

UK Pavement Management System



Technical Note 41

SRMCS PI (2007/08) guidance notes for UKPMS Developers

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Document Information

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Document History

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Introduction

This Technical Note provides guidance for UKPMS Developers to allow them to produce the SRMCS PI report for 2007/08. It provides:

- **Background Information** on survey coverage
- **Processing & Reporting Requirements** including an example report

Background Information

The Scottish PI is based on SCANNER data collected according to the road class as follows:

- **A Roads:** 100% in a single direction each year, with the direction reversed in the following year.
- **B & C Roads:** Based on a 4 year cycle.
 - Year 1: 50% in a single direction
 - Year 2: The remaining 50% in a single direction
 - Year 3: Repeat of Year 1, but in the opposite direction
 - Year 4: Repeat of Year 2, but in the opposite direction
- **Unclassified Roads:** 10% in a single direction each year.

Processing & Reporting Requirements

The data is processed using the SCANNER Road Condition Indicator (RCI) with a specified weighting set. The RCI should use data from the previous 2 years but the dates are entered by the user so as to allow some flexibility with the survey timetable.

The RCI results are calculated separately for rural/urban within each road class, and are then combined to give an overall result for each road class, a result for all urban roads and for all rural roads, and the statutory PI for the whole of the authority's road network.

The combined results are obtained using a weighted average based on road length; the figures for the road lengths are obtained from outside UKPMS and are entered manually by the authority.

As the example report below shows results are provided for the Red, Amber and Green RCI categories but the final statutory PI is the sum of the Red & Amber and is given to 1 decimal place.

All lengths shown on the report are given in km to 3 decimal places and all percentages are given to 2 decimal places.

In due course confidence limits will be desirable but since these are based on values for the bias and random error which are not yet available the requirements for confidence limits cannot yet be specified.



Example Report

The example report below uses fictitious data and is intended to show the data required and the way in which the various results are calculated. The information shown in italics (Local Authority, Run Time, UKPMS System & Version, Weighting Set Identifier and survey dates) are customised for each individual case.

The figures are derived as follows:

- The Red, Amber and Green lengths (km) shown in black are obtained from the survey data via the RCI calculation.
- The coverage lengths (km) shown in dark blue are obtained by summing the Red, Amber and Green lengths across the row.
- The Network lengths (km) shown in black with a light turquoise background are entered manually by the user.
- The percentage figures shown in red are calculated from the length in the Red (Amber or Green) bin as a percentage of the coverage length.
- The percentage figures shown in pink are calculated using the network length.
- The total lengths shown in blue are obtained by summing the relevant sub-categories in the column.
- The figures with a light yellow background in the second table are obtained directly from the first table.
- The lengths shown in teal in the second table are obtained by multiplying the network length by the percentage.
- The SPI figure is obtained by summing the two figures (Red & Amber) shown in bold pink.

Note that the figures in black, on which the report is based, are given and used to 3 decimal places. Thereafter full accuracy is used in the calculation of the other figures even though they are only reported to the specified number of decimal places. For example, the teal value calculated for the Red Urban A roads is calculated as:

$$(2.627 / 24.423) * 37.200 = 4.001$$

rather than as:

$$10.76\% \text{ of } 37.200 = 4.003$$



Local Authority SPI 2007 2008										
SRMCS PI Report – Run Time: dd/mm/yyyy hh:mm:ss										
UKPMS System & Version:		<i>UKPMS System & Version</i>								
Weighting Set Identifier:		<i>WS Identifier</i>								
Using survey data from dd/mm/yy to dd/mm/yy										
SPI CARRIAGEWAY CONDITION INDICATOR – 46.7%										
Results from Network Lengths Surveyed										
Environment	Class	Red		Amber		Green		Coverage		Network km
		km	%	km	%	km	%	km	%	
Urban	A	2.627	10.76	10.636	43.55	11.160	45.69	24.423	65.65	37.200
	B	0.521	8.52	2.002	32.72	3.595	58.76	6.118	27.31	22.400
	C	1.028	15.11	2.547	37.44	3.227	47.44	6.802	43.32	15.700
	U	28.544	26.32	41.334	38.12	38.555	35.56	108.433	42.89	252.800
Rural	A	20.274	8.22	75.283	30.51	151.226	61.28	246.783	97.58	252.900
	B	7.207	7.23	32.875	32.96	59.661	59.81	99.743	44.85	222.400
	C	5.254	2.84	47.290	25.59	132.262	71.57	184.806	45.17	409.100
	U	9.576	21.04	18.632	40.94	17.297	38.01	45.505	11.22	405.400
Overall by class	A	22.901	8.44	85.919	31.68	162.386	59.88	271.206	93.49	290.100
	B	7.728	7.30	34.877	32.95	63.256	59.75	105.861	43.24	244.800
	C	6.282	3.28	49.837	26.01	135.489	70.71	191.608	45.11	424.800
	U	38.120	24.76	59.966	38.95	55.852	36.28	153.938	23.39	658.200
Urban	All	32.720	22.45	56.519	38.77	56.537	38.78	145.776	44.43	328.100
Rural	All	42.311	7.34	174.080	30.18	360.446	62.49	576.837	44.72	1289.800
All	All	75.031	10.38	230.599	31.91	416.983	57.70	722.613	44.66	1617.900
Results of Surveys Weighted Across Total Network Lengths										
Environment	Class	Red		Amber		Green				Network km
		km	%	km	%	km	%			
Urban	A	4.001	10.76	16.200	43.55	16.998	45.69			37.200
	B	1.908	8.52	7.330	32.72	13.162	58.76			22.400
	C	2.373	15.11	5.879	37.44	7.448	47.44			15.700
	U	66.547	26.32	96.366	38.12	89.887	35.56			252.800
Rural	A	20.777	8.22	77.149	30.51	154.974	61.28			252.900
	B	16.070	7.23	73.302	32.96	133.028	59.81			222.400
	C	11.631	2.84	104.685	25.59	292.785	71.57			409.100
	U	85.312	21.04	165.991	40.94	154.097	38.01			405.400
Overall by class	A	24.778	8.54	93.349	32.18	171.973	59.28			290.100
	B	17.977	7.34	80.632	32.94	146.190	59.72			244.800
	C	14.003	3.30	110.563	26.03	300.233	70.68			424.800
	U	151.859	23.07	262.357	39.86	243.984	37.07			658.200
Urban	All	74.829	22.81	125.775	38.33	127.496	38.86			328.100
Rural	All	133.789	10.37	421.127	32.65	734.885	56.98			1289.800
All	All	208.618	12.89	546.902	33.80	862.381	53.30			1617.900