
Existing + Committed - Sainsbury's-UTP-internal	1075	494	1569	371	836	1207
Existing + Committed	1183	548	1731	500	986	1486
Spare committed capacity	108	54	162	129	150	279

Table 5.4 Total Trip Savings

5.2.13 Based on an assessment of the committed spare capacity, using the PM peak departures as the main constraint, it is feasible that the following development could potentially be delivered at Mead Lane.

- Either 300 residential flats plus 3000sqm B1 employment;
- 500 residential flats; or
- 5000sqm B1 employment.

5.2.14 The trip generation for the above options are summarised in Table 5.5 below:

	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
300 residential Flats	33	48	81	116	60	176
3000sqm B1 employment	76	5	81	13	90	103
500 residential flats	49	73	122	175	91	266
5000sqm B1 employment	122	9	131	21	146	167

Table 5.5: Trip Generation for proposed additional land use elements

5.2.15 It may additionally be possible to accommodate other elements of off peak trip generating land uses such as a small hotel or leisure and ancillary uses such as A3 cafes or bars.

5.3 MEAD LANE SUSTAINABLE TRANSPORT STRATEGY

5.3.1 It is also envisaged that a sustainable transport strategy for the additional residential development as set out above could help to achieve up to 10% extra development with the same trip generation as quoted in Table 5.5 above. This is based on analysis of census data on journeys to work, car ownership and location in relation to key transport facilities such as proximity to a railway station.

5.3.2 A GIS analysis of other sites within the UTP study area was used to identify Output Areas (OAs) within 1km of a rail station. The journey to work mode shares for this subset of OAs were compared to those for the full study area to identify the likely potential reduction in car trips for a residential development at Mead Lane which is adjacent to the Hertford East rail station. This analysis suggests that the car driver mode shares could be reduced by approximately 6% for journeys to work as a result of this factor.

5.3.3 The potential reduction in trip generation for a low car or car free development was also assessed in a similar manner. The OAs within the study area which have less than the national average level of car ownership and higher than the national average level of none car households were used as donor OAs. The journey to work mode shares for this subset of low car owning OAs were compared to the overall study area mode shares. Any low car OAs which had already been used within the rail station catchment analysis were removed from the sample to avoid double counting. This analysis suggests that journeys to work by car could be reduced by a further 7% in relation to this.

5.3.4 Additionally, an element of internalisation of journey to work trips has also been taken into account for the extra development identified above. Based on census analysis of OAs within the study area, it was identified that approximately 7% of study area residents live and work in the same OA and 15% live and work in the same census ward. Given that the Mead Lane area is larger than a single OA (>150 HH) but smaller than a ward, an internalisation factor of 8% has been used for the sustainable transport strategy.

5.3.5 Clearly, under normal circumstances for residential developments, journey to work trips are only one component of the total peak hour trip generation. Based on NTS data on the all day profile of trips in use by time of day, the journey to work component only accounts for approximately 36% of the 3 hour AM period and 30% of PM Period.

5.3.6 However, any extra development is most likely to consist of high density flats, predominantly occupied by young singles and professional couples, rather than just families. Therefore the journey to work component of the time periods have been adjusted to reflect an increased percentage of the trips within the time period, as the low family occupancy levels would suggest a lower profile of education and escort journeys (e.g. taking children to school and their personal appointments). This analysis was based on ONS time use study 2001 data (10,000 time use diaries for residents living within the south east). The escort component was reduced by 90% based on typical occupancies for OAs in Hertfordshire which are predominantly flats evident from the UK Census. The results of this analysis suggest that for high density low family occupancy flats, it is more likely that 74% of the trips in the AM period and 48% of the PM period would be related to journeys to work.

5.3.7 Combining the above factors within the sustainable transport strategy for the additional residential development at Mead Lane would provide a potential car trip reduction of approximately 16% in the AM period and 10% in the PM period. This is based on $6\% + 7\% + 8\% = 21\%$ reduction on journeys to work by car from above, multiplied by the percentage of the trip generation which is attributed to journeys to work (74% for the AM period and 48% for the PM Period).

5.3.8 Although, since the PM peak period traffic capacity is more constrained in the vicinity of Mead Lane than the AM peak, this study assumes that the lower figure of 10% additional residential development could be accommodated within the site, with a sustainable transport strategy (i.e. low car or car free development) in place. This is outlined in Scheme Feasibility Pro-forma MDL1 and MDL3 included in Appendix A.

6 Emergency Access

6.1 BACKGROUND

6.1.1 Following the key officer workshop with East Herts Council (EHC) and Hertfordshire County Council (HCC), including Highways Development Control, it was agreed in principle that the Mead Lane site has the potential for further development.

6.1.2 Advice in Manual for Streets and other such guidance outlines that separate emergency access is not always required and a specific figure should not be attributed to the number of dwellings accessed from a single point. Manual for Streets also states that consultation should be undertaken with emergency services in relation to the appropriateness of access for them. However, considering the large mix of residential and commercial development in this area, even if capacity can be achieved through a single point of access, Hertfordshire County Council Highways Development Control officers have stated that a separate emergency access should serve it.

6.1.3 However, the above was agreed subject to satisfactorily resolving suitable emergency access to the Mead Lane area and this is explored further below with recommendations on a suitable emergency access arrangement.

6.2 EMERGENCY ACCESS RECOMMENDATIONS

6.2.1 Contrary to previous guidance on the need for a second separate point of general access to enable development to proceed in the area, recent advice (contained in Manual for Streets and other guidance) implies that that this measure would not now be required. Therefore, based upon this current guidance, it is no longer considered that there would be any constraint on the number of units that could be accessed from the single point of access at Mead Lane. HCC Highways Development Control Officers have stated that a separate form of emergency access should be investigated to serve the site.

6.2.2 Ensuring suitable emergency access is important and has therefore been considered that this can be achieved through a segregated emergency access arrangement without the need for a second point of access. It should be noted that with an option including access and interchange over the sidings (see Appendix B) the single point of access is over only a very short section, some 30-40m as a “loop” arrangement is created within the site to ensure access to all locations within the site by two separate routes from a point close to the station building. The highway is also wide enough (at about 14m minimum see Figure 6.1) to allow emergency vehicles to pass should there be an incident in front of the station.



Figure 6.1 Extent of Highway Fronting Hertford East Railway Station

6.2.3 With the above in mind three options have been developed as follows and included in Appendix B to ensure emergency access is maintained to the development areas.

- Option A (Drawing 1189/GA/008) – The carriageway and footway arrangement has been designed to accommodate a suitable layout to ensure emergency access is maintained in the case of an incident through a segregated area in front of the station canopy;
- Option B (Drawing 1189/GA/009) – A shared area is provided with a carriageway area of overall width of 10m to provide sufficient space for any emergency vehicles to pass an incident; and
- Option C (Drawing 1189/GA/010) – An emergency vehicle only lane is provided, which could also be segregated from the main carriageway through kerbs and/or bollards.

6.2.4 It is recommended that one of these Options is satisfactory to maintain emergency vehicle access over the short stretch of Mill Road in front of East Hertford Rail Station without the need for a separate second point of access. HCC are proposing to consult the emergency services. The preferred solution is Option A included in Pro-forma MDL3 at Appendix A.

6.2.5 HCC have consulted the emergency services, BRB (Residuary) Ltd, Network Rail and Passenger Transport Operators during the public consultation period on the proposed emergency access arrangements. The comments received from the above consultees are discussed further in section 7.2 below.

7 Conclusions

7.1 SUMMARY

7.1.1 It is recognised that the Mead Lane area of Hertford occupies a potentially sustainable location, adjacent to the Hertford East Rail Station and close to the Town Centre facilities including Hertford Bus station, retail areas, employment sites and Hartham Common and its Leisure Centre. For this reason, options have been investigated for delivering additional development on the site via the development of a strategic masterplan for Mead Lane and the area surrounding Hertford East Station.

7.1.2 A detailed transport model has been developed to test highway options for providing additional junction capacity at the Bluecoats roundabout and Mill Road junction which have been identified as key constraints. However, any improvements to these junctions are unlikely to be beneficial to the wider operation of the A414 and therefore are not proposed as part of measures to deliver additional development at Mead Lane.

7.1.3 This shows that the network in the vicinity of the site is already reaching capacity during the peak hours and especially during the evening peak, although a slight increase of up to 5% additional peak hour traffic on the network may be tolerable.

7.1.4 Additionally the option to create a secondary access into the site via the Rowley's Road level crossing to the East of the Mead Lane site has also been revisited. However, Network Rail policy constraints prevent the creation of new vehicular level crossing facilities. Despite this, a detailed examination of trip origins and destinations for journeys to and from the site suggests that the predominant demand flow is from the west of the site, therefore creating a second access at the east of the site is unlikely to provide significant relief.

7.1.5 Furthermore, any bridge would have significant environmental and visual impact due to the height needed for any bridge that would go over the railway line. The cost of building such a structure would be significant. Land-take at both ends would also be required to allow the ramp up and down which would result in a loss of employment area. In addition, the flats that have been built on the Rowley's Road side over land previously reserved for construction of a second access would require CPOs. This would mean that any further proposals to create a second access via Rowley's Road are also likely to be subject to significant public opposition.

7.1.6 Therefore any second access has been fully discounted. The focus is on making best use of any existing highway capacity combined with taking advantage of sustainable measures proposed in the Draft UTP.

7.1.7 Based on an assessment of the resulting spare capacity from the sustainable transport strategy set out above it is feasible that the following additional development could potentially be delivered at Mead Lane:

- Either 300 residential flats plus 3000sqm B1 employment; or
- 500 residential flats; or
- 5000sqm B1 employment.

7.1.8 In addition, the site could potentially deliver supporting land uses which are suitable for a sustainable town centre location and do not have significant peak hour traffic generation to supplement the above development mix. This could include entertainment and leisure facilities, as well as a small station hotel, and predominantly residential uses which are high density, low car or car free, with A3 retail elements and shared parking arrangements for evenings and weekend.

7.1.9 The proposals for improved sustainable transport that would facilitate the additional development are set out in the Scheme Feasibility Pro-formas included in Appendix A. These are part of the UTP as follows:

- MDL1 and MDL3 Mead Lane Masterplan Implementation and Delivery of a Sustainable Development with a Segregated Emergency Access, with streetscape enhancements to improve priority for pedestrians and cyclists, with a public square encompassing the listed station frontage and Mill Road junction with Railway Street;
- MDL2 Creation of new highway access connecting Mead Lane and Mill Road, allowing buses to penetrate the Mead Lane site and provide connections to rail services at Hertford East Station;
- MDL4 Mead Lane Car Parking Review; and
- MDL5/CYC23 Rowley's Road & Mead Lane level crossing improvements for pedestrians and cyclists.

7.1.10 These proposals would need to be delivered as part of any further development on the site. A number of the proposals would also need to be subject to detailed design and consultation with relevant parties.

7.1.11 An additional pro-forma for PTM8 is also included within the main UTP report and this relates very closely to the Mead Lane proposals as it proposes an improved bus corridor along the A119 Ware Road near the site.

7.1.12 It should also be noted that as part of any further development, the principles for a sustainable transport strategy would need to be demonstrated through an appropriate Transport Assessment. Such development would also need to follow the agreement of a suitable masterplan for the site.

7.2 OUTCOMES FROM CONSULTATION WITH EMERGENCY SERVICES AND PASSENGER TRANSPORT STAKEHOLDERS

7.2.1 As part of the Draft UTP consultation between 15th March and 30th April 2010 HCC has sought views from the following stakeholders in relation to the proposals at Mead Lane:

- The Emergency Services;
- Network Rail;
- BRB (Residuary) Ltd. (owners of the sidings land); and
- Bus and Rail Passenger Transport Operators.

7.2.2 The consultation will be ongoing as further detailed masterplan work is undertaken for Mead Lane jointly between EHC and HCC. Initial responses from those consulted above are that a focus on seeking to improve access for emergency services is supported. It is also considered that traffic congestion should also be tackled, and this is what the main UTP seeks. The improvements to passenger transport are generally welcomed and supported, but in terms of the use of the sidings land, consideration needs to be given to how any proposed residential and mixed use development is integrated with the transport uses.

7.2.3 HCC and EHC have also held discussions with BRB (Residuary) Ltd as owners of the land to the north of Hertford East Station regarding the potential use of that land as part of the future comprehensive redevelopment of parts of the Mead Lane area. Such proposals would potentially involve: the creation of a new access link road to facilitate such development (see Section 6); development of the site in accordance with uses compatible with those detailed at Section 1.6.4; car parking; and the provision of a passenger transport interchange to aid sustainable travel choices to be made.

7.2.4 Clearly, in advance of the preparation of a full Planning Master Plan for the whole of the Mead Lane area, discussions on potential uses and layout of this element of it can only be at the formative stage at this juncture. However, in order to address the potential issue of multiple land ownership difficulties, a revised layout for the area showing broad locations that could facilitate the provision of a road link and public transport interchange was produced as detailed in Appendix E of this report. It should be noted that this plan was produced as an indicative layout in order to aid discussion and should not be considered as final in any form.

7.2.5 The outcome of the discussions was that BRB (Residuary) Ltd would be broadly supportive of the inclusion of proposals to create a new road link between Mill Road and Mead Lane on land in their ownership with other issues requiring future resolution. It is anticipated that a Mead Lane Planning Master Plan will serve to balance the many various uses proposed for the area, taking into account the transport issues raised in this report.

7.2.6 Responses from all stakeholders taking part in the consultation are included at Appendix D.

7.3 PUBLIC CONSULTATION RESPONSES

7.3.1 As detailed in Table 6.1 of Appendix A of the main UTP report, the public consultation questionnaire included a question asking respondents to indicate their level of support for the proposals at Mead Lane. The majority of respondents who answered this question provided full or partial support for the proposals, with 51% in favour and only 7% opposed; the remaining 42% of respondents did not answer this question. However, it is likely that those who did not respond to this question do not live in the vicinity of Mead Lane.

7.3.2 A postcode analysis of the responses received in relation to Mead Lane shows that those living in the immediate area of the site were largely in support of the proposals at Mead Lane. The survey data and postcode analysis is included in Appendix F of this report.

7.3.3 In terms of the comments received on the Mead Lane proposals in the questionnaire responses as part of the public consultation these are summarised in Table 7.1 below. A summary is also included in Appendix F.

Consultation Comments	Response
More car parking required at Hertford East.	New interchange will improve access by all modes. A car parking review of the Mead Lane area would be undertaken as part of MDL4 and for the entire study area under scheme CPK1.
Provide a bus link to Hertford East.	This is a scheme within the UTP. Proposals also include a new transport interchange that would be delivered through the site wide Master Plan process.
There are too many flats in the Mead Lane area.	The proposals for Mead Lane through the Master Plan will consider alternative uses in line with delivering reduced car journeys to the site.
Concerned about environmental impacts to sidings land.	This would be considered through the Master Plan.
Improve the setting of Hertford East Station building.	This is part of the UTP proposals to create a public square.
Need to reduce traffic on Mill Road.	The UTP proposes sustainable transport measures to promote alternatives to the car.
Should consider a separate exit point.	This has been considered before and is not feasible.
Open up the level crossing to vehicular traffic.	This has been discussed with Network Rail and is not feasible. Network Rail strongly resist all level crossings and seek closures wherever possible.
Do not support improved access.	The improvements will make the situation better and will make best use of this sustainable town centre location.
Reduce vehicle speeds.	This can be considered in more detail through the future Master Plan work.
Mead Lane access must be improved.	The UTP proposes such measures.
Improved pedestrian and cycle access should be provided to Mead Lane.	The UTP proposes such measures.

Table 7.1: Consultation Comments relating to Mead Lane

7.4 NEXT STEPS

7.4.1 This Mead Lane Access Masterplan Study report has set out a proposed approach to delivering additional development in the Mead Lane area. This will now be developed jointly by EHC and HCC to produce a masterplan brief for the Mead Lane area.

7.4.2 However, to take this forward further consultation with Network Rail, Passenger Transport Operators, BRB (Residuary) Ltd as well as the emergency services would need to take place to inform the masterplan.

Appendix A Scheme Feasibility Pro-formas



Hertford & Ware UTP Medium Term Scheme Feasibility Assessment

Scheme Name: Rowley's Road & Mead Lane level crossing improvements (scheme CC)

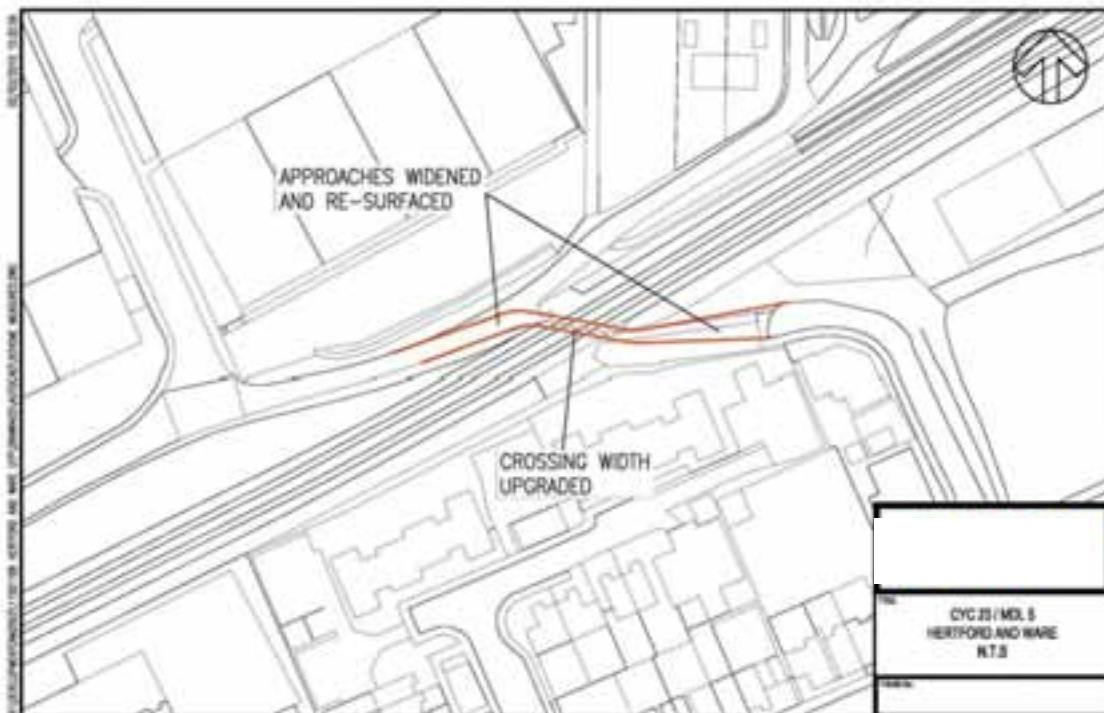
Scheme ID Number: CYC23 / MDL5

Scheme Summary: Improvements to the current pedestrian level crossing approaches (and stop the banging gate) to provide better access for cycles (via Rowley's Road) and pedestrians from areas of Hertford to the south.

Provide improvements to existing pedestrian and cycle level crossing including:

- Widening and re-surfacing of approaches to minimum of 2.5m
- Upgrade gates to prevent banging and improve width and surfacing of railway crossing

Scheme Diagram:



Links to Other UTP/LTP Schemes:

CPM4, MDL1, MDL2, MDL3, MDL4, MDL5

Estimated Delivery Cost (provide breakdown for works element where appropriate/possible):

- Mend / upgrade gates (not automated)
- Widen approaches and crossing point



ESTIMATED TOTAL COST: £25,000

Estimated Operating Costs:

Not applicable

User Mode Benefits:

Scale of Benefit	Pedestrian	Cycle	Bus	Rail	Car
High	✓				
Medium		✓			
Low			✓	✓	✓

Design Considerations:

Design Considerations	Proposed Solutions	Sufficient to tackle issues? (Y/N)
NR interface	Improve crossing to make safer	Y (However NR will always want to close it)

Deliverability Constraints:

Can the scheme be delivered without third party involvement?		N
Is third party land required to deliver the scheme? (i.e. within the Highway Boundary)	Y	
Are there any likely utilities constraints?		N
Do all elements of the scheme involve standard work processes?		N
Can the scheme be delivered in the medium term?	Y	
Are there any accessibility constraints that impact on building the scheme? (e.g. limited road access)	Y	

Links to LTP and UTP Targets and Objectives:

LTP 13 and 14
UTP objectives 1, 2 and 3



Programme/Delivery Risks (include brief description for overcoming where possible):

NR liaison over improvements may restrict scheme delivery / design and timing – early discussion with NR

Further Actions Required:

Discussion with NR

Other Information / Additional Notes

None



Hertford & Ware UTP Medium Term Scheme Feasibility Assessment

Scheme Name: Mead Lane and Hertford East Station - Development of a Mead Lane Masterplan and delivery of sustainable low car / car free development with a segregated emergency access.

Scheme ID Number: MDL1 and MDL3

Scheme Summary:

The Mead Lane site has been identified as a potentially sustainable location for additional development. However vehicular access is currently constrained. Therefore it is proposed that the site could be further developed subject to achieving low car / car free development with low peak hour trip generation and provision of a segregated emergency access in front of the Hertford East Station. This would be best achieved through building on the Mead Lane UTP Sub-Study with a jointly produced EHC and HCC Masterplan, which may involve developer collaboration.

A 4.5m shared surface corridor for pedestrians and emergency vehicles would be created by extending the existing footway and installing flush kerbs and bollards / street furniture to enforce segregation. From the 3 options considered the preferred arrangement is shown in Option A included in Appendix B of the main Mead Lane Access Masterplan Study report.

A public square with flush kerbs would also improve pedestrian cycle and disabled access to the station and new bus lay-by

In addition, a gateway will be created to the site with a shared surface (minimal kerb upstand) that could be signalised to improve pedestrian and cycle safety.

Links to Other UTP/LTP Schemes:

MDL1, MDL2, MDL3, MDL4, CYC23, CYC24, PTM4, CPK2, FRT3, PTM8, PTM2, PTM10

Estimated Delivery Cost (provide breakdown for works element where appropriate/possible):

ESTIMATED TOTAL COST: £275,000

Estimated Operating Costs:

None

User Mode Benefits:

Scale of Benefit	Pedestrian	Cycle	Bus	Rail	Car
High	✓				
Medium		✓			
Low			✓	✓	✓



Design Considerations:

Design Considerations	Proposed Solutions	Sufficient to tackle issues? (Y/N)
Obtain Listed Buildings – Hertford East Station	Obtain building consent	Y
Little or no access to Mead Lane during construction	Diversion route / Alternative parking at Public Car Parks at Hartham?	Y

Deliverability Constraints:

Can the scheme be delivered without third party involvement?		N
Is third party land required to deliver the scheme? (i.e. within the Highway Boundary)	Y	
Are there any likely utilities constraints?	Y	
Do all elements of the scheme involve standard work processes?	Y	
Can the scheme be delivered in the medium term?	Y	
Are there any accessibility constraints that impact on building the scheme? (e.g. limited road access)	Y	

Links to LTP and UTP Targets and Objectives:

LTP8

Programme/Delivery Risks (include brief description for overcoming where possible):

Listed building consent is required – this may affect the delivery timescales / deliverability if not accepted - submit the application early to prevent delays,
Construction materials may need to be consistent with existing or enhanced quality materials introduced to reflect historic status of Listed Buildings
Will be difficult to maintain access to Mead Lane site during construction. Traffic Management Required.
Reliant on 3rd party land from British Rail Board (residuary) Ltd sidings - liaise with BRB at an early stage

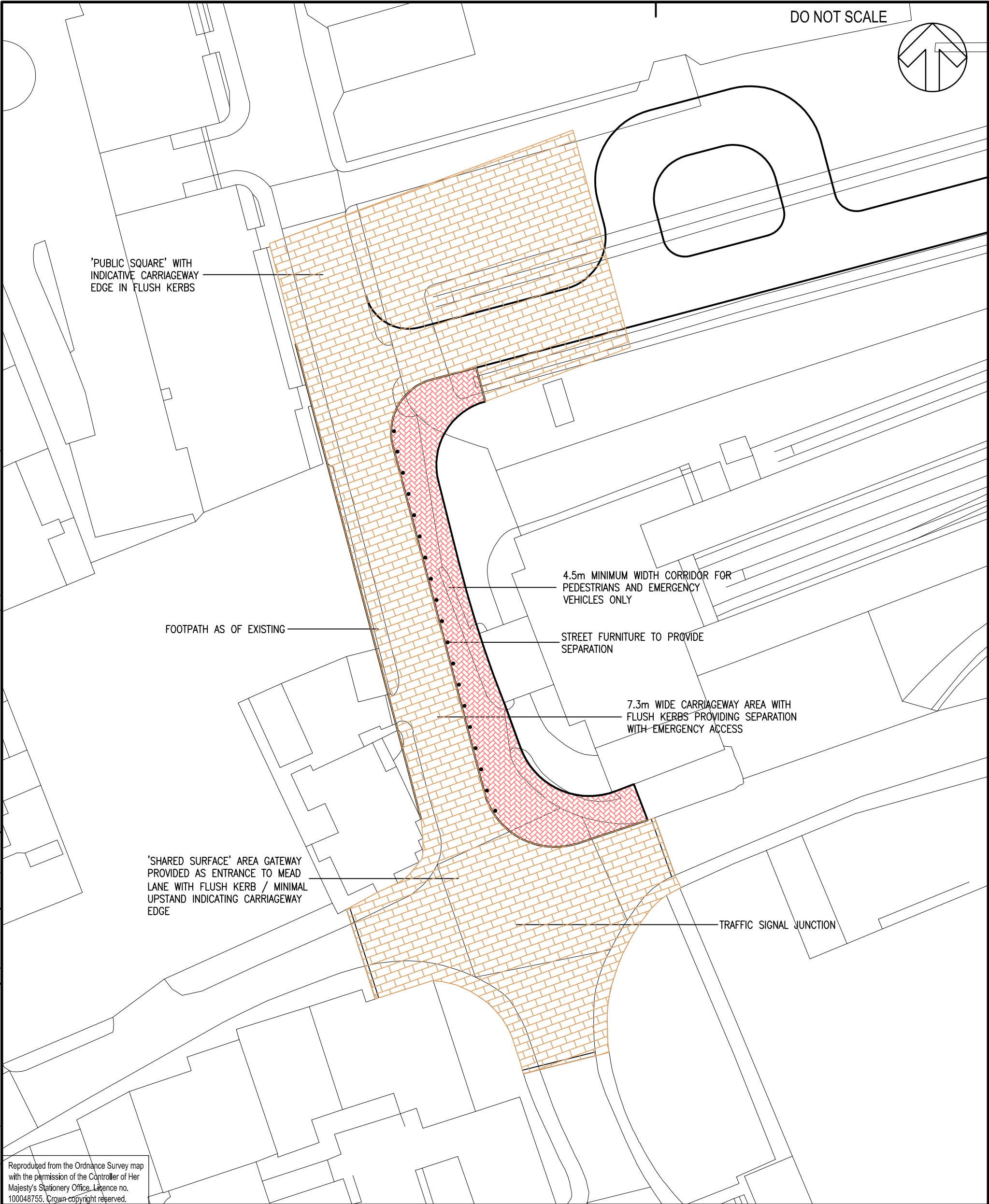
Further Actions Required:

Check sustainability of materials for HGV access
Autotrack to test access for HGV's and segregated route for Fire tender.
Consider likelihood of motorcycles / cars using emergency access to bypass queues – enforcement required?
Consultation required with emergency services, Network Rail and Passenger Transport Operators

Other Information / Additional Notes

Utilities searches to be undertaken

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PROJECT: HERTFORD AND WARE URBAN TRANSPORT PLAN		
TITLE: MEAD LANE EMERGENCY ACCESS ARRANGEMENT OPTION A		
SCALE @ A3: 1:500	CHECKED: AH	APPROVED: AH
PROJECT No: 11501189	DRAWING No: 1189/GA/008	REV: B



Hertford & Ware UTP Medium Term Scheme Feasibility Assessment

Scheme Name: Creation of new highway access connecting Mead Lane and Mill Road as well as a new transport interchange facility.

Scheme ID Number: MDL2

Scheme Summary:

Providing 250m of new road connecting Hertford East Station to the east of Mill Road and South of Mead Lane, this will increase accessibility to the railway station and bring about other benefits including:

- More efficient interchange facility between bus and rail travel allowing buses to park closer to the railway station making the facility more admirable to the public
- The additional access will allow for buses to easily get back to Mill Road creating an efficient route for buses
- More capacity
- Improved vehicle circulation within the Mead Lane Employment area
- Improved Emergency access for the Mead Lane site by shortening the stretch of single access by 100m

Links to Other UTP/LTP Schemes:

PTM10, PED22, MDL3, MDL4, PTM8, CYC24, CYC23

Estimated Delivery Cost (provide breakdown for works element where appropriate/possible):

Additional Carriageway cost - 250m X 7.3m @ £100 per sqm = £180,000 approx
Street lighting and bus stop infrastructure = £20,000 approx

ESTIMATED TOTAL COST: £200,000

Estimated Operating Costs:

Electricity supply costs
CCTV for passenger safety if required

User Mode Benefits:

Scale of Benefit	Pedestrian	Cycle	Bus	Rail	Car
High			✓		✓
Medium	✓	✓		✓	
Low					



Design Considerations:

Design Considerations	Proposed Solutions	Sufficient to tackle issues? (Y/N)
Buses turning and passing	Swept path analysis	Y
Construction works preventing access to Mead Lane and Rail station	Diversion route / Alternative parking And traffic management	Y

Land ownership – to be negotiated with British Railways Board (Residuary) Ltd

Deliverability Constraints:

Can the scheme be delivered without third party involvement?		N
Is third party land required to deliver the scheme? (i.e. within the Highway Boundary)	Y	
Are there any likely utilities constraints?	Y	
Do all elements of the scheme involve standard work processes?	Y	
Can the scheme be delivered in the medium term?	Y	
Are there any accessibility constraints that impact on building the scheme? (e.g. limited road access)	Y	

Links to LTP and UTP Targets and Objectives:

LTP8

Programme/Delivery Risks (include brief description for overcoming where possible):

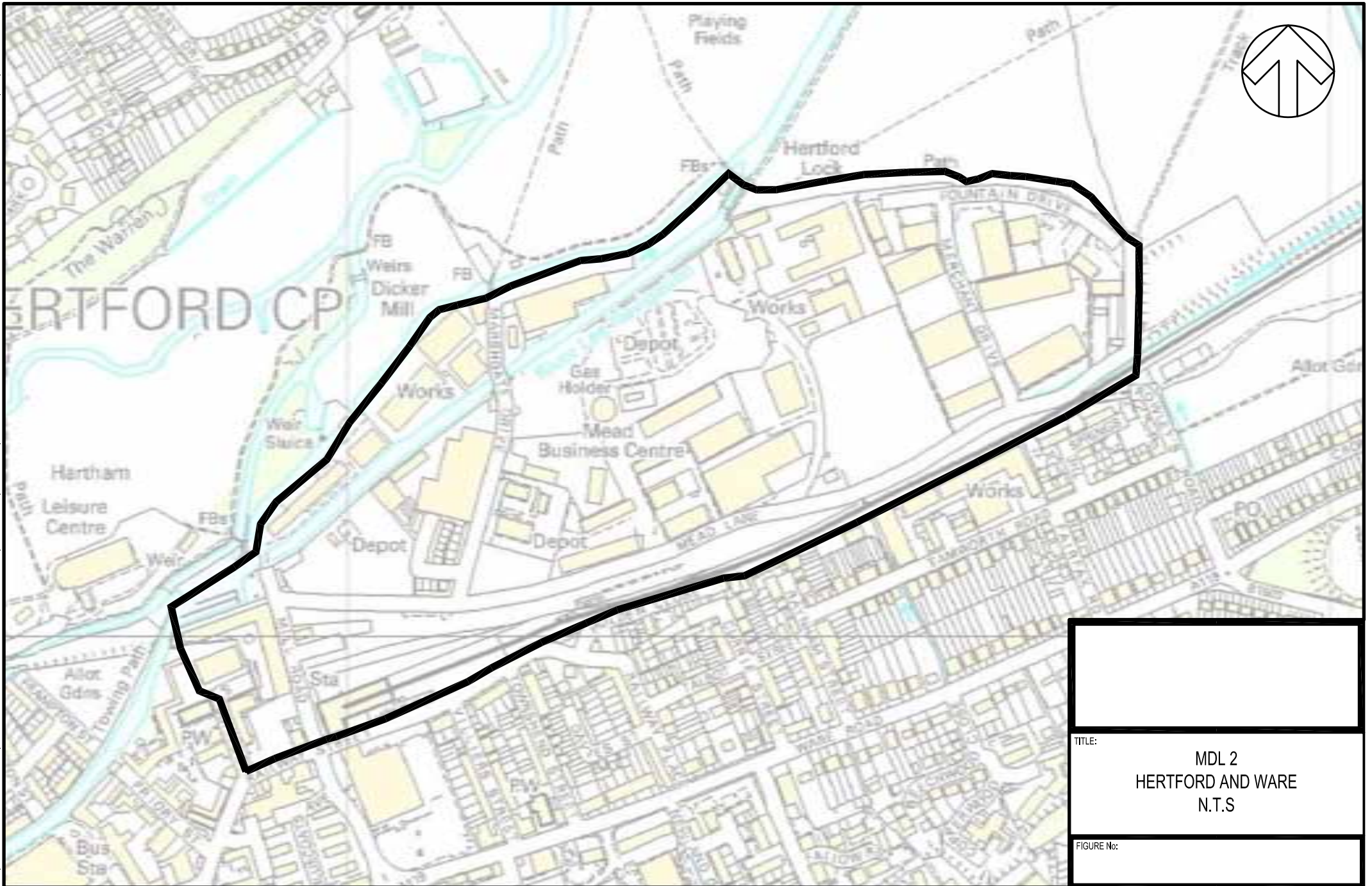
Section 38 agreement required for adoptable highway.
Construct to adoptable standards, consult with Government office and statutory consultees at an early stage.
Reliant upon British Railways Board (Residuary) Ltd releasing land for allocation as new highway

Further Actions Required:

Network Rail needs to be consulted at an early stage
Passenger Transport Operator negotiations
Land availability / ownership – engage with British Railways Board (Residuary) Ltd at an early stage
Swept path evaluation
Utilities searches and consultation with statutory consultees including emergency services
Preliminary consultation with the above consultees would take place as part of the UTP consultation.

Other Information / Additional Notes

The road would be implemented as part of future development





Hertford & Ware UTP Medium Term Scheme Feasibility Assessment

Scheme Name: Mead Lane Area Car Parking Review

Scheme ID Number: MDL4

Scheme Summary:

Car park review to be undertaken within the following Mead Lane study area (See plan below)
Area of review to include the Kingsmead area (all residential streets between the railway, Ware Road, Mill Road and Rowley's Road).

Key aspects for consideration include:

- Utilisation of parking spaces / potential for shared use parking for new development
- Pricing regime / restrictions – aim to reduce car travel to development and overflow rail station parking
- Discouraging long stay parking promoting a swap to more sustainable travel modes
- Continuing to make short stay parking (leisure / shopping trips etc) a priority and more attractive in the long term
- Ensure parking does not restrict access
- Also expand CPZ into Mead Lane and to cover all of Kingsmead (noting the area up to Currie Street from Mill Road is already covered by a CPZ) to tackle on-street parking problems.

This would need to be considered in any future development on the site to either restrict or formalise parking areas to maintain efficient access to the site along Mead Lane

Links to Other UTP/LTP Schemes:

PTM10, PED22, MDL3, PTM8, PTM7, MDL2, CYC24, CYC23, PTM2, CPK1, CPK2, MDL1, MDL4, MDL5

Estimated Delivery Cost (provide breakdown for works element where appropriate/possible):

- Additional ticket machine installations
- Additional signage installation / removal
- Road marking installation / removal

ESTIMATED TOTAL COST £25,000:

Estimated Operating Costs:

Ongoing enforcement measures including:

- Traffic Officers / Wardens
- CCTV
- Illuminating signage / relevant machines / parking areas

Signage / road marking upgrading / maintenance costs

Machine maintenance

£500pa and Traffic Warden salary



User Mode Benefits:

Scale of Benefit	Pedestrian	Cycle	Bus	Rail	Car
High					✓
Medium				✓	
Low	✓	✓	✓		

Design Considerations:

Design Considerations	Proposed Solutions	Sufficient to tackle issues? (Y/N)
Pricing	Consistent with Rail station study area review	Y
Restriction	TRO's required	Y
Enforcement	Additional Traffic wardens may be required	Y

Deliverability Constraints:

				Comments
Can the scheme be delivered without third party involvement?	Y			Depends upon aspirations of EHC
Is third party land required to deliver the scheme? (i.e. within the Highway Boundary)		N		
Are there any likely utilities constraints?	Y			
Do all elements of the scheme involve standard work processes?	Y			
Can the scheme be delivered in the medium term?	Y			
Are there any accessibility constraints that impact on building the scheme? (e.g. limited road access)		N		

Links to LTP and UTP Targets and Objectives:

LTP8

Programme/Delivery Risks (include brief description for overcoming where possible):

TRO's required for parking restrictions
Needs to take into account study area wide car parking study
Study recommendations in pricing and time restrictions
Do measures implemented i.e. street parking add further to congestion problems around the area?

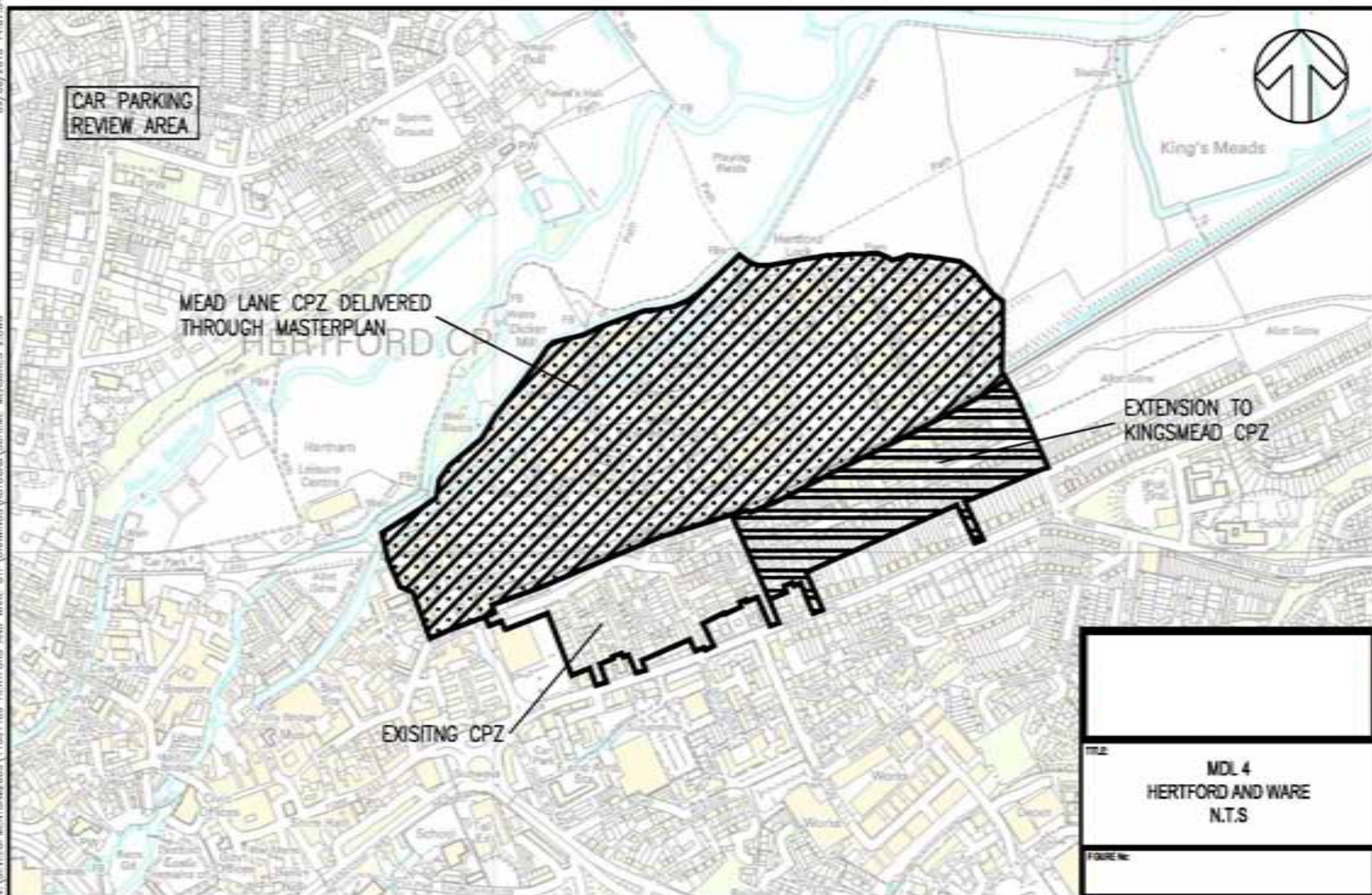
**Further Actions Required:**

- Discuss with EHC to agree a set of prioritised objectives for any strategic development to enable a study to commence
- Relationship with LDF document

Other Information / Additional Notes

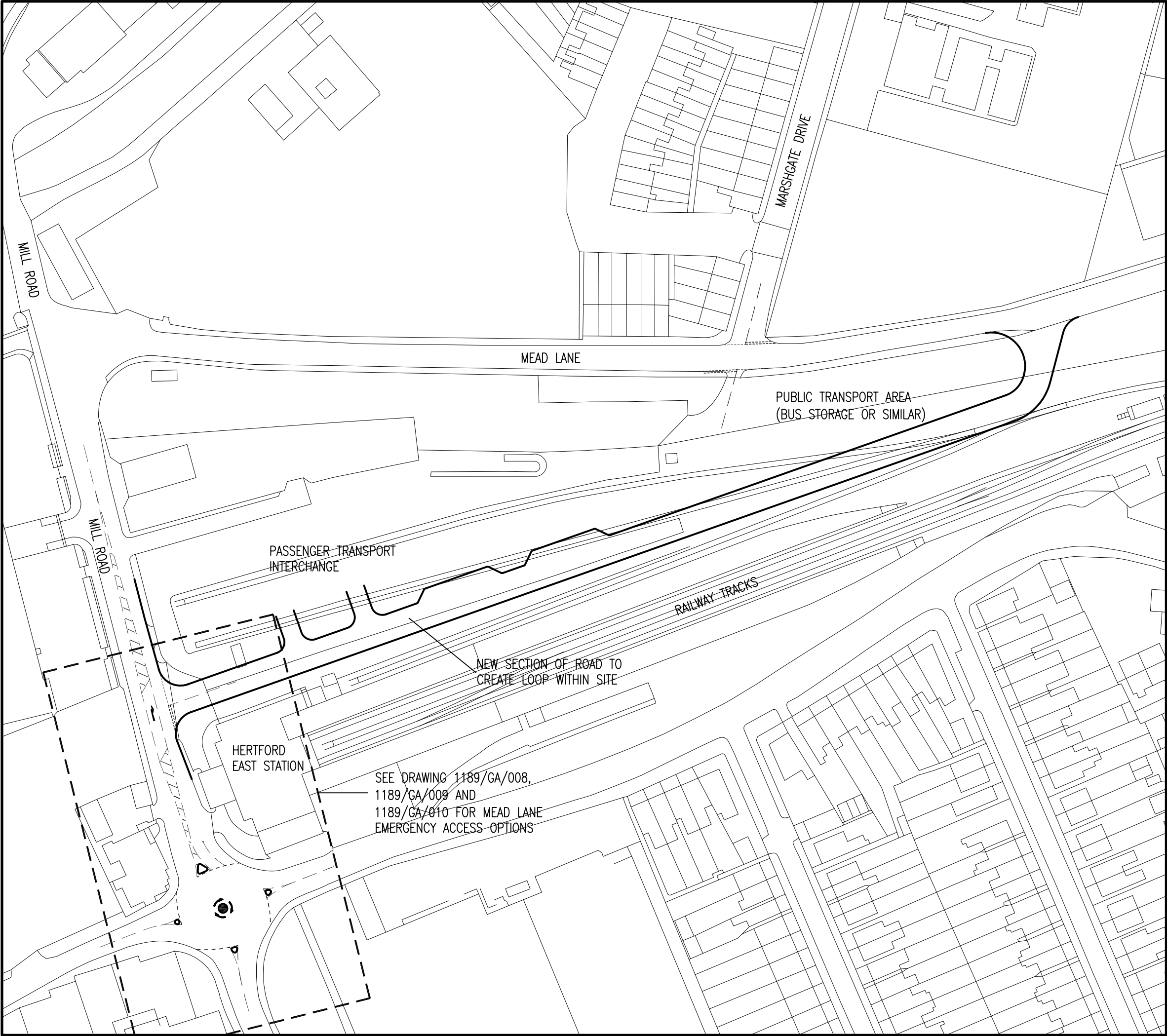
Does the scheme link both practically and on time with any other schemes which are proposed / ongoing within the vicinity such as existing parking schemes / potential expansion to business / employment areas etc.

This must be looked at to ensure integration



Appendix B Emergency Access Options

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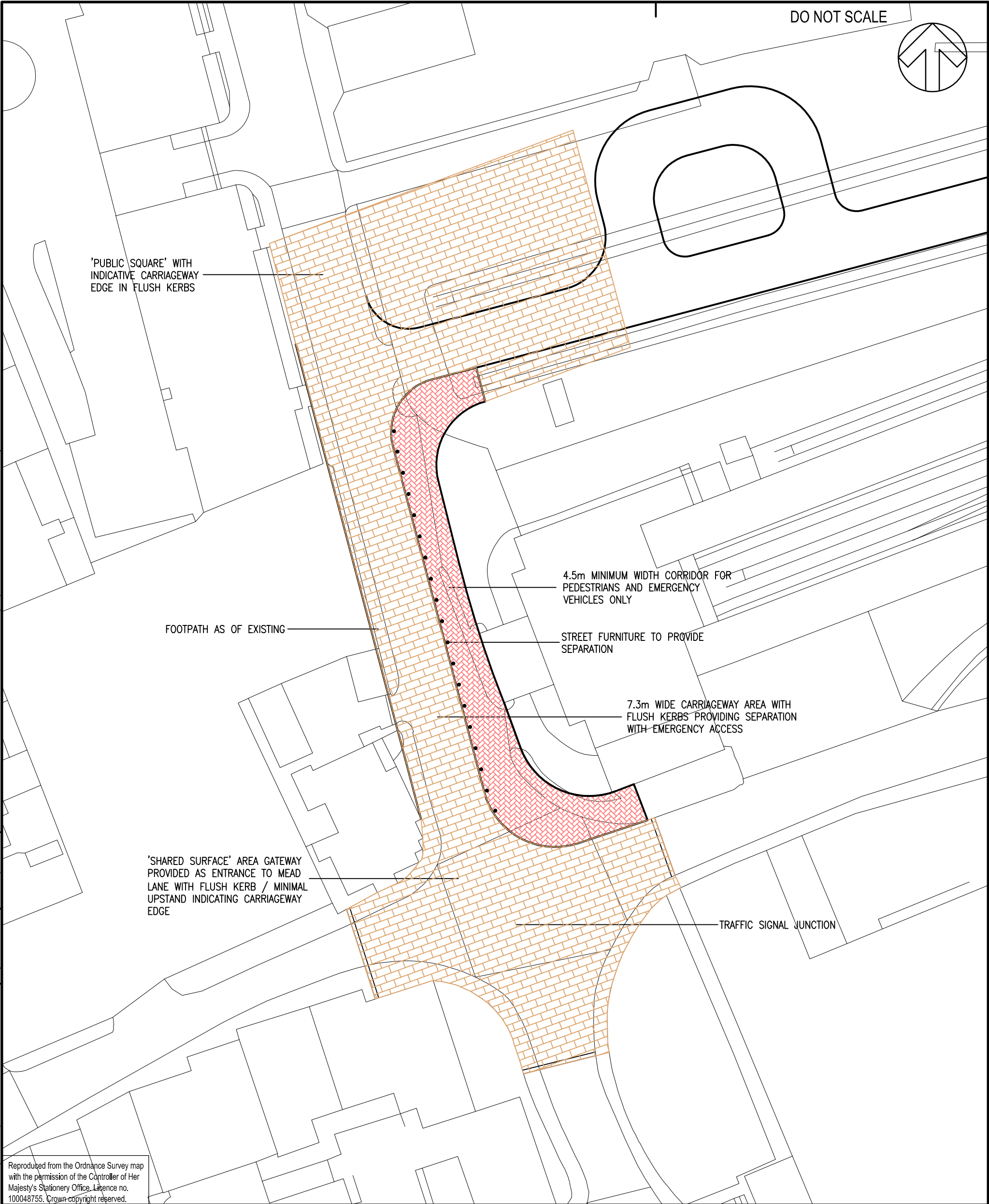
PROJECT: HERTFORD AND WARE
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TITLE: MEAD LANE INTERCHANGE
AND ACCESS ARRANGEMENTS

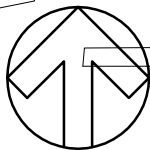
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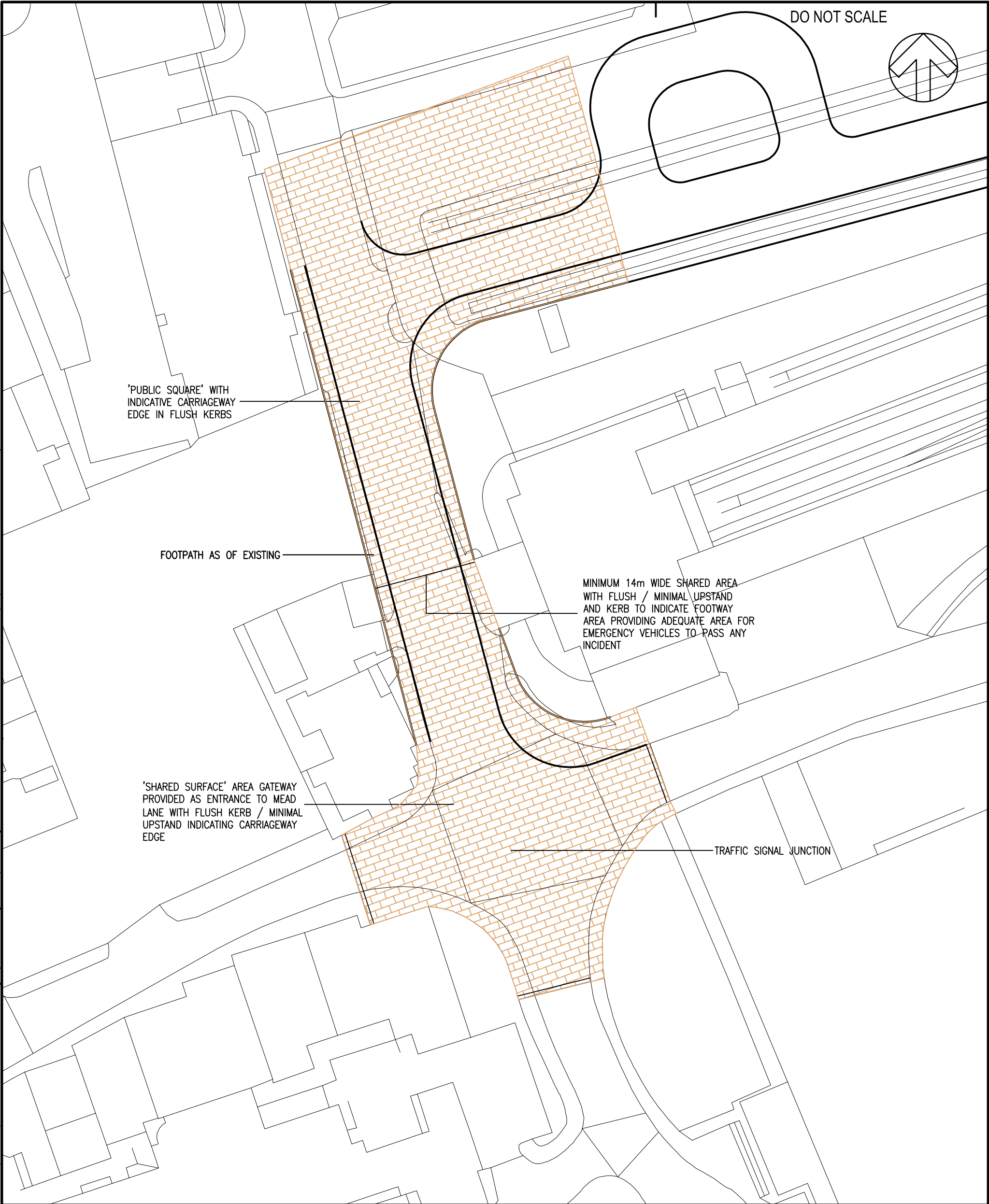
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SCALE @ A3: 1:500	CHECKED: AH	APPROVED: AH
PROJECT No: 11501189	DRAWING No: 1189/GA/008	REV: B

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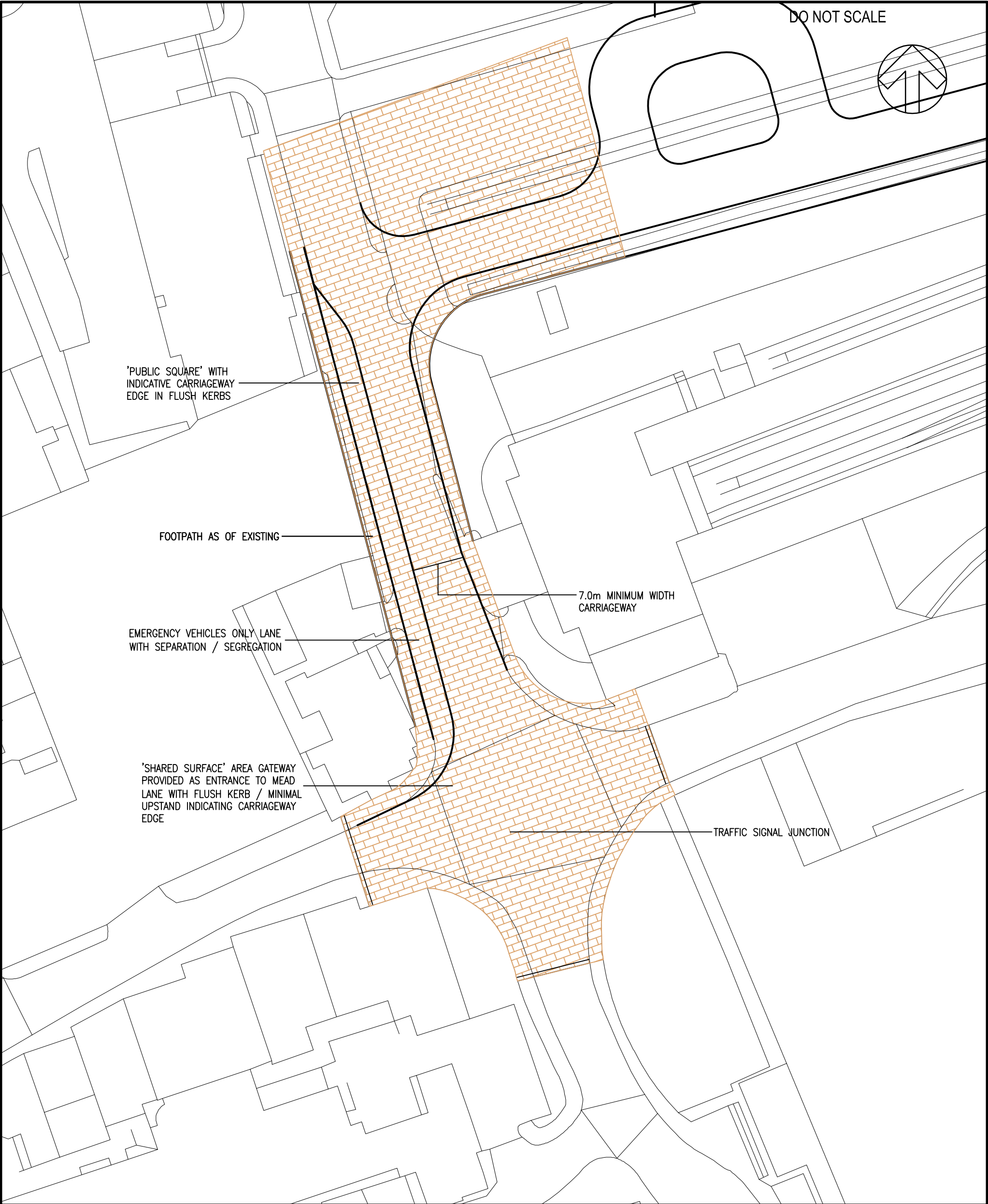


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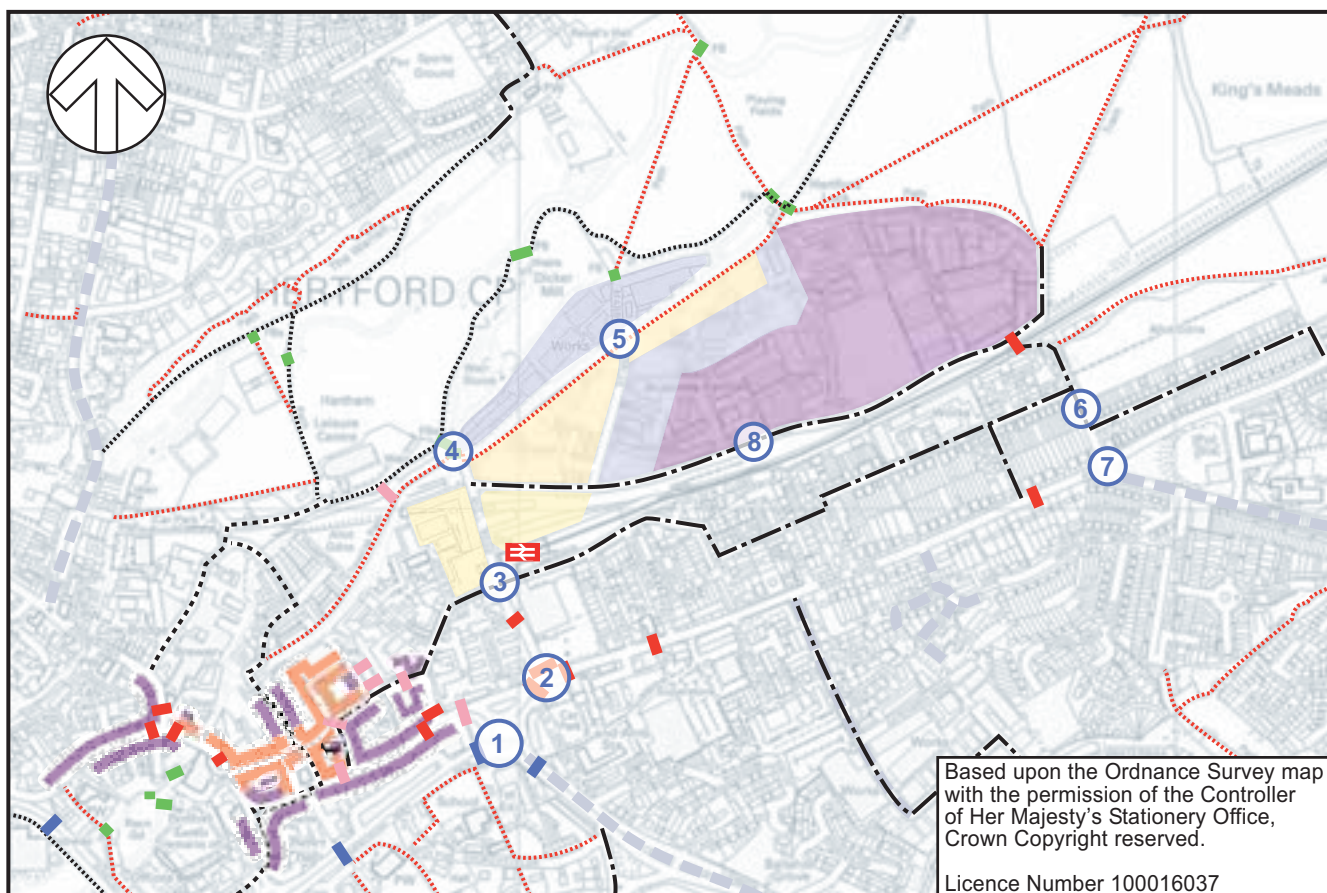
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Appendix C Junction Constraints



Key

- Residential
- B1 use
- B1, B2, B8 use
- Rail station
- Steep hill
- Primary shopping frontage
- Secondary shopping frontage
- Signalised crossing
- Zebra crossing
- Traffic island
- Subway
- Footbridge
- Footpath
- Bridleway
- Cycle route (traffic free)
- Cycle route (on road)
- Cycle route (recommended by local cyclists)

Mead Lane Access Constraints

- | | |
|---------------------------------|--------------------|
| ① Bluecoats Roundabout | Overcapacity |
| ② Mill Road / Ware Road Signals | Overcapacity |
| ③ Hertford East Roundabout | Overcapacity |
| ④ Mill Road / Dicker Mill | Bridge restriction |
| ⑤ Marshgate Drive Bridge | Bridge restriction |
| ⑥ Rowleys Road | Width restriction |
| ⑦ Ware Road / Stanstead Road | Overcapacity |
| ⑧ On-street Parking | Width restriction |

Scale

0 500m 1km

Mead Lane Access Constraints

See drawing for scale

Appendix D Stakeholder Consultations

MEETING NOTES

Job Title	Hertford and Ware Urban Transport Plan
Project Number	11501189
Date	14 January 2010
Time	2-4pm
Venue	WSP Hertford, The Chase, Foxholes Business Park
Subject	Mead Lane Masterplanning
Client	Hertfordshire County Council
Present	Ian Thompson - Hertfordshire Highways
	Andrew Freeman - Hertfordshire Highways
	Rob Jepson - Hertfordshire County Council
	Development Control
	Vetti Vettivelu - Hertfordshire County Council
	Development Control
	Adrian Hames - WSP
	Paula Cuthbertson WSP
	Barry Warner - Hertfordshire Highways (in place of Jason Bond Network Management)
	Kay Mead - East Herts Council (Planning)
Apologies	Tim Haggard - East Herts Council (Planning)
	Jason Bond (Network Management)

MATTERS ARISING

Introductions

AMH provided an update on progress to date with the Draft UTP, highlighting that the public consultation is to go live on the website in Mid-March.

RJ commented that since he is a local resident within the Mead Lane area of Hertford he had also invited his colleague Vetti Vettivelu to attend the workshop.

1 Background

AMH summarised the Mead Lane site, identifying that it is a potentially sustainable location in the town centre in close proximity to rail and bus stations and part of the site is allocated for employment development. However, there are several transport challenges which have historically prevented further additional development, eg concerns regarding local junction capacity and Development Control requirements for emergency and/or a second point of access.

The motivation for the workshop session was therefore to make some progress in addressing perceived constraints and a common desire to move forward with development at Mead Lane.

ACTION

Paramics Modelling & Base Model Results

AMH introduced the Paramics model which had been developed by WSP as part of the Draft UTP.

An overview of existing site traffic generation shows tidal flows (AM Peak predominantly inbound and PM Peak heavy outbound) due to largely employment land use therefore there is scope for development which balances tidal flows or allows internalisation of trips within the site.

EHC noted slide 6 incorrect. (No PM table)

Should appear as follows:

	PM Peak Arrivals and Departures (Observed)	
Time	Arrivals to Mead Lane via Mill Road	Departures from Mead Lane via Mill Road
17:00	30 (25%)	141 (37%)
17:15	31 (26%)	93 (26%)
17:30	30 (25%)	103 (27%)
17:45	28 (23%)	42 (10%)
Total	121	379

Key Constraints

AMH summarised model results and confirmed that local key junctions are operating at or near capacity (including A414 Bluecoats Roundabout, Mill Road junction and Ware Road/Stanstead Road). It was also noted that there is a high level of through traffic on A414 (approx 60% external to external).

AMH also confirmed that second access at Rowley's Road level crossing (to east of site) would not be feasible, based on feedback from Network Rail and costs/impact of constructing a bridge are prohibitive. However, the model data showed a heavier demand to the west of the site than to the east therefore a second access in this location would be unlikely to provide substantial relief in any case.

RJ stated that historically the Scott Wilson development brief of 2003 and Fairview Homes identified an option for residential on Nat Grid Gas site but Development Control at time said no more residential could be permitted until the Mead Lane master plan study had been completed and due to the need for an emergency/second access.

4

Modelled Highway Options Tested :

AMH outlined the modelled highway options tested within the Paramics model. Two options had been identified to potentially improve capacity at Bluecoats and Mill Road.

The model indicates that the Bluecoats improvement would provide localised benefits but may simply shift the problem around/along the A414 to other junctions. Model scope limited to illustrate this. Mill Road 2 lanes for right turn has more localised benefit.

Proposed developments would need S106 to cover Highway Measures if shown to be dependent on these capacity expansions.

However, both junctions would be difficult to deliver (particularly Bluecoats in terms of feasibility)

5

EHC Land Use Proposals

AMH identified EHC masterplan 2008 and committed developments.

EHC comments on looking forward – more employment, strategic investments and larger developments required, hence need for strategic masterplan. Additional areas for inclusion in the masterplan include land parcels adjacent to the station and the river. Open space and amenity areas to be provided along river as a strategic corridor. West of Marshgate Drive has extant permission for predominantly residential development and it is envisaged that east of Marshgate Drive, future development would encompass an element of residential with a buffer of B1 uses up to more generalised employment uses (mostly pre-existing). EHC also commented that the former gas works site needs remediation works due to the contaminated nature of the land.

RJ also noted recent Tesco permission for minor extension (300 sqm) and explained that S106 contributions of £50K had been secured but no highway measures had been identified. Tesco cycle linkage proposed (but mini roundabout causes a problem at Mill Road junction).

Rail Station Masterplan

AMH mentioned that National Express had identified Hertford East as town centre rail station and therefore it would not require extensive car parking provision. Indeed current provision is very low and the uptake of the spaces is not 100% at present although issues with on-street parking may explain this. Hence the rail sidings land could be used for a new public square and bus interchange, with a new access loop to help improve emergency access.

WSP have also explored bus layover at Mead Lane but Bus Operator's prefer layover at the Bus Station.

EHC commented that Ware Station (also in the town centre) has 100 spaces for equivalent train journeys and car parking charges at the Hartham Common Leisure Centre are currently cheaper than at the rail station, so the level of demand for rail station parking may have been underestimated.

VV commented that a site at Baker Street had been released for development which would remove car parking. Once this is removed the demand for parking at Hertford East may increase.

RJ commented that they had recently recommended refusal of the nearby Police Station redevelopment for various reasons including inadequate car parking.

IT mentioned that Mike Younghusband is keen on policy strategy to review long and short stay parking in the town centre.

EHC mentioned Rail capacity / frequency at Hertford East
NR plans to increase capacity at Broxbourne to cater for 8 carriage trains
Timetable also capacity constrained – can increase frequency if capacity expansion goes ahead (2015/16 approx).

EHC commented on the existing setting of Hertford East as being poor, uncoordinated and cluttered and that EHC would strongly welcome proposals to provide the setting that this most significant listed building deserves

Sustainable Transport Strategy

AMH presented opportunities for reducing trip generation of the Mead Lane site in order to reduce pressure on local junctions. This includes:

- Reduction in car trips in Hertford and Ware due to the UTP measures (2.5% mode shift – conservative estimate and experience elsewhere has shown around 5%).
- Internalisation of trips with further mixed use development occupied and by providing the “most” sustainable development characteristics
- Reduction in trips to Tesco's due to diversion to Sainsbury's if permitted.

The above savings translate into spare capacity for 300-500 residential flats and 3000-5000sqm B1 employment, plus a further 10% residential with a sustainable transport strategy in place which assumes Low car trip generation for future residential development (low car parking, high density flats, low family occupancy). Other off peak land uses could also be accommodated such as leisure and hospitality (small station hotel, entertainment, A3 cafes/bars etc).

RJ updated that Sainsbury's results are due 25 January and this may set a local precedent of need/benefits for development in the town centre versus congestion as Old Cross junction is over capacity even without Sainsbury's and no scope for improvements to alleviate capacity issues, due to constrained space.

EHC mentioned that LDF allocations include Hertford. Agree development better in Town Centre (sustainable despite congestion).

EHC mentioned that there is to be a design competition for improvements to Old Cross Public Realm (largely priority for pedestrians and cycles rather than a highway scheme).

RJ commented that a linked SCOOT system could help along A414 junctions, although Peggs Lane junction likely to have no gains from signalisation.

RJ Commented that there had previously been an application for a cinema and food superstore on the site but was not popular with local residents.

VV commented that for a sustainable transport strategy to work, need to consider what is achievable in reality and targets need to be enforcement (penalties). Distance of travel has more impact, so it would be more effective to discourage long distance commuting.

IT pointed out that for LTP3 Climate change is high on the agenda, so mode shift important in delivering this.

RJ stated that GTP for existing uses difficult (due to several different landlords – difficult with existing uses to change behaviour). Staggered finish times / flexitime would help. However, for new land uses there is more scope – GTP's compulsory preferably low car development.

Emergency Access

AMH presented WSP ideas for emergency access loop which uses the rail sidings land to provide an additional road link into the Mead Lane site. This would allow vehicles to circulate in a loop and would shorten the distance along Mill Road which acts as a single entry point to the Mead Lane area. There is also sufficient width for a stretch of widened footway with bollards for occasional use for emergency vehicles, alongside Mill Road Station entrance.

VV commented that HCC development Control TA Guidance on emergency access currently based on old DB32 guidance (300 dwellings criteria for emergency access) which has been superseded by MfS but HCC document has yet to be updated. Therefore emergency access still an important issue to address if site to be delivered for development.

EHC suggested that a Coach access may be a possible option within the proposed access loop.

RJ requested that the loop should avoid a cross roads within the site as this is contrary to HCC policy. AMH confirmed that one junction only for the loop within Mead Lane would be needed and the drawing would be amended.

VV and RJ agreed that the proposed access loop is beneficial in terms of emergency access. However, further details required on this. Also need to consult with emergency services.

AMH proposed that WSP could provide a strategy note on emergency access for Mead Lane to allow further consultation with the emergency services by HCC. It was noted that the emergency access proposals could integrate well with the ambition to establish a pedestrian route/cycleway between Hartham, Hertford East Station and Ware Road

Summary and Next Steps

It was agreed that it was a positive workshop with agreement in principle that development at Mead Lane should be explored further in more detail through an appropriate Development Brief exercise.

It was agreed that the UTP will provide positive benefits to assist new development at Mead Lane through encouraging sustainable travel and reducing car use. It was also noted that a town centre site, even with congestion, is the preferred location for new development and by seeking to take best advantage of current junction layouts through utilising tidal flows related to mixed uses and freedom on the network (due to Sainsbury's traffic shift and UTP measures) HCC Development Control would be willing to see further development, subject to satisfactorily resolving suitable emergency access.

Therefore way forward needs to be looked at in more detail. Development brief required for lead on Mead Lane.

It was noted that:

- Sidings Site & Gas Works – two main areas for redevelopment
- Nat Grid site keen to progress
- Development on rail sidings land – ideal location with rail / bus interchange and following positive rail operators and NR feedback on use of sidings land for transport related use HCC had lodged interest with BRB for the sidings land

WSP to provide note on emergency access proposed strategy showing more detail for HCC/EHC officers to help take forward development on the site and seek agreement from the emergency services.

WSP



Hertfordshire Highways

HERTFORD & WARE URBAN TRANSPORT PLAN MEAD LANE MEETING

WEDNESDAY 11th MAY 2010, 14:00

ROB SMITH'S OFFICE, COUNTY HALL, HERTFORD



MINUTES

Attendee's:

Paul Freer, Lambert Smith Hampton (on behalf of British Rail Residuary Board)
Mark Holman, Lambert Smith Hampton (on behalf of British Rail Residuary Board)
Kay Mead, Planning Policy, East Herts Council
Tim Hagyard, Development Control, East Herts Council
Rob Jepson, Highways Development Control, Hertfordshire County Council
Andrew Freeman, Programmes & Strategies Manager, Hertfordshire Highways
Ian Thompson, Programmes & Strategies Manager, Hertfordshire Highways

Also copied to:

Adrian Hames, WSP
Paula Cuthbertson, WSP

1.0 BACKGROUND TO URBAN TRANSPORT PLANS & MEAD LANE SUB-STUDY

1.1 Urban Transport Plans (UTP's):

- The County Council carry out 2 or 3 UTP's each year
- These consider what the transport issues and problems are across all modes in the study area.
- Schemes and measures are outlined to mitigate these problems and issues.
- The County Council in partnership with East Herts Council have commissioned WSP to work on the Hertford and Ware Urban Transport Plan (H&WUP).

1.2 Hertford & Ware Urban Transport Plan (H&WUTP):

- It was agreed at the outset that the H&WUTP should include a sub-section considering (i) the access issues into the Mead Lane site, and (ii) sustainable development proposals for the site.
- The consultation period on the H&WUTP (including the Mead Lane study) has now closed – although comments are still being taken on board.
- IT stated that the final draft was being pulled together to go through the endorsement process which should be completed in September 2010.

1.3 Mead Lane sub-study:

- IT summarised the main recommendations of the study.
- **Transport Model:** The key bottlenecks (Bluecoats roundabout & Mill Road / Ware Road junction) had been run through a Paramics model to ascertain if there was any additional highways capacity at these junctions. The conclusion was that any changes made would have an adverse impact on other parts of the network and therefore have been dismissed.
- **Second point of access:** This had been revisited, and also dismissed. A second vehicular access via Rowleys Road was not possible. Network Rail would not

	<p>allow a vehicular level crossing. A bridge would not be feasible for environment, cost and CPO reasons.</p> <ul style="list-style-type: none"> • Improved Emergency Service Access: Further development on the site would not be supported because a lack of a second access. However, now that Manual for Streets was being followed rather than DB32 guidance, it was recognised that if emergency service access could be improved and other improvements made, further development could take place. • Improved sustainable transport and development: It was recognised that the site was well located for sustainable development being near the town centre and Hertford East railway station. Besides improved emergency service access being promoted outside the station the following was also being promoted: <ul style="list-style-type: none"> • A new link road between Mill Road and Mead Lane on BRRB land • A passenger transport interchange off this new link road to promote bus services to serve the Mead Lane area and the station. • Improved pedestrian and cycling access outside the station and across the existing Rowleys Road pedestrian level crossing access. 	
2.0	DISCUSSION POINTS	
2.1	<p><u>Passenger Transport Interchange:</u></p> <ul style="list-style-type: none"> • MH asked for some clarification what was meant by 'passenger transport interchange.' Why was an interchange required as well as a 'public transport area (bus storage or similar)? • MH continued that BRRB would be more accepting of an interchange that may encompass bus stops and layby's rather than a 'bus station.' • <i>POST MEETING NOTE:- The drawing has been amended to show a proposed interchange and layover area, which has less impact on the land area..</i> 	
2.2	<p><u>Land Ownership:</u></p> <ul style="list-style-type: none"> • MH stated that the 'Mead Lane Interchange and Access Arrangements' drawing in Appendix B showed the new link road partially on Network Rail land, and partially on BRRB land. • MH continued that if the road proposed was on Network Rail the disposal of NR land was more tightly governed than BRRB land. The Rail Regulator has to approve of any disposal. • IT stated that Network Rail have been consulted on this study and have attended a previous meeting held in November 2009. • RJ asked if BRRB land ownership included the skip company – which was confirmed by MH. He stated that a planning application had been received for permanent permission as a Waste facility. • MH to forward IT a BRRB / Network Rail land ownership plan. • MH stated that there are 2 short term leases on the land, but the tenancy agreements can be terminated within 3 or 6 months. • <i>POST MEETING NOTE: - The roadway has been positioned on BRRB land only and therefore there would not need to be land ownership discussions with Network Rail. However, Network Rail would still need to be consulted regarding the wider interchange and station improvements.</i> 	MH
2.3	<p><u>Sale of the Land:</u></p> <ul style="list-style-type: none"> • PF confirmed that LSH expected the land to be put up for sale by BRRB shortly – possibly by September 2010. • IT asked if the land had gone to BRRB's Property Review Group to ascertain whether the land could be used for alternative transport use. MH stated that it 	

	<p>had, but was not sure exactly when this was. He also confirmed that local authorities would have been consulted on this before its potential disposal.</p> <ul style="list-style-type: none"> IT requested if the information on the property review group could be forwarded for background purposes. IT to contact MH. 	IT MH
2.4	<p><u>East Herts Planning Brief:</u></p> <ul style="list-style-type: none"> KM stated that this access study would inform EHC's Core Strategy and Options which would go on public consultation in July 2010. PF asked if EHC would consider a joint planning brief for the BRRB land. LSH had worked with Colchester Borough Council in a similar way. KM & TH stated that a planning brief would be required for the whole site. There was then discussion on the possibility of joint planning brief for the whole Mead Lane site with EHC, BRRB (LSH) and another landowner. East Herts & BRRB (LSH) to discuss. TH stated that EHC wanted to see a mix of used on the site because of the transport access issues. This could include a hotel and leisure options. <i>Post Meeting Note: – Report at 7.1.8 mentions a Hotel and Leisure uses as possible Options</i> KM mentioned that at Ware station "shared land use" was achieved by building residential above an underground car park and maybe this could be an an option at Hertford East. 	KM TH PF MH
3.0	NEXT STEPS	
3.1	<ul style="list-style-type: none"> IT to contact WSP on Wednesday morning to provide clarification where required and come back to LSH later on Wednesday. 	IT
3.2	<ul style="list-style-type: none"> PF to provide full written comment to IT by Friday 14 May 2010. 	PF

Mead Lane Stakeholder Consultation Responses

Response from Hertfordshire Constabulary

The proposal has been fully examined by the Traffic Management Unit and I am writing to inform you that Police have the below comments to make.

Police and the Hertfordshire Highways area office receive numerous complaints concerning the current congestion in and around Mead Lane, Hertford. It appears that the current congestion issues are dictated by the existing junction arrangements, namely the A414 London Road j/w Gascoyne Way roundabout, the signalised junction on the A119 Ware Road j/w Mill Road and the mini roundabout in Mill Road.

Therefore Police would, in principle, support any measures that would improve the access and egress to the current Mead Lane development.

In principle, Police would support a dedicated emergency access provision, however this could be open to abuse resulting in potential road safety issues, furthermore any reduced carriageway width and a shared surface arrangement may not be conducive to heavy goods vehicle traffic.

It is the opinion of Police that a significant amount of consideration should be given to resolving the existing congestion issues rather than adding an additional burden that any new development would bring.

Target A/C: 18423

National Grid

COMMENTS ON BEHALF OF NATIONAL GRID PROPERTY HOLDINGS LIMITED AND NATIONAL GRID GAS

These representations are made on behalf of National Grid Property Holdings Limited (NGPHL) and National Grid Gas (NGG).

The Hertford and Ware Urban Transport Plan (HWUTP) has included at Appendix D the Mead Lane Access Masterplan Study. The Masterplan area includes a large area of land owned by NGPHL and NGG. As such National Grid (NG) is very interested in the details the HWUTP.

The land which is owned by NG is currently unused. It is land which NG has aspirations to redevelop in the future. National Grid, therefore support the potential redevelopment of the Mead Lane area, and thus the technical transport work which is considering how development could be accommodated in the area.

National Grid owns the largest potential redevelopment site in the Masterplan area and is therefore a key stakeholder in the Council's plans for the area. National Grid would like to be involved in the plans to redevelop the Mead Lane area.

National Grid has already met with Council Planning Officers to discuss the site and intends to promote the site through the Local Development Framework process and the Masterplan process.

The main point which we wish to make at this stage is regarding the mix of uses on the site. Within Appendix D, there is a land use strategy plan (Figure 1.6) which shows potential land uses in the Masterplan area. At this stage NG would not wish to see the potential mix of uses of the site determined and considers that the document should make clear that this land use strategy is one potential option.

We appreciate that the Figure 1.6 is entitled Mead Lane Potential Land Use Strategy. However, we would prefer that the land which is within NG ownership (see attached drawing 4750/005) is identified as potential mixed use area.

National Grid wish there to be some flexibility in the mix of uses and amounts of land for different uses on site, the final makeup of which will be dependent on a number of factors including, the results of technical work, the market for different uses and practical layout and design considerations.

At this stage no justification or evidence base has been put forward in this document to show why the mix of uses, and the amounts of land for different uses, shown in Figure 1.6 is the most appropriate. This is something which NG would like to be involved in developing with the local authority.

Much of the Mead Lane area is already developed and unlikely to change in the future. The main area of potential change is on the NG site. The details of this key part of the overall scheme should be determined through the LDF and Masterplan process. This document appears to be pre-empting the this process unless it makes clearer that the mix of uses set out are for indicative purposes only at this stage, and the details will be identified through the LDF and Masterplan process.

To conclude, National is supportive of the work looking at transport issues in the Mead Lane and how they may be addressed. National Grid is also supportive of plans to regenerate the Mead Lane area and make the most of its potential. National Grid would like to be involved in plans to regenerate the area and have aspirations to redevelop their site at Marshgate Drive.

The HWUTP needs to be sufficiently flexible to ensure that alternative land use options can be considered through the LDF process. It is important that it does not pre-judge the outcome of this process.

Arriva

Thank you for sending a copy of the Hertford and Ware Urban Transport Plan. I do not see any issues with the proposals outside Hertford East Station. Anything that reduces congestion in the area will surely be a benefit. In terms of whether we would look to extend our commercial services to the sidings land to the north of the station, obviously we would have to assess the area and the necessary requirements but it is something that we would look at and consider.

BRB (Residuary) Ltd

I refer to your letter dated 14th April 2010 addressed to BRB (Residuary) Ltd regarding the above, and to your subsequent drawing showing an amended layout for the Mead Lane Interchange and Access Arrangements (Drawing No. 1189/GA/007/B).

Lambert Smith Hampton provides property advice to BRB (Residuary) Ltd and I am writing in response to your letter on behalf of BRB (Residuary) Ltd. This letter follows my email dated the 22nd April 2010 setting out the initial concerns held by BRB (Residuary) Ltd in respect of these proposals.

I would like in opening to thank you for meeting with my colleague, Mark Holman, and myself on Tuesday. I found the meeting helpful and constructive.

In principle, BRB (Residuary) Ltd have no objection to a new highway access linking Mill Lane and Mead Lane. However, as Mark Holman explained during our meeting, BRB (Residuary) Ltd are seeking to dispose of the land adjoining Hertford East Station are therefore concerned about the implications of the transport interchange and car parking for their site.

The main concern held by BRB (Residuary) Ltd is the land take of the passenger transport interchange facility as shown on your latest drawing. BRB (Residuary) Ltd are concerned that the land take required for these facilities could prejudice aspirations for the residential development of this site (and, in my view, the aspirations that East Herts Council may have for a mixed use development of the site)..

As discussed at our meeting, BRB (Residuary) Ltd would be prepared to consider a solution whereby the access road was provided wholly on land within their ownership subject. However, this would clearly decrease the area of land available to BRB (Residuary) Ltd for the development of their site. In this scenario, it would be necessary for the site to be developed as a purely residential scheme of relatively high density to ensure that the scheme was viable.

Moreover, even if the scheme was wholly residential, the reduction in the developable area resulting from the transport interchange as currently proposed would mean that the development of the remainder of land would not be viable. The potential impacts of noise and air pollution resulting from buses using this interchange would further reduce the developable area, and therefore development potential, of the land owned by BRB (Residuary) Ltd. For these reasons, the layout shown on this current drawing would not be acceptable to BRB (Residuary) Ltd.

A better solution would be to locate the new access road on land wholly within the ownership of BRB (Residuary) Ltd, but to locate the transport interchange and bus layover on the land to the south of the new access road, on land in the ownership of Network Rail. Not only would these uses be compatible with the operation of Hertford East Station, and therefore appropriate on land owned by Network Rail, the new road on BRB (Residuary) Ltd land would act as a buffer between these uses and residential development on the land owned by BRB (Residuary) Ltd.

Another important consideration for BRB (Residuary) Ltd, and one which we did not have the opportunity to discuss at our meeting, are the proposals for Mill Lane and Mead Road should a new highway access linking this highways be constructed. It would be helpful if any further details in this respect could be provided.

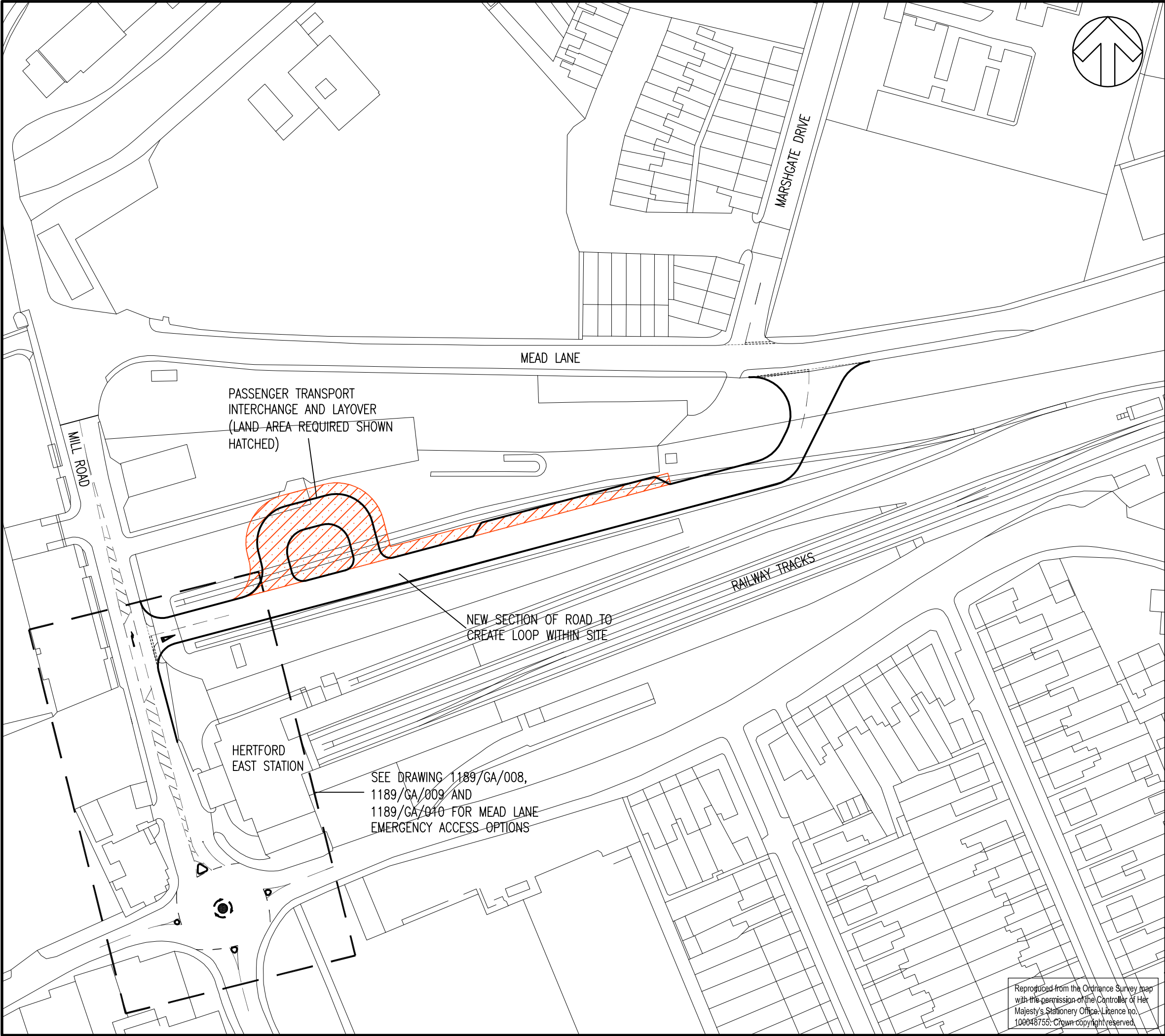
At this time, BRB (Residuary) Ltd must safeguard its position by maintaining its objection to these proposals. However, BRB (Residuary) Ltd would be pleased to work with the County Council to resolve the concerns currently held in respect of these proposals with a view to delivering the new access proposals in a manner acceptable to all parties.

Hertfordshire Fire and Rescue

I would in principle support your proposals outside Hertford East Station, and that the Fire and Rescue Service have no comments to make on these proposals.

Appendix E Revised Access Link Layout

V:\Development\Com2003\11501189 Hertford and Ware UTP\DRAWINGS\AUTOCAD\1189-GA-007C - Mead Lane Interchange and Access Arrangements.dwg
25/05/2010 14:01:35 Martin, Danny



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DO NOT SCALE

REV	DATE	BY	DESCRIPTION	CHK	APD
C	25.05.2010	DRM	BUS TURNING AREA BROUGHT CLOSER TO JUNCTION	AH	AH
B	12/05/10	DRM	BUS TURN AROUND AREA AND ROAD ALIGNMENT AMENDED	AH	AH
A	04/02/10	DRM	ISSUED	AH	AH

DRAWING STATUS: FOR INFORMATION ONLY

Unit 9, The Chase, John Tate Road
Foxholes Business Park, Hertford SG13 7NN
Tel: +44 (0)1992 526000 Fax: +44 (0)1992 526001
<http://www.wspgroup.com>

CLIENT: HCC / EHC

ARCHITECT:

PROJECT: HERTFORD AND WARE
URBAN TRANSPORT PLAN

TITLE: MEAD LANE INTERCHANGE
AND ACCESS ARRANGEMENTS

SCALE @ A3: 1:1000	CHECKED: AH	APPROVED: AH
CAD FILE: 1189/GA/007	DESIGN-DRAWN: DRM	DATE: MAY 2010
PROJECT No: 11501189	DRAWING No: 1189/GA/007	REV: C

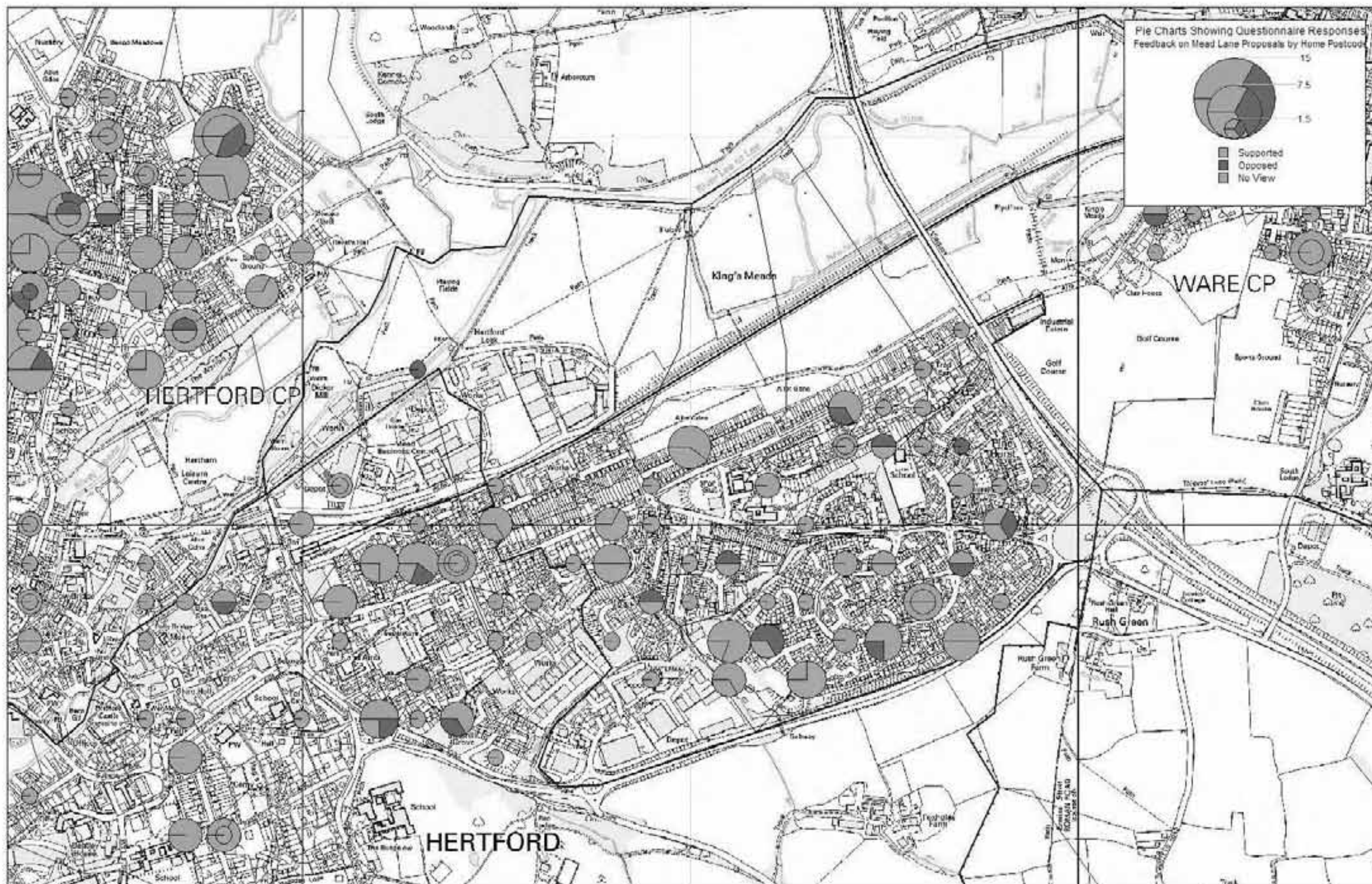
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Appendix F Postcode Analysis of Consultation Results

Response Number	Home Postcode	Work Postcode	How do you travel to work at the moment							Age Group					Sex		Mead Lane					Comments in Full
			walk	cycle	bus	train	car driver	car passenger	Other	16-29	30-44	45-59	60-74	75+	Male	Female	Fully Support	Partly Support	No View	Partly Oppose	Fully Oppose	
161	SG14 3AT					1							1		1				1			Do something about Hertford East parking. Do something about Hertford East Line - people drive to Hertford North via the rat run because Hertford East is crap. Put a crossing at Old Cross before the junction and take the lights away.
163	SG13 7BX	WC2B 6UN				1					1					1				1		We need more information as to the proposed improvements re access to mead Lane.
175	SG13 7DP	NW9					1				1				1				1			Forget Mead Lane, why oh why will you not consider a bypass. The A414 is a major road. There are no cross country trains. We must have a bypass - it can take half an hour to get through Hertford.
230	SG13 7TG	EC2N 1HZ				1					1				1							During peak travel Mon to Fri 6.00 - 8.00 link bus from Hertford East shuttle to Top Gallows Hill and back.
257	SG14 3EA								retired					1		1						You should encourage long term parking if you want people to shop in Hertford, if they could find any shops. Have traffic lights on all day at Tesco roundabout (London road). Stop all car traffic using rat run from War Memorial, Fore Street, Railway Street through to Mill Road. Leave Old Cross junction alone - it is the safest pedestrian crossing place.
298	SG13						1						1		1			1				Cancel permit holders parking around East Station - simply state no parking between 11 - 12 which should stop all day parking for commuters. Use all the wasted space around the station and along Mead Lane as car park for station.
306	SG14 3DY			1			1					1			1				1			The idea of shutting Bye Street is ridiculous in my opinion. Stopping us Bengeo residents using the route to Hertford East because lower Bengeo residents do not park sensibly and block the corners in a belligerent manner is discrimination against other road users. enforce proper parking in lower Bengeo and many problems will be solved - not the half baked scheme that is currently in force.
332	SG13 7BX	CB2 1R4					1				1				1				1			13: especially Tamworth Road / Talbot Street. There are currently far too many flats in the Mead Lane area. As many are unsold plus the development that is only 3 years old is already looking dilapidated.
354	SG14 2HF	EN8 0					1				1				1						1	3: if you can widen. 4: why. 6: Won't work 7: won't work town too small and access is bad. 9: Again won't work. 10: Town too small. 14: Won't work. How can I apply for a job on your xxxPTIR should go through Mead not on a Road. Bikes should stay off paths and use roads or have their own bike made routes.
361	SG13 7UP	E14 5HQ					1				1				1		1					1: yes access to school is a nightmare. Xxxxxxx/Simon Balle because of the Rush Green roundabout A414. 3: I don't mind, think we have a major problem anyway. 6: I don't think the town is sufficiently big enough to need this. 9: Rush Green roundabout is dangerous - big queues for pedestrians and for access to Gallows Hill. We live on Foxholes Estate and have 3 children who go / will go to Simon Balle. As the crow flies, the quickest route is to cut through to the Mercedes garage. I would really like to see a cycle route / walkway under the 414 so they can avoid having to dodge traffic across the A414 London Road. Also, if I had better bus access to Hertford East I would be more inclined to get the train to work in Canary Wharf. I am concerned about the impact of the new Sainsburys store on Old Cross / Cowbridge. I don't think park and ride is appropriate for town.
373	SG13 7EL						1						1		1						1	Mead Lane has, until recently, contained areas of great biological interest. The ghastly environmental improvement on the north side has put pay to much of this - why allow such naf corporate landscaping to take place. I fear your plans will exterpate the remaining area of interest. When can we see the findings of the HCC study?
382	SG13 7BP	SG14 18Y	1				1				1					1	1					I would be interested to know more about the Mead Lane proposals which might reduce the traffic which was Townshend Street to avoid the congestion along Mill Road. Also, improving the setting of EH Station would be a great asset to the east side of town.

Response Number	Home Postcode	Work Postcode	How do you travel to work at the moment							Age Group					Sex		Mead Lane					Comments in Full
			walk	cycle	bus	train	car driver	car passenger	Other	16-29	30-44	45-59	60-74	75+	Male	Female	Fully Support	Partly Support	No View	Partly Oppose	Fully Oppose	
390	SG13 7UU		1			1					1					1		1				Improved lighting for pedestrians - more frequent bus service - loading restrictions already tight, - one way system for Ware not needed - introduce parking in Mead Lane since otherside Hertford East restricted - more one hour parking else shops in Hertford continue to lose business.
391	SG14 3AE	SG13 7BX										1			1			1				Most mainline railway stations have a substantial car park - why not one for Hertford East Station.
443	SG14 1LE						1					1			1			1				Remove traffic lights from Rush Green roundabout and Tesco / Hertford East / A414 / Gascoyne Way roundabout. Permit system for tradesmen in restricted parking areas.
633	SG12 9DX	SG13 7UB					1				1					1	1					I work in Mead Lane, no mention hs been made about another exit point only improve the existing one. As I work at the other end of Mead Lane it has taken over an hour to get to Mill Lanewhen Hertford town is congested - surely another exist point should be considered.
637	SG12 9ND			1			1			1	1				1	1		1				Don't fully understand the Mead Lane access suggestion but something needs to be done about it.
666	SG14 3HP												1		1			1				15: Why not try a one way system through Byde Street area. This would reduce the traffic by half. 14: At the bottom end of Mead Lane there use to be a level crossing - why not open that up and let traffic in and out there at peak times.
673	SG14		1				1					1				1					1	No bus access via Salisbury Arms - Re-route through the town. No closure of Byde Street - houseowners knew of this congestion before buying - parking of cars on both sides, causes problems. We all pay for this road. Mead Lane congestion - will be worse now you have allowed Sainsburys in. Bengeo is already gridlocked both AM and PM. New bypass should be discussed now not in years time!
676	SG13 7TF					1	1				1				1			1				Parking around Hertford East needs to be addressed. Commuters need to be able to park within a reasonable distance to the station parking on site at H/E is not really an option due to its high cost.
678	SG13 8HR								retired				1		1		1					1: The only way you will improve traffic flow in Hertford is by building a bypass - Most of the above measures would not then be necessary. 2: Change all car parks to pay and display to pay on exit - local people have been asking fo this for years but are ignored by EHDC who prefer to employ Little Hitlers to find the motorists. Prohibit taxis from parking on pedestrian area at Bircherley Court. 9: Have you seen the chaos you have already created at the Tesco junction in Hertford?
713	SG14 2TQ					1	1					1				1		1				Parking restrictions near businesses should be lessened not strengthened, businesses in the town are being killed. Park and Ride will not work - we do not have major attractions. Is Park & Ride just for Sainsbury and Tesco? Bus lanes cause more congestion - all our roads are single lane.
755	SG12 0XW												1		1			1				Better less expensive parking at Hertford East Station - Possible use of waste land in Mill Road to be used for out of town parking revamp of the Bridge Crossing the river by the new flats at Mead Lane - better road surface!
788	SG13 7AH	SG9 9DL					1		MOTOCYCLE			1		1			1					Also for Mead Lane, lower speed limit, better access from Marshgate Drive. Renewed yellow lines - pedestrian crossing for residents especially children. Cars and vans go too fast
#REF!	SG13 7TS						1				1					1		1				Tow path/cycle path - a path SHOULD be built running from Hertford Lock House to the Mead Lane entrance across the model aeroplane field is IMPOSSIBLE to use in winter and rainy days and you need to walk all the way to the Gauge House and back towards Her

Response Number	Home Postcode	Work Postcode	How do you travel to work at the moment							Age Group					Sex		Mead Lane					Comments in Full
			walk	cycle	bus	train	car driver	car passenger	Other	16-29	30-44	45-59	60-74	75+	Male	Female	Fully Support	Partly Support	No View	Partly Oppose	Fully Oppose	
862	SG14 3BZ	SG14 7AX					1				1					1				1		To close off Byde St is a health and safety nightmare waiting to happen. My main reason is: should Port Hill be closed off for any reason, ie accident, and an emergency vehicle was needed in Bengoe then the only way of getting to Bengoe would be via Ware. This would be putting peoples lives at unnecessary risk should you be unfortunate to require an ambulance or fire engine. I also believe it would be a TRIAL closure, as the temporary traffic restrictions already put into force (restricting turning into Cross Road and one way on Tower Street) are still in force and in my opinion have achieved very little other than cause increased traffic in The Avenue (past the school); drivers ignoring the restricted no turn access down Cross Road and costing Dunscombe Road residents more money in petrol as they cannot turn down Tower Street but have to use The Avenue or Cross Road instead. No. 14: bAlthough I do not support improved access to Mead Lane, perhaps access should have been thought through before planning permission was given for the 2 flat developments. A bit late in the day!!!!
864	SG13 7BW												1		1		1					The provision of double yellow lines in Mill Road has already led to an increase in the speed of traffic. With the opening of more flats and further development, traffic can only increase to the extent that a pedestrian crossing will be needed for access from this area to Hartham. If the link road is built it will split the traffic but then there will be two roads to cross. In Hertford town centre the flow of traffic from Fore St into Market St thence Railway St has the effect of cutting the town centre into two. If Fore St was made two-way between Market St and South St the driver would be happier not having to make this diversion and pedestrians would find it easier to cross Market St and Railway St. Fore St. is plenty wide enough for two-way traffic at the moderate speeds involved.
877	SG13 7EG	-							retired				1		1	1						Nothing is specific enough to answer your questionnaire. We NEED a by-pass it's all very well joining up walking and cycling networks but there must be sufficient room for all - cyclists expect people to dodge them. Bus times to fit in with the train times. Reasonably priced long term parking - especially more of it at Hertford East Station. Free short term parking to encourage shoppers.
890	SG13	CM23		1			1					1			1					1		The best way to solve Meas lane traffic problem would be to put a bridge or level crossing over the railway between Rowlet's Rd and Mead Lane. Then traffic can go directly from Mead Lane to Ware Rd - then either to Ware or up Stanstead Rd to the A10
891	SG13 7ED	N1 0YY	1			1						1			1			1				Foot paths desperately need improvement - condition is nothing short of disgraceful. More police in and around Hertford East Station at peak times to disrupt/dicorage drug addicts/suppliers. Why do we need more frequent buses on A119 when they currently run 2/3 empty?
936	SG13 7AH	Harlow					1					1			1		1					Mead Lane access must be improved as increases in residential properties still mixed with heavy industrial traffic will increase congestion and danger to cyclists and pedestrians.
958	SG13 3SX													1	1		1					A cantilever walkway from Mill Bridge to connect to park beyond Waitrose to enable continuous riverside walks. Check and amend timing of pedestrian signals in the town too often the delay means pedestrians don't wait and drivers impatient at empty crossings. Alter the traffic lights at Tesco on the Ware Road. There is at present a stop on straight ahead movement when traffic is turning right into Tesco westbound. Hertford inner ring road would be eased by a flyover carrying the A414 traffic at the London Road roundabout - simmlar to the original one at Hammersmith. It is this roundabout that causes the tailback.
977	SG14 3LB												1			1		1				It would be useful to have more paths across Hartham ie fro the Warren Bridge towards East st/Tesco and towards Hertham Lane, especially near the skate park and toilets as its so muddy. The 333 Bengoe bus route needs improving so that it is more than once an hour to the Avenue or Revels Road. Also through bus to Ware from Bengoe would be brilliant and /or a through route Bengoe - north station.



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Support for carers

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Fostering and adoption

Support for people with disabilities

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