

ROAD2000

LONDON'S PRINCIPAL ROAD MILLENNIUM CONDITION SURVEY

UPDATE.....

This News Sheet, number 6, provides an update on the ROAD 2000 survey of London borough Principal Roads. Hammersmith & Fulham Council are managing the work as lead borough on behalf of the Greater London Authority. This is the third year that the principal road network (PRN) condition assessment work has been awarded to Hammersmith & Fulham.

The borough has been working closely with colleagues within the London Technical Advisors Group (LoTAG) to determine the survey strategy. In addition officers have also been involved with the activities of the new Roads Board in order to ensure that the work being carried out both influences and conforms to national standards and Best Value requirements.

As a reminder of our work to date, year one, (1999/2000) involved a Detailed Visual Inspection of the entire PRN. It also divided the data to reflect the implications of the transfer of a small proportion of principal roads to the Mayor to form part of the TLRN.

The results were tabled at the LoTAG annual seminar in November 2000. Some concerns were expressed about the usefulness of the ROAD 2000 networks as they differed from those held by some individual boroughs. The award of the second year's work, which was to include machine surveys, required the networks to be more robust in order to be able to map the results. As a consequence all the networks were reviewed in consultation with the boroughs in order to utilise individual borough networks where these were available.

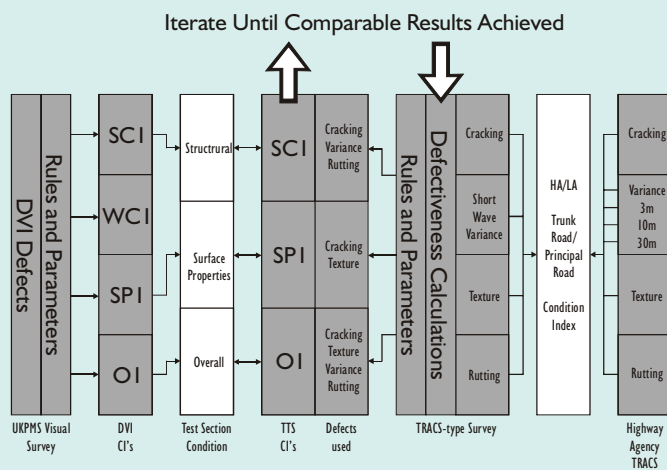
Whilst it was not a requirement to collect footway data, the DVI surveys included this information and it was felt useful to present this as a supplementary report. The report was published in September 2001. Please note that if you received earlier copies of this report there were some financial information that did not include fees and this led to confusion within the body of the report. These have now all been corrected and copies of the amendment are available on the LoTAG web site www.lotag.com.

The production of revised networks is now complete but it proved to be a much more complex and difficult task than originally envisaged. As a consequence the machine surveys were deferred until this year.

In 2001/2002 it was also intended to re-run the DVI surveys over 100% of the network to ensure that trend analysis could be carried out from the original data collected two years earlier. In actual fact the machine surveys and DVI work is now complete or nearing completion.

The effects of the second round of surveys will be to test and refine the network road lengths. We had originally anticipated releasing the networks when they had been drafted. However we now consider it to be more appropriate for them to be released following survey validation. This will ensure that the networks are not only robust but also ready to receive data. This has been a long and tortuous exercise but now that a solid foundation has been laid we are confident that the surveys can now be loaded in a straightforward manner.

DEVELOPMENT OF TTS DEFECTIVENESS



LoTAG ROAD 2000 Team

Chris Britton Consultants

Department of Transport Local
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Highways Agency

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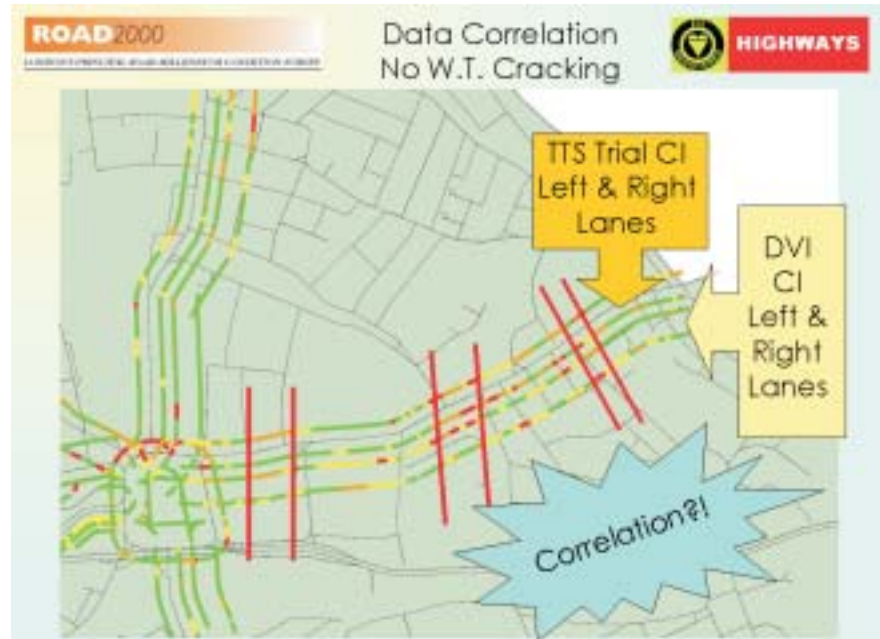
Ed Lawrence - CSS Representative

UKPMS Technical Sub Group

Symology – UKPMS Suppliers

One of the first tasks will be to draw up terms of reference for the group and then to develop defectiveness ratings based on sample data sets. Initially this will use the London data but with time this will be expanded to include other data-sets.

The team is to liaise with Perth and Kinross in Scotland who have already carried out High Speed Road Monitor surveys and produced a map based presentation. In addition Kent County Council have expressed an interest to contribute to the preliminary work in 2002/03. Their contributions, together with the vast amount of work already carried out by the Highways Agency will help



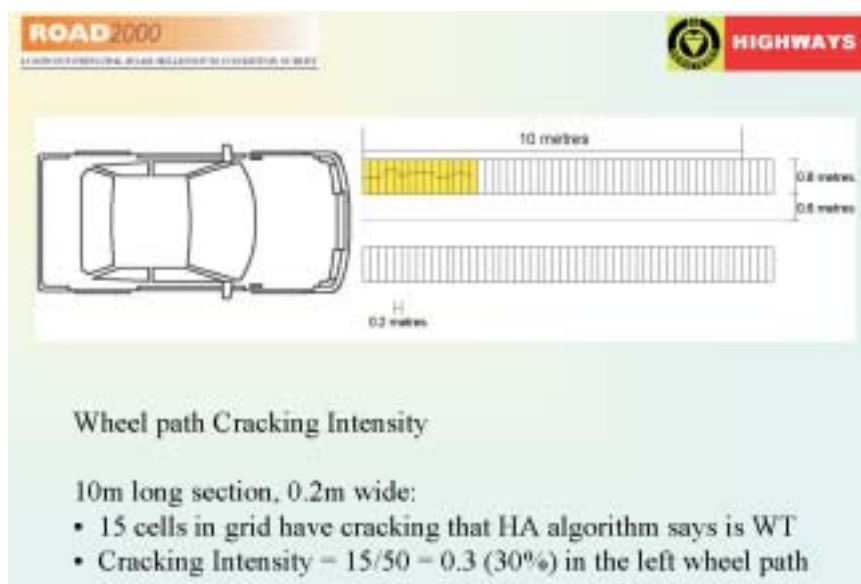
ensure that data from a variety of sites is included in drafting the initial Rules and Parameters for the TTS.

The team has analysed trial areas that exhibit critical defects from the DVI survey and calculated the UKPMS Condition indices using the accredited software. The TTS survey data for the same area has then been compared using combinations of the TTS processed data of cracking, short wave variance, texture and rutting to achieve comparable map based outputs. At the

present time the software is being amended to identify wheel track cracking.

As far as the London survey is concerned the ROAD 2000 TTS site work has been completed and a single-authority trial data-set provided. The first pass of iteration to develop defectiveness curves and rating rules have been produced with some encouraging initial results that compare reasonably with the DVI data, see above. The proposed methodology for determining the rules and parameters has been set out on the front cover.

This process is very much in its infancy and has only been carried out using relatively small amounts of data. The processing of the raw data of the remaining 32 boroughs' survey results is in hand although some software modifications have to be written to identify wheel track cracking from the cracking data. We look forward to progressing the London PRN as a whole through ROAD 2000 as well as developing the national rules and parameters.



FUTURE SURVEY PROPOSALS FOR PRN

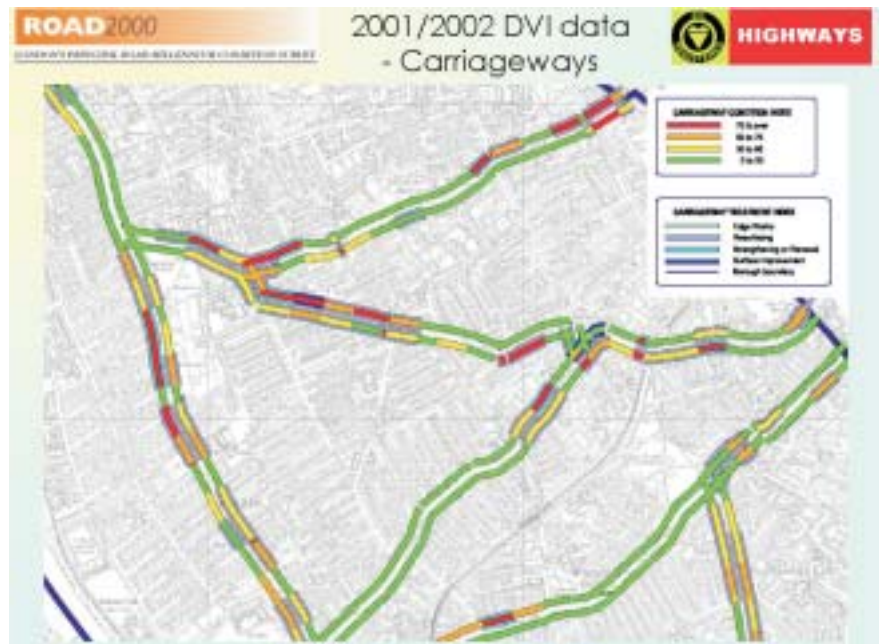
Condition Surveys

The National Road Maintenance Condition Survey (NRMCS) intend, having concluded its review, to align the condition assessments of the PRN with that of the trunk road and motorway networks. This has come about because of ministerial concern about the lack of joined up thinking between the condition of the two road networks particularly as the public do not perceive there to be a material difference between these major road classes.

The Highways Agency currently use TRACS and SCRIM as their network condition assessment tools. Whilst other survey types such as Deflectograph and Visual Inspections are still relevant they are considered to be more of a design tool to analyse detailed requirements. As a consequence the NRMCS and DTLR are recommending that the PRN is assessed in a similar manner (TRACS and SCRIM). The BVPI's will be used as a statutory method of enforcing the collection of data, although there is the opportunity to comment on these proposals through the government's consultation process.

DVI Surveys for BVPI 96

The fieldwork for the BVPI 96 performance indicator for London's PRN survey is approximately fifty percent complete and it remains our intention to publish the results by the end of the financial year. With the improved quality of the networks it will be possible to map both the structural condition index bands as well as the treatment recommendations on



the same plot as shown above. This will provide an improved format for presenting the results.

SCRIM Surveys

The fieldwork for the SCRIM machine survey work is complete and we shall be receiving the data shortly ready for publication nearer the end of the year. The surveys collect both the SCRIM co-efficient as well as the site categories. As a consequence it will be possible to map 'SCRIM shortfall' a more useful indicator.

TRACS Type Surveys (TTS)

By way of explanation TRACS is an acronym for TRAffic-speed Condition Surveys. TRACS is a contract let by the Highways Agency for the assessment of the trunk and motorway networks. The delivery of TRACS has arisen after many years of research by the Transport Research Laboratory. This research is to some extent still on-going and whilst the raw data can be processed into cracking, wave length variance, texture and rutting, the precise rules and

parameters to develop this into either condition ratings or performance indicators has not been concluded.

The equivalent surveys to be carried out by the boroughs are to be known as TRACS Type Surveys (TTS) as set out in the new code. As the Road 2000 team is completing both DVI and TTS in 2001/02 we have recommended that NRMCS consider using the London data as a trial in advance of the BVPIs being finalised nationally.

The current situation is that TTS will be a permissible alternative to Visual Surveys for calculating the BVPI in 2002/03, and compulsory in 2003/04.

However NRMCS wanted a specific subgroup to be established to look at TTS for the PRN surveys and for this to be looked at nationally. The ROAD 2000 team has agreed to lead on this exercise and are currently looking at TTS rules and parameters for presenting the output data through UKPMS. A NRMCS sub-group has been pulled together comprising:

Ground Penetrating Radar
The ROAD 2000 team considered that a construction database for the PRN to show the construction layers was a fundamental requirement for

best maintenance practice. The most efficient way to collect this data was using the GPR with coring to validate the results. This data will be essential for maintenance designs.

Whilst there is not the same urgency over the completion of this work it is intended to be complete before the next Road 2000 seminar, in the autumn.

DATA PRESENTATION

The work carried out on London's PRN has to be presented in a straightforward format suitable for both technical and non-technical people. The feedback from the presentation of the data in November 2000 was well received and the team intends to build and simplify the presentation format combining both condition and treatments into a single plan. Additionally it is hoped to provide files that can be interrogated in map based format using readily available software such as Adobe Acrobat. Some examples of the data presentation are set out on the second page.

Maps which will be provided are:

- ★ Network information
- ★ DVI carriageways with both CI band and treatments
- ★ DVI footways with both CI band and treatments
- ★ SCRIM shortfall
- ★ TTS with both CI band and treatments

These maps will be incorporated into a single "zoom-able" Adobe Acrobat document that will allow immediate switching to the same location within each different condition survey map.

PRESENTATION OF RESULTS

The results for ROAD 2000 will be presented in a map-based format and display the carriageway and footway condition and treatment. We are currently working to set up the ArcView files for all surveys in each borough on which to overlay the data when it becomes available.

It is intended that the BVPI 96 structural condition indicators will be provided for 2001/02 before the end of April 2002. Additionally raw data and SCI & treatment maps will be released once it has been validated. However the production of the full package of results and maps will be launched at the Road 2000 seminar in the autumn.

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