

## **Proposal to be agreed by the UK Roads Board**

IHE proposes that it set up a Highway Inspectors Board with the formal endorsement of the UK Roads Board to implement the Leics CC report. The scheme and the Board to be included in the updates or guidance to *Well Maintained Highways*.

The scheme will use the Highway Inspectors' role definition and training framework set out in *Well Maintained Highways* – see overleaf.

### **The Highway Inspectors Board**

The purpose of the Board will be to operate and manage a UK Highway Inspector training and certification scheme. It would not be a provider.

#### **The Board terms of reference to be:**

1. To set and monitor national standards for Highway Inspector training and assessment
2. To approve centres providing training and certification
3. To maintain an IHE register of certified His who have been trained and assessed by approved centres.

Centres will be both established training providers listed in the Leicestershire CC Report and local authorities and companies who train in-house.

#### **The Highway Inspectors Board membership to be:**

- 4 IHE members
- 4 Nominees, from ADEPT, SCOTS, Highways Agency and NI\*
- A Chairman

(\* Other organisations would be encouraged to nominate members to a Moderator Panel both to receive Board meeting papers and to assist in approving centres.)

## Scope

### 1. Highway Inspector Role

The Highway Inspector role is defined as follows:

*“Highway Inspectors carry out inspections to identify all defects likely to create danger or serious inconvenience to use/s of the network or the wider community. Identified defects are reported and prioritised according to local policy guidance.” (WMH Section 9.2.2)*

### 2. Highway Inspector Training (extracts from WMH)

The proposed scheme follows WMH: A Practical Guide to Appendix C: Section 9.2.2:

“If the council is to provide evidence which is to be used in court, it is important to be able to demonstrate that the individuals who operate the inspection and recording system are adequately trained.

Training should cover the supervisor on the ground through to senior officer level.

Each individual must be aware how their input to the claims process is important.

It will be necessary to demonstrate that the training has taken place, and suitable records should be kept. “

	Training should include: <b>Highway Inspectors</b>	<b>Claims Investigators</b>	<b>Claims Processors</b>	<b>Senior Staff</b>
Well Maintained Roads - Code of Practice for Highway Maintenance Management	O	O	O	O
Local Inspection Policy Procedures and Guidelines	O	O	O	O
Safety at Street Works and Road Works: A Code of Practice	O	O	A	A
Defect recognition	O	O	O	A
Highway Law and Administration	O	O	A	O

Measurement and Materials recognition	O	O	A	A
Claims Investigation	A	O	A	A
Court Proceedings	O	O	A	O
Tree condition awareness	O* (If qualified Arboriculturist)	A	A	A

O = Operational competence – fit to practice

A = Awareness

#### **4. Centre Approval**

Several national and regional centres are accredited by Awarding Bodies such as City & Guilds and LANTRA. IHE approval would respect, not duplicate, that accreditation and would largely review the course content and testing regime.

For local centres which are not accredited, IHE would expect quality management systems to be in place alongside the measures set out in the LCC Report. The Board would conduct an initial visit to approve resources, trainers, observe a course etc. Approved centres would be asked to submit an annual report for review and be subject to a visit normally after three years.

The approval fee will be £200.00.

#### **5. Highway Inspector Register**

Certificates would be issued through approved centres by IHE at a cost of £20 (Section 4.5).

Certified Highway Inspectors would be entered on a national register renewable after 5 years subject to a refresher course and test from an approved centre. The Register would be publicly available.

## **6. Career Progression**

Technicians with a National Certificate, relevant NVQ3 or an equivalent level 3 qualification can take the standard Professional Review to gain Engineering Technician.

Regardless of their academic attainment and based solely on their knowledge and performance gained by experience, other Senior HIs will be able to use the Individual Route to EngTech registration once they have gained the required responsibility level. The Individual Route includes a local interview to test that Engineering Council competence levels are attained and is offered by most relevant institutions including ICE and IHE.

IHE will match the HI competence definitions against the Engineering Council Statements of Competence and Commitment to aid progression under the Individual Route.

## **7. Highways Safety Inspectors' assessed Competence**

### **Provisional Learning Outcomes of approved courses to be tested by Centres**

At the end of the course candidates will be able to:

1. Recognise the risks when working on the highway and identify and employ the measures required to maximise both personal safety and that of other highway users.
2. Define, prepare and write a dynamic Risk Assessment.
3. Name explain and employ the national code of practice that governs safe working on the highway
4. Identify and apply those sections of the Code of Practice for Highways Maintenance Management that relate to Highway Safety Inspection.
5. Identify and apply any variations between the Code of Practice for Highways Maintenance Management and local policies, practices and procedures.
6. Recognise and demonstrate knowledge of the relevant sections of any act or legislation that relate to Highway Safety Inspection
7. Recognise and demonstrate knowledge of the local documentation and records that relate to Highway Safety Inspection and employ relevant systems
8. Define the types of highway defects that can cause accidents to highway users and potential claims against the highway authority.
9. List any other parties who can be responsible for defects in the highway.
10. Recognise and explain the importance of and reasons for accurate record keeping.
11. Name the national indicators used to monitor local authority performance.
12. Name and identify the construction types that can be found during a Safety Inspection.
13. Recognise the elements of the highway that can be found during inspection, and explain their function.
14. Identify and assess defects, which are likely to create danger or serious inconvenience to users of the highway network.

15. Identify and determine the party liable for repair of the defects found during a safety inspection.
16. Analyze and assess the significance of defects found during a safety inspection.  
Identify the correct measurement equipment required for safety inspection
17. Measure the safety defect(s) identified to them

It is recommended that HIs keep a learning log.

### **Provisional Outcomes tested by a practical test**

Candidates should be able to correctly:

1. Select the correct measurement equipment required
2. Measure the safety defect(s) identified to them
3. Correctly identify defects
4. Report the defects correctly using local systems

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# Highway Inspector Competency Standards

Final report of Leicestershire County Council concluding the recommendations for Highway Inspector Competency Standards for and on behalf of the Institute of Highway Engineers (IHE).

April 2010

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**Appendices: (Available on request)**

Appendix A	Copy of draft report delivered February 2010
Appendix B	External Quality Advisors (Form Ref: IHE001)
Appendix C	Original brief as prepared by the IHE
Appendix D	Leicestershire County Council's submission (June 2009) in response to the brief.

## 1. Introduction

Leicestershire County Council (LCC) in August 2009, were appointed by the then Institution of Highway and Incorporated Engineers (IHIE) to assist in the creation of National Standards for highway inspector training and to make recommendations that would establish these standards.

Objectives:

1. To create benchmark learning outcomes for UK highway safety inspector training and for training providers.
2. To create a learning and competence framework up to EngTech level.
3. To create benchmark standards for the assessment of inspectors competence.
4. To identify procedures for the management, monitoring and audit of the scheme.

A draft report was submitted to members of the Institute of Highway Engineers (IHE) on 25th February 2010 (a copy of which is attached at Appendix A) which included outline information with regard to these objectives, and this completed report further clarifies the requirements by expanding that information.

This report concludes recommendations of Leicestershire County Council with regard to the core competencies, training and assessment processes and auditing of the scheme which the IHE will be responsible for administering.

Appendix B is a form which may be used for training provider external visits on behalf of the IHE. The External Quality Advisors Report Form was created at the request of the secretary of the IHE during the meeting on 25th February 2010.

## **2. Course Content Recommendations**

### **2.1 Extended Core Competencies**

To enable any training scheme to progress, core competencies have to be established. This report expands on the basic requirements of the 7 core competencies for highway inspector training as agreed on 25<sup>th</sup> February 2010.

#### **1. Highway Law & Administration**

##### Brief History of course / Programme Requirements

- Comfort Issues / Centre requirements for conduct
- Awarding body confirmation, paperwork and certification
- Appeals processes and testing or pass rate

##### Maintenance Responsibilities

- Maintaining the Highway (Who)
- Understanding how and why inspections are carried out
- Section 81 – NRSWA, Reporting apparatus to Utilities
- Public Rights of Way – involvement / communication

##### Highways Act 1980 Sections 41 & 58; Roads (Scotland) Act 1984 Sections 1 & 2; Article 8 of the Roads (Northern Ireland) order 1993

- Understanding of relevant sections of the highway law to ensure integrity of highway authority remains
- Section 41a – Ice & Snow
- Issues relating to Drainage, Trees & Environment
- Other Defences (Act of God, Act of Third Party, Contributory Negligence, Volenti non fit injuria – Claimants own risk)

##### Powers / Duties - Permits & Licences

- Powers and duties in relation to highways act
- Section 130 – Duty to Assert & Protect
- Issuing of permits and licences in accordance with the local policies (skips, scaffolding etc...)
- Road Space Booking / High Speed Road Permits (local roads)
- Traffic Management Act 2000 (Section 6)
- Traffic Reduction Act 1997 (Section 2)
- Road Traffic Act 1988 (Section 39)
- Section 175 – Road Works
- Warning signs and notices

##### Hierarchy / Inventory

- Understanding road, cycle and footway hierarchy and inventory in accordance with local and particularly the Code of Practice

#### Traffic Sensitive Streets

- Rat runs, local area congestion, diversions and closures
- NRSWA 1991
- Collaborative working (during closures and diversions)

#### Disability Discrimination Act

- Section 175 – Road Works (regard for disabled persons and blind during works)
- Awareness of consideration for Disabled users in planning stages
- Section 19 – Duty not to discriminate
- Direct and indirect discrimination

#### Enforcement (Highway or PROW)

- Awareness of policies and protocol behind enforcement for highways matters
- Police and Criminal Evidence Act (PACE)

#### Past Court Cases

- Important cases that define court ruling – such as –
  - Gorringe v Calderdale MBC – House of Lords 2004
  - Tommy Francis King v DETR
  - Goodes v East Sussex County Council
- Lord Denning – “Perfection is not the standard.....”
  - Littler v Liverpool Corporation 1968

## **2. Codes of Practice**

#### Well Maintained Highways

- Understanding reasons behind for Code of Practice and complimentary guidance documentation
- Associated literature, Highways Risk & Liability Document
- Asset & Network Management
- Winter Maintenance
- Adverse weather conditions (wind speeds, flooding etc.)
- Training for Highway Inspectors
- Risk Management

#### Safety at Street Works & Road Works (Red Book)

- PPE, onsite personnel
- Risk Assessments
- Highway Users needs (vehicles, pedestrians, cyclists, horses etc)
- Temporary Traffic Management (Types)
- Understanding communications through warning signs and notices
- Sequence of events for installation and removal of traffic management

#### Traffic Signs Manual - Chapter 8

- Introduction and basic understanding of Chapter 8
- Terminology (Must, Should, May etc..)
- Changes in chapter 8 requirements (old book to now)

#### Local Policies

- How local policies are adapted, changed and confirmed in conjunction with national guidance
- Timing of works (holiday periods)
- Public Transport needs / Liaison with related organisations

### **3. Health & Safety Responsibilities**

#### Health & Safety at Work Act 1974

- Duty of care for self and others
- Health, Safety & Welfare of employees
- PPE & Manual Handling issues
- Supervision, Instruction & Training

#### Risk Assessment

- Risk assessment of inspector role(PPE, H&S etc)
- Risk associated with inspections routes / areas
- Risk Rating of works to be completed (Speed of road, junctions, CDM)
- Site Survey / Works restriction

#### Hazard Recognition

- Risk probability of defect
- Understanding defects and related hazards (Defective gully, hazard associated – flooding, aquaplane)

#### Control Measures

- PPE
- Vehicle signage (livery)
- Training / Guidance Manual or Documentation
- H&S onsite

#### Safe Working Practices

- Dynamic Risk Assessment
- Manual handling issues
- Sharps & needle stick injuries
- Health & Safety Executive

## **4. Inspection Policies & Procedures**

### Local Policies & Procedures

- Local Health & Safety Policies
- Inspection Policies & Procedures

### Inspection Frequency

- National Guidelines
- Local requirements / policies
- Categories (national and local standards)

### Response Times

- Local response times (Eg: 2 hours, 24 hours, 7, 28 days etc...)

### Repair Processes

- Emergency repairs
- Associated timelines
- Select most appropriate method of repair

### Record Keeping

- Recording and monitoring
- Detailed information
- Archived information (in case of claims)

### Inspection records / data systems

- Training on local systems (Hand Held / Written Reports)
- Importance of accurate input

## **5. Defect & Hazard Recognition**

### Construction Defects

- Types
- Causes
- Most suitable method of remedial action

### Non-construction defects

- Trees
- Spillages
- Obstructions

### Risk Probability

- Investigation
- Risk matrix
- Measurement techniques

### Recognition of Liability for repair

- Including third party involvement – Section 81 NRSWA

## 6. Material Recognition & Measurement

### Highway Construction

- Where is the Highway boundary?
- Carriageways, footways, verges, cycle ways
- Understanding construction layers and where defects may be created

### Highway Elements

- Street Furniture, Tree's and Vegetation
- Vehicle Restraint Systems and barriers
- Signs and Lighting
- Understanding how and why to report utility defects and procedure for follow up repair (local and national time limits) NRSWA Section 81

### Safety Defects / Measurement

- Measurement tools (tapes, wheels)
- Accurate recording of information (cost implications of inaccurate measurement)
- Understand measuring techniques; length, depth, width and volume
- Defect categorisation (local)
- HAUC requirements for materials, methods and plant or equipment permitted for repair
- Hazards associated with measurement (particularly carriageways, high speed and poor visibility)
- Make reference to Appendix B (Page 236) Code of Practice, Parameters for Defect Definitions

### Material Identification

- Identification of basic materials; kerb types, bituminous materials, tactiles, modular paving, ironwork, backfill materials etc...
- HAUC specification of reinstatement (like for like)

## 7. Claims Investigation

### Civil Procedure Rules 1998 (Woolf Protocol) (England & Wales only)

- Timing associated with CPR
- Effects of inability to delivery within time restrictions

### Special Defence

- Section 58
- Inspection requirements / records

### Accurate Records

- Importance of inspection records
- Ability to use in defence of authority

## Understanding Investigatory Procedures

- Interrogating records and internal inspections frequencies

### Course Duration

The suggested *minimum* training delivery time for these 7 core competencies should be set at 4 days.

## 2.2 Highly Recommended Units

For training purposes, there are a further 3 units which fall into the 'Highly Recommended' category. Training in these 3 units would provide individual inspectors with broader competence to inspect the highway.

### 8. **NRSWA and Sector Schemes**

#### Traffic Safety Awareness

- Safety equipment & PPE

#### Temporary Traffic Management

- Unit 10 - Supervisor NRSWA
- Sector Scheme 12D – T7

### 9. **Customer Care**

#### Conflict Management / Dealing with members of the public

- Understand the effects of confrontation
- Reduce risk to self
- Recognise and reduce conflict
- Active diffusion
- Effective Listening
- Reporting and recording inline with policy

### 10. **Court Procedures**

#### Preparing Statements & Evidence for Court

- What to include
- What not to include
- Inspection systems & Codes of Practice
- Training & Experience
- Photo's, records, maps plans etc...

#### Presenting Evidence in Court

- Who's who & Who's to answer to
- How to dress & How to address (judge – your honour or sir?)
- Stick to the facts
- Internal preparation prior to day in court.

### **3. Training Recommendations**

#### **3.1 Trainer Competencies**

It is strongly recommended trainers delivering highways inspector courses should possess recognised qualifications and relevant experience.

The training qualifications are recommended as minimum requirements:

##### **Minimum Mandatory Qualifications / Experience**

Instructional Techniques (Lantra Awards) / Train the Trainer

Or

Preparing to Teach in Lifelong Learning Sector (PTLLS City & Guilds)

First Aid Certificate

Proven experience in the field of Highway Inspection (approved and confirmed by employer or independent assessor)

#### **3.2 Candidate Testing**

It is suggested there are written tests to check/confirm knowledge and understanding of training modules delivered.

All core competencies should be tested with a pass rate recommended at 70% per individual unit suggested.

Ideally the 70% pass rates should be confirmed on individual modules, ensuring candidates understanding off each if the core competencies.

Marks will be awarded for:

1. Test Papers (min 50 marks in total)
2. Written Risk Assessments (10 marks)
3. Measurement Confirmation (10 marks)

**Totalling 70 questions/marks throughout (minimum).**

Questions should be a mixture of multi-choice and written answers, depending on the subject to ensure numeracy and literacy, which is essential within the highway inspector's role.

This pass rate would ensure consistency of learning and a good base for future assessments of candidates (should the authority request the next step).

Any candidate who does not meet the required pass rate would be referred. Training providers should offer individuals additional training (if necessary) and then, when appropriate, a re-tested by way of an alternative paper.

Certificates of Training could be awarded to successful candidates on completion of the training programme.

### **3.3 Centre Resources**

All centres must have appropriate resources to enable course delivery.

- Suitable Room – Including layout, typical spacing of 1mts (min) for testing candidates
- Equipment – Projector, laptop or computer, wipe board & flip charts
- Candidate facilities – Toilets, refreshments, disabled access
- Lockable storage for paperwork / information (Data Protection)
- Be able to address Special Needs (appropriate training and assistance)

Each training provider is required to actively promote Equality & Diversity along with Health & Safety in the workplace.

## **4. Assessments**

### **4.1 Assessment of candidates**

Assessment of candidates would be essential if an award is to be presented to successful candidates.

The assessment process ensures competence of highway inspectors and is therefore recommended that they should include the following:

- Material Identification (Kerbs, bituminous materials, etc)

Suggested Minimum of 10 material types – identifying materials and usage with pass rate of 70%

- On-site Visual inspection (Accurate recording of Defects and understand and explain levels of intervention and categorisation)

Suggested 1-to-1 assessment of candidates with a minimum requirement of 40 mins written onsite defect inspection followed by discussion and feedback.

Candidates must be made aware that failure to comply with Health and Safety requirements during the assessment process will result in the immediate termination of the assessment.

### **4.2 Appeals Process**

An appeals process for assessments should be made available for all candidates. Each candidate needs to have a full understanding of the appeals procedures should they disagree with the assessors decision.

Training providers should produce their own appeals procedure which may be linked to the awarding body's external verification system; in any case the IHE should be made aware of any/all appeals or disputes.

### **4.3 Assessor Competence**

There are recognised national qualifications for assessors and the main one recommended in this report is the City & Guilds A1 Assessors Award. This qualification confirms the assessors understanding of the A1 standards and the process of assessment and verification.

Experience of highway inspection is a requirement to enable assessors to carry out valid and reliable assessment processes.

Assessors, in particular, new assessors to the scheme, would need to confirm their own knowledge and experience in the area of highway inspections.

#### 4.4 Potential Assessment Routes

Assessments can be carried out by authorities confirming the above standards and seeking approval through the IHE or alternatively sought through established awards such as:

<b>Awarding Body</b>	<b>Name of Award</b>	<b>Contact</b>
City & Guilds	6033 – Highway Inspection and Monitoring	Skills Training Centre Tel: 020 8359 5157
Lantra Awards	Highways Inspector Accreditation	Leicestershire County Council Highways Training Centre Tel: 0116 3052237
The Scottish Credit and Qualifications Framework (SCQF)	Safety Officers and Roads Inspectors Award	RM Skills Centre Ltd Tel: 0141 810 5477
None confirmed	IMTAC - Inspector Modular Training Assessment Certificate	Birmingham City Council Tel: 0121 303 1111 TMS Consultancy Tel: 024 7669 0900

#### 4.5 Certification of Training & Assessment

The Institute of Highway Engineers will produce a certificate of training and assessment at a nominal fee.

Only training providers who are approved and verified by the IHE will be able to claim certificates on behalf of candidates / employers.

## 5. Conclusions

The report above fulfils the requirements of the IHE brief dated 18<sup>th</sup> September 2009. The recommendations included in Sections 2, 3 & 4 (Course Content, Training and Assessment) offer the Institute of Highway Engineers a Training Action Plan template that should be applicable and relevant to all Highway Authorities.

We would particularly like to point out the comments of Chris Bowley of the Highways Agency “I think this (report) has a very good, and comprehensive coverage and I look forward to its early implementation”.

This is a strong endorsement of the conclusion and recommendations of the report.

Report Prepared by Paula Murray & Ian Grierson  
On behalf of Leicestershire County Council  
8<sup>th</sup> April 2010