



Hereford Strategic Residential  
Development

Non-Technical Summary

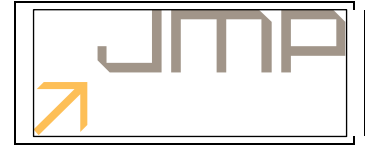
Report



# Hereford Strategic Residential Development

Non-Technical Summary

Report



# Hereford Strategic Residential Development

Non-Technical Summary

Report

Contents Amendments Record

This document has been issued and amended as follows:

Status/Revision	Revision description	Issue Number	Approved By	Date
				June 2008

JMP Consultants Limited  
3RD Floor  
Audrey House  
16-20 Ely Place  
London EC1N 6SN

T 020 7405 2800  
F 020 7430 9049  
E london@jmp.co.uk

[www.jmp.co.uk](http://www.jmp.co.uk)

Job No. STH2038

Report No.

Prepared by PC

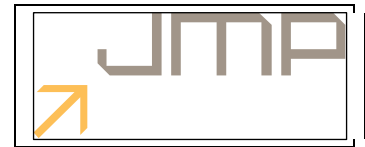
Verified

Approved by

Status

Issue No.

Date June 2008



## Contents

1 INTRODUCTION.....	1
General .....	1
2 OUTLINE TRANSPORT STRATEGY .....	2
General .....	2
Hereford Transport Review.....	2
Consultation with Herefordshire Council .....	2
Outline of Improvement Strategy .....	2
3 OUTER DISTRIBUTOR ROAD.....	3
General .....	3
East vs West .....	3
Length of route.....	3
Environmental Implications.....	3
Hereford Transport Review.....	4
Strategic Road Links .....	4
Potential Route Alignments .....	4
Conclusions .....	5
Indicative Route Alignments.....	5
Cost Estimate.....	5
4 RIVER CROSSING .....	7
General .....	7
Location .....	7
Type of Structure.....	7
Cost Estimate.....	7
5 PARK AND RIDE .....	8
General .....	8
Meeting with Herefordshire Council.....	8
Temporary Park & Ride in Hereford.....	8
Herefordshire Council's current position .....	8
Funding / Costs.....	8
Possible additional Park & Ride sites .....	9
6 SUSTAINABLE TRAVEL MODES.....	10
Bus .....	10
Links to existing services.....	10
Cycling .....	10
Walking .....	10
7 CONCLUSION.....	11

## Appendices

APPENDIX A Outline Proposed Western Distributor Road Alignment

APPENDIX B Cost Estimate for Proposed Western Distributor Road

APPENDIX C Indicative Vertical Alignment of River Crossing

APPENDIX D Concept Bridge Design Options

APPENDIX E Existing Bus Routes within Hereford

APPENDIX F	HCC	'Ideal'	Cycle	Route	Map
------------	-----	---------	-------	-------	-----



# 1 Introduction

## General

1. JMP Consultants Ltd (JMP) have been jointly instructed by the Church Commissioners of England and Bloor Homes to provide highways and transportation advice in respect of their respective land holdings in and around the city of Hereford.
2. An investigation has been undertaken into potential strategic residential development around Hereford predominantly located on the Church Commissioners of England and Bloor Homes land holdings, together with an evaluation of the operation on the existing transport network. JMP have prepared a Non-Technical Summary of the investigation and its findings.
3. Discussions with Herefordshire Council, on-site observations and the results of the network modelling included within the Hereford Transport Review demonstrate that traffic congestion occurs within the city centre of Hereford at peak periods and at other times throughout the day. This gives rise to significant associated problems. The broad conclusions of the investigation are that in order to enable any strategic residential development in Hereford, significant improvements to the existing transport infrastructure will be required.
4. JMP has therefore developed an outline transport infrastructure improvement strategy with the aim of reducing existing traffic congestion problems in and around the city centre such that significant residential growth in Hereford could be enabled. The details of the proposed transport infrastructure improvement strategy have been outlined in this report.

## 2 Outline Transport Strategy

### General

5. An outline transport infrastructure improvement strategy for Hereford has been developed by JMP with due consideration of the available information regarding previous studies and is detailed within this report.

### Hereford Transport Review

6. The proposed strategy was developed with detailed consideration of the of the Hereford Transport Review (HTR) which was undertaken on behalf of Herefordshire Council and published in February 2003. A multi-modal study was undertaken as part of the HTR which evaluated the existing operation of the city's transport network and the potential implications of traffic growth, particularly associated with increased housing numbers detailed within the Herefordshire UDP (1996-2011). The HTR was also intended to identify a transport strategy which would contribute towards the long term viability and sustainability of the city.
7. The recommendations made within the HTR were that a 'Blended Package' of transport measures would be most effective in improving movement through and around the city and reducing traffic congestion. The key component of the package of measures recommended was an outer distributor road to the west of the city, which would be introduced in conjunction with other measures include Park & Ride, city centre pedestrianisation, a new rail station, bus priorities and improved pedestrian and cyclist facilities.
8. It is understood that previous studies had investigated the possible introduction of an eastern bypass around the city which are referred to and considered within the HTR, which concluded that that a western distributor road represented a more beneficial scheme for Hereford.

### Consultation with Herefordshire Council

9. The strategy has been formulated following consultation with Herefordshire Council at a meeting at the council offices at Plough Lane on 28<sup>th</sup> January 2008. The principles of any potential transport strategy were discussed to ensure that there was broad accordance between these principles and the aspirations of the council. From the discussion it was apparent that the aspirations of the council were reflected in the recommendations in the Hereford Transport Review and the outline concepts of the transport infrastructure improvement strategy.

### Outline of Improvement Strategy

10. The details of the proposed transport infrastructure are outlined and discussed within this report. The principle concepts of the strategy are:
  - The construction of an outer distributor road.
  - The construction of a 2<sup>nd</sup> crossing of the River Wye.
  - The introduction of a network of Park & Ride sites.
  - Improvements and extension to existing bus travel.
  - Additions to the Hereford cycle network.
  - Enhancements of existing public footpaths.

## 3 Outer distributor road

### General

11. Due to the necessity for an additional river crossing and the inability to provide this within the existing built up area; the key component of the any proposed transport infrastructure improvement strategy for Hereford will be the construction of an outer distributor road incorporating this crossing. As detailed within the Hereford Transport Review, an outer distributor road is integral for the long term viability of the city, and in order to enable any significant strategic residential growth in Hereford and the wider area, the road will be required to relieve the pressure on the existing transport network.
12. A link road between the A49 (N) and the A465 is proposed within the Herefordshire Local Transport Plan 2006 – 2011. The alignment of this link as detailed in the LTP is shown to adjoin the A49 (N) at the junction with the recently constructed Rotherwas Access Road. It is expected that the A49 – A465 link would form the south-west section of the proposed outer distributor road.

### East vs West

13. Our initial investigations with regard to the delivery of an outer distributor road for Hereford centred around a consideration of an eastern or western alignment. A number of factors were considered during the initial options assessment including the length of route, potential environmental impacts, recommendations within the HTR, strategic road links, potential road alignments and crossing points of both the river and railway.
14. For a western route, the proposed A49 – A465 link was used as the southern end of the road which would then be aligned around the western edge of the city to link to A49 (N). Two broad possible route alignments were considered for the eastern route with the first aligned immediately adjacent to the eastern edge of the city, and the second a more protracted route around Hagley, both linking between the Rotherwas Access Road and A49 (N).

### Length of route

15. As detailed above, a proposed A49 (S) - A465 link road (approximately 3km in length) is detailed within the LTP and will form a section of the outer distributor road. When considering the respective lengths of potential distributor routes to the east and west of the city, it should be minded that this section of road already forms part of the council's medium / long term strategy.
16. The overall lengths of various potential routes have therefore been estimated between the A465 to the A49 (N) for any western distributor road, and between the B4399 (at the junction with the Rotherwas Access Road) and the A49 (N) for any eastern distributor road. The respective lengths estimated for each route would be approximately 7.7km for a road to the west of the city, and approximately 7.1km – 7.8km to the east of the city. Clearly the distances are based on indicative alignments of each route and would be liable to a small change as the preferred alignment of the route is more accurately identified.
17. It should be noted that the distances detailed above for the eastern route are based on an alignment which passes through or immediately adjacent to the River Lugg Flood Meadows which, as will be detailed further in this section, is an environmentally sensitive area. Therefore it is likely that any route to the east of the city could be significantly longer than suggested in order that this area is avoided.

### Environmental Implications

18. An assessment of the potential environmental impact of an outer distributor road to the east and west of Hereford was undertaken as part of the Hereford Transport Review. The report made the following conclusions:

- An eastern distributor road will impact on River Lugg Flood Meadows and River Wye crossing in terms of:
  - 'major negative impact on Biodiversity'
  - 'large adverse impact on Landscape'
  - 'significant negative impact on Water Environment.'
- A western distributor road will impact on Belmont, River Wye crossing and Brienton areas in terms of:
  - 'intermediate negative impact on Biodiversity'
  - 'large adverse impact on Landscape'
  - 'significant negative impact on Water Environment'.

19. As mentioned above an area of the River Lugg Flood Meadows is designated as a Site of Special Scientific Interest (SSSI) and therefore any significant road construction through or in the immediate vicinity of this is likely to be extremely contentious and met with strong opposition on environmental grounds.
20. A possible eastern bypass was the subject of a Public Inquiry in 1991/92. The proposal was put on hold and was discussed further at the Hereford Traffic Conference in 1993/4. Although there was disagreement about the need for a bypass for Hereford, the eastern route received some support if there was to be one. The proposal had significant environmental implications and was met with strong opposition in this regard.
21. Any future proposal for an eastern distributor road is likely to be met with similar environmental opposition. Furthermore it is likely that the opposition would be given greater weight given the increased profile of the environment since the original trunk road scheme was proposed.

#### Hereford Transport Review

22. As part of the multi-modal study HTR, an assessment was undertaken of 6 Option packages of measures aimed at improving the transport network for Hereford. Each package was considered in terms of the impact on the environment, economy, safety, accessibility and integration with other policies / initiatives. When comparing the impact of potential eastern and western alignments in terms of town centre relief, the report showed little difference between options with traffic flows (vehicle) on the A49 Greyfriars Bridge decreasing by 46% as a result of an eastern distributor and 45% following the introduction of a western distributor.
23. The report concluded that the preferred option package centred around the introduction of a **western** outer distributor road. This is also understood to represent the preferred option of Herefordshire Council.

#### Strategic Road Links

24. Initial consideration of potential alignments shows both potential routes to be similar in terms of direct links to strategic routes to and from Hereford. The western distributor would link to 5 strategic roads around the city – A49 (N) (T), A4103, A438, A465 (T) and the A49 (S) (T). The eastern distributor would link to 5 strategic roads around the city – A49 (N) (T), A4103, A438, A49 (S) (T) and A465 (T).

#### Potential Route Alignments

25. An initial assessment of potential alignments of routes to the west and east of the city was undertaken to identify possible issues and implications associated with the characteristics and existing land uses either side of the city.

26. It was identified that the eastern route would require two rail crossings, one to the south west and one to the north east of the city, whereas the western route only requires a single crossing to the south west.
27. As detailed previously any road alignment to the east of the city is likely to require passing through the River Lugg Flood Meadows. In addition to the environmental implications associated with this, this would also have implications in terms of costs of construction within a flood plain as well as any environmental mitigation measures.
28. The potential western route largely avoids existing residential areas with the exception of properties adjacent to the A438. The eastern route also largely avoids residential areas, although it is unlikely that the north-east section of the road could be aligned without significant impact on the villages of Holmer and Shelwick.

### Conclusions

29. In light of the factors as detailed above and having considered both potential routes to the east and west, it is concluded that the route to the **west** of the city represents the preferred alignment of any distributor road. This accords with the conclusions of the Hereford Transport Review and also reflects the perception of Herefordshire Council officers.

### Indicative Route Alignments

30. An initial investigation into the potential route alignment of a western outer distributor road has been undertaken. The proposed route can be divided into four clearly identifiable sections:
- A49 (N) to A4103
  - A4103 to A438
  - A438 to A465 (which includes the crossing of the River Wye)
  - A465 to A49 (S)
31. An estimate of the possible alignment of the road has been identified and is shown on the drawing attached at **Appendix A**. The drawing highlights an area within which the road would be expected to be constructed. The drawing does not show a detailed alignment for the route or possible junction locations as these are yet to be identified at this stage.
32. Two sections of the River Wye have been identified as possible crossing locations (these will be discussed in more detail in Section 4 of this report), and therefore two potential alignments of the section of distributor road between the A438 and A465 have been suggested to reflect the two crossing options.
33. Of the two alignments for the A438 to A465 link, the eastern alignment is considered to represent the preferred option. The eastern route is a shorter distance, aligns more favourably with the other sections of the route, largely avoids significant changes in ground levels and residential dwellings, and as will be discussed in section 4, would incorporate the preferred crossing location.

### Cost Estimate

34. JMP has undertaken a cost estimate of the construction of an outer distributor road based on the preferred route alignment as previously detailed. The details of the cost estimate have been broken down into the four proposed section of route and totalled £33,853,675 for the construction of the route. The details of the cost estimate and associated technical note have been attached at **Appendix B** of this report.



## 4 River Crossing

### General

35. Integral to the overall transport infrastructure strategy and the construction of an outer distributor road is the introduction of a new vehicular crossing of the River Wye. The crossing will form part of the outer distributor road

### Location

36. Having concluded in section 3 of this report that the west represented the preferred route alignment option for any proposed distributor road, potential river crossing locations to the west of Hereford have been investigated.
37. A stretch of the River Wye of approximately 2.5km, to the east of Ruckhall and west of the Belmont, was initially investigated as to possible crossing locations. Two sections of the river were identified as being potentially suitable locations for the incorporation crossing.
38. A more detailed investigation and site visit was then undertaken to assess the suitability of each location. It was considered that the eastern location represented the preferred option in terms of build-ability, potential impact of water environment, impact on woodland and wildlife, impact on residential dwellings and coherence with the preferred alignment of the distributor road.
39. The preferred crossing location is identified on the drawing at **Appendix A**

### Type of Structure

40. There is a significant drop (around 30m) in existing ground levels approximately 100m south of the River Wye at the proposed crossing location; ground levels then rise less sharply approximately 70m north of the river. The vertical alignment of the existing ground levels has been estimated shown on the drawing attached at **Appendix C** which has been based on 3-dimensional digital OS data.
41. The proposed bridge structure will therefore be required to reconcile the significant changes in ground levels with the maximum gradients required for the distributor road based on standards detailed within 'Design Manual for Road and Bridges' (DMRB).
42. Two possible bridge design options have been produced; a 9 span box girder bridge and nine span steel bridge. The elevations and sections of initial concept designs have been shown on the drawing attached at **Appendix D**.
43. The design and type of structure proposed has been chosen to minimise the potential impact on the water environment with a proposed clearance of approximately 15m between the bridge and River Wye. With the construction of a river crossing essential for the delivery of an outer distributor road, it is the bridge design is considered to represent the least significant impact on the local environment.

### Cost Estimate

44. An initial cost estimate for the construction of the crossing has been suggested at £15 million. This estimate is considered to represent a very broad figure and a more detailed estimate would be required at a later stage in the development process, however to enable an overall cost estimate of the strategy to be formulated, this figure is considered appropriate.

## 5 Park and Ride

### General

45. The introduction of an effective Park & Ride system within Hereford is perceived as an important tool in reducing the dependency on private car use of persons seeking to travel into the city centre. The establishment of up to 3 Park & Ride sites is therefore included within the proposed transport infrastructure strategy.

### Meeting with Herefordshire Council

46. A meeting was held between Amanda Barton and Adrian Smith of Herefordshire Council, and representatives of JMP to discuss Park & Ride within Hereford. More specifically the meeting was aimed at understanding the Council's current position with regard to Park & Ride, previous Park & Ride operations and future aspirations. JMP also outlined the proposals of the scheme in terms of land holdings and estimated scale of residential development, together with a discussion of the broad principles of the proposed transport infrastructure improvement strategy.

### Temporary Park & Ride in Hereford

47. A temporary Christmas Park & Ride has been in place in Hereford for the past 7 years which is operated by the Council for the last 6 Saturdays before Christmas. The Park & Ride uses 2 sites, one to the north and one to the south of the city, both located adjacent to the A49.

### Herefordshire Council's current position

48. Following the success of the temporary Park & Ride, it is the Council's intention to implement 2 permanent Park & Ride sites to serve Hereford city centre. The sites will be located to the north and south of the city in close proximity to the A49. The Council could not disclose at this stage the exact locations of the preferred sites.
49. The site to the north of the city is proposed to provide circa 750 spaces and is likely to be located near the A49, either to the north or south of its junction with the A4103. The proposed route of the buses will be between the Park & Ride site and St Peters Square in the city centre, although this may change following construction of the new link road proposed as part of the Edgar Street Grid development. It is understood that the Council are currently in negotiations with land owners with regard to the purchase of a suitable site and hope to have the Park & Ride in operation by the end 2009 / start 2010.
50. The site to the south of the city will provide circa 350 spaces and again will be located in the vicinity of the A49. The proposed route of buses will be between the Park & Ride site and Broad Street in the city centre. Negotiations are also being undertaken at present with regard to site purchase, with the current aspiration for initial operation by the end of the LTP2 period (2011) although this is considered to be optimistic.
51. It is intended that both sites will provide a bus service to and from the city centre which will operate at a frequency of every 10 minutes during the peak hours and 15 minutes at other times, six days a week.
52. The possibility of bus priority has been evaluated in detail and it is not considered to be viable to implement other than the incorporation of transponders to ensure that buses will have priority at traffic lights. There is not considered to be sufficient space to introduce bus lanes on the carriageway of the A49, or separate lanes at junctions for bus priority, however the Edgar Street Grid development may alter this somewhat. This is probably likely to be the case for any potential Park & Ride routes from the east and west.

### Funding / Costs

53. It is understood that the Council has funding in place for one of the two sites (probably the north) within the current LTP2 budget, with the other site to be funded by developer contributions. It is further understood that the majority of the funding for the other site (the south) has been identified but not secured. In terms of the total costs of the two sites, this has been estimated at £5/6 million, dependant on which of the site options are purchased.
54. The operational costs of each site have been estimated at £250,000 per year, which is intended to be funded by parking charges within the city centre. The costs of operation of further Park & Ride sites to the east and west would not be covered by city centre parking revenue and therefore developer contributions are likely to be required to subsidise.
55. It is considered that the two proposed Park & Ride sites should integrate within the proposed transport infrastructure improvement strategy for Hereford. As part of the proposed development, it may be possible to provide funding for the proposed Park & Ride to the south, or will be mentioned later in this section, accommodate the Park & Ride as part of potential development on Church land holdings adjacent to the A49. Clearly this would need to be investigated in more detail if this option were to be pursued.

#### **Possible additional Park & Ride sites**

56. Subsequent to the meeting on the 7th April 2008, plans detailing the Church Commissioners land holdings to the south of the city adjacent to the A49 have been supplied to the Council which was highlighted as a potential site suitable for the incorporation of a Park & Ride facility. This has been acknowledged by the Council as a potential option depending on the current negotiations with alternative landowners.
57. It is understood that the Council's longer term aim (post LTP2 period) to introduce Park & Ride sites to the east and west of the city, potentially located to serve the A465 and / or the A438. This is only aspirational at this stage, as such no analysis into site locations or potential routes to and from the city centre has been undertaken.
58. It is likely that a Park & Ride site to the west of the city could be developed in association with the construction of the proposed outer distributor road. The junctions between the potential outer distributor road and the A465 or A438 are likely to provide the most suitable locations for a Park & Ride facility to the west of the city; obviously planning considerations would need to be met. There may be potential to locate a Park & Ride facility on Church land holdings immediately to the north of the A438, which could be directly linked to the junction with any potential outer distributor road.

## 6 Sustainable Travel Modes

### Bus

59. As part of the proposed transport strategy, improvements and enhancements will be made to the existing bus services in Hereford. The suggested improvements have been primarily tailored towards ensuring that the proposed areas of residential development to the south-east and west of the city are served by buses. The existing bus routes within Hereford are shown on the bus maps attached at **Appendix E**.
60. As detailed in section 5 of this report, there is limited opportunity to introduce any bus priority on the existing carriageway therefore any improvements are likely to involve the enhancement of existing services. This is likely to be in terms of increased number of services, the provision of more modern vehicles and extension of existing routes / services.
61. Clearly the suggested improvements are only outlined at this stage and would need to be considered in more detail as part of a full multi-modal study evaluating public transport.

### Links to existing services

62. Initial investigations have been undertaken into which existing services could be amended / extended to provide linkage to the proposed areas of strategic residential development.
63. It is suggested that it may be able to provide links to the 'Huntingdon' site from the existing 71/71A, 72/72A and 77/77A services. There may also be potential to link the 71/71A and 72/72A services to the 'Whitecross' site. Initial investigations also indicate the potential for a 'bus gate' in the south east corner of the 'Whitecross' site onto Breinton Road. By restricting car movements in this location, it may assist in promoting bus travel as the quickest route towards the city centre from the 'Whitecross' site.
64. The proposed development sites to the south east of the city, north of Bullinghope may be served by extensions / amendments to the existing 70, 78, 80 and / or 82 services.

### Cycling

65. The 'ideal' cycle map for Hereford was provided by Herefordshire Council which details the existing cycle routes with Hereford city and the surrounding local area. The map also shows the proposed network additions, including those proposed as part of the National Cycling Network. It is envisaged that improvements to the existing cycle network and additional routes based on those detailed won the 'ideal' cycle map. The 'ideal' cycle as provided by Hereford shire council has been attached at **Appendix F**.
66. A 3m wide shared footway / cycleway is also proposed to be provided adjacent to the proposed outer distributor road

### Walking

67. Existing public footpaths and bridleways which pass through the proposed development sites will be improved as necessary as part of the transport strategy. The layout of the proposed residential development will be designed to ensure that pedestrian links will be provided between streets and to the adjacent existing residential areas and local amenities.

## 7 Conclusion

68. Hereford experiences regular traffic congestion throughout the city centre during peak times and at other times throughout the day. The primary cause of this is the single major vehicular crossing of the River Wye and the absence of alternative routes for cross river movement. The existing river crossing, the Greyfriars Bridge, forms part of the A49 north to south corridor through the centre of Hereford and part of the trunk road network. As such all traffic movements across the River Wye are forced to travel through the centre of Hereford.
69. The resultant traffic congestion gives rise to a number of associated problems and not only provides a threat to the existing viability and vitality of the city, but restricts the future development of Hereford.
70. It is considered that in order to address the existing problems of congestion within the city centre and enable the significant growth of the city, the introduction of an outer distributor road and second major river crossing is essential. It is understood from discussions with Herefordshire Council and from the recommendations made within the Hereford Transport Review that this broadly corresponds with the views of the council.
71. JMP has therefore developed a transport infrastructure improvement strategy centred around the provision of an outer distributor road and incorporating and second river crossing. Initial investigations have given a clear indication that a western alignment represents the preferred route of the road and outline alignments and potential crossing designs and locations have been developed.
72. A package of sustainable measures will also form part of the transport strategy with the introduction of Park & Ride for the city and improvements to existing bus travel and walking and cycle routes.
73. It is envisaged that the proposed strategy will not only address the existing traffic problems associated with the single bridge crossing that have blighted Hereford for more than two decades, but should provide the opportunity for the future strategic residential growth and development of the city as a vibrant regional centre.



**Outline Proposed Western Distributor Road Alignment**



**Cost Estimate for Proposed Western Distributor Road**



**Indicative Vertical Alignment of River Crossing**



## Concept Bridge Design Options



Existing Bus Routes within Hereford



**HCC 'Ideal' Cycle Route Map**