

Managing Expected Surface Lives in RAMM

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INTRODUCTION

This overview is intended to provide high level support and direction in *managing* expected surface lives in the Road Assessment and Maintenance Management (RAMM) software. Supplementary detailed support is provided in the guideline; *Maintaining* Expected Surface Lives in RAMM. Any relevant current industry guidance and case studies have been referenced, where they provide more detailed assistance.

WHAT IS AN EXPECTED SURFACE LIFE?

An expected surface life is the average number of years a surface is expected to achieve based on its physical characteristics, environment and knowledge. These include (not exhaustive):

- Surface material type and chip/aggregate size
- Traffic volume and loading
- Pavement strength
- Condition of the underlying surface at the time of resurfacing (i.e. was texture variable?)
- Number of seal layers
- Geometry
- Rainfall

WHY IS IT IMPORTANT SURFACE LIVES REFLECT NETWORK PERFORMANCE?

Expected surface lives are a key input into our asset management and decision-making processes. These lives need to reflect what is being achieved on the network.

They are critical in short to long term renewal programming, analysis and forecasting; particularly:

- The Treatment Selection Algorithm (TSA)
- Forward works programme development
- dTIMS analysis
- Asset Valuation
- Life cycle analysis
- Maintenance intervention effectiveness

It is important that lives are reflective of network performance to achieve outputs that reflect reality. The potential consequence is that the analysis we undertake, and the programmes we develop do not achieve the desired outcomes. Levels of service are under delivered, assets are not preserved cost effectively for current and future customers, or investment is made with little to no benefit. The Maintaining Surface Lives in RAMM Guideline provides more guidance on this.

Table 4-4 of Chipsealing in New Zealand contains expected surface lives for Chipsealing surfaces based for different surface types, function and traffic volume. Achieved lives on the network should be periodically reviewed and any significant differences with the values in table 4-4 investigated.

KEY POINTS

Expected Surface Lives in RAMM:

- ✓ An expected surface life is the average number of years a type of surface is expected to achieve based on its physical characteristics and environment
- ✓ Expected surface lives need to reflect network performance to achieve outputs that reflect reality
- ✓ Any value recorded in the design life field should be by exception and specific to the expected performance of that surface asset based on knowledge
- ✓ Populating the design life field should only be done at the time the surface was constructed and the inventory record created
- ✓ It is best practice to supplement the design life value with details why in the notes field
- ✓ It is recommended that periodically the achieved lives on the network are assessed and compared to the values in table 4.4 of Chipsealing in NZ guide and any significant differences investigated
- ✓ The Forward Works Programme should be used to manage surfaces not expected to achieve their expected lives

Expected surface lives need to reflect the reality of what is achieved on the network. These lives are key inputs into our asset management and decision-making processes.

SURFACE LIVES IN RAMM

Manual Entry System Assigned

Surface ID	Road	Start	End	Surface Date	Age	Surface Material	Function	1st Chip Size	2nd Chip Size	Design Life	Modified Life	Default Life	Notes
5413	ILLINOIS DR	353	533	25/12/2015	3	Asphaltic concrete	2nd Coat	10		18	14	14	

Expected life specific to this surface record based on knowledge with reasons why recorded in the Notes field. Recorded at the time of construction and not populated or updated later. These need to be manually populated.

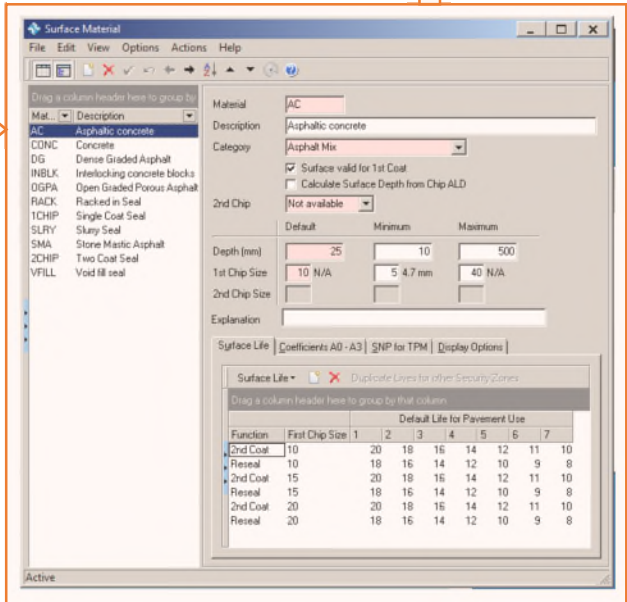
These fields, plus pavement use, are used for determining the default and modified life for each surface record. These are system generated in the Carriageway Surface table

Carriageway Surface Table

The above figure illustrates where, and how, surface lives are recorded in the Carriageway Surface table.

The Carriageway Surface table has three fields for recording the expected life of a surface asset.

C_Surface Table Field	Description	How and when
Default Life	The expected surface life based on network averages recorded in the Surface Material table at the time the Carriageway Surface record was created (<i>network level</i>)	At time surface record created System Assigned
Modified Life	The expected surface life based on network averages as currently recorded in the Surface Material table (<i>network level</i>)	Current System Assigned
Design Life	The expected surface life specific to the surface record based on knowledge at the time of construction and supplemented with comments in the Notes field (<i>site level</i>)	At time of construction Manual Entry



surface function and pavement use exist in the Surface Material table matching the surface record.

Any value recorded in the design life field should be by exception. They are specific to the expected performance of that surface asset based on knowledge. It is best practice to supplement this value with details of why in the notes field.

Treatment Length Table

Many of our asset management and decision-making processes for pavement and surfacing assets are based on data summarised into the Treatment Length table. This includes current top surface data with expected top surface life.

The top surface life is system assigned from the lives recorded in the Carriageway Surface table record. The top surface life in the treatment length table is:

1. The Design life when populated; otherwise
2. The Modified life when populated; otherwise
3. The Default life

REFERENCES

[Chipsealing in New Zealand](#) (Author: Transit New Zealand, Road Controlling Authorities & Roading New Zealand)

[Surfacing Data Overview](#) (Author: Road Efficiency Group)

[Maintaining Surface Lives in RAMM Guideline](#) (Author: Road Efficiency Group)

REG is a collaborative project between Local Government and the NZ Transport Agency.

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