ENGLAND 2008 REVIEW

TRADITIONAL BUILDING CRAFT SKILLS

Reassessing the Need, Addressing the Issues

SKILLS NEEDS ANALYSIS OF THE BUILT HERITAGE SECTOR

Cover images

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foreword

Tradition and innovation in construction are both essential and complementary parts of the built environment continuum. While these seemingly opposite sectors have different skills sets and requirements, they sit side by side and can and must learn from and respect one another. This is especially true regarding our response to the need for sustainability, regeneration, energy efficiency and the challenge posed by climate change to our physical and natural resources – common threats which need common, integrated solutions.

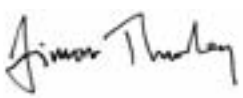
Traditional building skills have survived for thousands of years – passed down in time-honoured fashion from generation to generation – but sadly many of these skills declined in the last part of the 20th century. Concern over this situation and how this lack of skills threatened the preservation of the historic built environment led to the formation of the National Heritage Training Group (NHTG) in 2003. Their first ever skills needs analysis report, *Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge,* was launched on 9 June 2005, and quantified the scale of the skills shortages and skills gaps affecting this sector. The Skills Action Plan in the report has been instrumental in coordinating national and regional action to address the problems identified.

This new report shows that the substantial investment in time and energy necessary to change mindsets regarding the need for traditional building skills and developing the training and skills infrastructure is paying dividends. The skills shortage has been greatly reduced since 2005, but there is a continuing significant skills gap that must be tackled. Only around one third of the workforce is equipped with the right skills to work with traditional materials, and this lack of knowledge and expertise threatens our efforts to properly maintain our built heritage. The revised methodology used in the 2008 report has enabled us to see more clearly the skills gaps in the existing workforce, and these must become our central focus for action. A wide range of products and services are now in place to tackle this issue and respond to employer's needs.

The NHTG has emerged as a great example of how sustained change can be achieved. We are therefore greatly indebted to the NHTG Executive Committee members who give so freely of their time to develop and implement strategic policy and direction and deliver this on the ground. We are also grateful for the full and continued support of a wide range of sector partners and individuals in maintaining this progress. We need government, employers and employer's groups, trade unions, heritage organisations, education and training providers and funding bodies to continue working with us and build upon what has been achieved to date.

This report and the suite of NHTG publications and information, advice and guidance are designed to provide sector intelligence and promote traditional building skills to as wide an audience as possible. We hope this will encourage others to join our wider network to ensure that these skills remain a vibrant and central part of the construction industry. Buildings are about responding to people and places, and skills are essential in constructing, maintaining, repairing and preserving our built environment.

Let's continue to meet the challenge and make a difference for the built heritage sector.



Simon Thurley
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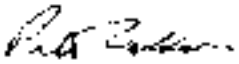

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acknowledgements

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We would like to acknowledge the cooperation and willingness of all the stakeholders (whose identities must remain anonymous) who gave so freely of their time for this research: public and private stockholders; contractors and sole traders; manufacturers and suppliers; architects and building surveyors; conservation officers; training providers. Their views have been fundamental to this project and without them there would be no research report.

Thanks are also due to the participants in the Focus Group Review meeting on 10 March 2008 for their endorsement of the report findings and their contributions and deliberations which helped greatly to shape the Skills Action Plan (see Section 10). Acknowledgement is also due to British Waterways, ConstructionSkills, English Heritage, Mike Moody, North of England Civic Trust, The National Trust and Ray Stevens for the use of their images in the report.

We are extremely grateful to Lee Bryer for his considerable input to and management of the research, Seamus Hanna for his contributions to the research project and editing of the final report, Merle Read for copy-editing and Intuitive Design for the design.

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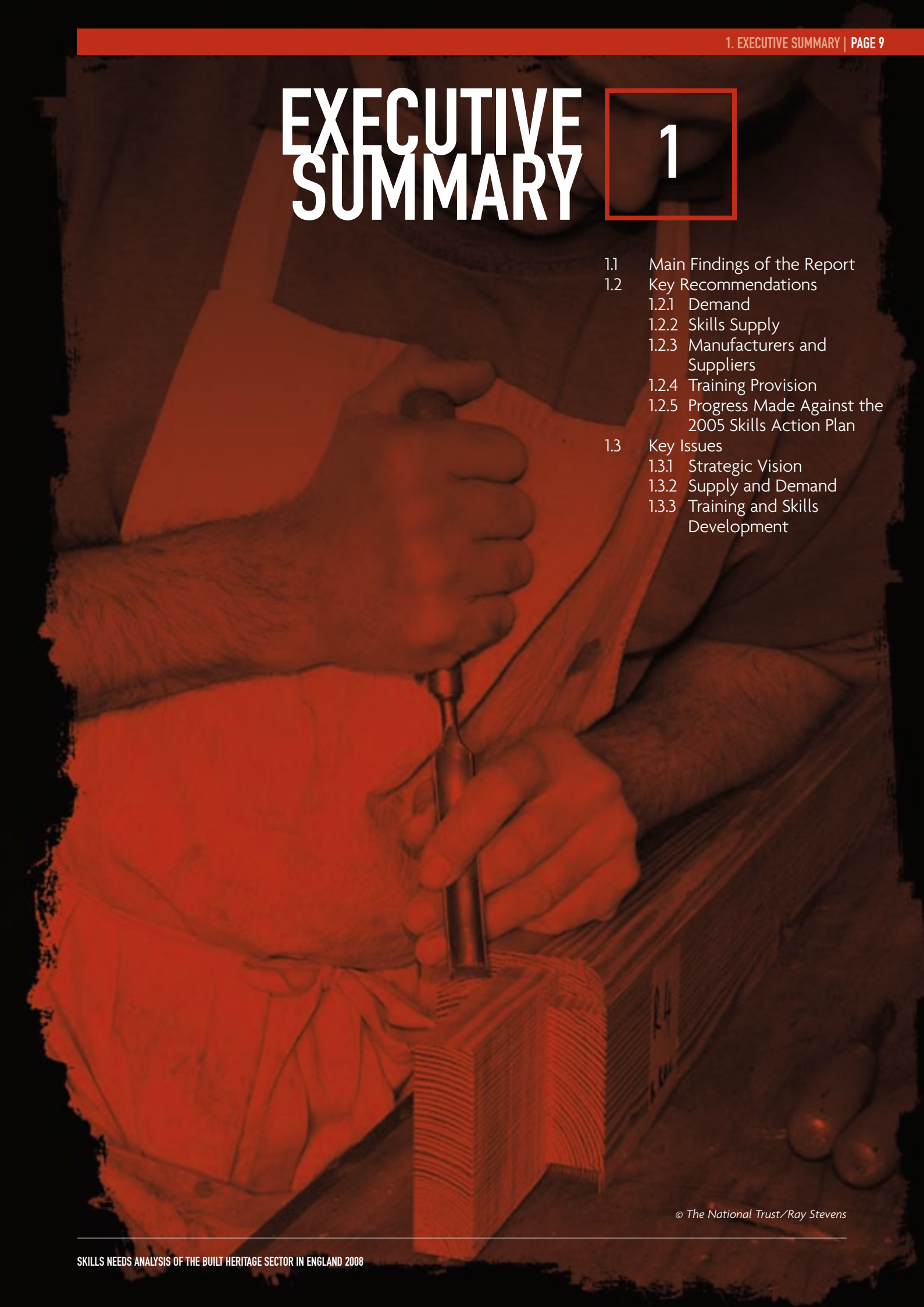
EXECUTIVE SUMMARY 1



executive summary

The purpose of this report is to review and evaluate the impact of the work of the National Heritage Training Group (NHTG) in addressing the skills shortage identified in the first-ever NHTG Skills Needs Analysis research of the built heritage sector, published in 2005.[1] As well as providing up-to-date statistical data for traditional building craft skills in England, the report enables the NHTG to measure and improve the effectiveness of its strategic planning and tactical delivery.

The research objectives were to:

- Develop comprehensive traditional building craft skills research for the built heritage sector.
- Identify current supply and demand of skilled labour in the sector, and identify specific skills shortages by craft occupation.
- Assess the traditional building materials supply chain.
- Reassess current levels of training provision and identify areas of specific training need.
- Review current careers promotion for the sector.
- Assess the level of progress that has been made against the Skills Action Plan in the 2005 report.
- Update the Skills Action Plan and provide recommendations to address and adapt to new issues, and measure the performance within an agreed timetable.
- Identify synergies within the supporting network in terms of resources and opportunities for partnering.

The approach to the research was similar to the previous study, so the new data would be fully comparable with that from the first study. However, since the 2005 report, similar research has been undertaken in Scotland (2007)[2] and Wales (2007),[3] and improvements in methodology from these studies have been incorporated into the approach to this current research.

The research included 646 structured quantitative interviews with:

533 contractors
58 stockholders
30 training providers
25 suppliers and manufacturers.

These were supplemented by 68 in-depth qualitative interviews with stakeholder groups, including 26 interviews with trade associations and trade federations, representing both the construction industry in general and various traditional building craft specialisms.

The findings are crucial in providing evidence to meet the requirements of Target 14 in the Funding Agreement between the Department for Culture, Media and Sport and English Heritage.

Pat Payne © English Heritage

1.1 Main Findings of the Report

	Demand	Skills Supply	Manufacturers and Suppliers	Training Provision
Findings	Around 5m pre-1919 buildings, including 0.5m listed buildings Increased expenditure since 2005 – repair and maintenance output now worth £4.7bn (£3.5bn in 2005), with £1.4bn on traditional building skills; will rise to £1.5bn by 2012 Average spending per building rising – large gap between actual and potential demand for traditional building craft skills Amount of grant available declining, especially as a result of increased funding pressures Variable knowledge and understanding among stockholders Perceived lack of necessity for using traditional materials and cost are principal factors preventing more extensive use of traditional materials Small stockholders experience great difficulty finding suitably qualified and/or experienced trades/craftspeople Levels of satisfaction with quality and completion times have declined considerably since the 2005 research	109,000 people employed on pre-1919 buildings in 2007, but only around 33,000 craftspeople actually equipped with the skills to work with traditional building materials 16,000 of the traditional building workforce required some form of traditional building skills training and 2,000 needed training in the use of traditional building materials, these figures are set to rise to 16,612 and 2,044 respectively in 2012 The vast majority working in this sector are general builders with only 8% of those interviewed describing themselves as conservation or heritage specialists Few contractors have difficulties finding subcontractors Recruitment remains challenging, with some 43% of contractors reporting it to be either fairly or very difficult; however, the situation has eased since 2005, with only 3% of contractors reporting long-term vacancies Most contractors prefer to recruit employees in need of some, but not extensive training Most contractors have high but at times unjustified confidence in their ability to work on traditional buildings Contractors have high confidence in employees' skills and knowledge, but rate skills slightly higher than knowledge Almost one-third of contractors expressed interest in the Heritage Skills National Vocational Qualification (NVQ) Level 3	Manufacturers and suppliers in this sector are highly specialised – almost all materials supplied are traditional Predominant materials supplied are lime plaster and mortars Materials often sourced from abroad Most manufacturers and suppliers believe demand for traditional materials has increased in recent years Manufacturers made low estimates of builders' knowledge and skills in using traditional materials – seen as an impediment to wider use of those materials Few manufacturers cited particular skills shortages or gaps, but saw employees' practical skills as superior to their knowledge A considerably larger proportion of manufacturers and suppliers than contractors preferred to recruit employees in need of extensive training Contractors report using far less traditional building materials than stockholders suggest, with lack of necessity cited for not using these more	Significant decline in number of contractors with employees in training, and slight decline in the number of apprentices FE sector remains primary source of training, with wood trades most numerous courses and roofing least Training providers employing more trainers (full- and part-time) than in 2005, and number of trainers per course fairly stable Training providers report only 37% of staff members able to teach traditional skills – confirms anecdotal picture in 2005 report Training providers feel that Training the Trainers programme would appeal to some of their staff but uptake would be difficult Over 50% of training providers lack faith in suitability of current mainstream construction NVQ's for work on pre-1919 buildings 50% of providers knew of the Heritage Skills NVQ Level 3 and almost 25% were preparing to run heritage/conservation-related courses or modules Enthusiasm for increased construction-related education in primary and secondary schools
Reasons	Culture of spending the least amount possible on repair and maintenance still exists Lack of knowledge among stockholders encourages inappropriate maintenance Strength of new build is discouraging contractors from taking on small jobs for domestic clients Difficulty of finding trades/craftspeople encourages stockholders to use inappropriate contractors	Contractors with only basic construction skills and a lack of understanding of traditional building methods and materials are working on pre-1919 buildings Some builders overestimate their own and employees' knowledge and skills Lack of specialist training and lack of information mean that builders are sometimes unaware of appropriate treatment for pre-1919 buildings	Traditional materials manufacture disrupted in England, and more consistent products available from Europe Some scarce materials only available from foreign sources, or are significantly cheaper because of greater supply abroad Stockholders and builders lack awareness of appropriate materials to use on traditional buildings Specialist firms train employees themselves because of lack of available relevant training Manufacturing workforce less mobile and more likely to stay with employer than construction workforce	Decreased difficulty with recruitment may be discouraging contractors from taking on apprentices Most construction-related NVQ frameworks meet needs of new build, rather than repair and maintenance sector Difficulty of sourcing trainers, materials and tools prevents providers from offering more traditional building skills courses Existing trainers lack time to attend supplementary training, such as Training the Trainers Many training providers perceive a lack of demand for specialist heritage training

key recommendations

1.2 Key Recommendations

NHTG, ConstructionSkills and English Heritage as the lead partners in this field need to ensure that the following recommendations are implemented to continue the excellent work since 2005 in addressing training and skills development for the built heritage sector.

1.2.1 Demand

Implement the following measures to stimulate demand for traditional building skills and materials:

- Develop a unified Accredited Heritage Building Contractors Register for use by public and private stockholders, and in particular to provide consumer protection to homeowners when selecting a suitably experienced and competent contractor for pre-1919 building work.
- Provide improved information, advice and guidance on conservation, repair, maintenance and restoration to clients and stockholders by making fuller use of existing information sources.
- Stimulate client demand for the use of appropriate skills and materials for all major built heritage projects.
- Work more closely with local authorities to encourage the use of an appropriate skilled regional and local workforce for pre-1919 buildings, and provide guidance on this to private stockholders within their regions and localities.
- Increase levels of grant support available to historic property owners.
- Promote the CSCS heritage skills card as evidence of competence for this sector of the construction industry.
- Respond to fiscal policy to represent and lobby for a level playing-field in respect of the built heritage sector to stimulate client demand for skills and training.
- Encourage market acceptance of routine care and maintenance of pre-1919 buildings.

1.2.2 Skills Supply

Ensure that contractors and craftspeople invest in training and skills development to respond to sector demand for a fully qualified and competent workforce, and assist their business to remain competitive by:

- Developing a sector-wide Works & Training Contract framework for pre-1919 buildings.
- Increasing awareness of the demand for training and skills development to achieve a fully qualified, competent and safety-aware built heritage sector workforce.
- Making best use of current and future funding streams to assist contractors and craftspeople investing in and benefiting from training schemes.
- Promoting and developing career progression routes within the built heritage sector.
- Maintaining exchange of ideas on training and skills development with key stakeholders in the UK, Republic of Ireland and Europe.
- Continuing to promote careers information on traditional building craft trades within the school education system.

1.2.3 Manufacturers and Suppliers

Strengthen the traditional material supply chain and improve training available to the manufacturing sector;

- Continue mapping and make available sources of traditional materials, particularly building stone.
- Promote awareness of traditional methods and materials among stakeholders
- Increase knowledge base available to builders and stockholders to improve demand
- Extend on-site assessment and training to manufacturers so that on-the-job learning is properly recognised.
- Improving integration of training of manufacturers and suppliers of traditional building with traditional building skills training.
- Increase awareness in planning authorities of the need to specify where possible traditional materials from England to stimulate demand for indigenous materials for local and regional use, and to reduce the carbon footprint of the material supply-chain.

1.2.4 Training Provision

Meet the needs of contractors and craftspeople, and the skills requirements of the built heritage sector, through:

- Increasing demand for traditional building skills courses and training opportunities for contractors and craftspeople.
- Continuing to develop a framework and process for delivering flexible training and skills provision.
- Increasing the uptake of traditional building skills training within the FE college system.
- Promote apprenticeships and ensure incentives are in place for employers to take on new apprentices.
- Promote awareness of the Heritage Skills NVQ Level 3, particularly among employers and potential trainees.
- Ensure that support is available for colleges and trainers for the Training the Trainers programme.

- Responding to contractors' preference for on-site, practical training.
- Developing an Advanced Construction Award (ACA) in Heritage Skills, enabling colleges to deliver a progression award linked to the new Heritage Skills NVQ Level 3.
- Ensuring coordinated regional training delivery to provide regional solutions to regional demand by maximising the existing training infrastructure or developing new training where none exists.
- Rethinking aspects of traditional building skills training and education to where possible share learning opportunities between craftspeople and building professionals.

1.2.5 Progress Made Against the 2005 Skills Action Plan

Considerable progress has been made since the launch of the *NHTG Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge* report published on 9 June 2005. The Skills Action Plan has been used to great effect by the NHTG and its many partners as a template for coordinated action for skills training and development within the sector.

In the intervening period, traditional building craft skills have gone from a small and underrepresented sector to acceptance within mainstream construction thinking as a vibrant and important part of the whole industry. This is reflected in its emergence as a corporate objective with ConstructionSkills and the Funding Agreement (Aim 4, Target 14) between English Heritage and the Department for Culture, Media and Sport.

Considerable work was necessary to raise awareness of the issues, value and importance of the built heritage skills agenda across the construction industry, with public and private stockholders, with training providers and even within the historic environment sector. What has emerged is a very successful sector model of partnership working and influencing, which is at the same time responsive to employers' needs. To ensure this genuinely complies with what is required for the sector workforce, employers' groups within the NHTG Executive Committee have played a prominent role in directing and driving forward this agenda.

The Skills Action Plan within the 2005 NHTG report[4] had a combination of high-level strategic policies and numerous measures to develop skills training and development, and a large majority of the actions have been delivered.

Achievements under the 2005 Skills Action Plan can be summarised as follows.

Strategic Policy

- National links have been maintained and UK-wide policies developed on built heritage sector procurement, qualifications, training provision and skills development.
- The establishment of an integrated regional Heritage Skills Network has been supported and coordinated across the nine English regions.

Communications and Marketing

- The NHTG website and dedicated phone line have been established as central sources of information, advice and guidance on training, careers and skills development in this sector. The website is currently being revamped to improve information sources and navigation.
- There are 2,000 copies in circulation of the *NHTG Starting to Make a Difference in the Built Heritage Sector* information leaflet, and the NHTG electronic *Newsletter* has over 1,000 subscribers.
- The ConstructionSkills Communications and Marketing Press Office generated considerable press coverage in 2007 alone, resulting in a large increase in the number of visitors to the NHTG website from feature items.
- *The NHTG Careers in Conservation and Restoration* careers advice brochure was re-branded in January 2007, with over 7,000 copies circulated to schools, colleges and other interested parties.

Demand for Skills

- Work with English Heritage is being continued to establish a Works and Training Contract Framework that can be used across the built heritage sector.
- An NHTG Heritage Building Contractors Register Working Group has been set up to develop a unified accredited register for the sector and provide consumer confidence in selecting suitable contractors or craftspeople for pre-1919 building works.
- Relations have been established with the Institute for Historic Building Conservation to provide better information, advice and guidance to local authority staff and property owners.
- A Skills Charter is being developed for use by local authorities in their procurement processes to ensure the use of skilled contractors and craftspeople and training within contracts.

- Work is being carried out with the Construction Skills Certification Scheme (CSCS) to ensure that clients seeking evidence of competence and safety-awareness in this sector insist on the CSCS heritage skills card, with the NHTG acting as the advisory panel.
- HLF-funded Townscape Heritage Initiatives have been assisted to develop their training plans.
- Skills needs analysis research has been commissioned and published to assess demand, supply and training provision for this sector.

Supply of Skills

- Employers and craftspeople have been advised on training needs and training plans.
- Liaison with relevant organisations has promoted conservation training and best practice.
- Help has been provided to develop training courses, taster days and so on for contractors, building professionals and historic property owners.
- Client demand has been stimulated to use suitably skilled and competent contractors and craftspeople on pre-1919 building contracts.
- A Mentoring Scheme has been developed to allow experienced craftspeople to pass on their knowledge to less-experienced practitioners.

Qualifications

The following have been developed:

- The new Heritage Skills NVQ Level 3.
- A Heritage Apprenticeship Programme.
- The Senior Craftsperson Scheme.

Education and Training

- The NHTG has been established as the voice on traditional building skills training and development, with a central umbrella role to represent built heritage craft skills interests.
- A National Heritage Training Academy framework is being developed for the coordinated delivery of training and skills development to meet regional demand.
- Work has taken place with a wide range of colleges to develop heritage skills training courses.
- A range of information, guidance and careers advice has been provided.
- UK-wide heritage skills events have been organised, supported and participated in.
- Partnership working has taken place on educational initiatives to raise awareness of the built heritage sector.
- Numerous National Construction Week and schools events have been participated in to promote careers in this sector.
- An NHTG Training the Trainers programme has been developed for FE college trainers to improve their knowledge and skills of conservation, repair, maintenance and restoration, with related DVD and text-based teaching support materials.
- The NHTG is an active partner in delivering the Traditional Building Skills Bursary Scheme for England and Wales.

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key issues

While a large amount has been achieved since the 2005 NHTG report in England to promote the needs of the sector and support for traditional building skills training across the nine English regions improved, a great deal still needs to be done to maintain this progress.

The most notable changes since 2005 are the slight increase in the projected numbers employed in the pre-1919 building sector and evidence that absolute skills shortages are probably less of a problem than skills gaps. The latter is due to better recruitment practices; more effective careers and qualifications marketing; fairly good staff retention rates within the sector and the suggestion that those leaving are more than compensated by those joining; employers being more discerning in the recruitment process; and increased immigration of mainly skilled labour from the eastern nations of the EU over the past two years. However, there is evidence that significant skills gaps exist, whereby although many workers have the basic craft skills needed to undertake work on traditional buildings, many require upskilling and only around one-third of the workforce use traditional building materials. This affects how pre-1919 buildings are repaired and maintained and reflects the need for increased training and skills development.

Although the exact breakdown between different types of training required across the sector is less clear, it is encouraging that almost one-third of contractors expressed an interest in the new Heritage Skills NVQ Level 3. This is one of the current means to achieve a CSCS card, which will be required to work on historic buildings in the future.

The findings of this research highlight the continued need for a coordinated approach to increase demand for and supply of traditional building skills and training and development. Further Education college construction courses are driven by new build. The work of ConstructionSkills and NHTG since late 2005 on developing the infrastructure for traditional building skills to redress this balance is only now making a difference. This needs to be taken into account in responding to the training and upskilling needs within this sector required to fill the skills gaps.

1.3 Key Issues

The following are the main themes and actions which underpin the Skills Action Plan (see Section 10).

Key Themes

- An **active market** is needed to persuade contractors, trainees and training providers of the worth of investing time and effort in developing the skills and knowledge needed to work on traditional buildings, and the understanding of traditional building methods and materials. The development of Works and Training Contracts, the Skills Charter and the CSCS requirement for proof of competence will all contribute to this aspect.
- There is a real need for a collective response to the demand for increased knowledge and understanding of the needs of pre-1919 buildings. Without appropriate information, advice and guidance and education for private stockholders, there will be no way of transforming the **enormous latent demand** for traditional building skills into an active market.
- Similar but more specialised information needs to be provided to inform contractors of appropriate procedures to follow, with **standards of best practice developed** and widely disseminated.
- Increased demand for traditional building craft skills will support **increased supply and training.**
- It is necessary to encourage training providers to **increase the content and level of traditional building skills teaching on their construction courses,** and to differentiate between traditional and modern building techniques so construction training for this sector is truly fit for purpose.
- There is an urgent need to develop an **Advanced Construction Award (ACA)** in Heritage Skills, to enable colleges to deliver a progression award linked to the new Heritage Skills NVQ Level 3.
- Greater awareness is required of the need for traditional skills and the benefits of training and experience in these skills, including **appropriate training for generalists as well as higher level opportunities** for those who wish to specialise in this very significant area.

Key Actions

The lead partners in this field need to continue to develop partnership working to ensure that the following key actions are implemented to sustain the excellent work since 2005 in addressing training and skills development for the built heritage sector.

1.3.1 Strategic Vision

NHTG, ConstructionSkills and English Heritage: through the Sector Skills Agreement and the Regional Heritage Skills Action Groups continue to coordinate action and partnership involvement to tackle the issues involved in this report, and work to further improve cooperation between stakeholders and coherence in their approaches.

1.3.2 Supply and Demand

NHTG: improve information available to stockholders and help bridge the gap between the latent and actual demand for traditional building skills and materials, and instil a culture of care and maintenance.

NHTG, English Heritage and Professional Bodies: coordinate the activities of major stakeholders to produce authoritative information, advice and guidance on appropriate conservation, repair, maintenance and restoration of pre-1919 buildings, with special attention to finding appropriate ways of meeting sustainability needs..

NHTG and Trade Federations: continue to develop a unified Accredited Heritage Building Contractors Register of appropriately qualified and experienced heritage building contractors and craftspeople for pre-1919 buildings.

1.3.3 Training and Skills Development

ConstructionSkills, NHTG and English Heritage: continue to improve the image of the sector, to ensure that training providers, contractors and recruits are fully informed of the new Heritage Skills NVQ Level 3, and are aware that this provides an appropriate qualification path for work on pre-1919 building and is linked to the CSCS heritage skills card for this sector of the construction industry.

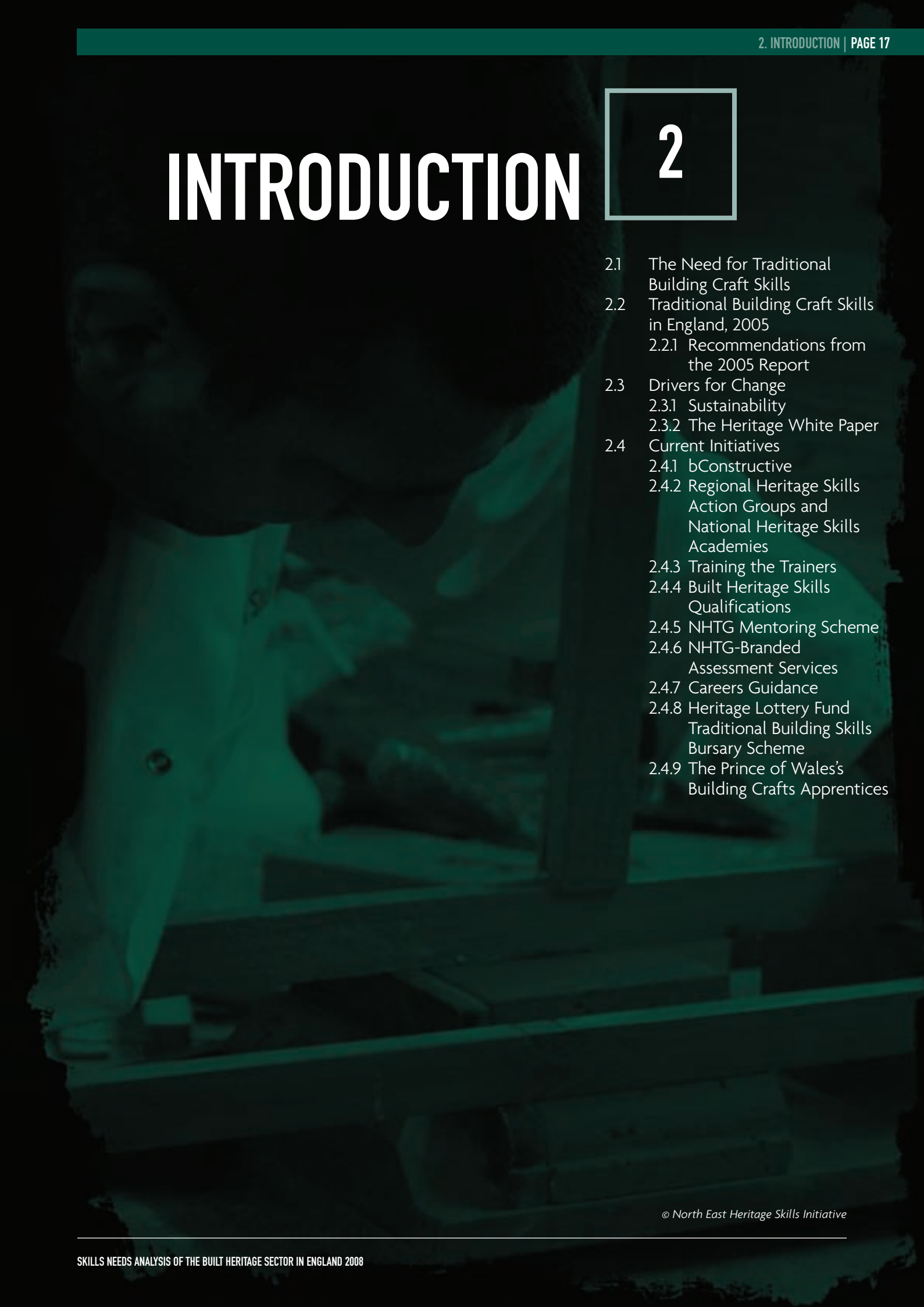
ConstructionSkills and NHTG: improve support for career changers interested in pursuing craft skills careers and on upskilling existing members of the construction industry working on pre-1919 buildings.

ConstructionSkills, NHTG and English Heritage: continue working to secure long-term funding opportunities for skills training and development of the built heritage workforce.

ConstructionSkills and NHTG: work with FE colleges and training providers to promote the need and growing demand for traditional building craft skills, and the latent demand for the training provision needed to meet this demand.

ConstructionSkills and NHTG: ensure that some consideration of the repair and maintenance needs of traditional buildings is included in all basic construction courses and qualifications.

INTRODUCTION 2



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introduction

The shortfall of 6,500 craftspeople specifically skilled in working on traditional (pre-1919) buildings – highlighted in the NHTG's 2005 Skills Needs Analysis report of the built heritage sector in England *(Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge)* – was a major cause for concern in terms of preserving this historic asset. The 2005 report was the first major primary research project into the demand for and supply of craft skills in the built heritage sector. It also clearly demonstrated that England's built heritage is of huge social and economic significance and an irreplaceable record of the country's cultural past.

Three years after the publication of the original *Traditional Building Craft Skills* report, this review provides trend data and updates the knowledge of the need for traditional building skills in England.

It was considered particularly important to assess the effectiveness at meeting the needs of the sector of the initiatives based upon the Skills Action Plan in the original report. English Heritage's funding agreement with its sponsor government department, the Department for Culture, Media and Sport, requires (under Aim 4, Target 14) that it 'Monitor and evaluate the impact of the NHTG and English Heritage strategies by repeating the Skills Needs Analysis carried out in June 2005.' The target specifically required that there should be 87,730 trained craftspeople in the sector by 2007 (a 20% increase since 2005) to meet the forecasted demand and that strategies should if necessary be modified in accordance with the findings of the repeat research.[5]

In addition, the Skills Action Plan resulted in the adoption of goals for securing a 20% increase in the number of people gaining conservation-related Level 3 National Vocational Qualifications (NVQs).

According to the English Heritage 2007 *Heritage Counts* report, there was a fall of 13% in the number of starting apprentices and trainees in heritage-related craft skills in England between 2005/06 and 2006/07.[6] It is important to see whether this is reflected in increased skills shortages and gaps, especially as this drop to some extent conceals a rebalancing of the construction student population, where there has actually been a 4% rise in the number of construction apprentices. The data used in *Heritage Counts* was from the Trainee Number Survey (TNS), a 'voluntary' survey of training providers – not only FE colleges – and this may to some degree explain the lower figures for those in training (i.e. the survey was not a census and all providers were not captured). Trend analysis of the TNS shows that the overall level of training via FE has been declining over the past couple of years, although this equally needs to be set in context with other 'on the job' initiatives, such as On-Site Assessment and Training (OSAT), which have been increasing. Capacity within FE colleges is also a severe constraint on training volumes.

The original NHTG 2005 research did not cover sufficiently the supply of traditional building materials necessary for working on traditional buildings. Considerable information has now been gathered on this subject for the NHTG reports on Scotland and Wales,[7] but it is now vital to develop comparable information for the much larger English market.

Finally, the publication of the heritage White Paper heralds fundamental changes to the regulation of England's historic buildings. The potential impact of the changing legislative framework makes additional research into the sector especially timely.

2.1 The Need for Traditional Building Craft Skills

Modern methods of construction have proven highly effective at producing durable work at reasonable cost through economical use of raw materials and relatively low inputs of skilled labour. Problems begin when the increasing divergence between modern and traditional building techniques means that:

- The distinctive nature and identity of traditional buildings are no longer understood or appreciated.
- Traditional building craft skills decline as construction training evolves in line with the requirements of new build.
- Traditional building materials become more difficult to source because of reduced demand.

These developments have come to be associated with growing costs and waiting times for traditional craftsmanship. This inevitably results in the use of modern materials and techniques on traditional buildings that require repair, maintenance or improvement, which can lead to

disastrous results for the building's structural, functional and aesthetic integrity.

The replacement of traditional local building materials and styles by their generic modern equivalents can lead to the erosion of the regional character and authenticity of traditional buildings. Moreover, the use of hard, impervious modern materials can compromise the 'breathable' construction associated with more permeable traditional building materials.

2.2 Traditional Building Craft Skills in England, 2005

The NHTG 2005 *Traditional Building Crafts Skills: Assessing the Need, Meeting the Challenge* report identified that expenditure on work involving pre-1919 buildings was worth around £3.54bn a year, with £1.7bn of that spent on listed buildings alone. This was forecast to rise in 2006 to *£3.68bn and £1.85bn respectively.*[8]

In terms of the craft skills required, the research found that nearly half of all contractors working in the traditional building sector were experiencing difficulty recruiting skilled craftspeople, and almost a quarter had outstanding vacancies.

Furthermore, while holders of listed building stock were broadly happy with the quality of the work they had commissioned, more than half had experienced significant delays in completion owing to a shortage of skilled craftspeople.[9] In addition, there were especially long waiting times in most regions for those with certain skills, particularly fine woodworkers (carvers and cabinetmakers) and decorative finishing specialists (gilders and marblers), and a general shortage of skilled metalworkers.

Given these shortages, and the size of the sector, the 2005 report estimated that the industry had 3,170 long-term vacancies, and that an additional 3,420 recruits would be required in 2005/06 alone to meet demand for traditional building craft skills.[10]

The report found a pattern of 'skills lacking by material', with wood and stone skills being especially in demand in the areas associated with timber and stone construction. It also identified particular need in the areas of bricklaying, carpentry, leadwork and stonemasonry. Other deficits were of equal or greater importance because of the extremely small numbers of people working in certain fields, such as cob construction and drystone walling, and although the report did not find evidence of the imminent extinction of any traditional craft skills, it did express fears for the future.[11]

2.2.1 Recommendations from the 2005 Report

To address these problems, the 2005 report made the following key recommendations to improve the demand for and supply of traditional building craft skills.

- The NHTG should continue its key role and provide a cohesive voice to develop a coherent strategy for traditional building craft skills.
- An effective communications and marketing strategy should be developed in the light of the research findings.
- Improved information, advice and guidance should be made available for clients, stockholders and funding bodies to ensure that they have a clear awareness of the importance of employing appropriately skilled craftspeople.
- Changes should be made in the procurement process to drive forward the need for training in traditional building craft skills.
- Long-term funding opportunities should be secured to ensure continuity in developing and training the built heritage workforce.
- The image of the sector should be improved to attract applicants with suitable skills and attitudes across the age ranges 16+ and 25+, as well as career changers, and to increase diversity.
- Qualifications and training should be relevant and valued within the sector, and easier to access to allow a recognised career progression.
- Awareness of traditional building crafts skills within the National Curriculum should be improved, and the vocational route promoted as a career pathway.
- Investment in training by contractors should be encouraged, and the benefits of young and adult apprenticeships promoted to this sector of the industry.

Progress on these recommendations and the Skills Action Plan in the original report is reflected in the products and assistance that the NHTG has developed for all aspects of traditional building craft skills to:

- facilitate training and skills development within the UK built heritage sector to sustain a qualified and competent workforce to meet current and future demand, by working in partnership with clients, heritage bodies, contractors, craftspeople, trade federations, trades unions, further education and private training providers and other stakeholders
- reduce skills shortages and skills gaps, and improve recruitment, training and career development for craftspeople.

Products

The following bespoke products have been or are being developed:

- Heritage Skills NVQ Level 3
- Heritage Apprenticeship Programme
- Senior Craftsperson Scheme
- Mentoring Scheme
- Training the Trainers programme, with associated DVD and text-based teaching support materials
- Traditional Building Skills Bursary Scheme for England and Wales.

Services

The NHTG fulfils a UK-wide national and regional strategic and planning role, and offers a wide range of advisory services including:

- Stimulating client demand to use suitably skilled and competent contractors and craftspeople on pre-1919 building contracts.
- Coordinating an integrated regional Heritage Skills Network in each of the nine English regions.
- Developing a National Heritage Training Academy framework for coordinated delivery of training and skills development to meet regional demand.
- Working with the National Skills Academy for Construction (NSAfC)

to integrate appropriate conservation and repair projects within this accredited mainstream construction on-site training programme.

- Advising employers and craftspeople on training needs and training plans.
- Working with colleges, universities and learning networks to improve opportunities for craftspeople to progress to higher education routes.
- Providing a range of information, guidance and careers advice.
- Organising, supporting and participating in UK-wide heritage skills events.
- Commissioning and publishing skills needs analysis research to assess demand, supply and training provision for this sector.
- Liaising with relevant organisations to promote conservation training and best practice.
- Helping to develop training courses, taster days and so on for contractors, building professionals and historic property owners.
- Enabling partnership working on educational initiatives to raise awareness of the built heritage sector.

The aim is to meet the skills and training needs of the built heritage sector in the next five years and beyond, and to ensure that these vital traditional building skills are available in the right place, at the right time.

2.3 Drivers for Change

Changes to the policy landscape are likely to have an important impact on the built heritage sector, making it more important than ever to have up-to-date information on the sector.

2.3.1 Sustainability

The development of a suitably skilled workforce able to deal with the challenges presented by traditional buildings is affected by the sustainability agenda. The government has identified four areas for priority action:[12]

- Sustainable consumption and production.
- Climate change and energy.
- Natural resource protection and environmental enhancement.
- Sustainable communities.

The construction industry has a vital role to play in all these priority areas. Buildings are now recognised to be a major contributor to the carbon emissions believed to underlie global warming, and it is estimated that nearly half the UK's carbon emissions are produced by buildings.[13] In addition, the manufacture of modern building materials can be extremely energy-intensive, with cement manufacture alone estimated to account for 4–5% of all human carbon emissions.

Reusing and repairing existing building stock has clear environmental benefits, with increasing evidence that pre-1890 public buildings have levels of energy efficiency that at least match, and in important respects exceed, those of the most sophisticated modern buildings.[14] Other buildings, particularly domestic dwellings, cannot match the energy efficiency of recent construction, but can often be retro-fitted with energy-saving insulation (requiring different skills sets from those suited to more modern buildings) in order to help them meet the efficiency standards demanded by the move towards a more sustainable world.[15]

In addition, there is now increasing consciousness of using a 'whole life' model for assessing the environmental costs of different building types. The high-quality materials and craftsmanship and consequent greater durability of traditional buildings mean that when environmental costs are calculated over such a building's entire lifespan, its impact often compares favourably with more recent construction. Finally, the energy already put into existing structures should ideally not be lost, as replacement will almost always be more environmentally costly than refurbishment.

These issues are likely to become more prominent with the recent introduction of Home Information Packs (HIPs). These must include an Energy Performance Certificate (EPC), and this alone is expected to increase the demand for improved insulation of traditional buildings.

Another vital aspect of the sustainability agenda is an increased understanding of the important role historic buildings can play in encouraging sustainable communities, especially in areas of economic deprivation. This has now become a major government priority. This is recognised by the Heritage Lottery Fund's Townscape Heritage Initiatives (THIs), with individual THI grants worth up to £2m. English Heritage's Partnership Schemes in Conservation Areas are another important initiative. These are based on a partnership between English Heritage, local authorities and other funding bodies, and are designed to ensure the long-term sustainable future of conservation areas. The Partnership Schemes are run on a day-to-day basis by local authorities, and are designed to

target funding for the preservation and enhancement of conservation areas, in particular through supporting heritage-based regeneration initiatives.

These changes suggest that the built heritage sector, and the roles of those working within it, will be affected as planning and heritage protection laws are modified in order to promote sustainable development.[16] However, the effects of increased involvement in sustainability, regeneration, climate change and energy efficiency will have a major impact on the supply of skills and the sensible environmental use of the building materials supply chain. The concept of reusing older buildings is not a new one, but without careful strategic planning and integration between the different sectors of the construction industry the demand for traditional building skills needs in the future could become even more acute than current forecasts suggest.

2.3.2 The Heritage White Paper

In 2007, the government White Paper *Heritage Protection for the 21st Century* was published, outlining the government's plans for forthcoming reform of the heritage protection system based on three core principles:

1 developing a unified heritage system that is easy to understand and to use
2 establishing a system that engages the public on protection decisions and provides wide opportunities for involvement for individuals, owners and community groups
3 putting the historic environment at the heart of the reformed planning system.

The reforms envisaged to fulfil these principles include the development of a single, unified list of nationally protected heritage assets in place of the current scheme of separate protection of ancient monuments, listed buildings and historic sites; transfer of statutory responsibility for listing decisions to English Heritage; and a new system of Historic Assets Consents, to replace the various existing consent systems for heritage assets.

In addition to rationalising the designation and recording of heritage assets, the aim of the reforms is to make the heritage protection system more responsive and flexible by devolving routine decision-making to local level, while ensuring that major assets are adequately protected. This more rapid, localised decision-making process could potentially increase demand for work on historic buildings, thus making the supply of traditional building craft skills a matter of even greater importance.

2.4 Current Initiatives

In response to the 2005 report's Skills Action Plan, a number of initiatives have been developed to meet the anticipated skills needs of the built heritage sector. In the first instance, increasing the supply of heritage building craft skills depends not only on client demand for skills, but on improved recruitment to this sector. This is, however, related to the construction industry as a whole, where a major concern is the traditionally narrow ethnic and gender profile of the construction workforce, which acts as an impediment to recruiting able entrants.[17] Women in particular have been grossly underrepresented, accounting for only 1% of manual employment in the sector.[18] Ethnic minorities have also been seriously underrepresented.

2.4.1 bConstructive

The bConstructive campaign launched in 2005 is aimed specifically at increasing the attractiveness of the construction industry to underrepresented sections of the population.[19] It has used a variety of techniques, including text messaging, internet games, a website and targeted financial support (including the ConstructionSkills Inspire Scholarship programme for undergraduates interested in pursuing a construction career). The campaign has generally been considered a success, with evidence of significantly increased numbers of women and ethnic minority groups entering construction-related courses in the period since the campaign began.[20] Built heritage skills are included in the bConstructive campaign.

2.4.2 Regional Heritage Skills Action Groups and National Heritage Skills Academies

The five-year Skills Action Plan in the NHTG 2005 report is now being implemented through Regional Heritage Skills Action Groups. These are working to provide sustainable, flexible traditional building skills training and development to meet regional demand and to ensure best possible access to regional funding streams. The regional steering or coordinating groups have a standardised core comprising representatives from the built heritage sector, mainstream and specialist construction, FE colleges and other training providers and funding providers/facilitators.

After a slow gestation, many of the regional groups are beginning to build on examples of best practice in different parts of the country to expand and develop traditional building skills and training capacity within their regions, using regional expertise to direct resources.

The NHTG is also developing a National Heritage Training Academy Framework linked to the Regional Heritage Skills Action Groups. These are based around a central hub, but work in a wider satellite structure, to share existing infrastructure, resources, knowledge, expertise and best practice. The Academies bring together a range of training partners and placement providers on live heritage projects and sites to augment FE training provision.

Heritage Academies are similar to the operational structure of the National Skills Academies for Construction (NSAfC), with training opportunities and providers linked though a regional network. The two most advanced Heritage Academy models are:

- **National Heritage Training Academy – South West (formerly the Cotswolds Heritage Academy):** this Academy is bringing together partners and training providers across the South West region, and has benefited from joint funding from ConstructionSkills and The Prince's Foundation for the Built Environment and support from English Heritage. It is now delivering a wide range of education and skills training initiatives for the whole South West region, and hopes to secure Regional Development Agency and Learning and Skills Council funding for its programme from March 2009.
- **National Heritage Training Academy – Yorkshire and the Humber:** this will be launched in summer 2008 and will comprise a coordinated network of training providers and projects combining work-based learning opportunities with fixed centres of training delivery.

2.4.3 Training the Trainers

The NHTG Training the Trainers programme is designed to improve the knowledge and skills of FE college lecturers in aspects of conservation, repair and maintenance of buildings, and to support the roll-out of the Heritage Skills NVQ Level 3. Over the past two years the programme has attracted 57 college lecturers in England and is being developed even further to support the North-East Regional Heritage Skills Project.

Funding from the North-East Learning and Skills Council has enabled this course to be tailored and delivered specifically to meet the training needs of the region. Twenty-two FE college lecturers and assessors from Hartlepool College, New College Durham, Newcastle College, Northumberland College and City of Sunderland College have participated in three one-week blocks from November 2007 to March 2008. This includes tuition in conservation principles, brickwork, plastering, painting and decorating and traditional carpentry from some of the country's leading experts.

The course combines lectures with hands-on practical training in the workshop and on-site training at historic locations to instil general conservation and restoration principles and specific craft skills.

The Training the Trainers programme is supported by DVD and text-based teaching material on specialist trades/built heritage skills following the Heritage Skills NVQ Level 3 syllabus, and provides an accessible learning tool for trainers and trainees alike within the training environment.

2.4.4 Built Heritage Skills Qualifications

Heritage Skills NVQ Level 3

Until now qualifications in the heritage sector have often been highly specialised, and pathways for continued development for existing craftspeople have been limited. The Heritage Skills NVQ Level 3 offers a new career pathway for potentially thousands of people – from those in the construction industry who want to develop new skills and knowledge relating to traditional building skills and materials, to experienced craftspeople already working in the heritage sector but without a qualification.

The qualification comprises three mandatory units covering general workplace practices, plus a minimum of two craft-specific optional units from one of the following: brickwork, carpentry and joinery, earth walling, painting and decorating, plastering, roofing, stonemasonry, and wall and floor tiling.

A target of at least 250 Heritage Skills NVQ Level 3 achievements has been set for 2008, and this qualification is also one of the current requirements for the heritage skills endorsement of the CSCS. This combines proof of competence and a health and safety test as part of the drive for a fully qualified workforce by 2010.

Senior Craftsperson Scheme
ConstructionSkills funded the Conference on Training in Architectural Conservation (COTAC) to develop the National Occupational Standard (NOS), and currently the Construction Awards Alliance is developing the business case for this NVQ Level 4, which will be available to new-build and built heritage sector craftspeople. The potential qualification would be recommended for use by the guilds, livery companies and federations/ associations, together with peer review, towards their conferring the designation of master craftsperson.

Considerable work is also being undertaken to support and align higher level qualifications, including Foundation Degrees.

Heritage Apprenticeship Programme
It is estimated that approximately 200 apprentices per year in England operate in highly specialised areas. A pilot Heritage Apprenticeship programme starting in September 2008 will provide a bespoke programme to help apprentices achieve an Advanced Modern Apprenticeship and Heritage Skills NVQ Level 3. This reflects the basic entry level of skill to work in this sector. Based upon employer demand, the Apprenticeship combines a normal FE college block-release programme in a craft occupation with an agreed in-company training programme.

2.4.5 NHTG Mentoring Scheme

The NHTG Mentoring Scheme is being developed in partnership with the guilds, livery companies and trade federations to facilitate skills development and career progression for craftspeople working in the UK-wide built heritage sector. This formal mentoring process will allow experienced and trusted practitioners to act as mentors to pass on their knowledge and skills to develop the abilities of less experienced craftspeople, working primarily but not exclusively within the workplace. This will be directly linked to the NHTG Regional Heritage Skills Action Groups and possible future home-country groups to develop networks for this scheme.

2.4.6 NHTG-Branded Assessment Services

This NHTG working in partnership with ConstructionSkills National Specialist Accredited Centre (NSAC) will support training and assessment of operatives up to Heritage Skills NVQ Level 3 and above (when available). This unique, one-stop shop for UK-wide assessment for the built heritage sector will provide centralised funding support and coordinated administration to enable this network to flourish. Current assessors will be utilised, but experienced craftspeople that teach and instruct will be selected by the NHTG and NSAC and trained as Assessors, thus using their skills and knowledge to maximum effect within the sector.

2.4.7 Careers Guidance

Improvements to provision of relevant training and qualifications have been backed up by new ways of supporting potential entrants to the built heritage sector. For example, the NHTG has produced a career brochure, *Building Conservation and Restoration,* which offers a general introduction to built heritage occupations. Careers in the sector are also now supported by a new Building Craft Bursary Scheme. In April 2007 the NHTG careers brochure was distributed to over 5,000 careers advisers in UK secondary schools as part of the ConstructionSkills' 'Make Your Mark' construction careers pack aimed at GCSE and A-level students.

2.4.8 Heritage Lottery Fund Traditional Building Skills Bursary Scheme for England and Wales

The £1.2m Traditional Building Skills Bursary Scheme is being delivered by a partnership comprising English Heritage, the National Trust, Cadw, ConstructionSkills and the NHTG, aided by a £900,000 grant from the Heritage Lottery Fund (HLF).

The scheme in England and Wales will provide funding between 2006 and 2010 to support 80 variable-length bursaries for work-based training placements for individuals who want to develop their traditional building skills, ranging from those already working in the construction industry to career changers who wish to enter the sector.[21] Recorded work-based evidence from a placement can also be used by the bursary holder to work towards achieving the Heritage Skills NVQ Level 3.

The Traditional Building Skills Bursary Scheme is one element in a much larger programme of £7m support from the HLF for a total of 10 bursary schemes. Among these, the Broads Craft Bursaries, administered by the Broads Authority, will offer further support for built heritage skills by enabling training of 10 reed and sedge cutters and 5 millwrights. A Masonry Conservation Bursary Scheme is also available and administered in Scotland and Northern Ireland by Historic Scotland in partnership with the Department of Environment Northern Ireland (DOENI). Finally, the HLF is providing further support for training within the heritage sector by requiring that all grants above £1m include the provision of an on-site training plan.[22]

2.4.9 The Prince of Wales's Building Crafts Apprentices

The Prince's Foundation for the Built Environment mission is to improve the quality of people's lives by teaching and practising timeless and ecological ways of planning, designing and building. The Foundation has established a new programme of applied study in traditional building skills, for craftspeople who want to bridge the gap between basic qualification and master crafts (www.princes-foundation.org/craftapprentices).

The seven-month programme includes an intensive three-week residential summer school, tailored courses and work placements in new-build and heritage settings. This gives people the tools they need to develop their skills in a broader, holistic context by working with architects and other building experts/professionals. Trainees can also use this site-based experience to record their work-based evidence towards achieving the Heritage Skills NVQ Level 3.

Sector Skills Councils: Their Role in the Built Heritage Sector

Sector Skills Councils (SSCs) provide employers with a unique forum to express the skills and productivity needs pertinent to their sector. Each SSC is an employer-led, independent organisation, covering a specific sector across the UK.

While each SSC is responsible for a specific sector or footprint (as defined by Standard Industrial Classifications specified within their contract), many have cross-sector interests and share common strategic objectives. This is particularly evident across the built heritage sector, where at least seven SSCs have an immediate interest in terms of conservation, repair and maintenance.

Property Services
Asset Skills is the Sector Skills Council for the management and maintenance of the built environment, which encompasses property, housing, facilities management and cleaning. There are over 147,000 workplaces and 695,000 people in the sector, including 350,000 working in property services and housing and 61,000 in facilities management. Occupations include town planners, facilities managers, surveyors, housing managers, estate agents, cleaners and caretakers.

Construction
ConstructionSkills is the Sector Skills Council for construction. As a partnership between CITB-ConstructionSkills, the Construction Industry Council and CITB-Northern Ireland, it covers the construction industry from crafts through to building professionals.

The construction sector workforce comprises about 2.2 million people and over 203,000 firms. The vast majority of the workforce, over 1.9 million people are in the contracting sector with around 300,000 in the professional services sector (SIC Code 45). Approximately 1.4 million are directly employed within 175,000 building companies and 28,000 professional practices. The great majority (95%) of firms within the sector employ under 10 people. A further 806,000 people working within the sector are self-employed, representing well over a third (37%) of the available labour in the contracting sector.

ConstructionSkills and English Heritage signed their first three-year Sector Skills Agreement in December 2004 and the second agreement is for 2008–2011. The National Heritage Training Group (NHTG) was formed by English Heritage and ConstructionSkills in March 2003 to address traditional building craft skills training and development within the built heritage sector, and is therefore an integral part of this Sector Skills Agreement.

Creative Industries
Creative & Cultural Skills is the Sector Skills Council for advertising, crafts, cultural heritage (i.e. museums, archaeology and built heritage), design, music, performing, and visual and literary arts, in which about 370,000 people work. Employment in the preservation and interpretation of historical sites and buildings is estimated at around 36,000 across the UK.

Environment and Land
Lantra is the Sector Skills Council for the environmental and land-based sector working across 17 industries. It is responsible for land management (including historic parks and gardens), land-based engineering, production, animal health and welfare, and environmental industries (including conservation). About 437,000 people are involved in these industries, of whom about 24,000 are employed in forestry, logging and sawmilling. Two industries relevant to the historic environment are landscape (including historic parks and gardens with built structures) and environmental conservation (including heritage staff), but separate employment data for those in the heritage sector is not available.

Lantra and English Heritage signed a Sector Skills Agreement in 2006 and the two organisations coordinated the development of a Heritage and Botanic Skills Group.

Process and Manufacturing
Proskills UK is the Sector Skills Council for the process and manufacturing sector, which covers coatings, extractives, glass, building products and printing. The sector employs 319,000 people in 25,000 companies. Employment in the manufacture of building products is estimated at around 106,000 people across the UK.

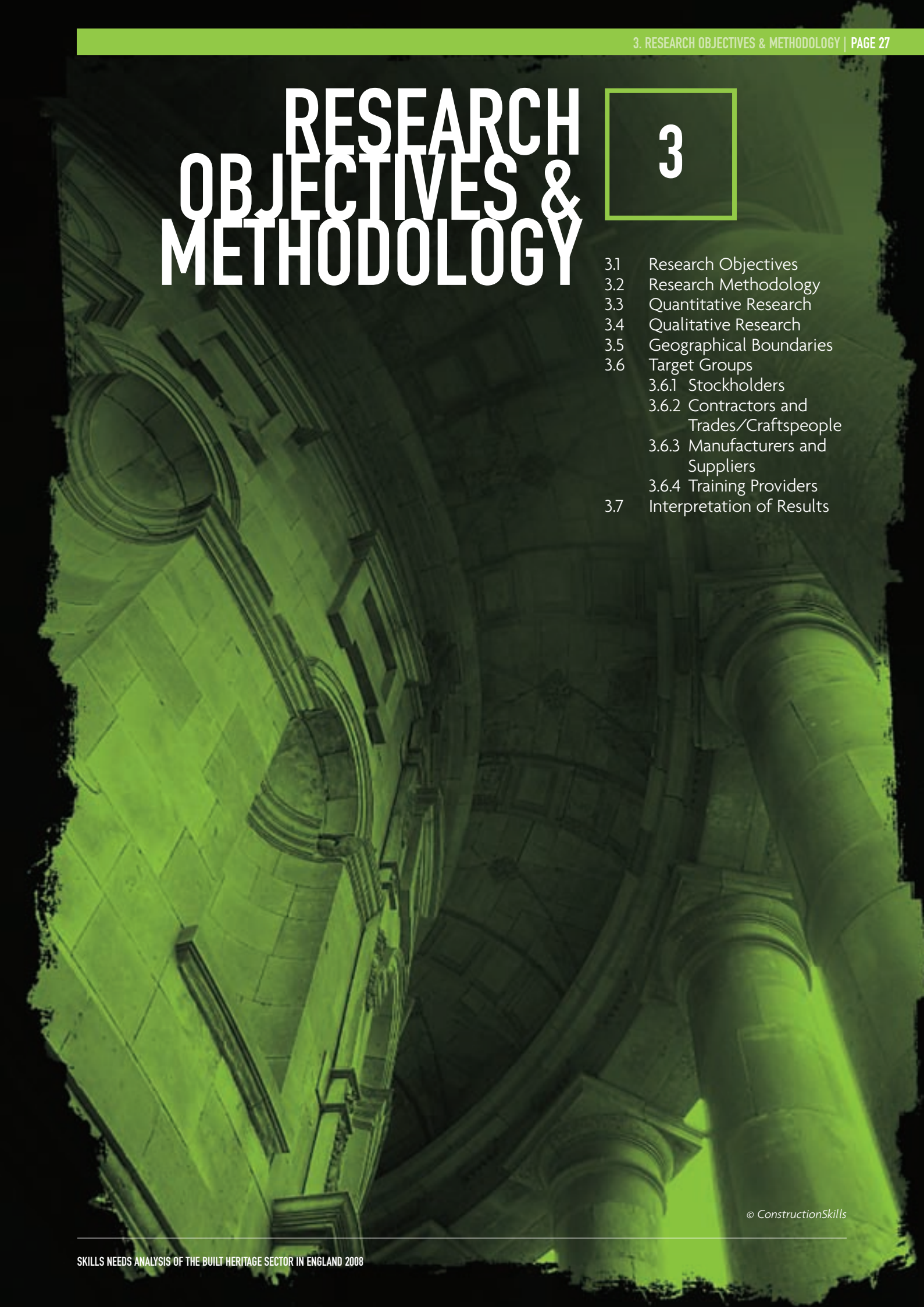
Science, Engineering and Manufacturing
Semta is the Sector Skills Council for the science, engineering and manufacturing industries. Covering more than 74,000 companies, the sector employs 1.8 million people, including about 21,000 in the manufacture of builders' carpentry and joinery of metal.

Building Services Engineering
SummitSkills is the Sector Skills Council for the building services engineering sector, covering electro-technical, heating, ventilation, air-conditioning, refrigeration and plumbing industries (and including the provision of services for historic buildings). Across the sector there are 56,000 businesses employing some 558,000 people. Of these, 356,000 people are in the electro technical, field 95,000 in heating, ventilation and air-conditioning, and 107,000 in plumbing.

Sources: Labour Force Survey and Annual Business Inquiry, except SummitSkills SSC estimate

RESEARCH OBJECTIVES & METHODOLOGY

3



research objectives & methodology

This section of the report describes the approach and methods used by the researchers to:

- Analyse and quantify supply and demand in the sector and identify specific skills shortages by craft occupation.
- Assess the material supply chain and related skill issues for manufacturers and suppliers of traditional building materials.
- Review current careers promotion for the sector.
- Review and evaluate the impact of the strategic national policy and regional action to address the specific needs of this sector.
- Evaluate the effectiveness and impact of the Skills Action Plan in increasing awareness of and recruitment to the sector and reducing the skills shortages and gaps identified in the report.
- Update the Skills Action Plan and identify appropriate performance measures within an appropriate timetable agreed with major stakeholders.

The first major primary research of traditional building craft skills in the built heritage sector in England, *Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge,* published by the NHTG in 2005, was followed by similar research in Scotland and Wales, with the reports published in January and July 2007, respectively.

The 2005 report provided the first-ever coherent overview of the demand for and supply of traditional building craft skills in England. It also contained the first Skills Action Plan for the built heritage sector based upon feedback from key agencies and stakeholders, outlining strategies and initiatives needed to fill the identified skills gaps and skills shortages. This has had a major impact on the sector, and has been used as a template for action by not only the NHTG itself, but a wide range of stakeholders.

Because it was the first-ever research of its type, the 2005 report was unable to offer insight into medium- and longer-term trends in the sector. This current research now provides accurate qualitative and quantitative data to review developments since 2005 and update the current state of the built heritage sector in England. This also provides an opportunity to amplify certain aspects of the original research and further improve the precision and depth of our understanding of traditional building craft skills in England – thus helping to refine and adjust the required approach in developing long-term training and skills development solutions for this sector.

3.1 Research Objectives

The research objectives closely mirror those of the original NHTG 2005 report in England, but also include a detailed survey of traditional building materials manufacturers and suppliers not undertaken in the 2005 study to assess the material supply chain in England and its associated skills needs. This builds upon similar research into this area in the Scottish and Welsh reports of 2007.

The researchers also had to meet the following requirements:

- Provide optimal comparability with the previous research data and reporting, while improving sector and regional breakdown.
- Identify areas of specific training need by craft skill and by location.
- Continue and enhance established mechanisms for consulting with, and evaluating the views of, employers, manufacturers, suppliers, training providers and clients.
- Align with ConstructionSkills Sector Needs Analysis Reports on the construction industry.

As with the earlier research, the term 'traditional building skills' is used in this report to refer to the skills required for work undertaken on all traditional buildings (pre-1919), from large-scale conservation and restoration projects to routine repair and maintenance. The alternative term 'heritage building skills' used in the NHTG *Heritage Building Skills* report of 2003 has been avoided because it can be understood to be primarily concerned with major or listed buildings, whereas this survey concentrated on the regular repair and maintenance work required by traditional buildings.

For the purposes of this study, the same 1919 cut-off date for all traditional buildings as used in the 2005 research is retained to comply with the categories used in the English House Condition Survey (EHCS), the principal source of statistical information on the national building stock.

3.2 Research Methodology

While closely following the 2005 Skills Needs Analysis to ensure

consistency and comparability, the methodology of the current research has one significant change, with the survey sample of building contractors. This was changed to include a larger representation of contractors than sole traders and small enterprises. The rationale was that, although sole traders make up a large proportion of the construction workforce, they are not best placed to provide information on skills shortages and gaps, as they will only rarely be involved in recruiting skilled trades/craftspeople. Instead, general contractors who employ labourers and/or make extensive use of subcontractors are considered to be more familiar with the key skills issues.

This sample therefore permits a more robust analysis of skills needs in the sector, but requires some caution when directly comparing the findings of this research with those of the 2005 report.

The major focus of the project has been on primary research. However, secondary sources, including ConstructionSkills data on the UK and English construction industries and English Heritage reports into the size and scope of various aspects of the heritage sector, have also been used to provide essential context.

The primary research consisted principally of quantitative surveying of key stakeholder groups, with surveying materials closely based on those used in the 2005 research to ensure optimal comparability, but modified where appropriate to secure greater depth and precision in responses. This was supplemented by a smaller number of in-depth interviews with selected stakeholders to add further depth of information to the quantitative research.

The survey targets of 600[23] quantitative interviews and 50 in-depth telephone interviews were exceeded in both cases.

3.3 Quantitative Research

A series of standardised questionnaires was developed (with the input and guidance of the research steering group) based upon those used in the previous NHTG traditional building craft skills reports for England, Scotland and Wales.

Specific questionnaires were developed for each of the following key stakeholder groups:

- Public and commercial stockholders.
- Private stockholders.
- Contractors.
- Building materials manufacturers and suppliers.
- Training providers.

A total of 646 individual contractors, training providers, manufacturers and suppliers, and private stockholders and public and commercial stockholders were interviewed for the quantitative surveys between August 2007 and January 2008 (see Table 1), using trained interviewers and a standard format to ensure consistency of interviewing and recording.

Quantitative interviews with building professionals were not conducted as part of this research, as simultaneously separate and specific research for the NHTG was undertaken by the same researchers, published as *Current Skills and Future Training Needs of Building Professionals Working in the UK Built Heritage Sector,* and launched at the same time as the present report.

3.4 Qualitative Research

Qualitative research was undertaken throughout, but the bulk of the interviews were early on in the research, to inform and refine the development of the quantitative scripts. Other interviews were conducted on an ad hoc basis to provide specific information, or provide valuable in-depth insights into emergent issues.

Table 1 Number of Interviews Conducted by Stakeholder Group

	Quantitative	Qualitative
Contractors	533	0
Trade associations	0	26
Suppliers & manufacturers	25	10
Training providers	30	15
Stockholders	58	17
Total	**646**	**68**

Qualitative input is of particular importance for understanding the built heritage sector, especially as research into this subject remains at an early stage and there are considerable difficulties in gaining an accurate sense of the sector's scope and composition.

Apart from the studies commissioned by the NHTG there is very little basic study of the field, and authoritative information is hard to obtain. National Statistics does not compile systematic information on the built heritage sector, because it segments the construction industry according to the types of buildings worked on (such as dwellings or infrastructure) and whether the work was for a private or public-sector client, but not by building age. Therefore, statistics on the number of people working in the built heritage sector are simply subsumed within the broader construction industry.

This reflects a lack of clear boundaries and agreed definitions in this field, and there is a general lack of registration or accreditation that adequately or exhaustively defines the extent of the built heritage sector or the numbers working in the sector. Wider-ranging information is therefore needed, to gain a comprehensive and realistic overview of the built heritage sector and its issues.

An additional 68 qualitative interviews were undertaken with the target groups (see Table 1) to gain a more three-dimensional view of the sector and provide a wide-ranging insight into current perceptions of the scope and current situation regarding traditional building craft skills in England.

3.5 Geographical Boundaries

The research was carefully conducted to provide information at a regional as well as national level (see Table 2). The nine English regions as defined for administrative purposes –– geographically from the bottom to the top of England: South West, South East, London, East of England, East Midlands, West Midlands, Yorkshire and Humberside, North West and North East – provide the basis for the individual regional summaries in Section 8 of this report. However, when interpreting regional level data, it should be noted that the sample sizes are inevitably much smaller than those used to generate the national data, and appropriate caution should be exercised (see introduction to Section 8).

3.6 Target Groups

3.6.1 Stockholders

For the quantitative element of the research 35 public and commercial stockholders and 23 private stockholders were surveyed to provide an insight into the issues confronting owners of historic and traditional buildings. The research was conducted as telephone interviews or through a postal survey distributed to attendees at a Society for the Protection of Ancient Buildings (SPAB) weekend course for homeowners. These surveys captured details of work undertaken on their properties over the previous year and any difficulties encountered in recruitment and employment of contractors.

Table 2 Number of Interviews Conducted by Region

	Quantitative	Qualitative	Total
South West	82	11	93
South East	101	9	110
London	46	3	49
East of England	78	5	83
East Midlands	79	1	80
West Midlands	60	1	61
Yorkshire & Humberside	76	6	82
North East	38	3	41
North West	86	6	92
National Trade Federations	0	23	23
Total	**646**	**68**	**714**

A further 17 interviews were undertaken with public and commercial stockholders, to provide more detailed information on the evolving situation regarding demand.

3.6.2 Contractors and Trades/Craftspeople

Contractors were the major focus of the research, with a total of 533 interviews completed with those on the CITB-ConstructionSkills register.

Although contractors were not specifically targeted for qualitative research, 26 senior representatives of a variety of trade associations and professional bodies were contacted to provide the views of various groups within the construction industry. These included organisations concerned with the general construction sector, as well as those with a specific interest in heritage-related skills. This combination provided a range of views from general contractors as well as specialist trades/craftspeople with a particular interest in traditional building craft skills.

3.6.3 Manufacturers and Suppliers

It has been increasingly recognised that the manufacture and supply of traditional building materials is an important aspect of the built heritage sector. Adequate supplies of traditional materials are essential to undertake work on traditional buildings to appropriate standards. The current research complements the NHTG traditional building craft skills reports for Scotland and Wales by undertaking the first significant research into this subject for England.

A total of 10 in-depth qualitative interviews and 25 quantitative interviews were undertaken with a wide range of manufacturers and suppliers of traditional building materials (timber, lime, brick, stone, and fixtures and fittings).

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3.6.4 Training Providers

To ascertain the range and means of training delivery of construction craft courses in FE colleges, 30 training providers were interviewed, and a further 15 training providers were able to provide in-depth feedback through telephone interviews.

3.7 Interpretation of Results

The results of the quantitative research summarised in this report are mostly presented in the form of the proportion (i.e. the percentage) of respondents giving each answer. Unless stated otherwise it should be assumed that the base for the table or chart is all respondents in the relevant chapter. For example, for contractors the 'all

respondents' base consists of the 533 interviewed in the quantitative research. Where a question was asked of only a subset of respondents, the base is stated in both the commentary and any accompanying tables or figures.

In some cases a 'mean' value has been calculated, and this is shown as an 'average' with the word 'average' signifying the arithmetic mean value.

Extensive use of rating questions was used throughout the research to measure respondents' attitudes to various issues. In all cases a five-point scale was used, where 1 was the negative pole/lowest value and 5 the positive pole/highest value. In some cases, mean scores were calculated to aid analysis. On a scale measuring importance, for example, a mean score over 4 would signify that a particular attribute was important to the sample group as a whole. A score of 2 or less would signify that it was not important. A mean score of or around 3 indicates a broadly neutral response; this can be either because the majority of respondents gave a neutral response or because approximately equal numbers gave answers at either end of the scale.

4

DEMAND FOR TRADITIONAL BUILDING SKILLS: STOCKHOLDERS

demand

This section of the report estimates the actual size of the demand for traditional building craft skills. Firstly, the scope and nature of England's traditional buildings is outlined, using existing data sets from a number of sources to quantify the number of pre-1919 traditional buildings within the built heritage sector. Stockholders of traditional buildings, that is, public and commercial owners and private dwelling owners, were also interviewed to establish:

- The scope of conservation, repair, maintenance and restoration work undertaken on their properties during the past 12 months and any expected work in the next 12 months.
- Craft trades used in the past 12 months.
- Level of satisfaction with the quality of workmanship and waiting time for the work undertaken.

From this, the combined spend profile and specific skills required have been used to determine traditional building skills development in the built heritage sector since 2005, and used as a basis for mapping future skills needs.

4.1 Historic and Traditional Buildings in England

4.1.1 Historic Buildings

To understand the scale and nature of the demand for traditional building craft skills, it is necessary to gain an accurate understanding of the source of the demand, that is, England's extraordinarily rich and varied architectural heritage. The most important of these buildings are officially classified as being of historic or architectural interest within the following categories:

- Buildings designated as, or part of, a UNESCO World Heritage Site.
- Sites and monuments scheduled under the Ancient Monuments and Archaeological Areas Act 1979.
- Buildings listed under the Planning (Listed Buildings and Conservation Areas) Act 1990.
- Buildings in conservation areas.
- Buildings in national parks.
- Buildings of local vernacular construction and style.

The rarest designation is as a World Heritage Site, an area whose natural or man-made beauty or historic significance has been recognised by UNESCO as being of international significance – there are only 851 worldwide, of which 17 are in England (including natural as well as cultural monuments). However, some sites, such as the historic centres of the cities of Bath and Liverpool, embrace numerous individual buildings and structures.

In spite of their internationally recognised importance, it should be noted that World Heritage Sites do not benefit from any direct protection under English law by virtue of their designation. To do so, a building must either be 'scheduled' as an ancient monument or listed as a building of historic or cultural importance.

Scheduled ancient monuments are the most stringently protected heritage sites in England. This designation is made by the Secretary of State for Culture, Media and Sport acting on the advice of English Heritage, and is intended to protect archaeological remains of national importance. Only some of these sites include buildings, and many of these are ruins. All alterations or changes to these sites require express permission from the Secretary of State. This is granted only after exhaustive consideration of exact plans for the work, whose impact on the archaeology of the site will be carefully assessed. There were 19,711 scheduled ancient monuments in 2007.[24]

Listed buildings are also afforded special protection by the Secretary of State for Culture, Media and Sport acting on the advice of English Heritage. The listing system includes three basic categories for buildings of different degrees of historical or aesthetic significance:

Grade I: buildings of exceptional interest
Grade II*: buildings of particular importance and of more than special interest
Grade II: buildings of special interest and warranting preservation.

In addition, there are a very small number of churches graded under an older system of A, B and C, which are usually regarded as being equivalent to Grade I and Grade II*.

It is necessary to obtain listed-building consent for any alteration (internal or external) that affects the character of a listed building, either directly from English Heritage, or, in the case of more numerous and less important Grade II buildings, from the local authority planning office.

Certain other types of structure are also recognised for official purposes as historic buildings.

Table 3 Number of Listed Buildings in England by Grade

	2002	2007
Grade I	9,132	9,133
Grade II*	20,948	20,984
Grade II	339,783	341,783
A	35	35
B	386	386
C	269	269
As yet ungraded	179	179
Total	**370,732**	**372,769**

Source: English Heritage, Heritage Counts 2007, p. 11

These include buildings in England's 9,273 conservation areas, as well as buildings of traditional character in the national parks.[25] Various types of alteration are also regulated in these areas, by local authorities and the parks authorities respectively. Finally, 'vernacular buildings' constructed in the traditional local style of a particular area are also recognised as historic buildings.

According to the latest figures publicly available from English Heritage, there were 372,769 separate listings in April 2007.[26] This represents a slight decrease over the figure cited in the first NHTG *Heritage Building Crafts* report of 2003, but this is purely the result of more accurate reporting. The newly calculated figures show that the number of listings has increased slightly but steadily since April 2002. Over that period there have been 2,037 new listings, mostly at Grade II (see Table 3).

It remains unclear exactly how many structures the listings represent, because in some cases listing entries are for structures that are not 'buildings' (milestones or monuments, for example), and in other cases a single listing entry includes more than one building – an entire terrace of houses, for example. It is therefore difficult to improve on the estimate given in 2005 of something in the region of 500,000 individual buildings.

Table 4 Listed Buildings and Scheduled Monuments in England

	Listed buildings %	Monuments %	Proportion of population %	Proportion of land area %
South West	23.7	35.4	10.0	18.3
South East	20.3	13.4	16.2	14.6
London	4.9	0.8	14.9	1.2
East of England	15.5	8.8	11.0	14.7
East Midlands	7.9	7.7	8.5	12.0
West Midlands	9.1	7.2	10.6	10.0
Yorkshire & Humberside	8.4	13.4	10.0	11.8
North East	3.3	7.0	5.1	6.6
North West	6.8	6.7	13.6	10.8

Source: English Heritage, Heritage Counts 2007, p. 12

Listed buildings are not distributed evenly around the country (Table 4). Instead there is a marked preponderance in the south. The South West has nearly a quarter of all England's listed buildings and more than a third of its scheduled ancient monuments. The South East has more than a fifth of the country's listed buildings. The North East, by contrast, has by far the lowest concentration of historic buildings, although it does have a somewhat larger representation of scheduled monuments.

This reflects the historical concentration of population and economic activity in the south of England from the earliest times until the beginning of the 19th century, and the relative poverty and instability of the northernmost areas.

Almost all buildings dating from before 1700 and surviving in something like their original condition are listed; well-preserved buildings dating from 1700 to 1840 are also highly likely to be listed. Criteria for later buildings become steadily more demanding as their date advances, with buildings constructed after 1945 having to be of quite exceptional importance to merit protection.

In the current state of knowledge, it is impossible to give meaningful estimates of the number of individual buildings included within the remaining categories of historic buildings (conservation areas, national parks and vernacular buildings). It is therefore better to consider them within the context of England's wider heritage of traditional buildings, a broader group which includes the vast majority of historic buildings.

4.1.2 Traditional Buildings

For the purposes of official surveys, all buildings dating from before 1919 are regarded as traditional structures. The basic source of information on domestic buildings is the English House Condition Survey (EHCS). This is a rolling survey of the English housing stock conducted through a combination of householder interviews and physical surveys. The latest available figures, for 2005, suggest that there are some 4,731,000 pre-1919 dwellings in England, or nearly 22% of the total housing stock.[27] This figure represents a significant increase on those reported in earlier EHCS reports. This presumably reflects continued subdivision of existing pre-1919 houses into flats and apartments, and the conversion of pre-1919 industrial, religious, public and commercial buildings into single or multiple dwellings, and possibly also different levels of surveying and reporting accuracy in the various reports.

In addition, the number of pre-1919 commercial and industrial buildings must be taken into account, but official surveys ceased to note the age of these properties after 2000, and the statistics developed for the 2005 NHTG *Traditional Building Craft Skills* report cannot be improved. This estimated that there were around 552,000 individually rated commercial properties, known officially as 'hereditaments', dating from before 1919 (Table 5). As with listing entries, however, individual hereditaments may be whole buildings or only parts of buildings, or in this case even commercial sites such as kiosks and car parks.

In total, there are just over 5,000,000 traditional buildings, all of which require specialist knowledge and skills if they are to be maintained in an appropriate manner. This constitutes an immense volume of actual and latent demand for traditional building craft skills.

Table 5 Distribution of Hereditaments

	Hereditaments
South West	59,000
South East	64,000
London	104,000
East of England	37,000
East Midlands	45,000
West Midlands	48,000
Yorkshire & Humberside	74,000
North East	25,000
North West	96,000
Total	**552,000**

Table 6 Stockholders' Location by Region

	Number of public/commercial stockholders by region	Number of private stockholders by region
South West	10	6
South East	6	1
London	4	5
East of England	2	4
East Midlands	2	1
West Midlands	2	3
Yorkshire & Humberside	3	1
North East	2	2
North West	4	0
Total	**35**	**23**

'Half the time we have to substantially increase the funding initially allocated to a building because it is found to be in worse shape than originally realised. One problem is certainly the damage done by previous cement repairs, particularly on bell towers and steeples, the most vulnerable parts of the buildings.'

Stockholder

In particular, there is known to be a vast backlog of work on historic and traditional properties. English Heritage has recently estimated the cost of repairing and maintaining all 14,500 listed places of worship in England at an average of £185m a year for the five years from 2006,[28] if all outstanding and emergent repair issues are to be dealt with adequately. The EHCS also shows that pre-1919 residences represent a disproportionate amount of the outstanding repairs required to bring the nation's housing up to adequate standard.[29]

4.2 Survey Sample Overview

This research surveyed 35 public and commercial stockholders during the quantitative stages of the research, followed by 17 in-depth qualitative interviews to gather a deeper insight into levels of demand and the issues faced by stockholders of pre-1919 buildings (Table 6).

The stockholders surveyed for the quantitative interviews were distributed across the nine English regions in a way that is approximately representative of the distribution of listed buildings. For that reason larger numbers of stockholders from the South West and South East were interviewed for both the quantitative and qualitative elements of the research. This ensures that the data can be used to develop a representative national picture of the craft trades and skills used by holders of pre-1919 building stock.

Commercial stockholders included the owners of several historic estates, owners of hotels and holiday cottages, proprietors of several shops and galleries, and the estate managers of public museums of various kinds, as well as the incumbents or churchwardens of several historic parish churches.

Interviews were designed to elicit information on stockholder attitudes to maintaining their properties and level of expenditure on work undertaken in the previous and coming years. However, detailed information on repair and maintenance and on associated expenditure were not undertaken on a large scale because this would largely replicate data that is already collected for the EHCS.

The research with private stockholders consisted of a combination of telephone surveying with a small-scale postal questionnaire survey of 50 historic building owners attending a SPAB historic buildings conservation and repair weekend course.

A total of 23 interviews or surveys were completed with private stockholders, who were widely distributed around the country, with only one region, the North West, not being represented (Table 6).

4.3 Ownership of Pre-1919 Buildings

4.3.1 Number of Buildings Owned

Not including those interviewed during the qualitative research, the public and commercial stockholders involved in the quantitative research owned a total of 299 heritage buildings, at an average of just under 9 per individual stockholder. This included two great estates, one in the South West and the other in the North West, which are exceptional in range and variety of buildings, with each estate consisting of more than 100 pre-1900 buildings, with many listed.

If these are excluded, the average for the remaining stockholders is just over three buildings each. The overall impression, reinforced by the findings of the NHTG Scotland and Wales research, is that there is some degree of polarisation between a small number of stockholders with relatively large estates and a large number with fairly modest holdings.

4.3.2 Types of Buildings Owned

The public and commercial stockholders interviewed were involved in a diverse range of businesses and activities, and so the general uses of these pre-1919 buildings can be divided into a series of broad categories, as shown in Figure 1.

Within these broad categories there were four churches, five museums, nine stately homes (two of which were the centres of great estates with a large number of historic properties), six hotels, four art galleries and several property letting companies, mostly involved with holiday properties.

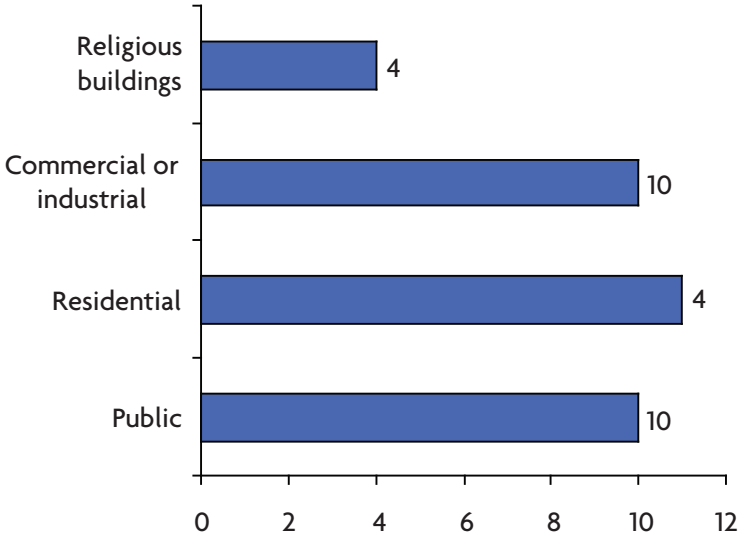
The 17 in-depth interviews were with a similarly broad range of stockholders, including representatives of a medieval cathedral, three historic churches, five stately homes, three hotels, a museum and three holiday-lets.

The 23 private stockholders in Table 6 were all owners of traditionally constructed private residences.

4.3.3 Conservation Value of Properties

Of the 35 public and commercial stockholders interviewed, 30 (86%) owned properties that they knew to be subject to formal planning constraints. A total of 69% of stockholders reported that some of their buildings were listed, and 51% said that they had heritage properties located in conservation areas. Among these were listed churches, country houses and historic castles of major significance, in addition to a considerable number of buildings of lesser importance. Of the private stockholders, 12 (52%) reported owning properties in conservation areas, and 9 (39%) owned listed buildings. Among the in-depth interviews with public and commercial stockholders, 11 owned at least one listed property.

Figure 1 Use of Heritage Property Owned by Public and Commercial Stockholders



4.3.4 Maintenance Approach

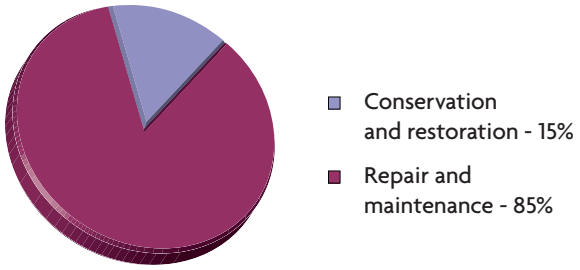
The following abbreviated definitions developed by the NHTG for the 2007 Scotland research[30] for work on pre-1919 buildings (based upon BS 7813, *Guide to the Principles of the Conservation of Historic Buildings,* 1998) were used to distinguish routine *repair and maintenance* and *conservation and restoration:*

- **Repair:** work to remedy damage without alteration/restoration.
- **Maintenance:** routine work to keep a building in good order.
- **Conservation:** actions to preserve the authenticity of a building, including alterations linked to their conservation without alteration.
- **Restoration:** reinstating details to return a building to a previous known state.

There is increasing emphasis in the heritage sector on the vital importance of undertaking regular building repair and maintenance, thus reducing the need for costly conservation and restoration measures. As Maintain Our Heritage has shown in its major report, *Putting It Off,* the regular moderate expenditures required to keep a building sound and watertight are probably more economical, and certainly less damaging to the integrity of the building, than dealing with the major structural failures that almost inevitably follow on from prolonged neglect.[31]

As Figure 2 shows, during the last 12 months stockholders spent over three-quarters of their total expenditure for pre-1919 buildings on repair and maintenance activities, showing that relatively routine work constituted the vast bulk of their budgets.

Figure 2 Public and Commercial Stockholder Expenditure on Pre-1919 Buildings



Base: 35

Two-thirds of public and commercial stockholders (66%) indicated that rather than undertaking regular planned maintenance work on pre-1919 buildings, they mostly undertook reactive repairs and maintenance once a problem had been discovered. The two groups (those who did and did not undertake planned repair and maintenance) had no perceptible defining features, with approaches seemingly reflecting personal attitudes more than levels of expenditure, building use or the use of direct contractors versus an employed workforce.

An even higher proportion of private stockholders, 70%, undertook repairs when a problem arose, rather than following a maintenance plan. Tellingly, one private stockholder commented that they would prefer to undertake more reactive repair and maintenance, but because of the scarcity of good contractors, and the consequent need to book well in advance, they were forced to develop a maintenance plan.

The evidence therefore suggests that most stockholders' attitudes to repair and maintenance remain predominantly reactive; only when a problem becomes apparent is any remedial action taken.

4.4 Expenditure on Heritage Buildings

4.4.1 Expenditure by Public and Commercial Stockholders

With 281 buildings between them, 21 public and commercial stockholders provided a figure for expenditure on their pre-1919 buildings during the last 12 months totalling £2,254,500, yielding an average expenditure of £8,023 per building (to the nearest whole pound). As in the 2005 research, it was found that expenditures by stockholders were enormously varied, ranging from £100 up to £650,000.

For the next year, 20 stockholders with 275 buildings between them were able to provide an approximate budget for expenditure on pre-1919 buildings of £1,561,700, at an average of approximately £5,679 per building (to the nearest whole pound).

The stockholder expenditures documented in the current research represent a considerable increase on the £4,978 expended by stockholders contacted for the 2005 research.

Such figures are further substantiated by the expenditures on listed buildings recorded by members of the Country, Land and Business Association (CLA) in their

2005/06 member survey, 'Who Pays for Heritage?' This appears to be the only large-scale survey of owners of heritage buildings ever conducted, and although the nature of the organisation's membership (largely based on rural estates) means that it cannot be regarded as a representative sample, it does show that the costs of owning historic buildings are considerable. The survey was returned by 243 members, who estimated that they spent an average of £4,700 per building on the 1,500 listed buildings in their care.[32]

Religious buildings form a particularly important subcategory of historic and traditional buildings. The Church of England is the single largest holder of historic building stock, with more than 12,000 listed churches in its care, and its parish churches constitute around 45% of all Grade I listed buildings. A further 2,500 listed places of worship belong to other religious denominations.[33] Unfortunately, only one respondent in this category was able to give an estimate of expenditure on a religious building, amounting to £10,000.

Further information can be derived from the expenditure on conservation, restoration, repair and maintenance by the major charitable trust active in this area, the Churches Conservation Trust (CCT). In 2006/07, the CCT spent an average of just over £13,000 on the 340 churches in its care.[34] However, this is likely to be on the high side, as the CCT conserves the churches in its care to a very high standard and makes a number of very large expenditures on neglected major churches every year. It nevertheless accords reasonably well with the approximately £160m spent annually on the repair and maintenance of the Church of England's 16,000 parish churches, at an average of £10,000 each.[35]

Information on private stockholder expenditure is far more difficult to compile. This research found that most people do not keep systematic or reliable records of the amount they have spent on their houses over the last year. For similar reasons, even the English House Condition Survey does not attempt to compile direct statistics on private householder expenditure on repair, maintenance and improvement activities, preferring to concentrate on estimating the expenditure that would be required to bring the properties up to adequate levels of repair.

4.5 Demand for Traditional Building Craft Skills

4.5.1 Market Size for Traditional Building Craft Skills

A fundamental purpose of any study of the market for traditional building work is to estimate demand for skilled people and training to ensure the rich building stock is properly cared for.

Because there is no separate classification for people or companies involved in heritage work and, not least, because most of the sector's workforce and firms operate across the modern/heritage divide, it is impossible to use official statistics or any formally generated statistics to derive employment figures for built heritage work or the training needed at any given time. For this reason a model has been developed to enable robust calculations of estimated demand. This was first applied to the NHTG *Traditional Building Craft Skills* research in Scotland, then used in the NHTG Wales research, and has been further refined for this current research, as described below.

The 2005 *Traditional Building Craft Skills* report, while not benefiting from this model, estimated the size of the workforce in 2004/05 as 86,430 with an estimated demand for 3,420 new workers versed in traditional building skills in the following 12 months (2005/06), equating to a workforce of 89,650. Using the model refined over the past three years, the estimated demand figure in 2005 is remarkably consistent with the 3,572 new workers required in 2006 (row H2, Table 8 below).

In the 2005 report, a figure of 3,170 hard-to-fill vacancies was added to the 3,420 'demand-led' new workers to result in a total workforce requirement of 6,590. However, because this included only those required to meet sector growth and to satisfy hard-to-fill vacancies, it represented an understatement of total labour needs in terms of both recruitment and training. In 2005, it was felt more valuable, given the industry-wide concern over skills shortages and hard-to-fill vacancies, to focus attention on those needs.

From the work conducted for this 2008 report it has been possible to identify that hard-to-fill vacancies have reduced in severity from around 25% in 2005 to a reported 3% in 2008. The turnaround has undoubtedly been partly due to better recruitment practices and more effective careers and qualifications marketing, but will also have benefited strongly from increased

immigration of mainly skilled labour from the eastern nations of the EU over the past two years.

The other change in base figures since 2005 has been a slight increase in the projected numbers employed in the pre-1919 building sector. The 2005 report estimated the size of this sector at just below 90,000 workers for 2006. The model applied in the current report estimates employment for the same year at about 108,000 people, a difference of 18,000 workers. This change mostly reflects increases in the projected output of the sector, which has been revised upwards significantly since the first report in line with the growing knowledge of the built heritage sector that has developed in the last three years.

Additionally, improvements in the employment coefficients used to calculate the level of employment required for a given level of output have had the effect of further increasing the size of the sector. In 2005 the employment coefficient used to generate the total employment figure could not have been other than that for the industry as a whole. There were no other reliable sources on which to base an attempt to estimate personnel requirements in the traditional building market.

Since 2005, however, very detailed qualitative and quantitative studies in Scotland and Wales, as well as the current 2008 study in England, have enabled the NHTG to arrive at a slightly higher coefficient, based on the higher than average employment figures per unit of output for heritage specialists garnered in confidential interviews by the relevant consultants.

Traditional building crafts are necessarily more labour-intensive than new build because very little of the work can be mechanised. The new coefficients will be further tested in future studies, but both quantitative and qualitative evidence points to their being more accurate and robust than the earlier, industry-wide, ones. It is for this reason that the size of the 'sector' has increased.

Notwithstanding this, it should be noted that this new calculation still implies that just under 5% of the construction industry labour force is engaged in the conservation, repair and maintenance of around 20% of England's total building stock.

The model relies on the use of nationally verifiable data, and mainly externally calculated coefficients, to develop a set of calculations from the value of the market to its labour force, and from that provide an estimate of training requirements.

The value of the market for traditional building work remains extremely difficult to estimate. As with similar recent research in Scotland and Wales,[36] the current England study found that very few stockholders record information on their expenditure in terms of the age of the buildings concerned, or whether traditional building craft skills and materials or modern skills and materials were involved. This includes the major heritage organisations which, while maintaining excellent overall project-related financial information, do not necessarily distinguish in those records between older and more modern buildings (such as newer visitor centres, etc.) and also do not categorise their expenditure by the level or types of skills required.

Market size can be estimated from a number of reliable sources based on information provided during the survey by the building contractors themselves (as was also the case in the NHTG Scotland and Wales research), and through the use of nationally available statistics from construction industry output figures and national rates of industry growth provided by Experian in January 2008 (Table 7).

The estimates are founded on the total value of the construction market in England (row A of the table) from which the repair and maintenance expenditure can then be derived by using overall market proportions from construction industry output figures. The English repair and maintenance market is shown in row B.

Using the proportion derived from this current survey it is then possible (row C) to calculate an initial market value for work carried out on pre-1919 buildings.

However, the calculations need to take into account the fact that the proportion in row C was achieved from a survey which included only firms that had undertaken work on pre-1919 buildings in the year in question. The survey excluded any company that had not undertaken such work and, to that extent, the theoretical total in row C is overstated. This market value must, therefore, be weighted to take full account of the proportion of firms surveyed that did not undertake pre-1919 building work during the year (42%).

Table 7 Demand for Traditional Building Craft Skills

Year	2006	2007 (e)	2008 (f)	2009 (f)	2010 (f)	2011 (f)	2012 (f)
A: Total building market in England[a]	68,672.0	70,295.7	72,389.1	74,833.4	76,753.6	77,679.2	77,325.2
B: Of which England repair and maintenance output[a]	31,128.0	31,292.7	32,006.4	32,937.6	33,205.8	32,689.0	32,661.4
C: CRM theoretical total spend on pre-1919 buildings (36%)[a]	11,206.1	11,265.4	11,522.3	11,857.5	11,954.1	11,768.0	11,758.1
D: CRM on pre-1919 buildings taking into account those not doing any pre-1919 work from the survey(42%)[a]	4,706.6	4,731.5	4,839.4	4,980.2	5,020.7	4,942.6	4,938.4
E: CRM on pre-1919 buildings and using traditional materials (30%)[a]	1,412.0	1,419.4	1,451.8	1,494.1	1,506.2	1,482.8	1,481.5
Output growth % (latest Experian forecasts, Jan 2008)	-3.2	0.5	2.3	2.9	0.8	-1.6	-0.1

[a] *£m constant 2000*

Note: (e) = estimated; (f) = forecast. "CRM": Conservation, Repair & Maintenance

When this weighting is applied (row D), a realistic and reliable value for work carried out on pre-1919 buildings is produced. It is equivalent to an average of some £5bn per year (equivalent to around 7% of the total building market, or 15% of the national spend on repair and maintenance).

The 2007 survey allows us to carry out a further stage of analysis which shows that 30% of work on pre-1919 buildings involved the application of traditional materials. The market for the use of traditional material during work on pre-1919 buildings was some £1.4bn in 2007 and is predicted to increase to just under £1.5bn by 2012.

4.5.2 The Traditional Building Workforce

Calculating the workforce required to meet industry needs can then be achieved through the use of coefficients developed by ConstructionSkills and derived from this and the previous recent NHTG surveys.

ConstructionSkills has developed a number of coefficients that calculate the numbers of different types of workers required to meet the labour demand generated by each £1m of output (at constant 2000 prices). Using those coefficients directly relating to the trades in question, this equates to 23 workers required for each £1m of output (Table 8).

By applying this coefficient to the total value of the pre-1919 building market, a total workforce requirement (row F) is calculated. In 2007, therefore, around 109,000 people were directly involved in work on pre-1919 buildings. By 2012, that total will have increased by over 4,000.

By applying the same approach to the market value of work being carried out on pre-1919 buildings and involving the use of traditional materials it is possible to derive a workforce total for those not only undertaking pre-1919 work but also applying the skills necessary to handle traditional materials (row G), just under 33,000 craftspeople throughout England in 2007.

This current research contained questions that revealed the proportion of the existing labour recruited in the previous 12 months. This proportion (11.89%) was remarkably similar to the equivalent proportions derived from the NHTG Scotland and Wales research between 2006 and 2007, and is consistent with national figures for inflows to the industry identified by the Labour Force Survey (LFS). The 2007 LFS found that 11.84% of total employment in the construction sector was recruited in that year.

The findings of all of these surveys are also similar to statistics for turnover among manual and craft occupations in general. The 2007 report into recruitment and labour turnover from the Chartered Institute for Personnel and Development[37] found that turnover among these occupations was 15.3% in 2006/07.

On the basis of these findings and for the purposes of this report we have adopted a coefficient of 0.1135 (i.e. 11.35% – the 14-year LFS average, 1994–2007) as a conservative average of the results of the three most recent

Table 8 Workforce Demand in the Traditional Building Sector

Year	2006	2007	2008 (f)	2009 (f)	2010 (f)	2011 (f)	2012 (f)
D: CRM on pre-1919 buildings, taking into account those not doing any pre-1919 work from the survey (42%)[a]	4,706.6	4,731.5	4,839.4	4,980.2	5,020.7	4,942.6	4,938.4
E: CRM on pre-1919 buildings and using traditional materials (30%)[a]	1,412.0	1,419.4	1,451.8	1,494.1	1,506.2	1,482.8	1,481.5
F: Labour demand (by output) – contractors undertaking pre-1919 building work (row D)[b]	108,251	108,824	111,306	114,544	115,477	113,679	113,583
G: Labour demand by contractors using traditional materials (row E)[b]	32,475	32,647	33,392	34,363	34,643	34,104	34,075
H1: New workers (11% of labour stock)[b]	12,286	12,351	12,633	13,000	13,106	12,902	12,891
H2: New workers with traditional skills (11% of row G)[b]	3,572	3,591	3,673	3,780	3,811	3,751	3,748

[a] £m constant 2000. [b] Numbers of workers

Note: (f) = forecast. "CRM": Conservation, Repair & Maintenance

traditional building craft skills studies and the national LFS findings. When applied to overall labour demand (row F) a figure for new workers required for pre-1919 work can be derived (row H1). In 2007 this was just over 12,000 new workers. The inflow of new workers for pre-1919 work will peak at about 13,000 in 2010 on the basis of current predictions for industry output. The equivalent figures for new workers required for pre-1919 work, but with traditional skills, are shown in line H2.

4.5.3 Training Requirement

Additional workforce demand does not necessarily equate directly to the demand for training, as some of those joining the industry may be returning with relevant skills. Furthermore, demand for training related to pre-1919 buildings and traditional materials will also be enhanced by the amounts of 'top-up' training required by the existing workforce in order for them to undertake different types of traditional work. This kind of additional training will usually consist of short courses and sessions, lasting between a day and a few weeks, designed to enhance the skills of those already working in the sector, rather than being full qualifications.

In Table 9 the training requirements have been based on two separate levels of calculation. Firstly, the numbers of new workers needing (or not needing) full or top-up training have been calculated using proportions derived from the Construction Skills Employer Panel (see rows I, J and K). Then the numbers of existing workers requiring top-up training for the use of traditional materials were calculated (row N).

Demand for training illustrated in Table 9 is based, essentially, on existing predictions of the growth of the entire construction sector (Table 7, row A), but this may not represent the growth rate for work on pre-1919 buildings. There are strong indications – particularly from private stockholders – that there is a considerable backlog of work required on pre-1919 buildings. Many interviewees stated that they deliberately wait until work is absolutely essential before commissioning it, and that they recognise that the need for other work on their properties is already evident.

As was very clear from the NHTG Scotland and Wales reports, it is likely therefore that demand for traditional building craft skills will, at some point in the future, start to increase at a rate above overall industry growth levels, further enhancing the demand for a properly skilled and trained workforce.

4.6 Funding

4.6.1 Funding Sources

Grant funding represents an important source of support for those responsible for the upkeep and restoration of heritage buildings. There is a wide range of sources of funding for historic buildings, including:

- English Heritage
- Heritage Lottery Fund
- Local authorities
- Regional development agencies
- Government departments
- Charitable trusts and organisations.

Table 9 Training Requirement of the Traditional Building Workforce (Numbers of Workers)

Year	2006	2007	2008 (f)	2009 (f)	2010 (f)	2011 (f)	2012 (f)
F: Labour demand (by output) – contractors undertaking pre-1919 building work (row D, Table 8)	108,251	108,824	111,306	114,544	115,477	113,679	113,583
G: Labour demand (by output) – contractors using traditional materials (row E, Table 8)	32,475	32,647	33,392	34,363	34,643	34,104	34,075
H: New workers (11% of labour stock)	12,286	12,351	12,633	13,000	13,106	12,902	12,891
I: New workers requiring no training (24%)[a]	2,949	2,964	3,032	3,120	3,145	3,096	3,094
J: New workers requiring top-up training (67%)[a]	8,232	8,275	8,464	8,710	8,781	8,644	8,637
K: New workers requiring full training (9%)[a]	1,106	1,112	1,137	1,170	1,180	1,161	1,160
L: Existing employees requiring top-up training (6%)[b]	6,495	6,529	6,678	6,873	6,929	6,821	6,815
M: Total number requiring training	15,832	15,916	16,279	16,753	16,889	16,626	16,612
N: Top-up training requirement for contractors using only traditional materials	1,949	1,959	2,004	2,062	2,079	2,046	2,044

[a] Statistics from the ConstructionSkills Employer Panel. [b] Statistics from the National Employers' Skills Survey

Note: (f) = forecast.

English Heritage – the government's statutory adviser on the historic environment – is an executive non-departmental public body sponsored by the Department of Culture, Media and Sport. English Heritage administers several major grant schemes designed to help with the protection and promotion of the historic environment. There are specific programmes targeted towards the conservation and repair of places of worship, cathedrals, war memorials and historic buildings, monuments and designed landscapes. Other funding programmes are designed to aid local authorities to meet the cost of serving repairs and urgent works notices on buildings at risk, and to contribute towards the preservation and enhancement of conservation areas through the 'Partnership Schemes in Conservation Areas' programme.

English Heritage's income for grant purposes has been constantly declining owing to funding pressures from central government. It has done a great deal to compensate for the resulting shortfall through cooperation with other bodies, such as the Heritage Lottery Fund and the Wolfson Foundation.

The total grant income dispensed remains considerable. English Heritage's various grants programmes provided £34.1m in 2006/07, with £7.7m allotted to listed buildings, monuments and designed landscapes, £5.2m to conservation areas and £9.4m to cathedrals and places of worship.[38]

However, according to figures in English Heritage's regional supplements to the 2007 *Heritage Counts* report, the total grant dispensed to the nine English regions through the various grant schemes it administers has declined from £26.7m in 2001/02 to £26.3m in 2006/07. This includes significant declines in funding for historic buildings, monuments and designed landscapes grants, which have fallen from nearly £10m in 2001/02 to less than £8m in 2006/07.[39] Since these are the primary source of grant funding for owners of Grade I and Grade II* listed buildings, they have suffered disproportionately as a result of funding decreases.

The Heritage Lottery Fund routinely allocates more than £200m a year in grants for heritage projects through its various funding programmes, many of which involve the conservation and restoration of historic buildings. Among the most important of these is the Heritage Townscape Initiative, which offers grants of up to 75% of total project resources in order to promote the regeneration of areas that are deprived, or at risk of becoming deprived, through the conservation and reuse of their heritage assets. In addition, the HLF's general funds make numerous grants – some of them very large indeed, such as the £20m given to the National Trust for the purchase and preservation of Tyntesfield House in Somerset.

It should be noted that the continuing redistribution of funds from the Lottery to the 2012 Olympics poses a considerable threat to maintaining high levels of grant in the forthcoming years, although measures have been taken to mitigate this as much as possible. The total anticipated grant budget from 2009 onwards is anticipated to be around £180m per year.[40]

In addition, there are various other grant schemes operated directly by either central or local government agencies. Many local councils offer conservation area grants, intended to preserve or enhance the character of conservation areas within their boundaries. Also, various government departments run grant schemes relevant to their particular interests and areas of concern. These include the Department for Culture, Media and Sport's Listed Places of Worship scheme, which refunds the VAT paid on eligible repair and maintenance work undertaken on listed religious buildings which remain in active use.

There are considerable funds available for regeneration schemes. These are mostly sourced through various central government initiatives, often administered through the regional development agencies for the nine government office regions, or from the European Union. In these cases, the conservation or restoration of historic buildings is strictly incidental to the main purpose of the grants, which is to promote sustainable economic regeneration for deprived or economically vulnerable neighbourhoods. However, in many cases such schemes include or are even based on the reuse of significant heritage assets.

It is difficult to transform knowledge of the various different sources of expenditure into an accurate estimate of the overall size of the grant funding potentially available to stockholders. The most comprehensive attempt to calculate the total grant income available for heritage buildings was undertaken for English Heritage in 2004.[41] This estimated the total value of charitable and public sector grants alone at £318m in 2002/03, rising to £355m in 2003/04. In addition, much of the funding available is known to have been granted on a like-for-like basis, with matching or substantial additional funds required from private or local public sector sources; as a result the report warns that 'to some extent this survey is only capturing the visible tip of the iceberg regarding funding support and there remains an element of unrecorded support which cannot be measured by the processes employed for this particular survey'.[42]

It is difficult to know whether this amount has increased over the last few years, but it is worth noting that there has been considerable pressure on the HLF, the single largest source of grant funding, as a result of declining lottery tickets sales and the rising costs of the 2012 Olympic Games.

4.6.2 Funding Received by Stockholders

In the survey sample for this research, 6 out of 35 public and commercial stockholders received funding or grants to help with the cost of work on their pre-1919 buildings over the last year. The funding that has been received came from a wide range of agencies:

- English Heritage
- Heritage Lottery Fund
- Local authority/council
- Arts Council
- DEFRA.

'The biggest problem when caring for properties is lack of money. The cost of maintaining historic properties has gone up, while visitor numbers have gone down, and there is a lack of financial help available. With the ever-increasing price of labour, in years to come certain parts of the estate may well fall into disrepair due to lack of funds.'

Estate manager of historic house and estate

This means that 17% of respondents were in receipt of at least some grant income; the comparable figure was 23% for the CLA member survey,[43] a figure which no doubt reflects the fact that the latter survey was concerned only with listed buildings. In both cases, however, it should be remembered that this is the proportion of stockholders receiving grants, rather than the proportion of individual buildings, which will be much lower given the large property portfolios possessed by some respondents to both surveys.

Only a minority of the in-depth interviewees received grant funding. However, among those that did there were some extremely large grants from the HLF, including a single grant of £55,000 towards the restoration of an important listed church, with the respondent commenting that 'it was as easy as could be' to secure the funds, and £3m for the restoration of a major early 19th-century country house. Respondents also reported receiving small but unspecified grants from English Heritage. This was in spite of the fact that at times very considerable sums were being spent on listed buildings.

Among those stockholders with properties not likely to be eligible for HLF support there was some evidence to suggest a perception that financial support was meagre, and growing more difficult to obtain. One stockholder in the main survey commented that funding for routine maintenance work was difficult to come by, as it was 'hard to acquire grants unless the building is falling down'.

In all cases, this survey would seem to indicate a much lower use of grants than is the case in Scotland, where as many as 32% of those surveyed for the NHTG 2007 *Traditional Building Craft Skills* reported receiving grants.

None of the private stockholders reported receiving grants – although cost was by far the most frequently cited reason, given by 9 of the 23 stockholders – for not using more traditional materials and techniques. When asked what factors would enable them to use more traditional materials and craftsmanship, 57% of the private stockholders said a greater availability of grants would help.

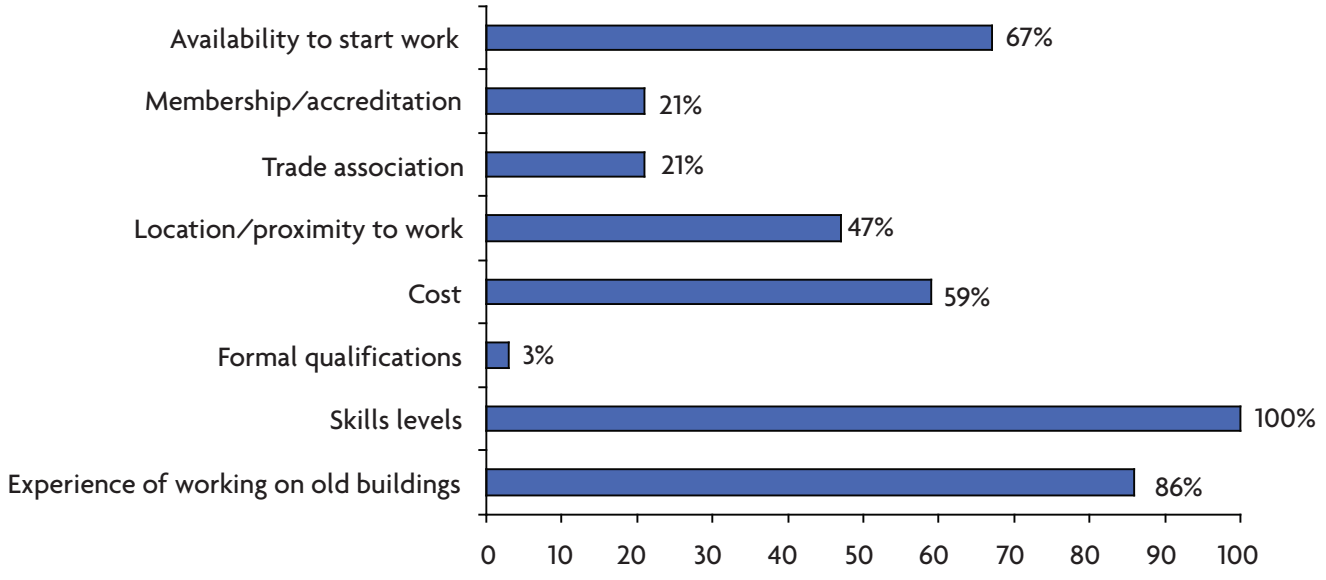
4.7 Building Contractors

4.7.1 Factors Affecting Contract Awards

To understand more about how the stockholders go about choosing contractors for work on their buildings, they were asked to select those factors which had the most important impact on their decision-making (Figure 3).

Among public and commercial stockholders, the results were very clear: the skill levels of the contractors, followed closely by relevant experience working on pre-1919 buildings, were by far the most important factors. However, it is also worth noting the importance attached to contractors' availability to start work. This presumably reflects the

Figure 3 Factors Regarded as Important Influences on Public and Commercial Stockholders' Choice of Contractors



pressure on commercial stockholders to secure a fast turnaround time for work undertaken, especially in cases where work is required to remedy urgent problems such as water ingress to prevent further damage. This indicates how high demand and consequent long waiting times for specialist skills could lead to the employment of contractors who are not optimally skilled for the work.

Costs are the next most important issue, having been cited by 59% of respondents. They are therefore a fundamentally important criterion, and the one that will come into play once stockholders have selected a number of contractors for tendering on the basis of skills, experience and availability.

These findings almost exactly parallel the responses to the equivalent research undertaken for the NHTG Wales *Traditional Building Craft Skills* report.

It is particularly important to note that formal qualifications held by contractors do not appear to be a strong influence on the decision of stockholders to employ them – indeed, 32% of stockholders said that this was of no importance to them. Qualifications and accreditation processes are clearly not regarded as a reliable proxy for skills and competence even by public and commercial stockholders, who might be expected to have a better than average understanding of the construction industry.

This reflects the essentially pragmatic and self-reliant attitude of public and commercial stockholders, who clearly prefer to base their choice of contractor on their own personal judgement.

In spite of the high importance attached to skills and experience evidenced above, it is worth noting that only 20 of the 35 public and commercial stockholders (57%) stated that they will either always or usually ensure that only suitably qualified or experienced craftspeople with heritage skills carry out work on their pre-1919 buildings, with four stockholders saying that they never check.

It is also striking that the overwhelming majority of public and commercial stockholders (86%) describe the contractors they employ to work on their pre-1919 buildings as general building or crafts firms, rather than conservation or heritage specialists.

The responses given by private stockholders suggest far less confidence about choosing crafts and trades/craftspeople. Most respondents were clearly highly motivated to maintain their properties in an appropriate way, with 75% feeling that it was very or quite important to them to use traditional materials and techniques.

However, there was a great deal of anecdotal evidence that suggested private stockholders felt insecure about sourcing appropriate trades/craftspeople. Of the 23 private stockholders surveyed, 6 explicitly mentioned their desire for greater availability of information without any prompting on the issue. They wanted more information on both the nature of the work required by historic and traditional buildings and the availability of contractors with the skills needed to undertake the work.

'This is very hard – if you don't understand these trades you are lost. These people have got you on their terms, and it is very difficult to be confident that you will get value for money if you don't understand what is involved.'

Owner of listed house

Many gave evidence of frustration at the difficulty of finding reliable information on obtaining skilled contractors. There was particular concern that local authorities, often the primary source of information for owners of Grade II listed buildings or buildings in conservation areas, were unwilling to provide recommendations or even basic information on appropriate trades/craftspeople, because of perceived liability issues.

Even among public and commercial stockholders, several noted that there is a lack of 'general information' on the specialist firms available in local areas, with one suggesting that 'there should be a [web] site available that lists all the available heritage specialists'.

4.7.2 Perceptions of Contractors Used

Just over 66% of public and commercial stockholders stated that they had been quite or very satisfied by the quality of the work carried out by contractors on their pre-1919 buildings.

Over half (52%) said they were quite or very satisfied with the time contractors took to start the work required, and 63% were happy with how long it had taken contractors to complete commissioned work.

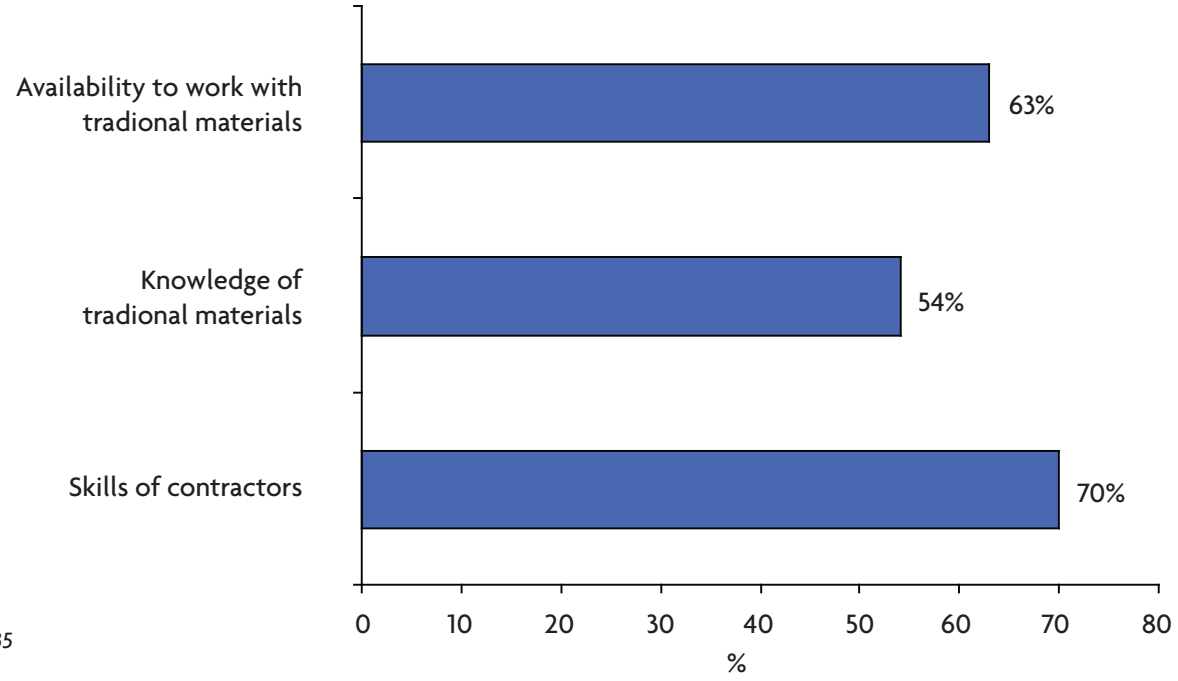
The in-depth interviews confirmed the picture of general satisfaction with work carried out, but continued to emphasise that skills and experience were more important than formal qualifications. In addition, many stockholders were happy with the contractors who had worked for them but were far more sceptical about the state of knowledge and skills in the construction industry in general.

Figure 4 highlights stockholders' perceptions of the skills and knowledge of contractors used to work on their pre-1919 buildings.

It is clear from the figure that public and commercial stockholders have greater concerns about the level of knowledge contractors have of working with traditional materials than in the actual skills and ability they have to undertake the work required. Some concern was raised about the 'general apathy amongst craftsmen coming into the trade', subsequently prompting the notion that there is 'no passion for traditional skills' among new recruits into the trade.

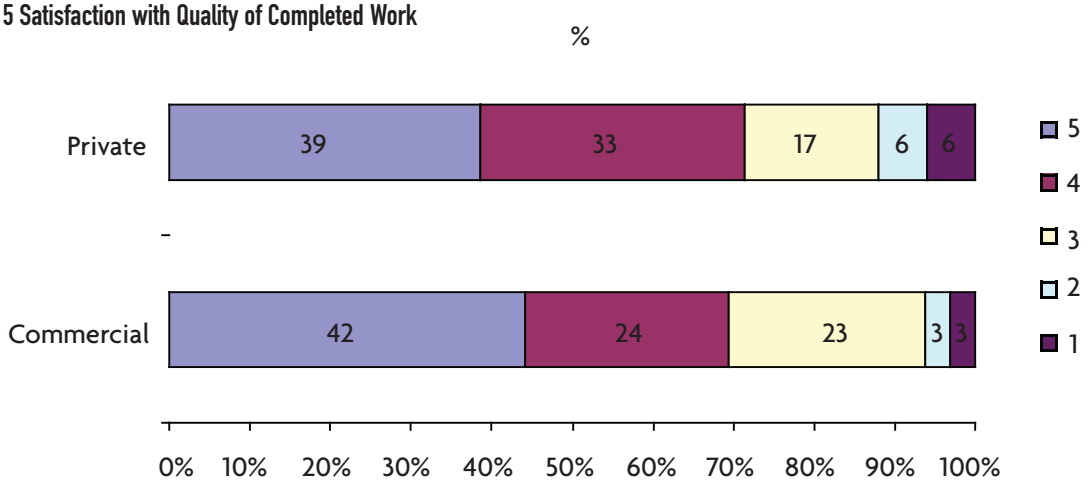
The general perception, then, was that trades/craftspeople with the appropriate skills do exist, that the quality of work they do is good, but that there are sometimes significant difficulties tracking them down. There is also a clear sense that it tends to be older workers who possess these skills and that there is a lack of interest among younger recruits, who gravitate to the most lucrative,

Figure 4 Quality of Contractors' Skills and Knowledge as Perceived by Public and Commercial Stockholders (Percentage Rated Good or Very Good)



Base: 35

Figure 5 Satisfaction with Quality of Completed Work



Key: 5, very satisfied; 1, not satisfied. Base: 18 private, 35 commercial

rather than the most highly skilled, areas of their trade.

Further insight into the market was obtained from the qualitative interviews. Most public and commercial stockholders seemed relatively happy with the work undertaken on their own buildings, but there were very mixed perceptions of the quality of work carried out on pre-1919 buildings in general. Several owners cited particular concerns about the use of cement mortars instead of lime mortars for re-pointing work. The sense was that the skills and knowledge necessary for work on old buildings were available, but that these were only demanded by clients who themselves had a fairly good grasp of the techniques and materials that should be used.

A somewhat more complex picture emerged from the private stockholder survey. A slightly larger proportion (72%) reported being quite or very satisfied with the quality of work carried out (Figure 5). The distribution was slightly different, with the private stockholders on average recording slightly lower levels of satisfaction, with average scores of 3.9 out of 5, as opposed to 4.1 with public and commercial stockholders.

However, many added that this was only as a result of having made considerable efforts to find appropriate craftspeople. Some private stockholders had found craftspeople capable of working to the required standard only after first employing – and then dismissing – other contractors who had failed to do so. Roofers appeared to be a particular problem, with 2 of the 23 private stockholders complaining that they had had to dismiss roofing contractors because initial work had been of too low a standard.

Private stockholders were also considerably less satisfied with the time taken to complete the work undertaken, as can be seen in Figure 6. In this area the disparity between the average scores of private stockholders and public and commercial stockholders was even stronger. Private stockholders rated completion time at an average of only 3.4, whereas public and commercial stockholders averaged 3.9. As can be see in more detail in Section 4.8.2, this parallels the private stockholders' contention that the work they commission is fitted in by contractors around larger projects.

4.8 Skills Used

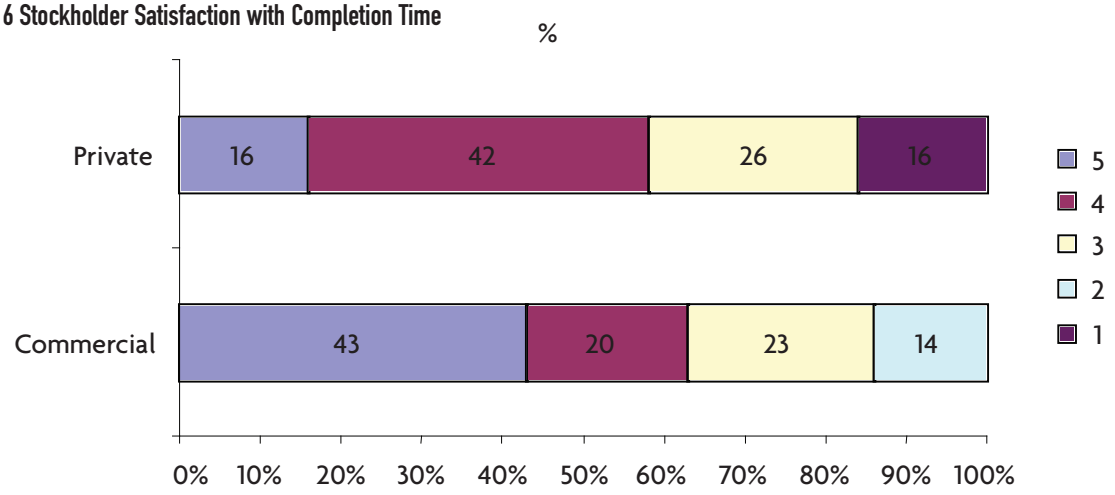
4.8.1 Craft Skills Needed

Commercial and public stockholders employed a wide range of trades and crafts on their pre-1919 buildings in the 12 months preceding the survey. However, carpentry and painting and decorating stood out as those that had been most heavily used, closely followed by joinery and general roofing work. Table 10 shows the full range of tradespeople employed in declining order of use.

In addition, 10 stockholders said that they had contracted electricians to work on the upkeep of their pre-1919 buildings during the last year, and would also probably need to do so during the next 12 months.

As shown in Table 11, private stockholders also used a wide range of trades and crafts on their buildings.

Figure 6 Stockholder Satisfaction with Completion Time



Key: 5, very satisfied; 1, not satisfied. Base: 18 private, 35 commercial

In spite of the small sample size, the broad similarity to the requirements of the public and commercial stockholders is striking. There are a few exceptions, with the most significant clearly being the extent of the requirement for joinery work among private stockholders. In addition, there is a strikingly greater requirement for building generalists.

4.8.2 Skills Shortages

Relatively few of the public and commercial stockholders reported that contractors were particularly hard to find, with only 20% identifying trades that they had found especially difficult to source. Among those who did identify trades/craftspeople that were particularly difficult to find, the ones that stood out were carpenters, joiners, plasterers (all types), leadworkers, bricklayers and electricians. Significantly, those stockholders who did report difficulties found all or most of the trades/craftspeople that they had used in the last 12 months hard to source, with the single exception of painters and decorators.

It is worth noting that on the whole it was the smaller stockholders who experienced the greatest difficulty, suggesting a degree of polarisation between

Table 10 Stockholders Using Particular Tradespeople in the Previous and Next 12 Months

	Used in the last 12 months (percentage of stockholders)	Might use in the next 12 months (percentage of stockholders)
Carpenter	40	29
Decorator/painter	37	29
Joiner	37	23
Roofer (general tiles and slates)	34	–
Stonemason	29	14
General crafts/tradesperson	26	31
Roofer (random/natural slates)	17	26
Plasterer (other)	17	6
Bricklayer	17	6
Glazier	9	–
Plasterer (lime)	9	6
Tiler (floors/walls)	9	–
Drystone waller	3	3
Plasterer (fibrous)	3	–

Table 11 Private Stockholders Using Particular Tradespeople in the Previous 12 Months

	Used in the last 12 months (percentage of stockholders)
Joiner	68
Decorator/painter	57
Carpenter	57
General crafts/tradesperson	42
Roofer (general tiles and slates)	36
Glazier	31
Plasterer (fibrous)	26
Bricklayer	26
Roofer (random/natural slates)	21
Plasterer (other)	15
Plasterer (lime etc)	15
Drystone waller	15
Tiler (floors/walls)	10
Wood machinist	5
Thatcher	5
Stonemason (banker mason)	5
Stone carver	5
Cabinetmaker	5
Roofer (stone tiles)	5
Glass painter	5

those with large holdings and smaller stockholders who find appropriate contractors much harder to find.

The experiences of private stockholders parallel this finding, with many mentioning difficulties sourcing particular trades to work on their buildings, with Figure 7 showing the percentage who found trades hard to source when undertaking work on their own houses.

In addition, some private stockholders reported long waiting times (over three months) for skilled craftspeople to become available, with the largest proportion having long waiting times for joiners, roofers (both general roofers and specialists in random or natural slates and tiles), carpenters, lime plasterers and drystone wallers.

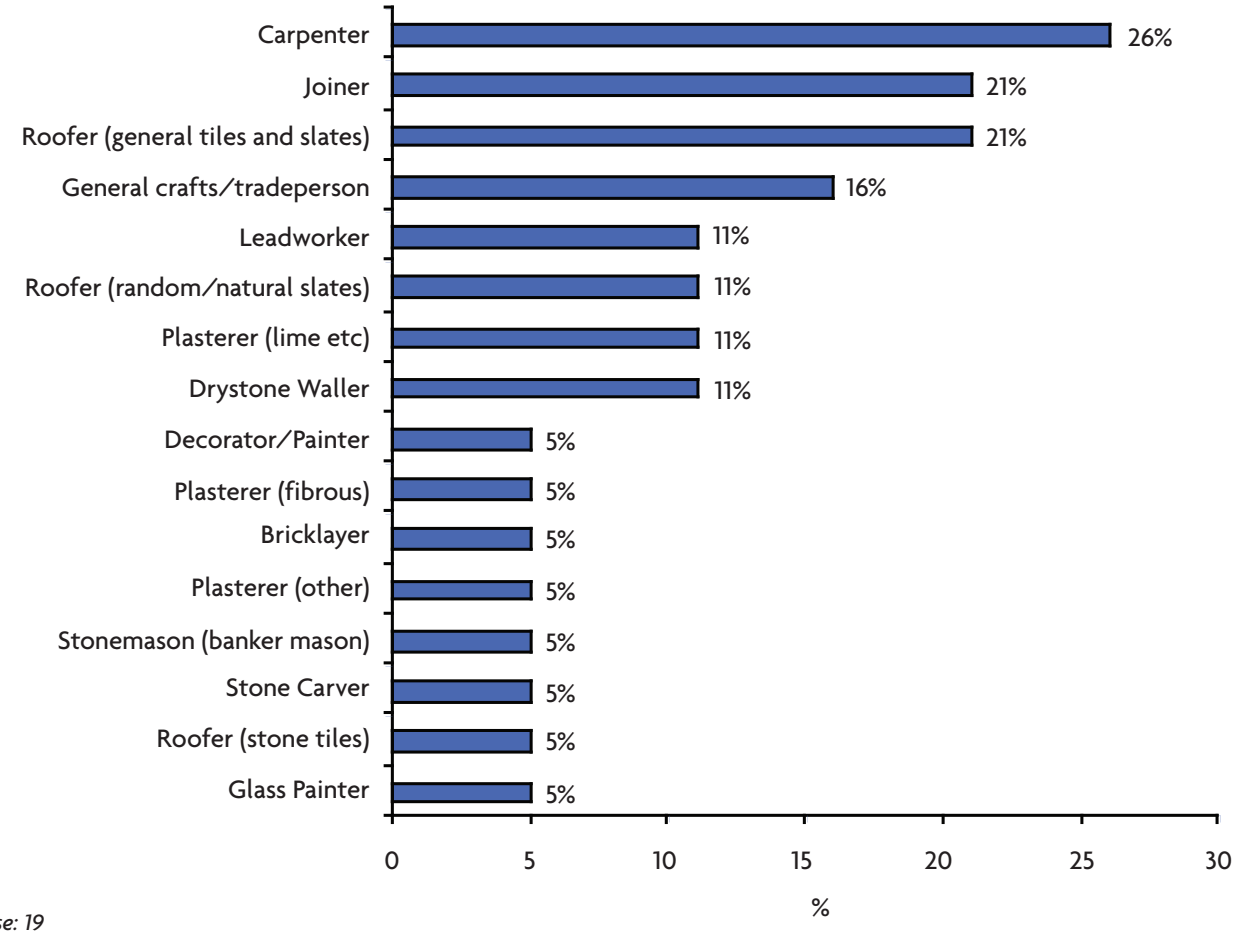
In addition there was a great deal of anecdotal evidence from the private stockholders' survey of difficulties sourcing appropriately skilled craftspeople. Indeed, 19 of the 23 private stockholders surveyed specifically mentioned the general difficulty of recruiting skilled craftspeople in their additional, unprompted comments. Roofers were specifically mentioned by several stockholders as a challenging trade to recruit.

Most stockholders who raised these issues seemed to think that the basic problem that confronted them was not that suitably skilled contractors did not exist, but that it was difficult to find contractors willing to take on small projects for domestic clients. This was especially the case given current levels of activity in the new build sector of the industry. The same perception was evident in

'I know what needs to be done. I just have no idea about how to find a single contractor to do it, never mind three or four who might tender for it. In addition, when all builders are rushed off their feet, I don't know how to convince one that my job is the one they should take.'

Owner of listed private house

Figure 7 Private Stockholders Reporting Particular Trades Hard to Find



Base: 19

other comments, especially from those who showed particular concern that traditional building materials and techniques should be used on their properties.

One particularly troubling finding was that a small number of stockholders were responding to the dearth of appropriately skilled traditional trades/craftspeople by resorting to DIY. One respondent commented that they 'tend to do the job themselves' because there was such a shortage, even contemplating undertaking a small extension because of the unwillingness of building contractors even to tender for the job. This kind of response could also lead to serious long-term problems if inexperienced homeowners fail to complete work to the appropriate standard.

The general perception, then, was that the strength of the new build sector left contractors with little interest in doing the more time-consuming, unpredictable and often less remunerative work required by older properties. This is supported by construction industry forecasts that suggest that the repair and maintenance sector's share of total construction output is shrinking as the new build sector expands.[44] This has been causing private stockholders considerable frustration, and even encouraging some to attempt to undertake building work themselves.

4.8.3 Directly Employed Labour

Only 3 of the 35 stockholders (7%) employed a direct workforce with traditional craft skills for the upkeep of their pre-1919 buildings; two of these were great estates, which seem to be the category of public or commercial stockholder most likely to employ permanent direct labour, and the third was a holiday letting company.

This general picture was confirmed by additional qualitative interviews, where almost all those that had a permanent workforce were either country estates or historic houses. This no doubt reflects the very extensive demands for

construction work, especially for large amounts of routine repair and maintenance, made by historic houses and estates with a large number of associated traditional buildings.

The directly employed labour force amounted to 23 employees, an average of just less than 8 per stockholder, and of the 23 only 8 were reported by stockholders to be employed on a full-time basis. Two of the three stockholders employing a direct workforce for their pre-1919 buildings indicated that these employees were general builders, with the other stockholder employing conservation or heritage specialists.

In descending order, the trades undertaking work on stockholders' pre-1919 buildings in the last 12 months (as part of the direct workforce) were:

- Joiner
- Bricklayer
- Carpenter
- Decorator/painter
- Roofer (general tiles and slates)
- Stonemason.

None of the stockholders with direct labour forces interviewed for the quantitative survey felt that they had experienced particular difficulty getting hold of skilled labour. However, the small number of stockholders concerned makes it difficult to generalise, and the qualitative data paints a different picture.

A much higher proportion (9 out of 17) of the in-depth interviewees employed a direct workforce, ranging from one part-time handyman to a full team of 20 specialist craftspeople.

These stockholders were almost uniform in their conviction that it would be extremely difficult to replace employees who retired or left for more remunerative employment on newbuild projects. This was especially the case where the staff involved had high-level craft skills as opposed to general building knowledge.

Some of these stockholders were fearful for the future because of the challenges involved in finding craft skills of sufficient calibre, with several commenting that if they lost their directly employed staff, they would almost certainly not be replaced. Instead, they would begin using general contractors as and when they were needed.

The general picture, then, is that there is not an acute shortage of general craft skills; what does seem to be in short supply is high-quality craft skills for specialist work. In particular, there is strong evidence that stockholders are sceptical both of the skills levels of younger recruits and of their willingness to work at the salaries that can be offered for this kind of employment.

4.9 Traditional Building Materials

Traditional buildings are for the most part constructed of materials that have been sourced locally and processed in simple ways. Traditional building materials include earth (used as a walling material and as a simple form of render or plaster), timber, stone, fired clay in the form of brick and tiles, and traditional lime-based mortars, plasters and renders. These materials are then assembled *in situ* by hand and with relatively simple tools.

'We have two full-time workmen who are both highly skilled. If they were to leave and new recruits were needed it would be almost impossible to find people of the same calibre because there simply aren't many of them out there.'

Clerk to the chapter of a medieval cathedral

This means that traditional buildings are remarkably heterogeneous, reflecting natural and human resources, and the changing social and economic needs of particular areas of the country.

In spite of their heterogeneity in terms of style, function and materials, almost all traditional buildings have important common features that make them quite different from modern construction. There are two basic aspects to this: a breathable or permeable fabric, and flexible, over-engineered construction (that is to say, with very large structural tolerances, characterised by thick walls and heavy timber joists and purlins).

Traditional materials are mostly able to transmit and absorb moisture, which is dispersed through the fabric and then evaporates from both internal and external wall surfaces. The moisture is then carried off by the natural ventilation introduced by the loose seals of traditional timber windows and doors.

Traditional materials such as lime mortars are also relatively flexible, and walling and roofing materials are often quite thick and massive. The result is that they are able to tolerate considerable movement in the typically shallow foundations used in much traditional building construction. Traditional construction is able to settle safely without major structural failure – as the irregular lines of countless old buildings clearly show.

This is a complete contrast with modern building techniques, which are based on increasingly rigid, impermeable mass-produced industrial materials. Since the later 19th century, buildings have increasingly been built on the basis of excluding damp from the main building fabric by physical barriers in the form of damp-proof courses and damp-proof membranes, and then introducing controlled ventilation through the use of devices such as airbricks. This process has reached its culmination in the now nearly universal use of ordinary Portland cement mortars and renders, and sealed unit doors and windows.

4.9.1 Materials Used on Pre-1919 Buildings

All public and commercial stockholders were asked about the proportions of work they commissioned which involved traditional or modern materials. As shown in Figure 8, on average, three-quarters of stakeholders' expenditure over the last 12 months was on only traditional materials.

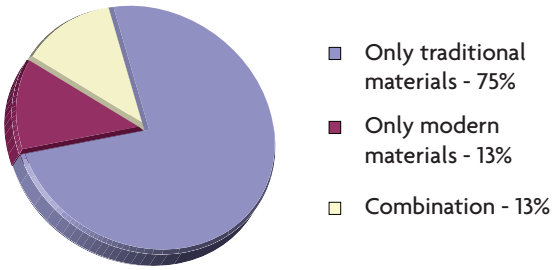
However, it should be noted that building contractors gave much lower estimates of the proportions of their work on pre-1919 buildings which involved using traditional materials, suggesting that only 30% of work involved using only traditional building materials.

This suggests that stockholders are less informed than construction contractors about the nature of the materials being used. It is also possible that the heavy representation of stockholders such as historic estates in the sample may have influenced the results. These kinds of stockholders might be expected to have an unusually clear sense of the importance of traditional materials.

Among those public and commercial stockholders that did not always spend on traditional materials, it was commonly suggested there was no need to use more of these materials on pre-1919 buildings. Again, this suggests potential problems based on lack of knowledge and awareness of appropriate ways of maintaining traditional buildings.

Among the private stockholders surveyed, 64% reported that they always or usually required traditional materials to be used on their properties. However, this figure may be biased by the sample used, as many of the respondents had been attendees at a SPAB weekend course. They are therefore likely to be especially motivated to ensure that appropriate materials and techniques are employed on their buildings. We would expect a

Figure 8 Proportion of Public and Commercial Stockholders' Expenditure on Traditional and Modern Materials



Base: 35. Please note that figures do not add up to 100% because of rounding

more representative sample to be substantially less concerned with using traditional materials.

However, even this potentially unrepresentative figure suggests a difference of attitude between public and commercial stockholders, who were for the most part fully aware of the need for traditional materials to be used, and private stockholders, who were somewhat less aware.

4.9.2 Traditional Building Materials Specified

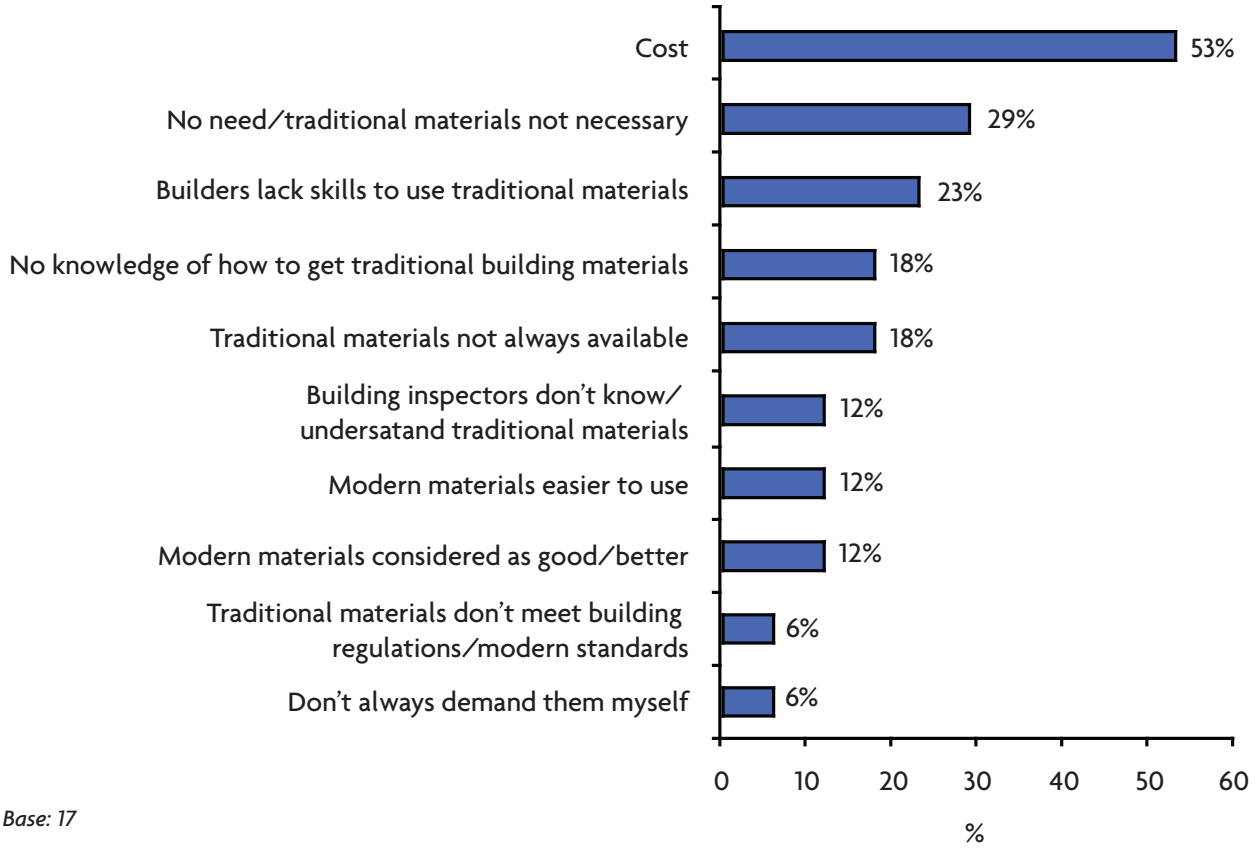
From the 35 public and commercial stockholders, 18 said they had a strong influence on the materials specified for use on their pre-1919 buildings, with only 4 reporting that they had no influence at all. This means that a majority of stockholders have a significant role in defining the materials and techniques used on their properties.

This emphasizes the fundamentally important role that educating owners of traditional and historic building stock can play in increasing demand for traditional building craft skills. If stockholders can be persuaded of the necessity to use appropriate materials and techniques, this will increase market demand while helping to ensure that England's traditional building stock is treated in an appropriate way. It would appear from this survey that the principle is well appreciated, but less clear is whether stockholders really have the knowledge to discriminate reliably between traditional and modern materials.

'Professionals specify the vast majority of materials that are to be used on the church. In our experience the specifications aren't always fully met.'

Warden of historic church

Figure 9 Impediments to Using More Traditional Materials Reported by Private Stockholders



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4.9.3 Factors Limiting the Use of Traditional Materials

Both public/commercial and private stockholders were asked what factors prevented them from using more traditional materials. Among public and commercial stockholders, the overwhelming majority (80%) of those who responded to this question said that it was because traditional materials simply weren't necessary, rather than because they were more expensive or inconvenient. Other respondents did cite cost issues, but these were very much in the minority, as were those who said that architects or surveyors involved in the project had not specified traditional materials.

This again makes it clear how important improving stockholders' knowledge is to make significant changes in the way pre-1900 buildings are treated.

As shown in Figure 9, the pattern was rather different for the private stockholders. For them, cost issues were very much at the forefront, and were identified as an impediment to using traditional materials by more than half of those surveyed. A smaller, but still significant, proportion felt that traditional materials were not always necessary, with some stockholders offering a variety of justifications for their attitude. These included statements that modern materials could be used if they were not visible, or where suitable traditional materials were not available, for example when installing insulation. Difficulties in finding traditional building materials and appropriately skilled builders to use them followed close behind.

4.10 Summary and Comparisons with 2005 Report

This research has gone into far greater depth than the 2005 NHTG *Traditional Building Craft Skills* report, and provides a more comprehensive picture of the situation of private stockholders. It has reinforced and amplified, and in some areas modified, the picture presented in the earlier research to show the following.

- The total number of listed building entries is 372,769, fewer than the 372,801 reported in 2005, but this discrepancy is due entirely to more accurate reporting – in fact there has been a slight but steady growth in numbers of listed buildings, with most new listings at Grade II.
- The English House Condition Survey suggests there are 4,731,000 pre-1919 residences, as opposed to 4,405,000 in the 2005 report.
- This research found that expenditure by public and commercial stockholders had increased to £8,023 per building since 2005; previously published research suggests that historic churches routinely require expenditure approaching £10,000 per year, but private stockholders do not keep adequate records for making reliable spend estimates.
- The estimated total market for work on pre-1919 buildings at £4.7bn for 2006 cited in this report is considerably larger than the £3.54bn estimated for 2004 in the 2005 report.
- The majority of cost spent on repair and maintenance (85%) and backlog of work means there is large latent demand for a skilled workforce.
- Using current labour coefficients, an estimated 109,000 people worked on pre-1919 buildings in 2007, compared with the estimated 86,000 in 2005.
- A more accurate, narrower definition of that part of the sector requiring traditional building craft skills suggests that the total current market is around £1.4bn, and that around 33,000 craftspeople working in this sector in 2007 were actually using traditional materials.
- On the basis of this research (which found that around 11% of the existing labour stock is recruited each year) a total of 15,916 members of the traditional building workforce needed some form of training in 2007, rising to 16,612 in 2012; of these 1,959 would have needed training specifically in the use of traditional building materials in 2007, rising to 2,044 in 2012.
- This report broadly confirms the tentative picture in 2005 that the stockholder's approach to repair and maintenance is primarily reactive, with repairs undertaken in response to immediate need rather than systematic planning.
- It also confirms and strengthens the picture of divergence between larger and smaller stockholders initially indicated in the 2005 report; those with large portfolios tend to have the knowledge and interest (and perhaps the financial resources) to want, and to get, work done with mostly traditional materials – problems are most serious for smaller stockholders, with owners of single buildings feeling uncertain of how to source appropriate trades/craftspeople.
- Levels of satisfaction have declined considerably since the 2005 research; average satisfaction scores for quality of work declined from 4.5 to 4.1 among public and commercial stockholders and from 4.4 to 3.9 among private stockholders; average

scores for completion time declined from 4.0 to 3.9 among public and commercial stockholders and from 3.9 to 3.4 among private stockholders, supporting private stockholders' perception that the boom in new build has had a disproportionate impact on them.

- Stockholders appoint contractors on the basis of availability, and perceived skills and experience as more important than qualifications; they are sceptical about allowing young recruits to work on their properties.
- As with the 2005 report, carpenters and joiners, decorators, roofers, stonemasons, generalists and bricklayers were the most widely used craft trades in 2007, with only bricklayers less widely used, perhaps because of the high demand for their services on new build projects; of the trades used, carpenters and joiners and roofers were most difficult to find.
- This current research reveals a broad awareness of the desirability of using traditional materials, although this was considerably better developed among large than small stockholders.
- Reasons for not using more traditional materials differed somewhat between public and commercial stockholders and private stockholders. For public and commercial stockholders, perceived lack of necessity was the primary reason; for private stockholders the principal issue was cost, followed at some distance by perceived lack of necessity.
- Some 17% of public and commercial stockholders received some grant for work on their buildings, but decreasing availability of grants caused private stockholders concern, with none surveyed having received grant aid.
- Although previous research has found that some £350m a year is available from major grant-giving organisations, there is evidence of downward pressure on the resources available to English Heritage (Historic Buildings, Monuments and Designed Landscapes grants falling from nearly £10m in 2001/02 to less than £8m in 2006/07) and the Heritage Lottery Fund (grant allocations are expected to decline from well over £200m to around £180m a year in the next few years).
- Private stockholders in particular were aware of the need to know more about appropriate materials and techniques to be used on their houses, and frequently expressed the desire for more accessible information on the topic and wanted access to lists of appropriately skilled and qualified trades/craftspeople, as did some public and commercial stockholders.

CASE STUDIES

Harewood House, North Yorkshire (Grade I and Grade II Estate)*

This nationally known estate has recently completed a £30,000 project to remedy water ingress, condensation and rising damp to underground toilets in which dampness has been a major problem. The work involved removing original slate and marble roof/ceiling along with some leadwork, inserting new insulation, raking out the lime mortar and putting in a fast-acting polymer to seal all the cracks on the stairway, which was then covered with lime mortar, and replacing the slate ceiling.

The estate receives very good advice from English Heritage and the Churches Conservation Trust on all matters to do with conservation, repair and restoration. The only recent problem has been with some work carried out to remedy poor workmanship on internal timber windows, due to the use of unseasoned timber which was not identified at the time by the contractor undertaking the work.

The maintenance manager was of the opinion that this was an isolated case of lack of care and competence as, generally, they have had no problems with craft skills. If problems need a specialist contractor, usually for leadwork and stone flooring, then, on the advice of either their internal management or external professionals, a contractor is contacted. Contractors used are always accredited with their appropriate craft bodies and suitably experienced in working on historic buildings. There does not seem to be a problem with sourcing appropriate craft skills, but prices do seem to go up as soon as the historic nature of the building is mentioned.

18th-Century Manor House

Regular repair and maintenance work is undertaken on this Georgian manor house undertakes regular repair and maintenance work on the advice of an architect who has worked on the building for many years. Work that has been undertaken in the past year includes pointing, sash window replacement and repair, and door and roof repairs, along with regular maintenance of the gutters and drains. The building is subject to a formal and regular programme of maintenance which is carried out to reduce the need for repair in the future.

The craftspeople most required for the building are stonemasons, joiners, leadworkers and plasterers. It is not difficult to locate sufficiently skilled craftspeople because they have established and maintain a network of specialist contractors they can call upon. These are generally commissioned through the architect, who also specifies the work and monitors it for quality.

The facilities manager mentioned only one problem in sourcing craft skills, and that concerned glazing to the correct standards and with suitable materials. They were eventually able to locate a suitably skilled and knowledgeable craftsman with the help of another local heritage property.

1900 Residential Property in a conservation area in Harrogate

This property is a stone-built, late Victorian house with a Welsh slate roof and extensive original internal features, including detailed plaster mouldings and stained glass panels.

The owner admits that repair and maintenance work is only carried out when absolutely necessary. Certain recent repair and restoration work has involved external facia boards that had been repaired 30 years ago by a previous owner with lead sheeting. The result of the lack of previous care in preservation and painting was that the facia had rotted and had to be entirely replaced. Similarly, repointing had been done on one elevation some 10 years ago by a previous owner with a hard cement mortar mix that had damaged the external stone, but this was removed and completely repointed with a more appropriate mortar mix last year.

The owner said that suitably knowledgeable and skilled craftsmen who undertook work to the required standard were available, but that they were expensive and, because there were not many of them, had to be booked months in advance.

The owner felt that an important consideration was the lack of a source of reliable advice on the repair and maintenance of older buildings. Owners were often given conflicting advice by craftspeople and had no way of knowing whether one set of advice was more accurate than another.

5

SUPPLY OF TRADITIONAL BUILDING SKILLS: CONTRACTORS

supply

This section of the report assesses the supply of skilled trades and craftspeople available to undertake the conservation, repair, maintenance and restoration of historic buildings. Quantitative interviews were undertaken with contractors and sole traders to gain insight into the following interrelated aspects of the composition of the current workforce:

- Numbers of employed and self-employed workers in the built heritage sector.
- Outstanding vacancies and recruitment difficulties.
- Quality and availability of the requisite skills, and the levels of retention of trades/craftspeople as indicators of skills shortages or skills gaps.
- Inflow and outflow between the built heritage sector and the wider economy.
- Attitudes to and support for training.

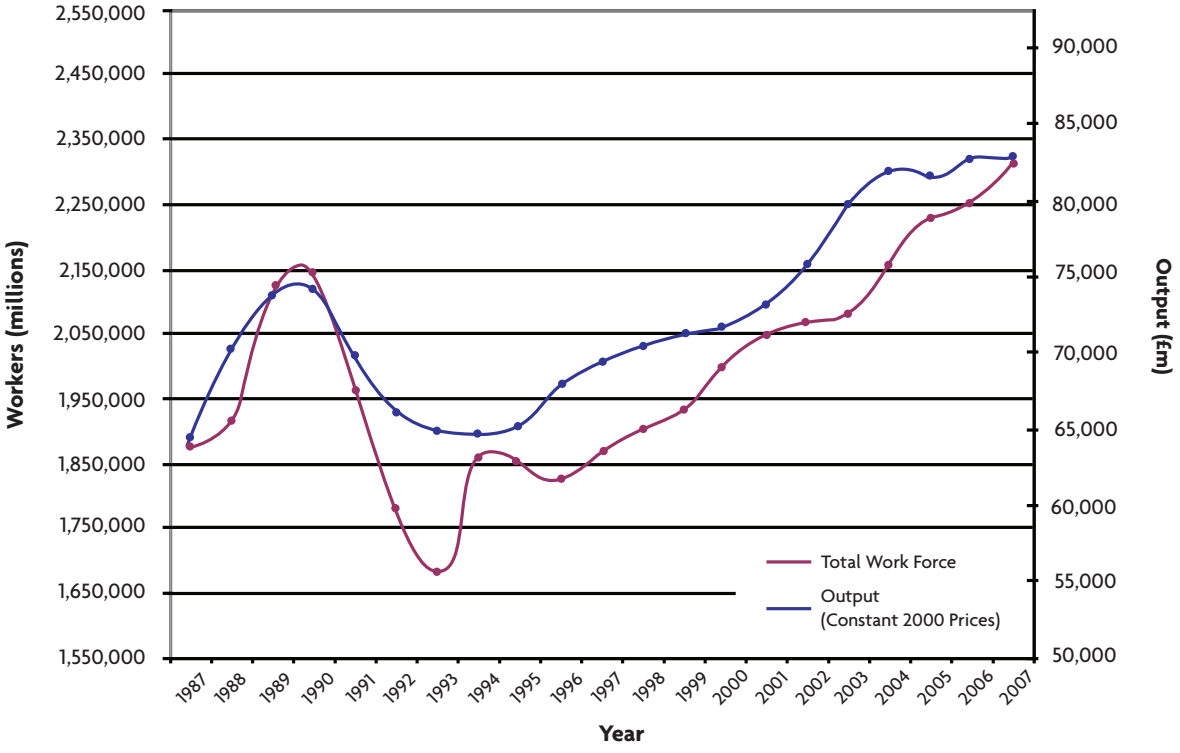
In addition, a series of in-depth interviews was undertaken with representatives of trade associations and professional bodies. This was intended to yield a broader, qualitatively oriented overview of the major issues in the sector, as well as to gain a more detailed understanding of the various craft specialists represented by some of these associations.

5.1 The Construction Industry in England

The construction industry is one of the major drivers of the UK economy. Construction contracting produced an estimated output of approximately £83bn at constant 2000 prices, with professional services probably adding a further £17bn. This makes construction a £100bn-a-year industry, accounting for around 8% of GDP, and over 2.3 million in the contracting workforce (defined as SIC 45 in its entirety) and around 300,000 in professional services (defined as SIC 74.20).

This represents a significant increase on the 2.1 million employed at the time of the 2005 report, and reflects general steady growth in the construction sector. Construction industry output by volume, the most accurate measure of absolute growth in productivity, has grown steadily at an average of 2.1% per year in the 10 years between 1996 and 2006 (Blue Books, 2005, 2007). The same

Figure 10 Construction Output and Employment (SIC 45), UK, 1987–2007



Source: Office for National Statistics; Department for Business, Enterprise and Regulatory Reform

period has also been characterised by steady growth in employment, which had fallen to 1,700,000 when the industry reached its low point during the recessionary phase of the early 1990s (see Figure 10).

The current growth trend is expected to continue in the near future, and is likely to be underpinned by government aspirations for the extensive renewal of the educational, health, transport and housing infrastructures. Employment is projected to reach 2.6 million (including building professionals) by the end of 2008 and 2.8 million by 2012, and the industry is expected to need an additional 88,400 new recruits a year.

The vast majority of enterprises within the UK are small enterprises, with some 90% employing fewer than 10 employees. There are also very high levels of self-employment, with more than a third of the workforce, some 860,000 people, in this category.

In terms of occupational structure, manual workers are the dominant group, accounting for some 60% of the total construction sector workforce. The remaining 40% comprise managers, office staff and those employed in professional services such as architecture, surveying and structural engineering.

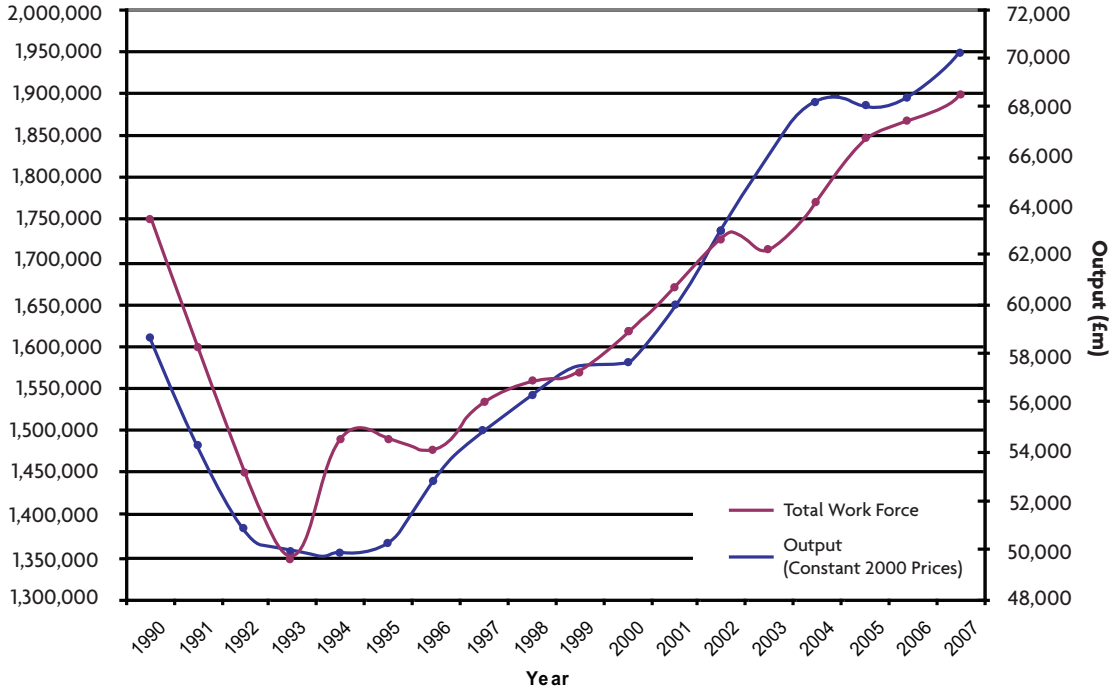
Approximately in line with its population and area, the construction industry in England makes by far the largest contribution to the total UK sector, with output in 2007 estimated to have exceeded £68bn (2000 prices) and employment approaching 1.95 million (Figure 11).

The overall composition of the construction workforce in England is broadly comparable to that in the UK as a whole, but with some slight differences. England has slightly higher proportions of professionals, technicians, managers and office-based staff, as well as more plumbers, electricians and heating, ventilation and air-conditioning control (HVAC) tradespeople. Conversely, it also has proportionately fewer labourers, wood trades, and plant operatives.

Self-employment in England is slightly higher than across the rest of the UK – 39% compared with 37%. However, self-employment in the four main craft trades (wood trades, bricklaying, plastering, and painting and decorating) is particularly high at 65%, compared with 60% in the UK, and highest of all at 70% among plasterers and painters.

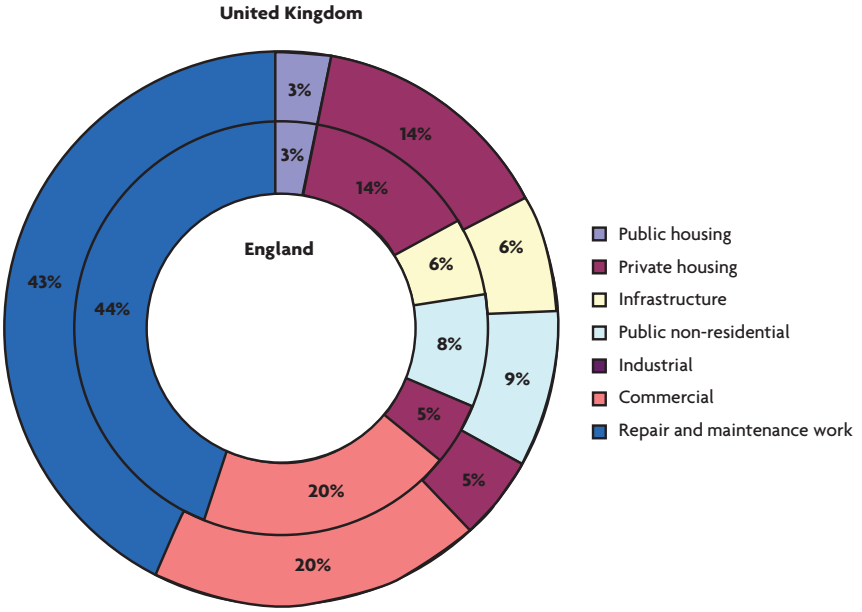
There is one further difference between the industry in England and the wider UK industry which is of considerable significance to the built heritage sector. As shown in

Figure 11 Construction Output and Employment, England, 1990–2007



Source: Office for National Statistics; Department for Business, Enterprise and Regulatory Reform

Figure 12 Construction Industry Output by Main Sub-sector, UK vs. England, 2007 (Estimate)



Source: Department for Business, Enterprise and Regulatory Reform; Department of Finance and Personnel Northern Ireland; ConstructionSkills

Figure 12, when the industry's output is broken down into sub-sectors, it is found that England has a greater share devoted to repair and maintenance activity – 44%. This may appear only marginally greater than that for the UK as a whole, but is more emphatic when directly compared with the shares of the other UK countries, with repair, maintenance and improvement (RMI) accounting for approximately 36% of total output in Wales, and around 35% in Scotland (the extent of the disparity is concealed by the far larger contribution made by England than by Scotland and Wales to the total UK figures).

Since England also has approximately the same proportion of pre-1919 buildings as Scotland (one fifth of total building stock), but a smaller proportion than in Wales (one third), a higher spend occurs. Regional disparities in repair and maintenance output are also evident within England, with the proportion of total output at its highest (nearly half) in the South East, East Midlands and West Midlands, and at its lowest in the North East and North West.[45]

This suggests a broad correlation between economic prosperity and the proportion of construction output dedicated to RMI. This is supported by the fact that the very highest levels of repair and maintenance output occur in London's wealthy hinterland. More than half of total construction output in Kent, Surrey and Sussex (South East) and Bedfordshire, Essex and Hertfordshire (East of England) is in the RMI sector. The implication is that at least in the long term the UK's steadily increasing prosperity will lead to increased expenditure on RMI, making this a potential growth area for the construction industry.

Given the general context of growth in the industry, this implies significant skills and training needs both for the English construction industry, with some 74,300 new recruits needed each year until 2012, and particular growth in the need for traditional building craft skills.

5.2 Building Contractors Working on Pre-1919 Buildings

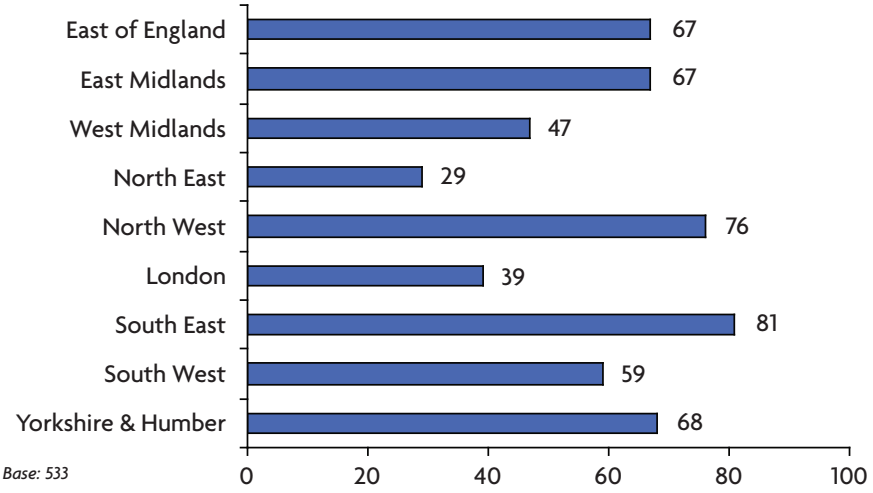
5.2.1 Survey Sample Overview

For this research, a substantial sample of contractors was chosen to provide a representative overview of the resources, skills and approaches used when working on pre-1919 buildings. The initial list of contacts came from the CITB-ConstructionSkills register. Of the 1,271 contractors willing to participate, only those who had done at least some work on pre-1919 buildings were selected for a full interview.

In total, 738 interviews were terminated because contractors had not undertaken pre-1919 work, and 533 interviews were undertaken with firms carrying out work on pre-1919 buildings during the previous 12 months. This means that out of the total number of contractors willing to participate, 42% of contractors had undertaken work on pre-1919 buildings and became the core sample for the research. As shown in Figure 13, these contractors were distributed throughout the nine English regions.

In total, the contractors interviewed directly employed 7,198 employees – an average of just under 14 per firm – with 6,609 (92%) of these working full-time. Only 8 firms employed 100 or more people, with the largest employing 303 people.

Figure 13 Number of Contractors Interviewed within Each Region



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In common with the Welsh research, a sole trader is defined as any firm with only one or two employees. By this definition there were 113 sole traders in the sample, or 21.2% of the entire sample, but only 31 were self-identified as sole traders. This marks a significant departure from the previous craft skills research, where the proportion of sole traders was much higher. This sample was chosen in order to capture more reliable and detailed information about contractors' demand for traditional building craft skills.

Sole traders, because of their small size, do not represent a significant source of demand for skilled employees. However, this change should be borne in mind when comparing statistics from the 2005 and present studies.

Qualitative interviews were also undertaken with a range of professional and trade associations.

5.2.2 Main Activities and Range of Trades

A large number of the firms interviewed carry out more than one skilled trade on pre-1919 buildings, although Table 12 also shows that most of these do

'The absence of any official standard means that members of various Guilds and Associations don't need to have any accreditation, so in reality they only pay lip service to quality.'

Nationally reputed traditional craftsman

Table 12 Trades Carried Out on Pre-1919 Buildings by Contractors Interviewed

	Undertake trade (%)	Main activity (%)
Joinery/carpentry	15	14
Brickwork	13	8
General building work	13	48
Plastering	12	5
Roofing	9	5
Stonemasonry	9	7
Glazing	8	4
Painting/decorating	8	6
Leadwork	7	2
Metalwork	6	*
Other	*	1

** = less than 1%*

specify undertaking a main activity. In addition to those trades listed in Table 12, contractors interviewed also mentioned tiling, concrete restoration and repair, damp-proofing and specialist cleaning, as well as work on fireplaces and chimneys.

It should be pointed out that this research found much higher levels of direct employment of specialist craftspeople than the 2005 research, with many contractors employing more than one craft/tradesperson in a particular specialism (Table 13). This reflects some important differences in the survey sample profiles. The current research sample included a significantly smaller number of sole traders (31), with a corresponding increase in the likelihood that the contractors would have a large directly employed labour force.

Contractors also said that they directly employ metalworkers (particularly for work on window frames), electricians and chimney workers.

5.2.3 Membership of Trade Organisations

Just over half of the survey sample were members of trade organisations, with by far the most popular affiliation being the Federation of Master Builders (just over 30% of contractors surveyed are members). This is followed by the National Federation of Builders (9% of the sample), and the remainder were distributed between a number of mostly more specialised trade associations, such as the Lead Contractors' Association and the British Woodworking Federation.

During the in-depth interviews, concern was voiced by some respondents at the lack of agreed standards for some trade associations,

Table 13 Contractors Employing at Least One Tradesperson in Each Craft Skill

	Undertake trade (%)	Main activity (%)
Joiner	56	22
Carpenter	51	24
Bricklayer	52	22
Plasterer (other)	43	n/a
Plasterer (lime etc.)	38	17
General crafts/tradesperson	38	22
Plasterer (fibrous)	36	10
Roofer (general tiles and slates)	34	*
Stonemason (banker mason)	30	17
Decorator/painter	30	15
Glazier	27	6
Roofer (random/natural slates)	25	*
Roofer (stone tiles)	24	*
Leadworker	22	9
Tiler (floors/walls)	16	8
Stone fixer	12	10
Stone carver	11	4
Cabinetmaker	6	5
Woodcarver	5	n/a
Wood machinist	5	n/a
Drystone waller	4	6
Timber preserver	4	n/a
Glass painter	2	1
Blacksmith	1	9
Gilder	1	4
Steeplejack	1	2
Thatcher	1	4

** Note that in the 2005 report, 'roofer slate, tiles' was categorised as one single craft (21%) rather than as separate crafts as designated in the most recent research*

and the fact that membership was based simply on application and the payment of a membership fee rather than a formal accreditation process. This may partly account for the general lack of faith manifested by stockholders in trade associations as a source of reliable labour for working on their properties (see Figure 3, Section 4.7.1 above).

The qualitative interviews revealed quite a sharp distinction between trade associations that exist primarily to lobby for and promote their members' interests, and those which are concerned with developing standards of best practice.

Some associations maintain rigorous standards for membership and for work done – an example being the Lead Contractors' Association, which requires all work to adhere to a Code of Practice incorporating the relevant British Standard and to an agreed standard manual, and whose members are vetted and graded annually.[46] At the other extreme, some associations have virtually no agreed standards for membership at all, and simply function as a form of publicity for members.

If this distinction was better understood – and perhaps better defined and protected in law – it would probably increase the range of informed choices available to stockholders. It would also provide a better structure within the profession for those seeking to maintain and improve standards in their crafts or trades.

5.2.4 Degree of Heritage Specialisation

The vast majority of these firms (92%) described themselves as general contractors that undertake some work on pre-1919 buildings, with only 8% classifying themselves as heritage specialists. These figures are closely comparable to those found during an in-depth regional study of the West Midlands region undertaken concurrently with this research (see case study, Section 8). It is worth noting that this figure is much smaller than the degree of heritage specialisation found for the 2005 research by undertaking an analysis of VAT-registered building contractors. At that time it was found that of the 148,551 VAT-registered construction contractors in June 2004, 22,204 actively advertised themselves as working in the heritage sector, or very nearly 15%.

5.3 Worked Carried Out on Pre-1919 Buildings

5.3.1 Proportion of Work Involving Pre-1919 buildings

For the contractors taking part in the survey, on average, over the last 12 months, 36% of their activity was work carried out on pre-1919 buildings. Depending on the individual contractor, this proportion ranged from as little as 1% to 100%. In order to assess the significance of the changed sample size for this figure, the statistics were also weighted to ensure that the sample reflected the pattern of enterprises in the industry as a whole. This found that there was only a negligible difference of an additional 1.2%, giving a weighted proportion of just over 37%.

Within the industry there appears to be a considerable degree of specialisation, with companies tending to do a lot of work on pre-1919 buildings or not very much at all. Half of those describing themselves as specialist heritage contractors undertook 75% or more of their work on pre-1919 buildings, compared with only 13% of general building firms. By contrast, nearly half (45%) of general building firms reported that pre-1919 buildings accounted for 25% or less of their work. On average, they reported that a total of 18.3% of their work was on pre-1919 buildings, compared with 64.9% for specialist contractors.

This suggests that in practice there are already two quite well-defined markets for building contractors: traditional buildings or relatively modern buildings, with the trade responding pragmatically to this situation by tending to focus on one or the other. However, it remains probable that general contractors may be doing a great deal more work on pre-1919 buildings than the specialist contractors because they are more numerous.

The general building contractors interviewed employed a total of 6,709 people (averaging nearly 14 employees each), whereas the conservation specialists employed 479 people (averaging just over 12 each).

Figure 14 Type of Pre-1919 Buildings Worked on by Contractors

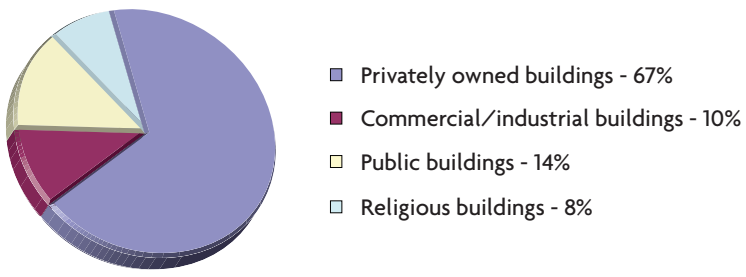

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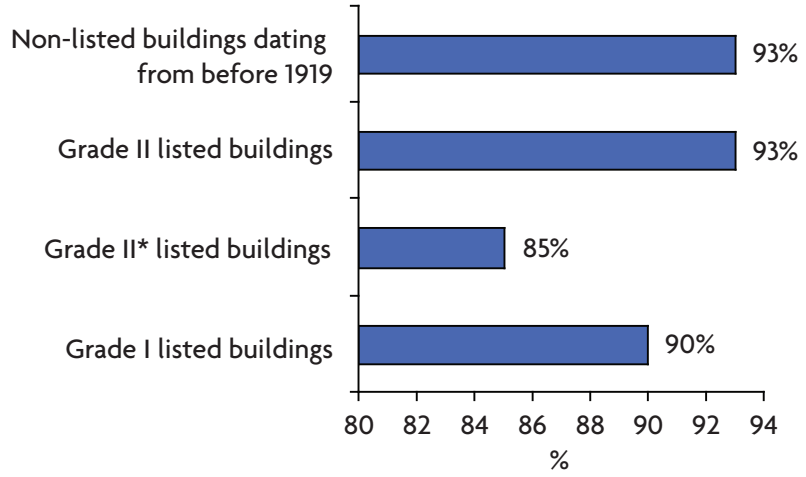
Figure 15 Contractors Confident to Work on Buildings According to Skills Possessed by Employees



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5.3.2 Types of Building Worked On

In terms of the type of buildings that contractors worked on, the private sector was dominant (Figure 14). On average, 67% of work on pre-1919 buildings undertaken by contractors is on privately owned buildings. However, detailed scrutiny of the responses shows that individual contractors frequently specialise in one or less frequently two types of buildings or client groups, drawing all or most of their work from them.

Overall, an average of 62% of this work was classed as repair and maintenance, and 38% as conservation and restoration. It should be noted that this is a much greater proportion of conservation and restoration than that reported by stockholders.

5.3.3 Confidence in Ability to Work on Pre-1919 Buildings

On the whole, most building firms interviewed expressed extremely high levels of confidence in their ability to work on pre-1919 buildings (Figure 15). Indeed, as many as 90% said that they would be happy to work on any building, even those with a Grade I listing, with 93% of contractors saying that they would be happy to work on both unlisted and Grade II listed buildings. In addition, less than 11% of contractors reported that they had previously turned down work on a pre-1919 building because of a lack of skills and knowledge within their firm, again suggesting very high levels of confidence in their ability to undertake work on traditional buildings.

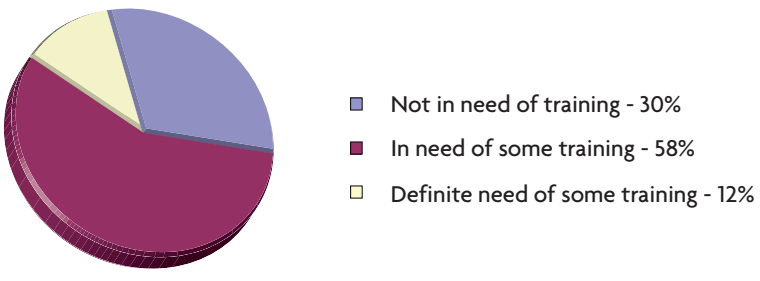
However, a striking finding of the research was that more contractors said they would be comfortable working on a Grade I building than on a Grade II* building. This is a counterintuitive result, as one would expect that the more highly listed a building is, the more intimidating it would be to potential contractors.

The same basic pattern was evident in responses from contractors describing themselves as conservation and heritage specialists. The only difference was greater confidence than other contractors in all categories except Grade II* listed buildings.

Further analysis showed that in the total survey sample, 42 contractors or just less than 8% gave anomalous answers, claiming to be confident on Grade I but not on Grade II* structures. A slightly higher proportion – 4 out of 40, or 10% – of those self-identified as conservation contractors gave similarly anomalous responses.

The conclusion appears to be that a significant minority of those contractors interviewed understood the 'star' in the Grade II* listing to signify an especially high category of listing. A more charitable explanation might be that the categorisation system is broadly understood but that the Grade II* category causes particular problems because it lies ambiguously between Grade I buildings, where only authentic materials can be used, and Grade II buildings, where a certain amount of flexibility might be assumed to

Figure 16 Criteria Contractors Use When Recruiting



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exist. Whichever explanation is preferred, it is difficult to avoid the somewhat worrying conclusion that some contractors have little or no genuine familiarity with the listing system.

5.4 Workforce Management

5.4.1 General Recruitment Policies

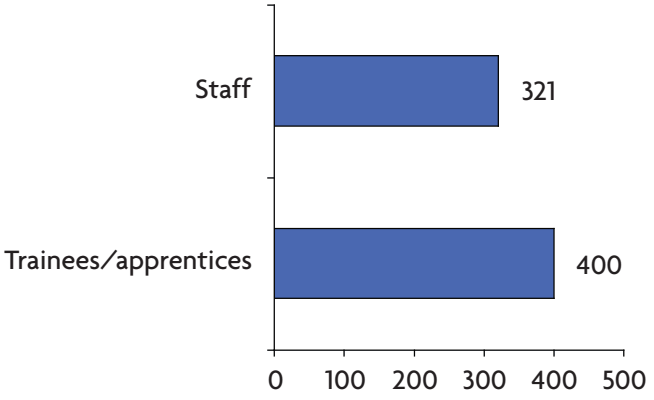
When recruiting, a clear majority of contractors (58%) looked for new employees who had the basic skills needed to work in their trade, but who were in need of some further training and development (see Figure 16). Of the remainder, 30% sought employees who were already fully skilled and experienced, and only 12% said that they selected new employees who they believed had the ability to develop new skills, but who would definitely need additional training in order to work in the sector.

This is likely to indicate a preference for employees who have recently left the education system and need additional part-time training and on-the-job experience to become fully skilled. Such recruits will naturally be paid lower wages than fully skilled craftspeople, and are also likely to be more amenable to learning the particular way things are done by their employer.

5.4.2 Recruiting Skilled Trades/Craftspeople

Nearly half of the firms contacted had actively engaged in recruitment activity in the previous 12 months, with firms taking on fully skilled craftspeople as well as trainees and apprentices. Between them, the contractors surveyed recruited a total of 721 staff in the past year (Figure 17).

Figure 17 Number of Staff and Trainees/Apprentices Recruited by Contractors in the Past Year



The 122 firms that engaged fully skilled staff recruited an average of 2.6 members of staff in the year, with individual firms taking on between 1 and 42 people. The 205 firms that took on trainees or apprentices recruited an average of just under 2, with the range varying from 1 to 12 new recruits.

When asked to rate how they found recruiting the trades/craftspeople required to carry out work on pre-1919 buildings, a total of 43% of contractors reported that it was either difficult or fairly difficult, with 23% saying it was difficult (Table 14). On average, however, contractors reported that it was only marginally more difficult than not to recruit (using a scale of 1 to 5 where 1 represents easy and 5 represents difficult, there was an average score of 3.18).

Only 3% of contractors reported having outstanding vacancies that they had not been able to fill for three months or longer. These long-term vacancies were most commonly for carpenters, cabinetmakers, bricklayers, joiners and woodcarvers. Other trades experiencing long-term vacancies were painter decorators, general tradespeople, glass painters, glaziers, roofers, leadworkers, stone carvers, stone fixers, stonemasons and tilers.

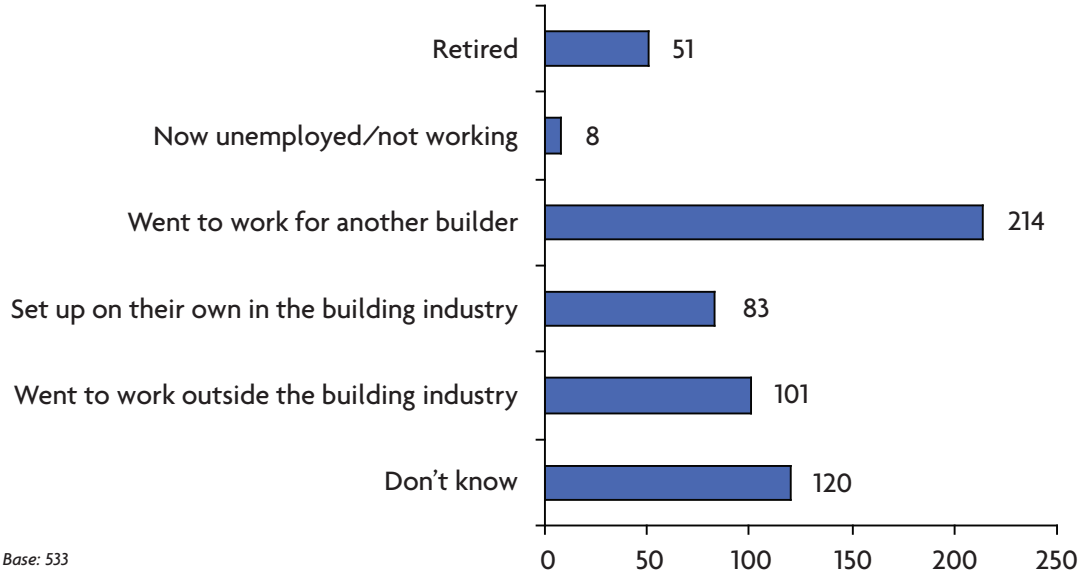
5.4.3 Retention of Skilled Trades/Craftspeople

Of the 533 contractors surveyed, 228 reported having lost a total of 610 employees over the past three years, an average of under 3 per firm. As shown in Figure 18, of these, the majority (214) left to work for another building firm, with the next largest group whose destination was known (101 people) moving out of the construction industry

Table 14 Contractors' Ease of Recruiting Traditional Trades/Craftspeople

	Percentage of contractors in the sample (base 497)
Easy	14.7
Fairly easy	18.3
Neither easy nor difficult	24.3
Fairly difficult	20.1
Difficult	22.5

Figure 18 Reasons Why Tradespeople Left Their Firms in the Last Three Years



Base: 533

altogether; the remainder either retired or set up on their own, or their destinations were unknown.

The numbers in Figure 18 do not add up to 610 employees, as the remaining contractors gave a range of other reasons for employees leaving a company including:

- Lack of the appropriate skills.
- Failure to meet the required standard of work.
- Illness or injury.
- Entering university or other training.
- Relocation.
- Redundancy.

The fact that the number of employees lost is rather smaller than the number of new employees indicates that, overall, new recruitment is currently more than able to fill the gap left by employees leaving, reinforcing the picture that contractors are not having general difficulties with recruitment.

Figure 19 Factors Determining Higher Wage Rates for Workers on Pre-1919 Projects

Base: 118

5.4.4 Wages

When asked about labour only, 79% of contractors said that there was no difference in the costs they charged between work carried out on pre-1919 buildings and that undertaken on modern or new-build projects. However, among the minority of contractors that did charge higher rates, 48% said that this was at least in part because they had to pay these employees a higher rate. For the most part, these higher wage rates are reflective of the higher skill levels involved in undertaking craft building work on pre-1919 projects (see Figure 19).

5.5 Skills Issues in the Directly Employed Workforce

In addition to the overall skills profile of the directly employed workforce, it is necessary to consider whether current employees and recruits display any particular skills shortages or gaps.

Skills shortages are defined as the inability to recruit people with the appropriate skills at an appropriate

wage. This can include long-term unfilled vacancies and understaffing, and can result in long working days and weeks and high overtime rates, thus affecting a company's performance, including its capacity to bid for and fulfil new work.[47]

Skills gaps are defined as missing knowledge and competence of existing staff, with gaps leading to reduced performance, quality and safety. This may lead to lower-quality output, with more faults to put right at additional cost in time and money, and even a below-par health and safety record. The result is dissatisfaction for the customer and diminished profitability for the contractor.[48]

These issues can be approached from several angles, notably by looking first at the skills profile of the directly employed workforce, and then the profile of skills that contractors find difficult to recruit.

5.5.1 Skills Shortages

The trades contractors find most difficult to recruit for specialist work on pre-1919 buildings are carpentry, joinery and stonemasonry (Table 15). These are key skills for heritage building work, with skilled stonemasons being a category which has repeatedly emerged in crafts research as being difficult to source, especially in areas where stone is the predominant building material.

Table 15 Specialist Skills That Contractors Find Most Difficult to Recruit (%)

Carpenter	12
Joiner	11
Stonemason	9
Bricklayer	8
Plasterer (lime)	8
Plasterer (other)	6
Plasterer (fibrous)	6
Leadworker	4
Stone carver	3
Stone fixer	2
Roofer (general tiles and slate)	2
Decorator/painter	2
Roofer (stone tiles)	2
Roofer (random/natural slate)	2
General crafts/tradesperson	2
Glazier	2
Thatcher	2
Woodcarver	1
Tiler (floors/walls)	1
Cabinetmaker	1
Blacksmith	1
Drystone waller	1
Glass painter	1
Steeplejack	1
Timber preserver	*
Gilder	*
Wood machinist	0

** = less than 1%*

Other trades that contractors said were difficult to find for work on pre-1919 buildings were concrete repairers, electricians and repointers. The lack of specialists in repointing should be a source of particular concern given the importance of the use of appropriate mortars on pre-1919 buildings.

Just less than half of contractors experiencing recruitment difficulties (46%) attributed this to a lack of skills among those who applied for positions available (Figure 20). Lack of applicants, by contrast, was much less of a concern on its own. A substantial number cited both lack of applicants and lack of skills – in total, 82% of contractors experiencing difficulties found that there was a lack of skills among applicants, and 47% felt that there was a lack of applicants. However, given the small number of contractors reporting long term vacancies (see Section 5.4.2), it would appear that, on balance, skills gaps may be more of a problem than absolute skills shortages, as suggested by the survey of stockholders.

Contractors also provided a variety of additional reasons as to why they found it difficult to recruit particular skilled trades:

- Insufficiently attractive wages, bringing about a preference for self-employment.
- Inadequate provision of training by local colleges.
- Lack of work opportunities.
- Lack of interest from applicants in using traditional methods, modern machinery being favoured.

5.5.2 Skills Gaps

As part of the survey, contractors were asked to rate (out of 10) their employees in terms of the level of specialist heritage skills required to

work on pre-1919 buildings. In general, contractors rated their staff very well, with nearly all skills receiving an average score of 8 or above. Thatching was the only skill to receive a lower average score of 7. This appears to contradict the general picture of skills gaps being the crucial issue in traditional buildings crafts; but it should be remembered that many contractors are likely to be reluctant to admit to the existence of skills deficits among their own workforce.

In support of this, it should be noted that during the in-depth interviews for the current research, the members of general trade associations were generally more bullish about the skills and abilities of trades/craftspeople than were the more knowledgeable clients or specialist trade associations. One major construction trade association claimed that they had 'no experience of seeing poor quality work' on pre-1919 buildings, while insisting that the skills needed to work on them were 'pretty much the same' as those for modern buildings.

The buildings manager of a major heritage organisation, by contrast, testified to seeing poor-quality work, and in particular referred to the prevalence of cement pointing instead of lime, and claimed that 'contractors generally don't have the right skills or knowledge at all'.

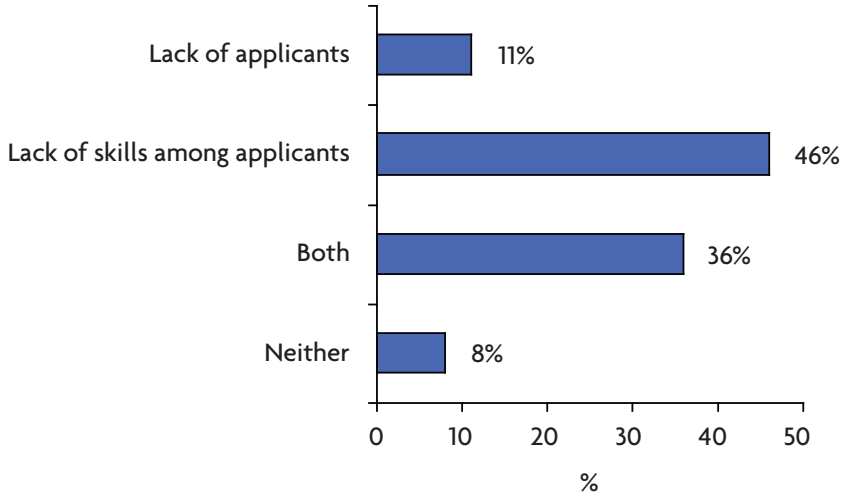
The implication is that positive ratings on skills from within the trade should be viewed with a degree of caution. However, the results are of value for identifying those areas of relative weakness among the building crafts and trades mentioned. These are unlikely to be significantly affected by a general inflation of scores. The result is that when the range of scores is taken into account, the skills given the lowest score of 3 were stone carving, stone fixing and stonemasonry.

This group of interrelated masonry skills is of the utmost importance for work on heritage buildings, which characteristically employ stone construction and decoration far more than does new build. It is worth recalling that stonemasonry was also the area that contractors found hardest to recruit, and it again emerges as an area of particular concern.

In terms of the knowledge and ability required of trades/craftspeople to work with traditional materials, contractors, when asked to rate workforce proficiency in specific heritage skills, were generally very positive.

The highest rating of 'good' for the ability of employees to work with traditional materials was slightly higher, at 56%, than that of their knowledge of traditional materials, at 53%. Again the absolute ratings are of less significance than the relative scores. Although the difference would seem to be marginal, it does point to greater confidence from contractors in terms of the *skills* of their employees as opposed to their *knowledge*, reinforcing the overall sense that skills gaps are rather more problematic than skills shortages.

Figure 20 Reasons Contractors Give for Recruitment Difficulties



5.5.3 Dealing with Skills Shortages and Gaps

To overcome this lack of skills and knowledge, the majority (28%) of contractors said that their trades/craftspeople learn and develop their proficiency while working on the job, with a further 22% saying that they had needed to bring in a subcontractor possessing the required skills and knowledge to carry out some pieces of work. Asking other trades/craftspeople for advice (20%) and undertaking research via the Internet and other publications (14%) also appear to be common ways for contractors to tackle any apparent lack of skill or knowledge. Only 8% sourced training for specialist skills, and 7% resorted to using modern methods instead.

These findings are not reassuring because there is no guarantee that 'learning on the job' will lead to the acquisition of all the skills and knowledge necessary to undertake the work to the appropriate standards. When coupled with lack of detailed knowledge about the performance and handling of traditional materials, this entails the risk of creating future problems. Simple adoption of traditional materials is not enough; their use requires special handling. If this is not understood, the resulting faults may remain hidden for years but will finally produce visible failures.

5.6 Skills Issues and Subcontracting

As seen in the previous section, bringing in subcontractors is a common response among firms that require the use of specialist skills they otherwise lack to carry out their work on pre-1919 buildings. Contractors were asked to identify those trades that were particularly difficult to source, and the responses to this question are shown in Table 16.

Contractors also noted that they commonly subcontracted electricians, straw-bale builders, scaffolders, metalworkers and cladding specialists.

Plasterers were the most likely to be subcontracted – indeed, if all the different types of plastering are considered together, they represent by far the largest area of subcontracting. However, plasterers were not uniformly believed to be the hardest trade to find, which was joinery.

The large majority of contractors (89%) said that where they had subcontracted a specific skill, their average wait for them to become available in the last year has been less than two months. The 3% of contractors that reported having had to wait for over three months had mainly done so for plasterers (all types), joiners, bricklayers and carpenters. Contractors also commonly stated that, among the trades they used regularly, they generally had to wait longest for (in addition to those already listed) electricians, leadworkers, roofers, stonemasons and thatchers.

5.7 Traditional Building Materials

Contractors were asked to consider the proportions of work they had undertaken on pre-1919 buildings in the previous year that had used exclusively traditional materials, only modern materials or a combination of the two. As an example, this could be determined by whether during a job they had chosen to repair traditional sash windows instead of using and fitting modern plastic alternatives.

Only 4% of the sample reported using exclusively modern materials for all their work on pre-1919 buildings, in contrast to 16% who had used exclusively traditional materials; a further 35% of all contractors always used a combination of traditional and modern materials; the remaining 45% of contractors used different specifications according to the particular work. On average, contractors reported that 30% of the work they had undertaken involved using only traditional materials.

Among those reporting themselves to be specialist conservation contractors, only 27.5% reported having worked exclusively with traditional materials, a much lower rate than might have been expected. Only one worked exclusively with modern materials, although in this case there was a

'Demand is shifting from British materials to European . . . because many are now hard to acquire within Britain and instead countries such as France are now attractive alternatives for materials such as sandstone.'

Trade association representative

Table 16 Craft Skills Subcontracted and Hard to Find

	Subcontracting in the last 12 months (%)	Skill hard to find (%)
Plasterer (other)	23	3
Joiner	21	4
Plasterer (fibrous)	21	2
Plasterer (lime)	21	2
Roofer (general)	18	2
Decorator/painter	17	1
Bricklayer	16	2
Glazier	15	1
Carpenter	15	3
Roofer (random/natural slates)	14	1
Stonemason	14	2
Roofer (stone tiles)	13	1
Leadworker	13	2
Tiler (floors/walls)	10	1
General crafts/tradesperson	8	1
Timber preserver	6	1
Stone carver	5	1
Stone fixer	5	1
Glass painter	4	*
Thatcher	4	1
Woodcarver	4	1
Cabinetmaker	3	
Drystone waller	3	*
Wood machinist	3	*
Blacksmith	2	*
Gilder	2	*
Steeplejack	2	*

** = less than 1%*

good reason for doing so – the company concerned was a specialist in façade cleaning and graffiti removal. On top of this company, however, a further 25% of specialist heritage contractors had done no work at all that used exclusively traditional materials.

When those contractors who had used modern materials in the past year were asked what stopped them from using more traditional materials, the reason given by 21% of respondents was that the requirement had not been specified by the architect or surveyor working on the project.

When traditional materials were used by contractors, less than half (40%) said that this was because architects always specified such requirements. However, a further 52% suggested that architects usually or sometimes specified the use of traditional materials, and the remaining 8% of contractors said that this specification occurred only occasionally or not at all.

Taken together, the two groups of findings emphasise the important role that building professionals play in ensuring that appropriate materials are used. The architect's specification is the single largest factor in both preventing and ensuring the use of traditional materials, emphasising how important it is to ensure that professionals have the knowledge necessary to do work on traditional buildings. Other reasons for not using more traditional materials given by contractors are provided in Table 17.

As Table 17 shows, a perceived lack of need for traditional materials and lack of client demand are the most important factors. Together these emphasise the need for improved knowledge and understanding of traditional buildings on the part of both clients and builders.

Table 17 Reasons Why Contractors Do Not Use More Traditional Materials on Pre-1919 Buildings

Reason	%
Traditional materials perceived to be unnecessary	19
No demand from our clients	17
Cost	12
Traditional materials not always available	9
Traditional materials don't meet building regulations/modern standards	8
Modern materials as good/better	6
Modern materials easier to use	4
Lack of skills to use traditional materials	2
No knowledge of how to get traditional materials	1
Building inspectors don't know/understand traditional materials	1

As 10% of those contractors *not* using traditional materials suggested sourcing, or knowledge of how to source, such materials was a problem for them, it is encouraging that 69% of those firms that did use traditional materials said that they were able to purchase all of them from manufacturers or suppliers in England. Less than 2% stated that they purchased materials from England hardly ever or not at all.

In addition to this and as shown in Figure 21, the majority of contractors who do use traditional materials know that over 75% of these also originate in England.

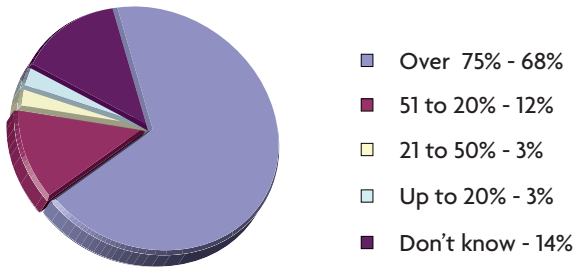
Of the contractors who had used traditional materials not originating in England, 44% said that they were sourced from European countries outside the UK (Table 18). This appears to be particularly the case for materials such as lime plaster, sawn timber and lime mortar. While the sourcing of timber from outside the UK is probably inevitable, because of the far greater areas of managed forest on the continent, there is no intrinsic reason why lime plasters and mortars could not easily be produced in England. This would increase the likelihood of being able to match existing surviving mortars precisely, as most of these were originally locally sourced and would overcome the expenses involved in importing materials from abroad.

The chief impediments to using traditional materials are historical in origin. Because lime mortars and plasters almost ceased to be used in England during the interwar period, the tradition of lime manufacture has been broken. On continental Europe, by contrast, lime has continued to be a standard building material to this day. Modern European lime manufacturers are accustomed to supplying a product that meets the needs of the modern building market, with a consistent and reliable specification and technical information readily available. Native products will have to meet the same high standards in order to be genuinely competitive, and this implies considerable initial investment.

Looking at the figures in Table 18, it is also notable that contractors do not know the origin of just less than a quarter of all traditional building materials sourced from outside England. In addition to the materials listed in the table, contractors also source steel from Switzerland and oak from France.

One contractor went further to say that materials such as oak were 'half price' if they were purchased outside the UK.

Figure 21 Traditional Building Materials Used by Contractors Originating in England



Base: 410

Table 18 Origin of Traditional Building Materials from Outside England (%)

	Wales	Scotland	N. Ireland	Other Europe	Wider than Europe	Don't know
Brick	11	20	–	26	6	37
Cast iron	18	36	–	18	–	27
Glass	11	16	–	37	5	32
Lead	9	9	–	27	23	32
Lime mortar	8	13	–	45	3	33
Lime plaster	10	6	–	53	6	26
Sawn timber	5	2	–	58	24	11
Slate/tiles	20	2	–	38	20	20
Stone	7	4	4	52	19	15
ALL	11	8	*	44	13	24

** less than 1%*

The suggestion that building materials were increasingly being sourced from outside the UK was also reinforced during in-depth interviews with trade and professional associations.

5.8 Summary and Comparisons with 2005

- Since the 2005 Traditional Building Craft Skills report, the size of the construction workforce has increased from 2.1 million to 2.3 million, and construction output has risen considerably.
- Repair and maintenance (R&M) forms a larger proportion of construction output in England (44%) than elsewhere in the UK, and within England there is a broad correlation between economic prosperity and proportion of R&M output, suggesting that increased economic prosperity will lead to growth in this sector, at least in the longer term.
- Of the 1,271 contractors contacted willing to participate in the research, 42% undertook work on pre-1919 buildings and were included in the sample for the research. Approximately 8% of the sample described themselves as specialist conservation or heritage contractors; the remaining 92% were general contractors that also worked on pre-1919 buildings.
- An average of 36% of work undertaken by contractors was on pre-1919 buildings, of which 67% were privately owned and the remainder were commercial, public and industrial buildings.
- Of the work undertaken by contractors on pre-1919 buildings, 30% was undertaken using traditional building materials only and the remainder with either modern materials or a combination of traditional and modern materials.
- Work was classed by 62% of respondents as repair and maintenance and 38% as conservation and restoration.
- Most contractors displayed high levels of confidence to work on these and listed buildings, but there was considerable ignorance of the heritage protection system.
- Nearly half of contractors recruited staff in the previous 12 months, with most preferring employees in need of some training, rather than those who are fully skilled or in need of extensive training, with 205 firms taking on an average of 2 trainees or apprentices each compared to 125 taking on an average of 2.6 fully skilled staff in 2005.
- There was a sharp decline in skills shortages since 2005. Recruitment was rated, on average, to be slightly more difficult than not, but the percentage of contractors reporting difficulties with recruitment has fallen from 51% in 2005 to 43% in this research. Only 3% reported long-term outstanding vacancies compared to nearly 25% in 2005.
- Reasons for recruitment difficulty were somewhat different: 47% of contractors cited lack of applicants and 82% cited lack of skills compared to 56% and 71% respectively in 2005, suggesting a decline in skills shortages but persistent skills gaps.
- The most difficult trades to recruit were wood trades followed by stonemasons, bricklayers and lime plasterers, a broadly similar pattern to 2005, but with bricklayers somewhat easier to find.
- This research has reinforced the findings of the 2005 report that retirement is not currently a major source of skills loss in the traditional building workforce, with loss of craftspeople in general and loss to retirement in particular found to be lower than in 2005.

- Most contractors reported that wage rates for work on traditional buildings were not higher than those needed for other buildings. Those who did pay higher wages predominantly said this was due to the higher skill levels involved.
- As in 2005, few contractors reported particular difficulty finding sub contractors and waiting times for sub contractors have declined. Only 3% of contractors reported waiting times in excess of three months for any trades compared to numerous trades with average waiting times in excess of three months in 2005.
- Contractors were not specifically asked about their use of traditional building materials in the 2005 report. In this research they reported using far less traditional building materials than stockholders suggested, with only a minority even of specialist contractors reporting exclusive use of traditional materials. However, in common with public and commercial stockholders, they most often reported a perception that it was not necessary to use traditional building materials as the reason for not using them more, followed closely by lack of client demand.
- Most contractors who do use traditional materials are able to source these in England and report that most also originate in England, but some materials, including lime plasters and mortars and sawn timber, are often sourced abroad (mostly from other European countries).

CASE STUDIES

Aldwark Manor Hotel Near York

Built in 1870, this hotel requires constant maintenance and repair as well as occasional restoration work on such things as original plaster mouldings.

Work that is regularly carried out includes clearance of drains and gutters, lead-work repairs to gutter fixtures, repointing damaged parts of the exterior wall, metal window repairs and woodwork – usually for problems with architraves and maintaining plaster mouldings, even having them replaced on occasions. Further work that is to be carried out includes the construction of an extension to the hotel, which will be carried out in sympathy with the existing buildings that are already in place so they visually match up.

The hotel employs its own maintenance manager who keeps in touch with local contractors with the appropriate knowledge and skills. They have no problem in sourcing local craftspeople to do the work and are generally very pleased with the service they receive. There has been some restoration work on the property such as the replacement of some of the plaster mouldings. They have never had any trouble sourcing traditional materials when required.

St Helen's Church, York, 12th Century and Later Church

The churchwarden believes that religious buildings suffer from difficulties that are mainly a result of a general lack of finance, and in this case he himself carries out as many of the minor repairs as possible. However, general roof and stonemasonry repairs are sometimes required to maintain the building, and gutter clearance is undertaken every two or three years to make sure there is no water build-up, which could potentially damage parts of the church.

Within the last year there was some minor joinery work to various parts of the church, which is classed as repair and maintenance work, and some gas flow alteration work. The work that was undertaken within the last year has all been minor, but is also considered as conservation work because it is helping to preserve the authenticity of the building.

The biggest problem encountered while undertaken repair works is identifying general maintenance firms with the right mix of skills to work on a building as old as the church. For example, many contractors believe it is acceptable to use a normal cement mix for repointing work when it is not suitable.

Local general contractors are able to do most of the repair and maintenance work. Their skill levels are regarded as being acceptable but they often do not have the knowledge of how to correctly undertake work using traditional methods and materials.

17th-Century Oxfordshire Farmhouse

This privately owned listed building was once a farmhouse but is now a private residential dwelling. The owner carries out regular maintenance on the building to ensure that the walls and roof (thatch) are kept in good order. In the past year he has carried out restoration work to two of the gable-end windows which required new, seasoned wood to be inserted to replace rotted parts of the frames. The work was also carried out extremely carefully in order to retain what was thought to be late 18th-century glass.

The owner did not find it difficult to find thatchers or joiners who were used to working on such buildings as the area has numerous such houses, but did find that they had to be booked a long way ahead.

There appeared to be too few craftspeople with the appropriate skills to meet rising demand in the area. This applied not only to thatchers and joiners but to bricklayers with the skill to replace and point Jacobean brickwork. The owner had experienced particular trouble locating someone to repair or replace a brick and stone internal fireplace and chimney.

Two years ago the owner reported having an internal beam replaced by a joiner who appeared to have the right skills and who had been recommended by a local planning officer. The joiner turned out not to know what he was doing and had to be stopped in mid-job because of an obvious lack of understanding of the larger joints and fixings required. Only by asking around local larger houses was the owner able to find a replacement joiner who could do the work (which required the expense of another beam being fashioned).

It was strongly felt that, while general skills in such areas as brickwork and joinery were widely available, the specific knowledge of how to adapt those skills to older buildings was not readily available.

Private Jacobean New Forest House

This property is thought to be an early 17th-century replacement for an earlier game-lodge. It is built to a typical Jacobean template of stone, brick and timber, and has some particularly fine woodcarvings, internal oak panelling and mullioned windows.

The owner, who bought the property 18 months ago, has conducted quite a bit of both internal and external repair and restoration work in the past year, focusing on the internal panelling and carving and external brickwork. Some of the carved wood in the hall and stairways had been damaged over the years by wear and tear and, in one case, by accident. There is a considerable backlog of work needing done, which was identified during the surveys prior to purchase.

The contractors that were most difficult to source were those with experience and expertise in dealing with internal panelling. Most of the wood is in good repair but the surface has dried out – probably because of the way in which central heating systems had been installed. It took over a year to find a craftsman who could treat the panels with the right waxes and surfaces to both repair and preserve them.

Although the owner found it difficult to find a contractor for the external brickwork this was mainly because three different (recommended) companies gave him three different ways of repairing and renewing the old bricks and pointing. The owner described it as a 'nightmare' trying to find an authoritative source on which to judge the different approaches.

MANUFACTURERS AND SUPPLIERS OF TRADITIONAL BUILDING MATERIALS

6

manufacturers and suppliers

Knowledge and understanding of the practical use of traditional building materials is vital for proper conservation, repair and maintenance, and so the material supply chain for these materials is crucial. This section of the report assesses this vital aspect of traditional buildings from qualitative and quantitative interviews with a sample of manufacturers and suppliers of traditional building materials.

Reliable information on the sub-sector concerned with the manufacture and supply of traditional building materials is hard to obtain. In common with the rest of the manufacturing sector, the last century saw the manufacture and supply of building materials undergo progressive industrialisation and mechanisation in fewer, larger manufacturing facilities that characterised the wider manufacturing sector. The result has been the marginalisation of non-standardised and regional products in favour of reliable, consistent industrial products. This underpins the current high levels of productivity in the construction sector, but poses potential problems for those engaged in the repair, maintenance, restoration and conservation of traditional and historic buildings.

6.1 Manufacture of Traditional Building Materials in England

There has been a prolonged period of consolidation in UK manufacturing, especially since the 1970s. While manufacturing remains one of the UK's single largest economic sectors, with an estimated GVA of £92bn,[49] its relative decline has been sustained up to the present. Indeed, its share of GDP/GVA has fallen by a third from 22% in 1995 to 14% in 2005.

Building materials have been a relatively resilient part of the manufacturing base in large part because their bulk means that even with modern technologies transport costs remain a significant issue. A large proportion of building materials, especially masonry products and bricks, continues to be produced in the UK.

It is difficult to give reliable estimates of the size of the construction manufacturing sector because no precise figures exist that would reflect this 'sector' as a whole. It is in fact a set of sub-sectors of larger manufacturing activities. By excluding clearly unrelated sectors, we are left with a GVA of approximately £21bn. However, this still includes some unrelated materials and does not include the quarrying and extraction of stone for building.[50]

For employment data, the closest proxies are those relating to the economic activities covered by the footprint of Proskills[51] (Sector Skills Council for the UK Process and Manufacturing Sector), whose five areas covered are:

- building products (principally tiles and bricks)
- coatings (principally paint)
- extractives (quarrying and mining)
- glass
- printing.

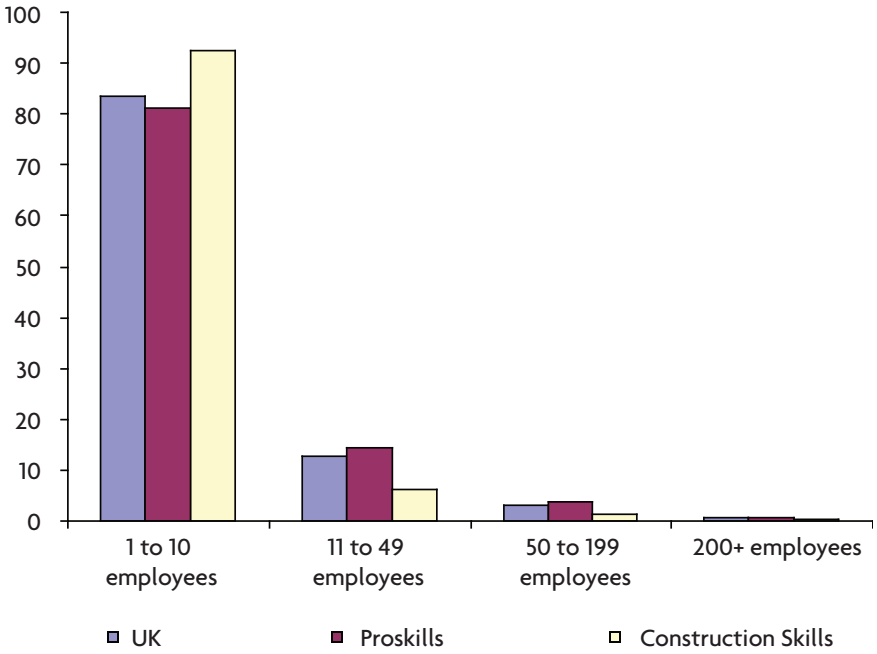
While printing would not be included within the manufacture of building materials, the others are directly related. However, the key areas of metal and wood-related activities are not included. These tend to fall between construction and engineering and manufacturing, leaving them without a fully representative body.

The manufacturing workforce within the Proskills footprint is 325,000, of whom about 302,300 are directly employed[52] within 25,775 enterprises.[53] England accounts for 87% of the total manufacturing and processing labour force, with about 90% of those in direct employment (Figure 22). Levels of self employment (7%) are correspondingly low compared with the UK average (13%), and are considerably lower than in the construction industry (37%). However, those in direct employment tend to work for small firms, and in this respect the sector is very similar to the construction industry, although there is a slightly higher proportion of small and medium-sized enterprises (SMEs) compared with construction and the UK average.

The manufacturing and processing labour force also tends to be fairly fixed, with permanent (97%) and full time (91%) work being the norm.

As with the construction industry, the manufacturing and processing workforce in England is essentially male (75%) and white (96%). Similarly the manufacturing and processing workforce is older than the average across the economy, with only 8% within the 16–24 age bracket, compared with the 14% UK average, and over two-fifths (42%) of the workforce are over 45. Qualification levels are comparable with the manual construction industry workforce, with 35%

Figure 22 Firms within the Proskills Footprint, by Size, ConstructionSkills and the UK (Percentage)



Source: Office for National Statistics, Annual Business Inquiry

having S/NVQ Level 2, compared with 29% in construction.[54]

The percentage of English manufacturing and processing firms reporting that they provided off-the-job training to employees within the last 12 months (58%) was the same as that of the construction industry, but the proportion of employees receiving such training was low, at 55% compared with 70% for the whole English economy.[55] This is lower still when participation in job-related education or training is considered, where only 15% of employees reported receiving such training in the last 13 weeks, compared with 27% nationally.

In terms of identified labour shortages, 6,200 vacancies (2% of employment) were reported in the English manufacturing and processing sector in 2005, of which about a third (31%) were hard to fill, and a quarter (24%) were attributed to skills shortages, just 0.5% of employment. A further 15% of firms reported suffering skills gaps.

6.2 Survey Sample Overview

As with the rest of the research, a combination of in-depth qualitative interviewing and quantitative surveys was undertaken; 25 interviews were completed during the quantitative stage and 10 in-depth interviews at the qualitative stage. All interviews were conducted with specialist suppliers and manufacturers – contacts were sourced from the Building Conservation Directory supplemented by Internet searches.

Interviews were spread equally between 10 main manufacturing and supply specialisms of the construction industry:

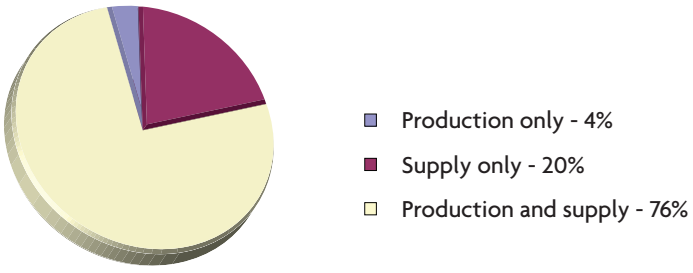
- brick
- glass
- stone
- timber and timber products
- metal and metal products/ structures
- lime
- slates/tiles
- mortar
- plaster
- interior decorative fittings.

The sample was also as far as possible regionally distributed, within the limits of the sample size, with seven of the nine English regions represented during the interviews.

As shown in Figure 23, the majority (76%) of the firms participating in the research were involved in both the production and supply of traditional building materials.

In addition to this, 20 of the 25 manufacturers and suppliers (80%) described their company as a firm

Figure 23 Nature of Work Carried Out by Manufacturers and Suppliers



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sourcing, selling and manufacturing products suitable for a range of buildings (including old buildings). The 5 others (20%) are companies that source, sell and provide specialist conservation/heritage products.

The size of the firms was considerably larger than those in the building sector, with each company employing an average of nearly 26.5 full-time and 2.5 part-time employees.

6.3 Activities of Manufacturers and Suppliers

As shown in Table 19, plaster is the most common material supplied by respondents for work on pre-1919 buildings, with bricks being the main product for the largest number of firms interviewed.

The majority of manufacturers and suppliers (72%) do not extract raw materials; however, of those companies that do not extract raw materials, 15 (83%) do still work or process some raw materials.

Of the 35 manufacturers and suppliers in the sample, 5 described themselves as heritage and conservation specialists; the others supplied material suitable for use on historic and traditional buildings.

6.4 Traditional Materials

6.4.1 Using Traditional Materials

According to manufacturers and suppliers, an average of 97% of the materials they supplied or manufactured were traditional materials (i.e. substantially the same as those that would have been widely used before 1919). This very high figure reflects the fact that the research focused specifically on suppliers of traditional materials. Nevertheless, respondents were willing to volunteer general reasons why a greater proportion of traditional materials were not supplied or manufactured. Of these the most important were a perceived lack of need for their use and lack of demand from clients.

On average, 88% of the raw materials manufactured and supplied by respondents did come from England. The manufacturers and suppliers able to provide a reason for not using a higher proportion of English materials than at present attributed this generally to a lack of availability of materials. However, two mentioned that the cost of English materials is prohibitive and that it is possible to find cheaper materials by importing.

In terms of importing raw materials, lime mortar was obtained from European countries outside the UK by four manufacturers and suppliers participating in the quantitative research; two also sourced lime

Table 19 Materials Provided by Manufacturers and Suppliers for Pre-1919 Buildings

	All materials supplied (1)		Main product of company* (2)	
	No. of firms	% of firms	No. of firms	% of firms
Plaster	10	40	3	12
Lime	8	32	2	8
Mortars	8	32	2	8
Bricks	6	24	4	16
Roofing slates/tiles	4	16	3	12
Interior decorative fittings	2	8	2	8
Metal products	2	8	2	8
Metal structures	2	8	–	–
Sawn timber	2	8	2	8
Glass/stained glass	1	4	1	4
Quarried rubble stone	1	4	1	4
Dressed natural stone	1	4	1	4
Cast/reconstituted stone products	1	4	–	–
Reclaimed stone	1	4	–	–
Timber products	1	4	–	–

** Please note that figures in this column do not total 25/100%, as not all manufacturers or suppliers were able to specify working with one main or most important product.*

(1) Base: 50

(2) Base: 23

plaster from continental Europe. Other raw materials obtained from outside England were glass, lead, stone and pigments. Some pigments will inevitably be sourced from outside the UK, but there are no obvious reasons why the supply of local pigments cannot be increased, especially for example earth-based ochres.

6.4.2 Restrictions on the Use of Traditional Materials

Manufacturers and suppliers were asked to rate on a scale of 1 to 5 the extent to which they felt a number of factors restricted the use of traditional building materials (where a rating of 1 correlated to a factor not restricting use whatsoever).

Figure 24 highlights the proportion of manufacturers and suppliers that rated each factor as having some impact on the use of traditional building materials (i.e. the proportion giving a rating of 3 or above).

These findings suggest that manufacturers and suppliers have a much lower opinion of the knowledge and skills of building contractors than have the builders themselves, and this is cited as a principal reason why there is not greater demand for traditional building materials.

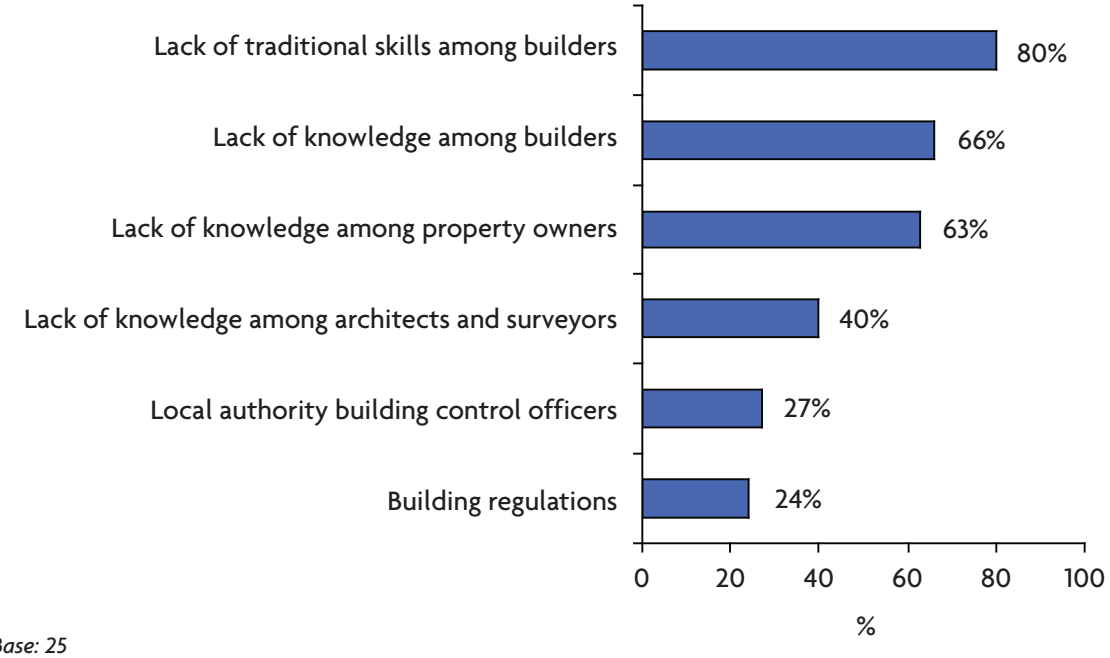
Unfortunately, there is some ambiguity in the findings, because it is difficult to define the exact boundary between skills and knowledge. In the context of manufacturers' responses, we can probably assume that lack of skills means lack of specific ability to work with the traditional materials being supplied. Lack of knowledge would probably be taken to mean lack of awareness that traditional materials and techniques ought to be used. However, there are reasons to believe that the manufacturers/suppliers and contractors are using two different scales of evaluation, with the former focusing on specific skills and knowledge and the latter on more generic construction abilities.

Even so, the opinions of the manufacturers and suppliers ought to be regarded as credible. It is their business to understand the nature, uses and performance characteristics of the materials they manufacture or supply. They are arguably the best situated of all people in the construction industry to assess the skills and knowledge of building contractors. In addition, as can be seen in more detail in Section 7, they are a significant source of specialist training for the handling of traditional materials.

6.4.3 Demand for Traditional Materials

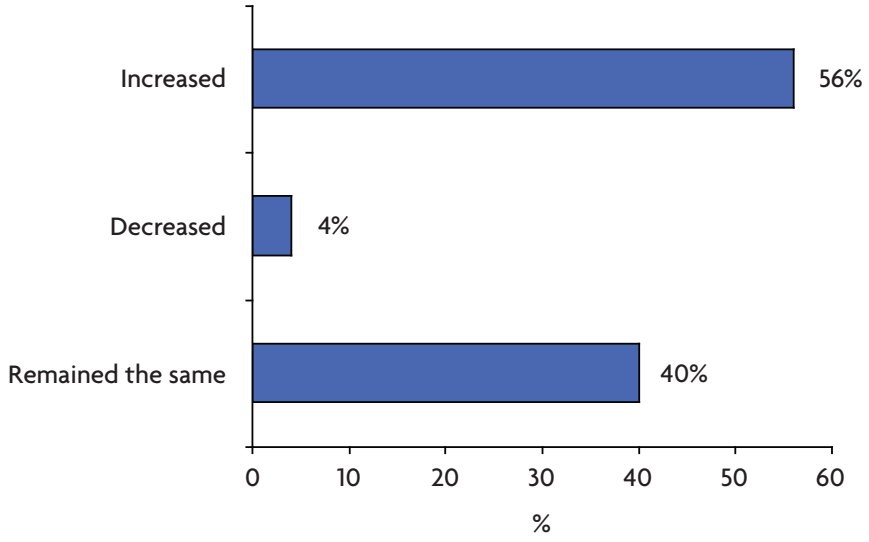
Manufacturers and suppliers were asked whether their market was stable, expanding or contracting. As Figure 25 shows, overall demand appears to have increased for traditional building materials/products over the last five years.

Figure 24 Factors Restricting the Use of Traditional Building Materials



Base: 25

Figure 25 Demand for Traditional Building Materials/Products over the Past Five Years



This is an encouraging development and suggests that there is an increasingly well-defined and self-aware heritage sector emerging that is conscious of the need for traditional materials.

As Table 20 shows, this increased demand is mainly attributed by manufacturers and suppliers to customers having an increased awareness of traditional materials, both among the general public and among builders.

Other reasons given for the increase in demand for traditional materials are:

- the drive to be more environmentally friendly
- increasing availability of lime products at a lower price abroad
- increased renovation activity on older buildings.

Where manufacturers and suppliers feel that demand for traditional building materials had decreased, the only reason given for this was the high cost of traditional materials.

6.5 Traditional Techniques

Of the manufacturers and suppliers surveyed, 16 (70%) either solely or mainly used traditional manufacturing and processing techniques. These techniques were defined as those similar (except for the assistance of modern powered machinery) to those in use before 1919. Only one used mainly modern techniques, with the remainder using a combination of modern and traditional techniques. When asked why they did not use traditional methods more often, respondents deemed that it was simply not necessary for them to do so.

On the whole, the prevalence of traditional techniques appears to be encouragingly high, although this will again reflect the specialist nature of the sample selected for the survey.

6.6 Workforce Management

The workforce of the manufacturers and suppliers participating in this research was 618, an average of just under 24 employees per company, with the vast majority (608) being employed on a full-time basis. This is a substantially larger average workforce than was reported by the building contractors.

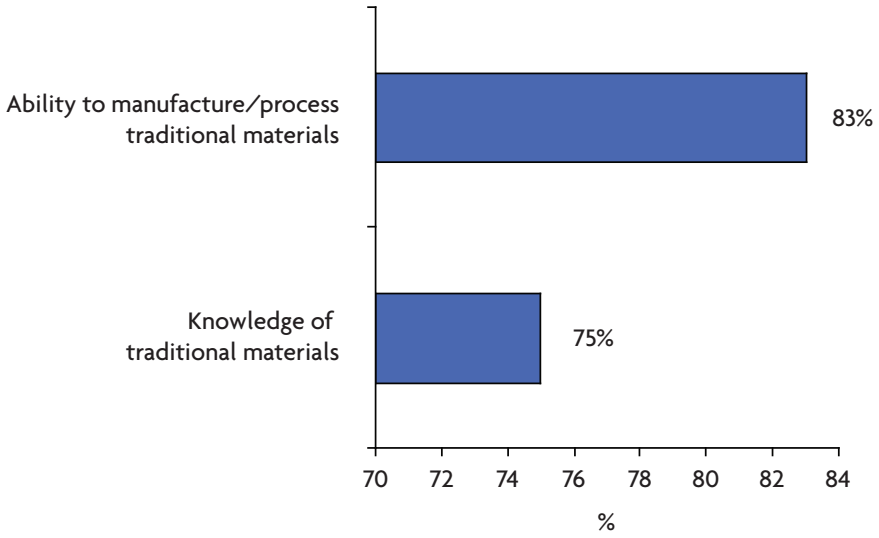
Of the 25 manufacturers and suppliers 16 (64%) said that they did not directly employ trades/craftspeople with traditional craft building or manufacturing skills. For those that did employ workers with such traditional skills, this amounts to 97 employees, approximately 16% of the total workforce.

When asked to rate their employees' overall knowledge of and ability to manufacture traditional materials suitable for pre-1919 buildings (Figure 26), however, at least three-quarters of

Table 20 Reasons Manufacturers/Suppliers Give for the Increase in Demand for Traditional Building Materials over the Past Five Years

Customers more aware of traditional materials	33%
Builders more aware of traditional materials	29%
TV/media interest in heritage buildings	24%
Customers more affluent	14%

Figure 26 Manufacturers/Suppliers Highly Rating the Skills and Knowledge of Their Workforce (Percentage)



'We have a training centre at our Head Office, where all staff training takes place. There are a limited number of employees skilled in historic roofing, they may have the basics of roofing or even an NVQ but they would all be trained on-site and at our centre to uphold our high standards.'

Heritage manager at specialist roof tile company

respondents said that skills and knowledge levels were high among their workforce.

A very similar response was given when respondents were asked to rate the knowledge and ability of employees to work with traditional materials, with all manufacturers and suppliers rating these areas highly for their workforce.

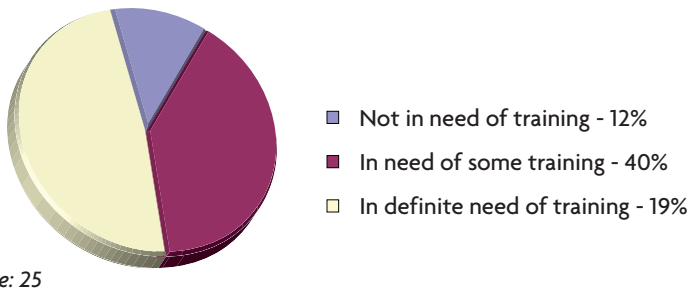
In common with contractors, however, manufacturers rated their employees' skills above their knowledge. Indeed, relative confidence in the actual skills needed to undertake the work is noticeable in most of the stockholder groups. This finding was reinforced in parallel research being undertaken into building professionals, where several highly experienced conservation architects believed that appropriately skilled craftspeople were easy to find.

6.6.1 Recruitment

Figure 27 shows that when employing staff, a small majority of manufacturers and suppliers will look for people with no relevant experience, but who possess the ability to develop skills and are in definite need of training. This is a markedly different pattern from that found among contractors, and no doubt reflects the very different structure of the manufacturing sector from that of the construction industry.

Owing to higher levels of specialisation, manufacturers have to be willing to take on less skilled employees in the expectation that they will be trained up either formally or on the job. Manufacturers were much more likely than contractors to enrol students in formal training, either in-

Figure 27 Training Needs of Employees Recruited by Manufacturers and Suppliers



Base: 25

house, at private training providers or in further education colleges. In some cases manufacturers had specialist in-house training programmes and facilities because appropriate training was simply not available elsewhere.

6.6.2 Trades Hard to Find

Tradespeople deemed particularly difficult to recruit by manufacturers and suppliers were: blacksmiths, lime plasterers and stone carvers. These were also the three trades identified by manufacturers and suppliers where they had had outstanding vacancies for more than three months. Of the six respondents able to provide a reason for recruitment difficulties, they were fairly split between this being down to a lack of applicants or a lack of skills among those who did apply.

6.7 Summary

- This first attempt to explore manufacturers and suppliers of traditional building materials in England found them to be predominantly small and medium-sized enterprises, but the average of 26.5 employees per firm was larger than expected.
- Firms mostly undertake both production and supply and are highly specialised, with an average of 97% of building materials supplied being traditional, notably plaster, lime and mortars.
- Most reported solely or mainly using traditional techniques to manufacture traditional materials, although a minority used a combination on the grounds that strict adherence to traditional processes was not necessary.
- Most suppliers reported increased demand in the last few years, because of increased awareness among customers and contractors, but cited a perception that traditional materials were unnecessary and lack of demand from clients as reasons why more traditional materials were not manufactured.
- Manufacturers and suppliers in the sample rated contractors' skills and knowledge of traditional materials far lower than did the contractors themselves, citing these as the main reasons that more traditional materials were not used; this was closely followed by lack of knowledge among property owners.
- Manufacturers and suppliers reported no particular shortage of skills or difficulties with recruitment in their sector, but rated their employees' practical skills more highly than their knowledge of traditional materials.
- Preference was expressed for training employees either through formal training or on-the-job learning, with nearly half of manufacturers preferring to employ applicants in definite need of training and an additional 40% seeking employees in need of some training, with some manufacturers maintaining in-house training programmes because of lack of availability elsewhere.

TRADITIONAL BUILDING SKILLS TRAINING IN ENGLAND

7

traditional building skills training

This section of the report assesses current traditional building skills provision within England in relation to the wider construction industry.

The construction industry is working towards a fully qualified workforce by 2010 and has well-established mechanisms for recognising the existing workforce's skills and mapping them against the National Vocational framework. Individuals and companies can train to achieve a full NVQ. The ConstructionSkills On-Site Assessment and Training programme is an initiative to enable the process of training and assessing the existing workforce in the workplace, thus reducing lost productivity.

Apprenticeships are not the only route into the industry: the bulk of those working in the traditional building skills sector enter via mainstream site-based trades (carpenters, bricklayers etc.) They learn on the job, and very few take up existing conservation options as part of the NVQ qualifications or apprenticeship training.

Only very specialist trades/craftspeople, for example stonemasons, seek formal qualifications on entry into the conservation sector. Also, most craftspeople enter the built heritage sector at an older age, having qualified initially as apprentices, or through an NVQ programme based on mainstream site trades, or change careers, usually from a background in creative crafts and through an empathy with historic buildings and handcraft skills.

The main part of this section concerns the primary source of recognised training for the construction industry and the main entry route for trades/craftspeople. This is training provided by the further education colleges, based on the NVQ and, increasingly, Construction Award qualifications. Once qualified to a recognised level (typically NVQ Level 2), many trades/craftspeople continue their career development with little in the way of formal training courses, and few return to college to pursue the higher-level qualifications such as NVQ Levels 3 or 4. The main exception is those who choose a site supervisory or managerial role, and undertake academic study and qualification, but are lost from working on the tools.

These are issues of particular current importance because, as English Heritage has pointed out in its latest *Heritage Counts* report, the evidence of the ConstructionSkills Trainee Numbers Survey suggests that there has been a considerable decline of 13% from 2005/06 to 2006/07 in the number of entrants to training in England for occupations related to heritage buildings. However, the number on formal apprenticeships has actually risen by some 4%.[56] It is therefore important to make a robust assessment of the current state of training provision in traditional building craft skills.

7.1 Sample Survey of Training Providers

A quantitative survey was undertaken of 30 training providers involved in delivering traditional building craft skills courses (Figure 28). The quantitative interviews were distributed across England as much as possible, with interviews being carried out with providers in all regions apart from the North East, as these providers were unavailable for interview at the time of surveying.

A further 15 in-depth telephone interviews were undertaken with selected training providers across all nine English regions. A particular focus was the South West, where the large number of listed buildings and the development of specialist conservation training at Woodchester Mansion and the establishment of the National Heritage Training Academy – South West presents an interesting model for traditional building craft skills training and education.

7.2 Construction Training Provision in England

7.2.1 Overview

ConstructionSkills' most recently published Trainee Numbers Survey (now incorporated in ConstructionSkills' Training and the Built Environment Report) records more than 41,000 construction industry trainees in Great Britain 2006/07, with the intake split approximately 60:40 between those aged under 18 and adult starters. Around 33,500 were in England, with the highest enrolments, nearly 4,700, in Yorkshire and Humber, and the lowest, approximately 2,700, in London – 14% and 8% of the English total respectively. The vast majority were either undertaking S/NVQs while on a job placement, or registered for Construction Awards, with the most popular courses being wood trades and bricklaying.

Figure 28 Survey of Training Providers by Region

Lower-level (Level 1) courses are the most oversubscribed and higher-level courses (Level 3) the most undersubscribed, with specialist building courses the most undersubscribed type of courses.[57] The highest enrolments were for Level 2 qualifications, regarded as the normal skill level for mainstream construction in England.

The above findings have implications for work on traditional and historic buildings, where NVQ Level 3 is regarded as the basic entry qualification level. Indeed, they have provoked wider debate about the training standards of the industry as a whole. Level 1 courses are not regarded as meeting the basic entry standards of the industry. This has led ConstructionSkills to argue that the offering of Level 1 courses should be cut back in order to concentrate resources on Level 2 and 3 qualifications.

7.2.2 Further Education Colleges

There are 384 further education colleges funded by the Learning and Skills Council in England,[58] and these constitute the principal source of formal training for new entrants into the construction industry. However, further education colleges are not the only source of training used by trades/craftspeople, as confirmed by the findings elsewhere in Section 7.2. There is also a wide range of private training providers, some of which specialise in construction industry training. In addition, short courses addressing more specialised training needs are commonly used, especially by those who already have several years' solid work experience. This is especially the case in the heritage sector, where there are specialist short courses offered by organisations or private providers, for example, the Society for the Protection of Ancient Buildings, the Building Limes Forum, British Waterways, Weald & Downland Open Air Museum and West Dean College.

7.2.3 Qualifications

The Apprenticeship Framework Agreements between ConstructionSkills Apprenticeships and the Learning and Skills Council provide the basic structure for publicly subsidised formal training for the construction sector. The apprenticeships are designed to provide people interested in construction industry careers with a theoretical foundation, in the form of an initial college course leading to a Construction Award, followed by practical work experience. If all requirements are fulfilled, the Apprenticeship will lead to a National Vocational Qualification, initially at Level 2 (for the Apprenticeship) and then, if appropriate, at Level 3 (Advanced Apprenticeship).

National Vocational Qualifications are awarded on the basis of a portfolio of evidence assembled by each candidate. The candidate must show that they can achieve competence in a series of tasks to industry standards and tolerances (National Occupational Standards). NVQs are available only to those employed in the industry, but do not necessarily involve a training element, being awarded by assessment of the candidate's work-based evidence.

The basic Apprenticeship structure has recently been supplemented by the Young Apprenticeship scheme aimed at able and motivated 14–16-year-old students within secondary schools or education centres. This provides the same basic combination of study and work experience as the Apprenticeship, and also leads to a Level 2 vocational qualification. However, it is taken in conjunction with the core GCSEs, and practical experience is gained through a formal 50-day work-experience placement rather than construction industry employment. This means that it does not lead to an NVQ, but instead provides the foundation for subsequent enrolment for a full Apprenticeship.

7.2.4 Conservation/Heritage Skills Qualifications

The COTAC website[59] currently lists only the following seven colleges in England providing craft training skills with a deliberate conservation and heritage orientation: City of Bath College; South Birmingham College; Herefordshire College of Technology; the Building Crafts College and Lambeth College, both in London; Weymouth College; and York College of Further and Higher Education.

The introduction from September 2007 of the new Heritage Skills NVQs has enabled a sharper distinction to be drawn between colleges offering general construction courses at higher levels and those concerned to provide specific preparation for conservation and heritage skills. However, an Advanced Construction Award (ACA) needs to be developed for this qualification to be delivered within colleges, with the first achievements obtained through the ConstructionSkills On-Site Assessment and Training (OSAT) process.

This qualification is designed to provide students with a thorough grounding in the underpinning skills and knowledge necessary for a career as a specialist craftsperson working on traditional and historic buildings, and it is hoped that the new qualification will help revitalise the declining provision of heritage-related NVQs in further education colleges, and help to qualify the built heritage sector workforce by 2010.

Exactly half of training providers in this survey had heard of the new qualification, and a further seven providers (23%) said they planned to run a heritage or conservation course or module in the future, with six planning to start these courses in the next year.

Two of the three public stockholders directly employing a workforce had heard of the new Heritage Skills NVQ, although none were likely to enrol staff on it in future, and just 17% of contractors had heard of the qualification. However, when the purpose of the qualification was explained, 31% of the contractors said that they would be likely to enrol a member of staff for the qualification. If this finding can be generalised, it suggests an extremely high level of latent demand for heritage and conservation skills training and qualification.

7.2.5 Access to Traditional Building Skills Training Provision

In addition to the survey of training providers, questions related to training and support were included in the interviews with contractors (533), stockholders (public, 35; private, 23) and manufacturers and suppliers (25).

Of the contractors surveyed, 41% had employees currently undertaking formal training courses that would lead to a nationally recognised qualification, and over three-quarters said that they and their employees were at least to some extent interested in developing their traditional building craft skills further. From the public stockholders surveyed, only one member of the directly employed workforce was a trainee, and 6 of the manufacturers currently had 19 staff involved in formal training – 12 apprentices, and 7 trainees aged over 25.

As shown in Table 21, the majority of contractors (62%) accessed training in traditional building craft skills through a further education college.

In terms of the development of traditional building craft skills, 94% of contractors believed that in-house training was important; 84% also stated that work experience on old buildings was important; formal college training was viewed as being important by only 43% of contractors.

Some contractors (11%) would have liked to have been able to offer further craft skills training to their employees, but for various reasons were unable to do so. A general lack of course availability was the main reason given (39%), with the cost of courses (22%), cost of having staff away from work (22%) and non-availability of courses within a reasonable distance of the workplace (19%) reported as making training quite prohibitive to contractors. It is not clear whether the contractors

Table 21 Training Provision Accessed by Contractors

No. of firms	Contractors (%)
FE college	62
National Construction College	10
Other private training provider	10
Other off-the-job training	8
ConstructionSkills OSAT programme	6
Manufacturer/supplier	5

contacted could not afford the courses, or whether they did not know how to source appropriate grant funding. Similarly, it is difficult to ascertain whether the contractors' belief that courses were not available reflects a real unavailability of courses, or a lack of awareness of the options actually available.

Public and commercial stockholders were most likely to access training through FE colleges, and manufacturers most commonly used a mix of FE college provision (35%) and job-shadowing and mentoring in the workplace (35%). Small numbers of manufacturers also accessed conservation organisations or training delivered by the National Construction College and other private training providers.

7.2.6 Training Offered by Manufacturers and Suppliers

Figure 29 shows that, among those surveyed, 72% of manufacturers and suppliers of traditional building materials offered training services.

Manufacturers reported mostly training builders and tradespeople. Although some did also train professionals and homeowners, these were not generally their main type of trainee.

7.3 Trainers

The 30 providers in this survey had a total of 687 full-time staff delivering training for the main trades, an average of approximately 23 per provider, with a further 235 part-time staff, approximately 8 per provider.

In terms of traditional building craft skills required to work on pre-1919 buildings, providers said that an average of 37% of their teaching staff currently possessed such skills at the required level. Encouragingly, almost two-thirds (63%) of providers said that teaching staff were quite or very interested in further developing their own traditional building craft skills. It is important to note that these figures are likely to be overstated as they only relate to the trainers sampled (i.e. those providers involved

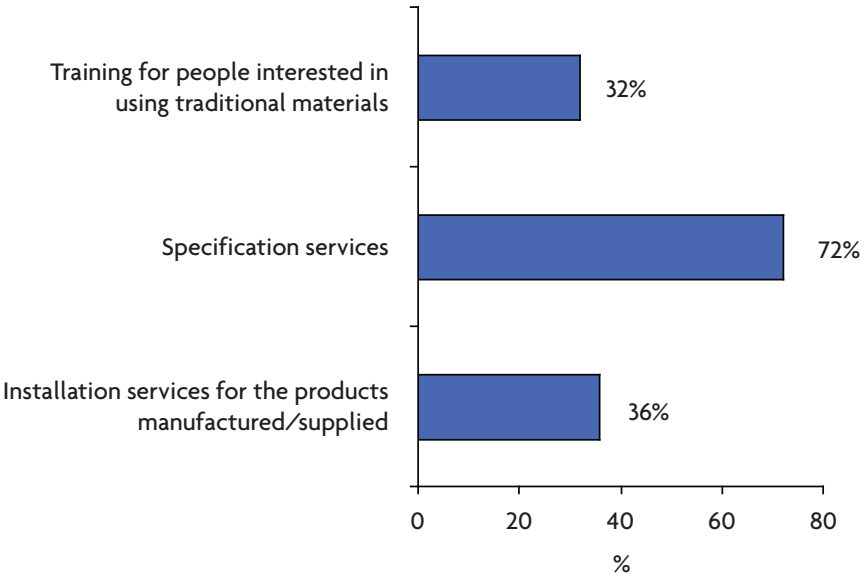
'Trainer training is essential as there are not enough people skilled in specialist or higher level craft skills. If teaching is not up to the same standard, [trainees] will lose interest.'

Proprietor, private training provider

'Lecturers are a distinct problem. The shortage is such an issue that labourers are being brought in and trained up in order to have enough lecturers.'

Course director, FE college

Figure 29 Types of Training Offered by Manufacturers/Suppliers



in delivering traditional building skills, and it is therefore highly likely that most others have far fewer teaching staff qualified in traditional building skills. Moreover, the in-depth interviews suggest many training providers regard qualification to NVQ Level 3 as the basic required level for teaching traditional building skills, with little attention paid to securing staff with actual heritage or conservation qualifications.

7.3.1 Training the Trainers

The NHTG Training the Trainers programme is aimed at improving the understanding and knowledge of conservation, repair, maintenance and restoration among trainers and instructors. Of providers surveyed, (53%) had heard of this programme and 77% thought that individuals within their organisation would be interested in attending in the future.

In the course of the in-depth interviews, the shortage of appropriately skilled staff emerged as a significant problem, especially among those colleges that showed some genuine interest in pursuing heritage- and conservation-related construction courses. In addition, there was some feeling that permanent teaching staff would not have the time to upskill and obtain appropriate qualifications themselves – 'They have enough on their plate already.'

7.4 Courses Offered

Training providers surveyed offered courses in the full range of basic craft specialisms used in the construction industry, but, as shown in Figure 30, the most commonly offered training was for bricklaying and masonry (28%) and the wood trades (27%). Three providers also stated that they offer formal training for occupations in the electrical trades.

Figure 30 Main Trades for which Providers Offer Formal Training

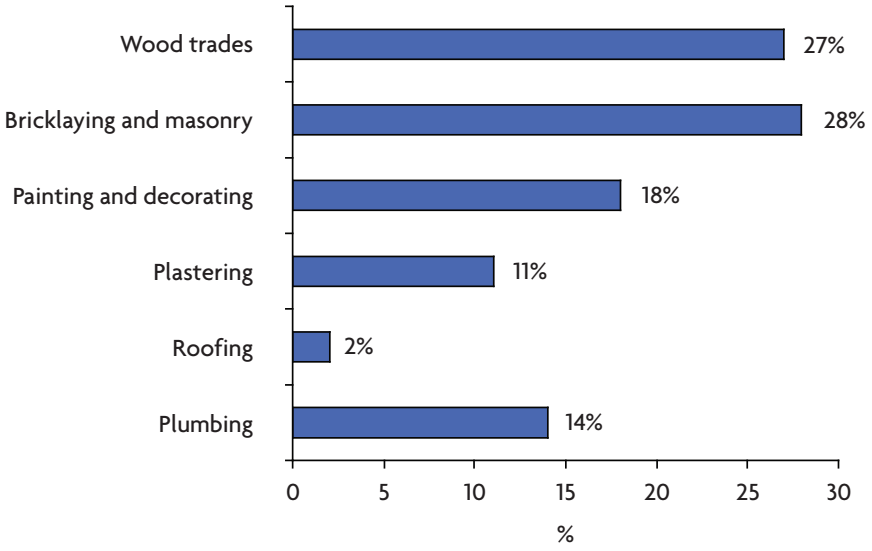


Table 22 Number of Courses Offered in the Main Trades by Training Providers in this Survey

Trade	Number of courses offered
Wood trades	114
Bricklaying and masonry	96
Painting and decorating	63
Plumbing	50
Plastering	39
Roofing	16
Wall and floor tiling	0
TOTAL	378

7.4.1 Vocational Courses

When focusing on vocational skills only (i.e. excluding management and supervisory courses), the 30 providers surveyed offered a relatively large number of courses (378) through which learners could receive a qualification (Table 22).

Of the 378 courses, approximately 100 (26%) were NVQ Level 2 or equivalent, with a further 91 (24%) at NVQ Level 3 or equivalent (Table 23).

7.4.2 Courses Not Leading to a Formal Qualification

Three providers involved in the quantitative research ran building conservation courses or traditional building craft skills courses that did not lead to a formal qualification. Although these courses were attended by builders, tradespeople and building professionals such as architects, providers say that most commonly they were attended by homeowners or DIY enthusiasts. Providers reported that 90 people were enrolled on the informal courses for the academic year 2007/08, an average of 30 per provider, with an average of 8 days'

Table 23 Level of Courses Offered

	Approximate number of courses offered
NVQ Level 1 or equivalent	53
NVQ Level 2 or equivalent	100
NVQ Level 3 or equivalent	91
NVQ Level 4 or equivalent	4
TOTAL	248

Table 24 Additional Informal Training Accessed by Contractors

	Contractors (%)
Job-shadowing/mentoring	77
FE colleges	20
Short courses run by private training providers	12
Short courses run by builders' merchants/manufacturers	7
Short courses run by local authorities	7
Self-learning (books, manuals, CD-ROMs)	6
Equipment manufacturers/suppliers	5
ConstructionSkills OSAT programme	5
Conservation organisations	3

duration for each course at an average cost per student of £232.

As shown in Table 24, when asked what types of training contractors used that did not lead to a formal qualification, 77% favoured job-shadowing and mentoring in the workplace; 20% accessed informal courses run by FE colleges.

7.5 Profile of Construction Students

7.5.1 Student Numbers

For the academic year 2007/08, providers reported an approximate total intake of 10,824 students across the main trades listed in Table 22, an average of 361 students per provider. On average, providers reported that at this level of intake, they were currently running at 92% capacity for the academic year for those courses. This confirms the high level of demand for construction courses in general. During the in-depth interviews, particularly high demand was reported for plumbing courses.

Furthermore, providers stated that they would usually experience an average drop-out rate of approximately 12% across these main trade courses, a total of just under 1,300 students overall, and an average 90% student pass rate was reported from training providers for the academic year 2006/07. These figures represent a considerable improvement on those cited in 2005, in line with wider improvements in the retention of apprenticeships over the last few years.[60]

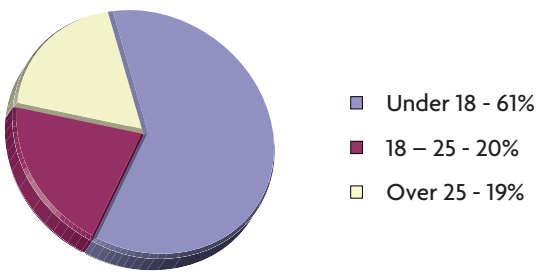
7.5.2 Student Demographics

As Figure 31 shows, the large majority of students from the first-year intake for the current academic year were aged under 18. The great majority of these learners (80%) lived within 20 miles of their training provider, in line with the majority of students within the wider FE sector. To facilitate increased uptake of specialist courses, these need to be more widely available, delivered through mobile training or with appropriate support offered to enable students to live away from home to study at the small but growing number of institutions with building conservation and specialist built heritage craft courses.

7.5.3 Student Destinations

Figure 32 shows that in terms of the sector entered on completion of the course, providers believed that an average of only 8% of learners would work in the historic buildings or building conservation sectors. The in-depth interviews confirmed a widespread perception among training providers that traditional building skills represent an economically and demographically marginal sector of the construction industry.

Figure 31 Age of First-Year Learners for Academic Year 2007/08



Although some providers were aware of potential demand for recruits for the heritage and traditional building sectors, many gave the impression that this kind of career was an unfamiliar and somewhat remote possibility. This basic lack of familiarity may well reinforce the sense that specialist craft skills are the unique requirement of the conservation sector, rather than skills with wide potential applicability for England's vast pre-1919 building stock. This is likely to have an impact on student perceptions of where they envisage working in the future.

7.6 Adequacy of Training for Traditional Building Craft Skills

7.6.1 Mainstream Trade Courses

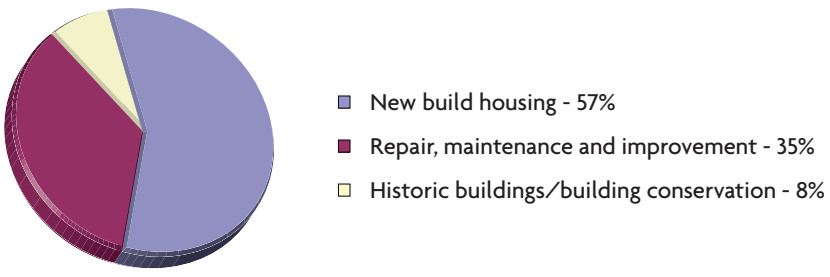
Of providers surveyed, 53% strongly disagreed when asked whether they thought mainstream trade courses such as the NVQ in Construction provided students with appropriate skills to work on pre-1919 buildings, with the following reasons given:

- The course syllabus (including the materials and methods used) emphasises processes used in new build projects rather than for historic structures.
- The course is designed to meet local needs, which does not include work on historic buildings.
- There is a minimal number of NVQ units available for heritage skills, so students are 'forced to pursue more mainstream modules'.
- Experienced lecturers with the right knowledge and skills are hard to find.
- Providers do not always have the tools or materials appropriate for pre-1919 work.
- Mainstream courses do not offer the required background understanding of traditional materials that students need for heritage/conservation work.

On completion of mainstream trade courses, only 13% of providers thought students had a good knowledge of traditional materials, and only 10% said that they had a good level of ability to work with traditional materials.

Providers were evenly split as to whether or not they thought additional compulsory modules covering traditional building materials theory should be included in mainstream trade courses. However, a slight majority (60%) did agree that compulsory modules covering practical skills training using traditional building materials should be introduced. However, 97% of providers thought that these same modules should be introduced as optional.

Figure 32 Sectors Entered by Learners on Completion of Training



7.6.2 Apprenticeships

Apprenticeships remain an important route into the crafts and trades. Although the ConstructionSkills Trainee Numbers Survey has found an overall drop of 13% in the number of all entrants to construction training in heritage-related fields in England between 2005/06 and 2006/07, there has actually been a 4% rise in the number of apprenticeships.

In this research it was found that 204 (38%) of the contractors surveyed employed 463 apprentices between them (Table 25), an average of 2.3 apprentices each.

This research found that an average of 86% of apprentices would remain with their company until they had completed their training, and on qualifying stay for an average of just under six years.

As shown in Figure 33, 40% of contractors with apprentices rated the college-based element of the training as reasonable and a further 26% said it was good, but 30% rated it as being either poor or very poor.

Reflecting providers' views that there should be greater involvement of employers in college-based elements of training, 39% of contractors suggested that training should be tied more closely to workplace needs, and that theoretical knowledge should be balanced with practical training (Figure 34).

However, it is important to note that most contractors felt that in-house training and practical experience were far more important than formal education for developing employees' skills for working on

Table 25 Number of Trainees Employed by Survey Respondents

	Apprentices (25 and under)	Trainees over age 25	Total
Contractors	463	227	690
Manufacturers	12	7	19
Public stockholders	1	0	0
TOTAL	476	234	709

traditional buildings. Only 20% of contractors rated formal education as important, whereas 72% and 67% of contractors gave the same rating to in-house training and experience.

One related finding of the in-depth research was the frequent calls for the reintroduction of the 'old style' apprenticeship system, or at least to see the NVQ considerably improved and lengthened. A general feeling exists among most stakeholder groups (contractors, trades/ craftspeople, stockholders and trade associations) that too much time is spent on theory and not enough on actual hands-on learning. However, given the mixed perceptions of the adequacy of the formal training available, this may reflect a lack of suitable courses as much as suspicion of formal education per se. Some additional support for this is found in Section 7.6.3.

Figure 33 Contractors' Perceptions of the College-Based Element of the Apprenticeship

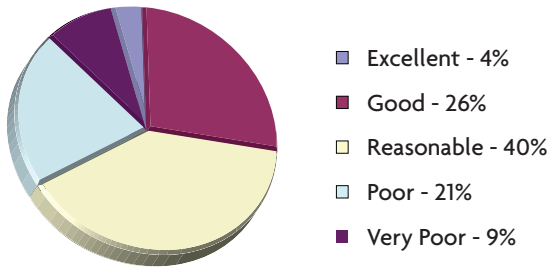
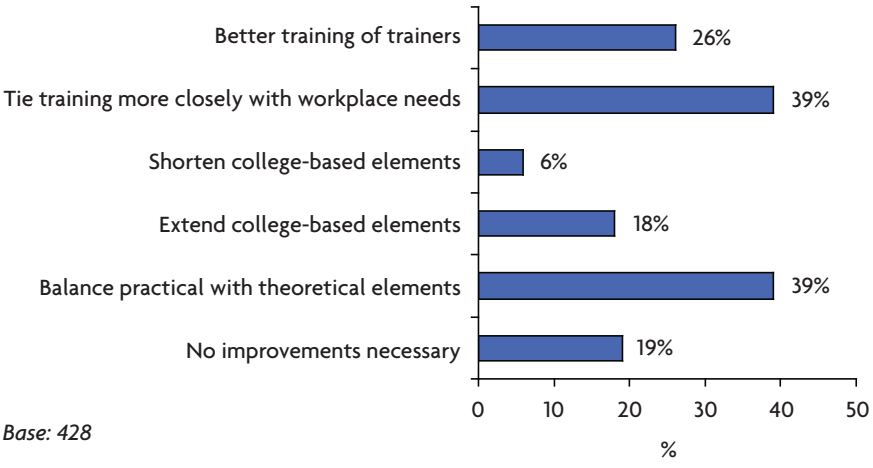


Figure 34 How Contractors Feel College-Based Training Could Be Improved



Base: 428

7.6.3 Conservation and Heritage Skills Courses

A total of five providers had previously offered heritage courses or modules in the past that they no longer offer; four said they had stopped running the course because of a lack of interest or demand from students, and the fifth no longer employed the member of staff who taught the courses.

Providers appear to have experienced some difficulties in getting traditional building skills courses and modules started for the following reasons:

- The ability of very few employers to help with providing work placements for trainees in heritage-related crafts and trades.
- Difficulty in sourcing appropriate materials and tools.
- Difficulty in sourcing appropriately skilled teaching staff.
- Inability to identify a series of units to make up a complete course.
- Inability to attract sufficient student numbers for courses.

However, the most significant impediment to realising the possibilities offered by latent demand is a pervasive difficulty with the main source of students for construction courses, that is, new entrants to the industry. The in-depth interviews revealed that many providers believed that students were simply not interested in heritage or conservation work. There was a general conviction

that they preferred creation over conservation and restoration, and that immediate career opportunities and cash rewards were within the new build sector.

Typical comments included the following:

- 'The majority of students don't want to learn outdated techniques.'
- 'With educating the younger generation, it is hard to generate interest as many believe that the skills are outdated and the demand is not high.'
- 'The area is too small and specialised and there is just not enough demand for it.'

Nevertheless, there was evidence that some training providers were committed to increasing the provision of heritage-related courses.

One provider in the quantitative survey offered an NVQ Level 3 in Plastering with an optional Fibrous Plasterwork module, with a 75:25% split between practical elements and theory. When asked why they offered this module, the provider said, 'this is trying to bring back a skill that is dying out'. It was being undertaken by 6 learners, although the total capacity was 20. Nevertheless, the provider would continue to run the module next year as it was thought to have been 'very successful'.

7.6.4 Traditional Building Skills Bursary Scheme for England and Wales

Only 23% of providers had heard of the HLF Traditional Building Skills Bursary Scheme for England and Wales (described in Section 2.4.8), although 93% said that such a scheme was a good way to enable craftspeople to further develop their traditional building craft skills.

Among contractors, only 11% had heard of the Bursary Scheme, but when this was explained to them 42% said they would be interested in applying for a bursary to help themselves or an employee. In principle, 44% of contractors said that they would be interested in assisting the scheme by accommodating a bursary trainee as a placement provider.

Only two public and commercial stockholders had heard of the Bursary Scheme, and none were interested in applying or assisting a bursary trainee in the future.

Again, the general implication is that publicity of the scheme as with the Heritage Skills NVQ is currently inadequate and failing to reach a considerable target audience.

7.7 Training Grants

A total of 37% of contractors said that had received grants towards training during the last 12 months. The majority of these grants (94%) had come from ConstructionSkills. A total of 83 contractors were able to provide a rough estimate of how much they had received in training grants over the last year, amounting to approximately £238,920 – an average of £2,879 per company. As shown in Table 26, these grants were used in a variety of ways.

Other use of grant money included covering the cost of travel expenses, tools and equipment, and further investment in the company as a whole.

All three public and commercial stockholders employing a direct workforce on their pre-1919 buildings said that training and development was funded through the company's own budget rather than through accessing grants or subsidies.

7.8 Training and Education in Schools

Of the training providers surveyed, 90% said they would have liked to see schools introduce building and building materials teaching, with 78% suggesting that this sort of teaching should generally start at secondary school level. When asked what activities should be introduced into schools, providers were very positive about all of the suggestions made (Table 27).

As shown in Figure 35, providers were in common agreement regarding GCSE woodwork and metalwork being taught in secondary schools, although the idea of the Construction and the Built Environment Diploma was almost as well received.

Some providers also suggested that there needed to be 'more employer involvement with the colleges' as students required a 'more varied work experience and wider opportunities' to encourage the development of traditional building craft skills.

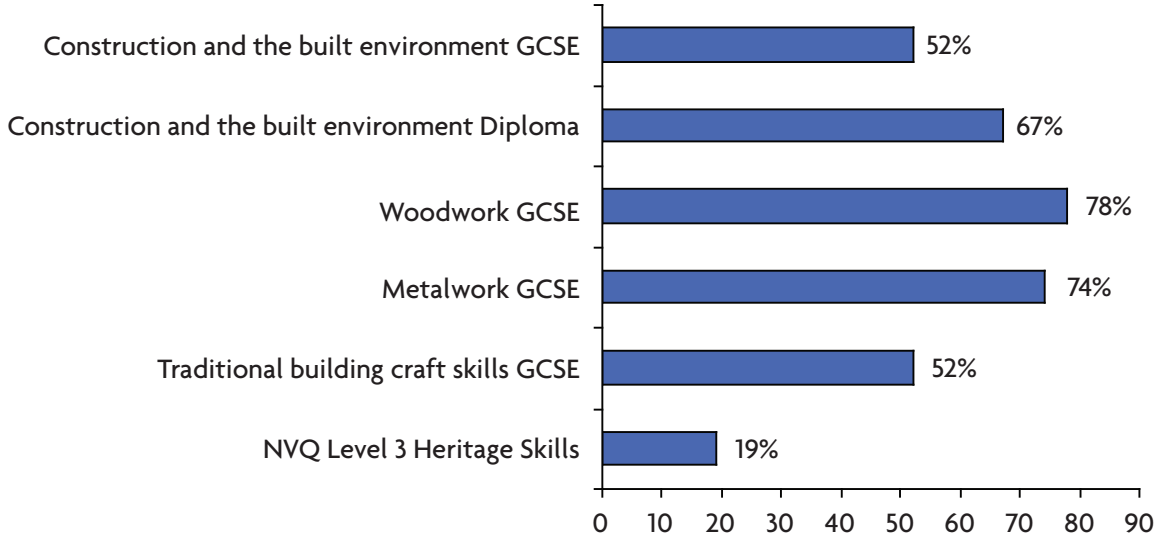
Table 26 Contractors' Usage of Training Grants

	Contractors (%)
Cost of wages while training	47
Cost of training provision	37
Cost of lost production time	16

Table 27 Traditional Building Activities That Training Providers Would Like to See Introduced into Schools

Tradespeople demonstrating the crafts to children	100%
Children learning what materials are used for	100%
Children handling materials such as wood, stone, metal etc.	93%
Children making something with these materials	96%

Figure 35 Qualifications Providers Would Like to See Taught in Secondary Schools



Base: 27

7.9 Summary and Comparisons with 2005

- Of the contractors in this survey, 41% had employees in training.
- The most important impediments to offering training are lack of availability of suitable courses and costs involved.
- Although only a small proportion of training undertaken by contractors was provided by manufacturers and suppliers, nearly three-quarters of manufacturers and suppliers offer training services, mostly to builders and tradespeople.
- Most contractors sourced training from FE colleges, reflecting the importance of apprenticeships.
- This research found that 38% of contractors took on apprentices – a far lower proportion than the 60% in 2005; those who did so took on an average of 2.3 apprentices in the last 12 months, as opposed to 3 in 2005.
- Training providers had an average of 23 full-time and 8 part-time teachers, considerably more than in 2005, but the average of around 1.8 full-time staff members per course is broadly similar to most of the regions detailed in the 2005 research, with high levels of disparity between regions, although no discernible correlation between the distributions.
- Training providers reported that 37% of their teaching staff were appropriately skilled for teaching traditional craft skills, an improvement on the 2005 findings, but this is contradicted by experience of heritage building contractors and other training providers, and, as in 2005, in-depth interviews revealed many providers had difficulties finding appropriately skilled trainers and guest lecturers for traditional building craft skills.
- This current research reinforced the anecdotal evidence cited in 2005 that the standard general construction NVQ frameworks are inadequate to achieve the competencies required for traditional building craft skills.
- Of the training providers surveyed, 53% strongly felt that mainstream trade courses were inadequate in providing students with appropriate skills to work on pre-1919 buildings.
- The majority of training providers were familiar with the Training the Trainers programme, with almost 80% reporting interest in the programme, but cited impediments to attending, such as shortage of time.
- Only 20% of contractors felt that formal education made an

important contribution to developing the competence necessary for working on pre-1900 buildings, preferring in-house training and experience.

- Providers offered courses in the full range of crafts and trades, with bricklaying/masonry and wood trades being most heavily represented, while roofing had the fewest training courses.
- Informal training is also used by contractors, with job shadowing or mentoring being by far the most popular form.
- Providers had an average intake of 361 students for the main trade courses, and reported that they were running at 92% capacity, with a drop-out rate of 12% (a considerable improvement on 2005).
- Students were mostly young (61% being under 18) and living within 20 miles of their course, suggesting that specialist courses will need to be more widely available, or students better supported to live away from home to increase uptake.
- Providers estimated that only 8% of learners will work in the historic buildings or building conservation sectors, with the majority (57%) being expected to work in new build.
- Half of the providers and only 17% of contractors had heard of the new Heritage Skills NVQ, with 23% of providers planning to run a future heritage or conservation module; almost one-third of contractors were interested in registering their staff for the qualification.
- There was considerable anecdotal evidence that training providers perceived young people to be motivated primarily by the wish to work in the new build sector, with a consequent lack of interest in traditional building craft skills.
- Only 23% of trainers and 11% of contractors had heard of the HLF Bursary Scheme, indicating that this needs significantly more publicity if it is to genuinely fulfil its function.
- A total of 37% of contractors accessed training grants, mostly from ConstructionSkills, which were primarily used to cover the cost of wages while employees were undertaking training.
- Training providers remained highly committed, as they were in 2005, to seeing construction-related teaching introduced earlier in the school system.

REGIONAL SUMMARIES 8

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regional summaries

In this section of the report, information and statistics obtained in the course of the research are broken down to a regional level to provide further insight into skills needs across England. Data from the quantitative survey with contractors has enabled detailed information to be derived on the skills profiles and shortages in the nine English regions (South West, South East, Greater London, East of England, East Midlands, West Midlands, Yorkshire and the Humber, North West and North East). Additional information on training provision has also been derived from the smaller survey with training providers. The source of the data in the tables in this section is from the Pye Tait Limited survey of 2007. Training providers in the North East were unavailable for the quantitative interview at that time and this information is therefore missing from table 62.

Some caution must inevitably be exercised in the interpretation of these findings. Although care has been taken to obtain the most representative possible samples for each region, the regional information is inevitably based on relatively small subsets of the total national sample. It should be noted that there are some large variations between regions in the current research. There are also disparities between the regional findings in 2005 and at present. The implication is that some of these findings should be treated primarily as pointers to possible areas for future research rather than as definitive conclusions. This is especially the case with training provision information, where the small sample size makes the findings much less robust at regional level than is the case with the much larger contractors survey.

These regional summaries are supplemented by an overview of a parallel study of traditional building craft skills in the West Midlands (see Case Study at the end of this section of the report). This provides a pioneering attempt to develop robust data at a regional level based on careful interviewing of building contractors in the West Midlands. It builds upon and extends beyond the regional component of this current national research, and represents a promising model that could be used elsewhere to refine and deepen the regional analyses in this report.

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south west

8.1 South West

The South West is the largest of the nine English regions and, although it has undergone sustained growth in population, economic activity and employment levels over the past 20 years, it remains the least densely populated, with numbers estimated at 5.12 million people. This reflects relative lack of large urban settlements. Bristol is the only large city, with a population of 500,000, followed by Plymouth with approximately 250,000. The South West's GVA in 2006 has been estimated at £89.5bn.[61]

Major contributors to regional GVA are food and drink, information and communications technology (ICT), advanced engineering, creative industries, tourism and leisure, and environmental technologies. Aeronautical engineering is the bedrock of Bristol's economy, with Rolls Royce, Airbus and Westland having manufacturing facilities at Filton and AgustaWestland helicopters at Yeovil. The fastest-growing sectors are marine technologies and biotechnology.[62]

According to official statistics, 45% of construction output in the South West consists of repair and maintenance work,[63] an above-average figure.

The South West also has one of the richest historic environments in England. It possesses 4 of England's 17 World Heritage Sites: Stonehenge and Avebury; the City of Bath; the Jurassic Coast; and the Cornwall and West Devon Mining Landscape.

The region also has 6,979 scheduled ancient monuments and 88,486 listed building entries. This includes 7,059 Grade I or II* listed buildings. This is the largest number of listed buildings of any of the nine English regions, and the third highest in terms of density.[64]

This heritage reflects both past prosperity and, in some cases, relative poverty. This has preserved an exceptionally large number of traditional buildings in original condition. These include buildings in a wide range of traditional vernacular styles. The South West is one of the few areas which retain a substantial number of cob buildings. The long maritime history of the area is reflected in the many port and fishing towns, whose architectural heritage is most spectacularly represented by Bristol's many fine Georgian merchants' houses, built with the profits from the trade in sugar and slaves. Finally, a substantial part of the Cotswolds, famous for its villages constructed from the golden yellow oolitic limestone of the area, lies in the region.

One of the few remaining English slate quarries is to be found at Delabole, in Cornwall, producing a blue-grey slate renowned for its durability. Devon is at the heart of the revival of cob building as a sustainable building technique for the modern age, and with this has come expertise in the handling of lime mortars, which are essential for construction with cob blocks and for rendering cob buildings.

The South West is also the source of the famous Portland limestone, a fine white building stone that is very suitable for detailed carving. Its

Table 28 Contractors in the South West with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	2	0
Bricklayer	53	28
Cabinetmaker	10	8
Carpenter	54	35
Clay dabbins craftsperson	–	1
Cob builder	–	5
Decorator	27	28
Drystone waller	2	13
Flint knapper	–	1
General crafts/tradesperson	36	41
Gilder	0	–
Gilder (paint)	–	4
Gilder (wood)	–	3
Glass painter	2	2
Glazier	25	8
Joiner	59	36
Leadworker	20	13
Marbler	–	3
Mosaicist	–	2
Pargeter	–	3
Pavior	–	2
Plasterer (fibrous)	37	21
Plasterer (lime)	36	33
Plasterer (other)	39	–
Roofer (general tiles and slates)	27	44
Roofer (random/natural slates)	20	–
Roofer (stone tiles)	19	–
Stained glass worker	–	11
Steeplejack	2	4
Stone carver	20	–
Stone fixer	24	16
Stonemason (banker mason)	41	41
Thatcher	0	12
Tiler (floors, walls)	12	12
Timber preserver	3	–
Wattle and daub craftsperson	–	1
Wheelwright	–	6
Woodcarver	3	8
Wood machinist	2	8

Note - equals: not reported due to the small base size

qualities, combined with the location of the quarries near the sea, made it easy to transport to London, where it was used for some of the most important building projects from the 17th century onwards – most notably St Paul's Cathedral.

In 2007 there were estimated to be 157 buildings at risk in the highest categories of listing (Grade I, Grade II* and scheduled ancient monuments), a decline from 184 in 1999, but a slight increase from 156 in 2002.[65]

In 2005/06, £3,006,000 of funding was distributed through the various grant schemes administered by English Heritage. Grant funding for places of worship (now funded jointly with the Heritage Lottery Fund) has increased substantially in recent years, from around £917,000 in 2000/01 to £1,419,000.[66]

However, these increases only partially offset a precipitous decline in English Heritage's Historic Buildings, Monuments and Designed Landscapes grants. More than £2m was given in these grants in 2000/01, and by 2005/06 this had fallen to £890,000. This represents the largest percentage decline (57%) of all the English regions.[67]

8.1.1 Regional Craft Skills Needs

A total of 82 quantitative and 11 qualitative interviews were undertaken across the South West, 59 of which were with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 28 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left hand column, and compares these figures with the situation in 2005.

Table 29 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 30 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 31 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 29 Shortages of Craft Skills: South West

Contractors with long-term vacancies	7%
Main trades difficult to recruit	
Carpenter	15%
Joiner	11%
Plasterer, lime	9%
Stonemason	9%
Plasterer, other	8%
Bricklayer	6%
Plasterer, fibrous	5%
Stone carver	5%
Stone fixer	5%
Recruitment difficulties	
Lack of applicants	8%
Lack of skills	44%
Both	46%
Contractors' response to lack of skills	
Asked other tradespeople for advice	37%
Researched Internet/publications	35%
Used a subcontractor	25%
Used modern methods instead	15%
Sourced training for specialist skills	8%
Turned down work on pre-1919 projects because of a lack of skills	19%

Table 30 Training: South West

Number of apprentices (aged 25 or under) – contractors	41
Number of trainees (aged over 25) – contractors	111
Awareness among contractors of NVQ Level 3 in Heritage Skills	36%
Total college intake for the main trades (2007/08)	450
Average capacity levels for courses in the main trades (2007/08)	85%
Average passes/qualifications for the last finished courses	98%
Average learner drop-out rate	11%
Average number of full-time trainers	18
Average number of part-time trainers	4
Average proportion of trainers with traditional craft skills	63%

Table 31 Use of Traditional Building Materials: South West

Pre-1919 work involving only traditional building materials (last 12 months)	50%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	23%
Cost	6%
No demand from clients	12%
Perceived to be unnecessary	10%
Modern materials as good	10%
Modern materials easier	10%
Lack of availability	10%

south east

8.2 South East

The South East covers 19,060 square kilometres or 14.6% of England's land area, making it the third largest of England's nine regions. Population is currently estimated at 8.24 million, making it the most densely populated region in England. Its economic strengths lie in the continuing development of a wide range of service industries. These account for nearly 80% of employment and almost all growth in the region's GVA, which is estimated to have reached £177.2bn in 2006, second only to London's. Economic growth continues to fuel increases in population, creating considerable demand for housing and infrastructure.

The South East also has the highest proportion of construction output devoted to repair and maintenance, at 48.8%, which no doubt in part reflects the exceptional heritage of historic and traditional buildings in this region.

The South East has two World Heritage Sites, both listed predominantly for architectural and historical reasons: Canterbury Cathedral – with St Augustine's Abbey and St Martin's Church, the site of the first Christian mission to the Anglo-Saxons; also England's greatest pilgrimage church and premier cathedral – and Blenheim Palace, one of Europe's largest and grandest baroque palaces.

The South East also has 2,640 scheduled ancient monuments, and the second highest density of listed buildings of any region in England, exceeded only by London. There are 75,855 listed building entries for the region, of which 1,706 are at Grade I. There are a further 3,828 Grade II* buildings, with the remaining 70,321 at Grade II. It is currently estimated that there are 2,090 local authority conservation areas. There are also 364 registered historic parks and gardens, the highest number in the country.[68]

The most recent Buildings at Risk register for the South East includes 176 entries.[69] Of these, 50 are Grade I, and 54 are Grade II*.[70]

There were 6,769 listed building consent applications in the region in 2006/07, representing 5.96% of 113,600 planning applications decided. The South East has the second highest number of listed building consent applications in England, exceeded only by the South West, in line with the number of listed buildings in the region. There were also a large number of scheduled monument consent decisions in the region in 2006/07: at 218, this was higher than the South West with 165 (although in the previous year the situation was approximately reversed, suggesting that the 2006/07 position is something of an anomaly).[71]

There were also a large number of scheduled monument consent decisions in the region in 2006/07: at 218, this was higher than the South West with 165 (although in the previous year the situation was approximately reversed, suggesting that the 2006/07 position is something of an anomaly).

Table 32 Contractors in the South East with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	0	6
Bricklayer	51	26
Cabinetmaker	6	6
Carpenter	48	38
Clay dabbins craftsperson	–	0
Cob builder	–	4
Decorator	37	17
Drystone waller	0	6
Flint knapper	–	3
General crafts/tradesperson	0	18
Gilder	1	–
Gilder (paint)	–	2
Gilder (wood)	–	2
Glass painter	4	3
Glazier	31	5
Joiner	57	21
Leadworker	11	10
Marbler	–	1
Mosaicist	–	2
Pargeter	–	2
Pavior	–	4
Plasterer (fibrous)	27	8
Plasterer (lime)	31	13
Plasterer (other)	37	–
Roofer (general tiles and slates)	41	17
Roofer (random/natural slates)	17	–
Roofer (stone tiles)	15	–
Stained glass worker	–	2
Steeplejack	1	2
Stone carver	7	–
Stone fixer	7	9
Stonemason (banker mason)	33	13
Thatcher	0	5
Tiler (floors, walls)	21	9
Timber preserver	5	–
Wattle and daub craftsperson	–	2
Wheelwright	–	2
Woodcarver	5	4
Wood machinist	0	6

Note - equals: not reported due to the small base size

Traditional building materials in the region include limestone, granite, slate, earth, timber, thatch, stone tiles and lime wash applied as an internal and external decoration.[72] The area's prosperity made it a pioneer of many new styles and techniques, which then spread to other areas of the country. Five of the nine earliest surviving timber-framed buildings in England are in the South East, all early aisled buildings.[73] Other examples of forms pioneered in the South East include the Wealden house, which became one of the standard house types in late medieval England.[74]

8.2.1 Regional Craft Skills Needs

A total of 101 quantitative and 9 qualitative interviews were undertaken with stakeholders across the South East region, 81 of which were with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 32 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 33 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 34 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 35 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 33 Shortages of Craft Skills: South East

Contractors with long-term vacancies	6%
Main trades difficult to recruit	
Plasterer, other	8%
Joiner	8%
Carpenter	7%
Bricklayer	7%
Plasterer, fibrous	7%
Stonemason	6%
Recruitment difficulties	
Lack of applicants	15%
Lack of skills	51%
Both	28%
Contractors' response to lack of skills	
Tradespeople learn on the job	46%
Used a subcontractor	34%
Asked other tradespeople for advice	32%
Researched Internet/publications	26%
Sourced training for specialist skills	18%
Turned down work on pre-1919 projects because of a lack of skills	9%

Table 34 Training: South East

Number of apprentices (aged 25 or under) – contractors	62
Number of trainees (aged over 25) – contractors	14
Awareness among contractors of NVQ Level 3 in Heritage Skills	13%
Total college intake for the main trades (2007/08)	3,269
Average capacity levels for courses in the main trades (2007/08)	88%
Average passes/qualifications for the last finished courses	91%
Average learner drop-out rate	15%
Average number of full-time trainers	22
Average number of part-time trainers	7
Average proportion of trainers with traditional craft skills	28%

Table 35 Use of Traditional Building Materials: South East

Pre-1919 work involving only traditional building materials (last 12 months)	43%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	23%
No demand from our clients	20%
Perceived to be unnecessary	17%
Cost	13%
Lack of availability	10%

london

8.3 London

Greater London is the smallest of the nine English regions, but as the capital and largest urban area of England its resident population now exceeds 7.5 million, and includes some of the most densely populated areas in England. The area is also by far the most economically productive, with a GVA of £196.8bn,[75] accounting for more than 17% of the UK total and more than 4.7 million workforce jobs.[76] It is increasingly recognised as one of the main financial centres of the global economy, along with New York and Tokyo.

However, alongside the extremes of wealth produced by London's economic pre-eminence, there are also areas of great poverty, including some of the most deprived and excluded communities in England.

London's long history as a national, imperial, and global capital has endowed it with an exceptional range of cultural attractions and an outstanding built heritage. In spite of the devastation caused by the Blitz and the losses produced by centuries of redevelopment, London retains the richest built heritage of any comparably sized area of England.

This includes four World Heritage Sites: the Tower of London; the Palace of Westminster, Westminster Abbey and St Margaret's Church; Maritime Greenwich; and the Royal Botanical Gardens in Kew. Greater London also has 152 scheduled ancient monuments and 18,380 listed buildings[77], of which 577 are Grade I, 1,319 are Grade II*[78] and 16,473 are Grade II. This means that London has the highest density of listed buildings of all the nine English regions. There are also an estimated 955 conservation areas, 148 registered parks and gardens, and 1 registered historic battlefield.[79]

London also has by far the largest number of buildings at risk per square area, including 6 scheduled ancient monuments, 24 Grade I and 57 Grade II* listed. Uniquely, all known Grade II buildings at risk are also included on London's register. This adds another 435 entries, and along with 19 vulnerable or damaged historic cemeteries this totals 541. This is a significant decline since 2006, with 113 entries removed but only 56 added.[80]

In the Greater London area, repair and maintenance accounts for 41% of total construction output, somewhat below the national average.[81] This is largely because of the exceptionally large expenditure on new build made by private commercial clients to serve the capital's business needs, which at £4.6bn is by far the greatest output in this category of any of the English regions (for comparison, the next largest, for the South East, is just over £2.5bn).[82] It should be noted that the amount of repair and maintenance output in London in 2006 was £6.8bn, making it second only to the South East in absolute terms.

The scale of construction activity in London is also reflected in the number of general planning decisions made, which stood at

84,323 in 2006/07, second only to the South East. However, a somewhat smaller proportion of these were for listed building consent than is the case in the rest of England: just less than 5.2%, as opposed to 5.7% nationally – again probably because of the exceptionally large number of significant new build projects in the capital. London did, however, have by far the largest number of conservation area consent decisions, at 763, in comparison with 530 in the South East and 502 in the South West. In addition, 78 scheduled monument consent decisions were made.[83]

In 2006/07 English Heritage dispensed grants worth £2,614,000, of which the largest component was listed in the Heritage Counts 2007 Regional dataset as Historic Environment Regeneration Scheme grants (now succeeded by Partnership Schemes in Conservation Areas, described in Section 4.6.1), which amounted to £1m.[84] This was followed by grants to places of worship, totalling nearly £900,000. Grants under the Historic Buildings, Monuments and Designed Landscapes grant scheme totalled £650,000, the second lowest of all the English regions.[85]

Buildings dating from before the Great Fire of 1666 are an extreme rarity, so there are very few timber buildings in London. Traditional building materials in London are based primarily on the locally available clays, whose most common product is the yellowish 'stock brick'. This was the standard building material from the 18th to the 19th century. From the early 19th century onwards, cheap brick masonry was frequently given an elaborate sculpted rendering of hydraulic lime stucco in order to imitate costly dressed and carved freestone, as in the many surviving terraces designed by Sir John Nash or the extensive development of Belgravia undertaken by Thomas and William Cubitt.

Other materials favoured in London included the fine white Portland stone imported from

Table 36 Contractors in London with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	3	0
Bricklayer	28	13
Cabinetmaker	3	4
Carpenter	39	15
Clay dabbins craftsperson	–	1
Cob builder	–	3
Decorator	23	12
Drystone waller	5	3
Flint knapper	–	0
General crafts/tradesperson	0	24
Gilder	0	–
Gilder (paint)	–	7
Gilder (wood)	–	8
Glass painter	3	1
Glazier	13	4
Joiner	41	5
Leadworker	15	4
Marbler	–	5
Mosaicist	–	5
Pargeter	–	1
Pavior	–	3
Plasterer (fibrous)	18	7
Plasterer (lime)	21	7
Plasterer (other)	28	–
Roofer (general tiles and slates)	28	18
Roofer (random/natural slates)	21	–
Roofer (stone tiles)	18	–
Stained glass worker	–	7
Steeplejack	0	0
Stone carver	5	–
Stone fixer	10	8
Stonemason (banker mason)	13	7
Thatcher	0	5
Tiler (floors, walls)	13	8
Timber preserver	5	–
Wattle and daub craftsperson	–	1
Wheelwright	–	4
Woodcarver	5	8
Wood machinist	0	5

Note - equals: not reported due to the small base size

Dorset, and used for many of the capital's finest buildings. These include Sir Christopher's Wren's rebuilding of St Paul's Cathedral. In the 19th century coloured and glazed bricks, and terracotta, were added to the standard repertory of materials. In addition, London's status as a great port enabled the employment of an unusually wide range of imported stones, marbles, woods and tiles – starting in the earliest times with the import of Caen stone from Brittany for the construction of the Tower of London.

8.3.1 Regional Craft Skills Needs

A total of 46 quantitative and 3 qualitative interviews were undertaken across London, 39 of which were with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 36 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 37 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region. Table 38 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 39 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 37 Shortages of Craft Skills: London (%)

Contractors with long-term vacancies	3
Main trades difficult to recruit	
Stonemason	9
Leadworker	7
Recruitment difficulties	
Lack of applicants	4
Lack of skills	30
Both	48
Contractors' response to lack of skills	
Used a subcontractor	28
Tradespeople learn on the job	22
Asked other tradespeople for advice	18
Sourced training for specialist skills	14
Turned down work on pre-1919 projects because of a lack of skills	11

Table 38 Training: London

Number of apprentices (aged 25 or under) – contractors	23
Number of trainees (aged over 25) – contractors	8
Awareness among contractors of NVQ Level 3 in Heritage Skills	10%
Total college intake for the main trades (2007/08)	280
Average capacity levels for courses in the main trades (2007/08)	88%
Average passes/qualifications for the last finished courses	75%
Average learner drop-out rate	18%
Average number of full-time trainers	16
Average number of part-time trainers	8
Average proportion of trainers with traditional craft skills	45%

Table 39 Use of Traditional Building Materials: London

Pre-1919 work involving only traditional building materials (last 12 months)	41%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	25%
Perceived to be unnecessary	16%
Materials not meeting building regulations	14%
Modern materials as good	12%
No demand from clients	12%
Cost	12%

east of england

8.4 East of England

The East of England is the second largest of the English regions, with 14.7% of the country's total land area, and is largely rural. With 5.6 million inhabitants it also has one of the fastest growing populations in the country. Some parts are highly urbanised, with population densities in Luton being among the highest outside London. It has among the highest employment rates and lowest crime rates in the UK.[86]

In 2006 the region generated a GVA of £109.9bn, making it the fourth largest of the nine regional economies.[87] The economy is extremely varied, combining an extensive rural economy with areas of high-tech research and development, most notably in the vicinity of the University of Cambridge.

The East of England is the only English region that does not have a World Heritage Site. It nevertheless has a rich architectural heritage. In April 2007 the region had 1,725 scheduled ancient monuments – this represents an increase of 86 (5%) since 2002, the largest increase of any English region. It also has 57,623 listed buildings, of which 1,741 are Grade I, and 3,421 Grade II*.[88]

The region has an extensive coastline, which is dotted with ports and small seaside towns. The area is particularly notable for its large and beautiful medieval churches, built with the wealth generated by the medieval wool trade. There are also many fine late medieval and Tudor manor houses, and a rich inheritance of half-timbered buildings, including arguably the best-preserved medieval small town in Britain, Lavenham in Suffolk.

At nearly 49%, the region's proportion of construction output directed to repair and maintenance work is second only to the South East.[89]

In 2007 there were 115 entries on the English Heritage Register of Buildings at Risk (at Grade I and Grade II*).[90] Of these 90 were at Grade I and 25 at Grade II*. This represents the smallest proportion of buildings at these grades of all nine English regions.[91]

In 2006/07, 70,628 planning applications were decided, of which 4,525 were applications for listed building consent, a slight decrease since 2001/02; 436 were conservation area consents, an increase of 43% since 2001/02, and 138 were scheduled monument consents – an increase of 47% since 2001/02.[92]

In 2006/07 English Heritage dispensed grants worth £3.64m, of which the largest component was £2.83m for places of worship. The bulk of the remainder, some £750,000, was distributed as Historic Buildings, Monuments and Designed Landscapes grants.[93]

Traditional building materials in the region include timber, brick, flint, limestone, pargeting, thatch, clay tiles and oak shingles. Stylistic features characteristic of the area include elaborate brick gables that testify to the close relations between this area and the Low Countries of continental Europe.

Table 40 Contractors in the East of England with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	2	7
Bricklayer	52	27
Cabinetmaker	10	6
Carpenter	61	25
Clay dabbins craftsperson	–	3
Cob builder	–	3
Decorator	40	15
Drystone waller	0	1
Flint knapper	–	5
General crafts/tradesperson	39	18
Gilder	2	–
Gilder (paint)	–	1
Gilder (wood)	–	0
Glass painter	3	1
Glazier	25	6
Joiner	48	17
Leadworker	27	14
Marbler	–	2
Mosaicist	–	1
Pargeter	–	4
Pavior	–	5
Plasterer (fibrous)	37	5
Plasterer (lime)	40	15
Plasterer (other)	40	–
Roofer (general tiles and slates)	30	17
Roofer (random/natural slates)	22	–
Roofer (stone tiles)	25	–
Stained glass worker	–	1
Steeplejack	0	1
Stone carver	10	–
Stone fixer	12	8
Stonemason (banker mason)	25	11
Thatcher	2	1
Tiler (floors, walls)	20	10
Timber preserver	6	–
Wattle and daub craftsperson	–	4
Wheelwright	–	0
Woodcarver	8	3
Wood machinist	9	6

Note - equals: not reported due to the small base size

8.4.1 Regional Craft Skills Needs

A total of 78 quantitative and 5 qualitative interviews were undertaken across the East of England, including 67 with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 40 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 41 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region. Table 42 gives basic data on apprentice and

trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 43 summarises information on the use of traditional materials on the basis of the contractors' survey

Table 41 Shortages of Craft Skills: East of England

Contractors with long-term vacancies	2%
Main trades difficult to recruit	
Carpenter	12%
Plasterer, fibrous	8%
Plasterer, lime	7%
Stonemason	7%
Recruitment difficulties	
Lack of applicants	5%
Lack of skills	46%
Both	36%
Contractors' response to lack of skills	
Tradespeople learn on the job	46%
Used a subcontractor	46%
Asked other tradespeople for advice	32%
Researched Internet/publications	25%
Sourced training for specialist skills	19%
Turned down work on pre-1919 projects because of a lack of skills	9%

Table 42 Training: East of England

Number of apprentices (aged 25 or under) – contractors	51
Number of trainees (aged over 25) – contractors	12
Awareness among contractors of NVQ Level 3 in Heritage Skills	17%
Total college intake for the main trades (2007/08)	570
Average capacity levels for courses in the main trades (2007/08)	97%
Average passes/qualifications for the last finished courses	90%
Average learner drop-out rate	8%
Average number of full-time trainers	20
Average number of part-time trainers	7
Average proportion of trainers with traditional craft skills	16%

Table 43 Use of Traditional Building Materials: East of England

Pre-1919 work involving only traditional building materials (last 12 months)	47%
Main prohibitive factors for contractors using more traditional materials	
Perceived to be unnecessary	28%
Not specified by architect	22%
No demand from clients	17%

east midlands

8.5 East Midlands

The East Midlands has a varied landscape, ranging from the flat plains of rural Lincolnshire to the hills of Derbyshire, and the former coal-mining and industrial belt in the north. The major urban settlements are in Derby, Nottingham and Leicester, which account for the majority of its population of 4.37 million. The remaining settlements are largely market towns and villages, some of them of great antiquity and historic interest.

In 2006 the region's GVA was estimated at £74.1bn.[94] The economy has traditionally been oriented around manufacturing and agriculture. It has high levels of employment and above-average economic growth.

Employment remains dominated by low-skill, low-pay jobs, but Nottingham and Leicester are developing significant strengths in high-technology industry, and have also succeeded in attracting major new employers to the region.

The area has a rich heritage, including the ancient woodlands of Sherwood Forest and Rockingham Forest, as well as a series of outstandingly important buildings. These include Lincoln Cathedral, Chatsworth, Hardwick Hall and Newstead Abbey, famous as the home of the poet Lord Byron.

The region has one World Heritage Site, the 15-mile-long area of the Derwent Valley Mills. This recognises the region's important role in the industrial revolution. It saw the first application of water power to industrial factory production, as well as the invention of the spinning jenny, which together revolutionised the manufacture of cotton thread. It is also the site of some of the earliest of the factory towns that grew up with the industrial revolution.

The East Midlands has 1,512 scheduled ancient monuments and 29,552 listed buildings. Of these, 973 are listed at Grade I and 1,828 at Grade II*.[95] There has been an increase of 146 listings since 2002. The area also has 135 registered parks and gardens.[96]

The Buildings at Risk register for the East Midlands includes 140 Grade I and II* listed buildings and structural scheduled ancient monuments.[97]

In 2006/07, 46,400 planning decisions were made in the region, of which 2,406 were in respect of applications for listed building consent, 74 for scheduled ancient monument consent and 248 (0.58% of all planning decisions) for conservation area consent.[98]

At 35.6%, the East Midlands has the lowest proportion of total construction output dedicated to repair and maintenance of all the English regions.

The region received £2.02m in English Heritage grants in 2006/07, of which the major portion, £914,000, was spent on Historic Buildings, Monuments and Designed Landscapes grants. A further £798,000 was spent on grants for listed places of worship, and £735,000 on Partnership Schemes in Conservation Areas.[99]

Table 44 Contractors in the East Midlands with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	2	4
Bricklayer	73	21
Cabinetmaker	8	5
Carpenter	67	22
Clay dabbins craftsperson	–	2
Cob builder	–	3
Decorator	36	11
Drystone waller	8	2
Flint knapper	–	2
General crafts/tradesperson	51	17
Gilder	0	–
Gilder (paint)	–	2
Gilder (wood)	–	2
Glass painter	2	0
Glazier	40	6
Joiner	73	18
Leadworker	22	7
Marbler	–	1
Mosaicist	–	1
Pargeter	–	0
Pavior	–	5
Plasterer (fibrous)	51	7
Plasterer (lime)	54	16
Plasterer (other)	64	–
Roofer (general tiles and slates)	42	19
Roofer (random/natural slates)	30	–
Roofer (stone tiles)	30	–
Stained glass worker	–	4
Steeplejack	0	2
Stone carver	15	–
Stone fixer	15	10
Stonemason (banker mason)	42	16
Thatcher	1	5
Tiler (floors, walls)	18	7
Timber preserver	2	–
Wattle and daub craftsperson	–	2
Wheelwright	–	0
Woodcarver	3	3
Wood machinist	8	4

Note - equals: not reported due to the small base size

8.5.1 Regional Craft Skills Needs

A total of 79 quantitative and 1 qualitative interviews were carried out across the East Midlands, including 67 with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 44 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 45 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 46 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 47 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 45 Shortages of Craft Skills: East Midlands

Contractors with long-term vacancies	3%
Main trades difficult to recruit	
Bricklayer	8%
Stonemason	6%
Plasterer, fibrous	6%
Plasterer, lime	6%
Joiner	6%
Recruitment difficulties	
Lack of applicants	8%
Lack of skills	30%
Both	43%
Contractors' response to lack of skills	
Tradespeople learn on the job	41%
Used a subcontractor	36%
Asked other tradespeople for advice	36%
Researched Internet/publications	18%
Turned down work on pre-1919 projects because of a lack of skills	12%

Table 46 Training: East Midlands

Number of apprentices (aged 25 or under) – contractors	63
Number of trainees (aged over 25) – contractors	32
Awareness among contractors of NVQ Level 3 in Heritage Skills	15%
Total college intake for the main trades (2007/08)	2,045
Average capacity levels for courses in the main trades (2007/08)	98%
Average passes/qualifications for the last finished courses	87%
Average learner drop-out rate	13%
Average number of full-time trainers	40
Average number of part-time trainers	15
Average proportion of trainers with traditional craft skills	22%

Table 47 Use of Traditional Building Materials: East Midlands

Pre-1919 work involving only traditional building materials (last 12 months)	32%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	22%
Perceived to be unnecessary	17%
No demand from clients	15%
Materials not meeting building regulations	11%

west midlands

8.6 West Midlands

The West Midlands was one of the heartlands of the early industrial revolution – and has the remains of the first modern cast-iron bridge to prove it. It was also the home of modern industrial mass production, pioneered by manufacturers such as Matthew Boulton. Although it is one of the smaller of the English regions, it is densely populated and is now estimated to have a population of 5.37 million. The population is centred on large urban settlements, most notably Birmingham, the UK's second most populous city after London.

The region's GVA in 2006 is estimated to have been £89bn.[100]

Although it remains one of the most important industrial and manufacturing areas in England, the region is increasingly characterised by strengths in ICT, which is currently growing at a rate of 20% per year, and professional services. The West Midlands also has considerable strengths in the construction industry, and consistently provides the largest number of construction trainees of any region in Great Britain, averaging 5,000 per annum, almost 12% of the total.[101]

The region has one World Heritage Site, Ironbridge Gorge in Shropshire, the area that pioneered the use of cast iron in the manufacturing and construction industries.

As at August 2007, the region has 1,427 scheduled ancient monuments – a net increase of 90 since 2002 – and 34,017 listed buildings. Of these, 602 are listed at Grade I, 2,074 at Grade II* and 31,341 at Grade II. Finally, there are 160 registered parks and gardens in the region, an increase of 6 since 2002.[102]

The Buildings at Risk register had 179 entries for the West Midlands in 2007, a decrease of 14 since 2006. There have been particularly significant decreases in Shropshire. In addition, the City of Birmingham has also seen a significant growth in the number of listed buildings, comprising an increase of 109 at Grade II and 2 at Grade II* since 2002.[103]

There were 50,709 planning decisions made in 2006/07, of which 2,703 were in respect of listed building consent, 99 for scheduled monument consent and 237 for conservation area consent.[104]

A somewhat higher proportion of the West Midlands' construction output than the UK average is concerned with repair and maintenance – 47.3% in 2006.

English Heritage dispensed grants totalling £5.07m in the region in 2006/07. By far the largest portion of this, at some £3.7m, went to places of worship. A further £911,000 was distributed through the Historic Buildings, Monuments and Designed Landscape scheme, the primary source of grants of private stockholders. Finally, grants of £260,000 were made through the Cathedrals grant scheme.[105]

8.6.1 Regional Craft Skills Needs

A total of 60 quantitative and 1 qualitative interviews were

Table 48 Contractors in the West Midlands with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	0	10
Bricklayer	51	22
Cabinetmaker	6	3
Carpenter	57	27
Clay dabbins craftsperson	–	1
Cob builder	–	1
Decorator	32	11
Drystone waller	2	5
Flint knapper	–	1
General crafts/tradesperson	55	24
Gilder	0	–
Gilder (paint)	–	4
Gilder (wood)	–	1
Glass painter	2	2
Glazier	28	8
Joiner	62	25
Leadworker	28	8
Marbler	–	2
Mosaicist	–	3
Pargeter	–	3
Pavior	–	3
Plasterer (fibrous)	30	8
Plasterer (lime)	36	16
Plasterer (other)	38	–
Roofer (general tiles and slates)	28	17
Roofer (random/natural slates)	23	–
Roofer (stone tiles)	26	–
Stained glass worker	–	7
Steeplejack	0	2
Stone carver	0	–
Stone fixer	0	7
Stonemason (banker mason)	19	11
Thatcher	0	1
Tiler (floors, walls)	9	9
Timber preserver	4	–
Wattle and daub craftsperson	–	2
Wheelwright	–	2
Woodcarver	2	1
Wood machinist	0	9

Note - equals: not reported due to the small base size

undertaken with stakeholders across the West Midlands, including 47 interviews with contractors. (See Tables 48 to 51.) However, in addition to this England-wide study, separate in-depth research has been carried out focusing solely on the West Midlands (see Case Study at the end of this section for a summary). Key information from the national surveys is summarised in the accompanying tables.

Table 48 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left hand column, and compares these figures with the situation in 2005.

Table 49 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 50 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 51 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 49 Shortages of Craft Skills: West Midlands

Contractors with long-term vacancies	0%
Main trades difficult to recruit	
Bricklayer	7%
Carpenter	7%
Joiner	7%
Stonemason	7%
Recruitment difficulties	
Lack of applicants	6%
Lack of skills	34%
Both	53%
Contractors' response to lack of skills	
Used a subcontractor	37%
Asked other tradespeople for advice	37%
Tradespeople learn on the job	35%
Researched Internet/publications	30%
Turned down work on pre-1919 projects because of a lack of skills	7%

Table 50 Training: West Midlands

Number of apprentices (aged 25 or under) – contractors	49
Number of trainees (aged over 25) – contractors	5
Awareness among contractors of NVQ Level 3 in Heritage Skills	11%
Total college intake for the main trades (2007/08)	390
Average capacity levels for courses in the main trades (2007/08)	83%
Average passes/qualifications for the last finished courses	99%
Average learner drop-out rate	2%
Average number of full-time trainers	7
Average number of part-time trainers	3
Average proportion of trainers with traditional craft skills	52%

Table 51 Use of Traditional Building Materials: West Midlands

Pre-1919 work involving only traditional building materials (last 12 months)	32%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	27%
No demand from clients	17%
Perceived to be unnecessary	17%
Cost	11%
Lack of availability	11%

yorkshire and the humber

8.7 Yorkshire and the Humber

Yorkshire and the Humber is the fifth largest of the English regions, and occupies 12% of England's total land area. It has a population estimated at 5.14 million,[106] and generated GVA of £81.2bn in 2006.[107] The chief centres of population are in West and South Yorkshire, where major manufacturing cities such as Leeds and Sheffield developed in the 19th century. The northern parts of the region remain predominantly rural, dotted with villages and small towns. Hull is a maritime and trading hub, while York derives its income primarily from tourism, but is also recognised as an increasingly important centre for research and development in fields such as biotechnology, largely as a result of the activities of the city's university.

The area has a rich historic environment, ranging from beautiful landscapes to fine country houses, abbeys and castles. The city of York is one of the few remaining medieval walled cities in England, and the region has a number of fine medieval abbeys.

The region has two World Heritage Sites. Fountains Abbey and Studley Royal Park combine one of the best-preserved ruined medieval abbeys in England with some of the finest 18th-century landscaped gardens. Saltaire, near Bradford, is a spectacular monument to the strength of the West Riding woollen industry of the 19th century, consisting of a great woollen mill and the fine town built by its owner, Sir Titus Salt, for his employees.

The region has 2,662 scheduled ancient monuments – 13.3% of the English total, and third highest nationally after the South West (with 35.4%) and the South East (with 13.4%). There are 31,342 listed buildings in the region, including 681 at Grade I, 1,468 at Grade II* and 29,145 at Grade II, as well as a small number of churches listed at Grades A to C and some ungraded buildings. There are also 120 registered parks and gardens, and 779 conservation areas in the region.[108]

The region has 111 entries on English Heritage's Buildings at Risk register, including 25 at Grade I, 77 at Grade II*[109] and 9 at Grade II. English Heritage distributed £2,493,510 in grant funding in 2006/07, of which the major portion, £1,551,000, was for places of worship. A further £395,840 was spent on helping to preserve the region's Buildings at Risk.[110]

Yorkshire and the Humber has one of the lower proportions of construction output directed towards repair and maintenance, at 41%. There were 53,999 planning applications decided for the region in 2006/07, of which 2,396 were for listed building consent.[111]

The predominant regional building materials are the local building stones, which are particularly widely used in the farmhouses of the hill country (for roofing as well as walling) and in the public buildings of the major cities. Brick construction has been particularly

Table 52 Contractors in Yorkshire and Humberside with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	2	3
Bricklayer	50	15
Cabinetmaker	3	5
Carpenter	57	10
Clay dabbins craftsperson	–	0
Cob builder	–	2
Decorator	31	5
Drystone waller	2	2
Flint knapper	–	0
General crafts/tradesperson	43	11
Gilder	2	–
Gilder (paint)	–	0
Gilder (wood)	–	0
Glass painter	0	0
Glazier	34	2
Joiner	63	18
Leadworker	27	5
Marbler	–	0
Mosaicist	–	0
Pargeter	–	2
Pavior	–	2
Plasterer (fibrous)	38	8
Plasterer (lime)	46	10
Plasterer (other)	52	–
Roofer (general tiles and slates)	38	12
Roofer (random/natural slates)	28	–
Roofer (stone tiles)	28	–
Stained glass worker	–	1
Steeplejack	0	2
Stone carver	12	–
Stone fixer	16	9
Stonemason (banker mason)	41	11
Thatcher	2	2
Tiler (floors, walls)	29	3
Timber preserver	6	–
Wattle and daub craftsperson	–	0
Wheelwright	–	4
Woodcarver	4	3
Wood machinist	9	6

Note - equals: not reported due to the small base size

characteristic of the vale of York since the 17th century, and spread more widely in the 19th century, when smooth-faced bricks were used as an economical and durable building material for the housing stock in the new industrial cities.

8.7.1 Regional Craft Skills Needs

A total of 76 quantitative and 6 qualitative interviews were undertaken across Yorkshire and Humberside, including 68 with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 52 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 53 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 54 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 55 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 53 Shortages of Craft Skills: Yorkshire and Humberside

Contractors with long-term vacancies	3%
Main trades difficult to recruit	
Carpenter	12%
Joiner	10%
Bricklayer	7%
Stonemason	7%
Recruitment difficulties	
Lack of applicants	9%
Lack of skills	58%
Both	28%
Contractors' response to lack of skills	
Tradespeople learn on the job	56%
Used a subcontractor	38%
Asked other tradespeople for advice	38%
Researched Internet/publications	16%
Turned down work on pre-1919 projects because of a lack of skills	6%

Table 54 Training: Yorkshire and Humberside

Number of apprentices (aged 25 or under) – contractors	53
Number of trainees (aged over 25) – contractors	9
Awareness among contractors of NVQ Level 3 in Heritage Skills	6%
Total college intake for the main trades (2007/08)	1,790
Average capacity levels for courses in the main trades (2007/08)	98%
Average passes/qualifications for the last finished courses	85%
Average learner drop-out rate	11%
Average number of full-time trainers	26
Average number of part-time trainers	8
Average proportion of trainers with traditional craft skills	17%

Table 55 Use of Traditional Building Materials: Yorkshire and Humberside

Pre-1919 work involving only traditional building materials (last 12 months)	32%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architect	27%
No demand from clients	17%
Perceived to be unnecessary	17%
Cost	1%
Lack of availability	11%

north west

8.8 North West

With a population of 6.85 million or 13.6% of the English total, the North West is one of the most densely populated of the nine English regions. Within the region there is considerable variety, ranging from some of the largest urban areas in England, centred on Liverpool and Manchester, to some of the most sparsely populated areas, in northern Lancashire and Cumbria. The main economic and population centre is the city of Manchester, which is also a major media and business hub, and the second fastest-growing city in the UK after London. Manchester alone represents approximately 40% of the region's total GVA, which reached £111.3bn in 2006.[112] Alongside this great wealth, however, the North West also has the largest number of deprived communities in England, and the second highest proportion of deprived communities after the North East.[113]

The region has a rich heritage of historic buildings and monuments, including two World Heritage Sites: Hadrian's Wall (shared with the North East), which includes numerous Roman remains, and Liverpool Maritime and Mercantile City. Liverpool has some of the grandest Victorian architecture in Britain, including St George's Hall, which has recently been magnificently restored, and many fine 18th-century merchants' houses. In addition, Cumbria has numerous fine vernacular buildings, including the many tower houses built to protect the local yeomanry and gentry – and their livestock – from border raiders in the 15th to 17th centuries.

The area has 1,329 scheduled ancient monuments, a significant increase from 1,268 in 2002, of which the majority are in Cumbria. There are a further 25,370 listed buildings, of which 485 are Grade I, 1,506 are Grade II* and 23,377 are Grade II, as well as 129 registered parks and gardens and 857 conservation areas.[114]

There are 141 Buildings at Risk entries for the region, the second highest proportion in the country after the North East.[115]

English Heritage distributed £4,964,223 in grant funding in 2006/07, of which £3,157,223 was spent on places of worship (including joint funding from the HLF), and £1,179,114 on Historic Buildings, Monuments and Designed Landscape grants.[116] The region has been one of the few to see its funding for this category of grant increase significantly in recent years, presumably in response to the large proportion of buildings at risk.

In 2006/07, 63,300 planning decisions were made in the region, of which 1,923 were listed building consents, 275 were conservation area consents and 78 were scheduled ancient monument consents.[117] At 38.4%, the North West dedicates a smaller proportion of its total construction output to repair and maintenance than any other English region except the East Midlands.

8.8.1 Regional Craft Skills Needs

A total of 86 quantitative and 6 qualitative interviews were undertaken across the North West, including 76 with contractors. Key information from

Table 56 Contractors in the North West with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	0	7
Bricklayer	53	20
Cabinetmaker	5	2
Carpenter	34	15
Clay dabbins craftsperson	–	1
Cob builder	–	3
Decorator	13	12
Drystone waller	8	8
Flint knapper	–	1
General crafts/tradesperson	25	19
Gilder	0	–
Gilder (paint)	–	1
Gilder (wood)	–	1
Glass painter	4	1
Glazier	16	3
Joiner	43	24
Leadworker	17	5
Marbler	–	0
Mosaicist	–	2
Pargeter	–	1
Pavior	–	5
Plasterer (fibrous)	41	9
Plasterer (lime)	40	17
Plasterer (other)	40	–
Roofer (general tiles and slates)	25	15
Roofer (random/natural slates)	24	–
Roofer (stone tiles)	18	–
Stained glass worker	–	2
Steeplejack	0	1
Stone carver	11	–
Stone fixer	9	10
Stonemason (banker mason)	18	14
Thatcher	1	0
Tiler (floors, walls)	7	6
Timber preserver	1	–
Wattle and daub craftsperson	–	2
Wheelwright	–	0
Woodcarver	7	2
Wood machinist	5	5

Note - equals: not reported due to the small base size

these interviews is summarised in the accompanying tables.

Table 56 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 57 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 58 gives basic data on apprentice and trainee numbers as reported by participants in the contractor and training provider

surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 59 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 57 Shortages of Craft Skills: North West

Contractors with long-term vacancies	0%
Main trades difficult to recruit	
Joiner	9%
Carpenter	6%
Plasterer, fibrous	5%
Plasterer, lime	5%
Recruitment difficulties	
Lack of applicants	16%
Lack of skills	57%
Both	22%
Contractors' response to lack of skills	
Tradespeople learn on the job	5%
Used a subcontractor	34%
Used modern methods instead	22%
Asked other tradespeople for advice	22%
Researched Internet/publications	15%
Turned down work on pre-1919 projects because of a lack of skills	7%

Table 58 Training: North West

Number of apprentices (aged 25 or under) – contractors	75
Number of trainees (aged over 25) – contractors	17
Awareness among contractors of NVQ Level 3 in Heritage Skills	24%
Total college intake for the main trades (2007/08)	2,030
Average capacity levels for courses in the main trades (2007/08)	99%
Total number of passes/qualifications for the last finished courses	93%
Average learner drop-out rate	16%
Average number of full-time trainers	22
Average number of part-time trainers	8
Average proportion of trainers with traditional craft skills	73%

Table 59 Use of Traditional Building Materials: North West

Pre-1919 work involving only traditional building materials (last 12 months)	34%
Main prohibitive factors for contractors using more traditional materials	
Perceived to be unnecessary	21%
No demand from clients	16%
Cost	16%
Lack of availability	13%
Modern materials easier to use	11%
Not specified by architect	11%

north east

8.9 North East

The North East is the second smallest of the English regions after Greater London, and at 2.56 million people also has one of the smallest populations. It has also been one of the hardest hit by the collapse of coal mining and manufacturing industry, with the great dockyards along the Tyne having almost disappeared and the coal mines that were the bedrock of the economy of County Durham having ceased production. The region's GVA of £38bn is the lowest of any English region.[118] It also has the lowest GVA per capita, as well as the highest proportion of deprived neighbourhoods of all the nine English regions, with more than 34% of neighbourhoods figuring among the most deprived 20% nationally.

The region nevertheless has spectacular natural beauty and many historic buildings. It has two World Heritage Sites: in addition to the eastern half of Hadrian's Wall, there is also the Cathedral and Castle in Durham, with the cathedral recognised as one of the finest Romanesque buildings in Europe and one of the first places where the pointed Gothic arch was used. Work is currently under way to secure the inscription of a further site, the remains of the twin Anglo-Saxon monasteries of Monkwearmouth and Jarrow, most famous as the home of the Venerable Bede.

The region has 1,401 scheduled ancient monuments, but only 12,150 listed buildings, the smallest number of any of the English regions.[119] Of these 387 are Grade I, 660 Grade II* and 11,093 Grade II, with the remainder ungraded or falling under the old ecclesiastical A–C grades.[120] Newcastle also has many fine heritage buildings, including some of the grandest late Georgian streetscapes in Britain, much of which has recently undergone refurbishment and restoration.

The North East also has the highest proportion (7.6%) of all the English regions of Grade I and II* buildings designated as being at risk, with the second smallest percentage decline in this proportion since 1999.[121]

English Heritage distributed £2,112,000 in grants in 2006/07, of which the largest proportion, £1,410,000, was for the Historic Buildings, Monuments and Designed Landscape grant scheme; a further £375,000 was spent on Partnership Schemes in Conservation Areas, but only £159,000 on places of worship. However, it should be noted that the total includes atypical grants for major works at the Bowes Museum and Cragside, an important National Trust property.[122]

Just over 40% of total construction output in the region in 2006 was categorised as repair and maintenance work, the third lowest proportion of the nine English regions. A total of 23,900 planning decisions were given in 2006/07, of which 900 were for listed building consent, 79 for scheduled ancient monument consent and 100 for conservation area consent.[123]

8.9.1 Regional Craft Skills Needs

A total of 38 quantitative and 3 qualitative interviews were undertaken with stakeholders

Table 60 Contractors in the North East with at least One Employee with a Specific Craft Skill

	2008 (%)	2005 (%)
Blacksmith	0	11
Bricklayer	48	16
Cabinetmaker	3	2
Carpenter	35	13
Clay dabbins craftsperson	–	0
Cob builder	–	0
Decorator	21	16
Drystone waller	7	9
Flint knapper	–	0
General crafts/tradesperson	31	24
Gilder	0	–
Gilder (paint)	–	0
Gilder (wood)	–	2
Glass painter	3	0
Glazier	24	9
Joiner	48	36
Leadworker	48	16
Marbler	–	2
Mosaicist	–	4
Pargeter	–	4
Pavior	–	4
Plasterer (fibrous)	38	18
Plasterer (lime)	31	22
Plasterer (other)	41	–
Roofer (general tiles and slates)	59	22
Roofer (random/natural slates)	52	–
Roofer (stone tiles)	55	–
Stained glass worker	–	4
Steeplejack	3	2
Stone carver	14	–
Stone fixer	21	11
Stonemason (banker mason)	35	29
Thatcher	0	4
Tiler (floors, walls)	17	9
Timber preserver	10	–
Wattle and daub craftsperson	–	0
Wheelwright	–	4
Woodcarver	7	2
Wood machinist	10	4

Note - equals: not reported due to the small base size

from across the region, including 29 interviews with contractors. Key information from these interviews is summarised in the accompanying tables.

Table 60 is derived from the contractors' survey and shows the percentage of contractors in the region who have at least one employee with the building craft skill listed in the left-hand column, and compares these figures with the situation in 2005.

Table 61 is again derived from the contractors' survey and shows skills shortages as reported by contractors in the region.

Table 62 gives basic data on apprentice and trainee numbers as

reported by participants in the contractor and training provider surveys. The first three rows are derived from the contractors' survey and show the total numbers of apprentices and trainees employed by the contractors surveyed in the region. The remaining statistics are derived from the survey of training providers in the region, and refer to the current academic year. These last statistics should be treated with the most caution as they are derived from the smallest sample sizes.

Table 63 summarises information on the use of traditional materials on the basis of the contractors' survey.

Table 61 Shortages of Craft Skills: North East

Contractors with long-term vacancies	8%
Main trades difficult to recruit	
Joiner	18%
Leadworker	10%
Roofer, stone tiles	8%
Recruitment difficulties	
Lack of applicants	28%
Lack of skills	44%
Both	28%
Contractors' response to lack of skills	
Tradespeople learn on the job	73%
Used a subcontractor	31%
Researched Internet/publications	27%
Asked other tradespeople for advice	23%
Sourced training for specialist skills	19%
Turned down work on pre-1919 projects because of a lack of skills	29%

Table 62 Training: North East

Number of apprentices (aged 25 or under) – contractors	46
Number of trainees (aged over 25) – contractors	19
Awareness among contractors of NVQ Level 3 in Heritage Skills	24%
Total college intake for the main trades (2007/08)	–
Average capacity levels for courses in the main trades (2007/08)	–
Total number of passes/qualifications for the last finished courses	–
Average learner drop-out rate	–
Average number of full-time trainers	–
Average number of part-time trainers	–
Average proportion of trainers with traditional craft skills	–

Note: The - equals data not obtained due to training providers being unavailable for interview at the time of the 2007 survey; Learning & Skills Council or Trainee Number Survey data was not used to avoid inconsistency with how the data was obtained in this research for the other eight English regions.

Table 63 Use of Traditional Building Materials: North East

Pre-1919 work involving only traditional building materials (last 12 months)	43%
Main prohibitive factors for contractors using more traditional materials	
Not specified by architects	21%
No demand from clients	18%
Perceived to be unnecessary	16%
Cost	13%

Case study: A Survey of Building Contractor's Views on Traditional Building Craft Skills and Training Needs in the West Midlands

This separate but related study, supplements the main England 2008 Review Report and was commissioned by the West Midlands Regional Heritage Skills Action Group and funded by the Learning and Skills Council West Midlands, to provide a detailed picture of skills and training needs in that region.

This valuable regional insight is presented in summary (PDF version of the full report will be available in May 2008 at www.nhtg.org.uk); other regional stakeholders may wish to commission separate regional studies of a representative sample of building contractors using the same research methods.

Introduction

The West Midlands has a rich historic environment which plays an important role in reflecting the history and development of the region, contributing to the regional and local identity, sense of place and education and, through businesses and tourism, to the regional economy.

Traditional building craft skills are therefore essential for the repair, maintenance and preservation of the built heritage. There are 466,823 pre-1919 buildings in the West Midlands, including 34,017 listed buildings – one-fifth of the total building stock – so these buildings and the skills to properly maintain them are vital in terms of sustainability.

National statistics and national studies provide excellent data and information, but what they often lack is a picture of the way that local demand and supply, local needs and solutions, fit (or do not fit) together. Figures drawn from a national survey paint a broad, indicative picture that cannot throw light on the day-to-day issues affecting groups of contractors, craftspeople, building professionals and training providers in a given area. Neither can they adequately link the problems caused by such issues as regional material supply chain, craft skills and knowledge when targeted at specific needs.

The purpose of this specific research was therefore to assess the demand for training and issues surrounding skills requirements from a contractor's perspective in relation to working on the built heritage stock in the specific geographic region of the West Midlands. This was achieved by in-depth quantitative interviews with a representative sample of contractors who work on pre-1919 buildings to establish:

- Demand and supply for traditional building skills.
- The use of traditional building materials.
- Sources of training used by contractors.
- Awareness of new qualifications and training opportunities within the region.

Methodology

The survey of 100 contractors was undertaken between October and November 2007 using a similar questionnaire to the main England research. However, a small number of questions were tailored specifically to the region and the priorities of the Learning and Skills Council West Midlands, for example, on the location and name of training providers used by contractors. This addressed the following issues:

- Trades difficult to recruit and evidence of long-term vaca.ncies
- Skills shortages and skills gaps of trades/craftspeople.
- Formal and informal training routes.
- Interest in new heritage skills training initiatives.

Desk research was undertaken to inform and support the primary research and to draw out any relevant evidence on traditional building craft skills issues, particularly current and future skills requirements.

Current construction training provision and uptake within the West Midlands and colleges interested in links with a wider heritage skills network was also mapped to provide spatial analysis.

Main Findings of the Research

Recruitment

Recruitment of trades/craftspeople was reported as 'difficult' by 15% of contractors, whereas the research conducted in 2005[124] reported a rating of 'very difficult' by 60% of contractors in the West Midlands – higher than the national average (51%). This represents a markedly positive change in recruitment difficulties.

Loss of Staff

Four employees on average left West Midlands contractors in this survey over the past three years, mainly

from bricklaying and carpentry trades, mainly because of retirement and moving to other building firms.

Skills Shortages and Skills Gaps

Carpentry (24%) is the trade with greatest recruitment difficulty (similar to the NHTG 2005 national survey), with 65% of the contractors citing lack of skills as the main reason for recruitment difficulties – which constitutes a skills shortage.

Rating Skills within the Workforce

Contractors rated the skills of very specialist/less common trades (for example, woodcarver/machinist, drystone waller) as lower than other trades, and painters and decorators, plasterers, glaziers and stone-tile roofers were also rated lower than other trades.

One in ten firms (10%) had been forced to turn down work on pre-1919 buildings because of skills gaps.

Preferred Training Routes

West Midlands contractors tended to rely on employees learning the skills on the job when there are skills gaps (39%). Nearly one-fifth of contractors ask other trades/craftspeople for advice, conduct research on the Internet or in publications, or use a subcontractor with specialist skills. None of the contractors sourced training in specialist skills.

Further Development of Traditional Building Craft Skills

No interest in further developing their traditional building craft skills was stated by 20% of the contractors, although 27% were very interested and 24% were quite interested.

Contractors' Views of FE Training

Feedback from contractors suggests that colleges were not meeting their training needs; 26% rated the college-based element of apprenticeship provision as poor, 48% as reasonable and only 11% as excellent.

Offering Traditional Building Skills Training to Staff

Only 7% of the contractors would have liked to offer traditional building skills training to their employees, the key reason being lack of courses (36%).

Knowledge of New Heritage Skills NVQ Level 3 Qualification

An encouraging 20% of contractors had heard of the new Heritage Skills NVQ Level 3 (launched July 2007), and 19% stated that they would probably register staff for this qualification.

Traditional Building Skills Bursary Scheme

Only 17% of contractors were aware of the HLF Traditional Building Skills Bursary Scheme for England and Wales, but 36% were interested in applying for a bursary and 34% in accommodating a bursary-holder.

Conclusions

Regional Heritage Skills Action Group

The findings of 2005 and 2008 England research and this study highlight the opportunity for the Regional Heritage Skills Action Group to:

- Coordinate improvements in the current sparse regional provision of traditional building skills training and development.
- Provide a central source of information, advice and guidance for stakeholders, contractors and training providers.
- Act as the forum to facilitate exchange of knowledge and skills.

Most of the contractors in this survey described themselves as general builders, rather than conservation specialists. Therefore, a real need exists to inform mainstream construction thinking and practice regarding knowledge of and understanding of the supply and use of traditional building materials on pre-1919 buildings. This will help to reinforce the differences between the approach to conservation, repair, maintenance and restoration from that in the new build sector, and the need for suitably experienced and competent contractors and craftspeople to undertake this type of work.

Training Routes and Role of Colleges in Delivering Traditional Building Craft Skills

Approximately 65% of West Midlands contractors in this survey reported the main reason for recruitment difficulties as lack of skills among applicants, which equated to a skills shortage. This affects the ability of a contractor to tender for and undertake work, and requires a higher investment in training to develop the required skills of their workforce to remain competitive and satisfactorily complete work on time and within budget.

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Construction courses within FE colleges are driven by new build as this creates the greatest demand – but the current imbalance in training provision must change from producing large numbers of trades/craftspeople with basic levels of competence to developing a high-quality workforce. This should be capable of adding significant value to all sectors of the construction industry, but notably the built heritage sector, which expects a higher level of skill and qualification to reflect the demands of this type of work.

Those working in the built heritage sector have typically acquired their underpinning skills and knowledge from new build. Therefore, colleges have a crucial role in improving the understanding of traditional building skills and materials as part of mainstream construction courses, or by linking visits or work experience on live built heritage projects for trainees as part of their training.

Over half (56%) of the contractors in this survey overcame their lack of knowledge and skills in their firm by asking advice from other trades/craftspeople, using a subcontractor with specialist skills and conducting research on the Internet or in publications. Therefore, an opportunity exists to develop an information network and web-based or electronic technical information and training guidance to supplement practical skills training and development.

Partnership Working

The survey of this sample of contractors indicates skills gaps which affect the supply of a suitably trained and effective traditional building craft skills workforce.

As the majority of this work is in the private sector, this has a large impact on the pre-1919 buildings within the region. A long-term, sustainable solution to this requires partnership working between the Regional Heritage Skills Action Group, heritage organisations, funding bodies, the regional development agency, contractors and craftspeople, and FE and private training providers.

At a national level, the built heritage sector has become integrated with mainstream construction thinking, but heritage skills are sadly still not a priority within the wider construction industry's agenda. The very existence of many of the specialist skills needed to preserve our heritage is being threatened, and more must be done at a national and regional level to reverse the current decline.

This survey is a positive step in quantifying the issues and work required to maintain these skills within the West Midlands built heritage sector workforce. By engaging with contractors it has provided a clear picture of their methods of recruiting and working and preferred styles of learning. Contractors understandably place great emphasis on learning on the job.

The challenge for the sector, and especially the Regional Heritage Skills Action Group, is to develop traditional building skills provision that incorporates site-based learning, and ensures that craftspeople and contractors are equipped to meet the construction industry expectation of a fully qualified and safety-aware workforce by 2010. Mechanisms exist to achieve both objectives and build upon the current skills base.

Skills Action Plan

The NHTG has set the nine regional groups in England a number of targets for 2008, which can be integrated with the specific recommendations arising from the findings of this survey to form a West Midlands Traditional Building Skills Action Plan. This will provide strategic direction and allow both this and the individual actions to be periodically reviewed and revised.

Key actions and deliverables to be undertaken by the West Midlands Regional Heritage Skills Action Group and supported by NHTG include:

- Increased communications and awareness raising, for example: (1) developing a targeted marketing campaign to promote the existence and engagement with the **Regional Heritage Skills Action Group;** (2) delivering a minimum of **two heritage skills events** for schools / homeowners / contractors / building professionals per year to increase awareness and attract new recruits to the sector.
- Developing and maintaining a West Midlands **accredited register of contractors, sole traders, subcontractors and craftspeople** who work on pre-1919 buildings, linked to the NHTG unified national accredited register.
- Investigating the establishment of a **National Heritage Training Academy – West Midlands** using the NHTG National Heritage Training Academy framework to bring together training providers within the region in a satellite structure to deliver sustainable skills and training development.

- Encouraging FE colleges and private training providers to deliver courses to **support the Heritage Skills NVQ Level 3** and deliver a progression award when the Advanced Construction Award is available.
- Investigating funding and delivery of an NHTG regional **Training the Trainers programme** aimed at FE college lecturers to improve their knowledge and understanding of conservation, repair, maintenance and restoration.
- Helping the NHTG to identify suitably experienced craftspeople to participate in the NHTG work-based **mentoring scheme** to pass on their skills and knowledge to less experienced practitioners.
- Working towards meeting the NHTG target for the Regional Heritage Skills Action Group of 30 **Heritage Skills NVQ Level 3 achievements** in the West Midlands in 2008/09 through the ConstructionSkills On-Site Assessment and Training (OSAT) route and Train to Gain funding stream, and thereafter working to achieve a fully qualified workforce by 2010.
- Helping the NHTG to implement a Built Heritage Sector **Works & Training Contract** with clients and organisations within the West Midlands.
- Helping the NHTG to develop a **Traditional Building Skills Charter** with local authorities and other regional partners.
- Working with regional client groups/stockholders to insist on the **CSCS heritage skills card** as evidence of competence and health and safety awareness for all built heritage sector contracts.

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CONCLUSIONS AND RECOMMENDATIONS

9

Jon Humble © English Heritage

conclusions and recommendations

9.1 Conclusions

This report sets out to update and monitor the findings and recommendations of the baseline NHTG 2005 *Traditional Building Craft Skills: Assessing the Need, Meeting the Challenge* report on the skills needs of the built heritage sector in England. The research has provided accurate information on current **demand, supply and training provision** necessary to address the evolving skills needs of this important sector of the construction industry in England, and inform an ongoing **Skills Action Plan** (see Section 10).

The **key conclusions** are as follows.

9.1.1 Demand

- The large market for **conserving, maintaining, repairing and restoring** the 5 million pre-1919 buildings in England is estimated in this research as being worth more than £4.7bn and providing employment to some **109,000 traditional building construction workers,** which represents an upward revision from the figures presented in 2005.
- The actual current market for **traditional building craft skills** is worth about £1.4bn, but increased awareness of the need for traditional building materials and the traditional building workforce using these would increase this demand figure.
- The **large gap between the current and potential markets** for traditional building craft skills partly reflects cost issues (especially important to private stockholders), as well as a **perceived lack of necessity** among stockholders to use traditional materials and techniques on pre-1919 buildings.
- This research has found evidence of significant **divergences between larger and smaller stockholders.** Larger stockholders appear to have more experience with and confidence in choosing contractors, and the significant value of the work they can offer – and the possibility of long-term strategic partnerships with particular contractors – makes it relatively easy for them to access the work they need.
- **Smaller stockholders** are experiencing significant problems finding appropriately skilled trades/craftspeople to work on their buildings; they lack confidence when choosing contractors and often give evidence of being **suspicious of builders** and their advice. Many stockholders reacted by **demanding more information** about the nature of the trades they employ, and asked for a list of suitably qualified and experienced contractors and craftspeople.
- In addition, **many private stockholders had experienced difficulties** getting the contractors they did find to work on their properties, reflecting the buoyancy of the new build sector; a number of private stockholders surveyed felt that new build provides a steady supply of simpler and more predictable work for contractors, meaning few contractors were interested in taking in the more difficult and unpredictable work required by private residences.

9.1.2 Supply

- There is also evidence that **absolute skills shortages are probably less of a problem than skills gaps;** many people have the basic craft skills needed to undertake work on traditional buildings, but require upskilling.
- Contractors reported **significantly reduced recruitment problems** in comparison with the research reported in 2005; however, the current survey sample included a larger representation of contractors than sole traders and small enterprises (see Section 3.2), and care must be taken in extrapolating this in terms of sole traders, small to medium-sized employers (SMEs) and micro-businesses, who do the bulk of the repair and maintenance work.
- Contractors generally had a high opinion of their **employees' skills and knowledge** when working with traditional materials and techniques, although they rated skills somewhat better than knowledge; however, other evidence suggests that **contractors' opinions may be exaggerated,** because a significant minority exhibited a poor understanding of the listing system, and suppliers and manufacturers thought that contractors overestimated their knowledge and skills.

9.1.3 Traditional Building Materials

- Suppliers and manufacturers felt that **awareness of the need for traditional building materials** and techniques was improving.
- Lack of knowledge of the importance of using traditional materials and techniques continues to **restrict the size of their market,** and manufacturers and suppliers had a low estimate of the skills and knowledge of building contractors in comparison with building contractors themselves.
- The clear implication is that **increased knowledge and awareness, especially among clients,** is the key factor in leading to increased demand for traditional materials.

- Manufacturers and suppliers thought this to be an even more important factor in increasing demand than growing affluence among the customer base – suggesting that even at a time when the economy is less expansive than it has been over the previous decade, improved information and guidance for property owners may be an **excellent way of sustaining and increasing demand for traditional building materials.**

9.1.4 Training Provision

- There remain significant impediments to **improving the supply of appropriate skills and knowledge;** training providers are for the most part unconvinced that there is significant demand or even need for traditional building craft skills among either contractors or potential trainees, and there is perceived to be a basic **lack of interest among young recruits** towards pursuing careers in the construction industry outside the new build sector.
- The 30 training providers interviewed were selected from those involved in delivering traditional building craft skills who in some cases suggest having a high proportion of teaching staff with traditional building skills. It is reasonable to expect that most of the others have far fewer lecturers qualified in traditional building skills, and significant difficulties exist in **recruiting trained staff capable of teaching traditional building techniques.** This leads to colleges failing to provide, or in some cases actually cancelling, more specialised, high-level craft skills courses.
- High-level craft skills are assumed to be a **small and relatively unprofitable niche market,** and it is widely believed that trainees are more interested in new-build projects rather than the more specialised techniques needed for repair and maintenance work.
- Unless colleges are willing to provide courses and support for trainees likely to be inclined towards the acquisition of high-level craft skills, trainees will not enter the construction trades; and as long as they are not entering the sector, **providers will continue to get the impression that there is relatively little demand for such courses.**
- There is an urgent need to develop an **Advanced Construction Award (ACA)** in Heritage Skills, to enable colleges to deliver a progression award linked to the new Heritage Skills NVQ Level 3.

9.2 Recommendations

The findings of the research highlight the need to maintain and **enhance the NHTG coordinated approach** to increasing the demand for and supply of traditional building skills and training and development. In response to the above conclusions, the following are the main themes and actions which underpin the Skills Action Plan (see Section 10),

9.2.1 Key Themes

- **Without an active market,** it will remain difficult to persuade contractors, trainees and training providers that it is worth investing the time and effort to develop the skills and knowledge needed to work on traditional buildings, and to dispel widespread misconceptions about the need for and use of traditional building methods and materials.
- Without providing appropriate information, advice and guidance and education for private stockholders, there will be no way of **transforming the enormous latent demand** for traditional building skills into an active market.
- Similar but more specialised information needs to be provided to inform contractors of appropriate procedures to follow, with **standards of best practice developed** and widely disseminated.
- A unified **Accredited Heritage Building Contractors Register** is essential to coordinate demand for and supply of skills, and while liability issues need to be resolved, many private stockholders are desperate for information, which might include specialist independent advice provided in response to individual queries to further enhance the appeal and effectiveness of the information service.

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- Increased demand for traditional building craft skills will support **increased supply and training.**
- Training providers should be **encouraged to increase the content and level of traditional skills teaching on their construction courses,** and differentiate between traditional and modern building techniques in their teaching.
- Greater awareness is required on the need for traditional skills and the benefits of training and experience in these skills, including **appropriate training for generalists as well as higher level opportunities** for those who wish to specialise in this very significant area.

9.2.2 Key Recommendations

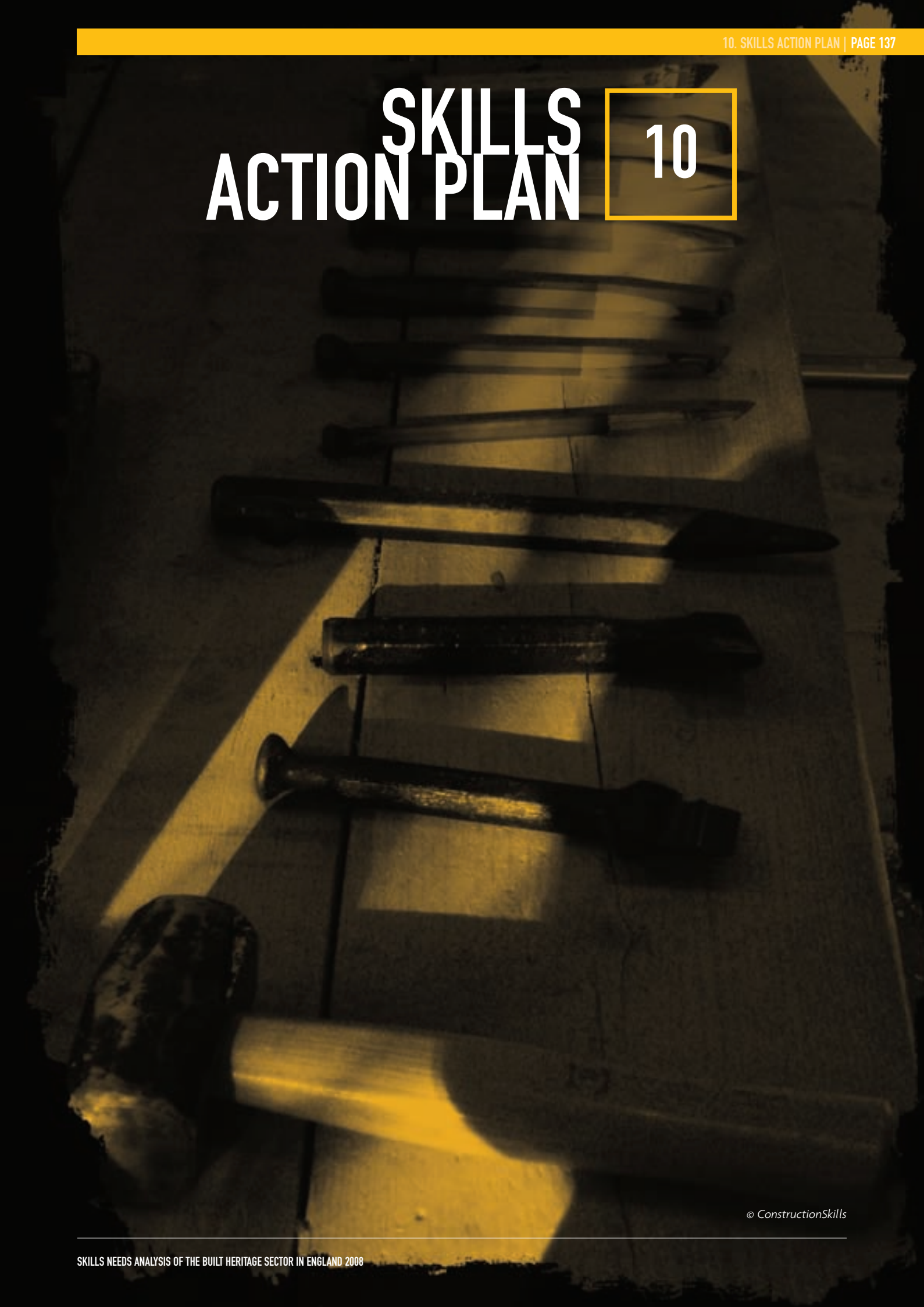
NHTG, ConstructionSkills and English Heritage as the lead partners in this field need to ensure that the following recommendations are implemented to continue the excellent work since 2005 in addressing training and skills development for the built heritage sector.

1. Continue to coordinate action and partnership involvement to tackle the issues involved in this report, and work to further improve cooperation between stakeholders and coherence in their approaches.
2. Focus on increasing informed demand among stockholders to help bridge the gap between the latent and actual demand for traditional building craft skills by implementing a marketing campaign to raise awareness among pre-1919 property owners on the importance of routine maintenance programmes and the use of traditional building methods and materials.
3. Coordinate the activities of major stakeholders to produce authoritative information, advice and guidance on appropriate conservation, repair, maintenance and restoration of pre-1919 buildings, with special attention on finding appropriate ways of meeting sustainability needs, and propose the use of traditional building skills and materials in developing innovative solutions to support this.
4. Establish a comprehensive, easily accessible, well-publicised 'one-stop' source of information where information on appropriate methods and materials for use on pre-1919 buildings can be made easily available for the public and construction trades – and craftspeople.
5. Continue to develop a unified register of appropriately qualified and experienced heritage building contractors and craftspeople for pre-1919 buildings.
6. Continue working to improve the image of the sector and ensure training providers, contractors and recruits are fully informed of the new Heritage Skills NVQ Level 3. This provides an appropriate qualification path for work on pre-1919 buildings and is linked to the CSCS heritage skills card for this sector of the construction industry.
7. Continue to inform colleges and training providers of the need, and growing demand, for traditional building craft skills, and thus the latent demand for training provision.
8. Work to ensure that some consideration of the repair and maintenance needs of traditional buildings is included in all general construction courses and qualifications.

9.3 Main Findings of the Report

	Demand	Skills Supply	Manufacturers and Suppliers	Training Provision
Findings	Around 5m pre-1919 buildings, including 0.5m listed buildings Increased expenditure since 2005 – repair and maintenance output now worth £4.7bn (£3.5bn in 2005), with £1.4bn on traditional building skills; will rise to £1.5bn by 2012 Average spending per building rising – large gap between actual and potential demand for traditional building craft skills Amount of grant available declining, especially as a result of increased funding pressures Variable knowledge and understanding among stockholders Perceived lack of necessity for using traditional materials and cost are principal factors preventing more extensive use of traditional materials Small stockholders experience great difficulty finding suitably qualified and/or experienced trades/craftspeople Levels of satisfaction with quality and completion times have declined considerably since the 2005 research	109,000 people employed on pre-1919 buildings in 2007, but only around 33,000 craftspeople actually equipped with the skills to work with traditional building materials 16,000 of the traditional building workforce required some form of traditional building skills training and 2,000 needed training in the use of traditional building materials, these figures are set to rise to 16,612 and 2,044 respectively in 2012 The vast majority working in this sector are general builders with only 8% of those interviewed describing themselves as conservation or heritage specialists Few contractors have difficulties finding subcontractors Recruitment remains challenging, with some 43% of contractors reporting it to be either fairly or very difficult; however, the situation has eased since 2005, with only 3% of contractors reporting long-term vacancies Most contractors prefer to recruit employees in need of some, but not extensive training Most contractors have high but at times unjustified confidence in their ability to work on traditional buildings Contractors have high confidence in employees' skills and knowledge, but rate skills slightly higher than knowledge Almost one-third of contractors expressed interest in the Heritage Skills National Vocational Qualification (NVQ) Level 3	Manufacturers and suppliers in this sector are highly specialised – almost all materials supplied are traditional Predominant materials supplied are lime plaster and mortars Materials often sourced from abroad Most manufacturers and suppliers believe demand for traditional materials has increased in recent years Manufacturers made low estimates of builders' knowledge and skills in using traditional materials – seen as an impediment to wider use of those materials Few manufacturers cited particular skills shortages or gaps, but saw employees' practical skills as superior to their knowledge A considerably larger proportion of manufacturers and suppliers than contractors preferred to recruit employees in need of extensive training Contractors report using far less traditional building materials than stockholders suggest, with lack of necessity cited for not using these more	Significant decline in number of contractors with employees in training, and slight decline in the number of apprentices FE sector remains primary source of training, with wood trades most numerous courses and roofing least Training providers employing more trainers (full- and part-time) than in 2005, and number of trainers per course fairly stable Training providers report only 37% of staff members able to teach traditional skills – confirms anecdotal picture in 2005 report Training providers feel that Training the Trainers programme would appeal to some of their staff but uptake would be difficult Over 50% of training providers lack faith in suitability of current mainstream construction NVQ's for work on pre-1919 buildings 50% of providers knew of the Heritage Skills NVQ Level 3 and almost 25% were preparing to run heritage/conservation-related courses or modules Enthusiasm for increased construction-related education in primary and secondary schools
Reasons	Culture of spending the least amount possible on repair and maintenance still exists Lack of knowledge among stockholders encourages inappropriate maintenance Strength of new build is discouraging contractors from taking on small jobs for domestic clients Difficulty of finding trades/craftspeople encourages stockholders to use inappropriate contractors	Contractors with only basic construction skills and a lack of understanding of traditional building methods and materials are working on pre-1919 buildings Some builders overestimate their own and employees' knowledge and skills Lack of specialist training and lack of information mean that builders are sometimes unaware of appropriate treatment for pre-1919 buildings	Traditional materials manufacture disrupted in England, and more consistent products available from Europe Some scarce materials only available from foreign sources, or are significantly cheaper because of greater supply abroad Stockholders and builders lack awareness of appropriate materials to use on traditional buildings Specialist firms train employees themselves because of lack of available relevant training Manufacturing workforce less mobile and more likely to stay with employer than construction workforce	Decreased difficulty with recruitment may be discouraging contractors from taking on apprentices Most construction-related NVQ frameworks meet needs of new build, rather than repair and maintenance sector Difficulty of sourcing trainers, materials and tools prevents providers from offering more traditional building skills courses Existing trainers lack time to attend supplementary training, such as Training the Trainers Many training providers perceive a lack of demand for specialist heritage training

SKILLS ACTION PLAN 10



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skills action plan

The key findings of this research were presented to the NHTG Executive Committee and other sector partners on 10 March 2008. These included contractors, trade federation representatives, training providers and building professionals who focused upon three key areas:

- deliberating upon, questioning and endorsing the findings of the research project
- discussing and agreeing solutions to address the key issues raised in the report
- contributing to and agreeing the Skills Action Plan.

The research was also peer-reviewed by members of the NHTG Executive, and this consultative process has remained a constant and central part of the NHTG Skills Needs Analysis research since 2005.

This Skills Action Plan embraces the twin aspects of providing an overarching national strategy to create a climate of shared information, advice and guidance for the benefit of the whole sector, and specific deliverable actions with performance measures and key milestones provided to enable progress to be monitored, re-evaluated and where necessary adjusted to meet changing needs. It responds to and provides a cohesive, long-term solution to the current skills issues identified in the report.

The immensely dedicated work by the NHTG, English Heritage, ConstructionSkills and many other sector partners since the 2005 report has provided an excellent foundation for maintaining momentum to achieve the key objective of providing a fully qualified workforce to undertake appropriate work on the wider built heritage sector – the more humble buildings as well as the landmark buildings and those protected as being of historic or architectural importance.

While the NHTG strategy and operational activities since 2005 have been very successful in reducing the skills shortage, it is essential now to concentrate upon closing the skills gaps to ensure that the workforce is properly equipped and versed in the understanding of traditional building methods and materials, and has the expertise, ability and judgement to carry out this work to the highest possible standard.

The Skills Action Plan provides a number of interrelated measures aimed at:

- stimulating client demand for traditional building skills and evidence of competence
- ensuring contractors and craftspeople in the supply chain have the required skills
- refining and improving the training infrastructure to meet current and future workforce demand.

This research has demonstrated contractors' preferred methods of recruitment, working and learning styles, which understandably places great emphasis on learning on the job. While acknowledging the crucial role the FE sector can play in delivering traditional building skills, considerable work needs to be done to better integrate this field into mainstream construction delivery, even through a module within a course unit. The two-way process of learning from all sectors of the construction industry must be further developed. Modern construction can learn from the past and, by bringing the two together, encourage respect for the evolution of the built environment.

The immediate challenge for the built heritage sector is to develop traditional building skills provision that incorporates site-based learning and ensures that the craftspeople and contractors are equipped to meet the construction industry expectation of a fully qualified and safety-aware workforce by 2010. Mechanisms exist to achieve both objectives and extend the current skills base, but as before this needs continued sector-wide partnership between government and its planning and funding agencies – English Heritage, ConstructionSkills, Proskills, heritage organisations and amenity societies, contractors, employers' groups, FE and private training providers – coordinated through the National Heritage Training Group.

We are confident that we can maintain progress towards providing an integrated long-term solution to overcome the current skills and knowledge gaps clearly identified in this report, but this requires combined resources in terms of funding, person hours, and thinking and planning.

The measures in the Skills Action Plan can be delivered and appraised singly, but it is essential that many are pursued collectively and read across to ensure coordination on a range of issues, from introducing traditional building skills at an early age in the school education, to matching client demand for skills with ensuring that a suitably skilled workforce is available, in the right place at the right time.

The partners identified in the action plan are those thought to be most appropriate to deliver the particular action. Most are already involved in this skills agenda, but others may need to be consulted regarding any resource implications for their organisations.

Addressing the issues

The Built Heritage Sector in England Skills Action Plan

Research Theme 1: Demand for Skills and Materials

Implement measures to stimulate demand for traditional building skills and materials.

1.1	HERITAGE CONTRACTORS REGISTER **Develop a unified Accredited Heritage Building Contractors Register for use by public and private stockholders, and in particular to provide consumer protection to homeowners when selecting a suitably experienced and competent contractor for pre-1919 building work**	
Action	**1.** NHTG Heritage Building Contractors Registration Working Group in conjunction with English Heritage, trade federations and trade unions to develop guidelines and selection criteria for a unified accredited register and by using existing registration schemes as sector models **2.** Achieve sector-wide support for the scheme, while recognising differences between different craft trades **3.** Promote the accredited register through the NHTG website and signposting to and from other related websites, including linking with the government TrustMark Scheme and including a marketing campaign	
Performance Measures	**2008:** Develop outline framework document with selection criteria for consultation with heritage bodies, trade federations and trade unions **2009:** Launch unified accredited register and promote the scheme through a marketing campaign	**Lead Partners:** NHTG with English Heritage, trade federations and trade unions **Scope:** UK-wide but with national and regional emphasis in England

1.2	INFORMATION, ADVICE AND GUIDANCE **Provide improved information, advice and guidance on conservation, repair, maintenance and restoration to clients and stockholders by making fuller use of existing information sources**	
Action	**1.** Scope extent of existing technical advice and information sources, and where necessary adapt for mass distribution to the public, for instance through English Heritage and The National Trust to their visitors and members, Heritage Lottery Fund, local authorities, City Heritage Trusts, heritage groups, and other home country partners **2.** Signpost information, advice and guidance sources between major stakeholders' websites to provide reliable, consistent advice in easily understandable language and manner of presentation **3.** Coordinate the activities of major stakeholders to produce authoritative guidance on appropriate ways of repairing, maintaining, conserving and restoring pre-1919 buildings, with particular attention to appropriate ways of meeting sustainability needs	
Performance Measures	**2008:** Complete scoping exercise to establish level and types of information required; commission writing and publication; develop strategy for dissemination **2008:** Establish protocol for signposting and sharing information between sector partners	**Lead Partners:** NHTG to provide coordinating role with English Heritage, The National Trust, Heritage Lottery Fund, local authorities, amenity groups, Historic Scotland, Cadw, Welsh Assembly Government and Department of the Environment Northern Ireland **Scope:** UK-wide

1.3	CLIENT DEMAND **Stimulate client demand for skills for all major built heritage projects to ensure the continued supply of suitable contractors and craftspeople**	
Action	**1.** Work with heritage organisations and major stockholders to continue to build upon gains made in introducing quality price weighting in public procurement procedures involving pre-1919 buildings, and develop a standard approach to include specifying level of skills required in project specifications **2.** Agree a Works & Training Contract framework with heritage organisations which can be used by the whole sector **3.** Explore the use of the City of Edinburgh procurement model requiring training provision and evidence of competence and qualification as part of tendering for major repair programmes **4.** Ensure that clients/stockholders are aware of and insist upon evidence of competence and safety-awareness through the ConstructionSkills Certification Scheme (CSCS) Heritage Skillscard for all built heritage sector work to comply with the construction industry objective of a fully qualified workforce by 2010	
Performance Measures	**2008:** Agree Works & Training Contract model for sector consultation **2008:** Produce and circulate CSCS Heritage Skills card information leaflet, and develop case studies for NHTG website of best practice among clients/stockholders to promote scheme **2009:** Monitor uptake of CSCS Heritage Skills cards and record a 50% increase in registrations from January 2008 figure	**Lead Partners:** NHTG with English Heritage, trade federations and trade unions **Scope:** UK-wide but with national and regional emphasis in England

1.4	LOCAL AUTHORITIES **Work more closely with local authorities to encourage the use of an appropriate skilled regional and local workforce for pre-1919 buildings, and provide guidance on this to private stockholders within their regions and localities**	
Action	**1.** In partnership with the Institute for Historic Building Conservation and other professional bodies, scope and develop improved information for conservation officers and planners on traditional building materials and traditional building skills **2.** Provide simple information, guidance and advice to building control officers to educate them on the approach to the built heritage in terms of its requirements for energy efficiency and building regulations **3.** Respond to the Heritage Protection reform and any ensuing future legislation to ensure that traditional building skills and materials are considered within delivery of advice and protection measures **4.** Develop a Traditional Building Skills Charter with local authorities to use their procurement processes to stipulate the use of skilled craftspeople and traditional building materials in pre-1919 building contracts, to address the latent demand for traditional building skills training and development for upskilling and qualifying general builders (Heritage Skills NVQ Level 3 and CSCS Heritage Skills card)	
Performance Measures	**2008:** Complete scoping exercise to establish level and types of information required for items 1 & 2, and develop strategy for production and dissemination **2008:** Monitor and respond to changes within the historic environment to the Heritage Protection reform, and record contributions to process in relation to traditional building skills and materials issues **2009:** Have established a local authority endorsed regional training programme for general builders in the nine English regions	**Lead Partners:** NHTG, Institute of Historic Building Conservation, English Heritage, ConstructionSkills, Asset Skills **Scope:** England-wide

1.5	FISCAL POLICY **Respond to fiscal policy to represent and lobby for a level playing-field in respect of the built heritage sector to stimulate client demand for skills and training**	
Action	**1.** Work to ensure that public funding levels for the built heritage sector are maintained **2.** Promote the value of Works & Training Contracts in delivering higher-quality projects and contributing to current and future skills supply **3.** Continue to lobby government to eliminate the current anomalies regarding VAT on listed buildings, which is a double tax and disincentive for property-owners and contractors/craftspeople	
Performance Measures	**2008:** Complete consultation with sector heritage organisations to use Works & Training Contracts for all historic building contracts	**Lead Partners:** English Heritage, Heritage Lottery Fund, NHTG, ConstructionSkills, Arts & Heritage All-Party Parliamentary Group **Scope:** England-wide

1.6	SUPPLY OF INDIGENOUS TRADITIONAL BUILDING MATERIALS **Increase awareness in planning authorities of the need to specify where possible traditional materials from England to stimulate demand for indigenous materials for local and regional use and in reducing the carbon footprint of the material supply-chain**	
Action	**1.** Promote the English Heritage Strategic Stone Survey as a means of matching demand and supply and controlled stone quarrying without adverse environmental impact, and disseminate to public bodies information on successful cases and technological advances in quarrying techniques and environmentally sensitive means of local stone extraction **2.** Encourage local authorities to see quarries as assets for stone supply for local and regional building needs to reduce extensive use of imported stone **3.** Improve the supply of home-grown and imported hard- and softwoods for repair of traditional buildings, and use the English Heritage Sustainable Timber Project as a means of matching demand and supply by planting suitable trees for future timber repair **4.** Work with Proskills to develop manufacturers and suppliers of traditional building materials to promote indigenous materials and product specifications and training	
Performance Measures	**2008:** Research started to explore and promote increased availability of traditional building material sources **2009:** Develop and use case studies in publications and websites to promote examples of best practice **2010:** Organise an international conference linking the built heritage skills and materials supply-chain to the sustainability, regeneration and innovation agenda to promote best practice	**Lead Partners:** English Heritage, English Stone Forum, NHTG **Scope:** England-wide

Research Theme 2: Supply of Skills and Materials

Ensure that contractors and craftspeople invest in training and skills development to respond to sector demand for a fully qualified and competent workforce, and assist their business to remain competitive.

<table>
<tr><td>2.1</td><td colspan="2">WORKS AND TRAINING CONTRACT
Develop a sector-wide Works & Training Contract framework for pre-1919 buildings</td></tr>
<tr><td>Action</td><td colspan="2">1. Promote the benefits of the Works & Training Contract framework to contractors and craftspeople to encourage them to invest in training and develop training plans for on-site training</td></tr>
<tr><td>Performance Measures</td><td>2008: Built heritage sector stakeholders consulted over draft Works & Training Contract framework
2009: Framework in operation and its benefits promoted to showcase best-practice models within the sector</td><td>Lead Partners: NHTG, English Heritage, Heritage Lottery Fund local authorities, Royal Institute for Chartered Surveyors (RICS)

Scope: England-wide</td></tr>
</table>

<table>
<tr><td>2.2</td><td colspan="2">QUALIFYING THE WORKFORCE
Increase awareness of the demand for training and skills development to achieve a fully qualified, competent and safety-aware built heritage sector workforce</td></tr>
<tr><td>Action</td><td colspan="2">1. Work with heritage contractors, employers' groups, trade federations, trade unions, heritage bodies, local authorities etc. to achieve a fully skilled, qualified and health and safety aware workforce in this sector by 2010
2. Work with other heritage bodies to follow the example of English Heritage in demanding the CSCS Heritage Skills card as a requirement to work on their pre-1919 properties and sites
3. Work with the livery companies and trade federations to market the Senior Craftsperson NVQ Level 4 leading to Master Crafts status following peer review by federations or livery companies to encourage less experienced practitioners to aspire to achieving a higher skills level</td></tr>
<tr><td>Performance Measures</td><td>2008: Develop consultation with other leading sector stakeholders to adopt English Heritage's lead on demand for CSCS Heritage Skills card
2009: Senior Craftsperson NVQ Level 4 available</td><td>Lead Partners: NHTG, English Heritage, Heritage Lottery Fund, Churches Conservation Trust, ConstructionSkills

Scope: England-wide</td></tr>
</table>

2.3	DEMAND FOR TRADITIONAL BUILDING SKILLS TRAINING **Increase demand for traditional building skills courses and training opportunities for contractors and craftspeople**	
Action	**1.** Continue to promote the Heritage Skills NVQ Level 3 and Senior Craftsperson NVQ Level 4 to stimulate demand for training and self-development, and review, adapt and respond to the need for improvements in existing qualifications to reflect employer demand **2.** Support training providers to actively publicise heritage- and conservation-related construction courses to tap into and meet latent demand **3.** Focus energy and resources on attracting those already working in the construction sector and career changers from other trades or professions to train and upskill to work in the built heritage sector	
Performance Measures	**2008:** Record 250 Heritage Skills NVQ Level 3 achievements **2009:** Record 400 Heritage Skills NVQ Level 3 achievements **2010:** Funding and placement providers in place to extend and expand the Traditional Building Skills Bursary Scheme for England and Wales beyond its current timescale	**Lead Partners:** NHTG, ConstructionSkills, English Heritage **Scope:** England-wide

2.4	FUNDING FOR SKILLS TRAINING **Make best use of current funding sources and improve future funding streams to assist contractors and craftspeople investing in and benefiting from training schemes**	
Action	**1.** Continue to ensure that traditional building skills training is on the regional Learning and Skills Council agenda and funding streams **2.** Through the Regional Heritage Skills Action Groups monitor and make best use of local, regional, national and international funding opportunities **3.** Expand and extend the Traditional Building Skills Bursary Scheme for England and Wales to fund work-based practical experience through placements with heritage building contractors **4.** Extend the system of bursaries to enable master craftspeople to travel and train around the UK and abroad	
Performance Measures	**2008:** Traditional building skills firmly embedded on regional iearning and Skills Council agenda and funding streams **2009:** Learning and Skills Council representatives maintain active role in regional Heritage Skills Action Groups **2010:** Funding and placement providers in place to extend and expand the Traditional Building Skills Bursary Scheme for England and Wales beyond its current timescale	**Lead Partners:** NHTG, ConstructionSkills, English Heritage, Society for the Protection of Ancient Buildings (SPAB) **Scope:** England-wide

2.5	CAREER PROGRESSION **Promote and develop career progression routes within the built heritage sector**	
Action	**1.** In partnership with the livery companies and trade federations deliver and expand the NHTG mentoring programme whereby experienced craftspeople pass on their skills and knowledge to less-experienced practitioners to allow them where possible to progress to Master Crafts status **2.** Promote the Senior Craftsperson NVQ Level 4 and Master Crafts status to provide a career path where supervisory and practical involvement are seen as equally important.	
Performance Measures	**2008:** Pilot mentoring scheme completed **2009:** Rolling programme of mentoring scheme firmly established and Senior Craftsperson NVQ Level 4 being delivered	**Lead Partners:** NHTG, Conference on Training in Architectural Conservation (COTAC), ConstructionSkills **Scope:** England-wide

2.6	MANUFACTURER AND SUPPLIER TRAINING **Improve the integration of training of manufacturers and suppliers of traditional building with traditional building skills training**	
Action	**1.** Work with Proskills and manufacturers and suppliers of traditional building materials to develop training for contractors, craftspeople and heritage training providers on the production and use of their materials **2.** Include manufacturers and suppliers in the delivery programme or in providing attendees on the NHTG Training the Trainers programme for FE college trainers	
Performance Measures	**2008:** Dialogue with Proskills and selected manufacturers established, and training programme outlined **2009:** Manufacturers and suppliers included in Training the Trainers programme or linked to regional Heritage Skills Action Group's training delivery	**Lead Partners:** NHTG, Proskills, ConstructionSkills **Scope:** England-wide

<table>
<tr><td>2.7</td><td colspan="2">INTERNATIONAL EXCHANGE
Maintain exchange of ideas on training and skills development with key stakeholders in the UK, Republic of Ireland and Europe</td></tr>
<tr><td>Action</td><td colspan="2">1. Ensure coordinated approach to delivery of skills action plans, and explore and promote as necessary European programmes for exchanges of personnel and experts between the respective countries
2. Use the regular meetings between the four home-country heritage bodies' chief executive officers to include updates on skills issues, and link to European counterparts' meetings</td></tr>
<tr><td rowspan="2">Performance Measures</td><td rowspan="2">2008: Develop links with other home countries, expand on work in the Republic of Ireland and develop links with European partners on traditional building skills training</td><td>Lead Partners: NHTG, ConstructionSkills</td></tr>
<tr><td>Scope: UK and Europe</td></tr>
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<table>
<tr><td>2.8</td><td colspan="2">PROMOTE TRADITIONAL BUILDING SKILLS IN SCHOOLS
Continue to promote careers information on traditional building craft trades within the school education system</td></tr>
<tr><td>Action</td><td colspan="2">1. Promote the positive image of the built heritage sector at a younger age by increasing interactive demonstrations by contractors and craftspeople within schools, at skills events or as part of historic environment and construction sector education and outreach programmes
2. Target information packs and skills events towards parents, career advisers, employment agencies etc. to highlight the potential for careers in traditional building skills to command a rewarding salary and career
3. Maximise distribution of the NHTG Careers in Conservation & Restoration brochure and the careers section of the NHTG website to educate potential entrants of the career possibilities within this sector
4. Through the Construction and the Built Environment Diploma and Young Apprenticeship in Construction include conservation, repair and maintenance (CRM) and traditional building skills input in vocational training in schools
5. Work more closely with Connexions and careers and recruitment agencies to provide information to students to attract new entrants and career changers to this sector</td></tr>
<tr><td rowspan="2">Performance Measures</td><td rowspan="2">2008: Increase marketing of careers information through ConstructionSkills and English Heritage Education Teams and NHTG website to map careers and job opportunities for craft trades
2008: Explore means of integrating CRM and traditional building skills into vocational training in schools
2009: Measure effect of careers promotion and skills events</td><td>Lead Partners: NHTG, ConstructionSkills, English Heritage</td></tr>
<tr><td>Scope: England-wide</td></tr>
</table>

Research Theme 3

Develop flexible training and Develop skills to meet the needs of contractors and craftspeople, and the skills requirements of the built heritage sector.

3.1	TRAINING DELIVERY **Continue to develop a framework and process for delivering flexible training provision**	
Action	**1.** Develop and promote a clear skills road map of all occupational levels on how to enter the construction industry and traditional buildings sector, and potential progression routes **2.** Support the provision of an accredited/approved suite of training provision from registration for the Heritage Skills NVQ Level 3 and Senior Craftsperson NVQ Level 4 to short training courses to meet sector and employers' needs **3.** Where necessary, create mobile training units on the basis of ConstructionSkills OSAT model and through the regional National Heritage Training Academy structure to deliver practical hands-on training	
Performance Measures	**2008:** Mapping of entry routes to construction and the built heritage sector, and career progression scoped **2009:** Employer demand for training scoped, training response assessed, and cost and means of delivery identified	**Lead Partners:** NHTG, ConstructionSkills **Scope:** England-wide

3.2	FE TRAINING **Increase the uptake of traditional building skills training within the FE college system**	
Action	**1.** Develop the Advanced Construction Award necessary for delivery of the Heritage Skills NVQ Level 3 by training providers, and promote this qualification to FE colleges and trade federations to encourage uptake and ensure that potential latent demand can be met **2.** Continue to upskill existing trainers to support delivery of the Heritage Skills NVQ Level 3 or conservation units/modules within the training environment **3.** Assist training and education partners to improve opportunities for craftspeople to develop routes from vocational training to higher education through appropriate building conservation foundation degree programmes	
Performance Measures	**2008:** Advanced Construction Award developed and have nine FE colleges linked into delivering the Heritage Skills NVQ Level 3 to adult workers **2008:** Foundation Degrees in Historic Building Conservation established at the Building Crafts College, London **2009:** Expand the NHTG Training the Trainers programme and distribute its related training materials **2010:** Heritage Skills NVQ Level 3 fully supported within FE colleges	**Lead Partners:** British Association of Construction Heads (BACH), NHTG, ConstructionSkills, training providers, Foundation Degree Forward, Learning and Skills Council **Scope:** England-wide

3.3	ON-SITE TRAINING **Respond to contractors' preference for on-site, practical training**	
Action	**1.** Through the Regional Heritage Skills Action Groups and trade federations establish the demand and level for on-site training from contractors and craftspeople **2.** Increase the training component of ConstructionSkills On-site Assessment and Training process to deliver on-site built heritage training to upskill and qualify the workforce, where possible linked to the National Skills Academies for Construction **3.** Match contractors to training providers with heritage skills expertise to develop local and regional training solutions for ongoing continuing professional development (CPD) **4.** Maintain linkages to the National Skills Academy for Construction (NSAfC) to integrate appropriate conservation and repair projects into this accredited on-site training to expand live site-based training opportunities for craftspeople and to ensure visibility of conservation, repair and maintenance within mainstream construction initiatives	
Performance Measures	**2008:** Scope demand for on-site training **2010:** Integrated on-site training provision established	**Lead Partners:** NHTG, ConstructionSkills **Scope:** England-wide

3.4	REGIONAL TRAINING **Ensure coordinated regional training delivery to provide regional solutions to regional demand by maximising the existing training infrastructure or developing new training where none exists**	
Action	**1.** Continue to promote and develop a National Heritage Training Academy in each of the nine English regions as a virtual network of training providers, facilitating information exchange and providing a source of specialised trainers **2.** Continue to support the ongoing development of the National Heritage Training Academy – South West and promote its achievements as a role model for the sector **3.** Help to secure regional funding for and continue to develop the regional Training the Trainers programme for trainers **4.** Continue to support regional Heritage Skills Action Groups to provide flexible regional training solutions	
Performance Measures	**2008:** Long-term funding secured for the National Heritage Training Academy – South West **2008:** National Heritage Training Academy – Yorkshire and the Humber launched, and framework and governance structure for other academies produced **2009:** Funding secured for Training the Trainers programme **2011:** Sustainable National Heritage Training Academies established in each of the nine English regions	**Lead Partners:** NHTG, ConstructionSkills, English Heritage **Scope:** England-wide

<table>
<tr><td>3.5</td><td colspan="2">COMBINED TRAINING OPPORTUNITIES
Rethink aspects of traditional building skills training and education to where possible share learning opportunities between craftspeople and building professionals</td></tr>
<tr><td>Action</td><td colspan="2">1. Exploit opportunities for shared training and education between building professionals, contractors and craftspeople through formal education routes, CPD skills events, short training courses, and on-site learning to increase cross-fertilisation
2. Expand NHTG mentoring programme to include building professionals
3. Support the development and delivery of on-site training for building professionals through the National Heritage Training Academies
4. Develop a Training the Experts programme for HE lecturers of built environment degrees to help integrate conservation as part of mainstream built environment degree courses</td></tr>
<tr><td rowspan="2">Performance Measures</td><td rowspan="2">2008: Combined learning for craftspeople and building professionals established
2009: Establish and deliver a pilot Training the Experts programme</td><td>Lead Partners: NHTG; ConstructionSkills; English Heritage; further education, higher education and private training providers; BACH</td></tr>
<tr><td>Scope: England-wide</td></tr>
</table>

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appendix

STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODES COVERED BY CONSTRUCTIONSKILLS

SIC 45	CONSTRUCTION
SIC 45.1	Site Preparation
SIC 45.11	Demolition and wrecking of buildings; earth moving
SIC 45.12	Test drilling and boring
SIC 45.2	Building of complete construction or parts; civil engineering
SIC 45.21/1	Construction of commercial buildings
SIC 45.21/2	Construction of domestic buildings
SIC 45.21/3	Construction of civil engineering constructions
SIC 45.22	Erection of roof covering and frames
SIC 45.23	Construction of motorways, roads, railways, airfields and sport facilities
SIC 45.24	Construction of water projects
SIC 45.25	Other construction work involving special trades
SIC 45.3	Building installation
SIC 45.32	Insulation work activities
SIC 45.34	Other building installation
SIC 45.4	Building completion
SIC 45.41	Plastering
SIC 45.42	Joinery installation
SIC 45.43	Floor and wall covering
SIC 45.44	Painting and glazing
SIC 45.45	Other building completion
SIC 45.5	Renting of construction or demolition equipment with operator
SIC 74	OTHER BUSINESS ACTIVITIES
SIC 74.2	Architectural and engineering activities and related technical consultancy
SIC 74.20/1	Architectural activities
SIC 74.20/2	Urban planning and landscape architectural activities
SIC 74.20/3	Quantity surveying activities
SIC 74.20/4	Engineering consultative and design activities
SIC 74.20/5	Engineering design activities for industrial process and production
SIC 74.20/6	Engineering related scientific and technical consulting activities
SIC 74.20/9	Other engineering activities

Source: UK Standard Industrial Classification of Economic Activities, 2003, Office for National Statistics.

Note: Asset Skills (the SSC for Property and Facilities Management) has a peripheral interest in SIC 74.2 Architectural and engineering activities and related technical consultancy.

ConstructionSkills shares an interest in SIC 45.31 Installation of electrical wiring and fittings and SIC 45.33 Plumbing with SummitSkills (the SSC for the Mechanical and Electrotechnical Services), SIC 14.1 Quarrying of stone, SIC 20.3 Manufacture of builders' carpentry and joinery, SIC 26 Manufacture of other non-metallic mineral products, SIC 28.11 Manufacture of metal structures and parts of structures, and SIC 28.12 Manufacture of builders' carpentry and joinery metal with Proskills (Sector Skills Council for the coatings, extractives, glass, building products and printing industries)

Notes

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www.nhtg.org.uk

www.english-heritage.org.uk

www.constructionskills.net/research

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