



Loading TTS data into UKPMS - a Position Statement

Background

When TTS data is collected there is inevitably a difference between the section length as measured during the data collection and that already set up for the network. In order for the data to be processed by UKPMS the data collected must be shrunk or stretched to match the network section length.

During the collection of data for the principal road network the following facts have emerged:

- The standard pre-processor of TTS data (the MSP) does not shrink or stretch data.
- The TTS Advice Note and Specification v1.0 for principal roads does not state that the pre-processor should shrink or stretch data, but it does state that if the difference between the network and surveyed section lengths is more than 10% or 50m (whichever is the lesser) then the data should not be accepted.
- The two accredited Survey Contractors (WDM and Babbie) have confirmed that they are able to shrink/stretch data if requested.
- UKPMS also contains the capability to shrink or stretch survey data, but allows flexibility in how this functionality is delivered by Developers to Users. For example some Developers have chosen to allow their Users to control this part of the process whereas others are more prescriptive.

Issues

There are issues both for the existing TTS data collection on principal roads and the forthcoming TTS data collection on non-principal roads.

- Since the requirement to shrink or stretch the surveyed data to match the network data is not part of the standard TTS contract (as given in the TTS Advice Note and Specification v1.0 for Principal Roads) Users may or may not have contractual arrangements with the Survey Contractors to perform this during pre-processing.
- All UKPMS systems have been tested (during the comparability tests) to ensure that they are able to shrink or stretch inventory and survey data using the two options below (see Technical Options), but UKPMS Developers and Users require guidance as to whether TTS data should be shrink/stretched by UKPMS and if so what method and tolerances should be used.
- There is a need for a consistent approach so that, regardless of whether Survey Contractors or UKPMS systems adjust the data, the outcome is the same.

Technical Options

UKPMS contains tolerances which are used when inventory or survey data is loaded into the system. For each type of data there is a length tolerance and a percentage tolerance and the data is only accepted if it lies within the *greater* of these. Note that this differs from the MSP which produces data which lies within the lesser of two tolerances.



If the data lies outside the tolerance then it is rejected and must be investigated to find out the reason for the discrepancy: if the data lies within tolerance then it is shrunk or stretched to match the network length using one of the following two established technical options:

Proportionate

Using this approach all chainage data is adjusted proportionately, by multiplying by the following factor:

$$\frac{\text{Network Section Length}}{\text{Surveyed Section Length}}$$

Note that using this approach will cause the standard 10m subsections for TTS data to be shrunk or stretched. This is the approach currently used by UKPMS for Inventory and CVI data.

Fixed subsection length

Using this approach the subsection length is retained (at 10m for TTS data) and all adjustments are made to the end of the section, by adjusting the final subsection or chopping/adding subsections as required. This is the approach currently used by UKPMS for DVI and machine data.

Recommendations

For the Current Year

1. The UKPMS Support Contractor will publish guidance to Developers giving information about this issue, and explaining that:
 - a. They should ensure that data produced from the MSP and therefore differing by up to 10% or 50m (whichever is the lesser) can be loaded in some way. This may require them to offer a method for shrinking/stretching TTS data.
 - b. Pending further consultation the requirements for shrinking/stretching TTS data will be standardised and handled by Survey Contractors rather than by UKPMS Developers.
 - c. As appropriate they should advise their Users of this issue.
2. The TTS Project Manager will ask Survey Contractors to:
 - a. Be aware of this issue, and that pending further consultation the requirements for shrinking/stretching TTS data will be standardised to ensure consistency between different Survey Contractors.
 - b. Inform Users whether or not the data they supply will be pre-processed to match the surveyed section lengths with the network lengths.

Note that there are several possible approaches for the principal roads in 2004/05 and so results for this year may differ from subsequent years when the approach becomes standardised.



For subsequent years

3. The TTS Project Manager will consult with Survey Contractors to agree on a standard approach for shrinking/stretching TTS data, including both the technical approach to be used and the tolerances.
4. The TTS Project Manager will ensure that the shrink/stretch process is included in the accreditation tests of TTS machines.
5. The TTS Project Manager will address this issue as part of the development of the specification and contract for the non-principal network, with a view to incorporating the same approach into the principal road contracts for 2005/06 onwards.

Document History

<i>Version No</i>	<i>Status</i>	<i>Author</i>	<i>Date</i>	<i>Changes from Previous Version</i>
1.01	Draft	RAC	5/7/04	1 st draft
1.02	Revised	RAC	11/8/04	Revised following feedback from Andrew Gallagher at the meeting with the TTS Project Team on 6 Aug 04

UKPMS Support Office
 Chris Britton Consultancy
 #4 Howard Buildings
 69 - 71 Burpham Lane
 Guildford
 Surrey
 GU4 7NB

www.ukpms.com

Email: support@ukpms.com
 Phone: +44 (0)1483 405027
 Fax: +44 (0)1483 452264