

Building professions, trades and occupations: call for evidence (questions)

Structure

This call for evidence is structured in five parts, based on core stages in the lifecycle of a building:

- Pre-design
- Design and specification
- Construction
- Occupation and maintenance (including small scale works and alterations)
- Cross-cutting issues, themes and challenges

Respondents are invited to provide evidence on areas most relevant to their area(s) of focus and expertise. We are aware that a number of professions, trades and occupations play a role in more than one of these stages, and that duty holder roles (as set out in Part 2A of the Building Regulations 2010) are defined throughout building work. Nevertheless, the stages of the building lifecycle provide a practical framework to structure this evidence-gathering exercise. There is no expectation that respondents will complete all questions.

For each stage we are seeking evidence on six key themes. Respondents are encouraged to provide real-world examples and quantitative evidence wherever possible to support their response, and to give particular consideration to equality, diversity, inclusion and access as they relate to your responses. Please clearly identify any information that is commercially sensitive or otherwise unsuitable for wider disclosure:

- **Skills, knowledge, experience and capability**, and the extent to which individuals and organisations are typically able to demonstrate necessary competence and capability. This includes whether organisations are able to recruit and retain staff with the necessary competence.
- The key drivers of **behaviours, conduct and culture**, and how these influence performance and decision-making. This incorporates the impact of business, financial and legal operating models, commercial incentives (including insurance arrangements) and cultural norms, as well as how individual roles can set a lasting tone across an entire project.
- The degree to which **accountability and personal responsibility** are understood and applied by individual and corporate actors at all stages of the building process.

- How the existing **system infrastructure** for education and training, competence and regulation and oversight work to incentivise and enable appropriate ways of working.
- Critical **interdependencies** across the building lifecycle, including how different roles work together and the way in which actions or choices taken at one stage can influence or constrain subsequent choices and behaviours downstream
- **Practical actions** for reform and the main barriers to success.

Respondents are also asked to consider the section on cross-cutting themes alongside their specific area(s) of practice. This seeks additional evidence on the overall system, including cross-cutting functions (such as planning, building control, inspection and enforcement); the role of sector bodies and regulators; emerging technologies and changing practice; and wider comparators and learning.

Call for evidence

Sections 1-4: No questions

Section 5: Call for evidence

You are invited to provide evidence on areas most relevant to your area(s) of focus and expertise. There is no expectation that you will complete all the questions in the call for evidence.

Section 5a: Pre-design

Please ensure you have read the relevant section of the call for evidence document before answering these questions.

When answering these questions, please provide real-world examples and quantitative evidence wherever possible to support your response. You may cross-refer between answers, where applicable. Where information provided is commercially sensitive or otherwise not suitable for wider publication, please make sure this is clearly marked.

Question 1

What types of skills, knowledge and experience are needed to carry out pre-design work?

Please consider what individual competence and organisational capability is required and where these may vary across different types of building or project. We are interested in the range of skills, functions and roles at this stage e.g. technical,

financial, legal, commercial or management skills, knowledge and experience. You do not need to list detailed technical skills and requirements for specific roles, unless this is helpful to support your response.

Pre-design work requires a broad range of skills, knowledge and experience spanning technical, commercial, legal and project delivery disciplines. Core technical expertise includes civil and structural engineering, mechanical and electrical engineering, utilities, environmental and ecological assessment, ground surveying, transport planning, flood risk management, and health and safety design coordination, including the Principal Designer role under Construction (Design and Management) (CDM) Regulations.

Alongside technical knowledge, successful pre-design activities depend on strong project management and communication skills to coordinate stakeholders, manage programmes and budgets, and ensure that projects remain deliverable and aligned with client objectives. Commercial, financial and legal expertise is essential to assess viability, manage risk, navigate regulatory requirements, and establish appropriate governance arrangements. Professional accreditation and chartered status can provide assurance of competence in certain areas, particularly where specialist technical judgement, design sign-off or regulatory compliance is required.

Question 2

In your experience, where are the most material gaps in skills, knowledge, and experience in the pre-design phase?

In the experience of our members, the most significant gaps in the pre-design phase relate to the integration of skills, disciplines and information at an early stage of project development. Organisations do not always have access to the full range of expertise required during pre-design, resulting in gaps in technical knowledge, commercial understanding and strategic decision-making.

A recurring concern is insufficient collaboration and communication between clients, designers, delivery teams and other stakeholders. Limited early involvement of the supply chain can reduce understanding of buildability, while poor coordination between disciplines can lead to risks and constraints being identified too late in the process. There is also a need for stronger systems thinking and risk-based decision-making, particularly in relation to complex or highly regulated projects.

Technical competency gaps exist in some areas, such as the application of regulatory requirements to design proposals. Examples include a lack of understanding of emergency access, fire service requirements and access regulations, particularly where public realm or streetscape changes are proposed. Greater awareness of these requirements, clearer guidance, and increased involvement of appropriately qualified professionals is key.

Question 3

Overall, how consistently do you think the skills, knowledge and experience necessary in the pre-design phase are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☒ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 4

What most influences behaviour and decision-making when carrying out pre-design work?

Please consider both positive and negative influences on behaviour and decision-making for individuals and organisations. For example, mandatory reporting requirements, different types of insurance requirements; conflicts of interest; business, financial or legal operating models; commercial incentives or pressures; competence; cultural norms or expectations; accountability and regulation; or other factors.

Behaviour and decision-making during the pre-design phase are influenced by a combination of commercial, regulatory, organisational and professional factors. Commercial considerations play a significant role, with the likelihood of securing planning approval often affecting the extent to which developers and promoters are willing to invest in specialist advice, studies and design development. It is also important that future maintenance needs are fully considered at the design stage, ensuring that infrastructure is designed to enable maintenance to be undertaken efficiently and effectively throughout its life.

Governance and regulatory frameworks also strongly shape decision-making. The clarity and consistency of applicable standards and guidance can influence both the quality of and confidence in decisions, with more regulated disciplines often benefiting from clearer decision-making frameworks than areas where guidance is less well defined.

The competence, knowledge and experience of those involved are important determinants of behaviour. Where individuals have strong technical expertise and a good understanding of risks, regulations and project objectives, decision-making is more likely to be informed and robust. Conversely, where requirements are open to interpretation or rely heavily on professional judgement, decisions may be influenced by personal experience, prevailing industry trends or subjective perceptions of good practice.

Organisational culture, the availability of reliable data and risk information, and the extent of collaboration between disciplines also have a significant impact. Effective

Question 5

Overall, how consistently do you think the positive behaviours and decision-making necessary in the pre-design phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☒ Fairly inconsistently

☐ Very inconsistently

Question 6

What benefits are there when individual and organisational roles, responsibilities and accountability are clearly defined, understood and applied during the pre-design stage?

Please consider what positive impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation playing the role of client or the nature, scale or complexity of the building project.

Clearly defined, understood and consistently applied roles, responsibilities and accountability during the pre-design stage can deliver significant benefits for project outcomes. They help to ensure that individuals and organisations understand their duties, decision-making authority and expected contributions, leading to improved coordination, more effective collaboration and greater confidence among stakeholders.

Clear accountability supports better governance and decision-making by ensuring that risks, design assumptions and key project decisions are appropriately reviewed, challenged and approved. This can reduce the likelihood of errors, omissions and late-stage changes, improving both project quality and safety. Formal review and sign-off processes have an important role to play, with transparent records of who prepared, checked and approved work helping to strengthen accountability and maintain professional standards.

Where responsibilities are clearly allocated, projects can progress more efficiently, with fewer delays arising from uncertainty, duplication of effort or gaps in ownership. This can improve programme certainty, accelerate planning and approval processes, and support more consistent delivery outcomes.

The benefits are particularly evident where clients take a long-term interest in project outcomes, including design, construction and operation. In such cases, clear roles and responsibilities can help ensure that risks, costs and operational considerations are properly understood and addressed from the outset, leading to more informed decisions and better overall project performance.

Question 7

What challenges are there in defining, understanding or delivering these roles, responsibilities and accountability during the pre-design stage?

Please consider what negative impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation playing the role of client or the nature, scale or complexity of the building project.

Key challenges in defining, understanding and delivering roles, responsibilities and accountability during the pre-design stage include unclear or overlapping responsibilities, inconsistent governance arrangements, and uncertainty over who has decision-making authority. These issues can be compounded by the involvement of multiple stakeholders, leading to slower decision-making and reduced accountability.

Individuals making decisions without the necessary technical knowledge, qualifications or delivery experience can result in impractical solutions, increased costs and rework. In addition, limited baseline data and uncertainty around planning outcomes can make it difficult to assess risks, costs and programme implications effectively.

Question 8

Overall, how consistently do you think roles, responsibilities and accountabilities are clearly defined, understood and applied in the pre-design phase?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☒ Fairly inconsistently
- ☐ Very inconsistently

Question 12

Does the current system of (a) education and training, (b) competence standards and frameworks, and (c) regulation and oversight, effectively incentivise and enable appropriate skills, behaviours, accountability and quality of work at the pre-design stage?

Please include real-world examples to support your responses, including where you think there are currently material gaps in provision.

- (i) Education and training

- (i) Competence standards and frameworks
- (i) Regulation and oversight

The current system of education and training, competence standards and frameworks, and regulation and oversight provides an important foundation for establishing minimum standards, supporting professional accountability, and promoting consistent approaches to competence. Frameworks operated by professional institutions, Engineering Council registration standards, and competency-based professional review processes all contribute positively to raising standards across the sector. For example, both UK-SPEC and the Common Training and Professional Practice (CTPP) framework require applicants to demonstrate not only technical competence, but also professionalism, communication and leadership capabilities.

However, there is an opportunity to further strengthen how these systems incentivise and enable the skills, behaviours and accountability required at the pre-design stage. While professional qualifications and competence frameworks provide a valuable baseline, they do not always fully capture the practical, integrated and collaborative capabilities needed to support effective decision-making in complex real-world contexts. In particular, there remains a need to better embed cross-disciplinary working, systems thinking and shared accountability across professional boundaries.

The behaviours required at the pre-design stage are strongly influenced by organisational culture, leadership and the structures within which professionals operate. Competence frameworks can support expectations around professional practice, but consistent application of these principles also depends on how organisations encourage collaboration, challenge assumptions and promote effective governance. Greater alignment between professional institutions, education providers and industry could help strengthen these capabilities and ensure that collaboration and cross-disciplinary oversight are embedded more consistently.

As the nature of the built environment and infrastructure challenges evolves, there is also a need to ensure that education, training and competence frameworks continue to address emerging areas of capability. This includes skills relating to data and digital approaches, systems integration, climate resilience, sustainability, and the ability to manage uncertainty and long-term impacts at the earliest stages of decision-making. Strengthening these areas, alongside existing technical competencies, will help ensure professionals are equipped to deliver the outcomes required from effective pre-design processes.

Question 13

Overall, how effective do you think the current system for skills, competence, regulation and oversight, is at incentivising and enabling appropriate skills, behaviours, accountability and quality of work in the pre-design stage?

- ☐ Very effective
- ☐ Fairly effective
- ☐ Neither effective nor ineffective
- ☒ Fairly ineffective
- ☐ Very ineffective

Question 14

Which actions, behaviours and decisions at the pre-design stage most influence subsequent stages of the building lifecycle, and which support or undermine effective transition into the design stage?

You may wish to consider how people and organisations do, can and should work together effectively across the different stages of the building lifecycle. Please include practical examples of where actions and relationships have worked effectively or ineffectively.

Decisions at pre-design stage most strongly influence later stages when they are made early, collaboratively and with clear visibility of scope, risk and delivery constraints. Early optioneering, integrated working across disciplines, and involvement of people with delivery expertise (including contractors and supply chain) help to facilitate buildable, coordinated solutions and support a smoother transition into detailed design.

In contrast, siloed working, limited consideration of risk and buildability, and decisions made without sufficient technical or delivery input tend to create misalignment, rework and inefficiencies in later stages. Poor baseline information and weak survey data further restrict effective progression, while fragmented handover of design intent between organisations can lead to loss of understanding and repeated rework.

Question 16

Thinking about the issues raised in your responses to questions 1-14, what practical changes or actions would make the biggest difference to how pre-design work is carried out?

Please consider who should lead the changes you identify (including individuals, organisations, sector groups and government/statutory bodies), what practical next steps are required (including non-regulatory actions) and key barriers to implementation. Suggestions can draw on previously identified recommendations that have not been implemented, or on good practice that could be consolidated; they do not need to be new.

Earlier and more integrated collaboration between clients, designers, contractors and regulators, ideally including supply chain input, is the most effective way to improve decision-making, align planning with delivery, and reduce inefficiencies.

Strengthening competence and accountability is likewise crucial. Key roles (including designers, transport planners and engineers) should require chartered status or equivalent competence to sign off work, ensuring appropriate technical authority and responsibility. Professional Indemnity insurance makes the designer more responsible in delivering a safe design proposal during the pre-design stage.

Likewise, the sector needs to reform in planning and regulatory processes, including clearer requirements at application stage and improved capability within decision-making bodies, to reduce inconsistency and improve the quality of outcomes.

Question 17

Of the actions listed in your response to question 16, which one change or action would you prioritise to deliver the greatest impact?

CIHT believes that ensuring higher, more consistently enforced professional competence in decision-making roles is key.

Section 5b: Design and specification

Please ensure you have read the relevant section of the call for evidence document before answering these questions.

When answering these questions, please provide real-world examples and quantitative evidence wherever possible to support your response. You may cross-refer between

answers, where applicable. Where information provided is commercially sensitive or otherwise not suitable for wider publication, please make sure this is clearly marked.

Question 18

What types of skills, knowledge and experience are needed to carry out design and specification work?

Please consider what individual competence and organisational capability is required and where these may vary across different types of building or project. We are interested in the range of skills, functions and roles at this stage e.g. regulatory knowledge, procurement, commercial or collaboration skills. **You do not need to list detailed technical skills and requirements for specific roles, unless this is helpful to support your response.**

Design and specification work requires a broad, integrated mix of technical, managerial, commercial and collaborative capabilities.

Core technical expertise spans disciplines such as civil and structural engineering, mechanical and electrical engineering, architecture, drainage, digital engineering modelling, data-driven analysis, ecology and environmental design, with input from contractors to ensure buildability. This multidisciplinary knowledge is essential to produce coordinated, safe and compliant designs.

In addition to technical competence, strong regulatory, legal and compliance knowledge is required to ensure designs meet applicable standards and statutory requirements. Commercial and procurement awareness, including cost planning and value considerations, is also important to align design decisions with project objectives and constraints.

Effective delivery further depends on strong collaboration and managerial skills, enabling coordination across multi-disciplinary teams, management of interfaces, and engagement with clients and stakeholders. Strong written and oral communication skills are particularly important in ensuring that information, decisions and requirements are clearly understood and effectively communicated throughout the project lifecycle. Digital and data-driven decision-making capabilities are becoming increasingly important in supporting informed, efficient design development.

Question 19

In your experience, where are the most material gaps in skills, knowledge, and experience in the design and specification phase?

Key gaps in the design and specification phase relate to translating technical designs into coordinated, buildable solutions. A common issue is the gap between qualifications and practical delivery experience, including weaknesses in systems thinking, interface management and supply chain integration, which can lead to inefficiencies and rework. Gaps in digital capability and data literacy can likewise present challenges.

Specific technical gaps are also evident, particularly in applying regulatory requirements such as access, fire safety and emergency service provisions in complex public realm and landscape-led schemes. In some areas, insufficient understanding of core constraints (e.g. ground conditions in civil engineering) further affects design quality.

Question 20

Overall, how consistently do you think the skills, knowledge and experience necessary in the design and specification phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☒ Fairly inconsistently
- ☐ Very inconsistently

Question 21

What most influences behaviour and decision-making when carrying out design and specification work?

Please consider both positive and negative influences on behaviour and decision-making for individuals and organisations. For example, regulatory and planning context; brief quality; procurement routes; commercial incentives and fee structures; or other factors.

Behaviour and decision-making in design and specification work are primarily influenced by a combination of client requirements, regulatory frameworks, commercial pressures and professional judgement.

A clear and well-defined client brief is a key driver of quality outcomes, while poor or incomplete requirements can lead to uncertainty, inefficiency and sub-optimal design decisions. Regulatory and planning requirements, along with highways and safety standards, also strongly shape design choices, particularly where compliance is tightly controlled. However, in some areas such as public realm and landscape design, less prescriptive guidance can result in greater reliance on professional interpretation and subjective judgement.

Commercial factors, including fees, cost constraints and procurement routes, further influence decisions, sometimes leading to value-driven outcomes but also, in some cases, encouraging cost-led or overly conservative (overdesigned) solutions driven by risk management concerns. The availability and quality of data and risk information also play an important role in shaping the confidence and direction of design decisions.

Question 22

Overall, how consistently do you think the positive behaviours and decision-making necessary in the design and specification phase are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☒ Fairly inconsistently
- ☐ Very inconsistently

Question 23

What benefits are there when individual and organisational roles, responsibilities and accountability are clearly defined, understood and applied during the design and specification stage?

Please consider what positive impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking design and specification work or the nature, scale or complexity of the building project.

Clearly defined roles, responsibilities and accountability during the design and specification stage improve coordination, decision-making and overall design quality. This definition reduces errors, risk and rework by ensuring clear ownership of design development, review and sign-off, while strengthening trust and collaboration between stakeholders. This clarity also supports more structured governance and safer, more reliable outcomes, particularly on complex projects where multiple parties must align technical and delivery requirements.

Question 24

What challenges are there in defining, understanding or delivering these roles, responsibilities and accountability during the design and specification stage?

Please consider what negative impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking design and specification work or the nature, scale or complexity of the building project.

Key challenges include unclear or overlapping responsibilities across multiple organisations, particularly on complex projects with many interfaces. Variable client capability and leadership, along with inconsistent governance, can further weaken clarity and lead to fragmented decision-making. Risk transfer behaviours, where clients seek to shift responsibility, can also undermine balanced accountability and create tension between parties.

Question 25

Overall, how consistently do you think roles, responsibilities and accountabilities are clearly defined, understood and applied in the design and specification phase?

☐ Very consistently

☒ Fairly consistently

☐ Neither consistently nor inconsistently

☐ Fairly inconsistently

☐ Very inconsistently

Question 29

Does the current system of (a) education and training, (b) competence standards and frameworks, and (c) regulation and oversight effectively incentivise and enable appropriate skills, behaviours, accountability and quality of work at the design and specification stage?

Please include real-world examples to support your responses, including where you think there are currently material gaps in provision.

() Education and training

() Competence standards and frameworks

() Regulation and oversight

Whilst the current system provides an important foundation for technical competence, safety and compliance, professional qualifications, training pathways and competence frameworks play a valuable role in establishing expectations for professional practice and supporting accountability across the sector. They provide a recognised baseline of knowledge and capability, and help ensure that practitioners meet established standards.

However, there is an opportunity to further strengthen how these systems support the collaborative, delivery-focused behaviours needed at the design and specification stage. In particular, formal qualifications and competence frameworks do not always fully reflect the practical application of skills in complex project environments, where effective outcomes depend on systems thinking, collaboration across disciplines, communication and shared decision-making.

Key areas for further development include ensuring greater emphasis on demonstrated competence in practice alongside formal qualifications; strengthening the development of collaboration and systems-thinking skills and supporting more consistent capability across organisations involved in design review and assurance, including local authorities. Greater alignment between professional institutions, education providers and industry could help ensure that practitioners are equipped not only with technical expertise, but also with the behaviours and capabilities needed to deliver effective, integrated outcomes.

Question 30

Overall, how effective do you think the current system infrastructure for skills, competence, regulation and oversight is at incentivising and enabling appropriate skills, behaviours, accountability and quality of work in the design and specification stage?

- ☐ Very effective
- ☐ Fairly effective
- ☐ Neither effective nor ineffective
- ☒ Fairly ineffective
- ☐ Very ineffective

Question 31

Which actions, behaviours and decisions at the design and specification stage most influence subsequent stages of the building lifecycle, and which support or undermine effective transition into the construction stage?

You may wish to consider how people and organisations do, can and should work together effectively across the different stages of the building lifecycle. Please include practical examples of where actions and relationships have worked effectively or ineffectively.

Key influences on the transition into construction are clear scope definition, integrated multidisciplinary design reviews, early contractor and supply chain involvement, and strong client support for collaborative working.

In contrast, fragmented design ownership, poor communication, and lack of early consideration of construction issues (e.g. access, servicing, fire safety and logistics) often lead to late changes, redesign and delays. Weak coordination when designs change hands further undermines outcomes.

Question 33

Thinking about the issues raised in your responses to questions 18-31, what practical changes or actions would make the biggest difference to how design and specification work is carried out?

Please consider who should lead the changes you identify (including individuals, organisations, sector groups and government/statutory bodies), what practical next steps are required (including non-regulatory actions) and key barriers to implementation. Suggestions can draw on previously identified recommendations that have not been implemented, or on good practice that could be consolidated; they do not need to be new.

The greatest improvements to design and specification work would come from earlier, mandated multidisciplinary integration across clients, contractors and regulators, supported by aligned incentives, clearer governance and stronger competence frameworks based on demonstrated capability.

Allowing more time for proper design development and risk resolution, rather than progressing too quickly into construction, is important. Clearer accountability for design decisions and improved collaboration between local authorities and delivery organisations are likewise key.

Question 34

Of the actions listed in your response to question 33, which one change or action would you prioritise to deliver the greatest impact?

The single most impactful change is mandating early and continuous integration of design, delivery and supply chain teams within a single accountable model, ensuring all decisions are aligned to buildability, risk and whole-life performance from the outset.

Section 5c: Construction

Please ensure you have read the relevant section of the call for evidence document before answering these questions.

When answering these questions, please provide real-world examples and quantitative evidence wherever possible to support your response. You may cross-refer between answers, where applicable. Where information provided is commercially sensitive or otherwise not suitable for wider publication, please make sure this is clearly marked.

Question 35

What types of skills, knowledge and experience are needed to carry out construction work?

Please consider what individual competence and organisational capability is required and where these may vary across different types of building or project. We are interested in the range of skills, functions and roles at this stage e.g. project and site management, quality management and inspection, on-site enforcement, mandatory reporting requirements, procurement and supply chain management, commercial and contract management. **You do not need to list detailed technical skills and requirements for specific roles, unless this is helpful to support your response.**

Construction work requires a combination of technical competence and strong practical delivery skills, underpinned by effective collaboration and communication across all parties involved in project delivery.

The ability to work collaboratively and communicate effectively is critical, although these skills can be weakened by contractual and commercial risk pressures. Strong cost awareness is also a key factor influencing decision-making on site, with cost control and fee constraints playing a significant role in how construction work is carried out.

Question 36

In your experience, where are the most material gaps in skills, knowledge, and experience in the construction phase?

Key gaps in the construction phase relate to poor coordination between designers, contractors and the supply chain, and difficulty translating design intent into consistent on-site delivery.

Inconsistent quality management and supervision, weak project management capability, and fragmented interfaces can lead to errors, rework and reduced right-first-time delivery. Design change management during construction is also a recurring issue, particularly where oversight is insufficient as responsibility transfers between parties.

Question 37

Overall, how consistently do you think the skills, knowledge and experience necessary in the construction phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☒ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 38

What most influences behaviour and decision-making when carrying out construction work?

Please consider both positive and negative influences on behaviour and decision-making for individuals and organisations. For example, contractor decision making; supply chain structure and subcontractor fragmentation; the interaction of programme delivery and design information; site conditions; quality assurance and inspection. competence; cultural norms or expectations; or other factors.

Behaviour and decision-making in construction are primarily driven by cost and fee pressures. Collaboration and communication are also important but are often constrained by contractual and commercial risk management frameworks, which can reduce effective coordination on site.

Question 39

Overall, how consistently do you think the positive behaviours and decision-making necessary in the construction phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☒ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 40

What benefits are there when individual and organisational roles, responsibilities and accountability are clearly defined, understood and applied during the construction stage?

Please consider what positive impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking construction work or the nature, scale or complexity of the building project.

Clearly defined, understood and applied roles, responsibilities and accountability help project teams work collaboratively towards successful project delivery. They improve communication, decision-making and coordination, ensure appropriate oversight and sign-off, enhance quality and safety, reduce errors and risk-taking, build trust between stakeholders, and support more efficient construction outcomes.

Question 41

What challenges are there in defining, understanding or delivering these roles, responsibilities and accountability during the construction stage?

Please consider what negative impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking construction work or the nature, scale or complexity of the building project.

Challenges in defining, understanding and delivering roles, responsibilities and accountability during construction include unclear allocation of duties across contractors and subcontractors, fragmented supply chains, contractual and commercial pressures, variable levels of competence in site leadership and supervision, and changing site conditions or design information. These factors can create confusion over accountability, lead to inconsistent decision-making, reduce quality and safety performance, increase rework and delays, and weaken trust between project stakeholders.

Question 42

Overall, how consistently do you think roles, responsibilities and accountabilities are clearly defined, understood and applied in the construction phase?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☒ Fairly inconsistently
- ☐ Very inconsistently

Question 46

Does the current system of (a) education and training, (b) competence standards and frameworks, and (c) regulation and oversight, effectively incentivise and enable appropriate skills, behaviours, accountability and quality of work at the construction stage?

Please include real-world examples to support your responses, including where you think there are currently material gaps in provision.

- () Education and training
- () Competence standards and frameworks

(i) Regulation and oversight

The current system of education and training, competence standards and frameworks, and regulation and oversight provides an important foundation for safety, compliance and competence during the construction stage. Established vocational routes, professional qualifications and competency frameworks provide valuable mechanisms for developing skills, supporting career progression and maintaining professional standards across the sector. For example, professional institutions such as CIHT contextualise UK-SPEC for engineers working in the highways and transport sector, including through specialisms such as infrastructure planning, design, construction and maintenance for Chartered Engineer (CEng) and Incorporated Engineer (IEng) pathways.

However, there are ongoing challenges in ensuring that the system consistently delivers the skills, behaviours and accountability required in practice. Skills shortages across both the trades and site management, alongside an ageing workforce and the need to attract and retain new entrants, create pressures on capability and capacity. In addition, frequent changes to the skills system, funding arrangements and training pathways can create uncertainty for employers, apprentices and learners, making it more difficult to plan workforce development and invest confidently in future skills.

While existing competence frameworks establish important minimum requirements and expectations, there is an opportunity to strengthen how they support consistent application of standards, effective supervision, and accountability throughout the supply chain. Ensuring that competence is demonstrated in practice, alongside formal qualifications and training, will remain important in achieving high-quality outcomes.

Areas for further improvement include maintaining clear and stable vocational pathways, improving access to training and professional development, strengthening capability in key inspection and sign-off roles, and supporting more consistent implementation of competence frameworks across organisations. These measures would help address workforce challenges, improve quality and accountability, and support right-first-time delivery.

Question 47

Overall, how effective do you think the current system infrastructure for skills, competence and regulation and oversight is at incentivising and enabling appropriate skills, behaviours, accountability and quality of work in the construction stage?

- ☐ Very effective
- ☐ Fairly effective
- ☐ Neither effective nor ineffective
- ☒ Fairly ineffective
- ☐ Very ineffective

Question 51

Thinking about the issues raised in your responses to questions 35-47, what practical changes or actions would make the biggest difference to how construction work is carried out?

Please consider who should lead the changes you identify (including individuals, organisations, sector groups and government/statutory bodies), what practical next steps are required (including non-regulatory actions) and key barriers to implementation. Suggestions can draw on previously identified recommendations that have not been implemented, or on good practice that could be consolidated; they do not need to be new.

The biggest improvements to how construction work is carried out would come from greater collaboration between clients, contractors, regulators and the wider supply chain, supported by clearer accountability, stronger site leadership and more effective quality assurance processes. Practical measures could include consistent competence-based assessment, improved validation of skills and experience, greater use of digital tools to support quality control and sign-off throughout construction, and commercial arrangements that incentivise quality rather than solely programme and cost performance. Addressing barriers such as fragmented supply chains, inconsistent capability, regulatory constraints and delivery pressures would help improve accountability, reduce defects and support higher-quality outcomes.

Question 52

Of the actions listed in your response to question 51, which **one** change or action you would prioritise to deliver the greatest impact?

CIHT recommends strengthening accountability and quality assurance throughout the construction process through improved site leadership, competence-based assessment and more robust digital sign-off procedures. Bringing contractors into projects earlier would support better planning and collaboration, while ensuring that work is inspected and signed off by suitably competent individuals at each stage would improve quality, safety and accountability. A more transparent, digitally enabled approach to verification and sign-off would help reduce defects, clarify responsibilities and support more consistent construction outcomes.

Section 5d: Occupation and maintenance

Please ensure you have read the relevant section of the call for evidence document before answering these questions.

When answering these questions, please provide real-world examples and quantitative evidence wherever possible to support your response. You may cross-refer between answers, where applicable. Where information provided is commercially sensitive or otherwise not suitable for wider publication, please make sure this is clearly marked.

Question 53

What types of skills, knowledge and experience are needed to carry out occupation and maintenance work?

Please consider what individual competence and organisational capability is required and where these may vary across different types of building or project. We are interested in the range of skills, functions and roles at this stage e.g. facilities management and operations, asset and lifecycle management, procurement, data and digital management, resident or occupier engagement (where relevant). **You do not**

need to list detailed technical skills and requirements for specific roles, unless this is helpful to support your response.

Occupation and maintenance work requires a combination of facilities and operations management expertise, asset and lifecycle management capability, and strong regulatory and safety knowledge. It also relies on digital and data management skills to maintain asset performance information, alongside effective procurement and supply chain coordination and strong stakeholder and occupier engagement. These capabilities must be supported by organisational systems that ensure ongoing compliance, performance monitoring, and continuous improvement across the asset lifecycle.

Question 54

In your experience, where are the most material gaps in skills, knowledge, and experience in the occupation and maintenance phase?

The most material gaps in the occupation and maintenance phase are in consistent asset data management and digital capability, whole-life asset management expertise, and effective integration between delivery and operations teams, with knowledge often fragmented across organisations and not fully embedded for long-term performance optimisation.

Question 55

Overall, how consistently do you think the skills, knowledge and experience necessary in the occupation and maintenance phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☒ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 56

What most influences behaviour and decision-making when carrying out occupation and maintenance work?

Please consider both positive and negative influences on behaviour and decision-making for individuals and organisations. For example, the transition between the construction and occupier teams; facilities management resource; regulatory compliance; performance in occupation; cultural norms or expectations; or other factors.

Behaviour and decision-making during the occupation and maintenance phase is primarily influenced by the quality of handover information and the transition from construction, the availability of asset data, regulatory compliance requirements, and performance and lifecycle cost pressures. It is also shaped by the capability and culture of facilities management and operations teams. Together, these factors can either enable proactive, data-driven asset management or result in reactive, short-term decision-making where information, ownership, or accountability is unclear.

Question 57

Overall, how consistently do you think the positive behaviours and decision-making necessary in the occupation and maintenance phase, are demonstrated in practice?

- ☐ Very consistently
- ☐ Fairly consistently
- ☒ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 58

What benefits are there when individual and organisational roles, responsibilities and accountability are clearly defined, understood and applied during the occupation and maintenance stage?

Please consider what positive impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking the work or the nature, scale or complexity of the building project.

Clearly defined roles, responsibilities, and accountability during the occupation and maintenance stage enable proactive asset management and improve performance, safety, and compliance. They also strengthen collaboration and behavioural consistency across operators and the supply chain. This helps build trust in the system, particularly for complex assets where long-term performance and stakeholder outcomes depend on coordinated and accountable delivery.

Question 59

What challenges are there in defining, understanding or delivering these roles, responsibilities and accountability during the occupation and maintenance stage?

Please consider what negative impacts this has on e.g. project delivery, behaviour and conduct and trust in the system. You should consider the influence of contributory factors such as the type of person or organisation undertaking the work or the nature, scale or complexity of the building project.

Challenges include fragmented ownership between operators, asset owners, and supply chain partners, inconsistent quality and completeness of asset information at handover, variable capability within facilities management teams, and a lack of clarity over long-term accountability. These issues can lead to reactive maintenance, inefficiencies, compliance risks, and reduced trust. The impacts are particularly significant for complex or long-life assets, where responsibilities span multiple organisations and lifecycle stages.

Question 60

Overall, how consistently do you think roles, responsibilities and accountabilities are clearly defined, understood and applied in the occupation and maintenance phase?

- ☐ Very consistently
- ☐ Fairly consistently
- ☐ Neither consistently nor inconsistently
- ☐ Fairly inconsistently
- ☐ Very inconsistently

Question 64

Does the current system of (a) education and training, (b) competence standards and frameworks, and (c) regulation and oversight, effectively incentivise and enable appropriate skills, behaviours, accountability and quality of work at the occupation and maintenance stage?

Please include real-world examples to support your responses, including where you think there are currently material gaps in provision.

- ☐ Education and training
- ☐ Competence standards and frameworks

(i) Regulation and oversight

The current system establishes an important foundation for compliance and safety through education, training, regulation and professional competency frameworks. These frameworks play a valuable role in defining expectations for professional practice and supporting accountability across the infrastructure lifecycle. For example, CIHT contextualises the Engineering Council's UK-SPEC requirements for engineers working in the highways and transport sector through specialisms including infrastructure planning, design, construction and maintenance for Chartered Engineer (CEng) and Incorporated Engineer (IEng) pathways. This supports practitioners in demonstrating competence not only through knowledge and qualifications, but through the application of skills and behaviours in practice.

However, there is an opportunity to further strengthen how the system incentivises proactive asset management, integrated lifecycle thinking and data-driven approaches. While existing frameworks provide an important baseline, challenges remain in ensuring that these capabilities are consistently developed and applied across operators, clients and supply chain partners. In particular, there are ongoing gaps in digital capability, the quality and consistency of information handover, and the long-term accountability needed to support effective asset performance throughout the lifecycle.

Further alignment between competency frameworks, organisational practices and industry needs could help ensure that professionals are equipped with the technical, digital and collaborative capabilities required to manage assets effectively over the long term. Strengthening these areas would support better decision-making, improved resilience and more sustainable outcomes across the infrastructure lifecycle.

Question 65

Overall, how effective do you think the current system infrastructure for skills, competence and regulation and oversight is at incentivising and enabling appropriate skills, behaviours, accountability and quality of work in the occupation and maintenance stage?

- ☐ Very effective
- ☐ Fairly effective
- ☒ Neither effective nor ineffective

- ☐ Fairly ineffective
- ☐ Very ineffective

Question 69

Thinking about the issues raised in your responses to questions 53-65, what practical changes or actions would make the biggest difference to how occupation and maintenance work is carried out?

Please consider who should lead the changes you identify (including individuals, organisations, sector groups and government/statutory bodies), what practical next steps are required (including non-regulatory actions) and key barriers to implementation. Suggestions can draw on previously identified recommendations that have not been implemented, or on good practice that could be consolidated; they do not need to be new.

The greatest impact would come from clients, asset owners and regulators mandating structured digital handover and lifecycle data standards with clear long-term accountability for asset performance, supported by integrated facilities management capability and aligned incentives.

Barriers include legacy systems, fragmented ownership and lack of consistent data maturity across organisations.

Question 70

Of the actions listed in your response to question 69, which one change or action you would prioritise to deliver the greatest impact?

The single most impactful action would be mandating consistent, standardised digital handover and lifecycle data requirements at asset completion, ensuring accurate information, clear accountability and effective long-term asset management from day one.

Section 5e: Cross-cutting issues, themes and challenges

Please ensure you have read the relevant section of the call for evidence document before answering these questions.

When answering these questions, please provide real-world examples and quantitative evidence wherever possible to support your response. You may cross-refer between

answers, where applicable. Where information provided is commercially sensitive or otherwise not suitable for wider publication, please make sure this is clearly marked.

Question 71

How well do directors, managers or other senior officers/staff meet their legal responsibilities as senior officers of organisations delivering dutyholder functions?

Directors, managers and other senior officers demonstrate a reasonable level of leadership and awareness of their duties as dutyholders. However, performance is not consistent across the sector. In some cases, particularly within parts of the public sector, capability constraints, resource pressures and difficulties in retaining experienced staff can limit effective delivery of these responsibilities. More broadly, the extent to which senior officers meet their obligations varies depending on organisational maturity, governance structures and the complexity of the projects involved. This can result in inconsistent application of legal duties, with risk management and accountability sometimes influenced by commercial pressures and concerns about blame rather than being fully embedded in decision-making.

Question 73

What role do existing sector bodies and regulators play in supporting and assuring individuals' skills, knowledge, experience, behaviours and accountability and organisational capability?

Please provide specific details, as appropriate. You may wish to consider how effective is current provision and whether there are gaps in current leadership and oversight.

Existing sector bodies and regulators play an important role in setting standards, defining competence requirements and providing assurance through guidance, training and qualification frameworks. For example, as a charity and learned society, the Chartered Institution of Highways and Transportation (CIHT) contributes to research, policy guidance and the development of industry standards, while also supporting members through professional qualifications such as CEng, IEng, EngTech and CTPP, continuing professional development, and access to professional network that helps to advance transport infrastructure and services.

Question 75

How are emerging technologies or changing practices shaping how people and organisations work across the building lifecycle, and what are the greatest barriers to adopting new technology?

Please consider where technology and other innovations are supporting skills, knowledge, behaviours, conduct and accountability, including transparency and trust. Equally, where barriers such as skills, cost or data limit wider adoption.

Emerging technologies such as digital design tools, modelling, data platforms, AI-enabled analysis and integrated asset management systems are increasingly enabling more data-driven, transparent and collaborative ways of working across the building lifecycle. These tools have the potential to improve decision-making, tracking of progress, evidence gathering and accountability, while supporting more efficient project and asset delivery.

However, adoption remains inconsistent and the full benefits are not yet being realised. Key barriers include limited investment and weak incentives across both public and private sectors, alongside cost pressures related to time, systems and IT infrastructure. In addition, challenges such as inconsistent digital skills, fragmented data standards, legacy systems and cultural resistance to change continue to slow uptake and limit integration across organisations and supply chains.

Question 76

To what extent are individuals and organisations able to access effective education, training and development to enable them to keep pace with emerging technology, innovation and changing practice?

Access to education, training and development to enable individuals and organisations to keep pace with emerging technology is improving through digital platforms, competency frameworks and industry initiatives. Larger organisations are generally better able to invest in upskilling, while SMEs and parts of the supply chain often face barriers such as cost, time and limited access to practical, role-relevant training. Tools such as the CIHT Learn platform (<https://www.ciht.org.uk/ciht-learn-1/>) offer self-paced, on demand learning experiences, built specifically for highways and transportation professionals and organisations.

However, access remains uneven across the sector. Skills shortages, workforce pipeline challenges and concerns about the affordability and consistency of education and qualification routes can limit capability development, with some individuals progressing into senior roles without sufficient technical grounding.

Question 77

Are there examples of good practice from other sectors or countries in relation to the themes raised in this call for evidence, that we should consider in developing a new strategy for the built environment professions, trades and occupations?

Other sectors and countries demonstrate good practice through mandated digital standards (e.g. BIM), integrated lifecycle delivery models, advanced use of digital twins and data-driven asset management, and strong leadership-led safety cultures, all of which drive improved collaboration, transparency, performance and whole-life outcomes.

Question 78

Based on your experience of previous attempts at reform, what are the three most important insights or considerations we should seek to reflect in designing a new strategy for the built environment professions, trades and occupations?

You may wish to include consideration of particular actions or risks to avoid.

There is a need to strengthen end-to-end accountability across the lifecycle of projects. Existing arrangements are often seen as fragmented, with limited clarity beyond high-level frameworks such as CDM, and a reliance on stage-based sign-offs rather than continuous, clearly assigned responsibility. A more integrated, lifecycle-based approach with clearer and more enforceable accountability is needed.

Second, reform should move beyond accreditation-led compliance towards demonstrated, behaviour-based competence assessed in real project environments. This would help ensure that skills, knowledge and behaviours are evidenced in practice rather than assumed through qualifications alone and would reduce variability in on-site capability and decision-making.

Third, sustained improvement depends on stable pipelines of work and stronger support for SMEs, alongside consistent client and regulatory leadership. Addressing barriers to entry, reducing fragmentation in procurement, and ensuring aligned incentives would enable organisations to invest in skills, capability and innovation, supporting more effective and resilient delivery across the sector.

Question 79

Are there any other final points you wish to make which are not captured elsewhere in your response to this call for evidence?

Lasting improvement will only be achieved through a more integrated, outcome-focused approach to the built environment, rather than adding further layers of policy or compliance. This approach must align behaviours, incentives, competence and data across the full lifecycle, and move away from fragmented, project-by-project delivery.