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INSTITUTE OF PUBLIC WORKS
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CONDITION ASSESSMENT & ASSET PERFORMANCE GUIDELINES

Practice Note 1 v2 2014

Footpaths & Cycleways

NAMS.AU



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CONDITION ASSESSMENT AND ASSET PERFORMANCE GUIDELINES

PRACTICE NOTE 1 – FOOTPATHS & CYCLEWAYS V2 - 2014

IPWEA NAMS.AU has recognised the need for industry guidelines to assist practitioners with Asset Management and Financial Planning. A number of Practice Notes have been developed for Condition Assessment and Asset Performance of various asset classes. Others relate to Asset Management for Small Communities and Long term Financial Planning. A further series of Practice Notes is being researched and will be published to assist with the important task of how best to carry out condition assessments for additional classes of assets as well as other important aspects of asset and financial management.

The aim is to foster a national approach and encourage consistency of data and outputs. These documents will be subject to review and be updated as further and better information comes to hand.

PRACTICE NOTES MAY BE PURCHASED

The following Practice Notes are now available and more are being developed to provide guidance to practitioners:

- PN1 Footpaths and Cycleways (published Nov 2007, V2 2014)
- PN2 Kerb and Channel(Gutter) (published June 2008, V2 2014)
- PN3 Buildings (published June 2009)
- PN 4 AM4SRRC (only available for AU councils <5,000 population)
- PN 5 Stormwater Drainage (published Aug 2011)
- PN 6 Long-term Financial Planning (LTFP) (published Jan 2012)
- PN7 Water Supply & Sewerage (published Oct 2013)

Practice Notes are being developed to give nationally consistent guidelines on:

- Levels of Service and Consultation
- Road Pavement Assets
- Parks and Recreation Assets

Order Forms: To purchase your copy of the individual Practice Notes, as they become available, visit www.ipwea.org/practicenotes.

Enquiries: IPWEA Australasia p: +61 (2) 8267 3001; e: admin@ipwea.org

A complimentary Preamble Document is also available (no charge)

A complimentary Preamble Document that sets out the generic principles applicable to all the above and other types of assets is also available. It covers the basic concepts of condition assessment, performance measurement, risk and data management. Practice Notes expand on each asset class. Visit www.ipwea.org/practicenotes.

PRACTICE NOTE 1

FOOTPATH & CYCLEWAYS CONDITION ASSESSMENT AND ASSET PERFORMANCE GUIDELINES

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Acknowledgements: The provision of documentation and information used during the compilation of this Practice Note is acknowledged with much appreciation by IPWEA. Our aim has been to tap into the most up-to-date practical experience being demonstrated by users around Australia. Their willingness to make their data and systems readily available means all users of these Guidelines will benefit from their collective wisdom. The sources of material reproduced in the Guidelines are noted throughout the document.

We are also indebted to those who have willingly given their time to review and provide comment as these Guidelines have been developed, to ensure we are always reflecting best practice in the field. Those who have been part of the Review Team and have provided comment are acknowledged as follows:

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Note

This Practice Note has incorporated material kindly provided by Statewide Mutual in New South Wales. While Councils in NSW may find application of this Practice Note beneficial, they are reminded that, for audit purposes, they should continue to comply also with the Best Practice Manual for Footpaths published by Statewide Mutual NSW.

TABLE OF CONTENTS

PREAMBLE	1
1.0 SCOPE OF THESE GUIDELINES	1
2.0 LEVEL OF SERVICE	2
3.0 COUNCIL'S DUTY OF CARE	3
4.0 FOOTPATH INSPECTIONS	4
5.0 FOOTPATH POLICY	6
6.0 RISK ASSESSMENT	7
6.1 Core Approach	7
6.2 Advanced Approach	7
7.0 FOOTPATH DAMAGE FACTORS	9
7.1 Footpath Trees	9
7.2 Driveway Crossings	9
7.3 New Subdivision Footpaths	10
8.0 RATING SYSTEM FOR CONDITION ASSESSMENT	11
8.1 Core Approach	11
8.2 Advanced Approach	11
9.0 FOOTPATH CONDITION DATA COLLECTION	12
9.1 Complaints/Requests System	12
9.2 Formal Inspection Program	13
9.3 Council Staff Reporting of Defects/Needs	13
9.4 Path Openings	13
10.0 FOOTPATH INSPECTION PROCESS	14
10.1 Inspection Frequency	15
10.2 Inspector Qualifications	15
10.2 Advanced Data Collection	15
10.3 Workplace Health and Safety	16
11.0 DATA ANALYSIS	17
11.1 Works Program	17
12.0 LONG TERM PLANNING	18
13.0 REFERENCES	19
APPENDICES	
Appendix 1 – Council's Duty of Care	20
Appendix 2 – A Rating System for the Inspection of Footpaths	21
Appendix 3 – Risk Rating Guide Sheet	42
Appendix 4 – Example of Data Collection System	44
Appendix 5 – Worked Example of Footpath Data Collection	50
Appendix 6 – Footpath Inspection Data Collection form	52
Appendix 7 – Example of Sophisticated Data Collection	56
Appendix 8 – Footpath Trees	57
Appendix 9 – Footpath Openings Permit System	59

PRACTICE NOTE 1

Footpath & Cycleways Condition Assessment and Asset Performance Guidelines

PREAMBLE

This Practice Note for Footpath and Cycleways Condition Assessment is the first in a series of Practice Notes developed by the National Asset Management Strategy Group (NAMS.AU) of the Institute of Public Works Engineering Australasia (IPWEA). It is intended to assist practitioners in applying best practice for condition assessment for various asset classes. The aim is to promote a national approach and encourage consistency of data and outputs. These will be living documents, subject to review and update as further and better information comes to hand.

1.0 SCOPE OF THESE GUIDELINES

The Guidelines are applicable for constructed footpaths and cycleways along road reserves, pathways and through park and recreation reserves or other council controlled land, and available for use by the general public. Footpaths and cycleways play an important role in the overall transport and recreational network. The increasing focus on pedestrian and cycle modes as a healthy and active alternative is enhancing their importance.

The term “footpath” used throughout should be taken to include ‘cycleways’ where applicable, but not including those bikeways that are part of the road carriageway. Various footpath construction materials are typically encountered, including but not limited to:

- Bituminous seal and asphaltic concrete
- Concrete slab pavers
- In-situ concrete (Reinforced or unreinforced) (Plain or exposed aggregate)
- Brick pavers or interlocking concrete pavers
- Composite (A combination of various of the above surface treatments)

Similarly footpath widths vary significantly from possible full-width construction (kerb line to property boundary) in CBD areas to a narrower strip of formed concrete footpath such as in residential streets.

These Guidelines are *not intended* to address graveled, unsealed or unconstructed pedestrian movement areas along road verges – i.e. grassed verges of road reserves in residential streets or along rural roads.

These Guidelines *do* address associated infrastructure adjacent to the formed footpath where such may impact on the service level provided by such footpath. Examples would include benches, signs, trees (roots), kerb ramps etc.

2.0 LEVELS OF SERVICE

An important part of managing footpaths, when considering the long term, is to assess the community's desired level of service for the footpath network. This may require periodic survey of the community and feedback to ensure community expectations are being met.

Expectations may vary over time and will need to be factored into longer term work programs. This is particularly important for the setting of design standards for future construction by developers and Council. As standards or expectations change, you will need to plan to meet those changes and include information for the long-term financial plan for the Council.

Information on establishing levels of service is available elsewhere. Further reference can be made to the "*International Infrastructure Management Manual*" (IIMM) and to associated documents such as the NZ Manual "*Developing Levels of Service and Performance management Guidelines*". IPWEA is developing PN 8 *Levels of Service* due to be published 2014. These go into far greater detail about how to effectively gauge community desires when setting levels of service.

For footpaths a *Core* and *Advanced* approach, as covered in the IIMM, can be applied.

Core Approach

At the *Core* level begin with an understanding of what level of service is currently provided. The parameters that should be addressed include:

- Materials to be used for various locations such as CBD, heavy pedestrian volume locations, outside shopping precincts, schools, transport nodes, hospitals etc. Of the following, choose what will be most appropriate:
 - Clay pavers
 - Concrete pavers
 - In situ concrete (reinforced)
 - Asphalt
 - Composite surfaces

- Footpath dimensions (Refer to Standard Drawings)
 - Width
 - Thickness
 - Edge treatment
 - Location in road cross-section
 - Gradient and cross fall
- Defect intervention parameters for various locations
 - Trip hazard height
 - Cracking severity
 - Slipperiness/texture
 - Light/shadow
 - Ponding
 - Obstructions

Advanced Approach

As councils gain better understanding of their network, they would move to the more advanced approach and might set targets in terms of:

- Overall ranking score for the network
- Specific ranking score aligned to various location criteria
- Repair intervention times for various types of defects at various locations

Community consultation will help you to understand and determine community expectations and willingness to pay for any changes in the level of service provided. The community needs to understand the costs of the different options available.



High LoS required Mooloolaba foreshore, Qld

3.0 COUNCIL'S DUTY OF CARE

Councils have a responsibility to ensure that any footpaths provided are maintained in a safe condition for use by their community. In May 2001 the High Court of Australia handed down its decision in relation to what is termed the *nonfeasance immunity*. Up until that time it had applied to limit the legal liability of local governments with respect to such things as footpaths. Further comment is provided on the legal implications of this decision at *Appendix 1*.

The operators and maintainers of public infrastructure such as footpaths and cycleways need to exhibit a duty of care in the planning, design, construction, operation and maintenance of that infrastructure. The duty of care will include the following three components:

- Adherence to all relevant legal obligations contained in Federal and State Statutes and Regulations and Local Government By-laws;
- Adherence to all relevant Australian Standards, Codes of Practice, Guidelines and Manuals;
- An obligation to the public where there

is an expectation or reliance by the public on the expertise and diligence of the managers, operators and maintainers of the infrastructure to provide for the protection of public safety, financial prudence and environmental protection consequential to that infrastructure.

A duty of care is also owed by Council where problems are caused by adjoining features and structures (i.e. trees and their roots, benches, signs etc). These Guidelines have been compiled to specifically address the process of determining what types of hazards require consideration for repair and when the repair should be undertaken.

They adopt a format that follows the Australian Standard AS/NZ ISO 31000 Risk Management. This Standard was produced to ensure a consistent approach to risk management, in the identification, evaluation, control and measurement of risks.

The Guidelines focus on the need to identify the risks associated with the condition of the footpaths. They specifically address the need to set up a procedure to conduct regular and formal inspections.



High quality, composite footpath in commercial area Cootamundra NSW

4.0 FOOTPATH INSPECTIONS

Why carry out footpath inspections and performance monitoring?

Two main reasons are:

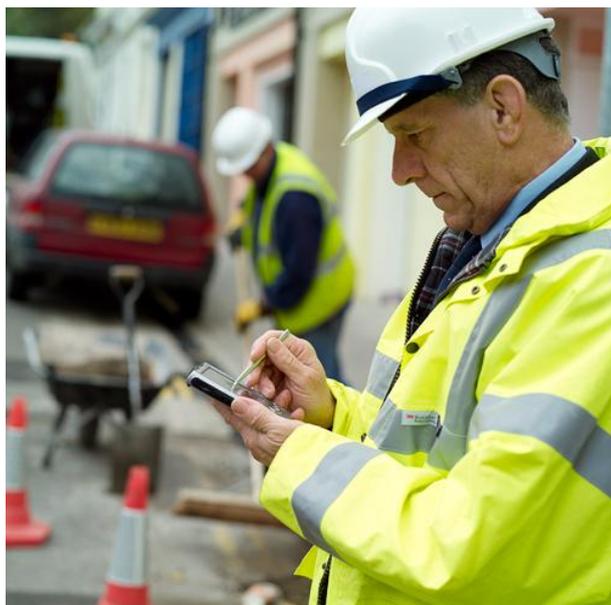
- Safety reasons to address defects that may cause a danger to the public.
- Condition assessments to identify the status of the overall network, provide trends in how the assets are performing and guide long term strategies to optimise performance of the footpath network.

Safety inspections are likely to be required more frequently (annually or even more often) than condition assessments (say 3 to 5 years).

The benefits of carrying out these inspections may be summarised as follows:

Safety Issues

- To remove hazards that are a danger to users of the footpath.
- To determine maintenance needs on existing footpaths.
- To prepare action plans to best manage risk and enhance public safety.



Footpath inspection and recording

Condition Assessment Issues

- To estimate Remaining Useful Life of the footpath network sections
 - To determine where sections of the network may need renewal/replacement.
 - To determine whether the existing footpath assets are meeting expectations of the community, referring to Service level agreements and KPIs.
 - To determine whether current standards in terms of design and maintenance are satisfactory for their intended use.
 - To determine gaps where new additional footpath may be required.
 - To assist strategic asset management planning and long term financial planning for the orderly maintenance/renewal of existing footpaths and to assess future demand for new assets.
- To establish asset inventory.

You will be able to address all of the above points when analysing the data resulting from well-designed inspection programs.

Footpaths are a really important class of asset as they are potentially one of the highest sources of claims against Councils for slips, trips and falls. Accordingly risk management principles come into play more, as part of the inspection and condition assessment process.

Inspections, particularly for safety reasons, need to be more frequent and aimed at immediate translation into action plans for repair or replacement of identified hazards.

The aim is for a 2-step outcome:

1. A plan of action for any short-term remedial work, to be updated following each safety inspection cycle, and
2. A network assessment of overall condition to inform long-term planning for management of the footpath network and any modification necessary in terms of design, materials utilised and the like. Long-term planning

includes setting of budgets to maintain desired and affordable levels of service.

Undertaking overall footpath network condition assessments allows monitoring of the whole footpath portfolio over time. This will enable you to assess the average rate of decay across the whole portfolio. Long-term action plans and the allocation of necessary funding, can then be determined to seek to achieve levels of service targets.

When considering levels of service standards for footpaths, there will be issues of both the desired footpath style and risk management. This can be demonstrated where pavers are desired for aesthetics but there may be greater

maintenance and inspection intervention needed to minimise trip hazards, deformation and slip resistance. Footpath inspection and condition assessments can be carried out to varying levels of sophistication. This *Practice Note* will provide guidance on both *Core* and more *Advanced* methods that can be applied depending on the organisation's needs.

Each council will select the degree of sophistication it wishes to utilise as a policy decision. This may be dependent on resources available. Give careful thought to the design of the process to be adopted. It is desirable to start with a simple, affordable process that can be enhanced over time.