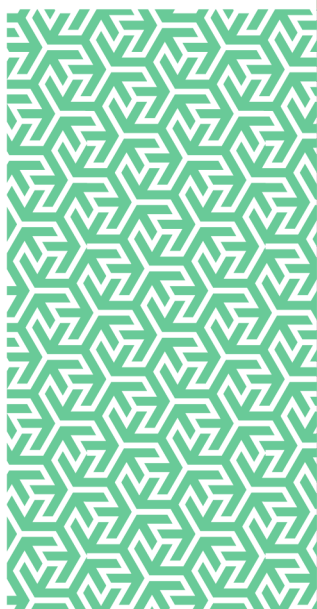




Risk control

Competency of Structures Inspectors



In partnership with



Competency of Structures Inspectors

Introduction

Bridges and other highway structures are of fundamental importance to society as they form essential connections within the highway network.

Highway structures represent a significant investment and often feature prominently within local environments. It is therefore in the public interest to prevent highway structures from deterioration in a way that compromises safety and the functionality of the highway network. Inadequate maintenance can lead to restrictions or closures caused by unsafe structures.

A regular inspection programme should create opportunities for the early identification of any required remedial work, and if done so in a timely manner, will allow for the effective management of risk and the minimisation of associated maintenance costs through early intervention.

In order to ensure the risks posed by highways structures are effectively managed, it is imperative that those performing inspections are fully competent for the task.

The Highways Act 1980

The Highways Act 1980¹ sets out the main duties of Highway Authorities in England and Wales. In particular, Section 41 imposes a legal duty on Highway Authorities to maintain the highways that are maintainable at the public's expense.

In Scotland, similar duties are placed upon Roads Authorities by the Roads (Scotland) Act 1984².

The majority of bridges are maintainable at the public's expense.

Well-Managed Highway Infrastructure – Code of Practice

The management of bridges is addressed within the Well-Managed Highway Infrastructure – Code of Practice (2016)³ (The Code).

The types of highway structure covered by the Code included those located within the boundaries of the highway or which otherwise materially affect it and include footbridges, cycle route bridges, bridleway bridges, accommodation bridges, occupation bridges, subways, underpasses and culverts.

Section C.5.4.4 of the Code specifies competences that a bridge inspector should have and include knowledge of:

- Structures types and elements / behaviour of structures
- Inspection processes
- Defect descriptions and causes

- Investigation and testing
- Repair techniques

The Code goes on to state that the primary objective of the inspection, testing and monitoring regime should be to minimise risks to public safety, provide sufficient data for management and make effective use of resources. The techniques used within the regime, and frequencies at which they are applied, should be determined by a formal risk assessment process.

LANTRA Bridge Inspector Certification Scheme (NHSS 31) and CS 450 Inspection of Highway Structures

The Highways England publication 'CS 450 Inspection of Highway Structures'⁴ (formerly BD 63/17) was published in 2021, and provides significant detail on how the inspection of structures should be approached.

Appendix B of CS 450 provides 'Details of Inspector Core Competencies'. The content is of significant size and covers competence specifications for a wide range of elements including: Introduction to inspections; Structure types / behaviour of structures; Inspection process; Defect descriptions and causes; Investigation and testing; Repair techniques; and General aptitude.

In addition, consideration should also be given to the LANTRA Bridge Inspector Certification Scheme (NHSS31)⁵. It is an international certification scheme for bridge inspectors. The scheme is operated on behalf of the UK Bridges Board and the Irish National Roads Authority, and is supported by the Bridge Owners Forum. The scheme maintains the support of the Department of Transport.

In their own words, LANTRA describe the benefits of this new scheme to include:

- Proof of competence. This scheme will result in clarity of the experience and skills required by bridge inspectors, for Inspectors and Senior Inspectors. This will assist bridge owners with the specification of skills required, both internally and externally
- Formalisation of knowledge and experience required by inspectors. This will result in effectively trained inspectors and hence improved levels of consistency in undertaking inspections, capturing defects, more informative and accurate inspection reports and interpretation of results
- The ability to better prioritise limited maintenance budgets as a result of greater consistency in the recommendations from bridge inspections

- An increase in the profile / standing of bridge inspectors via the introduction of a nationally recognised scheme. The different levels of competence would also provide a structured path for career progression, which would assist in staff retention and long-term capture of vital knowledge
- Transferrable skills - Increased flexibility for organisations in moving inspection staff around and sharing them with other sectors
- A structured approach to promote continued learning of bridge inspectors. Up to date developments and innovation within the industry can be identified where relevant for use in inspections.

The Bridge Inspector Certification Scheme covers detailed competencies around the inspection of common structure forms and materials, focusing largely on bridges, retaining walls and culvert assets constructed from masonry, steel and concrete, as well as awareness of other less common materials and assets.

Achieving Competence

It should be recognised that the previously mentioned guidance, training programme and associated certification scheme are not strict legal requirements, however, they may represent best practice standards to which Highway Authorities, Roads Authorities, and Bridge Inspectors should aspire to in order to satisfy the legal requirements placed upon them.

If organisations seek to establish competence of their Bridge Inspectors by other means, then it is incumbent upon them to ensure that the means which they adopt are clear, robust, reliable, consistent and are designed to meet the legal requirements placed upon them.

Competence is not purely acquired through training. The Health and Safety Executive define competence as: “the combination of training, skills, experience and knowledge that a person has and their ability to apply them to perform a task safely”⁶. Therefore, any competency frameworks developed in the context of bridge inspections should consider and address the wider definition of competence as put forward above.

Highway Authorities and Roads Authorities should be encouraged to conduct comprehensive risk assessments of their approach to the inspection and maintenance of bridges and other highway structures, and ensure that all elements of their approach, including competency frameworks, training programmes and other methods for attaining competency are developed and fully documented.

Any rationale for not utilising the LANTRA training and certification scheme or other best practice codes should also be carefully considered and fully documented as these decisions may be tested in a Court of Law at some

future time if the competency of the relevant inspector is tested.

References

- 1 The Highways Act 1980. HM Government. Available at: <https://www.legislation.gov.uk/ukpga/1980/66>
- 2 The Roads (Scotland) Act 1984, HM Government. Available at: <https://www.legislation.gov.uk/ukpga/1984/54/contents>
- 3 The Well-Managed Highway Infrastructure – Code of Practice (2016). UK Roads Liaison Group. Available at: <https://www.ciht.org.uk/ukrlg-home/code-of-practice/>
- 4 CS 450 Inspection of highway structures. Highways England. Available at: <https://www.standardsforhighways.co.uk/search/c5c2c3e5-f7f3-4c94-8254-184e41ccd1a0>
- 5 The LANTRA Bridge Inspector Certification Scheme (NHSS31). LANTRA Awards. Available at: <https://www.lantra.co.uk/national-highways-sector-schemes-nhss/bridge-inspectors>
- 6 What is Competence? Health and Safety Executive. Available at: <https://www.hse.gov.uk/competence/what-is-competence.htm>

Further information

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