High Peak Borough Council

Minerals & Aggregate Extraction in High Peak & Derbyshire Dales

A Sector Benefits Study

Draft Report

July 2017

Joseph's Well, Hanover Walk, Leeds LS3 1AB t: 0113 245 2200 f: 0113 245 0110 www.genecon.co.uk

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Final Report

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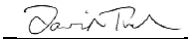
Reviewed and approved by:	
Signature(s):	
Name(s):	David Tuck
Job Title(s):	Managing Director
Date:	July 2017

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1 Introduction

1.1 Study Overview

Minerals extraction in High Peak and Derbyshire Dales – a National Asset

This report considers the economic and wider benefits of the Minerals and Aggregates Extraction sector in the High Peak and Derbyshire Dales districts. The presence of an abundant carboniferous limestone resource underlying the Peak District area has meant that there has been a long history of quarrying and extraction activities and today, there are 21 active quarry sites across the two districts and collectively 14.8m tonnes of aggregate and non-aggregate resources were extracted during 2015, contributing around 7% towards the UK's total supply each year.

Around 90% of the 14.8mt of aggregates extracted from High Peak and Derbyshire Dales annually is limestone and sandstone resource. High transportation costs alongside continuing strong levels of demand for bulk aggregates from the construction/housebuilding sector, means that there is an ongoing need for domestic supply and the reserves underlying High Peak and Derbyshire Dales are therefore considered to be a nationally important asset.

Looking forward, research carried out to inform the production of the Derbyshire Minerals Local Plan (to 2030) has identified ample future reserve going into the future and the active quarry sites in the area will therefore continue to play a significant role in underpinning UK construction activities and development projects for decades to come.

The Economic Impact Assessment approach

This study seeks to consider the economic benefits of the sector, at present and over the longer-term to 2040, including throughout the duration of the Derbyshire Aggregates Local Plan period (to 2030). It is supported by a bespoke economic benefit model, which considers the levels of future aggregate supply from each district, the sales values achieved and the levels of future industry turnover.

The model also considers the gross and net additional Full-Time Equivalent (FTE) employment effects of the quarrying and mining sector on national, regional, sub-regional (LEP areas) and local labour markets and this focusses on both the direct FTE jobs within the sector and those FTE jobs supported indirectly within the sectors extensive upstream and downstream supply chains. The modelling also considers the induced FTE employment effects within the wider labour market arising from the wage-spending of both direct and indirect FTEs.

The contribution of the sector towards the economy is also considered within the modelling, through an assessment of employment-related Gross Value Added (GVA) achieved by current and future mining and quarrying activities in the two districts – GVA is a leading measure of productivity.

Alongside the quantified assessment of economic impacts, the assessment also considers the wider benefits of the sector and provides an assessment of the current opportunities and future known challenges. This has been informed by a secondary desk-based review of relevant industry body evidence and through consultation with the sector.

The Economic Impact Assessment is consistent with the principles outlined in HM Treasury Green Book Guidelines for economic appraisal and evaluation (2009).

HP&DD Minerals are a nationally significant resource. 14.8mt extracted in 2015, 7% of UK supply with ample future reserves identified.

High value vein minerals and 'non-aggregate' industrial minerals complement a bulk supply of limestone and sandstone resource.

HP&DD minerals are a key feedstock for major capital development projects, supporting jobs and growth across England's Midland and Northern regions.

Potential business rate returns to HP&DD District Councils in the order of £5.5m per year from 2020 onwards.

1,437 net FTE jobs supported by HP&DD extraction activities within the local labour market (two districts), 878 direct jobs filled by local residents and a further 559 jobs supported locally

HP&DD extraction activities support a total of 2,056 FTE jobs nationally, 85% of which (1,740 FTEs) are located in D2N2 and SCR LEP areas.

HP&DD extraction activities will contribute £2.4bn in GVA towards the national economy by 2040, or around £133m in GVA per year. 'Per worker' GVA in the sector is higher than in the manufacturing sector.

HP&DD minerals operator turnover (c.£316m per year) is equivalent to 75% of turnover achieved annually in the visitor economy of the Peak District National Park and its surrounds.

1.2 Key Messages

Strategic Importance

- In 2015, 14.8m tonnes of aggregate resource were extracted from the High Peak and Derbyshire Dales districts (c.11.7mt in High Peak and c.3.0mt in Derbyshire Dales). The presence of **higher value vein minerals and 'non-aggregate' industrial minerals complements the bulk supply of limestone and sandstone resource**.
- Due to high transportation costs, the presence of the sector is a critical determinant for the location of its 'downstream' supply chain. **Around two-thirds of the sector's advanced supply chain is located in either the two districts** or within the wider D2N2 and Sheffield City Region areas and direct extraction activities support higher than average indirect activities within the supply chain.
- Minerals extraction activities in the High Peak and Derbyshire Dales areas is therefore a **resource of national significance**, contributing around 7% towards the national supply of minerals annually. An assessment of the area's 'landbank' has found ample reserves that could provide vital resources for years to come.
- Without the aggregate resource from the two districts, the viability of major capital development projects across the Midlands and Northern regions would be compromised. High transport costs mean that there is an **inherent need for local aggregate resource**.

Economic Contribution

- There are currently **924 direct FTE jobs in the mining and quarrying sector across the two districts and the vast majority of these jobs are filled by HP&DD residents (878 FTE jobs)**. HP&DD mining and quarrying activities

account for 82% of Derbyshire's workforce in the sector and 5.4% of the national jobs in the sector. Interestingly, there are fewer jobs present in the High Peak district (317 Direct FTEs), an area which has significantly higher levels of extraction than Derbyshire Dales (607 direct FTEs). This is probably indicative of two large scale 'super quarry' sites in High Peak, which require fewer workers to extract bulk materials.

- Beyond 'direct' extraction activities, the sector has sizable 'upstream' and 'downstream' supply chains and **a large proportion of the minerals supply chain is located close to quarry sites**. There are currently around 950 businesses operating locally in relevant supply chain sectors. Although a large proportion of these businesses will not be operating exclusively within the minerals supply chain, this nevertheless represents around 1 in 10 of the total business stock in the two districts (8,950 businesses).
- Over the coming years, some internal shifts in the local labour market is expected to arise from current Peak District National Park planning policy. It is considered likely that current policies will result in some displacement of extraction activities from the National Park to areas in the remaining parts of Derbyshire. This is not anticipated to have a significant impact on overall local workforce numbers over the coming years.
- **Minerals extraction activities in High Peak and Derbyshire Dales are estimated to currently support 2,056 FTE jobs nationally**, either directly, or through indirect and induced effects. Of these, it is estimated that **1,740 net FTE jobs (85%) are located within the D2N2 and Sheffield City Region LEP areas and 1,437 net FTE (70%) are located within the two districts** themselves.
- It is estimated that the **local sector contributes around £133m in GVA towards the national economy each year** and average 'per worker' GVA contributions within the mining and quarrying sector in the two districts (£79,849 GVA per FTE job) are higher than equivalent contributions in the manufacturing sector (£51,485 GVA per FTE job).
- The long-term GVA contribution to the local economy from mining and quarry activities in the High Peak and Derbyshire Dales is estimated to be £2.350bn in GVA by 2040, £1.633bn at present value. When including the whole of the sector's supply chain, it is estimated that **mining and quarrying activities in High Peak and Derbyshire Dales will contribute a total of £3.150bn in GVA towards the national economy by 2040, £2.188bn at present value.**
- At £316m per year, the annual estimated turnover achieved by businesses operating in the mining and quarrying sector in the High Peak and Derbyshire Dales areas is equivalent to around three-quarters of the annual turnover achieved in the visitor economy in the Peak District National Park and its surrounding area of influence.
- At current levels, there are **potential Business Rate returns to the two Councils in the order of £5.5m per year from 2020 onwards**, although the levels of locally retained business rates will be subject to a national 'Fair Funding Review'. Business rate contributions are largely determined by 'royalty rates' per tonne extracted.

Major Challenges and Future Success Factors

- **Major capital development and infrastructure projects across the midlands and northern regions of England will continue to be key drivers for product demand** from the minerals sector. Ensuring an ongoing pipeline of major development projects will therefore help to ensure that demand for minerals products remains high.

- The mining and quarrying sector has a matured but ageing workforce **and workforce replacement is anticipated to be an increasing priority for the sector** over the coming decades. Encouraging younger people into the sector is likely to become increasingly important and there is currently an underdeveloped skills infrastructure in place nationally to ensure the supply of workers into the sector.
- Due to the long-term investment commitments made by the sector, **planning certainty is an important consideration in strategic business planning**. Under the current framework, all extraction licences are due to expire by 2042 and setting out a process for a future licencing framework would help with business planning over the longer term. It is also noted that attaining planning consent can be a lengthy and costly process for the operators and that efficiencies within the planning system would help to drive efficiency gains within the sector.
- Investment in **rail infrastructure will help to unlock the market reach of minerals from High Peak and Derbyshire Dales among the larger quarry** sites which are already connected to the rail network. Operators are looking to transport an increasing share of output via rail, but there are known capacity constraints on the network. Rail gauge improvements at Buxton will help to overcome some of the constraints, but a larger issue for the sector is the need for 24 hour operating depots in the larger cities across the UK. The presence of new housing development near to existing depots poses a threat to 24 hour depot operations due to the potential environmental conflicts. Careful planning consideration in the approval of surrounding housing sites should help to mitigate this potential threat to the sector.
- Investment in **overcoming known local road congestion challenges will significantly help the sector to transport bulk minerals efficiently**. The sector has identified three main blockages on the road network, including transport through Buxton and Ashbourne, where new bypasses are seen by the sector as desirable, and on the A6 in Stockport, where the removal of traffic lights are viewed by the sector as a potential solution to easing congestion.

1.3 Report Structure

This Economic Impact Assessment Report is structured as follows:

Section 2 – Provides an overview of the current contribution of the sector towards the wider place dynamics of the two districts and the wider Sheffield City Region (SCR) and Derby, Derbyshire, Nottingham, Nottinghamshire (D2N2) Local Enterprise Partnership (LEP) areas. This section also provides an outline of the current presence of the sector in the two districts and considers the extent of the mining and quarrying sectors upstream and downstream supply chain;

Section 3 – Considers the potential scale of future extraction activities in the two districts and provides an overview of the known planned large-scale developments anticipated to be leading drivers for the future demand for aggregates;

Section 4 – Assesses the economic benefits of the sector in terms of current and future gross and net additional FTE employment and GVA contribution;

Section 5 – Considers the wider industry-related benefits of the mining and quarrying sector, including an assessment of current industry turnover, sales values and wages. This section also considers the future business rate returns to the two district Councils;

Section 6 – Outlines the known challenges and future opportunities for growing the sector in the High Peak and Derbyshire Dales areas; and,

Section 7 – Provides the headline conclusions from the research.

2 The Current Contribution of the Minerals and Aggregates Sector in High Peak and Derbyshire Dales

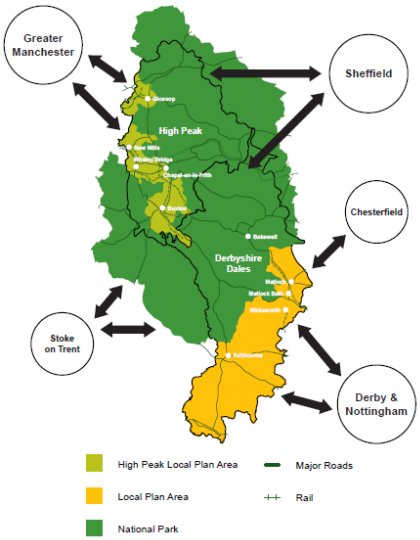
2.1 Place Dynamics in High Peak and Derbyshire Dales

Predominantly rural in character with market towns acting as important employment and service centres, the High Peak and Derbyshire Dales cover 514 square miles. Nearly two thirds of the area is within the Peak District National Park. The upland landscape is one of the area's unique features, creating a sense of place aswell as an opportunity to add value to the area's economy.

A feature of both areas is the proportion of highly skilled residents, working in higher-order jobs that are typically located outside of the two districts. High levels of daily out-commuting connect the local area to surrounding larger conurbations – including Greater Manchester, Sheffield, Nottingham and Derby.

Internally, the current sectoral mix includes high levels of manufacturing and public sector employment, and a distinct specialism in mining and quarrying activities. Whilst both districts have high levels of residents in employment, the internal labour market is currently dominated by lower-wage occupations.

The High Peak, Derbyshire Dales & Peak District National Park



In the case of High Peak, the surrounding National Park constrains development to the extent that commuter flows are generally one way. Settlements in the Derbyshire Dales are considerably smaller, and, whilst the area is home to a number of larger companies, this more rural nature lends itself to higher levels of self-employment and micro-enterprise.

2.2 The High Peak in D2N2

High Peak has a population of around 91,500, 9 in 10 of whom live outside of the Peak District National Park area. There are five Market Towns in the District, the largest of which are Glossop and Buxton. 57,600 residents are of working age (aged 16-64) and around 47,000 of these residents are currently in employment and 1,600 are in unemployment[1].

In 2015, around 44% of the working-age population were qualified to degree standard (NVQ Level 4 or higher), compared to around 33% across the D2N2 area and High Peak residents are also more likely to be employed in managerial, professional and technical roles than at the wider LEP level.

Within the district, there are around 35,000 jobs, which is around 1 in 30 jobs in the D2N2 LEP areas total workforce[2]. This is both below the district's share of the LEP's working-age population (4.2%) and significantly lower than its total resident population in employment, which is indicative of high levels of out-commuting from the district. Evidence from the 2011

[1] ONS Annual Population Survey, October 2015 – September 2016
[2] ONS, Jobs Density, 2015

Census indicates that 47% of employed residents commute to work outside of High Peak, contributing to an overall net outflow 9,700 commuters daily[3].

At £505 a week, mean average earnings by High Peak residents are on a par with the wider D2N2 LEP area average, but at £460 per week, workplace-based earnings in the district are significantly lower - 6% below the D2N2 average[4]. High Peak can therefore be characterised by high levels of out-commuting by highly skilled individuals to higher paid jobs located outside of the district.

This is partly a reflection of the rural nature of the district and the sectoral structure of the areas labour market, where there are fewer than average shares of jobs in professional, financial and IT roles and notable sector specialisms in mining and quarrying, arts, entertainment and recreation and manufacturing. The largest employment sectors in the district are Manufacturing (6,000 jobs), Wholesale and Retail (5,000 jobs) and Education and Health (3,500 jobs each).

There are 4,400 businesses operating in High Peak - 5.1% of D2N2s business stock – though the higher than average number of businesses trading in the district is driven by high proportions of microbusinesses (with fewer than 10 employees). There are currently only 10 large businesses in the District that employ more than 250 staff[5], 5 of which are headquartered there.

Some of the largest employers in the district are linked to the minerals and aggregate extraction sector, including:

- Hope cement works (Breedon Group) - the UK's largest cement works, employing around 200 staff;
- Tunstead Quarry (Lefarge-Tarmac) - the largest supplier of lime and lime products in the UK, employing around 400 staff, 75 directly; and,
- Dove Holes Quarry (CEMEX) - a super-quarry employing around 120 staff.

2.3 The Derbyshire Dales in D2N2 and Sheffield City Region

With a population of around 71,100, Derbyshire Dales is the less populated of the two districts. The district has a working-age population of around 41,800, of which around 37,300 residents are in employment and around 900 are unemployed[6]. The primary settlements in the Dales are Matlock, Ashbourne, Wirksworth and Bakewell, each of which have populations of between 5,000 and 10,000.

There are currently around 37,000 jobs present within the district, inferring that there are currently around 9 jobs for every 10 working-age residents. This is a particularly high jobs density for a population of its size, where the national average is around 8 jobs per 10 working-age residents. Despite a proportionately high number of jobs present within the district, earnings and commuter flow evidence suggests that there are high levels of in and out commuting to and from the district daily.

Mean weekly resident-based earnings are relatively high at £606 a week, which is around 20% higher than the SCR and D2N2 LEP area averages. However, similar to the High Peak district, analysis of workplace-based earnings in the Derbyshire Dales is significantly lower than average resident earnings, at just £518 per week[7]. As per the High Peak, this can be attributed to a high proportion of residents working outside of the district in higher paid jobs elsewhere. At the time of the 2011 Census, 46% of working residents commuted out of the District, primarily to D2N2 and then to Sheffield City Region.

[3] Census 2011, origins and destinations
[4] Derbyshire Local Economic Assessment 2014
[5] ONS, UK Business Counts, 2016
[6] ONS, Annual Population Survey, October 2015-Septermber 2016
[7] ONS, Annual Survey of Hours and Earnings, workplace and resident-based analysis, 2016

Higher than average levels of in and out commuting suggests there are significant disparities between the jobs available in the district and the current skills mix of residents. The largest employment sectors in the district are Wholesale & Retail (5,000 jobs), Manufacturing (4,500 jobs), Accommodation and Food (3,500 jobs) and Health (3,000 jobs)[8]. There are also significantly higher than average proportion of jobs in accommodation and food services, arts, entertainment and recreation and mining and quarrying, where each of these sectors have around twice the level of jobs than in the wider D2N2 and SCR area averages. The district also has particularly high levels of public sector employment, with 35% of employees working in the public sector, well above the national average of 19%. This is driven in part by the role of the district as an administrative centre for the County Council, District Council and the National Park Authority.

As with High Peak, Derbyshire Dales has a significantly higher proportion of residents qualified to degree standard (42% with NVQ4+). This is 9 percentage points higher than the D2N2 average and 13 percentage points higher than the SCR average. The district has a similarly high proportion of residents employed in higher-order professional and managerial occupations.

There are 4,550 VAT registered businesses operating in Derbyshire Dales, 670 of which are small, medium or large enterprises. The remaining 87% are micro-businesses, which is slightly more than at the D2N2 and SCR level (82% in both LEPs). Only 5 businesses employ more than 250 employees in Derbyshire Dales.

Large employers in the district associated with the minerals and extraction industry are:

- Aggregate Industries (300 jobs) – Manufacturer of concrete landscaping products
- ECOBAT (200 jobs) - Limestone is used as a purifying agent in the lead smelting and recovery processes
- Longcliffe Quarries Ltd (c.150 jobs) – Extraction and processing of primary aggregate resources
- DSF Refractories & Minerals (100 jobs) – heat-resistant refractories for steel and iron making.
- Arconic (100 jobs) – Industrial limestone is used in the metal forging process.

2.4 Current Minerals Extraction Derbyshire – A National Asset

Derbyshire's mineral reserves are an asset of National significance. The mineral deposits underlying the County have been mined for centuries. The limestones, sandstones and coal measures in Derbyshire were formed during the Carboniferous, Permian and Triassic Periods, between 354 and 200 million years ago. The river valley sand and gravels were laid down during the last ice age (around 14,000 years ago). Rocks were then eroded by the glacial melt waters, leaving deposits of sand, gravel and silt materials in wide tracts across Derbyshire, alongside forming the County's major rivers.

The underlying geology of the County's mineral reserves, alongside other market, economic and political factors, have meant that extraction activities in Derbyshire are today clustered in a few locations.

Whilst there are clusters of sand and gravel extraction activities taking place in the southern portion of the County and some coal extraction activities in the eastern parts of Derbyshire, hard rock extraction activities are predominantly clustered in the High Peak and Derbyshire Dales districts.

[8] ONS, Business Register and Employment Survey, 2015

Across the wider Derbyshire area, around 80% of the extracted mineral resource (by weight) is taken from the County's rich limestone reserves, with a further 9% being a mix of sand and gravels and 5% being coal extracted from the eastern parts of the County. The remaining vein minerals extracted commercially across the County include fluorspar, barytes, gas, sandstone, silica sand, clay and shale. Although these minerals by weight are relatively small (making up around 6% of tonnage extracted), they are vital for the production of steel, bricks and electricity. These vein minerals therefore attract a significantly higher sales value than the limestone and sand and gravel deposits extracted across the County.

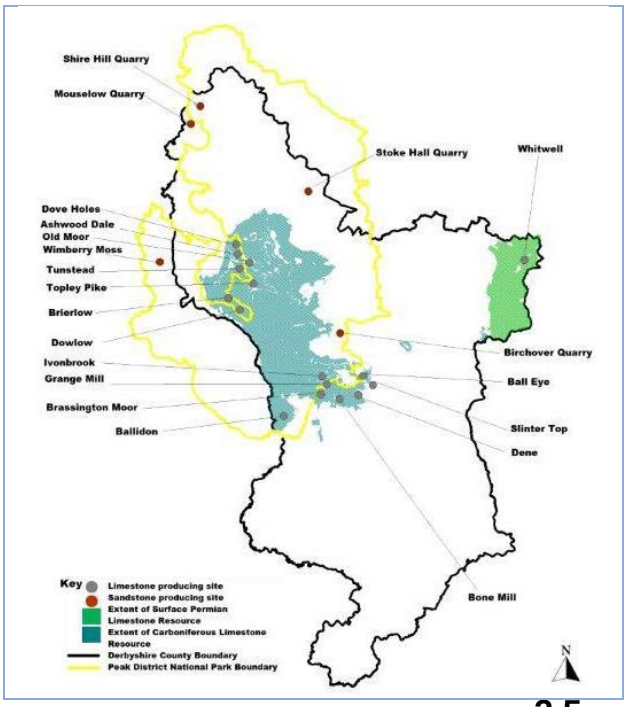
Today there are 21 active quarry sites across the two districts, 9 in High Peak and 12 in Derbyshire Dales. There are 12 further inactive sites across the two districts, most of which have planning permission for extraction to 2042.

Derbyshire Minerals Resources

In 2015, 11.7mt of minerals were extracted from the High Peak area and 3.0mt were extracted from the Derbyshire Dales, and the majority of extracted aggregates are limestone and sandstone resource. Totalling 14.8mt of aggregate resource, the two districts contribute around 7% annually towards the UK's domestic supply of minerals (c.222mt pa during 2015[9]), despite the two districts making up just 1% of the England's landmass.

Hard Rock Resources and Active Hard Rock Quarry sites in Derbyshire[10]

[9] British Geological Society, UK Minerals Yearbook, provisional estimates, excludes Energy minerals
[10] A Full list of quarry sites included within the assessment in contained in Annex I



With 21 active quarry sites across the two districts and it is little wonder that the High Peak and Derbyshire Dales areas also have a high concentration of Full-Time Equivalent (FTE) jobs within the mining and quarrying sector. The largest proportions of jobs with the sector are located within the limestone quarrying clusters surrounding Buxton and Wirksworth[11] and these areas coincide with the main clusters of quarry sites within the districts.

2.5 Current Sector Workforce Jobs

At present, there are 924 FTE jobs directly present within the mining and quarrying sector in High Peak and Derbyshire Dales, which is 82.0% of the total jobs within the sector in the County and 5.4% of the England total mining and quarrying sector workforce [12]. Around 1 in 6 jobs within the sector are filled by contracted workers[13] and workers within the sector are engaged in a wide range of professional, operative and support roles.

Nationally, the sector is a relatively small employer, contributing just 7 jobs per 10,000 FTE jobs within England's overall labour market. However, in the High Peak and Derbyshire Dales districts the sector contribution is significantly higher, with 153 jobs per 10,000 FTE jobs in the total labour force.

The table below outlines the FTE jobs present within the sector at each of the relevant levels. It also highlights the sectors contribution towards the total labour force in the two districts and at the wider County, Sub-regional / LEP, Regional and National levels.

Analysis of the above highlights the clustering of the sector within High Peak and Derbyshire Dales – 42% of the 1,998 FTE sector jobs in the D2N2 area are located within the two districts (924 FTEs) and more than half (52%, 607 FTEs) of the 1,158 sector jobs in SCR are located in Derbyshire Dales.

Mining and Quarrying – Direct FTE jobs and relative labour market contribution		
	Direct FTE jobs* (2015)	**Sector jobs per 10,000 jobs present within the area**
Local		
High Peak	317 FTE jobs	101 FTE jobs
Derbyshire Dales	607 FTE jobs	209 FTE jobs

[11] Derbyshire County Council Minerals Plan, Towards a Spatial Portrait, December 2015
[12] ONS Business Register and Employment Survey, 2016
[13] DCLG, Mineral Extraction in Great Britain, 2014, Business Monitor PA1007

High Peak & Derbyshire Dales	924 FTE jobs	153 FTE jobs
Sub-regional		
Derbyshire County	1,127 FTE jobs	39 FTE jobs
D2N2 LEP	1,998 FTE jobs	22 FTE jobs
Sheffield City Region	1,158 FTE jobs	16 FTE jobs
Regional / National		
East Midlands	5,309 FTE jobs	27 FTE jobs
Yorkshire and Humber	1,549 FTE jobs	7 FTE jobs
North West	1,225 FTE jobs	4 FTE jobs
West Midlands	1,033 FTE jobs	4 FTE jobs
England	19,975 FTE jobs	7 FTE jobs

**Based on SIC 07-09 (excludes direct coal, lignite and natural gas extraction activities*

2.6 Mining and Quarry – A vital supplier

The minerals and aggregates sector provides vital input materials to the UK process industries and UK construction. The mining and quarrying sector therefore makes a direct contribution towards some of the UK's most important sectors. Most, if not all, major development schemes rely on the supply of aggregate resource, in raw form or processed, and in the absence of the resource, the viability of UK development activities would be severely compromised.

Construction aggregates are widely available across the UK and domestically we produce around 230mt per year, including 172mt of raw minerals and around 60mt of recycled and secondary materials[14]. Due to the high costs of transporting minerals into the UK, Imports of bulk aggregates remain minimal.

Analysis of ONS Supply and Use tables has been undertaken to determine the scale and significance of the 'upstream' and 'downsteam' supply chains for the quarrying and minerals extraction sector nationally. The Supply and Use tables are the bedrock of the UK National Accounts and they provide a useful proxy for understanding the broad sectors within the supply chain for the mining and quarrying sector in the High Peak and Derbyshire Dales districts.

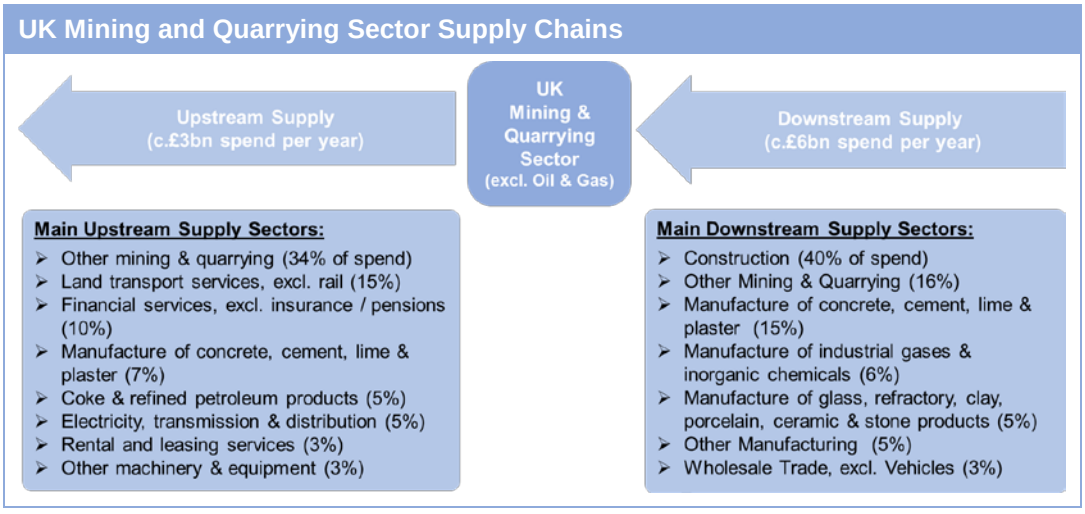
The tables identify the sector which are:

(a) the 'upstream' supply chain - those sectors currently supplying goods and services to the mining and quarrying sector; and,

(b) the 'downsteam' supply chain - those sectors which are currently purchasing goods and services from the mining and quarrying sector.

The infographic below outlines the sectors present within the mining and quarrying sectors upstream and downstream supply chains. Nationally the mining and quarrying sector spends a total of around £3.0bn per year on its upstream supply chain and around £6.3bn per year of purchases are made from the mining and quarrying sector.

Based on the national contribution of sector activities taking place within the High Peak and Derbyshire Dales (around 7% of national annual domestic supply) it is estimated that the sector spends around £210m per year in its upstream supply chain and that £441m per year of purchases are made from the sector present within the two districts.



[14] The UK Mineral Extraction Industry, CBI, February 2016

Whilst this spending within the supply chain could occur anywhere within the national economy, further evidence suggests that the market reach of minerals extracted from the High Peak and Derbyshire Dales areas (the downstream supply chain) is limited by high transportation costs associated with the movement of bulk aggregates.

Research by the British Geological Society (BGS, 2004[15]) suggests that the typical maximum trading distance for aggregate minerals is 60km by road. This extends to 200km by rail, accepting that there are only three quarry sites in the High Peak area which have rail connectivity (Tunstead Quarry, Dowlow Quarry and Doveholes Quarry).

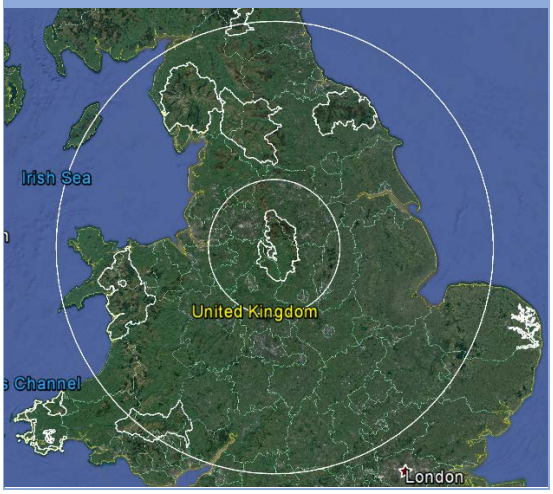
The BGS research further outlines that:

> *"Transport cost may be a major component of the delivered price of many minerals. For aggregate minerals, such as limestone, the place value is very high, because the commodity has a lower value per tonne. In the case of limestone in the UK, road haulage transport costs can typically add £6 per tonne to the price of crushed limestone. This means that the availability of a nearby market is of critical importance"*

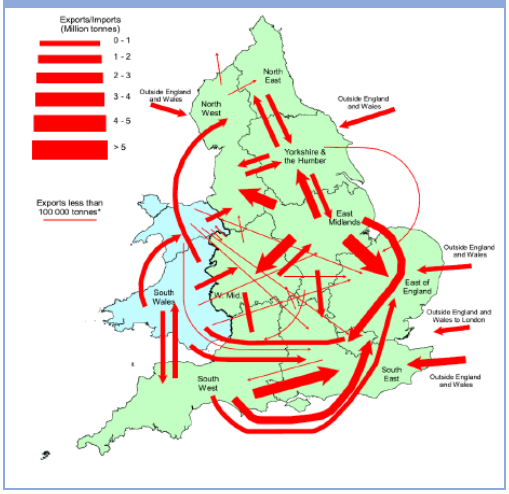
The research suggests that immediate downstream supply chain will be located reasonably close to the quarry sites. The graphic below maps the 60km and 200km radius from a quarry site (Dove Holes Quarry) that is reasonably central to the two districts. This has been used as a proxy for understanding the probable extent of the High Peak and Derbyshire Dales quarrying and minerals extraction sectors downstream supply chain and it is assumed that the majority of the upstream supply chain will be located within or close to the two districts.

Further research by the East Midlands Aggregates Working Party (2009[16]) into the current flows of aggregates between regions suggests that 33% of the crushed rock extracted from Derbyshire is retained within Derbyshire itself, with a further 23% exported to the North West Region, 12% to the Yorkshire and Humber Region and 10% exported to Nottinghamshire (totalling 78% of all extracted crushed rock). The remaining 22% is exported to elsewhere in the UK, with the only significant markets being in the East of England (7%) and the West Midlands (5%).

Broad Market Reach by Road (inner) & Rail (outer)



Crushed Rock Regional Flows (2009)



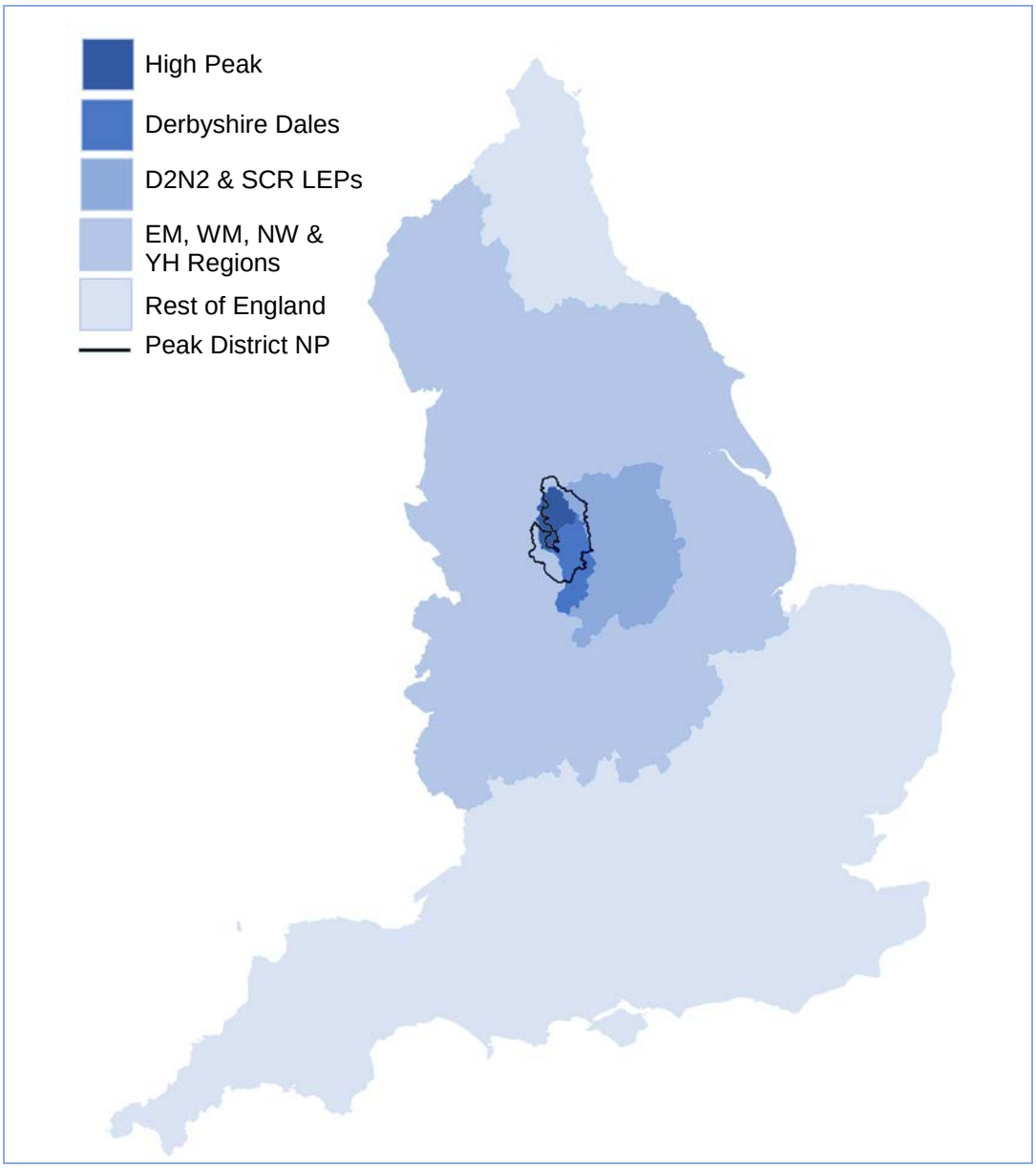
[15] The Economic importance of Minerals to the UK, British Geological Survey, 2004
[16] East Midlands Aggregate Working Party Annual Report 2009, reported in Derbyshire Local Aggregate Assessment 2014, Derbyshire County Council, Derby City Council and the Peak District National Park

2.7 Study Parameters

The analysis above has been used to help identify a number of impact zones for the economic impact assessment. Alongside estimating the national impact of the quarrying and minerals extraction sector in the High Peak and Derbyshire Dales districts, three further study areas have been set. These comprise:

- **The Regional Impact Zone** – including the East Midlands, West Midlands, North West and Yorkshire and Humber areas
- **The Sub-regional Impact Zone** – including the Derby and Derbyshire Nottingham and Nottinghamshire Local Enterprise Partnership (D2N2 LEP) and Sheffield City Region (SCR) areas; and,
- **Three Local Impact Zones** – including the High Peak and Derbyshire Dales districts and the two districts combined.

Economic Impact Assessment – Impact Zones


High Peak
Derbyshire Dales
D2N2 & SCR LEPs
EM, WM, NW & YH Regions
Rest of England
Peak District NP

3 The Future Potential of Minerals Extraction in High Peak and Derbyshire Dales

3.1 Forecasting Sector Change

During 2015, a total of 11.7mt of minerals were extracted from the High Peak and 3.0mt of aggregate resource was extracted from the Derbyshire Dales districts, from 21 active quarry sites. A schedule of current extraction activities by site has been developed and this has been informed by assumptions regarding the future scale and location of extracted aggregates.

Most of the active quarry sites in Derbyshire have an aggregate licence to extract minerals up until 2042, although in order to protect the nationally protected landscape, the Peak District National Park Authority has set policy within its Core Strategy (Policy MIN1) which does not allow for further new quarries or extensions to existing quarries, in order to progressively reduce the amount and proportion of aggregate grade crushed rock that is quarried from within the National Park[17].

Over time, it is anticipated that a reduction in quarrying and mining activities within the National Park area will be displaced to other areas in Derbyshire outside of the National Park. The Derbyshire Local Aggregates Assessment (2016) assumes that that there will be around a 10% reduction in extracted aggregates from within the National Park area over the Minerals Local Plan period (to 2030) and that this will free up demand for additional minerals extraction in other areas of Derbyshire.

This evidence has therefore helped to inform the assumptions developed surrounding the future supply of minerals from the two districts. The vast majority of active sites present within the two districts are outside of the National Park Area and the underlying geology of Derbyshire means that is it likely that displaced activities from the National Park area will predominantly be to existing active quarry sites elsewhere in the High Peak and Derbyshire Dales.

Whilst this may have a small effect on the internal dynamics of the two districts labour markets, it is considered that the overall FTE jobs position will remain largely unchanged over the coming years. Given the proportion of the National Park area within each district and the location of current active quarry sites, it is estimated that around 10% of direct FTE jobs within High Peak will shift to elsewhere in Derbyshire over the Local Plan period and that around half of these FTE jobs will relocate to Derbyshire Dales. It is anticipated that any FTE jobs displaced from the parts of the Peak District that are within Derbyshire Dales will relocate to elsewhere within the district over the coming years.

Given that the sector already has a reasonably well-matured supply chain, the small internal shift in activities is not anticipated to impact on current activities within the upstream and downstream supply chains.

[17] Derbyshire Local Aggregate Assessment 2016, Derbyshire County Council, Derby City Council and The Peak District National Park Authority

3.2 Growth Policy Drivers – An overview

In setting out an assumed profile of future aggregate supply, it has been useful to also consider the potential levels of future demand for High Peak and Derbyshire Dales aggregates. Aggregate resources are a vital input to most major development schemes and the scale of the ambition for future planned development activities is therefore inherently linked to the levels of future demand for aggregates.

The UK has no industrial or economic policy supporting the use of UK mineral resources and in 2014, the Department for Business Innovation and Skills (BIS) Select Committee published a report which outlined that the extractive industries were playing an increasing role in the UK economy[18].

Across the UK, the LEP's have set out their ambitions for growing the economies of their individual areas through their Strategic Economic Plans (SEPs) and alongside setting out ambitions for growing key sectors within the economy, the SEPs also outline the scale of future planned infrastructure, residential and commercial development.

A review of the relevant SEP's has found significant major development plans over the coming decade, including a significant number of large-scale infrastructure improvements, new commercial development sites and plans for an accelerated supply of new housing.

To meet the SCR's ambition of delivering 70,000 new homes by 2025, the SCR Integrated Infrastructure Plan (SCRIIP) is targeting 7,000-10,000 completions a year. Over the 10 year period to 2024, SCR is also targeting the delivery of around 5m sqm of new commercial floorspace. Similarly, the D2N2 SEP forecasts an increase of 77,000 new homes between 2013 and 2023, 18,000 of which are being leveraged through LEP support.

During 2016, a total of £1.5bn of largely private investment was spent on the construction of new housing across the two LEP areas, and a further £3.3bn was invested in new commercial property, infrastructure and public buildings. To 2020, D2N2 and SCR have identified a pipeline of 1,678 projects with a total spending requirement of over £14bn.

More widely, there are known major national schemes planned in surrounding LEP areas, including significant new housebuilding planned in Greater Manchester. The National Infrastructure Pipeline over this period includes £48bn of investment in rail projects, including the 350 mile HS2 line, for which the development of Phase 2 between the West Midlands and Leeds may begin in the latter part of the Plan period. The Pipeline also includes £13bn of road network investment and £10bn of Local Authority major transport schemes focussed on highways, housing and site development.

There is also £218m of committed Local Growth Funding for 19 infrastructure projects across Yorkshire and Humber and £111m of Local Growth Fund commitments for 22 infrastructure projects across the East Midlands region. In the Yorkshire and Humber and East Midlands Regions alone, there are also 410 planned flood risk reduction schemes (195 in YH and 215 in EM) that will require significant aggregate resource.

At the local level, the Adopted Local Plan for High Peak (Adopted, April 2016) sets a housing target of 7,000 net additional dwellings in the District between 2011 and 2031, targeting 350 net dwellings per year, and the Derbyshire Dales Draft Local Plan (August 2016) indicates a housing target of 6,684 for the district between 2013 and 2033. Alongside a need for bulk aggregates for housebuilding, both Local Plans also set out a number of infrastructure improvements and provision for new commercial development, which will also require significant aggregate resource input. The Derbyshire Dales Economic Plan (2014-2019) and the Growth Strategy for High Peak (Draft, 2016) support the local growth ambitions of the two Districts over the short-medium term.

[18] Business, Innovation and Skills Committee - Sixth Report, The Extractive Industries, October 2014

The majority of these development schemes will utilise aggregate resources from the High Peak and Derbyshire Dales areas. To place the above in context, an average new dwelling consumes around 60 tonnes of aggregate resource. It is therefore considered probable that there will be high levels of demand for the two districts limestone and sandstone resources over the medium to long term, not least given the current Northern Powerhouse and Midland Engine agendas, which are seeking to focus growth in the Northern and Midlands regions.

At the end of 2013, an assessment of the areas 'landbank' - the stock of reserves with planning permission - was undertaken to ensure that Derbyshire could meet the expected levels of demand for aggregates over the coming years. Government policy requires landbanks to be maintained for all aggregate minerals, with the recommended landbank period for sand and gravel required to be at least 7 years and for crushed rock required to be at least 10 years[19].

For sand and gravel, the estimated permitted reserves across Derbyshire quarries[20] in 2015 was found to be around 12.14mt with an annual apportionment of 1.03mt. By this estimate, a landbank of 11.6 years of sand and gravel supply was identified. For crushed rock, the landbank was found to be 88 years (based on a total of 820mt of limestone and sandstone reserves and an average supply over the previous 10 years).

Landbanks have previously been used as a useful means of helping planning authorities to set targets for permitted development reserves. The advent of the localism agenda across Government has now meant that there is less emphasis on using landbanks as a means of setting permitted extraction limits.

There is therefore ample reserves of crushed rock which could meet future demand for aggregates across the County over the coming years and this will help ensure the delivery of major development projects across the regions. Given the known sizable landbank, it is considered that there is scope for growing the sector and increasing supply in future years should demand for aggregate resources continue to be high.

[19] Guidance on the Managed Aggregate Supply System, Department for Communities and Local Government, October 2012
[20] Including Peak District National Park area

4 The Economic Benefits of the Minerals Extraction Sector in High Peak & Derbyshire Dales

4.1 Assessing the Economic Benefits of the Sector

To estimate the current and future economic impacts of the quarrying and minerals extraction sector in the High Peak and Derbyshire Dales, a bespoke economic benefit model has been developed. The model first draws on national evidence to estimate the current and future direct FTE jobs within the mining and quarrying sector in each district. Through the use of Input-Output multipliers, the model then then estimates the indirect FTE jobs supported within the sectors upstream and downstream supply chain and the induced FTE jobs supported through the spending of direct and indirect FTEs.

The modelling then considers the location of the direct, indirect and induced FTE jobs in each of the six impact zones, by drawing on evidence taken from ONS Business Register and Employment Survey (BRES) and the British Geological Survey (BGS).

Finally, the model considers the levels of benefits that may be 'leaked' from each impact zone, based on ONS Census 2011 commuter flow evidence and national guidelines for economic appraisal. This has enabled an estimate of net additional FTE jobs to be reached in each of the six impact zones.

The effects of net additional FTE employment estimates have then been considered through an assessment of Gross Value Added (GVA). Applying a HM Treasury Green Book discount factor, GVA estimates have also been expressed in present value terms.

Further modelling has been undertaken to estimate some of the wider economic benefits of the sector, including developing estimates for total annual sales values, sector turnover, average wage rates and business rate returns. This has drawn on various local and national evidence sources.

The following sections outline the assumptions used within the modelling and detail the headline estimates of the economic impacts of the sector in each of the impact zones set.

4.2 Gross Employment Effects

Mapping of ONS Business Register and Employment Survey (BRES, 2016) data has shown that in 2015 there were 317 FTE jobs in the High Peak and 607 FTE jobs in Derbyshire Dales directly involved in quarrying and minerals extraction, totalling 924 direct FTE jobs across the two districts. Interestingly, there are fewer jobs present in the High Peak district, an area which has significantly higher levels of extraction than Derbyshire Dales. This is probably indicative of two large scale 'super quarry' sites in High Peak, which require fewer workers to extract bulk materials.

The high concentration of FTE jobs within the sector in each district demonstrates the current significance of local extraction activities. Over time, continued demand for High Peak and Derbyshire Dales minerals means that the overall FTE jobs position is likely to remain largely unchanged over the coming years.

There is however an anticipated 10% reduction in minerals extracted from the Peak District National Park area over the Local Plan Period with this activity displaced to areas outside of the National Park. Whilst this internal shift in activity will not impact on the overall size of the sectors workforce, it is anticipated that this will result in a small internal shift in the location of the direct FTE jobs.

In High Peak it is estimated, around 10% of FTE jobs will shift to areas outside of the National Park and that around half of these jobs will shift to the Derbyshire Dales area. In Derbyshire Dales, it is anticipated that the shift in jobs away from the National Park be entirely to the remaining parts of the district outside of the National Park area.

We have assumed that this trend will continue beyond the Local Plan period and in applying these assumptions over time, it is estimated that by 2040, a total of 261 direct FTE jobs will be present in High Peak and 635 direct FTE jobs will be present in Derbyshire Dales.

The table below outlines the direct FTE job estimates in each district by milestone date.

Mining and Quarrying Sector - Direct FTE Jobs				
	Current (2017)	By 2025	By 2030	By 2040
High Peak	317 FTEs	297 FTEs	285 FTEs	261 FTEs
Derbyshire Dales	607 FTEs	617 FTEs	623 FTEs	635 FTEs
High Peak & Derbyshire Dales	924 FTEs	914 FTEs	908 FTEs	896 FTEs

4.3 Accounting for Net Additionality – locating the supply chain

The direct FTE jobs present within the mining and quarrying sector in High Peak and Derbyshire Dales will support a number of upstream and downstream indirect FTE jobs within the supply chain. The wage-spending of workers employed directly or indirectly will also support further induced FTE jobs within the labour market. Consideration has therefore been given as to the number of indirect and induced (multiplier) FTE jobs supported through the effects of direct sector activities.

Whilst most of the 924 direct FTE jobs present within the sector will be filled by people living in High Peak and Derbyshire Dales, the location of the indirect supply chain FTE jobs will be more broadly spread across a wider area. The analysis below therefore considers the scale and location of the indirect supply chain FTE jobs likely to be present within each of the six impact zones and this has been carried forward within the modelling. Finally, further consideration has then been given to consider the proportion of direct and indirect FTE jobs that are 'leaked' from each of the six impact zones.

In considering the net additionality of FTE jobs in a typical HM Treasury Green Book impact assessment, consideration would also be given to the levels of displacement within each impact zone. Given that the mining and quarrying sector and its supply chain is already present and reasonably well-matured, no displacement effects are anticipated.

4.4 Indirect and Induced (multiplier) effects

Indirect effects measure the levels of economic benefit supported through upstream and downstream supply chains and induced (or multiplier) effects arise from the local wage spending of direct and indirect employees.

Using recognised Input-Output Multipliers for the mining and quarrying sector (ONS Supply and Use Tables, 2010), a composite Type I (Indirect) multiplier of 1 : 1.87 has been used within the modelling – this means that every 100 direct FTE jobs within the sector currently supports an additional 87 FTE jobs within the within the supply chain. To determine the wider induced effects of wage-spending by direct employees and those within the supply chain, the induced aspect of a Type II (direct and indirect) multiplier of 1 : 1.19 has been used (ONS, 2010). By this estimate the wage spending of every 100 direct and indirect FTE jobs supports a further 19 FTE jobs in the labour market.

These indirect and induced FTE jobs represent the extent of the indirect and multiplier effects within the sector experienced at the national level. Typically, an average Type II composite (direct and indirect) multiplier across all sectors is around 1 : 1.35 (see BIS research into Additionality, 2009). It is therefore considered that the mining and quarrying sector has reasonably high upstream and downstream effects within the labour market.

4.5 Locating the Supply Chain - Impact Zone Retention Rates

Application of the composite multipliers provides an estimate of the scale of direct, indirect and induced FTE jobs supported within the labour market nationally. Whilst it is considered that all of the direct FTE jobs will be located within the High Peak and Derbyshire Dales districts, it is considered that a reasonably large proportion of the supply chain FTE jobs are located across a wider area. The location of these indirect FTE jobs will determine the proportion of activities which are 'retained' within each impact zone set for the study – local, sub-regional, regional and national.

Three pieces of evidence have been used to estimate the likely proportions of FTE jobs which are retained within each impact zone and each is discussed below.

Supply Chain Jobs Mapping

Based on the sectors identified as being within the upstream and downstream supply chains (see Section 2.6), ONS BRES mapping of the FTE jobs present in relevant supply chain sectors has been undertaken in each of the six separate impact zones to consider the current scale of supply chain activities. Whilst a large proportion of these jobs will not be directly supplying the mining and quarry sector or directly purchasing goods and services from the sector, it is a useful proxy for understanding the likely location of the supply chain and for identifying any clustering of activities present.

In this analysis:

- The upstream supply chain sectors includes the mining and quarrying sector itself alongside land transport services, financial services, cement, lime and plaster manufacturing, coke and refined petroleum products and electricity transmission and distribution. Collectively, these sector account for 76% of all spending by the mining and quarrying sector nationally.
- Alongside the mining and quarry sector itself, the downstream sectors included within the analysis are construction and the manufacture of cement, lime, plaster, inorganic chemicals, glass, ceramics and stone products and other relevant manufacturing. Collectively, these sectors account for 88% of all purchases from the mining and quarrying sector nationally.

The table below presents the results of this analysis. Location Quotient (LQ) analysis has been used to determine the relative clustering of industries present in each impact zone.

Mining and Quarrying Sector – LQ analysis					
	Upstream FTE Jobs	Downstream FTE Jobs	Total FTE Jobs	Share of Impact Zone Total Workforce	LQ vs Eng
High Peak	2,092	2,559	3,446	11.0%	1.31
Derbyshire Dales	1,959	2,936	3,708	12.8%	1.52
High Peak & Derbyshire Dales	3,688	5,516	7,175	11.9%	1.42
D2N2 & SCR	54,153	85,907	133,913	9.2%	1.09
EM, NW, YH & WM Regions	373,812	526,905	878,203	8.9%	1.06
England	946,232	1,180,784	2,090,149	8.4%	1.00

The results of this analysis show significantly higher than national average levels of FTE jobs present within relevant supply chain sectors in the High Peak and Derbyshire Dales areas. At district level, there are notable clusters of jobs present within the mining and quarrying sector itself (924 FTEs, LQ of 25.6) and in the manufacturing of concrete, lime

and plaster (1,100 FTE jobs, LQ of 20.8). It is considered that the vast majority of these jobs would not be present in the districts without the presence of the limestone resource.

Whilst these sectors have a very strong presence locally, this is part offset by slightly lower than national average levels of construction sector activity within the High Peak and Derbyshire Dales, with notably lower levels of house-building. This is assumed to be due to the presence of the Peak District National Park area. The environmental protection afforded to the sensitive National Park areas means that lower levels of housebuilding activity are to be expected. The review of the Input-Output supply chain has identified that around 40% of purchases from the mining and quarrying sector are made by the construction sector and we can assume that a higher proportion of industry sales are consumed by development activities outside of the National Park area.

At the wider level, the D2N2 LEP and SCR areas have marginally higher concentrations of supply chain sector jobs than at the regional and national levels. There are however notably higher than national average levels of jobs within the relevant downstream supply chain sectors across the two LEP areas. For every 4 jobs nationally in relevant downstream supply chain sectors, there are 5 jobs in equivalent sectors across the two LEP areas, with notable underlying specialisms in concrete, lime, plaster and glass production.

Similar mapping of business stock evidence[21] has shown that there are currently around 965 businesses operating in relevant supply chain sectors in High Peak (460 businesses) and Derbyshire Dales (505 businesses), which is around 1 in 10 of the 8,950 businesses operating within the two districts. Although a large proportion of these businesses will not be directly operating within the minerals upstream and downstream supply chains, which nevertheless highlights the significance of minerals activities locally.

Further modelling of the jobs evidence has been undertaken to apportion the relevant supply chain sector FTE jobs present in each of the six impact zones. The analysis has then considered (a) the contribution of supply chain sector jobs towards the national workforce in the equivalent sectors and (b) the overall contribution of each impact zones labour market towards the national labour market.

To account for differences in the overall size of the labour market in each impact zone, LQ analysis has then been used to determine the relative concentration of supply chain sector jobs present within each impact zone. Adding together the LQ evidence from district to national level (LQ's totalling 3.93) and proportioning this by the LQ value in each impact zone provides a useful proxy for understanding which impact zones have higher than average levels of jobs in relevant supply chain sectors.

The table below presents this evidence.

Relevant Supply Chain sector FTE jobs by Impact Zone

Total Supply Chain sector FTE jobs by impact zone		Share of national supply sector FTEs	Total FTEs within each area	Share of national FTEs	LQ, (Total 3.93)	Proportion of supply sector jobs by impact zone
FTEs in High Peak & Derbyshire Dales	7,175	0.3%	60,223	0.2%	1.42	36%
FTEs in the rest of D2N2 & SCR	126,756	6.1%	1,398,722	5.9%	1.03	+26%
FTEs in the rest of the Region	744,303	35.6%	8,434,994	39.8%	0.89	+23%
FTEs in the rest	1,211,915	58.0%	14,972,637	100.0%	0.58	+15%

[21] ONS, UK Business Counts, 2016

of the nation						

This analysis suggests that:

- 36% of the mining and quarrying sectors upstream and downstream supply chain is likely to be located in the High Peak and Derbyshire Dales area (17% in High Peak plus 19% in Derbyshire Dales);
- 62% of the supply chain is likely to be located within the D2N2 LEP and SCR area, including supply chain jobs in High Peak and Derbyshire Dales;
- 85% of the supply chain is likely to be located across the four regions; and,
- 100% is considered to be located across England.

Whilst this analysis provides a useful baseline for understanding the likely location of the mining and quarrying sectors supply chain, further evidence regarding the overall market reach of the downstream supply chain suggests that likely location of the supply chain will be closer to or within the High Peak and Derbyshire Dales areas.

The Market Reach Test

There are high transportation costs associated which the movement of bulk aggregates and this places a limit on the extent to which it is financially viable to export aggregates from the High Peak and Derbyshire Dales areas, either by road or by rail. At present only three quarry sites in the districts have rail access (Tunstead Quarry, Dowlow Quarry and Doveholes Quarry) and so the majority of aggregate resource is currently transport via the road network.

Evidence from the British Geological Society suggests that the upper limits for transporting aggregates by road is in the order of 60km, extending to 200km by rail. Plotting these distances from a central quarry site (see section 2.6) in the area indicates the likely overall market reach for first stage-aggregate processing.

Moreover, it is known that there is a significant presence of process activities in the two districts which rely on a continued supply of aggregate resource. For example, it is known that there are currently 1,100 jobs in concrete, lime and plaster production in the two districts and these jobs would arguably not be present without Derbyshire minerals.

It is therefore considered that the supply chain is likely to be located closer to or within the two districts than the broader mapping of relevant supply chain sector jobs suggests and small adjustments (of +/-10%) have therefore been made to the baseline analysis of relevant supply chain sector jobs. These adjustments for each area are outlined in the table below.

Retained Supply Chain – Market Reach Adjustments						
	High Peak	Derbyshire Dales	High Peak & Derbyshire Dales	D2N2 & SCR	EM, NW, YH & WM regions	England
Supply sector FTE jobs by impact area baseline	17%	19%	36%	26%	23%	15%
Market Reach adjustment						
To area	+5%	+5%	+10%	+10%	+10%	
From area				-10%	-10%	-10%

Indirect FTE jobs after MR adjustment	22%	24%	46%	36%	13%	5%

Understanding Commuter Flows – Leakage effects

Further analysis of commuter flows across the impact zones has then been undertaken to understand the proportion of employment-related benefits that are likely to be 'leaked' from each of the impact zones. Leakage effects consider the proportion of FTE jobs which are taken by workers living outside of each of the impact zones.

For direct FTE jobs, a small deduction to gross job estimates has been made to account for a proportion of jobs in the sector which are filled by residents living outside of High Peak and Derbyshire Dales. Evidence from the 2011 Census suggests that both districts have reasonably high levels of in and out commuting daily. However, given the sectors long-standing presence and matured supply chain, leakage effects among direct FTE jobs at the local level are anticipated to be small. In line with BIS Occasional Paper 1 (Research to improve the assessment of additionality, October 2009), leakage effects in the supply chain at the district level are anticipated to be in the order of -5%.

It is anticipated that all direct FTE jobs that are 'leaked' from the local areas will be leaked to the wider LEP / sub-regional area impact zone and it is considered unlikely that any direct employees will be commuting to the quarry sites from beyond the LEP areas.

For leakage effects among indirect and induced FTE jobs, a small (-5%) level of leakage has been included within the modelling for each impact zone. The overall size of these impact zones and the propensity of workers to commute over longer distances means that leakage effects in the supply chain are also likely to be small (-5%). Again, this has drawn on national guidance (BIS 2009).

At the national level, it is considered all FTE jobs will be located within England, so no leakage effects are included within the modelling.

Retained Supply Chain – Leakage Adjustments						
	High Peak	Derbyshire Dales	High Peak & Derbyshire Dales	D2N2 & SCR	EM, NW, YH & WM regions	England
Direct FTE jobs						
Direct FTE jobs by impact zone	100%	100%	100%	0%	0%	0%
Leakage from	-5%	-5%	-5%			
Leakage to				+5%		
Retained direct FTE jobs by impact zone	**95%**	**95%**	**95%**	**5%**	**0%**	**0%**
Indirect and induced FTE jobs						
FTE jobs after Market Reach adjustment	22%	24%	46%	36%	13%	5%
Indirect and induced FTE job leakage from	-5%	-5%	-5%	-5%	-5%	
Indirect and induced FTE job leakage to				+5%	+5%	+5%

Retained Indirect and induced FTE jobs by impact zone	**17%**	**19%**	**41%**	**26%**	**23%**	**10%**

4.6 Net additional FTE Estimates

Bringing together the analysis above, the table below summarises the proportion of direct, indirect and induced FTE jobs that are considered to be retained within each of impact zone.

Total retained FTE jobs by impact zone (cumulative)						
	High Peak	Derbyshire Dales	High Peak & Derbyshire Dales	D2N2 & SCR	EM, NW, YH & WM regions	England
Total retained direct FTE jobs	95%	95%	95%	100%	100%	100%
Total retained indirect & induced FTE jobs	17%	19%	41%	67%	90%	100%

Applying these adjustments gives an estimate of direct, indirect and induced FTE jobs supported within the labour market by mining and quarrying activities in High Peak and Derbyshire Dales. The table below presents the net additional FTE job estimates in each impact zone at milestone dates.

Mining and Quarrying Sector – net additional FTE Jobs					
		Current (2017)	By 2025	By 2030	By 2040
High Peak	Direct	301	283	271	248
	Indirect	113	106	101	93
	Induced	79	74	71	65
	Total net FTEs	***493 FTEs***	***463 FTEs***	***444 FTEs***	***406 FTEs***
Derbyshire Dales	Direct	577	586	592	603
	Indirect	217	220	222	227
	Induced	151	153	155	158
	Total net FTEs	***944 FTEs***	***959 FTEs***	***969 FTEs***	***987 FTEs***
High Peak & Derbyshire Dales	Direct	878	869	863	851
	Indirect	330	326	324	320
	Induced	229	227	228	222
	Total net FTEs	***1,437 FTEs***	***1,422 FTEs***	***1,412 FTEs***	***1,393 FTEs***
D2N2 & SCR	Direct	924	914	908	896
	Indirect	539	533	529	522
	Induced	278	275	273	269
	Total net FTEs	***1,740 FTEs***	***1,722 FTEs***	***1,711 FTEs***	***1,688 FTEs***
EM, NW, YH & WM Regional	Direct	924	914	908	896
	Indirect	723	716	711	702
	Induced	313	310	308	304

	Total net FTEs	***1,961 FTEs***	***1,940 FTEs***	***1,927 FTEs***	***1,901 FTEs***
National	Direct	924	914	908	896
	Indirect	804	795	790	779
	Induced	328	325	323	318
	Total net FTEs	***2,056 FTEs***	***2,034 FTEs***	***2,021 FTEs***	***1,994 FTEs***

It is therefore estimated that:

- **Mining and quarrying activities in High Peak and Derbyshire Dales currently support a total of 2,056 FTE jobs nationally, either directly or through indirect and induced effects.**
- **It is anticipated that the sector will continue to make an important contribution towards the national labour market, although a small reduction in annual mineral extraction activities from the Districts is likely to result in a slightly reduced contribution of the sector towards the national labour market over time. Nevertheless, it is estimated that minerals extraction activities within the districts will still support a total of 1,994 FTE jobs nationally by 2040.**
- **Across the D2N2 and SCR areas, it is estimated that High Peak and Derbyshire Dales extraction activities currently support 1,740 net FTE jobs within the LEP's labour market, which is 85% of the jobs supported nationally by local extraction activities. By 2040, a total of 1,688 net FTE jobs will be supported in the two LEP areas by sector activities within the districts.**
- **It is estimated that High Peak and Derbyshire Dales extraction activities supports a total of 1,437 net jobs within the local labour market of the two districts. It is estimated that 878 direct FTE jobs are filled by local residents and a further 559 FTEs supported locally through indirect and induced effects. By 2040, it is estimated that a total of 1,393 net FTE jobs will supported by sector activities within the local labour market.**

4.7 Gross Value Added Effects

To determine the current and future value of the net FTE jobs to the economy an assessment of Gross Value Added (GVA) has been undertaken. GVA is a measure of labour productivity and a leading measure of economic growth.

The following table provides an estimate of total employment-related cumulative GVA in each impact zone by milestone date. In line with HM Treasury Green Book Guidelines, the Net Present Value (NPV) of the GVA has also been calculated based on a social time preference rate of 3.5%.

Mining and Quarrying Sector – cumulative GVA Estimates by milestone date							
		High Peak	Derbyshire Dales	High Peak & Derbyshire Dales	D2N2 & SCR	EM, NW, YH & WM regions	England
2017	GVA	£34m	£65m	£100m	£117m	£128m	£133m
	NPV	*£34m*	*£65m*	*£100m*	*£117m*	*£128m*	*£133m*
By 2025	GVA	£298m	£593m	£891m	£1.045bn	£1.149bn	£1.194bn
	NPV	*£261m*	*£519m*	*£780m*	*£915m*	*£1.005bn*	*£1.045bn*
By	GVA	£454m	£927m	£1.381bn	£1.621bn	£1.781bn	£1.851bn

2033	*NPV*	*£368m*	*£748m*	*£1.116bn*	*£1.309bn*	*£1.439bn*	*£1.496bn*
By 2040	GVA	£747m	£1.605bn	£2.352bn	£2.759bn	£3.034bn	£3.153bn
	NPV	*£524m*	*£1.108bn*	*£1.633bn*	*£1.915bn*	*£2.105bn*	*£2.188bn*

Total GVA from employment within the sector has been calculated using annual GVA per job metrics for South and West Derbyshire, taken from ONS, Sub-national GVA estimates (Income-based approach, December 2016) and ONS BRES (2016).

For direct FTE jobs, an annual GVA per job estimate for the mining and quarrying sector (£79,849 GVA per job) has been used and for indirect and induced FTE jobs, an average annual GVA per job estimate of £52,648 per job for South and West Derbyshire has been used. The latest sector-level GVA per job estimates for the area are for 2015

Demonstrating the high levels of productivity within the sector, GVA per FTE job in the mining and quarrying sector in the South and West Derbyshire Area (£79,849 GVA per FTE) is around 55% higher than the equivalent GVA per FTE job in the areas manufacturing sector (£51,485 GVA per FTE job).

In applying the above metrics, it is therefore estimated that:

- **mining and quarry activities in the High Peak and Derbyshire Dales districts will contribute a total of £2.352bn in GVA to the local economy by 2040, £1.633bn at present value;**
- **High Peak and Derbyshire Dales mining and quarrying activities will contribute a total of £2.759bn in GVA to the combined economy of the D2N2 and SCR LEP area by 2040, £1.915bn at present value; and,**
- **When including the whole of the sectors supply chain, it is estimated that mining and quarrying activities in High Peak and Derbyshire Dales will contribute a total of £3.153bn in GVA towards the national economy by 2040, 2.188bn at present value.**

5 The wider contribution of the Minerals and Aggregates sector

There are a number of wider economic benefits that the mining and quarry sector brings to the High Peak and Derbyshire Dales districts. Alongside the industry-related benefits accrued from the sale of aggregates, the High Peak and Derbyshire Dales District Councils will also receive business rate returns over the coming years. The potential end-use benefits that could be achieved through restoration activities on some sites could also bring community-related benefits and economic growth opportunities.

5.1 Annual Turnover, Sales Values and Sector Wage-Rates

The mining and quarrying sector is one which previously required substantial labour resources, but the introduction of more advanced technologies has meant that today the sector requires a smaller workforce with higher associated plant and machinery costs.

This has meant that 'turnover per employee job' in the sector is particularly high, at £341,523 per job (ONS SIC 07-08). Based on a total of direct 924 FTE jobs in the districts, it is estimated that the sector achieves a **current turnover in the order of £316m per year**, £108m achieved in the High Peak and £207m achieved in Derbyshire Dales. Projecting this forward, it is estimated that businesses operating in the two districts will **generate in the order of £7.5bn in turnover by 2040**, at current prices.

Demonstrating the value of the sector, turnover accrued each year by the mining and quarrying sector in the two districts is broadly equivalent to around three-quarters of the annual turnover achieved within the visitor economy of the Peak District National Park and its surrounding area of influence – estimated to be in the order of £401m per year[22]. (2009 values, inflated to 2017 values).

In reality, this will not all be realised through industry transactions. Due to the structure of the industry and a proportion of quarry sites being in ownership by large companies operating in the supply chain, a proportion of aggregates are not sold by the industry, but are directly fed into the downstream supply chain. Similarly, a significant proportion of extracted aggregates are stockpiled for future use and this impacts on the point at which sales of minerals are realised and the point at which turnover is accrued.

With an estimated overall annual turnover in the order of £316m per year, there are significant differences between the sales values achieved by individual products. Those attracting the highest values include the less abundant vein minerals (fluorspar and barytes) and higher quality industrial aggregates – which are used for a variety of uses ranging from glass and paint production to animal feeds, from cement manufacture to flux for steel making.

Average sales values per tonne taken from British Geological Survey Minerals Yearbook (2015, 2014 values inflated to 2017 prices) provide useful evidence for demonstrating the range of values achieved by mineral type, as follows:

- Aggregate limestone is sold at a price of around £1,011 per 100 tonnes;
- Sandstone and Gritstone are sold annually at a price of £1,042 per 100 tonnes;
- Non-aggregate industrial limestone is sold at a price of between £40 and £100 per tonne; and,
- Vein minerals, including fluorspar and barytes are sold at a price of around £534 per tonne.

[22] Global Tourism Solutions (UK) Ltd, Peak District National Park + Influence Area STEAM Report 2009, November 2010 (2009 values inflated to 2017 prices, HM Treasury GDP Deflator, November 2016)

The sales of aggregates generates workforce wages in the sector and national evidence from ONS Annual Survey of hours and Earnings (ASHE, 2016) suggests that current wage rates in the mining and quarrying sector are lower than average wages across the whole labour market. The mean average annual wage in the sector nationally in 2016 was £20,275 per job, compared to £28,296 per job nationally. Nevertheless, based on the 924 FTE jobs within the sector in the two districts, it is estimated that **the industry pays around £18.7m in wages annually to its employees in the two districts**.

5.2 Business Rate Contributions

At present business rate returns are directly collected by the HM Treasury, however it was announced in the Budget Autumn Statement, 2016, that from 2020 onwards, local authorities will collect business rates directly from operators, including those operating within the mining and quarrying sector.

All businesses in the UK, including those in the minerals sector, are liable to pay business rates on non-domestic properties and the rateable value of a property is its open market rental or royalty value. Once rateable value has been determined, it is multiplied by a uniform business rate (UBR) which determines liability.

The specialist nature of mineral properties means that they are not commonly let as operational entities on the open market. Their rateable value is determined by applying a 'royalty rate per tonne' to the number of tonnes extracted per calendar year. The current royalty rate per tonne in the High Peak and Derbyshire Dales areas is 47p per tonne.

Rateable buildings, plant and machinery are then added by reference to capital replacement cost, which is adjusted to an equivalent annual value by applying the Government's five per cent statutory decapitalisation rate. In England and Wales, quarry assessments are reviewed annually, consequently reflecting annual increases or decreases in minerals output.

The 'tonne royalty' applied to the mineral element is derived from local lease evidence based on a specific mineral type. As such, locality is key to determining a fair rateable value for a mineral property. Once set, further reductions can be sought to the tonne royalty on a site-specific basis, in the form of allowances to reflect quarry development and working difficulties such as excessive overburden, high waste output, poor quality stone or geology.

Generally, rates are still payable if a property is empty, but there are some concessions. In England and Wales, there is no liability for rates for the first six months in which an industrial or mineral property is vacant. After that, rates are payable at the full occupied rate.

If premises are partly or temporarily occupied the billing authority has discretionary powers to grant relief on the part that is empty. This relief can last for up to three months, or six months for part-vacant mineral properties. For mineral properties, this form of relief can be obtained for buildings, plant and machinery that have been temporarily mothballed. Reductions in the latter element of a quarry assessment can be achieved by ensuring that only rateable elements are valued and have been accurately measured.

The announced changes in the collection of business rates from 2020 onwards have also led to some recent announcements regarding probable changes to the current collection system, including the phasing out of Revenue Support Grants and the abolition of the UBR.

Irrespective of these changes, under the current system, **the annual business rate contributions from mining and quarrying activities in the High Peak and Derbyshire Dales are estimated to be in the order of £5.5m per year**.

On this basis, it is assumed that similar returns could be achieved annually from 2020 onwards. An announced national 'Fair Funding Review' of needs and redistribution of

business rate returns will ultimately determine the levels of retained business rates under proposals for a new system.

5.3 Restoration Opportunities and Legacy Effects

Former mineral workings can provide opportunities for development which help to deliver economic growth, for example the former Markham Colliery in North Derbyshire has been restored to provide an important strategic site with Enterprise Zone status for new economic development opportunities.

In areas afforded high levels of environmental protection there are typically fewer opportunities for new development activities and the presence of a number of disused quarry sites, now and in the future, opens up the possibility for potentially increasing commercial or residential land supply. Within the two districts there are a number of quarry sites allocated within the Local Plans which are already being actively pursued as sites for future mixed-use development, including Halldale and Cawdor Quarries in Matlock and Middleton Road quarry in Wirksworth.

This, however, needs to be balanced by the location of the sites and their suitability for redevelopment. In practice, the majority of former quarries in Derbyshire are relatively small and have value in historic, ecological, geological and environmental terms. Demonstrating the ecological value of restoration activities, around 60% of the UK's Sites of Special Scientific Interest (SSSI's) have been designated on former quarry sites.

Many former mineral workings can also provide benefits in terms of their educational value, providing opportunities for schools, colleges and universities to study the geology of the area[23]. Similarly, there is inherent amenity value and natural capital to be gained from restoring sites into nature reserves and parkland use.

In recent years, some quarry sites have expanded their use to include hosting new opportunities. The bi-annual Hillhead Exhibition is the biggest working quarry exhibition of its kind in the world, hosting 476 exhibitors in 2016 and attracting around 19,000 visitors annually from over 70 countries. The exhibition, held during June, brings an important revenue stream within the surrounding visitor economy and helps to promote the importance of the minerals sector in the Derbyshire area more widely.

[23] Minerals Local Plan, Towards a Spatial Portrait: An overview of Derbyshire and Derby, December 2015, Derbyshire County Council and Derby City Council.

6 Ensuring Future Success

6.1 Known Sector Growth Opportunities and Challenges to Growth

The leading driver for future demand for aggregate resources from the two districts will be the delivery of major capital projects across the northern and eastern regions. Given the pipeline of known projects being promoted by the LEPs there will be significantly higher levels of demand for aggregate resources over the coming decade, and beyond. Given the ample reserves of minerals in the High Peak and Derbyshire Dales areas, it is considered that there is potential for increasing the supply of minerals should the levels of demand also increase.

Technical advances and research and development in the sector are also helping to ensure that minerals can be extracted in a more sustainable way. Ongoing transport improvements are also helping to ensure that products can be transported efficiently.

Consultation with local industry operators and the Minerals Products Association (MPA) has however highlighted a number of current challenges with the sector. Some of the identified challenges could be addressed through local intervention but others require a wider strategic response. Some of the identified challenges within the sector are outlined below.

- ***The need for a future skilled workforce***

Survey research conducted on behalf of MP Futures[24] – the Standard Setting Organisation (SSO) for the quarrying, mineral products and mining sector - has shown that around 55% of the sector's current national workforce are aged over 45 and that just 17% are aged under 35. It is therefore considered that there will be a significant national need for workforce replenishment over the coming decades, although at current levels (10% per year), workforce replenishment rates are low.

Consultation with operators in the districts has confirmed that the sector has an aging workforce and some operators identified that replenishment of skilled employees will be an increasing concern in future years. At the time of the survey, 59% of businesses nationally reported staff vacancies and employers reported particular difficulties when recruiting those with technical, operational and engineering skills and those involved in driving. The most difficult-to-recruit roles were found to be in professional occupations (85% of employers experiencing problems), followed by 'process, plant and machine operatives' (78%).

To ensure a future supply of trained workers, there are a number of technical and specialist skills that the survey identified as being needed within the industry. In terms of future skills needs, 62% of employers identified 'general IT skills' as becoming more important in the future, alongside a relatively high proportion of generic skill requirements, including health and safety, planning and organisation skills. Whilst engagement with young people to highlight the potential career pathway for individuals continues to be important, just 22% of employers responding to the survey identified that they currently engaged with schools and colleges to attract young people into the sector.

Consultation with operators has identified that there were previously seven Universities offering specialist courses in Minerals Planning, but this has diminished over time to just one University offering provision. The University of Derby's Centre for Mineral Products Professional Development currently offers a series of relevant courses to the sector's existing workforce, ranging from higher level apprenticeships to a first degree qualification. As the UK's leading provider of training and assessment for the Minerals Products Qualifications Council (MPQC), MP Skills – the UK's leading training and assessment provider for the Mineral Products Qualifications Council (MPQC) - has also been providing

[24] Pye Tait Consulting, Labour Market Intelligence Study, Quarrying, minerals products and mining, October 2016

a useful role in upskilling the sector's current workforce – by providing Safety, Health and Environmental (SHE) courses and a range of vocational and higher level apprenticeships.

Despite this, recruitment difficulties persist and there are currently no courses available locally within the High Peak and Derbyshire Dales areas which can offer students the chance to gain needed qualifications locally for entering the industry. Alongside a need to highlight the potential career pathway for individuals, this study sees opportunity for establishing new specialist provision in either of the two districts. The concept of National Mineral Skills Academy based in Derbyshire could gather support from private and public sectors.

- ***The need for local transport improvements***

The high costs associated with road and rail transport places a constraint of the market reach of minerals from the High Peak and Derbyshire Dales districts. Among the larger quarries which have rail connectivity, there are ongoing efforts to increase the proportion of minerals transported by rail, and improvements to the flow of minerals through Buxton will help to ease known constraints on the rail network. There is however an inevitable a trade-off between passenger and freight transport on the rail network and whilst some investment in bridge or tunnel widening may enable the transportation of minerals via larger wagons, consultation has found that the more pressing industry concern is in ensuring 24 hour operations can be maintained at end-depot sites in the UK's larger cities.

There is an ongoing need to move bulk materials into larger cities and due to their link on the rail network, depots are typically located in areas which are also reasonably attractive to new residential or commercial developers. The delivery of new housing located in the surrounds of depots in particular poses a significant threat to 24 hour operations due to the potential environmental conflicts. A similar threat is noted at depots located at wharf sites in larger cities, where minerals are transported via waterways. It is considered that careful planning could mitigate the potential for environmental conflicts as new development proposals come forward, particularly new residential development.

Whilst a focus on transporting an increasing share of minerals via rail is seen as important for the larger quarry operators, all quarries in the two districts rely on an efficient road network to move bulk products. Consultation has identified three major congestion challenges on the existing road network and these include difficulties in transporting minerals through Buxton and Ashbourne and also outside of the districts through Stockport. For Buxton and Ashbourne, the industry has indicated that the delivery of new bypasses would significantly improve the efficiency of transportation via those routes and, in Stockport, the sector has identified that the removal of some traffic lights would also help to relieve recurrent blockages on the A6.

Consultation has shown that any increase in demand is likely to increase the number of haulage vehicles on the road network and that there is an inevitable trade-off between minerals transportation activities that need to be balanced with other important activities in the area, particularly during peak tourism months.

- ***The need for efficient planning certainty***

Due to the nature of the minerals extraction sector, there is a significant need for long-term business planning and this requires certainty over the levels of future supply. Attaining planning permissions is therefore critical to long-term industry investment decision-making. It is noted by the operators that it can take up to 15 years to gain planning approval for a site extension within the current planning system and that the statutory Review of Old Minerals Provisions (ROMP) can also take a similar length of time to complete. The lengthy and often costly planning process increases the need for the sector to strategically plan over the longer term.

Most extraction licences in the High Peak and Derbyshire Dales districts are due to expire in 2042, and over the next few years, efforts to begin to set out a process for future licencing beyond this date will help operators to plan effectively for future change.

The costs associated with Environmental and Social Impact Assessments (ESIA's) are particularly high in areas of geological and ecological importance. The UK's best minerals reserves underlie these area and the Peak District area is among the most important of the UK's minerals reserves. Whilst the overriding effort will be to ensure sustainable aggregate extraction activities, there is an inevitable trade-off between aggregate extractions in these sensitive areas. Given the scale of the sector and its value within the districts and beyond, any efforts to drive efficiencies in the planning approvals process would be welcomed by the industry.

7 Conclusions

The mining and quarrying of aggregates from the High Peak and Derbyshire Dales areas is a resource of national significance, contributing around 7% towards the national supply of minerals annually. There are currently 924 direct FTE jobs in the sector across the two districts (317 in High Peak and 607 in Derbyshire Dales), accounting for 5.4% of the jobs within the sector nationally.

Whilst the sector makes an important direct contribution to the local labour markets of the High Peaks and Derbyshire Dales areas, there are further economic benefits realised in the sectors long-reaching upstream and downstream supply chains. Limestone and sandstone minerals are direct feedstocks for large-scale downstream UK process industries and the UK's construction sector. The aggregate resources extracted from High Peak and Derbyshire Dales are therefore a vital input into some of the UK's most valuable sectors.

The mining and quarrying sector in the two districts therefore supports a large number of indirect FTE jobs within the upstream and downstream supply chain, estimated to be in the order of 804 further jobs nationally. The combined spending of FTE's supported directly and within the supply chain is estimated to support a further 328 induced FTE jobs within the labour market.

It is therefore estimated that quarrying and minerals extraction activities in the High Peak and Derbyshire Dales districts **currently supports a total of 2,056 FTEs within the national labour market**, supported either directly within the sector or through indirect and induced effects. Due to the high costs associated with the movement of bulk aggregates by road and rail, the vast majority of these jobs **(1,740 net FTEs) are estimated to currently be present within the D2N2 and SCR LEP areas**.

Looking forward, current high levels of demand for aggregates is being driven by a number of growth agendas across the Midlands and Northern regions. The two districts have ample reserves and this study finds that there is scope for growing the sector should the levels of demand continue to be high. Derbyshire County Council, as the Minerals Planning Authority, is helping to ensure that the districts retain a 'landbank' of future resources and the prudent approach has therefore been to assume that the scale of the sector will remain largely unchanged over the coming years.

The quarrying and mining sector is highly productive and at current levels it is estimated that activities in the High Peak and Derbyshire Dales districts will contribute **a total of £2.352bn in GVA to the local economy by 2040, £1.633bn at present value**. When including the whole of the mining and quarry sectors supply chain, it is estimated that mining and quarrying activities in High Peak and Derbyshire Dales will contribute **a total of £3.153bn in GVA towards the national economy by 2040, 2.188bn at present value**.

Alongside the sector's contribution to the labour market and the economy, there are wider benefits to the District Councils from potential future business rate returns – estimated to be in the order of £5.5m per year from 2020 onwards. There are also future identified amenity and place-shaping opportunities associated with the legacy effects of future sites, following the end of each quarry's lifecycle.

Whilst demand for future aggregates will be driven by ongoing development activities, consultation has highlighted some challenges within the sector over the coming years. Specifically, there are local transport challenges on the road network and national transport challenges on the rail network. There is also a need for ongoing planning certainty, particularly given the needs of the sector for long-term strategic business planning. It is also noted that there are expected workforce replacement challenges over the coming decades and there are already skill shortages present within the sector.

This study supports the case for strategic interventions which could help to ensure the ongoing success of the minerals sector and help to maximise the future growth opportunities within the minerals sector in the High Peak and Derbyshire Dales areas.

Annex I – List of Quarry Sites

Quarry Site	District	Current Status
Stancliffe	Derbyshire Dales	Active
Hall Dale	Derbyshire Dales	Inactive
Ball Eye	Derbyshire Dales	Active
Middleton Mine	Derbyshire Dales	Active
Grange Mill	Derbyshire Dales	Active
Brassington Moor	Derbyshire Dales	Active
Bolsolver Moor	Derbyshire Dales	Permitted, not active
Middle Peak	Derbyshire Dales	Permitted, not active
Dene	Derbyshire Dales	Active
Ivonbrook	Derbyshire Dales	Active
Ballidon Quarry	Derbyshire Dales	Active
Birchover	Derbyshire Dales	Active
Slinter Top	Derbyshire Dales	Active
Bone Mill	Derbyshire Dales	Active
Longstone Edge East	Derbyshire Dales	Permitted, not active
Stanton Moor Quarry	Derbyshire Dales	Permitted, not active
Longcliffe Quarry	Derbyshire Dales	Active
Middleton Rd	Derbyshire Dales	Inactive
Cawdor quarry	Derbyshire Dales	Inactive
Beelow Quarry	Derbyshire Dales / High Peak	Permitted, not active
Mouselow	High Peak	Active
Hayfield	High Peak	Permitted, not active
Dove Holes	High Peak	Active
Tunstead	High Peak	Active
Ashwood Dale	High Peak	Active
Hillhead	High Peak	Permitted, not active
Hindlow	High Peak	Permitted, not active
Brierlow	High Peak	Active
Dowlow	High Peak	Active
Stoke Hall	High Peak	Active
Old Moor	High Peak	Active
Topley Pike	High Peak	Active
Shire Hill Quarry, Glossop	High Peak	Permitted, not active

Annex II – List of Consultees

High Peak Borough Council

Derbyshire Dales District Council

Derbyshire County Council

Minerals Producers Association

Cemex (Doveholes Quarry)

Tarmac (Middleton Mine, Dene Quarry, Tunstead, Hindlow, Ballidon. Old Moor)

Longcliffe Quarries Ltd (Brassington Moor, Ryder Point)

Aggregate Industries (Ivonbrook Brook, Topley Pike)

Omya UK Ltd (Dowlow, Ashwood Dale)