

# Building Experience; Delivering Value



## Good Practices for Improved Drainage and Surfaces on Unsealed Roads

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Hurunui District Council

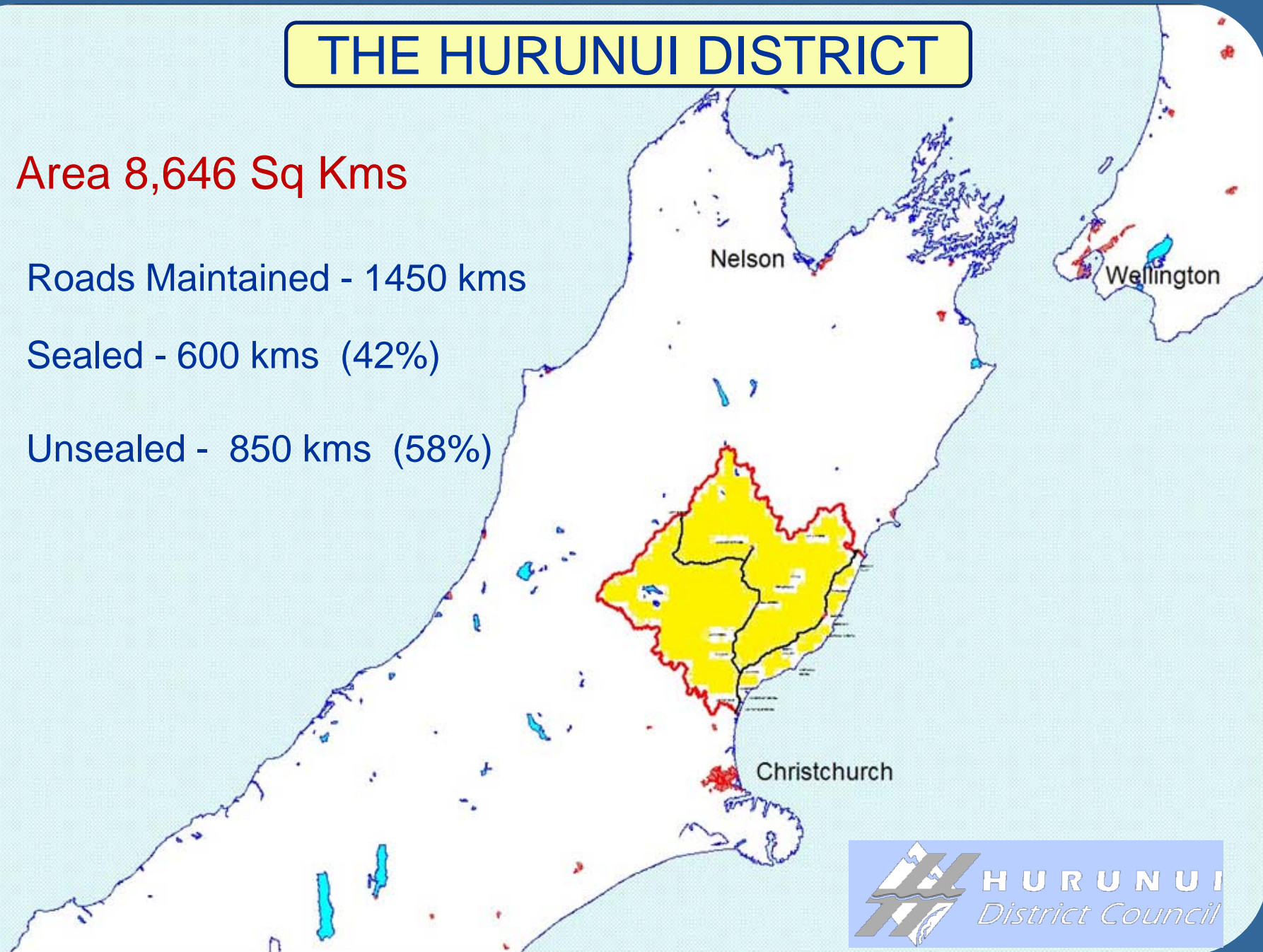
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# THE HURUNUI DISTRICT

Area 8,646 Sq Kms

- Roads Maintained - 1450 kms
- Sealed - 600 kms (42%)
- Unsealed - 850 kms (58%)



# Unsealed Roads

- ❑ Drainage
- ❑ Shape
- ❑ Carriageway Surface
- ❑ Management Systems

# Drainage



- High Shoulders
- Surface Channels
- Road Drains
- Cut-Off Drains

# Storm Water Control



- Water By-Passing Culvert



- The Results

# The Shape



- Too Flat



- Much Better

# The Surface



## Metal Surface

- Aggregate;
- Size
- Type for Site
- Blend



# The Shape on Curves



- Incorrect Camber

- Poor Drainage



- Better Camber

# Grading



- Maintain Shape
- Moisture Content
- Cutting Edges

# Drainage, Shape & Surface Upgrades



- Work In Progress



- Reclaimed Material to Centre

# Upgrades Continued



- Milling Windrow



- 2 Weeks After Flanking/Reshape

# Before & After



- Before



- 18 Months on

# Traction Seals & Transition Points



- Intersections
- Bridge Approaches
- Seal/Metal Interface
- Steep Grades

# Unsealed Roads Management Systems

## ■ Unsealed Road Condition Rating Standards

RAMM Standards and Guidelines

Part II:

### UNSEALED ROAD CONDITION RATING STANDARDS

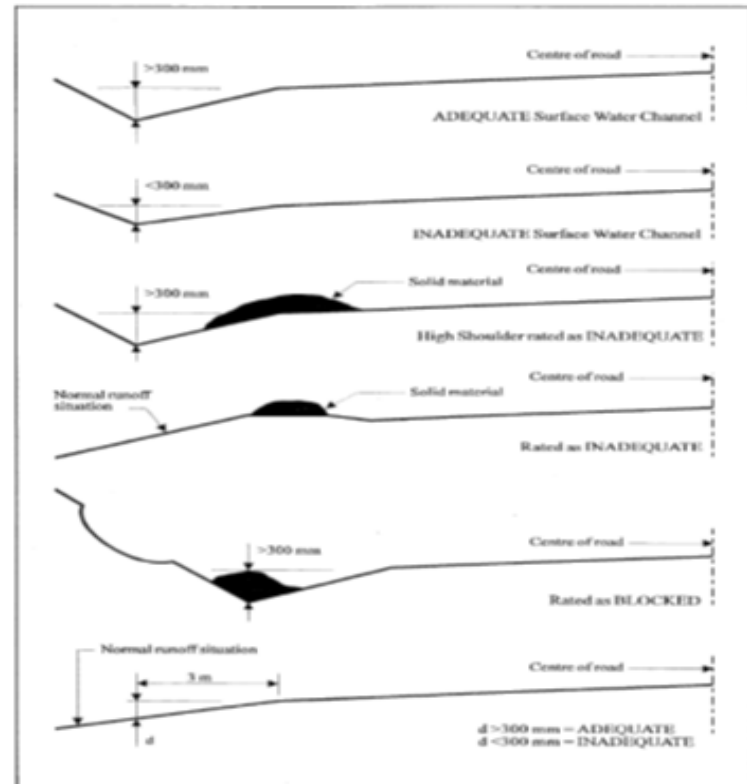
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TNZ: RAMM Road Condition Rating

Part II: Unsealed Road Condition Rating Standards.

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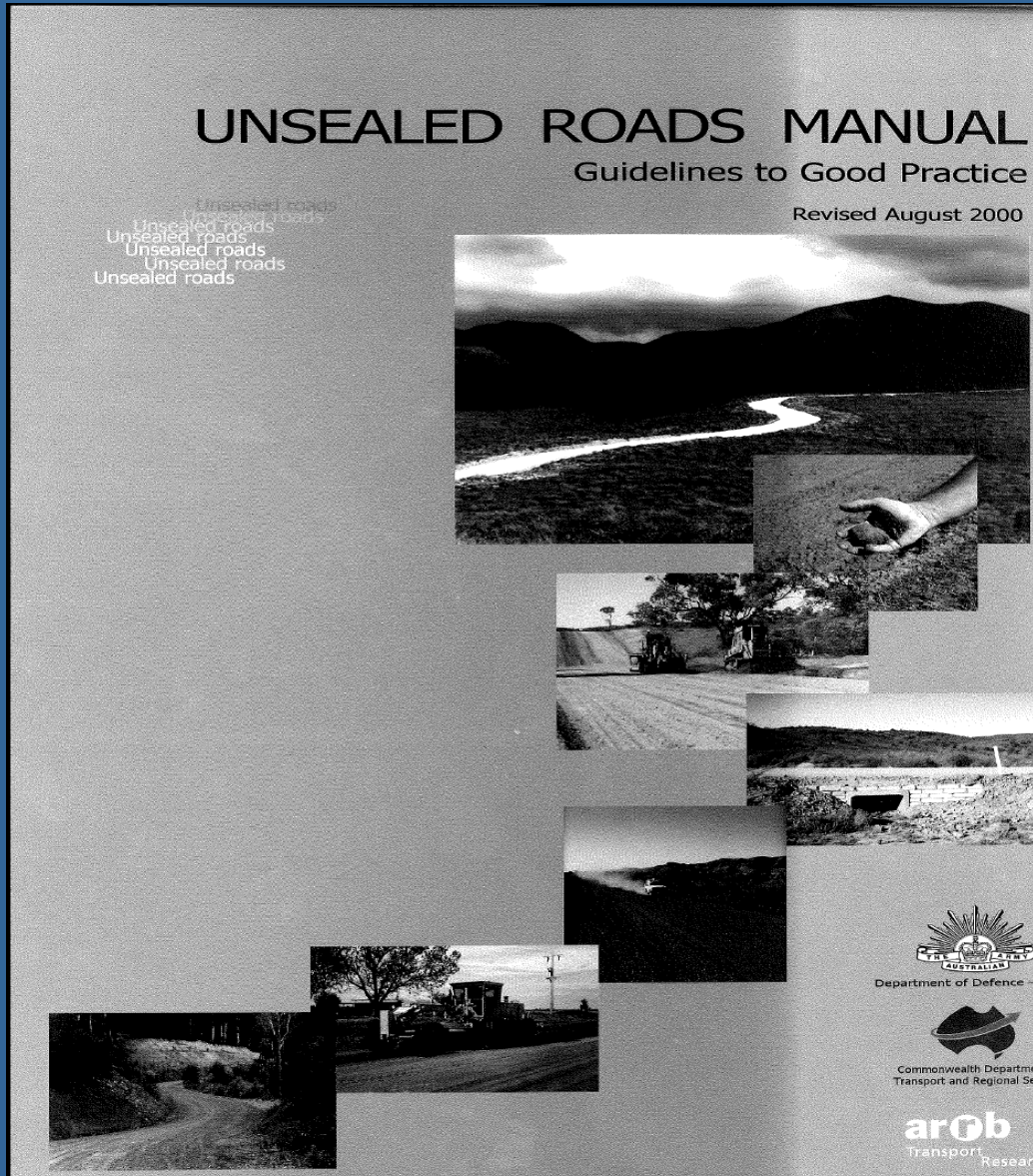
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# UNSEALED ROADS MANUAL

Guidelines to Good Practice

George Giummarra  
(Editor)

ARRB Transport Research



- More Road Management systems;
  - Hierarchy System for Unsealed Roads
    - Average Grading Frequencies
    - Length of Network per Grader
    - Service Levels - AMP

- ❑ Management Continued;
- ❑ Metalling Programme
  - Ensure metalling is well controlled
  - Use weather and road conditions wisely
- ❑ Develop Unsealed Roads upgrade programme
  - Drainage, flanking & shaping

# The Grader Driver

- ❑ The grader driver/s are a key part of a successful Rural Road Maintenance Contract
- ❑ The maintenance grader driver is expected to;
  - Have an intimate knowledge of his/her roads
  - Be able to read the weather & road conditions
  - Understand all types of road metal & their characteristics
  - Be an expert in PR skills, often under trying circumstances

# The End



# Questions

