

### 4.3 TRAINING

#### 4.3.1 Properly trained people are essential

- If the highway / roads authority 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 of 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:

	Highway Inspectors	Claims Investigators	Claims Processors	Senior Staff
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*	A	A	A

**O=Operational competence – fit to practice**  
**A=Awareness**

\*Tree assessment should be undertaken by a qualified arboriculturist.

#### 4.3.2 National Standards for Highway Safety Inspectors, Training Assessment and Registration Institute of Highway Engineers (IHE) / Association of Directors Environment, Economy, Planning and Transportation (ADEPT) ( formerly CSS)

A steering group was set up by IHE and ADEPT following the publication of the first edition of this guide. The group comprised representatives from bodies interested in setting a national standard for Highway Inspector Training assessment and registration which included Highway Authorities with training schemes, Department for Transport, National Training bodies; City & Guilds, Lantra, Highway Agency, Transport Research Laboratory.

The group identified a framework for the areas which should be considered and the standard to which each inspector should be trained under the scheme.

The Group commissioned Leicestershire County Council to identify Highway Inspector Competency Standards in line with the following 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 Eng Tech level.
3. To identify procedures for the management, monitoring and audit of the scheme.

#### **4.3.3 The Highway Inspectors Board**

IHE has set up a Highways Inspectors Board with the formal endorsement of the UK Roads Board to implement the Leicestershire County Council Report.

Details of the Highway Inspector Board proposal and the Leicestershire County Council report on Inspector competency standards can be downloaded from the following IHE website

<http://theihe.org/knowledge-network/highway-maintenance/highway-safety-inspectors/>

The Board will manage a UK Highway Inspector training and certification scheme but it is not a provider.

The Board's terms of reference are:

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 Highway inspectors who have been trained and assessed by approved centres.

Centres are both established training providers listed in the Leicestershire County Council report and local authorities and companies who train in house.

The Highways Inspectors Board membership comprises:

- 4 IHE members
- 4 Nominees, from ADEPT, SCOTS, Highways Agency and Northern Ireland \*
- 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.

#### **4.3.4 Training 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.

#### **4.3.5 Highway Inspector Register**

Certificates would be issued through approved centres by IHE. 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.

#### **4.3.6 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 Highway Inspectors 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 Highway Inspector competence definitions against the Engineering Council Statements of Competence and Commitment to aid progression under the Individual Route.

#### **4.3.7 Highways Safety Inspectors' assessed Competence**

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

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

- 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.
- Define, prepare and write a dynamic Risk Assessment.
- Name, explain and employ the national code of practice that governs safe working on the highway.
- Identify and apply those sections of the Code of Practice for Highways Maintenance Management that relate to Highway Safety Inspection.
- Identify and apply any variations between the Code of Practice for Highways Maintenance Management and local policies, practices and procedures.
- Recognise and demonstrate knowledge of the relevant sections of any act or legislation that relate to Highway Safety Inspection.
- Recognise and demonstrate knowledge of the local documentation and records that relate to Highway Safety Inspection and employ relevant systems.
- Define the types of highway defects that can cause accidents to highway users and potential claims against the highway authority.
- List any other parties who can be responsible for defects in the highway.
- Recognise and explain the importance of and reasons for accurate record keeping.
- Name the national indicators used to monitor local authority performance.
- Name and identify the construction types that can be found during a Safety Inspection.
- Recognise the elements of the highway that can be found during inspection, and explain their function.
- Identify and assess defects, which are likely to create danger or serious inconvenience to users of the highway network.
- Identify and determine the party liable for repair of the defects found during a safety inspection.
- Analyze and assess the significance of defects found during a safety inspection.
- Identify the correct measurement equipment required for safety inspection.
- Measure the safety defect(s) identified to them.

It is recommended that Highway Inspectors keep a learning log.

##### **(b) Provisional Outcomes tested by a practical test**

Candidates should be able to correctly:

- Select the correct measurement equipment required
- Measure the safety defect(s) identified to them
- Correctly identify defects
- Report the defects correctly using local systems

### 4.3.8 Course Content Recommendations

#### (a) Highway Inspector Core Competency Units

##### 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 and visually impaired persons 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 –

o Gorringe v Calderdale MBC – House of Lords 2004

o Tommy Francis King v DETR

o Goodes v East Sussex County Council

• Lord Denning – “Perfection is not the standard....”

o Littler v Liverpool Corporation 1968

##### 2. Codes of Practice

Well Maintained Highways

- Understanding reasons 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 until 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 (e.g.: 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 Computers / 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, tactile paving, modular paving, ironwork, backfill materials etc...
- HAUC specification of reinstatement materials (like for like)

## 7. Claims Investigation

- Civil Procedure Rules 1998 (Woolf Protocol) (England & Wales only)
- Timing associated with CPR
  - Effects of inability to deliver within time restrictions
- Special Defence
- Section 58
  - Inspection requirements / records

### Course Duration

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

### Accurate Records

- Importance of inspection records
  - Ability to use in defence of authority
- Highway Inspector Competency Standards
- Understanding Investigatory Procedures
- Interrogating records and internal inspections frequencies

## (b) 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 court appearance

## 4.3.9 Training Recommendations

### (a) 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)

### (b) 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 candidate's understanding of each of the core competencies.

Marks will be awarded for:

- Test Papers (min 50 marks in total)
- Written Risk Assessments (10 marks)
- 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-test by way of an alternative paper.

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

#### **4.3.10 Training 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.

#### **4.3.11 Assessments**

##### **(a) Assessment of candidates**

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

The assessment process ensures the competence of highway inspectors and 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 minutes written paper on site 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.

##### **(b) 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 assessor's 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.

##### **(c) Assessor Competence**

There are recognised national qualifications for assessors and the main one recommended 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.

#### 4.3.12 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:

##### Awarding Body Name of Award Contacts

###### **City & Guilds 6033 –**

Highway Inspection and Monitoring  
Skills Training Centre  
Tel: 020 8359 5157

###### **The Scottish Credit and Qualifications Framework (SCQF)**

Safety Officers and Roads Inspectors  
Award  
RM Skills Centre Ltd  
Tel: 0141 810 5477

###### **Lantra Awards Highways**

###### **Inspector Accreditation**

Leicestershire County Council  
Highways Training Centre  
Tel: 0116 3052237

###### **Inspector Modular Training Assessment Certificate (IMTAC)**

Birmingham City Council  
Tel: 0121 303 1111  
TMS Consultancy  
Tel: 024 7669 0900

#### 4.3.13 Examples of training include

##### (a) Birmingham City Council / TMS IMTAC

A comprehensive modular training programme specific to highway maintenance practitioners:

What is IMTAC?

IMTAC is a 3 stage, modular training and assessment course specifically designed to train Highways Inspectors to the minimum standard required by the City Council.

Who is it for?

All officers involved in highways inspection and raising orders for work on the highway will be required to attend, and successfully pass, the relevant stage of the course before they are deemed competent to carry out work on the highway.

How is it verified?

Delegates understanding and competency is verified at the end of each module by an appropriate 'end test'.

Delegates who successfully complete each module of the training course will be given a certificate of competence appropriate to the stage (or level) of their training.

What is the progression route?

Delegates will not be allowed to progress to stage 2 unless they have successfully completed stage 1.

Stage 3 of the IMTAC course is designed specifically for supervisors.

###### **Stage 1 – Essential competencies**

Modules:

- 1.1 Highway Maintenance Policies
- 1.2 Safety at Street Works
- 1.3 Highway Act Enforcement
- 1.4 Defect Recognition
- 1.5 Measurement & Estimation
- 1.6 Materials Recognition

###### **Stage 2 – Additional competencies**

Modules:

- 2.1 Prohibition Notices

- 2.2 Customer Care & Service Standards

- 2.3 NRSWA Appreciation & Enforcement

- 2.4 Claims Investigation & Court Proceedings

- 2.5 Partnership Working

###### **Stage 3 – Supervisory competencies**

Modules:

- 3.1 Corporate Policies
- 3.2 On Street Appraisals
- 3.3 Data Management

**(b) City & Guilds 6033 – highway inspection and monitoring qualification**

The Skills Training Centre write and operate the City & Guilds 6033 – Highway Inspection and Monitoring qualification and can also offer highway inspection technical and legal courses.

[www.skillstrainingcentre.co.uk](http://www.skillstrainingcentre.co.uk)

**(c) Leicestershire LANTRA Award**

The Leicestershire County Council Highway Inspector Training Scheme has obtained the nationally recognised standard of the LANTRA Customised Award. The Highway Inspector scheme is in modular format to maximise flexibility and future expansion.

***Who is it for?***

The aim of this course is to give good basic knowledge to new inspectors in all areas of Highways Maintenance and Inspection. For more experienced inspectors it will act as a useful refresher.

***How is it verified?***

Each candidate will be assessed throughout. Understanding and competency is verified at the end of each module by an appropriate test.

Candidates who successfully complete each module of the course will be given a certificate of competence appropriate to the particular module.

Once the modules have been completed in full and the candidate is successful, the awarding body will issue a full certificate confirming competency in all areas.

**1: Highways Maintenance Policies. (1 Day)**

Understanding County Council Policies relating to Inspection, Duty of Care, Winter Maintenance, Adverse Weather Conditions, Public Rights of Way and Confirmation of the National Code.(Well Maintained Highways)

**2: Highways Maintenance Procedures. (1 Day)**

Understanding how and why highway inspections are carried out. Have an in-depth working knowledge of the procedures in place and how to apply them. Safe Working Practices, taking ownership of highways issues, Operational Survey Techniques, Record Keeping.

**3: Customer Care. (1/2 Day)**

Understanding and working with Highway Management and hand held computer systems. Gaining an understanding of Highways Protocol, Highways Charter, Response Times, service standards, the needs of the highway user and disability issues relating to the highway.

**4: Highway Law. (1/2 Day)**

Appreciation of highway law and an in-depth knowledge of the duties and powers contained within the 1980 Highways Act.

**5: Material Recognition & Measurement. (1 Day)**

Being able to visually recognise materials and kerbs used in the highway; identify which material would be best suitable to repair a defect. Understand the implications of material usage in terms of cost, maintenance, wastage etc.

Understanding the methods used to measure lengths and volumes, accurately measure and describe the repair required – be familiar with measuring equipment and understand the terminology of measurement and estimation.

**6: Defect Recognition. (1 Day)**

Understanding the criteria for defect intervention (working within the Leicestershire County Council policies). Be able to identify and describe defects, select the most suitable treatment and describe the location of the defect, working within the policy guidelines.

**7: Street works (NRSWA). (1 Day)**

Understanding the Street Works act, including safe working practices on the highway, identifying dangerous signing, lighting and guarding, being able to apply the NRSWA.

**8: Claims Investigation and Court Procedures. (1/2 Day)**

Provide knowledge and information on the claims process

Ability to prepare records and evidence (photo's & information) has knowledge of recording systems and where information can be located, (Highway Management Systems) familiarity with court proceedings relating to claims.

**9: Tree Awareness. (1/2 Day)**

Basic Tree Awareness, ability to identifying possible problems, recording information correctly and passing it on to the relevant department for further investigation