

15.0 Assessment Against Central Government Objectives

This section assesses the preferred scheme against the following Central Government objectives:

- **Environment**
- **Safety and Security**
- **Economy**
- **Accessibility**
- **Integration**

15.1 Environment

15.1.1 The appraisal methodology follows the approach contained within the “Guidance on the Methodology for Multi-Modal Studies” (GOMMMS) and the “Design Manual for Roads and Bridges” (DMRB). The appraisal has been based upon site inspections, desk top studies and consultation with statutory and non-statutory bodies.

15.1.2 This section sets out each environmental sub-objective for the preferred scheme. The effects of this option are based upon a comparison with the Do Minimum. The GOMMMS worksheets summarising each of the environmental criteria are included in Appendix E and the Assessment Summary Table in Table 4.

15.1.3 One of the key objectives in the design and implementation of the Hucknall Town Centre Improvement Scheme is to minimise the impact of the scheme on the natural and built environment which would be supported by scheme specific objectives as follows:

- To ensure there is no net loss of nature conservation value associated with the scheme’s construction or operational phases;
- to maximise opportunities for beneficial environmental impacts, such as habitat creation;
- to take advantage of opportunities for re-use of material in preference to disposal to land-fill wherever possible;
- to avoid adverse impacts on the environment through careful scheme design;
- to take appropriate measures to mitigate against any unavoidable adverse impacts on the environment;
- to minimise disruption to landowners, local businesses and other members of the local community.

Noise

- 15.1.4 This assessment examines the effects of road traffic noise on the town centre and surrounding residential area as a result of a new single carriageway road being built to the north of the existing High Street. The assessment also takes into account all properties which might experience a change in noise levels as a result of displaced traffic having to take alternate routes as a result of the pedestrianisation on the western end of the High Street.
- 15.1.5 Noise level predictions have been derived from the SATURN traffic forecast outputs for the expected Opening and Design Years of 2011 and 2026 for the Do Minimum and Do Something scenarios. Noise Map 2000 has been used to calculate noise level readings at hundreds of receptor points in conjunction with guidance listed in the Calculation of Road Traffic Noise 1988.
- 15.1.6 Analysis of the noise impact outputs suggest that large noise reductions would be recorded on High Street, Baker Street and South Street due to restricted access and the pedestrianisation of the shopping area. Substantial noise reductions have been predicted at some properties on Thoresby Dale, Albert Street and The Connery. The adverse noise impacts of the scheme are confined to properties that overlook the new road and as a consequence this leads to little change in the numbers of people annoyed. Drawings H1/JH04723/01-04 provide a graphical illustration of the predicted traffic noise levels and associated noise contour bandings for both the Do Minimum and Do Something scenarios in 2011 and 2026.
- 15.1.7 251 people have been estimated to be annoyed by noise in the 'Without Scheme' scenario whereas 283 people are annoyed in the 'With Scheme' scenario. Consequently the Net Noise Annoyance Change in the 15th Year After Opening (2026) is **32 people**. A detailed summary of the results can be found in Appendix E.
- 15.1.8 Overall the scheme has been scored as having a **slight adverse** impact for the noise sub-objective. Sound insulation would be offered at 6 properties in total.

Local Air Quality

- 15.1.9 Concentrations of Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀) have been assessed in both the Do Minimum and Do Something scenarios for the opening year (2011) in accordance with the guidance set out in WebTAG Unit 3.3.3.
- 15.1.10 There are no Air Quality Management Areas (AQMAs) within the study area. Hucknall has not been identified by the Local District Council (Ashfield District Council) as being an area of concern in terms of air quality.
- 15.1.11 The Web TAG LAQ Excel spreadsheet predicts that both pollutants are expected to fall in 2011 despite the fact that more properties experience deteriorations in pollutant levels in comparison to the number of properties which see an improvement. Nitrogen Dioxide (NO₂) is expected to fall by 213.8 kg and Particulate Matter (PM₁₀) has been predicted to fall by 264.2 kg. Large reductions in emission levels are recorded on both sections of the High Street as well as Annesley Road.

15.1.12 15 residential properties are to be demolished in the Do Something scenario as a result of the new road being constructed. This has resulted in a fall in Nitrogen Dioxide and Particulate Matter levels for the area that lies north of the High Street and lies within 200m of the proposed new road and goes some way in explaining why pollutant levels are expected to be lower for the new stretch of road.

15.1.13 Overall the proposed scheme can be scored as having a **slight beneficial impact**.

Greenhouse Gases

15.1.14 The UK, as part of the Climate Change Programme is committed to reducing emissions of the gases responsible for climate change. This assessment has focused on the anticipated change in tonnes of Carbon produced as a result of the Hucknall Town Centre Improvement scheme being implemented.

15.1.15 COBA version 11 R7 has been used to estimate the likely changes in Carbon emissions and forecasts that an extra **100 tonnes** of Carbon is expected to be emitted over the 60 year appraisal time period. These emissions arise as a result of the additional vehicle kilometres travelled by each car user. Some car trips will be displaced and forced to travel longer distances in trying to reach their destination because of the pedestrianisation of the western end of the High Street. COBA forecasts that total vehicle kilometres will increase by 0.88% compared to the Do Minimum in each assessment year.

15.1.16 Overall the proposed scheme can be scored as having a **slight adverse impact** for the Greenhouse Gas sub-section.

Townscape

15.1.17 The townscape of Hucknall consists of a diverse range of land uses and buildings of various ages, including small commercial retail units, residential properties, manufacturing units, a church and car parks.

15.1.18 The pedestrianisation of the western end of High Street and the reduction of traffic along South Street and Baker Street will have an overall positive improvement on the Market Place and High Street and will allow for the safe and relatively unrestricted pedestrian movements within the area. At present the ease of pedestrian circulation on the High Street is restricted, largely due to the narrow pavements and is compounded by the busy road which makes crossing difficult. The fall in traffic volumes combined with environmental improvements to the eastern end of the High Street should also improve the townscape of this area. The proposals will lead to an overall moderate beneficial impact to the character of the town centre. The renovation of key buildings and sensitive shop frontage design would lead to a substantial beneficial impact to this area should this additional work be carried out.

15.1.19 The new road will be detrimental to the character of the surrounding townscape by severing residential streets and creating additional junctions. The culverting of Baker Lane Brook is also seen as a negative aspect of the scheme. The proposals for the

new road will have a medium adverse impact to this part of Hucknall, both visually and in terms of impact on the character of the landscape. The scope for effective mitigation appears to be limited due to the amount of land identified available for accommodating or integrating existing townscape features.

- 15.1.20 Overall the proposed scheme can be scored as having a **neutral impact** for the townscape sub-section.

Landscape

- 15.1.21 The landscape sub-objective has been incorporated into the Townscape sub-section because the scheme is situated within a predominantly urban setting.

Heritage of Historic Resources

- 15.1.22 The impact of the inner relief road on the heritage of Hucknall can be clearly divided between the path of the new route, which has a largely negative impact, and the re-prioritisation of the old route through the town centre, which has a neutral or positive impact. The positive impacts brought about by the pedestrianisation and environmental improvements to the High Street will enhance the setting of the historic buildings along it and partially offset the negative impact of the new road.
- 15.1.23 The two listed buildings in the study area, the Church of Mary Magdalene and The Town Library (Listed Grade II* and Grade II respectively) are not directly affected by the proposals. The study area is also not covered by a conservation area nor are there any historic parks and gardens.
- 15.1.24 Despite the lack of formal heritage designation the town has a dominant historic character that is largely 19th century that includes buildings of interest such as the Byron Entertainment Centre and the Red Lion. Of the buildings to be lost, the former Hucknall Manufacturing Company Factory, 22 to 28 Baker Street and the ruins of a flour mill in Mill Yard are most significant. The impact of the loss of this small group of buildings lessens the visual quality of this entrance to the Market Place. The ruins of the flour mill are also of historic interest and could contain earthworks of an industrial and possibly medieval nature. It is proposed to record these buildings to a level agreed with the County Archaeologist or Conservation Officer. The impact along the route of the new inner relief road in terms of Heritage of Historic Resources will be moderate adverse. The introduction of pedestrianisation and environmental improvements to the High Street has a neutral or borderline positive impact.
- 15.1.25 Overall the preferred scheme has been assessed to have a **slight adverse** effect on the Heritage of Historic Resources sub-objective because of the negative impacts that the new road will have, including the probable loss of the flour mill ruins and deposits. These impacts are not outweighed by the benefits to heritage and historic resources in the vicinity of the High Street and there is little that can be done with landscaping or other measures to mitigate these effects.

Biodiversity

- 15.1.26 Specialist ecological consultants were appointed to assess the ecological impact of the construction of the proposed new road and its future use and to outline mitigation measures, further surveys and any compensation requirements. To meet the scope of the brief a desk study and ecological surveys were carried out involving an Extended Phase-1 habitat survey of the proposed location of the route of the new road and surrounding area. This included bat surveys of the buildings to be demolished and a water vole survey of the Baker Lane Brook. The desk study extended to 2km beyond the survey area.
- 15.1.27 The survey environment contained a potential habitat for legally protected species including nesting birds, water voles, bats and crayfish, which if present could be affected by the proposed works. The desk study did not find any evidence of amphibians, reptiles or water voles within the study area. It was also revealed that water voles had been present until 2003 in the nearby River Leen, at a distance of between 1-1.2km beyond the desk study area. Similarly, there were no previous records of bats within the study area with the last recorded sighting 900m outside of the study area in 1999. There were also no previous records of protected plant species within the study area.
- 15.1.28 The ecological assessment revealed that there are no statutory nature conservation sites (SSSIs) within either the study or survey area. There are also no non-statutory nature conservation sites (SINCs) within the survey area, however, there are a number of SINCs in the study area, two of which are within 1km of the survey area.
- 15.1.29 The survey showed that there was no evidence of badger activity. This was supported by the desk study which showed that no badger road deaths had been recorded in the area since 2001. Despite the habitat being suitable along the areas of watercourse surveyed there was no evidence of water voles, reptiles or crayfish. The trees in the survey area were considered to be unsuitable for roosting bats. Bat surveys of buildings to be demolished were undertaken and no evidence of bats was found and the majority of buildings were found to have no suitable roosting features.
- 15.1.30 A grey wagtail, which is on the RSPB Amber list of birds of conservation concern, was recorded in the vicinity of the watercourse. The trees, hedgerows, dense scrub and buildings in the survey area provided a potentially suitable habitat for nesting birds.
- 15.1.31 None of the plant species recorded by the survey are considered rare locally or nationally and none are listed as Priority Species on the National BAP. Four species were recorded as being of Conservation Concern and were located on the banks of the Baker Lane Brook. Japanese Knotweed was recorded in the survey area and as the most invasive plant in Britain would require legal compliance with the Environmental Protection Act 1990 to prevent its spread and as such has been identified as a potential hazard on the Risk Register. Nottinghamshire County Council is committed to the eradication of the three 'stands' of Japanese Knotweed located along the route of the new inner relief road.

- 15.1.32 The proposed scheme is considered unlikely to have a significant impact on the majority of the site as most of the inhabitants are of low ecological value. Although the scheme will result in the significant loss of woodland and trees, tree felling will be kept to a minimum and planting of native tree species in the newly created road verges and landscaped areas will increase the habitat in the long term.
- 15.1.33 The culverting of part of the watercourse will result in some fragmentation and loss of habitat, however, unless future surveys find evidence of protected species it is unlikely that the works will have a significant impact. In view of these findings the introduction of an inner relief road to Hucknall is determined to have a slightly adverse effect due to some loss of habitat. However, with the introduction of measures to ameliorate these effects the overall assessment score is determined to be **neutral**.
- 15.1.34 The mitigation measures that have been recommended include ensuring that felling of mature trees is kept to a minimum, and that this, and scrub clearance only takes place outside the bird breeding season (March to September, inclusive). Further surveys would also be required to detect any bats, water voles or crayfish before any scheme activity takes place on site to ensure that the habitats identified have not been colonised since the production of the 2007 survey and desk study.
- 15.1.35 Compensation measures will be introduced to provide suitable habitat for nesting birds as up to 2000m² of broadleaved woodland and 19 scattered broadleaf trees will be lost as a result of construction of the new road. Planting new trees and shrubs along the proposed new areas of road verge and landscaping on the proposed embankment will be equivalent to an area twice that which is lost, although the benefits will not be immediate, and the new planting will increase the number of native trees and shrub species.

Water Environment

- 15.1.36 Within the study area and north of the High Street is Baker Lane Brook. This narrow water course runs in a south easterly direction through gardens and, in sections, the stream is culverted under buildings and roads. The engineering proposals for the scheme involve the modification, by culverting, of the course of Baker Lane Brook at Perlethorpe Drive and culverting of an unnamed brook that runs parallel with Ashgate Road close to its junction with Station Road and Linby Road. A detailed hydraulic analysis based on topographical survey and hydrodynamic modelling of both the Baker Lane Brook and the unnamed brook between Baker Street and Station Road has been carried out to verify that the engineering proposals would not adversely affect the flood conditions in the watercourse.
- 15.1.37 The Environment Agency has reviewed the 1d model and is satisfied that it demonstrates that the proposed road scheme will not increase flood risk from Baker Lane Brook to land elsewhere because of the hydraulic effect of the new sections of culvert and therefore support the application for consent under the Water Resources Act 1991. The Environment Agency have requested that scour protection measures be investigated during the detailed design phase of the project. The effect of the

preferred scheme on the water environment is therefore assessed as having a **neutral** impact.

Physical Fitness

- 15.1.38 The proposed Hucknall Town Centre Improvement Scheme will create an additional 650m unsegregated cycleway/footway alongside the new carriageway. Additional pedestrian crossing facilities have also been built into the design. It is expected that these additional features will encourage more trips by foot or bicycle and should make the High Street more accessible for those shoppers visiting Hucknall who have arrived via the Tram.
- 15.1.39 However, the overall total duration of this kind of physical activity is unlikely to be affected by the proposals and consequently a **neutral** impact upon physical fitness has been predicted for this sub-objective.

Journey Ambience

- 15.1.40 At present most bus stops on the High Street do not have a covered waiting area and are without seating facilities. Timetable/travel information is minimal because of space limitations, adding to passenger stress and frustration.
- 15.1.41 In the Do Something scenario the level of traveller stress will be relatively low for all journeys whether by car, public transport or on foot within the town.
- 15.1.42 Bus passengers will benefit from the sheltered bus plug facility and comprehensive passenger transport information. Car users will no longer have to experience long queues and congestion on the High Street because of illegally parked cars/delivery vans. In contrast the new road (north of the High Street) should have more free flowing conditions reducing driver stress and frustration as a result.
- 15.1.43 Pedestrians, especially shoppers using the upper end of the High Street will benefit from the aforementioned scheme because of the removal of all motor vehicles. Fear of potential accidents when walking along or trying to cross the High Street is high at present because of the narrowness of existing footpaths. This will no longer be the case with the introduction of a pedestrianised shopping precinct. Road users will also benefit from a reduced fear of accidents because they will no longer have to worry about large volumes of pedestrians stepping out in front of them on this section of the High Street, instead drivers will use the new road north of the High Street away from the shoppers.
- 15.1.44 Overall the proposed scheme can be scored as having a **Moderate Beneficial impact** for the Journey Ambience sub-section.

15.2 Safety and Security

Accidents

- 15.2.1 An analysis of the effect of the proposed scheme on road accidents within Hucknall has been conducted using COBA version 11 R7. The accident assessment undertaken predicts a net increase of 31 personal injury accidents over the 60 year assessment period. The number of fatalities is not expected to change as a result of the improvement scheme with the Do Something scenario still predicting a zero number of fatalities over the 60 year appraisal period. The majority of the additional accidents are 'slight' incidents.
- 15.2.2 The associated costs caused by accidents have been valued at **£1,061m** between the Do Minimum and Do Something scenarios over the 60 year appraisal period. As a result the safety sub-objective has been scored as having a **moderate adverse impact**.

Security

- 15.2.3 Security (perceived and actual) for public transport users and pedestrians in general should increase as a result of the scheme being built. The possible introduction of additional CCTV cameras and improved lighting along the High Street and within the bus plug facility should act as a deterrent to potential criminals and other types of antisocial behaviour, hopefully improving actual and perceived personal security in the process.
- 15.2.4 The new road will be constructed to modern standards, will include street lighting and incorporate full standard visibility splays and other features designed to improve user comfort and ensure personal security for all types of road user whether it is a car user or pedestrian. The overall assessment score for the security sub-heading is thus a **slight beneficial impact**.

15.3 Economy

- 15.3.1 For the economic assessment, the Hucknall Town Centre Improvement Scheme SATURN model was run for 3 forecast years (2011 scheme opening year, 2018 and 2026 scheme design year). The SATURN model outputs were then fed into TUBA (v1.7) and appraised for a 60 year assessment period.
- 15.3.2 The economic appraisal carried out for the improvement scheme has shown that the scheme represents good value for money, with a:

Benefit to Cost Ratio (BCR) of **10.32** and;
Net Present Value (NPV) of **£70.386m**.

* All monetary values within this section are in 2002 prices.

- 15.3.3 A detailed analysis and breakdown of the economic benefits can be found within the ***Hucknall Economic Town Centre Improvements Economic Appraisal Report*** but a brief summary is included within this section for reference.
- 15.3.4 The majority of user benefits stem from the reductions in travel time as a consequence of the scheme being implemented, particularly in future years. Business users also make significant vehicle operating cost savings. The SATURN model that was built predicts significant decongestion benefits for the town centre itself. Queues, delays and journey times are all predicted to fall significantly, compared to the Do Minimum.
- 15.3.5 Overall the proposed scheme can be scored as having a **Major Beneficial impact** for the economy sub-section.

Wider Economic Impacts

- 15.3.6 Hucknall is not an area with recognised regeneration status and as a consequence WebTAG dictates that an Economic Impact Report is not needed. The assessment for this sub-objective is therefore **neutral**, and worksheets have not been produced.
- 15.3.7 Although the improvement scheme is not in an area of recognised regeneration status it is hoped that the scheme would still encourage inward investment, particularly from the retail sector. The Appraisal Summary Tables (AST) alludes to this fact.

15.4 Accessibility

Option Values

- 15.4.1 As the improvement scheme does not include any provision for an additional public transport scheme (other mode options) there is nothing to place a value on. Therefore the assessment score for this sub-objective is **neutral**.

Severance

- 15.4.2 The severance sub-objective has been assessed as recommended by the guidance set out in WebTag 3.6.2 and DMRB Volume 11, Section 3, Chapter 8. This sub-objective is only concerned with the impacts on pedestrians.
- 15.4.3 Pedestrian facilities within Hucknall Town Centre at present are substandard, particularly on the High Street where the footpaths are narrow and can be congested hindering pedestrian movement further. CCTV footage was used to determine the number of pedestrians who walk along and across the High Street in its present state. 6724 pedestrians would potentially experience a reduction in severance levels as a result of the pedestrianisation of the western end of the High Street i.e. no cars, buses nor Heavy Goods Vehicles (detailed analysis can be found within the Economic Appraisal Report). Pedestrians will be able to cross this section of the High Street without any delay nor fear any moving vehicles. The change in severance is expected to be largely positive.

- 15.4.4 Manual pedestrian counts were also undertaken to determine how many pedestrians would be adversely affected in the Do Something scenario as a result of the construction of the new road north of the High Street and it has been estimated that 1192 pedestrians would be adversely affected for those wishing to walk to and from the High Street/north route i.e. Titchfield Street, Albert Street and Perlethorpe Drive. Crossing facilities will be provided where the new road intersects with Albert Street/Perlethorpe Drive which will allow pedestrians to cross in a safe environment but obviously there will be a time delay where previously one does not currently exist. The change in severance has been estimated to be moderate negative.
- 15.4.5 The new road will also affect those pedestrians and cyclists who wish to walk between Tesco/NET Station and the eastern end of the town. 3089 are expected to be affected adversely because pedestrians are forced to cross new Station Road/new link road junction. The change in severance is expected to be slight negative. It should be noted that an unsegregated cycleway/footway has been built into the scheme design and it is hoped that additional pedestrians will be encouraged to take this walking/cycling route. The provision of a pedestrian crossing allows users to cross in a safe manner where a provision does not currently exist.
- 15.4.6 Overall the assessment score for the severance sub-objective is **slight positive**.

Access to Transport System

- 15.4.7 The improvement scheme does not contain any specification for additional public transport provision in terms of additional bus frequency. The scheme does include a new bus plug with waiting facilities but this is not expected to change access to the transport system significantly. Consequently the scheme has been assessed as having a **neutral** impact.

15.5 Integration

Transport Interchange

- 15.5.1 The assessment score with respect to both passenger and a freight interchange category is **neutral**, as the improvement scheme does not incorporate any additional public transport interchange provision nor freight facilities. The scheme does however include a sheltered bus plug link but this was deemed to not satisfy criteria listed in WebTag 3.7.1. As the assessment is neutral, worksheets have not been produced for this sub-objective.

Land Use Policy and other Government Policy

- 15.5.2 A detailed description of how the Hucknall Town Centre Improvement Scheme meets these two sub-objectives can be found within the Strategic Context chapter of this document (Chapter 2). From a land use policy perspective the scheme has been scored as having a **beneficial** impact. The proposals implement and meet many of the policy objectives that have been proposed by Central Government, meeting local and regional needs in the process.

15.5.3 The scheme can therefore be regarded as being generally consistent with the aims and objectives of local planning policy in terms of:

- Economic Benefits
- Safety Benefits
- Improvements to the local strategic road network
- Reductions in local severance; and
- Environmental improvements in terms of noise and air quality.

15.5.4 The only Government Departments that are likely to be directly affected (positive impact) as a result of the improvements within Hucknall are the DCLG (regeneration) and the DfT. The scheme would have no anticipated impact on the remaining Departments.

