UK Pavement Management System

Technical Note 29

Production of the Best Value Performance Indicator Report for BV187 – Condition of Footways

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Document Information

Title (Sub Title)	Technical Note 29 Production of the Best Value Performance Indicator Report for BV187 – Condition of Footways
Author	Ro Cartwright, Mike Gibb & Chris Spong
Description	This Technical Note provides guidance for UKPMS Developers to allow them to produce BV187, the PI report for the condition of footways.

Document History

Version No	Status	Author	Date	Changes from Previous Version
0.01	Draft	JMG	19.06.13	First draft based on 2007/08 version but revised to remove date specific references so that the Technical Note applies to any year from 2013/14 onwards until further notice.
0.02	Draft	RAC	09.07.13	Transferred to new template. The Technical Note has been updated so that the style and structure are more consistent with other, more recent, UKPMS Technical Notes for performance indicators. This includes updating the references to Rule Sets to refer to 'RP10.01 or later'.
0.03	Draft	RAC	15.07.13	Reviewed by JMG
0.04	Draft	RAC	30.07.13	Revised to include changes suggested by FCMG: ▪ Add clarification that BV187 is no longer a national requirement; and ▪ Add a reference to TN47 for those authorities that wish to report using FNS data.
1.00	Issue	RAC	05.08.13	Ratified by Steve Spender for FCMG
1.01	Draft	RAC	14.01.19	The website references have been updated
1.02	Draft	RAC	18.01.19	Reviewed by CCS
1.03	Draft	RAC	14.02.19	Updated reference to Code of Practice
2.00	Issue	RAC	25.02.19	Ratified by David Kinsey for FCMG
2.01	Draft	RAC	02.02.21	Draft based on version 2.00 but revised as follows: ▪ Website references updated
2.02	Draft	RAC	10.02.21	Reviewed by CCS
3.00	Issue	RAC	02.03.21	Ratified by Andy Pickett for FCMG

Document Owner

The owner of this document is the Footway Condition Management Group (FCMG).

Document Support

Support for this document is provided by Linhay Consultancy Ltd and Hyperion Infrastructure Consultancy Ltd who can be contacted via ukpms@hyperion-uk.com. These organisations have been appointed as the UKPMS system accreditors by the UK Roads Board.

This document can be found online on the [RCMG website](#).

Introduction

This Technical Note provides guidance for UKPMS Developers to allow them to produce BV187, the PI report for the condition of footways. BV187 is no longer required for national reporting by local authorities, but it is specified via this Technical Note for those local authorities that wish to continue to use BV187 for local reporting.

Local authorities that wish to use Footway Network Survey (FNS) data to report on the condition of their network should refer to Technical Note 47 (Footway Network Survey; Network Performance Reports).

This document provides:

- **Changes since the last version**
- **Background Information** on survey coverage
- **Processing & Reporting Requirements** including an example report

Changes since last version

The website references have been updated.

Background Information

Authorities are required to base their BV187 survey result on a walked DVI survey of their footway network of category 1a, 1 and 2. Each year authorities should survey at least 50% (by number rather than by section length) of the sections identified with Category 1a, 1 and 2 footways so that over each two-year period the entire network has been surveyed; the minimum survey coverage is 90%. For the reporting year (1 April to 31 March) authorities are required to base their BV187 results on all data collected during the reporting year and this must cover at least 50% of the network.

Inventory requirements

Footway inventory is mandatory for all sections included in the Performance Indicator and must be collected using the same XSPs as the condition data. The inventory will collect the following attributes for each length of footway:

- Start Chainage
- End Chainage
- Cross Section Position
- Width
- Hierarchy

Construction Type is optional, and may be recorded as "UK" (Unknown).

Selection Process

UKPMS provides for the allocation of footway hierarchy at two levels, a "default" hierarchy for the whole section and a more detailed hierarchy linked to inventory which allows the different characteristics of footways within a section to be accounted

for. Figure 1 describes an approach, which allows the surveys for the indicator to be carried out without having to carry out a full inventory survey prior to the DVI Survey.

Identify those UKPMS sections with Hierarchy 1a, 1 or 2 footways. If a detailed record of footway hierarchies has been collected against inventory in an authority's UKPMS system, then any occurrence of such a footway would qualify a section for inclusion. If footway hierarchy is recorded against the section, then all those sections with a "Default Footway Hierarchy" of 1a, 1 or 2 are included. Those authorities that have not previously allocated footway hierarchies will have to identify the 1a, 1 or 2 category footways prior to this step. The section hierarchy should be set to the "highest" hierarchy within that section[1].

Footway Hierarchies (Categories) are described in 'Well-managed Highway Infrastructure – A Code of Practice' as shown in the following Table which also shows the corresponding UKPMS hierarchy code.

UKPMS Code	Category	Description
1(a)	Prestige Walking Zones	Very busy areas in towns and cities with high public space and street scene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.
	Minor Footways	Little used rural footways serving very limited numbers of properties

Within UKPMS systems there is also a "special" footway hierarchy of "ND", which should be allocated to those sections with no footway present.

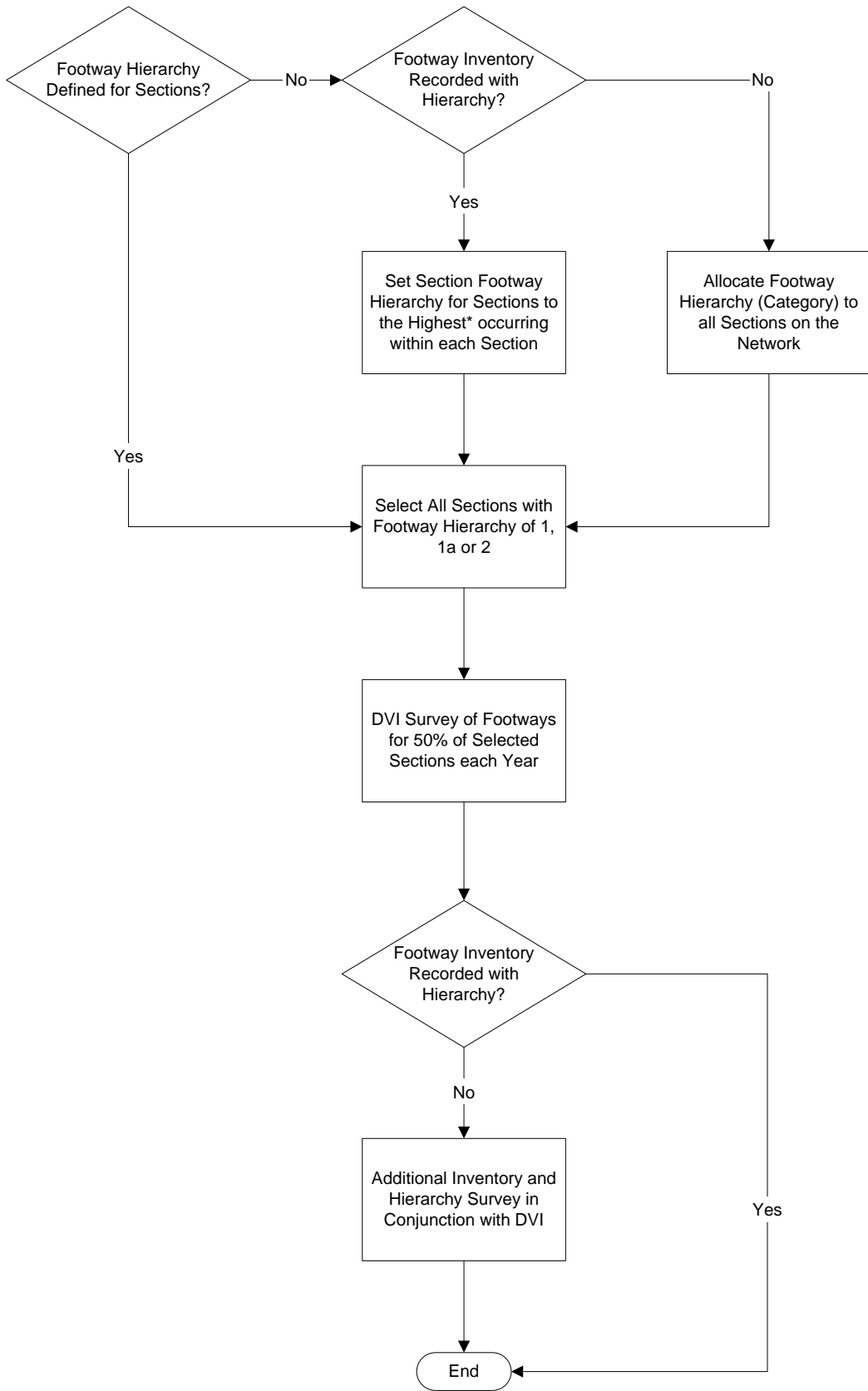[1] i.e. 1a being the highest and 4 the lowest

Figure 1: Selection and survey of footways

The "highest" footway hierarchy is 1a, then 1, 2, 3 and then 4.

Notes:

1. *DVI surveys must be carried out in accordance with "Visual Data Collection for UKPMS", Volume 2 of the UKPMS User Manual.*
2. *All inspectors carrying out visual surveys for BV187 and all Data Capture Device (DCD) software used to collect data must be accredited in accordance with the current UKPMS accreditation procedures.*
3. *Footways that are not associated with carriageways (i.e. footpaths etc.) should also be included, provided that they are public highway maintainable at public expense.*
4. *Paved verges are not included as part of the Performance Indicator.*
5. *Shared pedestrian and cycleway facilities should also be included.*
6. *All types of footway surface are included.*
7. *Footway inventory data is required for all footways included in BV187 and **must** use the same cross sectional positions (XSPs) as the condition data in order for the data to be processed together.*
8. *CVI surveys are not permitted for the derivation of the indicator. Developers are encouraged to provide facilities that prevent CVI surveys being inadvertently selected when producing BV187 reports.*

Authorities should also provide the following information to support the BVPI:

- UKPMS system & version
- Version of Rules & Parameters used
- Name(s) of Inspector(s) & accreditation date(s)
- DCD software & version used
- Reasons for reduced survey coverage (if applicable)
- Other comments

Processing & Reporting Requirements

The data are processed using the UKPMS Automatic Pass and the PI is based on data collected in the most recent financial year.

The basic run parameters for the Automatic Pass to produce a PI report are as follows:

1. Version RP10.01 or later of the UKPMS Rules & Parameters must be used for both the specification of the defects that comprise the UKPMS Visual Inspection survey and for the automatic pass processing.
2. Standard Merge Method 3 (Variable Intervals) is to be used, with a condition index tolerance of 12 and a percentage tolerance of 10%.

Calculation of Reported Values

The PI is the percentage length of the surveyed footway network (of hierarchy 1a, 1 and 2) satisfying the following:

- Overall CI ≥ 20

Notes:

1. *The example report suggests a format for hierarchy 1a, 1 and 2 footways. As a minimum, the data listed as items 1 to 6 should be included. Provided these items are included, calculated as specified in this document, developers may adopt their own report format and may include additional information, including reporting on other footway hierarchies and other features.*

2. *All lengths shown on the report are given in km to 3 decimal places, the PI is given to the nearest whole number and other percentages are given to 1 decimal place.*

3. *Footway inventory is required for all sections included in the Performance Indicator and this inventory must use the same XSPs as the condition data. It is suggested that Developers may wish to ensure that inventory is used, or at least indicate on the BVPI report if it has not been used.*

4. *The selection and reporting for sections is based upon the section attribute Default Footway Hierarchy. The reporting for Footway Length (item 4) is based upon the Feature Hierarchy recorded against the footway inventory, and is restricted to those footways which are located on sections with the required Default Footway Hierarchies. Similarly the condition index results (item 5) are only derived from Defect Lengths on sections with the required Default Footway Hierarchies.*

5. *Footway lengths recorded as "Not Assessed" are excluded from the reporting. It is assumed that if inventory including footway hierarchy is being collected in conjunction with the DVI survey, then inventory data are still being collected, even though the DVI has not been possible.*

6. *The Zero CI band is calculated as 'All' minus 'Others'. That is, the All figure is set to the Footway Length (4), and the Zero CI Band (5c) is calculated as (4) minus Sum((5a) , (5b) , (5d))*

Users of the report are encouraged to check the UKPMS System and Version on the [RCMG website](#) to ensure that the version of the UKPMS system being used to produce the results is accredited to produce valid results for BV187 for the relevant year.

The following statistics are to be included on the report for BV187, for Category 1a, 1 and 2 footways:

1. Network length, given as:
   a. The number of sections with a Section Footway Hierarchy of 1a, 1 or 2.
   b. The length in km of these sections.
2. Surveyed network length over the complete 2-year period (e.g. 1 Apr 2006 to 31 March 2008 for the 2007/08 report), given as:
   a. The number of sections surveyed.
   b. The length in km of these sections.
   c. The percentage network surveyed, calculated as the number of surveyed sections divided by the number of network sections. This figure should be 90% or greater.
   d. The length percentage may also be given (the length of surveyed sections as a percentage of the length of the network sections).
3. Surveyed network length for the reporting year (e.g. 1 Apr 2007 to 31 Mar 2008 for the 2007/08 report), given as:

    a.   The number of sections surveyed.

    b.   The length in km of these sections.

    c.   The percentage network surveyed, calculated as the number of surveyed sections divided by the number of network sections. This figure should be 50% or greater.

    d.   The length percentage may also be given (the length of surveyed sections as a percentage of the length of the network sections).

4.   Surveyed footway length for the reporting year (e.g. 1 Apr 2007 to 31 Mar 2008 for the 2007/08 report), based on the footway inventory for those surveyed.

5.   The footway length within CI band, using only the data for the most recent year:

    a.   Overall CI >= 20

    b.   Overall CI < 20 and > 0

    c.   Overall CI =0

    d.   plus Not Assessed Lengths

6.   BV187: This is calculated as the length of footway with Overall CI >= 20, divided by the surveyed footway length less Not Assessed lengths.

Example Report:

Part 1: Run Parameters

Authority:	Oldshire CC
UKPMS:	Bloggs PMS v2.45
Automatic Pass Run Reference:	DVI3_BV187_02
Run Date:	21/05/2013
Rule Set ID:	RP10.01
Feature:	Footway
Pavement Types:	All (BP, BT, CR, FG)
Selected Merging Method:	Standard Merge Method 3 (Variable Intervals)
Merging Parameters CI Tolerance:	12
Merging Parameters Percent Tolerance:	10
CI Exception Level:	20

Part 2: Processed Data

Summary of data processed by this automatic pass for the selected network:

Selected network   304 sections *(1a)*
                                           67.800 km *(1b)*

DVI Length Surveyed in full 2-year Survey Period (1 Apr 11 to 31 Mar 13):

Hierarchy	Sections			
	Number	Km	% Network (No)	% Network (Length)
1a	20	7.300	6.6%	10.8%
1	91	22.400	29.9%	33.0%
2	182	34.600	59.9%	51.0%
All 1a, 1 and 2	293 *(2a)*	64.300 *(2b)*	96.4% *(2c)*	94.8% *(2d)*

DVI Length Surveyed in most recent year (1 Apr 12 to 31 Mar 13):

Hierarchy	Sections				Footway Length	
	Number	Km	% Network (No)	% Network (Length)	% Network	Length (km)
1a	12	4.300	3.9%	6.3%	8.7%	4.900
1	47	10.800	15.5%	15.9%	26.2%	14.800
2	115	21.200	37.8%	31.3%	65.1%	36.750
All 1a, 1 and 2	174 *(3a)*	36.300 *(3b)*	57.2% *(3c)*	53.5% *(3d)*	100.0%	56.450 *(4)*

Performance Data:

CI Band	Processed footway length within CI band (km)			
Hierarchy:	1a	1	2	1a,1 & 2
20 and greater	0.305	1.450	4.420	6.175 **(5a)**
Under 20	1.710	4.560	12.575	18.845 **(5b)**
Zero	2.865	8.415	19.690	30.970 **(5c)**
Not Assessed	0.020	0.375	0.065	0.460 **(5d)**
All	4.900	14.800	36.750	56.450

Hierarchy	Percentage Footway Lengths over Threshold
1a	6.3%
1	10.1%
2	12.0%
1a, 1 and 2 (BV187 Value)	**11%** **(6)** **i.e.(5a/(4-5d))*100**