

7.0 Preferred Option

7.1 Scheme Description

- 7.1.1 The preferred scheme aims to arrest the economic decline of Hucknall by improving accessibility to the town centre through better transport infrastructure. The scheme comprises three key elements to assist in the revitalisation and regeneration of the town: the introduction of pedestrianisation to part of the High Street; the construction of a new inner relief road and construction of a two way 'bus only' link.
- 7.1.2 The scheme aims to link the Market Place, the High Street shopping area, the NET/Rail station and the Tesco superstore to unify the town into a thriving retail centre with good accessibility, supported by improved transport choice and associated facilities. The proposed inner relief road is almost 0.5km in length and follows a route that is parallel and 100m to the north of the existing High Street. The proposals for the scheme are shown on drawing no. B1982500/102 Rev. C.
- 7.1.3 It is proposed to introduce a pedestrianisation scheme to the busier shopping core of Hucknall town centre over a length of approximately 160m at the western end of the existing High Street, between the Baker Street/South Street junction and the Watnall Road junction. This section of High Street has a relatively straight horizontal alignment which curves slightly to the south and rises by approximately 1.5m from east to west. Traffic restrictions to this section have been included as part of the proposals to ensure pedestrian safety.



Artist's Impression 1: Proposed High Street pedestrianisation - looking west

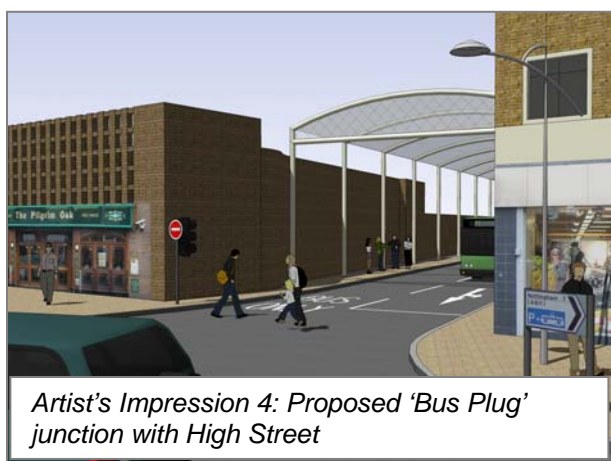
- 7.1.4 Delivery vehicles will be prohibited from travelling in a westbound direction through the pedestrianised area at any time and will only be permitted access in an eastbound direction outside of the restricted hours of 10am – 4pm Monday to Saturday (time restrictions will be assessed during detailed design and may be subject to change as the design develops further). Parking facilities to the west (Market Place) and south (Piggins Croft) of the High Street are to be retained providing adequate pay and display parking within easy walking distance of the pedestrianised area. The underused Piggins Croft car park has capacity for 350 vehicles and links to the High Street via Central Walk resulting in only a 70m walk from the car park to the pedestrianised area.
- 7.1.5 Under the proposed scheme the pedestrianisation of High Street will include the use of high quality paving and will incorporate sympathetic planting and landscaping features. This will improve the visual appearance of the town centre and it is anticipated that this will encourage future inward investment and assist local people in developing a sense of pride in their community.



- 7.1.6 Baker Street, which runs adjacent to the Market Place, and South Street will also be subject to traffic restrictions permitting only buses and cyclists to travel in either direction between 10am and 4pm Monday to Saturday. Vehicles wishing to load will only be permitted to access this area outside the restricted times in either direction.
- 7.1.7 The Market Place was recently improved by Ashfield District Council during Spring 2007. When not being used twice weekly for a local market it has pay and display parking capacity for 72 vehicles. It is easily accessible via two entrances; one on Baker Street and one on Ogle Street. (Note: During restricted times the market place car park will only be accessible via Ogle Street entrance).
- 7.1.8 The eastern section of High Street is approximately 170m in length and will remain open to all traffic in both directions. This part of High Street will be easily accessible from the B6009 Watnall Road to the south and the junction of Station Road/Portland Road to the east. It is proposed to carry out environmental improvements to this stretch of the High Street, and to Baker Street and South Street to ensure uniformity of design throughout the town. Provision of improvements to sections of road not being pedestrianised will not only improve the visual appearance of these areas but will also add to the journey ambience for pedestrians and shoppers.

- 7.1.9 A traffic signalled junction features at each end of the existing High Street. The traffic signals at the junction of High Street/Station Road/Portland Road will be retained as part of the proposed improvement works. However, at the opposite end of High Street the traffic signals at the staggered High Street/South Street/Baker Street junction will no longer be necessary as throughput of traffic will be greatly reduced as a result of the pedestrianisation and traffic restrictions that will be imposed.
- 7.1.10 As traffic will be displaced as a result of the pedestrianisation of High Street it is proposed to construct a new inner relief road to accommodate this, and additional traffic generated from new development sites in the surrounding area (see para. 2.7.8). The new road links Annesley Road directly with Station Road by constructing approximately 0.44km of new carriageway to run parallel to the High Street. The new carriageway will be of a standard 7.3m width and will be subject to a 48 kph (30mph) speed limit.
- 7.1.11 The proposed new road will be located in a largely residential area and will require the demolition of 17 terraced residential properties of which Nottinghamshire County Council own 15. In addition to this, 4 derelict commercial properties on Baker Street and one disused factory premises on Titchfield Street will also need to be acquired and demolished. To facilitate construction of the 'bus only' link it will be necessary to acquire and demolish a retail property that is currently trading as a bookmaker on the High Street.
- 7.1.12 In order to construct the new inner relief road it will be also be necessary to culvert a 70m section of the Baker Lane Brook to form the junction of the new road and Perlethorpe Drive and this will have a negative impact on the landscape in this area, although mitigation measures are proposed to ameliorate these effects (see Chapter 15). In addition to this a further 40m section of culverting will be necessary to accommodate a section of unnamed brook that runs parallel with Ashgate Road close to its junction with Station Road and Linby Road. The Baker Lane Brook emerges at an outlet to the north of Baths Lane and a suitable method of construction is proposed that will minimise the ecological impact whereby foundations will straddle the watercourse and a slab will be laid over to support the carriageway at this location.
- 7.1.13 Numerous other parcels of land will be acquired to enable the road to be constructed and many of these comprise overgrown scrubland. There is very minimal land take from gardens and other areas which are currently being utilised for makeshift parking. It is acknowledged that there will be a degree of impact from visual intrusion and noise for properties that abut the new road directly; those particularly affected residing on Thoresby Dale and Perlethorpe Drive. These impacts will be minimised as much as possible through effective mitigation measures such as screening/landscaping and this will be fully explored during the detailed design phase of the project. The new road will have a relatively straight horizontal alignment with good visibility at each of the new junctions that are to be created at Titchfield Street and Perlethorpe Drive. A toucan crossing will be provided immediately to the west of the new road junction with Perlethorpe Drive to aid the movement of pedestrians and cyclists via Albert Street.
- 7.1.14 It is also proposed to construct a 90m long 'bus plug' to form the hub of the proposals which will link together the new road and the High Street. The 'bus plug' will be sited on land which is currently used as a makeshift car park to the rear of 40 and 42 High

Street. Detailed design will focus on ensuring that this 'bus only' link road forms a significant feature of the overall scheme by creating a bus interchange for Hucknall. A canopied structure is favoured by bus operators to ensure that potential passengers are sheltered and comfortable whilst waiting to use their services. Measures will also be implemented to ensure that the 'bus only' status of the link is not abused by other road users and these will be developed during detailed design based on lessons learned from other similar projects and has been allowed for in the cost estimate. Measures to be explored will include a number of alternatives such as triggered retractable bollards or automatic detection mechanisms (red light cameras or plate recognition cameras).



7.1.15 Four main bus services serve Hucknall Town Centre: the Rainbow 3, 141, 170/171 and the Connect. The local Connect service travels to the estates to the west of the town centre and the other intra-regional services terminate at both Nottingham to the south, and Sutton-in-Ashfield and Mansfield to the north. All four services will gain operational benefits with the construction of the proposed inner relief road and 'bus plug' allowing bus services to run more efficiently without the delays that they are experiencing at present. A total of 24 buses per hour are likely to use both the new road and 'bus plug' as part of their revised route. The proposals will also mean the removal of one bus stop outside 64 High Street. New bus stops will be located within the 'bus plug' area and it is anticipated that a further additional bus stop will be sited at the north western end of the new road for buses travelling east.

7.1.16 The eastern section of the proposals impact upon the existing Linby Road/Station Road/Ashgate Road junction which is currently an at-grade roundabout with a circulatory width of between 9m and 10m. This key junction performs an important role in linking the town centre with the NET/Rail station and the Tesco superstore. It is proposed to alter this roundabout into a traffic signalled junction to accommodate both traffic from the new inner relief road and traffic generated from new developments in the area. Station Road, Linby Road and Ashgate Road will all undergo a degree of realignment where the junctions widen out to accommodate the new traffic signals and to tie into the existing alignment of Station Road.

7.1.17 It will be necessary to 'stop up' Thoresby Dale at its junction with Station Road due to its proximity to the proposed junction of the new road and Station Road. Thoresby Dale will still be accessible via the Perlethorpe Drive junction with the new road and

an additional direct emergency route into the Thoresby Dale residential area will be provided to ensure good penetration of emergency vehicles into the estate via an emergency access into Thoresby Dale from Station Road.

- 7.1.18 To simplify the new junction of the inner relief road with Station Road it will be necessary to 'stop up' Bolsover Street at its junction with Station Road. Bolsover Street currently operates as a one way street, with egress only onto Station Road. Turning facilities will be provided at the end of Bolsover Street which will revert to a cul de sac with all access taken from Portland Road.
- 7.1.19 Albert Street will be severed by the new road and access to the southern section of the street will be via a two-way link branching off the 'bus plug'. There will be no vehicular access onto the High Street from this section of Albert Street. Titchfield Street will be accessible in either direction from its junction with the new road, although vehicular access onto High Street from the southernmost section will not be permitted. It will be necessary to 'stop up' the northern section of Albert Street and there will be no access onto the new road at this point. A turning head will be provided to enable local residents egress from the northern section of Albert Street via the new road junction with Titchfield Street.
- 7.1.20 Two additional emergency accesses will be provided for this residential estate; the first to the west of the new road and Perlethorpe Drive junction which will allow access for emergency vehicles directly from the new road; and the second at the northernmost end of Budby Rise, which will allow emergency vehicles access to The Connery from Linby Road via the Hucknall Leisure Centre.
- 7.1.21 The new road has been designed in accordance with the Department for Transport Design Standards TD9/93 'Highway Link Design'. Comprehensive systems of surface water drainage and road lighting will be provided. The engineering assessment includes an evaluation of the geometrical design, geotechnical design, drainage and hydrology, services and structures. In view of the need to culvert both a short length of Baker Lane Brook and an unnamed brook it has proved necessary to undertake a detailed hydrological assessment in conjunction with the Environment Agency.
- 7.1.22 Any adverse environmental impacts will be minimised by suitable mitigation measures as discussed in Chapter 15. These measures include the use of 'thin' road surfacing where appropriate to minimise road traffic noise. Extensive landscaping and screen planting will also be provided to mitigate against the loss of existing vegetation. The Station Road car park, which has capacity for at least 110 vehicles and no limit on length of stay, will be lost as part of the proposals. Data received on the usage of two of the main car parks at the western end of Hucknall town centre, the Market Place and Piggins Croft, revealed that both were significantly underused, in part due to the reluctance to paying a charge of 20p per hour. To compensate for the loss of the Station Road car park there is scope for the addition of a new car park on part of the site of the derelict factory adjacent to Titchfield Street, although this potential feature does not form part of this scheme appraisal.
- 7.1.23 As part of the detailed design, consideration will also be given to implementing a package of traffic management measures to dissuade motorists from 'rat running' through other more minor roads in the vicinity of the town centre and encourage them

to use the new relief road, thereby improving environmental and safety conditions on the network.

7.2 Cost Estimate/Profile

7.2.1 The cost estimate has been undertaken by the Council's consultant Jacobs and a summary of the detailed cost is given in Table 7.2a below. The cost estimate has been independently reviewed by the Council's own Engineering Design Manager and a copy of his report is attached at Appendix K. The cost estimate in Table 7.2a includes revisions to the estimates as recommended by the independent reviewer.

Table 7.2a: Scheme Costs Summary

(2007 Quarter 2 prices)	cost	£,000
<u>Preferred option</u>		
Total Works Costs (from Table 7.2b)		4265
Accommodation		150
& Landscaping Works		150
		<hr/>
Contract works cost		4565
Supervision		475
Testing		25
Topographical survey		20
Soil and drainage surveys (2.5%)		114
Works Total (1)		5199
Publicity		50
Public Inquiry (1.5%)		78
Land / SRO plans (1%)		52
Part 1 claims		200
Design Fees (9%)		468
Fees Total (2)		798
Land purchase		
Council owned land		1820
Property to be acquired		1258
Land fees		189
Total (3)		3267
Risk allowance		787
Total (4)		787
Grand Total (1+2+3+4)		10051
Excludes optimism bias		

Table 7.2b: Construction Cost Estimate - Preferred Option

	Quantity	unit	rate £	cost £,000
Proposed Carriageway (new)	6077	m2	77	468
Proposed Carriageway (overlay)	7636	m2	57.2	437
Proposed Footway	3368	m2	53.9	182
Proposed cycleway / footway	2280	m2	53.9	123
Proposed Highway verge / landscape area	4223	m2	11	46
Proposed retaining wall	136	m2	660	90
Proposed culvert	68	m2	2500	170
Area of pedestrianisation	2878	m2	57	164
Area of improvement	6379	m2	35	223
Enhanced pedestrian cycle route	1265	m2	18	23
Bus canopy	estimated	item		67
Baker Lane Brook diversion	40	m2	1150	46
Signalised junction installations		item		471
Demolition / site clearance		item		95
Signing / lining		item		90
Statutory undertakers diversions		item		450
Street Lighting		item		106
Offline TM measures		item		30
Sub Total				3280
Preliminaries		30%		984
Construction Cost	TOTAL			4265

7.2.2 The cost estimate produced at the preliminary design stage is based on recent tender prices for similar local contracts and is given at current prices (2007 Quarter 2). The derivation of the expected cost reflects the risk assessment that has been undertaken, see Chapter 13.0 for details. The cost estimate does not include any further allowance for optimism bias, this is also discussed in detail in Chapter 13.0.

7.2.3 The anticipated capital cost of constructing the new road, bus link, pedestrianisation of the High Street and all associated works is £ 10,051,000 at current prices.

7.2.4 The outturn costs by year, including the **bid** costs from central Government, are given in Table 7.2c. It can be seen from Table 7.2c that the total outturn cost is estimated at £12,697,000, of which £9,571,500 is being sought from the Government. The net cost requiring local transport funding is £9.571 million which represents 75 % of the total project cost. The remainder (25%) is to be funded from a cost sharing arrangement between the County Council and District Council (including developer contributions).

Table 7.2c Outturn Costs

Outturn Prices	Pre 07/08	07/08	08/09	09/10	10/11	11/12	Total (£)
DfT Funding	0	91,000	116,500	149,000	3,450,000	5,765,500	9,571,500
NCC Funding	1,820,000	41,000	16,500	0	49,000	200,000	2,126,500
Developer Contributions	0	50,000	100,000	149,000	701,000	0	1,000,000
Totals (£)	1,820,000	182,000	233,000	298,000	4,200,000	5,965,000	12,698,000

7.2.5 As the scheme passes through the heart of the urban area, land and property purchase will inevitably constitute a significant proportion of the overall scheme cost. At current prices it is estimated that land purchase will amount to over £3.267m or 32% of the total scheme cost.

7.2.6 The County Council has already purchased approximately 60% - 70% of the land and property required to implement the Hucknall Town Centre Improvement Scheme. This land and property has been purchased intermittently over the last 30 years or so. The current value (2007 Quarter 2 prices) of this land and property has been calculated by the County Council's Strategic Property Unit and is included in the estimate of scheme cost to reflect the true cost of the scheme. The estimate of scheme cost also includes a sum of £200,000 to cover future land compensation claims.

7.3 Risk Assessment and Risk Register

7.3.1 A full risk assessment of both the preferred option and low cost alternative revealed no difference in risks to scheme delivery between each alternative. A quantified risk assessment (QRA) has been carried out by Nottinghamshire County Council's Highway Design Group to assign monetary values attributable to each risk. These values are included in a Risk Register which is enclosed in Appendix C. Details of key project risks identified by the Risk Register are discussed in Chapter 13.0.

7.4 Economic Results

7.4.1 The benefits of the scheme comprise savings in travel time, user costs and accidents. These benefits can be disaggregated to identify the benefits accruing to different modes of travel ie road users, bus users and operators and pedestrians. The cost benefit methods employed are summarised in Chapter 6.0 and full details of the economic findings can be found in the attached Hucknall Economic Appraisal Report.

7.4.2 Most user benefits result from reductions in travel time brought about by the improved and modified highway network. For business users there is also a significant level of vehicle operating cost savings. These benefits were expected as the Hucknall SATURN model forecast significant decongestion benefits in the town centre, decreasing delays, queues and journey times.

- 7.4.3 The TUBA assessment shows that the total road user travel time and vehicle operating cost savings would amount to £74,160,000 over the 60 year assessment period. Of these over 65% would accrue to business users.
- 7.4.4 Public transport user costs and benefits have been assessed using the SATURN traffic model findings. Journey time savings over the appraisal period account for the predicted passenger benefits of £167,000. The bus operators are forecast to incur a small increase in both vehicle operating costs (£97,000) and travel time (£199,000) due to a small increase in journey lengths and times brought about by the network changes.
- 7.4.5 The time saved by pedestrians each year is estimated at more than 50,000 walking hours. Throughout the appraisal period (2011-2070) a total pedestrian benefit of over £6.7m at 2002 prices discounted to 2002 is estimated. The appraisal has not given a monetary value to the journey ambience /quality benefits arising from the pedestrianisation of the High Street nor has any increase in footfall been assumed in the calculations, this therefore under estimates the overall pedestrian benefits.
- 7.4.6 The personal injury accident (PIA) costs and benefits were assessed using the DfT's COBA software. It is noticeable that a significant reduction in accidents is forecast on the High Street, in fact the scheme is forecast to save more than 100 accidents here over the evaluation period. However the construction of the new link road and junctions will in themselves witness PIAs such that the total accident numbers are forecast to increase very slightly (0.5 PIA per annum) once the Hucknall Town Centre Improvements are constructed.
- 7.4.7 The main components of the economic evaluation are summarised in tables 4, 5 & 6 i.e. the Transport Economic Efficiency (TEE), Public Accounts (PA) and Analysis of Monetised Costs and Benefits (AMCB).
- 7.4.8 The results show an expected Present Value of Benefits (PVB) of £77,940,000, a Present Value of Costs (PVC) of £7,554,000 and a Net Present Value (NPV) of £70,386,000. The Benefit to Cost Ratio (BCR) is calculated at 10.32. The Value / Cost to Government Ratio (VCGR) of the scheme is 9.32. The treatment of optimism bias is assessed separately in Chapter 13.
- 7.4.9 The first year rate of return is 13.4% of the total PVC. The economic benefit accruing to society would exceed the PVC within 6 years of opening of the improvement scheme.
- 7.4.10 These results have captured the most prominent project costs and benefits with the exception of likely wider economic impacts arising from inward investment, particularly in the retailing sector. As these regeneration benefits are also likely to be significant this gives extra confidence that the NPV and BCR figures in para. 7.4.8 are on the conservative side and the true benefit to society is expected to exceed the values stated.
- 7.4.11 Table 4 is the assessment summary table for the preferred scheme and presents both the economic findings and likely impacts on the environment, safety, accessibility and integration. It compares therefore both the quantifiable and non-quantifiable (in

monetary terms) aspects of the preferred scheme. The impacts are discussed in detail in Chapter 15.