Derbyshire and Derby Minerals Local Plan

Strategic Transport Assessment (Stage 1)

FINAL

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Quality information

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Revision History

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1. Introduction

1.1 Overview

1.1.1 Planning authorities are required to prepare Development Plans which guide the future development of an area, and which form the starting point for decision making on planning applications. Proposed development that accords with an-up-to-date plan should be approved and proposed development that conflicts should be refused unless other material considerations indicate otherwise.

1.1.2 The current Derby and Derbyshire Minerals Local Plan is out of date and work is ongoing to prepare a replacement plan. The new plan will be known as the Derbyshire and Derby Minerals Local Plan and will cover the period to 2038. It will cover the geographical county of Derbyshire apart from that part lying within the Peak District National Park. It will set out how much mineral is likely to be needed, set out site specific allocations to meet identified needs, and provide a range of planning policies against which future planning applications for minerals development will be assessed.

1.1.3 Derbyshire County Council (DCC) and Derby City Council (DCiC) are the minerals planning authorities for their respective areas, with DCiC, as a Unitary Authority, also having responsibility for all other types of development. As such, DCC and DCiC could produce two separate Minerals Plans; however, there is recognition that minerals (and waste) planning issues often affect larger than local areas and can best be planned for at a wider than local level. In addition, one of the key changes to the planning system under the 2011 Localism Act has been the introduction of the 'duty to co-operate', which seeks to enhance the way planning authorities work together to consider preparing joint plans. This, plus the successful preparation and adoption of the current Minerals Local Plan, has resulted in the agreement to jointly prepare the new Derbyshire and Derby Minerals Local Plan.

1.1.4 It is noted that a separate planning process applies in the Peak District National Park, with the Peak District National Park Authority responsible for planning matters within the National Park. Therefore, this report excludes consideration of sites within the PDNP (except for consideration of traffic that may route into Derbyshire and Derby from these sites in terms of cumulative impacts).

1.2 Location of Minerals Sites in Derby & Derbyshire

1.2.1 Derbyshire is one of the Country's leading producers of minerals and contains several important mineral resources. The most significant mineral worked is limestone which accounts for 90% of annual mineral production from the Plan area, the next is sand and gravel accounting for the remaining 9%. Minerals currently extracted in smaller quantities include sandstone and brick clay which account for less than 1% of the total plan area's annual production. Other minerals that have been worked in the recent past include coal, oil and gas and vein minerals (fluorspar and barytes).

1.2.2 A particular feature of the Plan area is the overall scale of crushed rock permitted reserves which are anticipated to meet overall anticipated needs to the end of the Plan period. These reserves are located at some 12 operational Carboniferous limestone / sandstone quarries which are responsible for providing some 82% of annual mineral production and which effectively set the overall spatial pattern of development over the Plan period. Only one operational quarry is located on the Permian Limestone. Sand and gravel is currently supplied from three quarries located in the Trent Valley and one quarry on the Sherwood Sandstones; additional reserves will be required to meet anticipated needs over the Plan period.

1.2.3 The existing minerals sites located within the Plan area are shown in Figure 1.1 and are as follows:

- AD – Ashwood Dale;
- BE – Ball Eye Quarry (non-operational);
- BM – Bolsover Moor (non-operational);
- BO – Bone Mill;
- BR – Brassington Moor;
- BL – Brierlow;
- DE – Dene;
- DH – Dove Holes;
- DO – Dowlow;
- DK – Dukes Quarry;
- EV – Elvaston (non-operational);
- GM – Grange Mill;
- HA – Hall Dale (non-operational);
- HD – Hayfield;
- HI – Hillhead;
- HL – Hindlow;
- ME – Mercaston;
- MO – Moorhay Farm;
- MW – Mouselow;
- SH – Shardlow;
- SB – Shirebrook;
- SL – Slinter Top;
- SW – Swarkestone;
- TU – Tunstead;
- WG – Waingroves;
- WH – Whitwell;
- WN – Willington;

1.2.4 Figure 1.1 also shows the potential new minerals sites to be identified in the replacement Derbyshire and Derby Minerals Local Plan, which are:

- BR - Brassington Moor / Aldwark South (Extension to existing site)
- SW - Swarkestone South (Extension to existing Swarkestone Site)
- SN - Swarkestone North (extension to existing Swarkestone Site to follow on after Swarkestone South)

- EV - Elvaston (Extension to existing site)
- FO – Foston (New site, replaces Shardlow)
- SD – Sudbury (New site, replaces Willington)

1.2.5 It should be noted that some of the proposed minerals sites are at existing minerals sites (i.e. extensions to the existing site). Existing sites also identified as proposed minerals site are therefore located in Figure 1.1.

1.2.6 Figure 1.2 shows the mineral resources available within Derbyshire and Derby City (provided by DCC) and shows these in context of the existing minerals sites.

Figure 1.1: Location of existing and proposed Derbyshire / Derby Minerals Sites

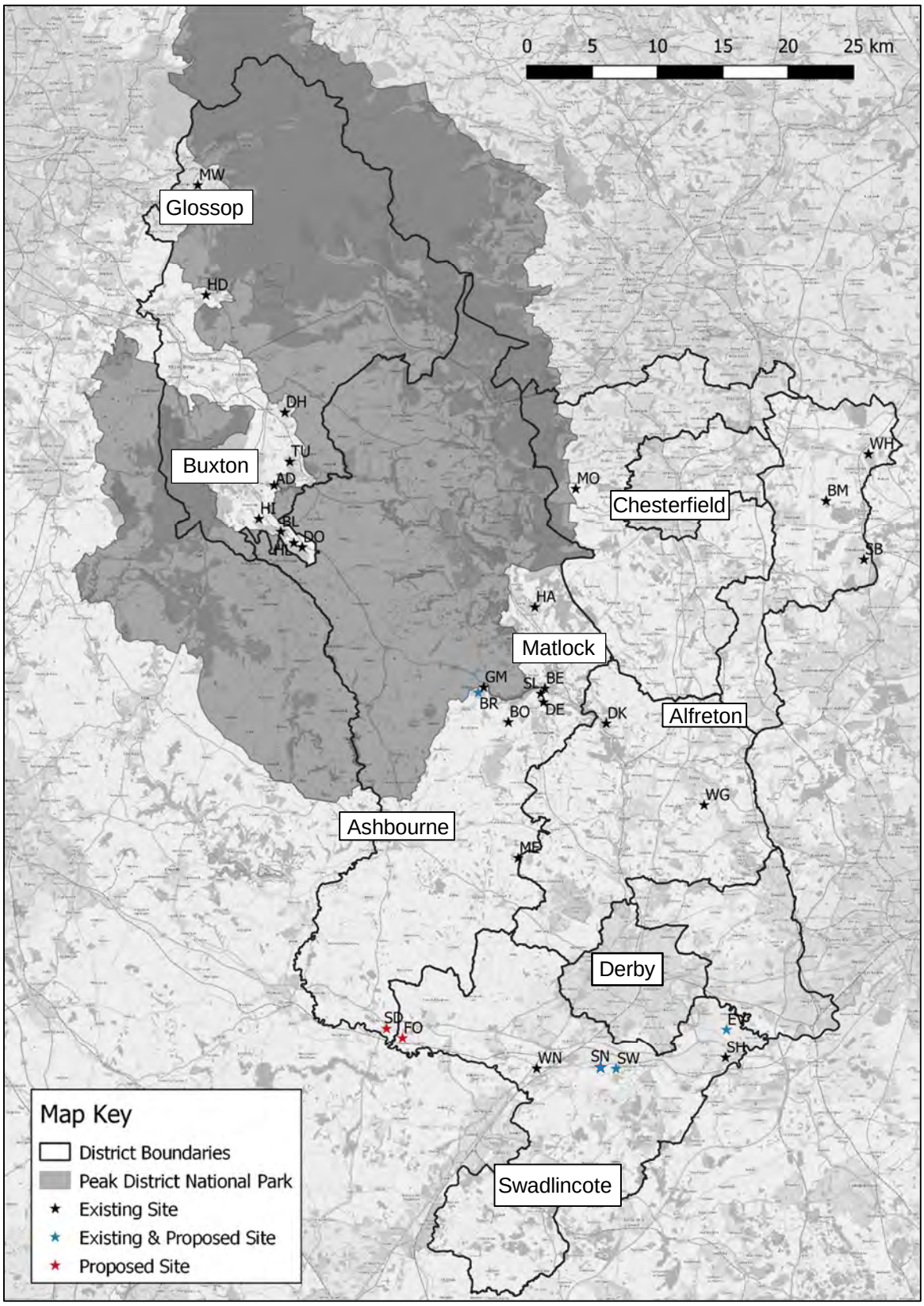
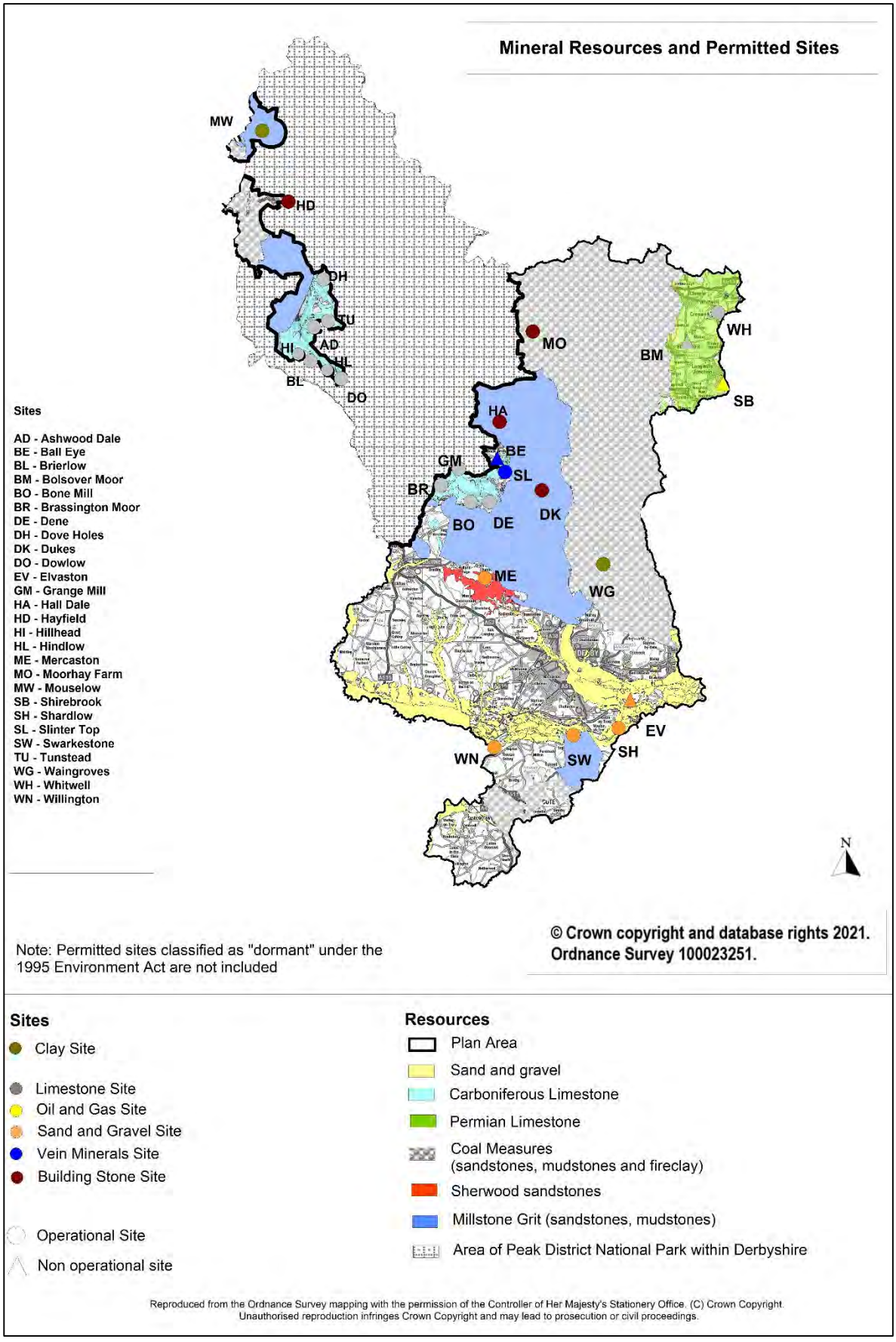


Figure 1.2: Mineral resource locations



1.3 Purpose of this Report

1.3.1 AECOM has been commissioned by DCC (on behalf of both DCC and DCiC) to conduct a Strategic Transport Assessment (STA) as part of the evidence base to support the development of their emerging Derbyshire and Derby Minerals Local Plan.

1.3.2 The purpose of the STA is to:

- provide evidence to support the development of policies and proposals in the Derbyshire and Derby Minerals Local Plan; and
- assess the impact of the plan's policies and proposals on the transport network.

1.3.3 The STA will comprise two stages:

- Stage One (i.e. this report) – Baseline evaluation (to understand the existing highway context in Derbyshire and near existing and proposed sites); and
- Stage Two – Assessment of the proposed draft plan's policies upon the strategic transport network, including cumulative assessment.

1.3.4 The report comprises the analysis relating to **Stage One** only.

1.4 Structure of Report

1.4.1 This report is arranged such that:

- **Section 2** sets out the prevailing national and local policy context;
- **Section 3** identifies a methodology through which this STA has been prepared;
- **Section 4** describes the baseline transport conditions within Derbyshire;
- **Section 5** considers the transport conditions around the existing minerals sites;
- **Section 6** considers the potential transport conditions around the proposed minerals sites;
- **Section 7** presents a summary and describes next steps (Stage 2).

2. Policy Context

2.1 Overview

2.1.1 The purpose of this section is to identify the transport-related planning policy context within which the Derbyshire and Derby Minerals Local Plan is being prepared. As part of this, the following documents have been reviewed:

- National Planning Policy Framework (NPPF);
- Planning Policy Guidance (PPG);
- Derbyshire Local Transport Plan 3 (DCC LTP3);
- Derbyshire Highway Network Management Plan (HNMP);
- Derby City Local Transport Plan 3 (DCiC LTP); and
- District Local Development Plans.

2.2 National Planning Policy Framework: NPPF (2021)

2.2.1 The NPPF sets out the Government's planning policies for England and provides a framework to develop localised planning strategies. The purpose of the planning system is to contribute to the achievement of sustainable development. In order to deliver sustainable development, the NPPF identifies three objectives which need to be achieved.

- an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
- a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
- an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

2.2.2 With regard to transport, the document focuses on, and emphasises, the promotion of sustainable transport. The NPPF (at section 9, Paragraph 110), states that plans and decisions should take account of whether:

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.2.3 Paragraph 111 states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

2.2.4 NPPF also notes that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to "accommodate the efficient delivery of goods." (Paragraph 112)

2.2.5 Specifically, in terms of minerals, the NPPF (at paragraph 209) states that:

"It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation".

2.2.6 The NPPF also states (at paragraph 210) that planning policies should:

e) safeguard existing, planned and potential sites for: the bulk transport, handling and processing of minerals; the manufacture of concrete and concrete products; and the handling, processing and distribution of substitute, recycled and secondary aggregate material;

f) set out criteria or requirements to ensure that permitted and proposed operations do not have unacceptable adverse impacts on the natural and historic environment or human health, taking into account the cumulative effects of multiple impacts from individual sites and/or a number of sites in a locality;

2.3 Planning Policy Guidance: PPG

2.3.1 The PPG sets out the government's planning policies for England and how these are expected to be applied. The section of the PPG regarding minerals provides guidance on the planning for minerals extraction in plan making and the application process. The PPG states that minerals *"make an essential contribution to the country's prosperity and quality of life"*.

2.3.2 Paragraph 017 Reference ID: 27-017-20140306 states:

"Some parts of a mineral planning authority area may have been subjected to successive mineral development (such as aggregate extraction or surface coal mining) over a number of years. Mineral planning authorities should include appropriate policies in their minerals local plan, where appropriate, to ensure that the cumulative impact of a proposed mineral development on the community and the environment will be acceptable. The cumulative impact of mineral development is also capable of being a material consideration when determining individual planning applications."

2.3.3 The PPG also states at Paragraph: 009 Reference ID: 42-009-20140306 that

"local planning authorities must make a judgement as to whether a development proposal would generate significant amounts of movement on a case by case basis (i.e. significance may be a lower threshold where road capacity is already stretched or a higher threshold for a development in an area of high public transport accessibility)."

2.3.4 In respect of the above, there is no national guidance on the assessment of minerals sites in transport terms. Notwithstanding this, PPG Transport evidences in local plan making

Paragraph: 003 Reference ID: 54-003-20141010 sets out what key issues should be considered in developing a transport evidence base to support the local plan. These include the need to:

- assess the existing situation and likely generation of trips over time by all modes and the impact on the locality in economic, social and environmental terms;
- assess the opportunities to support a pattern of development that, where reasonable to do so, facilitates the use of sustainable modes of transport;
- highlight and promote opportunities to reduce the need for travel where appropriate;
- identify opportunities to prioritise the use of alternative modes in both existing and new development locations if appropriate;
- consider the cumulative impacts of existing and proposed development on transport networks;
- assess the quality and capacity of transport infrastructure and its ability to meet forecast demands; and
- identify the short, medium and long-term transport proposals across all modes.

2.3.5 The PPG notes that "the outcome could include assessing where alternative allocations or mitigation measures would improve the sustainability, viability and deliverability of proposed land allocations (including individual sites) provided these are compliant with national policy as a whole."

2.4 Derbyshire Local Transport Plan 3 (2011)

2.4.1 The current Derbyshire Local Transport Plan (LTP3) produced by DCC covers the period between 2011 and 2026.

2.4.2 The overall strategic transport goals for Derbyshire are to:

- Support a resilient local economy;
- Tackle climate change;
- Contribute to better safety, security and health;
- Promote equality of opportunity; and
- Improve quality of life and promoting a healthy natural environment.

2.4.3 Referring to Minerals, the LTP3 states:

"Derbyshire provides a significant proportion of some of the minerals used in the UK. Minerals are a finite resource and are only available in a limited number of locations, often coinciding with some of our most attractive landscapes. The exploitation of mineral reserves is unlike other forms of development in that it can only take place where the mineral occurs and can result in adverse social and environmental impacts. The extraction and transportation of minerals also have the potential to give rise to environmental pollution, affecting the amenity of local residents. Mineral extraction can, however, also lead to benefits, for example, through the enhanced restoration of sites, which may, for example, assist biodiversity and facilitate recreational after-uses."

2.4.4 It is understood that the DCC Local Transport Plan is also in the process of being revised and updated. This update is likely to place greater importance on issues such as climate and carbon.

2.5 Derbyshire Highway Network Management Plan (2020)

2.5.1 The objective of the highway Network Management Plan (HNMP) is to deliver optimum transportation services for highway users in Derbyshire. In keeping with the HNMP, it is stated that all new site accesses should be subject to a 3-stage Road Safety Audit by DCC.

2.6 Derby City Local Transport Plan 3 (2011)

2.6.1 DCiC's third LTP covers the 15 years from April 2011 to March 2026. The aim of the LTP is to "provide people living and travelling within Derby with viable travel choices and effective and sustainable transport networks."

2.6.2 The overall strategic transport goals for Derby are to:

- support growth and economic competitiveness, by delivering reliable and efficient transport networks
- contribute to tackling climate change by developing and promoting low-carbon travel choices
- contribute to better safety, security and health for all people in Derby by improving road safety, improving security on transport networks and promoting active travel
- provide and promote greater choice and equality of opportunity for all through the delivery and promotion of accessible walking, cycling and public transport networks, whilst maintaining appropriate access for car users
- improve the quality of life for all people living, working in or visiting Derby by promoting investment in transport that enhances the urban and natural environment and sense of place

2.6.3 There are no specific references to minerals in the Derby LTP, and references to freight are mainly in relation to manufacturing industries. However, key issues relate to the use of appropriate routes for freight and network safety.

2.7 Local Development Plans

2.7.1 DCiC is a Unitary Authority, and also prepares a local plan covering non mineral and non-waste matters. Similarly, there are eight lower tier district / borough councils within the Plan area which consider non mineral and non waste planning matters:

- Amber Valley Borough Council;
- Bolsover District Council;
- Chesterfield Borough Council;
- Derbyshire Dales District Council;
- Erewash Borough Council;
- High Peak Borough Council;
- North East Derbyshire District Council; and
- South Derbyshire District Council.

2.7.2 Non Minerals policies regarding development traffic and transport at a district / borough level relate principally to sustainability (maximising access by pedestrians, cyclists and public transport), safety and minimising the environmental impact of traffic. The latter two aspects

are most important to minerals sites (since access by non-car modes is less important given the location of sites outside of urban areas).

3. Methodology

3.1 Overview

3.1.1 The purpose of this section is to set out the methodology and assessment criteria used to examine the existing and proposed mineral sites in terms of strategic transport matters.

3.2 Available Guidance Documents

3.2.1 Planning applications supporting a minerals development will often include a Transport Assessment (TA) as part of the submission package. There is no longer any nationally recognised guidance on how to prepare a TA, and no specific guidance available on the preparation of a TA supporting a minerals development. Notwithstanding this, most local highway authorities continue to use (withdrawn) *Guidance on Transport Assessment* (GTA) document produced by the Department for Transport's (DfT). Furthermore, advice on the design of suitable access to / from developments of varying types are provided in the *Manual for Streets* (2007 & 2010), *Delivering Streets and Places* (2017, which is a local highway authority design guide approved by DCC and DCiC) and the *Design Manual for Roads and Bridges* (DMRB).

3.2.2 It is important to note, however, that the GTA focuses on matters of access to (general) development by sustainable modes (e.g. walking and cycling routes to housing estates, employment areas etc.) and the measurement of highway capacity. These issues are of lesser importance to minerals sites since quarries are normally located well outside urban centres where opportunities for sustainable movement are not well developed, operational life can be relatively short, and total Heavy Goods Vehicle (HGV) numbers small (when compared with hourly movements generated by other development types). As such, the key issues raised during public consultation of such schemes mainly focus on those described in the Institute for Environmental Assessment (IEA) *Guidelines for the Environmental Assessment of Road Traffic* (GEART, 1993). The impacts considered by the GEART Guidelines include; noise, vibration, visual effects, severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation, accidents and safety, hazardous loads, air pollution, dust and dirt, ecological effects, and impact on heritage and conservation areas.

3.3 Key Transport Assessment Criteria

3.3.1 Each of the sites considered in this report have their own specific characteristics; however, in order assess the impact of existing and proposed new sites at a strategic level a matrix has been developed. This matrix has been informed by the policy requirements identified in Section 2 and the guidance documents described in Section 3.2.

3.3.2 Five key transport assessment criteria which influence the impact of mineral sites on the transport network have been identified for use within the matrix:

- Type of site (i.e. whether the site is established, forms an extension to an existing site, or would be a new facility);
- Access (i.e. whether the site has an existing access, and to what extent this complies with modern highway standards);
- Export Mode (i.e. if there is potential to export by rail or canal, which are generally taken to be more sustainable than export by HGV in terms of the carbon emissions associated with transport, and would result in less impacts on society);
- Export Route (i.e. the proximity of the site to the strategic highway network, and the quality of any connecting routes to / from the strategic network); and

- Sensitive Receptors (i.e. the presence of any development alongside routes connecting to the strategic highway network, which may be sensitive to the introduction of HGV traffic).

3.3.3 Additionally, the duration of site operation has been considered. This criterion is documented separately because the duration of site operations does not act as an impact; rather it acts to magnify the other areas of concern. For example, a site which is otherwise in a good location will not necessarily produce negative impacts for being a long term operation. Conversely a site in a poor location will already score poorly and this would be magnified if the site was a long term operation, or somewhat mitigated if it was of a very short duration.

3.3.4 The above criteria have been defined and identified by AECOM for the purposes of writing this report. They are based on our experience in supporting the development of minerals schemes, and relate to the key issues generally raised by highways development control when considering such schemes.

3.3.5 Employee movements to / from the sites have not been specifically assessed within this report. This is because the key issues relating to minerals sites are normally HGV movements and overall staff numbers are usually small. Also, the operating hours of minerals sites normally mean that staff trips occur outside of network peak hours. Where sites are noted to be extension of existing sites, employee movements are not anticipated to change.

3.3.6 Notwithstanding the above, at the planning application stage, a detailed assessment of each proposal would still be required in the form of a formal TA. As a result of the detailed assessment there may be a requirement for a certain level of highway mitigation, the impacts of possible mitigation is not included within the assessment criteria (i.e. the preparation of this STA does not negate the requirement for individual TAs to be prepared to support planning applications).

3.3.7 The assessment matrix used in this report is provided in full overleaf, and this adopts a simple Red-Amber-Green (RAG) score based around the criteria set out in the table, with green being low potential impacts and red being high potential impacts.

Table 3.1: Assessment Matrix

Assessment Criteria	Score	Score Descriptions
Type of Site	Low	• Existing (or extension of existing) site with established access arrangements and/or established routing agreements.
	Medium	• Potential new site in area with history of quarrying and whose local road network accommodates other sources of HGV traffic.
	High	• Potential new site in an area with no history of quarrying and whose local road network does not accommodate HGV traffic.
Access	Low	• Existing approved access to highway standards. • No existing access, but access design has planning approval.
	Medium	• Existing approved access not to highway standard but no pattern of existing collisions or congestion at access location. • No existing access, and subject to agreement with local highway authority which is likely to be accepted.
	High	• Existing approved access not to highway standard and / or two-way HGV movements not possible and/or observed pattern of existing collisions or congestion at access location. • No existing access, and subject to agreement with local highway authority which is not likely to be acceptable.
Export Mode	Low	• All (or majority) of materials would be exported by rail or canal.
	Medium	• 50% or over transported by rail.
	High	• All material exported by road.
Export Route (Vehicular)	Low	• Direct onto primary highway network (i.e. 'A' class road) or a road that is a designated freight route. • No geometric limitations to HGV movements.
	Medium	• Onto 'B' Class road with short haul to local strategic network. • No geometric limitations to HGV movements. • Maintenance issues caused by HGV wear addressed through operator agreements.
	High	• Onto minor roads which are too narrow for two-way HGV, or via junctions which cannot geometrically accommodate HGV flows.
Sensitive Receptors	Low	• No properties between the site and the start of the local strategic network ('A' class road or designated freight route).
	Medium	• A few properties between the site and the start of the local strategic network ('A' class road or designated freight route). • Properties set back from the edge of the carriageway.
	High	• Large number of residential or other sensitive receptors on the roads linking the site to the strategic highway network. • Properties close to the carriageway edge. • Lack of footpath provision.
Expected duration of operation (Scaling Factor)	Low	• Short duration site: 1 to 5 years.
	Medium	• Medium duration site: 5 – 10 years.
	High	• Long duration site: 10+ years.

4. Baseline Transport Conditions

4.1 Overview

4.1.1 This section provides a county-wide overview of the condition of existing transport assets, including road, rail and waterway. It considers matters of congestion, HGV restrictions, HGV accident data, air quality management areas, Clean Air Zones and noise action plans.

4.1.2 The impact for each individual minerals site will be considered in more detail within Section 5.

4.2 Highway Network and Conditions

4.2.1 **Road Network:** Figure 4.1 shows the road network within Derbyshire and Derby City, and the locations of minerals sites. Only the most important routes are shown on this figure, with minor roads excluded.

4.2.2 The Plan area is located centrally within England and has a good strategic road network which provides important links to the large neighbouring conurbations and other areas of the country.

4.2.3 Major routes include the M1 (to the east of the county), the A61 (connecting Derby to Thirsk via Alfreton, Clay Cross, Chesterfield and Dronfield), the A38 (connecting Bodmin to Mansfield via Derby, Little Eaton, Belper and Alfreton), the A6 (connecting Luton to Carlisle via Loughborough, Derby, Matlock, Bakewell and Buxton), the A52 (connecting Stoke-on-Trent to Mablethorpe via Ashbourne, Derby and Nottingham), and the A50 (connecting Warrington and Leicester via Derby).

4.2.4 The following routes are part of the Highways England Strategic Road Network (SRN):

- M1 Motorway;
- The A50;
- The A38;
- The A628 (north of Glossop); and
- The A52.

4.2.5 The location of the minerals site relative to the SRN is shown in Figure 4.2. The figure shows that minerals sites located to the south and east of the County have good access to the SRN. Minerals sites located in the in the centre and west of the County have more limited access to the SRN.

4.2.6 Figure 4.3 presents the Major Road Network (MRN) within Derbyshire and Derby City, whilst Figure 4.4 shows the Derbyshire Resilient Network. The MRN is the next tier of roads below the SRN and comprises strategic roads that are vital for the county's economic growth. The Resilient Network shows roads that are given priority to protecting in adverse conditions (e.g. snow, ice, and flooding).

4.2.7 Section 5 considers the connectivity of each site to the highway network in greater detail.

Figure 4.1: Map of Derbyshire and Derby City road network

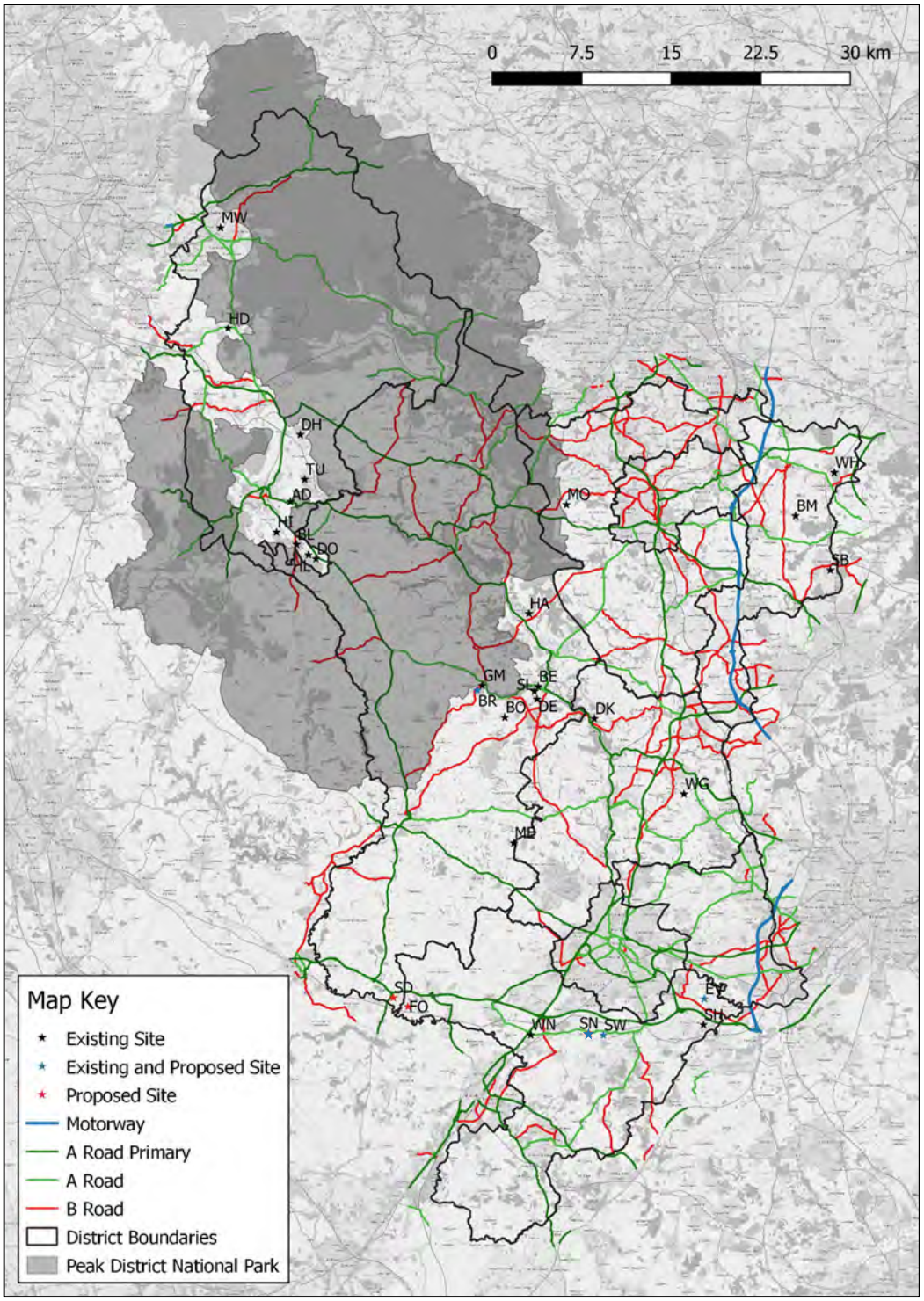


Figure 4.2: Highways England Strategic Road Network

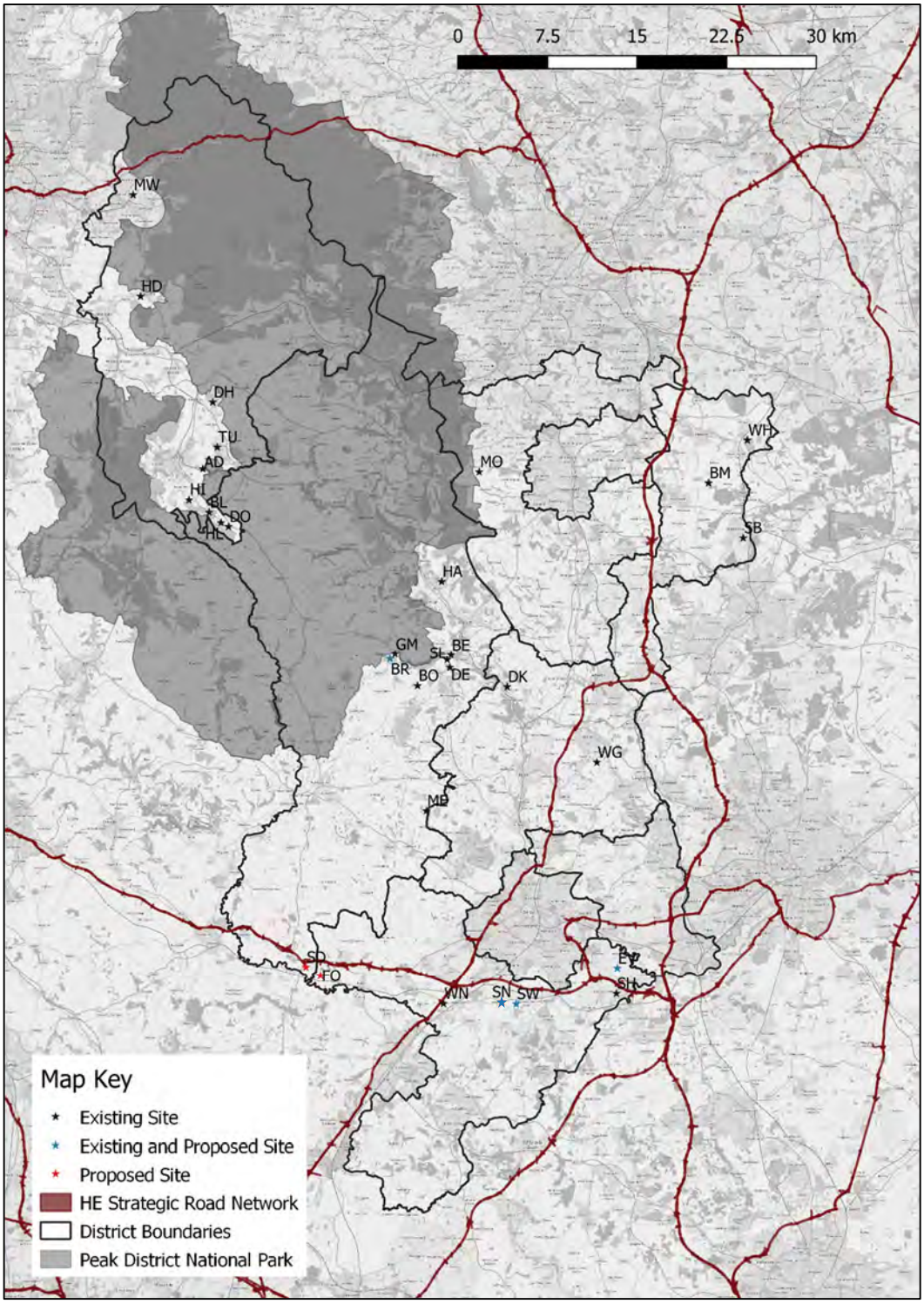


Figure 4.3: Major Road Network (MRN)

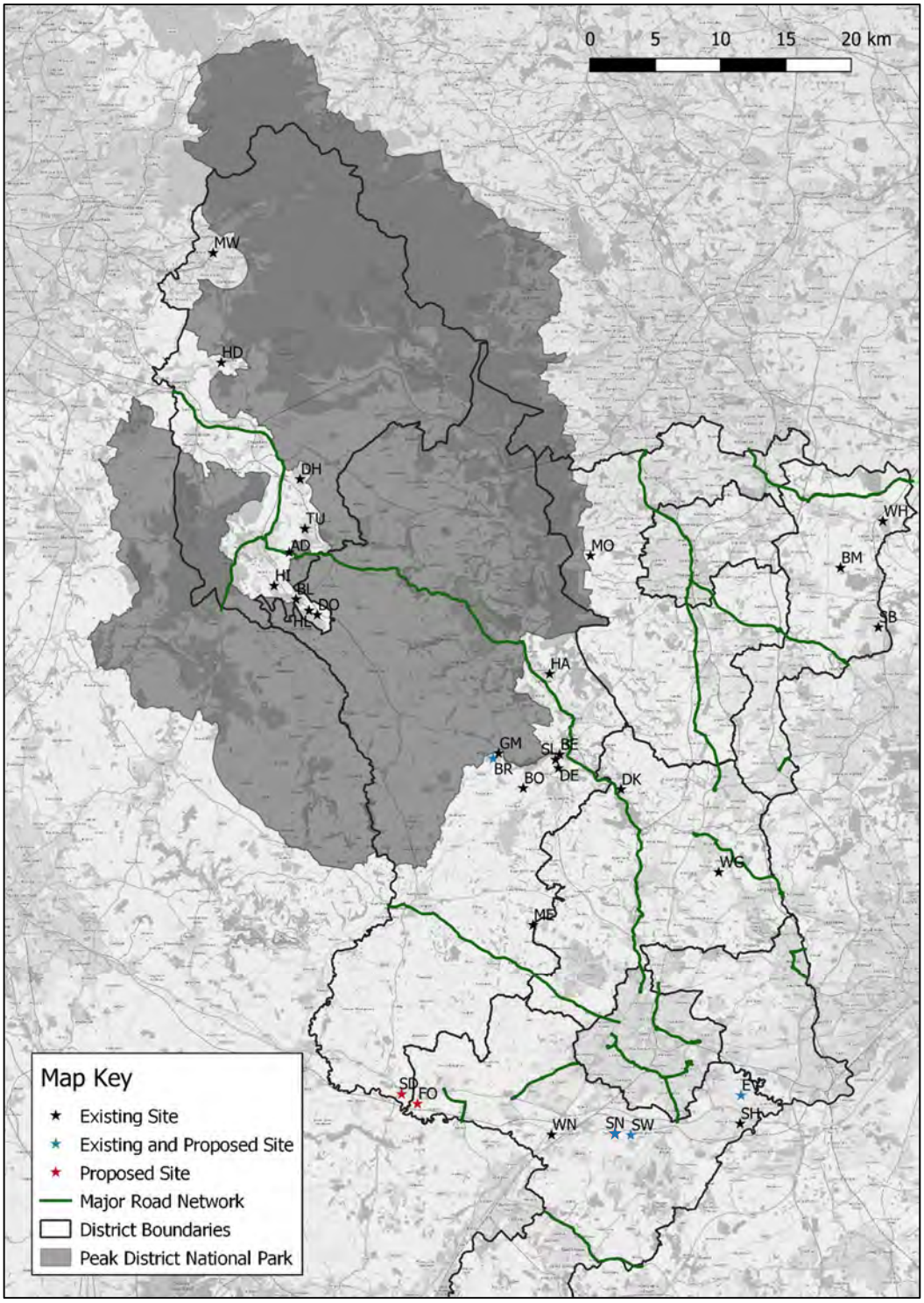
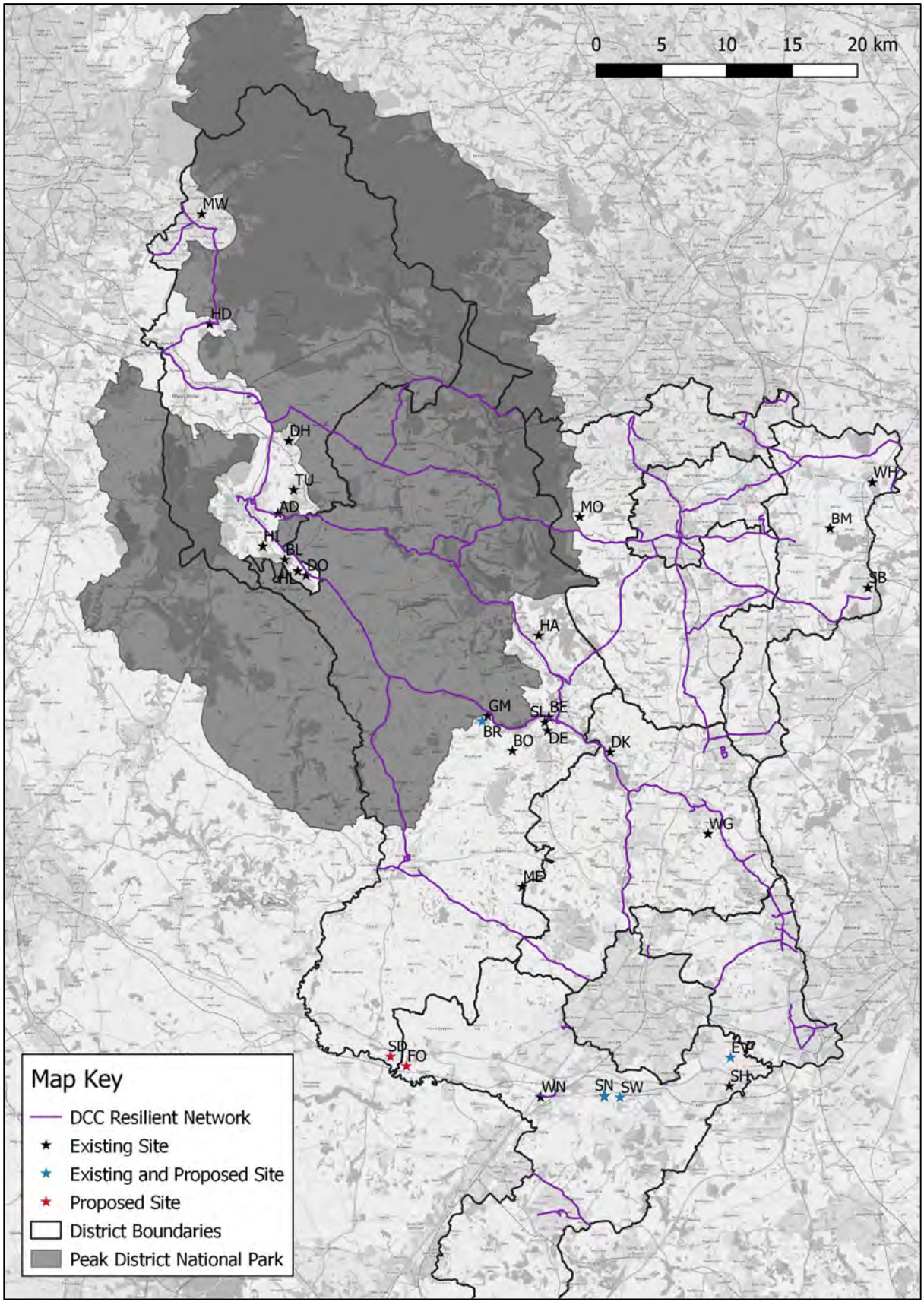
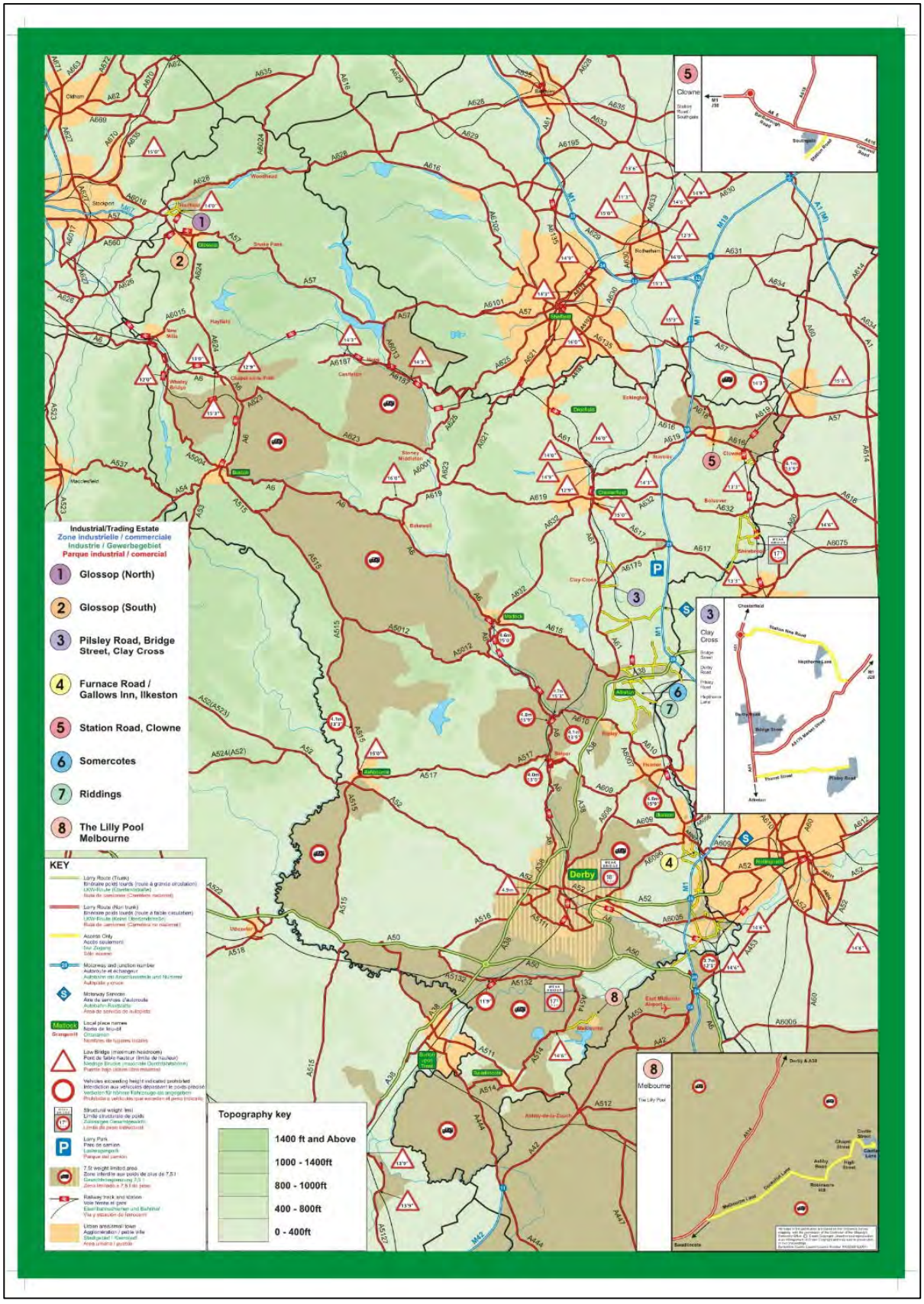


Figure 4.4: Derbyshire Resilient Network



4.2.8 **Freight Routeing Restrictions:** Work has already been conducted by DCC and DCiC to identify those routes which are most suitable for freight / HGV traffic. Figure 4.5 shows an extract from the Derbyshire and Derby Advisory Lorry Route Map (published 2005).

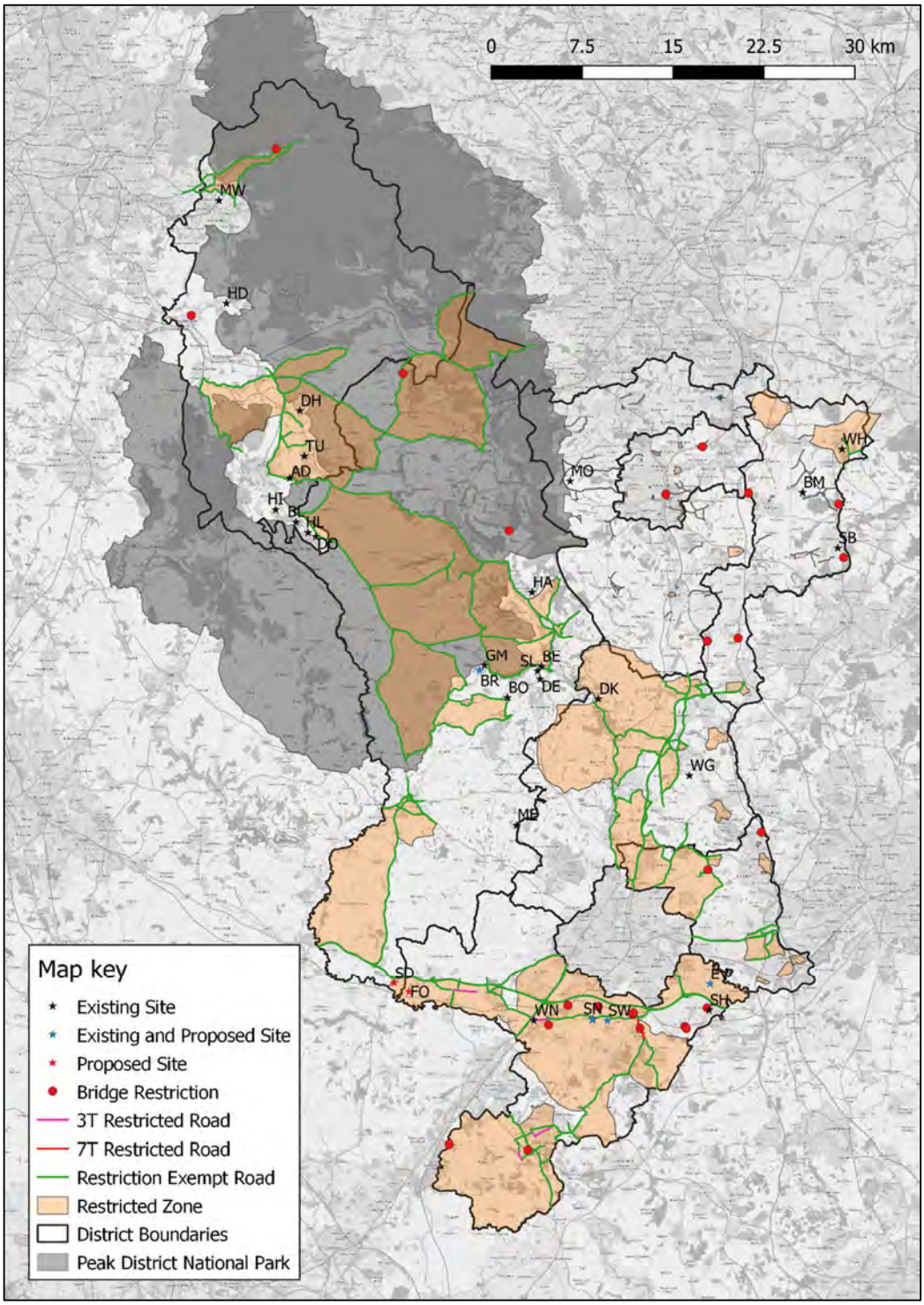
Figure 4.5: Derbyshire and Derby Advisory Lorry Route Map



4.2.9 The figure shows that there are several established HGV approved freight routes, comprising a mix of motorway, primary A roads and A roads. Also shown within the above figure are a number of features which could limit the use of routes by HGVs, such as low bridges and weight restrictions.

4.2.10 Figure 4.6 (for Derbyshire) and Figure 4.7 (for Derby City) presents the latest dataset of HGV restrictions made available by DCC and DCiC, respectively. The Figures show some differences in HGV restrictions compared to the 2005 Advisory Lorry Route Map (Figure 4.5).

Figure 4.6: Existing HGV restrictions currently in place in Derbyshire



Continues in Part 2