
UKPMS Visual Survey Accreditation Scheme

Outline of Accreditation Procedure

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Document Information

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Introduction

The accreditation tests for UKPMS Visual Survey Inspectors comprise a desktop exercise and on-site inspection/audit to verify that candidates;

1. understand the UKPMS defect definitions
2. can identify UKPMS defects from photographs
3. can undertake UKPMS Visual Surveys in a safe manner
4. can correctly identify and record data for a UKPMS Visual Survey on site

The accreditation tests have been developed, under the previous support contract, by the Visual Survey Subgroup. The Pavement Condition Information Systems (PCIS) Support Contractor will provide administration for the tests, with technical support provided by James Wallis.

In order to attain a pass, candidates must pass all parts of the accreditation exercise. Any candidates who do not attain the required pass mark in one or more parts of the accreditation exercise must re-take the complete accreditation assessment.

Defect Definition and Recognition exercises are based upon the revised UKPMS User Manual Volume 2 (April 2007). Inspectors should ensure that they are familiar with the revised manual and any subsequent amendments or technical notes before undertaking their assessments.

Test Booking

All requests for accreditation of UKPMS Visual Survey Inspectors must be submitted by completing the test booking form, available on the UKPMS website, and sending to the PCIS Support Contract at visualsurvey@trl.co.uk, or by post to the address given below. The PCIS Support Contract will make arrangements for the assessments and notify candidates' employers of venues, dates and times. Candidates and their employers are responsible for provision of DCD's, relevant PPE/signs and vehicles/drivers (where required). Wherever possible, accreditation tests will be scheduled within one month of a confirmed booking. Employers are advised to make bookings two months prior to their preferred date of assessment. The UKPMS Support Contractor will confirm the test dates with one of the test centres. Whilst every effort will be made to accommodate requests to attend specific test centres this cannot be guaranteed.

The PCIS Support Contractor will offer a test date and location to the candidates' employers. If this date is accepted, the PCIS Support Contractor will issue an invoice and inform the candidates' employer that a provisional booking has been made dependent on payment. Payment of the appropriate fee must be accompanied by:

- a digital photograph of each candidate
- confirmation that each candidate has successfully completed the employer's relevant Health and Safety training
- copies/samples of relevant Risk Assessments, Method Statement and Health and Safety guidance for Visual Surveys. Organisations with a number of inspectors undergoing assessments on different dates may submit one set of the required documents.

On receipt of payment the booking will be confirmed and the test centre will send out further details regarding the test procedure.

Administration of the UKPMS Visual Inspector Accreditation scheme will be undertaken by the PCIS Support Contractor. Contact Jay South at:

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Cancellation of tests

If, for any reason an employer or candidate needs to cancel or reschedule an assessment this must be done by writing to the PCIS Support Contract (see above) more than 10 working days prior to the test date. The PCIS Support Contract will endeavour to accommodate requests to reschedule assessments.

No refunds will be made for cancellations made within 10 working days of the scheduled test date or for candidates who fail to attend their assessment.

If payment for the assessment has not been received two weeks prior to the assessment date the assessment will be cancelled.

Health and Safety

The Inspector Accreditation process does not include a specific Health and Safety module. However, it is considered essential that all inspectors be provided with Health and Safety training relevant to the undertaking of visual surveys. At the time of booking tests the inspector's employer must provide;

- written confirmation that relevant Health and Safety training has been completed successfully
- copies of
 - Risk Assessment procedure for UKPMS Visual Surveys
 - Method statement for undertaking UKPMS Visual Surveys
 - UKPMS Visual Surveys QA procedure

When undertaking the site survey exercise inspectors must follow correct H&S procedures and show due regard for other users of the highway. Any action on the part of an inspector (or CVI vehicle driver) that endangers, or could endanger other users of the highway will result in the survey being stopped and an automatic fail issued. A full re-test will be required and further fee levied.

Candidates must arrive at the test centre with the photographic ID and the correct PPE, data capture devices, measuring wheels and/or vehicles, as appropriate. Failure to do so will result in cancellation of the test with no refund of fees.

Test Procedure

On receiving the candidate details the test centre will confirm the booking with the inspector's employer and provide location details for the office. Test centres may be able to provide details of suitable local accommodation where this is required but will NOT be expected to make any hotel bookings on behalf of candidates.

The full inspector accreditation process is shown in Figure 1.

Two days before the test the inspector should check the local weather forecast with the test centre. In the event of adverse weather conditions being forecast the test will be cancelled and a suitable alternative date arranged. The PCIS Support Contract and the test centres cannot accept any liability for hotel cancellation fees that may be incurred.

On the day of the test candidates must provide;

- Photographic ID such as driving licence or passport
- Copy of the employer's confirmation that they have successfully completed relevant Health and Safety training
- DCD suitable for undertaking the site survey. This must use accredited software capable of providing outputs in the required format.
- Suitable vehicle (and driver) if undertaking CVI accreditation
- Relevant PPE and calibrated surveying equipment
- Candidates should arrive at the test centre at least ½ hour before the test is scheduled to begin

Failure to comply with the above will result in cancellation of the assessment with no refund of test fees. An additional fee will become payable in order to undertake a further assessment.

On completion of the tests the candidate will be advised of his/her results and given copies of test papers and printouts of their site survey data. Copies will be forwarded to the PCIS Support Contractor who will issue certificates and ID cards to successful candidates as appropriate.

Test Agenda

Tests will take place in the morning (8 am to 12 pm) or afternoon (1pm to 5pm). The written tests will usually be undertaken first in morning sessions and last in afternoon sessions. However, this may vary depending upon weather, traffic or lighting conditions.

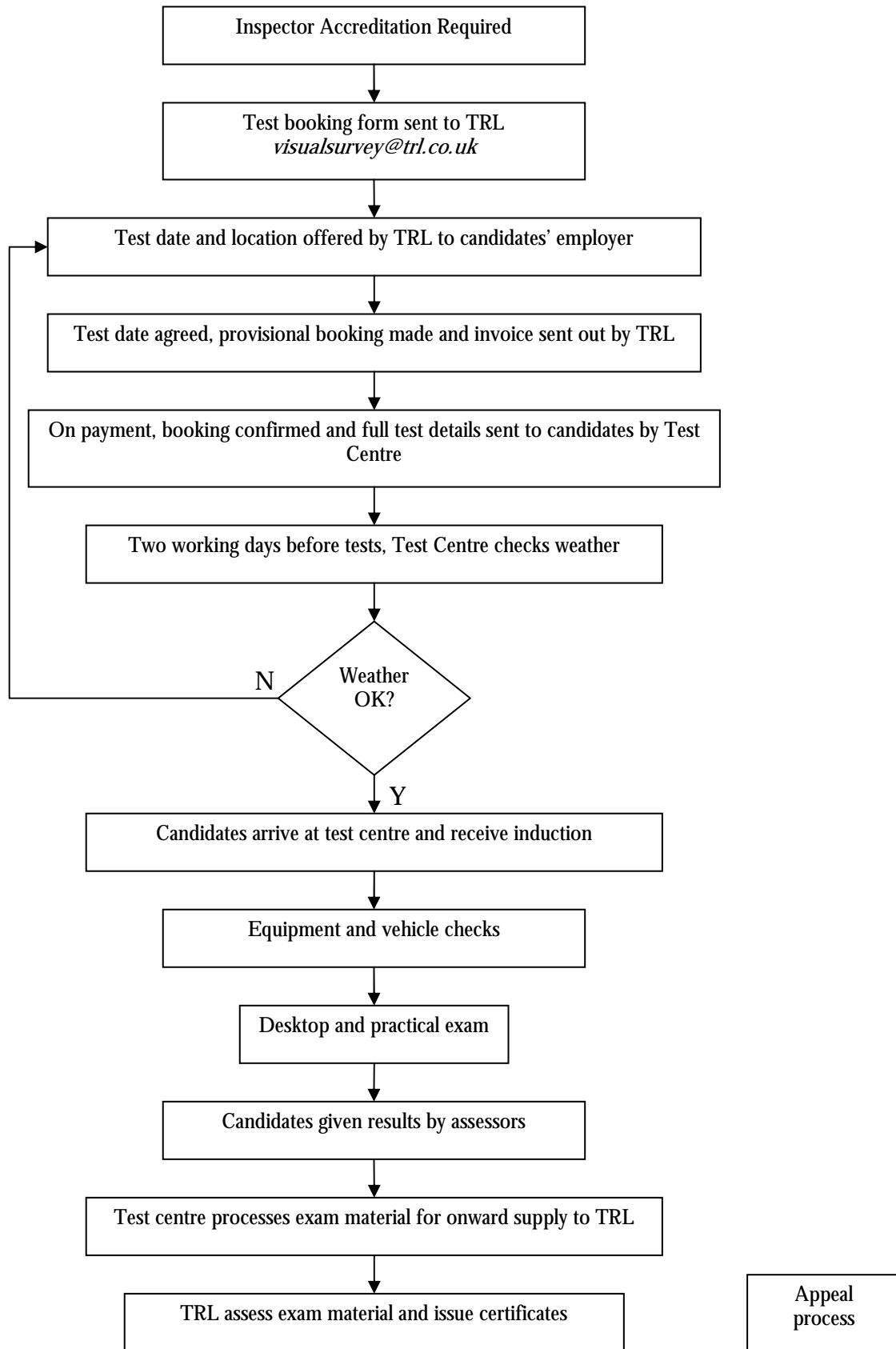


Figure 1. Inspector Accreditation Process

DCD Data Output format.

Surveyors must use DCD devices which run UKPMS accredited data collection software during the site survey. The DCD software must provide data in the format required by the software which compares the survey data with the model answers. The data formats are outlined below.

Driven CVI survey

Data to be provided

- Inspector initials
- Date
- Site reference
 - For each defect:
 - UKPMS defect code
 - XSP
 - Start chainage
 - End chainage
 - Extent, as one of single, 1/4, 1/2, 3/4, Full

Surveys will be undertaken using Minimal XSP referencing.

DVI survey

Data to be provided

- Inspector initials
- Date
- Site reference
 - For each defect
 - UKPMS defect code
 - XSP
 - Start chainage
 - End chainage
 - Start width
 - End width
 - For each relevant feature
 - Feature
 - XSP
 - Start chainage
 - End chainage
 - Start width
 - End width
 - Surface type
 - Construction type
 - Feature hierarchy

Inventory and condition data is to be provided in two csv files.
Surveys will be undertaken using Full XSP referencing.

Desktop Exercise

The desktop exercise consists of two tests, Defect Definition and Defect Recognition. Each exercise contains a set of questions (or photographs) relating to UKPMS Visual Surveys. The pass mark for each is given in the following paragraphs

The questions to be used for each test will be drawn from the 'bank' of questions prepared by the Visual Survey Subgroup based upon the revised UKPMS User Manual Volume 2 (April 2007).

- CVI Questions – 15 questions drawn from the UKPMS User Manual (volume 2).
Of the 15 questions;
 - Not more than 4 shall relate to concrete defects
 - Not more than 2 shall relate to block paved defects.
 - Not more than 2 shall relate to flagged defects.
 - Not more than 5 shall relate to bituminous defects.
 - Not more than 2 shall relate to general survey practice.
- The pass mark shall be 12/15
- This will ensure that no-one can pass this element of the test purely on questions relating to bituminous surfaces.

- CVI Photographs – 15 photographs in which the defect to be identified is clearly marked (circled in white)
 - Not more than 4 shall relate to concrete defects
 - Not more than 2 shall relate to block paved defects.
 - Not more than 2 shall relate to flagged defects.
 - Not more than 7 shall relate to bituminous defects.
- The pass mark shall be 12/15
- This will ensure that no-one can pass this element of the test purely on questions relating to bituminous surfaces. The photographs will be drawn from a bank of photographs to be compiled by the subgroup.

- DVI Questions – 15 questions drawn from the UKPMS User Manual (volume 2).
Of the 15 questions;
 - Not more than 4 shall relate to concrete defects
 - Not more than 2 shall relate to block paved defects.
 - Not more than 2 shall relate to flagged defects.
 - Not more than 5 shall relate to bituminous defects.
 - Not more than 2 shall relate to general survey practice.
- The pass mark shall be 12/15
- This will ensure that no-one can pass this element of the test purely on questions relating to bituminous surfaces. Questions for the DVI exercise may cover UKPMS defects and inventory.

- DVI Photographs – 15 photographs in which the defect to be identified is clearly marked (circled in white). Of the 15 photographs;
 - Not more than 4 shall relate to concrete defects
 - Not more than 2 shall relate to block paved defects.
 - Not more than 2 shall relate to flagged defects.

- Not more than 7 shall relate to bituminous defects.
- The pass mark shall be 12/15

This will ensure that no-one can pass this element of the test purely on questions relating to bituminous surfaces. The photographs will be drawn from a bank of photographs to be compiled by the subgroup.

On site survey/audit.

CVI Survey

Each inspector will be required to undertake a CVI survey. The length of the sites to be surveyed will be approximately 1km and the whole of the sites will need to be assessed. There is a minimum requirement to survey 2 sections; each section will be of a different construction type. Only carriageway defects need to be assessed on all lanes present. The survey will last for approximately 1 to 1½ hours. Candidates will be expected to correctly identify and record the defects observed and undertake the survey in a safe and efficient manner.

When undertaking the site survey exercise inspectors must follow correct H&S procedures and must show due regard for other users of the highway. Any action on the part of an inspector (or CVI vehicle driver) that endangers, or could endanger other users of the highway will result in the survey being stopped and an automatic fail issued. A full re-test will be required and further fee levied.

The survey data will be loaded into marking software for comparison with the benchmark data.

Candidates are not required to measure or record wheel track rutting during the CVI survey.

Marking CVI Survey

To attain a pass the following standards must be met for each section;

- 80% of all defect types correctly identified
- The sum of the defect lengths recorded shall be within +/- 5% or 5m of the model answers
- The sum of the extents recorded shall be within +/- 5% of the model answers
- safe survey procedure must be followed at all times
- 1 mark will be deducted from the final score for each defect included in the data collected that does not correspond to the benchmark data (i.e. if one occurrence of Left Edge deterioration is recorded by the inspector but is not present in the benchmark data 1 mark will be deducted from the final score. If the inspector's data contains two occurrences of Left Edge in the same circumstances 2 marks will be deducted from the final score).

DVI Survey

Each inspector will be required to undertake a DVI survey. The length of the sites to be surveyed will be 200m for footway DVI and 100m for carriageway and the whole of the sites will need to be assessed. There is a minimum requirement to survey 2 sections; each section will be of a different construction type. Only kerb and footway data (condition and inventory) will be required for the footway DVI. Only 1 carriageway lane needs to be assessed for the carriageway DVI. The start location and XSP's to be surveyed will be instructed by the assessor. The survey will last for approximately 1 to 1½ hours. Candidates will be expected to correctly identify and record the defects observed and undertake the survey in a safe and efficient manner.

When undertaking the site survey exercise inspectors must follow correct H&S procedures and must show due regard for other users of the highway. Any action on the part of an inspector (or CVI vehicle driver) that endangers, or could endanger other users of the highway will result in the survey being stopped and an automatic fail issued. A full re-test will be required and further fee levied.

The survey data will be loaded into marking software for comparison with the benchmark data.

Candidates are not required to measure or record wheel track rutting during the DVI survey.

Marking DVI Survey

The DVI survey will comprise carriageway, footway and inventory items as described above. Candidates must correctly identify the defects and provide an accurate measurement of defect areas as required. Inventory features must be correctly identified with start and end chainages and widths and surface types. Candidates will be required to assess the left hand off-carriageway and left nearside lane of each section.

In practise feature hierarchies should be supplied by Local Authority clients. Thus the identification of feature hierarchies and will not be assessed as part of this exercise.

To attain a pass for the condition survey the following criteria must be met;

- 80% of all defect types correctly identified
- The sum of the defect lengths recorded shall be within +/- 5% or 5m of the model answers
- The sum of the area recorded shall be within +/- 5% or 5m² of the model answers
- safe survey procedure must be followed at all times
- 1 mark will be deducted from the final score for each defect included in the data collected that does not correspond to the benchmark data (i.e. if one occurrence of Left Edge deterioration is recorded by the inspector but is not present in the benchmark data 1 mark will be deducted from the final score. If the inspector's data contains two occurrences of Left Edge in the same circumstances 2 marks will be deducted from the final score).

To attain a pass for inventory collection the following criteria must be met;

- 100% correct identification of feature

- 100% correct identification of XSP
- 100% correct identification of material

Model answers

The assessors will undertake site surveys (CVI and DVI plus inventory) on all sites and may collect site photographs to be used as reference during the assessment/markings. The 'model' answers will be compared to candidates' survey data using suitable computer software.

Notes should be made of any areas where defects could be identified as either major or minor (i.e. borderline).

The assessor will note during the audit any changes that have occurred on site between the 'model answer' survey and candidates accreditation. This information will be passed to, and verified by the PCIS support contract.

Assessors should monitor the sites selected for audit surveys on a monthly basis and undertake further surveys if site conditions change. Details of these visits will be forwarded to the PCIS Support Contract who will maintain a record of monthly reviews and further surveys.

Certification

To successfully gain the accreditation, candidates must gain a pass for each part of the examination i.e. questions, photographs and on site exercise. On completion of this exercise the candidate will be advised of the results and given a copy of the examination papers. Certificates and identity cards will be issued by the PCIS support contractor which will enable the surveyor to carry out surveys for BVPI production in accordance with the table below;

Test	Qualification	Relevant BVPI
CVI	To undertake driven CVI surveys	BV 224(b)
DVI	To undertake DVI surveys	BV 187 & 224(b)

Appeals procedure

Any candidate who does not achieve a pass may submit a written appeal to the PCIS Support Contractor. The appeal should be made within 7 days of the accreditation test and should identify the reason(s) why the candidate believes the result should be amended.

The appeal will be considered within a further 14 days. The appeal will take the form of a desk top exercise to compare the candidate's material with the model answers. The result of the appeal will be communicated to the candidate, the candidates' employer and the PCIS Support Contract within 7 days of its consideration.

On appeal the candidates' test results may be;

- upheld
- amended

Any candidates wishing to challenge the results of an appeal must do so by writing to the PCIS Support Contractor within 7 days of receiving the results of the appeal.

Appeals fee.

A fee of £75 (plus VAT) must accompany all written appeals.

Inspector Accreditation FAQ's

Question 1.

As a national scheme, it's a little unfortunate that there isn't a test centre north of Nottingham; although I appreciate that there may be a shortage of suitable venues / hosts.

Answer.

The accreditation centres are at the offices of the survey companies who have helped deliver the scheme. At present we do not envisage a need for further centres due to the anticipated number of surveyors going through the accreditation process.

Question 2.

I assume the expectation is that, in most cases, candidates will use their own survey vehicles as they will require the appropriate trip meter etc. Is it likely that we will be expected to provide the driver as well or will one of the assessment team perform the driving duties to ensure that the correct route is followed?

Answer

Candidates will be expected to provide their own equipment, including vehicle *and* driver. If anyone is unable to provide their own driver they should contact the assessment who *may* be able to help with alternative arrangements, although their involvement is likely to incur an additional charge.

Question 3.

Finally, the only DVI surveys we perform are those required to satisfy the BV 187 requirements and we currently contract out this function. Could you confirm that it will still be possible to take the CVI assessment in isolation and, if so, whether there would be any reduction in the fee?

Answer.

There are two possible routes to accreditation, which may be taken in isolation.

- Driven CVI
- DVI

Question 4.

We have a large number of inspectors based at our offices and we would like to establish a local accreditation site at one of these centres. Please could you explain the procedure that we need to follow to establish such a facility?

Answer.

Inspectors will not undertake accreditation tests at their 'own' centres so establishing an additional test centre at your offices would not provide a local venue. The PCIS support contract does not consider that additional test centres would be viable at present.

Question 5.

Can inspector accreditation tests be undertaken at our offices?

Answer.

Under the previous support contract, the Visual Survey Subgroup has selected and reviewed a number of test sites close to the agreed test centres. To include additional sites would involve significant additional work and cost. The group discussed the possibility of using local sites and agreed that the best way forward was to use sites with which the inspectors were not (or could not be deemed to be) familiar.

Question 6.

Is there, or will there be an Inspector Accreditation resource pack similar to the practice video issued by STC?

Answer.

The revised Inspector Accreditation process focuses on practical data collection using the inspector's DCD equipment. The defect definition and recognition exercises will be based upon the revised UKPMS User Manual Volume 2. A sample test is available on the UKPMS web site.

Question 7.

Where can I get training for CVI/DVI inspectors?

Answer.

The PCIS Support Contract has details of commercial organisations who offer inspector training. Details can be found on the UKPMS Web Site.

Question 8.

My organisation provides CVI/DVI training, what do I need to do to be included on the list of training providers?

Answer.

Contact the PCIS Support Contract who holds details of commercial organisations who offer inspector training.

Question 9.

I am advised that our personnel are expected to use their current pda and software. Is there likely to be a compatibility problem when they undertake the CVI/DVI accreditation?

Answer.








DCD software should be able to output raw survey data in csv format for inspector accreditation. There should not be any compatibility issues.

Acknowledgements

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– Chair Chris Capps Cambridgeshire County Council.

Under the previous support contract, we would like to acknowledge the work of the UKPMS Visual Survey Subgroup and members of the UKPMS Support Team in setting up the accreditation process.

Particular support was provided by;

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