

Chapter 5 Cultural heritage, including architectural and archaeological heritage

Cultural Heritage Summary		
Key messages of policy		
<ul style="list-style-type: none">LTP policies and programmes needs to ensure that the Derwent Valley Mills World Heritage Site is protected.Ensure the protection of natural historic buildings and environments against the effects of traffic pollution and other transport related damages.Use the expertise of specialist advisors as regards Historic Environment Records in devising transport implementation plans, including dealing with issues such as Conservation Areas at risk.		
Environmental baseline		
Environmental description	Baseline condition	Future trend without LTP3
Visual intrusion from traffic	Traffic levels moderate	Traffic will increase but remain at moderate levels
Visual intrusion from transport infrastructure	Four conservation areas identified as being at risk due to transport infrastructure and anecdotal evidence suggests that infrastructure is impacting upon landscapes and townscapes	Uncontrolled introduction would most likely exacerbate the issue
Damage to historic features by collisions	Not considered a strategic issue but Swarkestone Bridge, a scheduled ancient monument, suffers damage	Although strategically the issue is unlikely to worsen significantly, without protection Swarkestone Bridge will continue to suffer damage.
Air pollution	Not considered to be having an impact	Unlikely that air pollution will worsen
Vibration	Not considered to be having an impact	Unlikely to change
Damage by motorised vehicles	Localised issues only	Static
Environmental issues and opportunities		
Description of issue	Implications/ opportunities for LTP3	
Visual intrusion by transport infrastructure	LTP3 should seek to reduce the impact of transport infrastructure on historic landscapes and townscapes.	
Material usage and poor design can lead to visual intrusion of transport infrastructure	LTP3 should seek to ensure good design, use specialist advisors and use appropriate materials.	
Collision damage to Swarkestone Bridge and Causeway	LTP3 should seek to protect Swarkestone Bridge and Causeway from traffic damage.	
Localised damage from use of motorised vehicles in the countryside	LTP3 should aim to protect the historic landscape from use of motorised vehicles in the countryside	
Data gaps		
Description	Action	
Detailed evidence about visual intrusion from traffic	Visual intrusion from traffic is subjective and would be difficult to examine this. Traffic levels are expected to remain moderate during the plan period.	
Detailed evidence about visual intrusion from transport infrastructure	Undertake a pilot exercise to determine impacts in areas of concern e.g. Conservation Areas at risk.	
Draft objectives		
SEA 3 Protect and enhance the county's historic landscape and areas of high townscape value		
SEA 4 Avoid damage to designated and/or protected heritage and historical sites		
SEA 9 Prevent damage to the landscape due to increases in recreational walking and cycling, motorcycling etc.		

5.1 Stage A1: Key messages of policy context analysis

- 5.1.1 Stage A1 of the SEA, see Annex 1, has identified the key relevant plans, programmes and environmental protection objectives relating to cultural heritage and the LTP. The key messages of policy context are:-
- LTP policies and programmes needs to ensure that the **Derwent Valley Mills World Heritage Site** is protected.
 - Ensure the **protection of natural historic buildings and environments** against the effects of traffic pollution and other transport related damages.
 - LTP3 will need to reconcile reducing budgets with **increasing demands for higher quality treatment of the streetscape**. Use the expertise of **specialist advisors** as regards Historic Environment Records in devising transport implementation plans, including dealing with issues such as Conservation Areas at risk.

5.2 Stage A2: Environmental baseline

Introduction

“The historic environment is central to our cultural heritage. It contributes to our sense of national, local and community identity, through the memories of events and phases in our history that it holds. It has aesthetic value and provides local distinctiveness that is so important to a sense of place....By understanding our past, we are better able to plan for our future and pass on those elements of the historic environment that we value to future generations. But people are not averse to change in principal. They want the historic environment to be a living and integral part of their local scene”.¹

- 5.2.1 It is therefore clear that the historic environment is much more than just individual buildings or features, but the historic character of the wider landscape and townscape. We therefore need to examine our environmental baseline spatially as well as investigate the potential impact on individual heritage assets and archaeology.

Derbyshire's Historic Landscape and Townscape

- 5.2.2 We have already examined the character of Derbyshire's landscapes and townscapes in Chapter 3. This recognised that character is highly influenced by cultural heritage. Both the Derbyshire and Peak District National Park's Landscape Character Assessments highlight the diversity of Derbyshire's natural and historic environment. This has been shaped by many centuries of human influence from prehistoric cave sites at Creswell to the birthplace of the industrial revolution in the Derwent Valley.
- 5.2.3 Derbyshire's transport networks; the routes they follow; the settlements they link and helped form; and the materials that they are constructed from, all form an important part of Derbyshire's historic landscape and provide an imprint of past lifestyles as to how Derbyshire's trade and the economy grew. The transport network (roads, railways, canals etc) contains a legacy of transport features such as bridges, milestones, stone crosses, dry stone walls, signposts, historic street lamps etc. See also Chapter 8.
- 5.2.4 The geological map in Chapter 4 highlights the diverse landscape that is replicated in a variety of local distinctiveness e.g. use of limestone as a building material in the White Peak and gritstone in the Dark Peak.
- 5.2.5 In this section to examine the environmental baseline we have considered the following issues:-
- Historic landscapes and townscapes
 - Visual intrusion
 - Traffic damage
 - Other issues

¹ Extracts from Consultation Paper on a new Planning Policy Statement 15: Planning for the Historic Environment

Historic Landscapes and Townscapes

Derwent Valley Mills World Heritage Site (DVMWHS)

- 5.2.6 In December 2001, the Derwent Valley Mills were inscribed as a UNESCO² World Heritage Site. The designation was made because it was the birthplace of the factory system where in the 18th century water power was successfully harnessed for textile production. During the 18th century, the textile industry developed along the River Derwent generating not only the mill buildings, but also settlements to house workers and the transport system of canals, turnpike roads and railways. The site, and its buffer zone, is shown in Figure 5.1.
- 5.2.7 Congestion occurs during peak periods on the A6 serving the WHS, particularly Sundays when traffic flows are up to 20% higher³. South of Cromford the A6 carries around 9,000 vehicles a day during the week⁴. At weekends 8% of traffic is estimated to be people visiting the mills⁵. Alongside the A6 is the former Derby to Manchester railway line which now only runs as far as Matlock, where it terminates; and the Cromford Canal which is now disused, although a Charitable Organisation called the Friends of Cromford Canal has recently been formed to take forward a long-term plan to reopen it fully⁶.
- 5.2.8 There are 482 listed buildings within the World Heritage Site and buffer zone; 10 are scheduled ancient monuments; 3 Grade I, 449 Grade II and 30 Grade II*. There are also 14 conservation areas, 7 historic parks and gardens and 524 hectares of ancient woodland⁷.
- 5.2.9 Two structures that form part of the WHS site are listed on English Heritage's Buildings at Risk Register because of the potential impact of traffic. These are:-
- **Grade II* Road Archway and Footbridge (Condition: Fair)** linking former Mills in Belper – this archway has been 'struck' by over height vehicles in the past. However, in 2009 an electronic warning system has been installed by the County Council to warn over-height vehicles that they would strike the archway should they proceed past the sign. It is therefore expected that this will now protect the structure.
 - **Grade I Cromford Mills (Condition: Fair)** Although the mill buildings are not particularly at risk from traffic; an aqueduct which crossed Mill Road was struck by a high vehicle in 2002 and had to be removed. The aqueduct remains to be reinstated, but an electronic protection system, the same as installed at Belper, is planned for when this happens.

Peak District National Park (PDNP)

- 5.2.10 Whilst the outstanding landscape of the Peak District National Park, see Figure 5.1, gives its sense of place there are many distinctive historic buildings and structures which are a significant feature of that landscape. The Cultural Heritage Strategy for the Peak District National Park describes these in more detail and recognises how land-use and transport has made its mark, such as through the construction of bridges, toll houses, guide stoops and railway structures. But also the equally diverse range of settlements from loose, linear villages to 19th century planned villages of terraced houses for mill workers. Their character and distinctiveness are enhanced by their layout and their structure by landscape features such as hard paving, stone walls and street furniture that provide the context for the buildings. Key historic features in the Derbyshire part of the Peak District National Park⁸:-
- 319 scheduled monuments
 - 29 Grade I, 64 Grade II* and 1,430 Grade II listed buildings
 - 115 Conservation Areas
 - 3 historic parks and gardens, although the National Park Authority maintains a local list of 15 parks and gardens that are important to the National Park.
 - 2,149 hectares of ancient woodland

² United Nations Educational, Scientific and Cultural Organisation

³ Derwent Valley Mills WHS Integrated Transport Study 2003

⁴ LTP2 SEA Environmental Baseline data 2005

⁵ Derwent Valley Mills WHS Integrated Transport Study 2003

⁶ <http://www.cromfordcanal.org.uk/index.htm>

⁷ Analysis of historic data on DCC Mapinfo layers

⁸ Analysis of historical data on DCC Mapinfo layers



- 5.2.11 Of the historic parks and gardens within the PDNP, Chatsworth Estate is the largest park within the County. It is dissected by the B6012 for a length of 2.5km and supports over 7,000 vehicles a day⁹. There is anecdotal evidence that localised congestion occurs at weekends on the B6012 at Chatsworth, due to traffic visiting the park.

Creswell Crag

- 5.2.12 Creswell Crag is a limestone gorge in the north-east of the county containing caves used by our ancestors during the last Ice Age between 50,000 and 10,000 years ago. The site has been promoted by the County Council as a possible World Heritage Site since the 1980s. In 1986 the Department of the Environment identified 'contentious issues' of the presence of the B6042 running through the gorge and water reclamation works which prevented a nomination at that time. These contentious issues have now been resolved. In particular the B6042 road was diverted away from the gorge in a scheme funded by the County Council and Lafarge Aggregates Ltd in 2006.
- 5.2.13 The Crag is already protected by a number of national and local designations, namely: Scheduled Monument, Registered Park and Garden, Conservation Area, Site of Special Scientific Interest and Site of Importance for Nature Conservation.

Transport Network

- 5.2.14 Much of the historic landscape and townscape is the transport network throughout Derbyshire. This is recognised within the Derbyshire Extensive Urban Survey (EUS) (1999-2004) which identified that features as simple as a bend in the road can provide evidence about how a town or village evolved. The Derbyshire EUS examined the evolution of 22 small towns and larger villages from the first recorded settlers to the modern day and whilst it is impractical to set out all these features here, it highlights the importance of the knowledge base and the need to involve heritage professionals in all stages of plan development and implementation so these features are protected along with those that are designated.

Conservation areas

- 5.2.15 Many of the historic features described above have been considered as part of the designation of 271 conservation areas across Derbyshire¹⁰; 141 are within the remaining area outside of the DVWHS and PDNP. Figure 5.2 shows Conservation Areas in Derbyshire. They have been designated under the Civic Amenities Act 1967, because of special architectural or historic interest or deserve to receive careful protection. Until recently the condition of these had not been assessed, but English Heritage has begun a project to establish this, known as 'Conservation Areas at Risk'. Initial results are showing that approximately 1 in 7 areas are at risk and some of the top threats nationally are due to transport and its associated infrastructure:-
- 60% due to poorly maintained roads and footways
 - 45% due to street clutter
 - 36% due to the effect of traffic management
- 5.2.16 Currently 14 conservation areas within Derbyshire have been identified as being at risk¹¹. Four of these have been identified because visual intrusion from transport infrastructure is a contributory factor:-
- Alfreton*
 - Ashbourne*
 - Brimington, Chesterfield
 - Matlock Bridge, Matlock*
- 5.2.17 31 conservation areas are located within the areas of higher congestion¹², including three of the conservation areas at risk (those starred in paragraph 5.2.16 above).

⁹ Derbyshire County Council Traffic Counts

¹⁰ Analysis of Conservation Areas mapping using DCC Mapinfo Layers

¹¹ English Heritage Conservation Areas at Risk 2009

¹² Derbyshire County Council Historical Mapping and Derbyshire 'Floating Vehicle' (GPS data) Congestion data

Figure 5.2 Conservation Areas & 2008 Daily Traffic Levels



**Traffic Flow Disturbance Thresholds
Average Annual Daily Traffic Flow (AADT)**

Two-Way AADT	Intensity of Disturbance
0 to 2000	Least
2000 to 5000	
5000 to 10000	
10000 to 25000	
25000 to 50000	
50000 to 100000	
> 100000	Worst

Conservation Areas

Conservation Areas 'At Risk due to Transport'

1. Alfreton
2. Ashbourne
3. Brimington
4. Matlock Bridge

Conservation Areas 'At Risk'

5. Aston on Trent
6. Bamford Village
7. Brailsford
8. Idridgehay
9. Little Longstone
10. Muggington
11. Quarndon
12. Riddings
13. Staveley
14. Wrens Nest Glossop

Source: English Heritage

(C) Crown Copyright. All Rights Reserved.
Derbyshire County Council 100023251 2009.

Listed buildings and scheduled monuments

- 5.2.18 Listing a building identifies those buildings and structures that are marked and celebrated as having exceptional architectural or historic special interest. Scheduled monuments are not graded but are considered of national importance. The numbers in Derbyshire are set out in Table 5.1 below and are shown in Figure 5.3.

Table 5.1 Scheduled Ancient Monuments and Listed Buildings in Derbyshire

	Derbyshire Total	DVWHS	PDNP	Remaining Area
Scheduled Ancient Monuments	458	10	319	129
Grade I	137	3	29	105
Grade II*	314	30	64	220
Grade II	5,026	449	1,430	3,147

- 5.2.19 Those at greatest risk are listed within English Heritage's, Heritage at Risk Register 2009. This has designated 48 Grade I, II* listed buildings and scheduled monuments in Derbyshire at being at risk.
- 5.2.20 There are many factors, including transport, that contribute to the designation being at risk. Examination of the register has identified that three are potentially at risk due to damage from traffic. Two, bridges at Belper and Cromford Mills, have already been described under the Derwent Valley World Heritage Site, the other is Swarkestone Bridge, see paragraph 5.2.33.

Historic Parks and Gardens

- 5.2.21 83% of residents say they regularly use parks and gardens across the county¹³; which is a greater use than regionally or nationally. There are 29 historic parks and gardens in Derbyshire¹⁴ which are contained on English Heritages Register of Historic Parks and Gardens, see Figure 5.3. 19 of these are located outside the PDNP and DVWHS. The majority of these are either bounded or located next to roads. Four outside the PDNP and DVWHS are dissected by roads:-
- **Kedleston Hall** – The parkland is dissected by two minor roads, Kedleston Road (1.7km) and Cumberhills Road (0.4km).
 - **Sudbury Hall** – the parkland is completely segregated from the Hall by the A50 trunk road.
 - **Pavilion Gardens, Buxton** – two roads, A53 and Burlington Road effectively split the park into three sections.
 - **Elvaston Castle** – although the gardens are segregated, in reality it is in effect only a row of trees south of the B5010 that are separated from the main gardens.
- 5.2.22 Historic parks and gardens, listed above, have been dissected by roads for many years, even centuries¹⁵. There does not appear to be any evidence to suggest that the roads and traffic are having a significant impact on the parks and gardens.

Battlefields

- 5.2.23 There are no battlefields in Derbyshire registered on English Heritage's Register of Historic Battlefields.

Ancient Woodland

- 5.2.24 There are 4,827 hectares of ancient woodland scattered across Derbyshire¹⁶ of which 2,153 is located outside of the DVWHS and PDNPA, see Figure 5.4. Some of these are located alongside key transport routes. These woodlands are important historic landscapes, often containing interesting archaeology in addition to being important biodiversity sites. Individual trees, such as ancient trees are also important. Over 4,000 veteran trees were recorded through the Great Trees of Derbyshire project which took place from 2006 – 2008¹⁷. We have not come across any evidence that suggests that transport impacts significantly on ancient woodland.

¹³ 2008 Derbyshire Place Survey

¹⁴ Analysis of DCC historical data on Mapinfo

¹⁵ Derbyshire County Council Historic Mapping on DMaps

¹⁶ Analysis of historical data on DCC Mapinfo layers

¹⁷ Heritage Lottery/ WildDerby funded initiative run by Derbyshire Wildlife Trust in association with Natural England

Figure 5.3 Built Heritage of Derbyshire and 2008 Daily Traffic Levels



**Traffic Flow Disturbance Thresholds
Average Annual Daily Traffic Flow (AADT)**

Two-Way AADT	Intensity of Disturbance
0 to 2000	Least
2000 to 5000	
5000 to 10000	
10000 to 25000	
25000 to 50000	
50000 to 100000	
> 100000	Worst

Legend:

- Listed Buildings
 - Scheduled Ancient Monuments
 - Historic Parks & Gardens
- Those identified at risk partly due to transport

Figure 5.4 Ancient Woodland of Derbyshire and 2008 Daily Traffic Levels



**Traffic Flow Disturbance Thresholds
Average Annual Daily Traffic Flow (AADT)**

Two-Way AADT	Intensity of Disturbance
0 to 2000	Least
2000 to 5000	
5000 to 10000	
10000 to 25000	
25000 to 50000	
50000 to 100000	
> 100000	Worst

Legend:
Ancient Woodland

(C) Crown Copyright. All Rights Reserved.
Derbyshire County Council 100023251 2009.

Summary of historic landscapes and townscapes

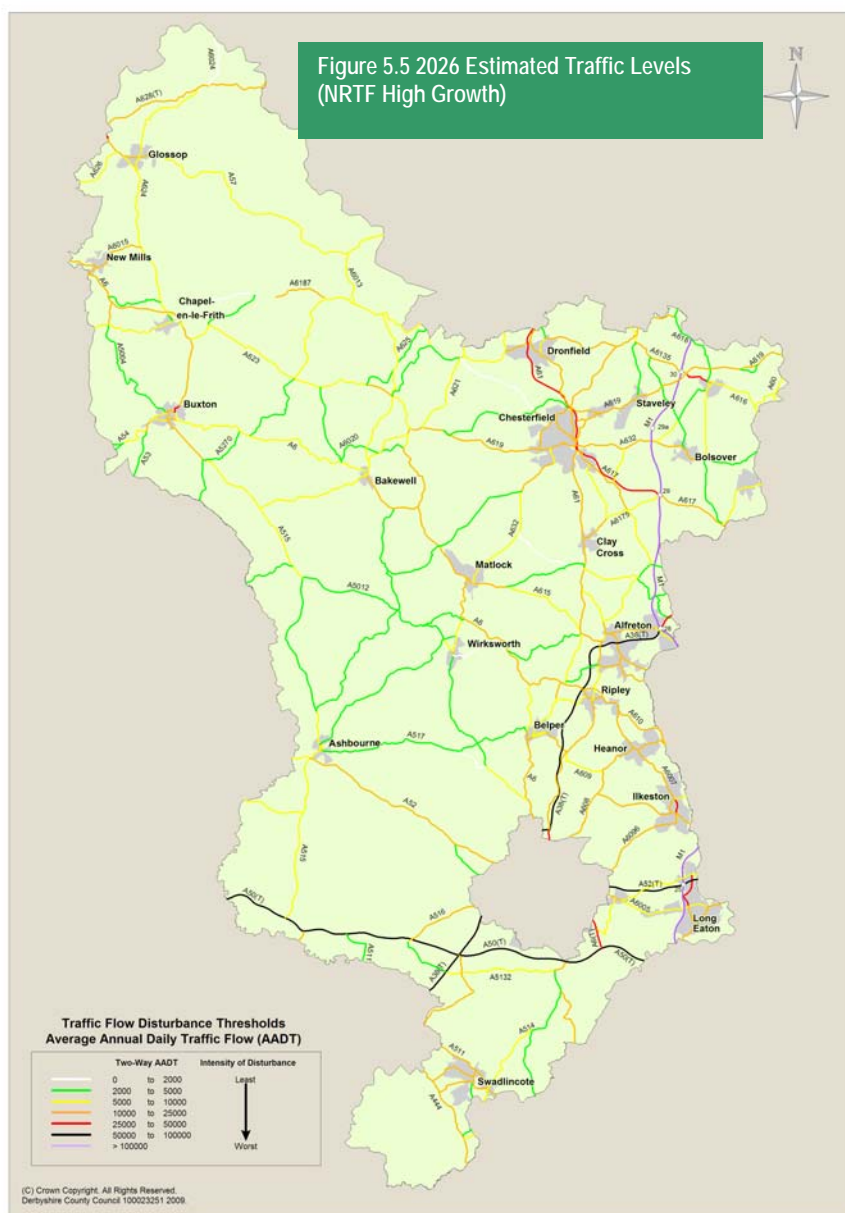
5.2.25 The assessment of transport issues relating to Derbyshire's historic landscapes and townscapes can be summarised into two categories that we now examine in more detail:-

- Visual intrusion
- Damage to historic environments

Visual Intrusion

Visual intrusion from traffic

5.2.26 Derbyshire is host to two outstanding areas of historical landscapes and townscapes of Peak District National Park and the Derwent Valley World Heritage Site. There are a number of other historical features of importance across the remaining areas of Derbyshire. Whilst we are aware that traffic will impact to some degree on landscapes and townscapes it is very subjective issue. Our mapping shows that roads are a key feature of landscapes and townscapes. Traffic levels on County controlled roads generally appear to be moderate¹⁸; particularly roads in the Peak District National Park and landscapes of high environmental value (see Chapter 3). Traffic levels in Derbyshire have stayed the same or have reduced since 2005¹⁹. Traffic levels are predicted to rise in the future. To examine the worst case scenario we have estimated traffic flows in 2026 as shown in Figure 5.5. From this we can conclude that traffic levels will remain moderate. Traffic levels and resulting congestion is a complex issue involving numerous factors, many of which are outside the influence of the LTP such as the economic climate or oil prices. The recent economic downturn has seen congestion levels in England reduce by 11.9% since 2005²⁰. Parking areas will also have some visual impact within historic landscapes and townscapes. Again this will be a subjective issue and we know that many of our market towns and key tourist locations are busy with both on-street and off-street parking provision.



¹⁸ Analysis of 2008 AADT on Figures 5.2, 5.3, 5.4

¹⁹ Output from recalculation of LTP2 Environmental Baseline data

²⁰ DfT Congestion data on inter-urban roads July 2005-July 2009

Visual intrusion from transport infrastructure

5.2.27 We have considered this issue in Chapter 3 in relation to landscape and townscape where we identified this as a key issue for further consideration in LTP3 development, particularly relating to the Peak District National Park and other areas of high environmental value. The analysis of conservation areas at risk which identified four areas particularly impacted upon by transport infrastructure suggests that these should be included within any further examination:-

- Alfreton
- Ashbourne
- Brimington, Chesterfield
- Matlock Bridge, Matlock

Good Design and Material Usage

The geology map and landscape character assessments have highlighted the diverse nature of the county which is replicated within the usage of locally distinctive materials in construction throughout the County. This is also replicated within the materials that are used within the transport network. It is clear that many modern materials such as concrete kerbs are used across Derbyshire due to economic constraints and a balance is usually struck between the impact on the environment and improving conditions for citizens. However, there are many examples where locally distinctive materials have been used in areas of historical significance such as grit stone kerbing within Buxton conservation area.

5.2.28 The designation of conservation areas being at risk, due in part to transport infrastructure, highlights how the introduction of smaller initiatives can combine to eventually cause a negative impact. No doubt some of the impact will also be due to cost effective maintenance e.g. where road surfaces are fit for purpose but do not look attractive.

5.2.29 It has been clear through the establishment of the baseline that numerous factors inter-relate to give a sense of place. Small-scale changes can eventually detract from this sense of place. There are clearly many different historical environments and features that require different treatments and considerations. It would also be impractical to expect design teams to be fully aware of all the historic issues and requirements. But it has highlighted that more opportunity should be given to engage specialist advisors, such as the Authority's Conservation team much more in the Plan's development and implementation to ensure its impact is minimised.

Summary of visual intrusion

5.2.30 Visual intrusion from traffic and transport intrusion is a subjective issue. Although we do not have detailed evidence we accept that traffic levels will have some visual impact on landscapes and townscape. Areas such as the Peak District National Park and other areas of high environmental value is host to moderate levels of traffic and these are estimated to remain so during the Plan period. We therefore suggest that we scope out visual impact from traffic and do not investigate visual intrusion from traffic any further.

5.2.31 We have concluded within the landscape and townscape chapter that visual intrusion from transport is a key issue that should be taken forward for further consideration. We acknowledge that without protection this issue is likely to worsen. We acknowledge that we do not have detailed evidence and that pilot studies should be undertaken to clarify this further. This particularly relates to the Peak District National Park and identified areas of high environmental value. In addition to these we conclude that conservation areas at risk due to visual intrusion are considered alongside these.

Damage to historic environments

Collisions with historic structures

5.2.32 Analysis of designated historical assets has highlighted a number of features such as Swarkestone Causeway where vehicle collisions cause damage. Other than anecdotal evidence we do not have any comprehensive data across the county. We undertook to examine whether insurance claims could provide the information, but as many collisions are minor, people generally drive off without reporting. The County Council's bridges section are involved in a national initiative called the Bridge Strike Register which will hopefully provide information in the future, but this is also subject to minor collisions not being recorded.

Grade I Swarkestone Bridge, Stanton by Bridge (Condition: Fair/ Priority: F).

- 5.2.33 This is a narrow bridge and causeway which carries the A514 Derby to Swadlincote road. It often suffers damage to its parapets through traffic collisions. It is one of only three crossing points over the River Trent to the south of Derby. The road now has a 7 tonne weight restriction, but there have been issues of breaches of this and we have recently installed some monitoring equipment to discover the scale of this. Also, due to its narrow width, the bridge and causeway are still subject to damage from smaller vehicles. (at least 17 collision repairs have been recorded since 2004²¹). In terms of historic features within the highway, Swarkestone Bridge is the principal feature being damaged by traffic.

Air pollution from vehicles

- 5.2.34 The impact of air pollution on buildings and structures is a complex issue. Although there is no evidence relating directly to Derbyshire, there is evidence available from a number of sources. There are interrelated factors which can determine how materials interact with atmospheric pollutants and form of decay – materials, environment and process. Pollution can be caused by concentrations at a particular area or from many miles away making it more difficult to make a correlation to what is the major cause of any degradation. Burning of fossilized fuels, including oil, produces pollutants which cause acid rain or sulphation which can cause surface damage or discoloration of stonework²². Despite increases in emissions since the industrial revolution, many pollutants which cause acid rain have reduced significantly since the 1960s. Despite this reduction there is no evidence that cleaner air has brought about a reduction in building degradation. Buildings which have withstood thousands of years weathering have in the past few decades begun to deteriorate rapidly. This can be attributed to the permanent alteration of stone surfaces by sulphation²³.
- 5.2.35 English Heritage suggested that we examine areas most likely to be affected by poor air quality or likely to be vulnerable to small local changes. As mentioned in Chapter 9 our efforts to estimate areas of poor air quality have provided no more meaningful information than already being monitored by district and borough authorities, at existing and proposed Air Quality Management Areas and by the AURN. In terms of historical environments, this would suggest that Chesterfield town centre could be vulnerable. However we have not been able to find any evidence, anecdotal or otherwise to suggest that air pollution is having a negative effect. As mentioned in Chapter 9 we have estimated air quality forward to the end of the Plan period and discovered that technological advances are predicted to contribute to a reduction in local air pollution. We are suggesting that we scope out air pollution in relation to the historic environment.

Vibration

- 5.2.36 Traffic generates a low frequency disturbance producing physical movement in buildings and their occupants. Vibration can be transmitted through the air or through the ground. Extensive research on a wide range of buildings of various ages and types has been carried out²⁴, but no evidence has been found to support the theory that traffic induced vibrations is a source of significant damage to buildings. Minor cracking of plaster may occur at high exposure sites, but it is unlikely that this would be distinguishable from cracking due to other causes²⁵. This was also the conclusion from a study regarding the impact of traffic calming²⁶. Fragile historic buildings may be at a higher risk to vibration, however in being so vulnerable it is likely that they would be in such a poor state of repair that vibration would unlikely to be the major factor.
- 5.2.37 We have received feedback as part of our consultation on transport goals for LTP3, that some people are concerned over vibration on their buildings. Therefore, although we are suggesting that vibration is scoped out, we still think it would be useful to highlight the routes where there is more likely to be concerns. The annual average daily heavy goods vehicle flows, using a scale of likely nuisance by level of flow, are shown in Figure 5.6.

²¹ DCC Swarkestone Causeway Expenditure Records 2004-2009

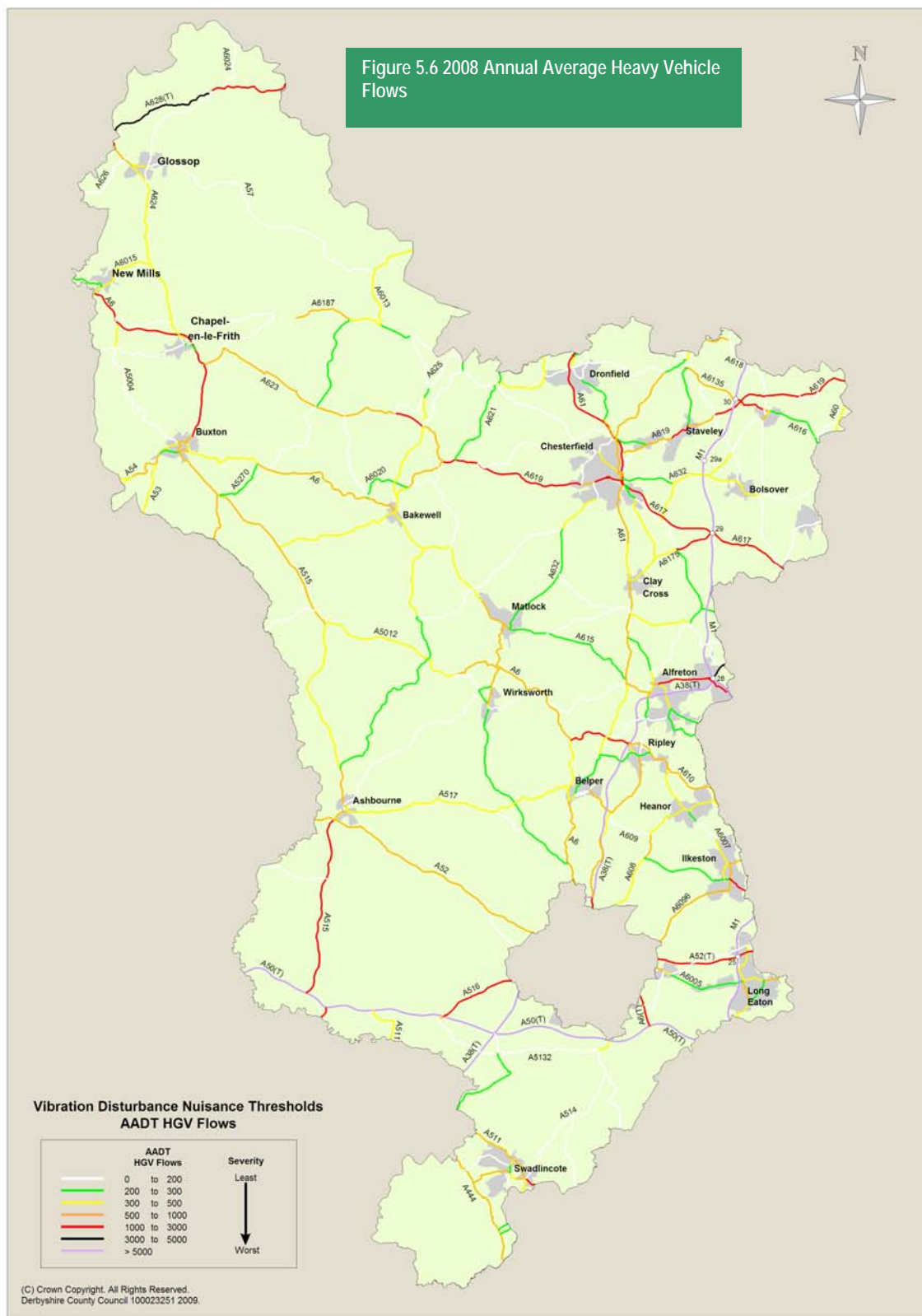
²² www.buildingconservation.com H text extracted from article on atmospheric pollution and historic buildings.

²³ www.air-quality.org.uk H text extracted from article on Impacts of Acid Rain on Buildings

²⁴ Transport Research Laboratory, Watts, 1990

²⁵ DMRB Volume 11 Section 3 Part 7 Traffic Noise and Vibration 1994

²⁶ Transport Research Laboratory Report 235: Traffic Calming – Vehicle Generated Ground-Borne Vibration Alongside Speed Control Cushions and Road Humps



Salt pollution

- 5.2.38 Salting of roads during the winter can also contribute to the deterioration of historic features either from corrosion of metals or damage to stone surfaces by entering pores in surfaces and causing damage when they crystallise²⁷. We are not aware of any evidence to particular historic features that are being significantly affected by salt pollution. Therefore we are suggesting that this issue is scoped out.

²⁷ www.buildingconservation.com article on atmospheric pollution and historic buildings.

Scheduled Monuments being damaged by off-road vehicles in the Countryside

- 5.2.39 We have examined landscape damage in relation to motorised vehicles in the countryside in Chapter 3 in relation to landscapes and townscapes. This identified that scheduled ancient monuments are at risk from off-road vehicles. Damage is likely to be confined localised sites rather than being a significant issue. We are currently aware of two sites where damage is observed; Pindale Quarry, near Castleton is being damaged by off-road vehicles leaving the track and damaging lead side veins; a barrow at Great Longstone is also being damaged by off-road vehicles.

Summary of damage to historic environments

- 5.2.40 We do not have comprehensive collision damage information because many incidents go unreported. From anecdotal evidence it seems that as a whole it is not a significant issue. However, perhaps the most important historic transport feature in the County, Swarkestone Bridge and Causeway, is currently subject to regular occurrence of damage. It is therefore considered that a key issue to take forward should be examination of damage to this structure and consider opportunities for prevention.
- 5.2.41 There is no evidence to suggest that transport-related air pollution is significantly impacting upon historic landscapes or townscapes and we suggest that this is scoped out.
- 5.2.42 There is no evidence to suggest that transport-related vibration is significantly damaging historic buildings and structures. Vibration is still a concern to residents. As a strategic issue we suggest vibration is scoped out.

5.3 Stage A3: Environmental Problems and Opportunities

- 5.3.1 In this section we summarise the key issues or challenges for LTP3 that we have identified through the SEA stages A1 and A2, which have identified the key messages of policy and an assessment of the environmental baseline. In this section we also identify the key opportunities for LTP3.

Issues/ Challenges	Implication/ Opportunity for LTP3
Visual intrusion by transport infrastructure	LTP3 should seek to reduce the impact of transport infrastructure on historic landscapes and townscapes.
Material usage and poor design can lead to visual intrusion of transport infrastructure	LTP3 should seek to ensure good design, use specialist advisors and use appropriate materials.
Collision damage to Swarkestone Bridge and Causeway	LTP3 should seek to protect Swarkestone Bridge and Causeway from traffic damage.
Localised damage from use of motorised vehicles in the countryside	LTP3 should aim to protect the historic landscape from use of motorised vehicles in the countryside

5.4 Stage A4: Developing SEA Objectives

- 5.4.1 Emerging SEA objectives for cultural heritage are as follows:

SEA 3 Protect and enhance the county's historic landscape and areas of high townscape value

SEA 4 Avoid damage to designated and/or protected heritage and historical sites

SEA 9 Prevent damage to the landscape due to increases in recreational walking and cycling, motorcycling etc.