

# BACK TO THE FUTURE

Biennial Symposium: 10 – 11 October 2012



**RAILWAY & HARBOUR DIVISION**



**CONTINUING EDUCATION  
UNIVERSITY OF PRETORIA**

# The Dynamics of Track Maintenance

## An Overview

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BACK TO THE FUTURE – Biennial Symposium



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# Presentation Outline

Introduction

Typical Maintenance Cycle

Maintenance and the Business

Business Requirements

Inspections, Measurements and Action

Maintenance Execution

Concluding Remarks

# Introduction

My Topic:

The Dynamics of Track Maintenance

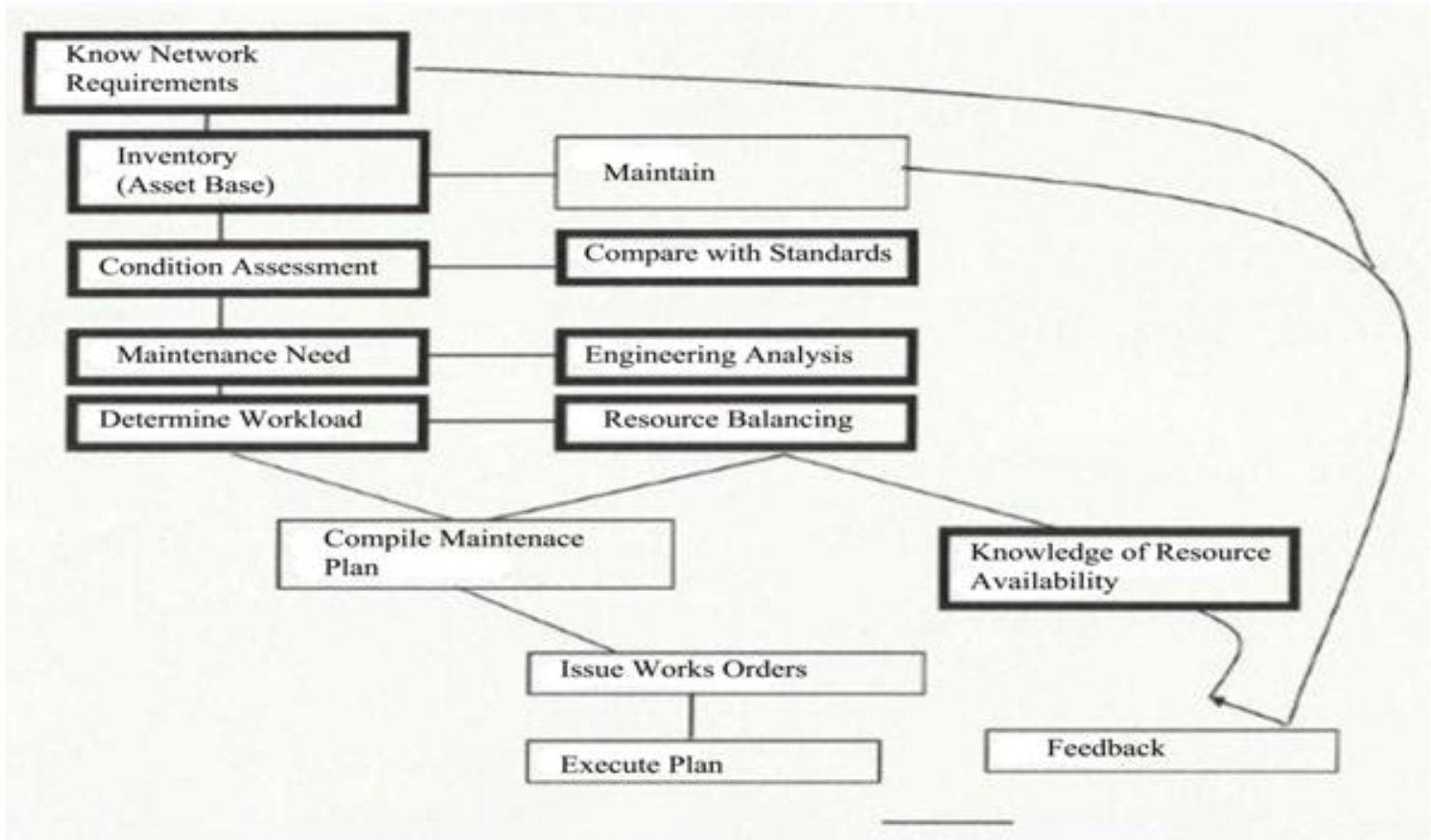
Focus:

- Not In Depth Technical
- Back to Basics/Back to the Future
- Maintenance and Business Requirements

In the End:

- Providing and Maintaining any asset is all about what the business requires
- In this Case Transport and Specifically Railways

# Maintenance Cycle



# Maintenance and the Business

Maintenance is about Processes

Maintenance is about Asset Knowledge

Maintenance is about Standards

Maintenance is about Inspect, Measure, Action

Maintenance is about Resources and Balancing of Resources

But Always about Business Requirements

# Business Requirements

What is Required by Business?

- Reliability
- Availability
- Affordability
- Safety

We can argue about Priorities

In the end: All to be delivered as a balanced package

# Business Requirements

RAAS

vs.

SARA

vs.

ARAS

vs.

RAMAS



# Business Requirements

To Enable RAAS, SARA or RAMAS

Know your Assets

Know your Requirements

Love your Asset

Maintain Your Asset

Short, Medium and Long Term Focus

# Inspections, Measurements and Action

## Inspect and Measure

- Various Measurement Equipment, Tools and Vehicles
- But without Action **No** RAAS, SARA or RAMAS
- Inspections
  - ❖ Measurement Cars
  - ❖ Trolleys
  - ❖ Locomotives
  - ❖ Walking
  - ❖ Site Specific Inspections
- Inspections —————> Analysis —————> Action
- Short vs. Medium vs. Long Term Action

Remember: You can have the best measuring equipment but without analysis and action: Worthless

# Inspections, Measurement, Action

- Be on the Track
- Be on the Lookout for Exceptions
- Be on the Lookout for Component Failure
- Look Wide but also in Detail
- **Not** from the Service Road
- **Not** from the Office
- Hunting and Track Maintenance

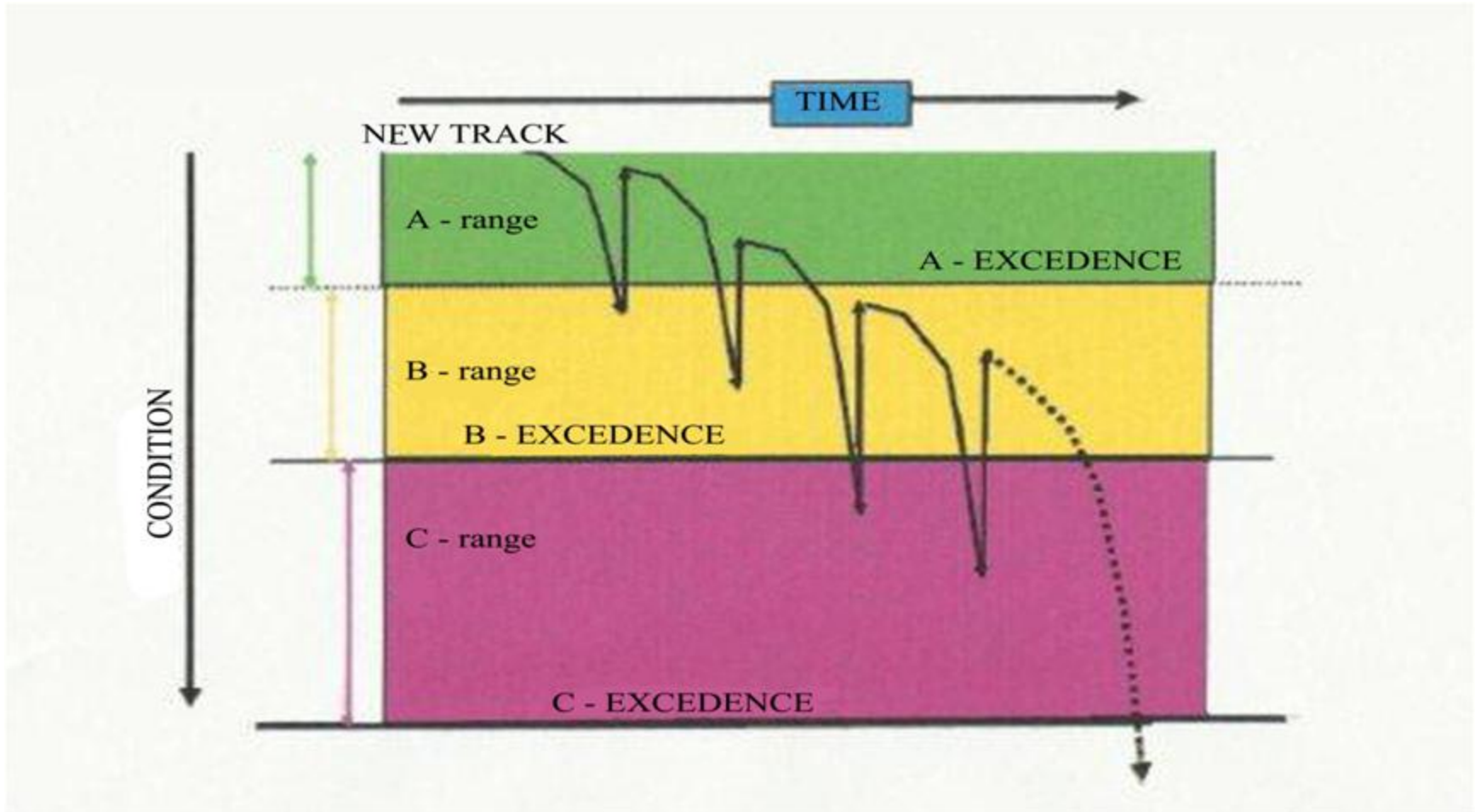
# Maintenance Execution

- Minor Faults
- Preventative Maintenance
- Corrective Preventative Maintenance
- Major Faults
- Projects

Remember:

The Better Preventative Maintenance: Less Minor Faults  
The Better Preventative and Corrective: Longer Lifespan  
The Longer Lifespan of the Asset: Business Success  
Balance and Timing  
It is Easier to keep a Standard than Rectify

# Maintenance Execution



# Concluding Remarks

Technical and Business Balancing

Technical Responsibility as Experts

No Track No Railway

No Business No Track to Maintain