

INTRODUCING AUTOMATED SURVEYS ON LOCAL ROADS

The condition of local authority roads is a prominent issue for ministers, councillors, highway engineers and the general public alike. For years we have depended on the National Road Maintenance Condition Survey (NRMCS) to provide reliable data at a national level on network condition trends. Individual local authorities are now required to produce their own performance indicators (BVPI) as part of the statutory best value regime.

In January this year the Roads Board agreed in principle a proposal for moving to automated surveys - TRACS Type Surveys (TTS) - for collecting condition data on local roads for use in NRMCS and BVPI. The board commissioned a Scoping Study to investigate the proposal and to review the feasibility of bringing in TTS for sub-principal classified roads in 2004/05 and unclassified roads in 2005/06. The background to this was explained in the NRMCS Newsletters published in December and March.

The Scoping Study considered the wider uses of condition data, including its use in the local management of the network, and concluded that with some further research and development TTS would be suitable for use on the local network. This conclusion is based on the experience gained with the Scottish Road Maintenance Condition Survey (SRMCS) as well as the use of TTS in London and on principal roads in England.

The Roads Board has accepted the recommendations of the Scoping Study to adopt a phased approach to the implementation of TTS based on some further research and development, with the start of surveys on all sub-principal roads programmed for 2005/06.

The Scoping Study took into account concerns amongst local authority engineers relating to TTS, including its

coverage of defects, cost, procurement and possible duplication of effort where footways are concerned. The Roads Board discussed the cost to local authorities of undertaking TTS surveys and of preparing for them in terms of provision of network data, staff training and IT. Further information is being sought on these issues.

The way forward is now clear and subject to funding being agreed, it is intended that a Project Manager should be in place for the autumn to take forward the necessary research programme and set up a procurement framework in conjunction with the local authorities.

The programmed start of TTS on sub-principal roads in 2005/06 allows time for the survey industry to respond and develop additional equipment. It also allows time for the necessary changes to be introduced to the statutory BVPI.

Research and development of TTS will continue to forge it into a tool capable of fully replacing the functionality of CVI on local roads. It is anticipated that the fully developed version of TTS would be phased in during 2007/08. The later development would build on the earlier work and add to it rather than representing another fundamental change.

The provision of accurate, consistent, and reliable condition data at local, regional, and national levels is vital if the funding levels for highway maintenance are going to be sustained against other demands on national and local resources. The highway maintenance community has to grasp this challenge if it is to retain credibility with the decision makers at all levels of government. We are confident it will.

John Ekins
Project Director – Scoping Study

Scoping Study - Summary

The Scoping Study addressed 4 requirements:

- i. Continued use of CHART surveys for NRMCS in the short term.
- ii. Consistent reporting in the long term by building on current expertise in machine and visual surveys.
- iii. Monitor road conditions nationally and locally by developing TTS to provide data to meet the full range of needs.
- iv. To develop a strategy for a UK condition indicator for all trunk and local roads based on TTS data.

The study considered the introduction of TTS in England but also examined the costs of extending the surveys to Wales and Northern Ireland. Scotland has already implemented TTS on local roads.

Three implementation options that all take advantage of the work carried out so far in England and Scotland were considered. The option selected is based on an early introduction of TTS with its current capability, subject to some short-term research developments. To allow sufficient time for equipment development and procurement of the surveys, the earliest introduction of these surveys on sub-principal roads is 2005/06. The expected outline implementation timetable for these roads is shown below. The costs of the surveys have been estimated to be approximately £20/km, based on expected survey rates. While these surveys are carried out on all road classes, longer-term research will lead to the introduction of enhanced TTS in 2007/08. The TTS data will be loaded into UKPMS comparable systems operated by local authorities. The surveys will be managed by local authorities but it is recommended

that authorities get together to form consortia, with a lead authority.

The short-term research to support the early introduction of TTS on sub-principal roads as soon as possible will comprise:

- i. A brief review of the TTS carried out so far.
- ii. Enhancement of current techniques to improve the measurement of edge deterioration.
- iii. Modification to the analysis of transverse profile measurements to better understand rut depths on local roads.
- iv. Analysis of measurements from the existing TTS to derive a new Defects Index.
- v. Development of a method for calculating the maintenance backlog.

The longer-term research to enhance TTS to make it a full replacement of the current CVI will extend the earlier research and:

- i. Enhance the cracking measurement and analysis systems to include other road surface types and take into account other aspects of the road surface (e.g. ironwork).
- ii. Increase the capability of the systems to detect other visual surface defects.
- iii. Develop a method to use texture and other defects as a proxy for skid resistance.

A new Technical Sub-Group of the Roads Board will be established to manage the implementation of TTS.

A series of workshops is to be planned to explain the introduction of TTS on sub-principal roads to all local authorities.

TTS Implementation timetable for sub-principal roads

Activity	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Research Stage 1	Early implementation	Early implementation						
Research Stage 2		Full implementation	Full implementation					
Procure Surveys Phase 1		Early implementation						
Procure Surveys Phase 2				Full implementation				
Build Equipment Phase 1		Early implementation						
Build Equipment Phase 2				Full implementation				
Surveys Phase 1			Early implementation	Early implementation				
Surveys Phase 2					Full implementation	Full implementation	Full implementation	Full implementation
Project Management	Full implementation	Full implementation	Full implementation	Full implementation	Full implementation	Full implementation	Full implementation	Full implementation

Table key:
 Early implementation: ■
 Full implementation: ■

Further information will be available in NRMCS Newsletter No. 3 in July 2003