

Road Asset Management (RAM) Training

10-13 August 2020

4-1: AMP, Teams and Tools
4-2: Contracting Models

Primer for full session

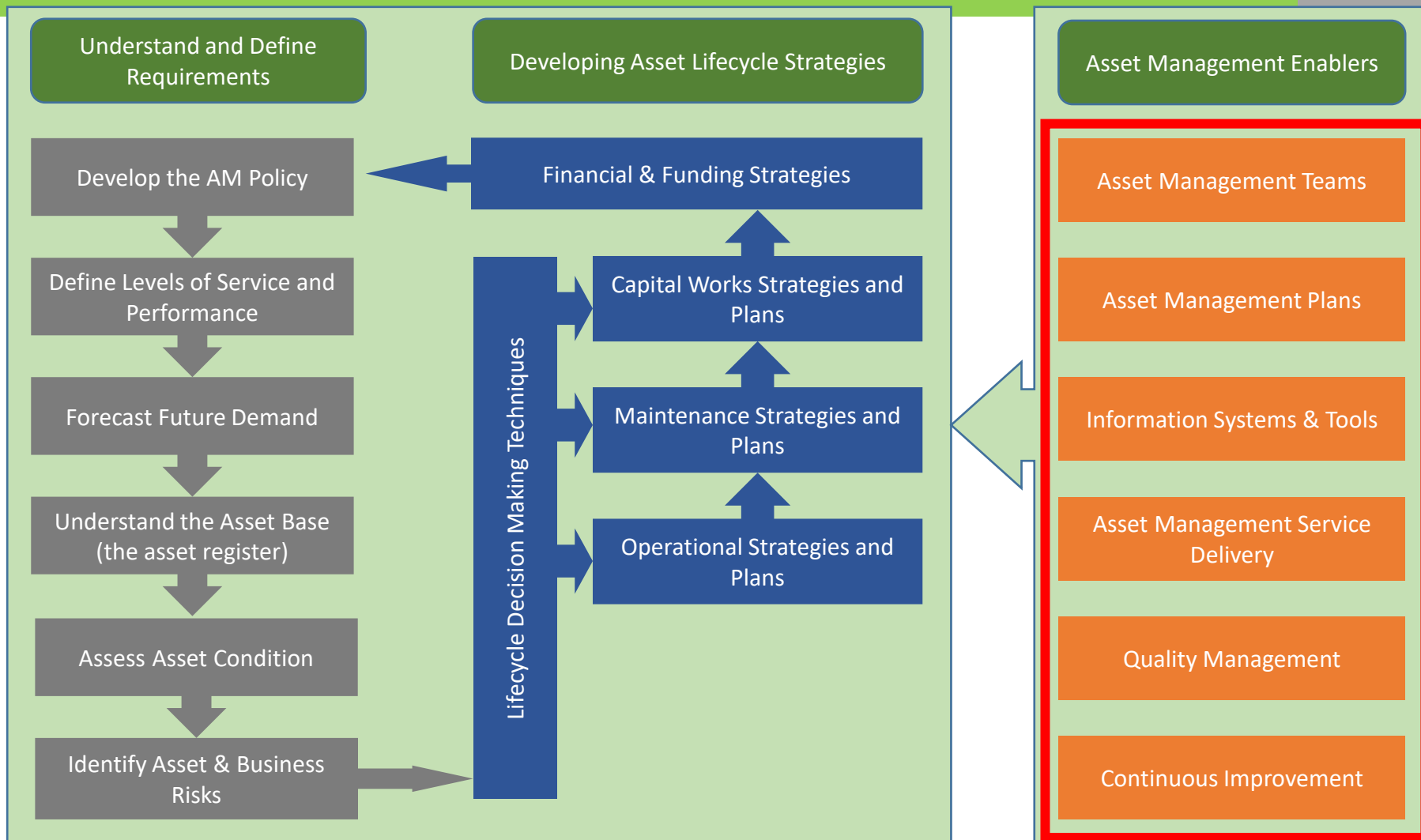
Dr Ian Greenwood
BE(Civil), PhD(Eng), FEngNZ(Civil), CPEng(NZ)
ian@gaic.nz

- Introduction to Road Asset Management
- Overview of the Components of RAM
- Levels of Service and Performance Measures
- Inventory and Condition Data
- Lifecycle Decisions Making and Funding
- Asset Valuation
- Asset Management Plans, Teams and Tools
- Contracting Models and Impact on RAM

Training Sessions

1. Introduction to Road Asset Management
2. Overview of the Components of RAM
3. Levels of Service and Performance Measures
4. Inventory and Condition Data
5. Lifecycle Decisions Making and Funding
6. Asset Valuation
- 7. Asset Management Plans, Teams and Tools**
- 8. Contracting Models and Impact on RAM**

International Infrastructure Management Manual (IIMM) AM Process



What is an AM Manual (AMM)?

- The recipe for successful AM in an organisation
- Like food, every location has its own local flavour
 - Local legislation
 - Local funding cycles
 - Local weather that impacts on data collection and physical works
- Having an AMM is not the same as having a good AMP or good assets
- An AMM is the glue that holds all the AM components together
 - Makes the whole greater than the sum of the parts

Benefits of Having an AMM

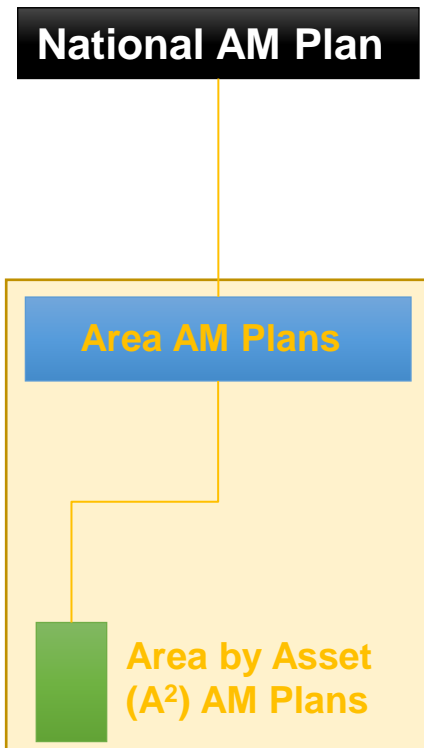
- Managed workflow
- Consistency of delivery of AM functions
- Reduces reliance on key individuals
- Assists in developing a common language across asset borders.

Asset Management Plans

- Pull the whole picture together
- Gives organization a clearer picture of future
- Is your tool for demonstrating that you are delivering the right level of service in a cost-effective way for present and future customers.
- Enables organization and customers to focus on future service problems and cost drivers
- Highlights weaknesses



Common to Have an AMP Heirarchy



- Comprehensive central document
- Summarises the Area plans (feeding upwards)

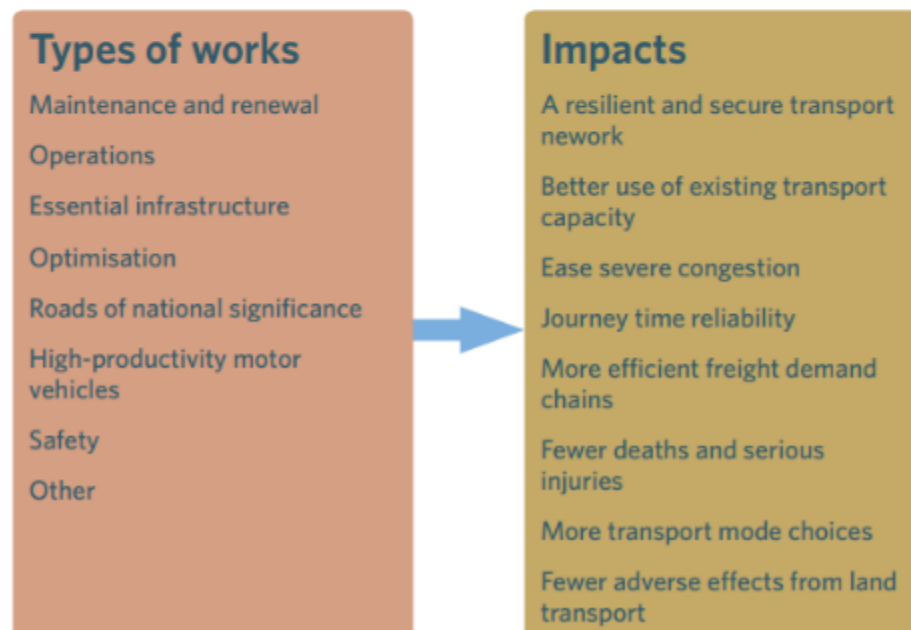
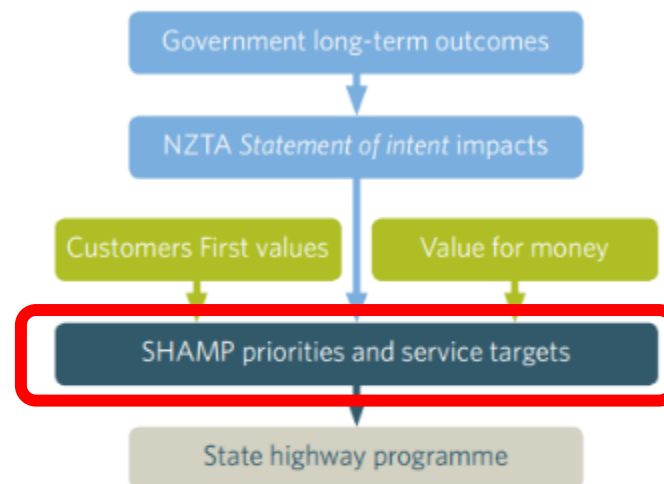
-
- Comprehensive Area plan document setting out information relating to all asset types within the Area
 - Asset-specific data tables are given in the main body of the plan with summary comments

-
- Slim asset-specific document to provide supplementary information to the Area AM plan
 - Could be appended to Area AM plan
 - These are often in place as address a specific problem

Example

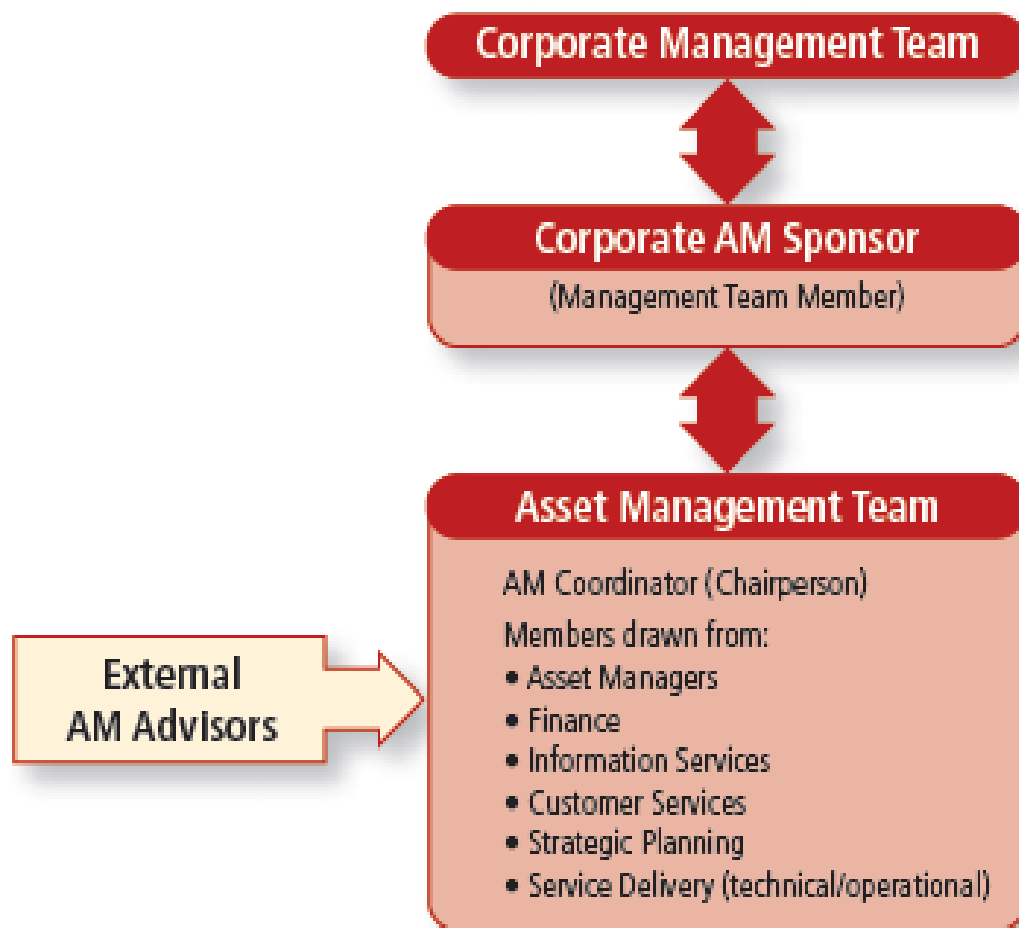
Linking SHAMP to long-term impacts

- Is the link between government and the actual programme of physical works



The Asset Management Team

- Asset management is a function of the organisation, not of a single person or team



Asset Management Information Systems (AMIS)

- An AMIS is not AM
 - Never has been, never will be
- But AM involves lots of data, so a good AMIS is essential if you are going to do AM well
- Many systems in use around the world
 - Experience is generally in favour of Commercial Off The Shelf (COTS) systems over custom built in-house systems

Process Based Systems

- Integrating the business processes from the AMM into the AMIS helps ensure data is updated and valid
- Keep both the business processes and the AMIS as simple as possible to ensure sustainability
 - Many a system has failed after 2 or 3 years because the cost of operating the system was beyond the capability of the road authority to sustain.

- Asset register (inventory)
 - Hierarchy, material, dimensions, age etc.
- Condition / performance
- Traffic data
- Maintenance management
- GIS
- Prioritization capability

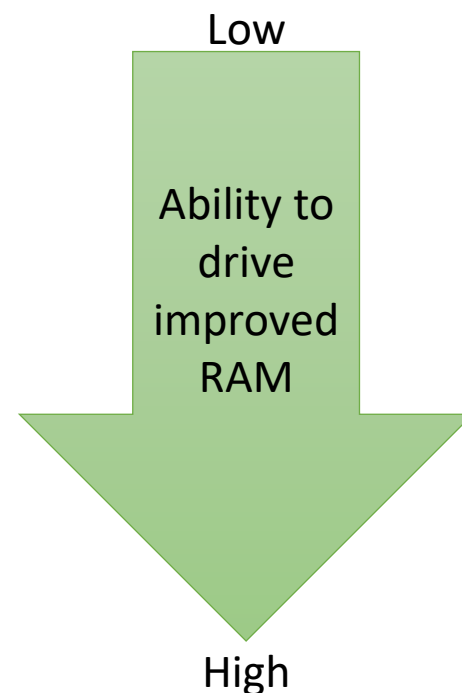
- Accident management
- Risk management
- Predictive modelling (HDM-4)
- Optimized decision making
- Works planning and scheduling
- Contract management
- Resource management

Service Delivery Models and RAM

- How you deliver physical works can impact on the rate of improvement of your RAM activities
- While RAM can work with any service delivery model, some are more conducive to driving the paradigm change that others

Different Contract Types

- In-House / Force Account
- External
 - Input based
 - \$/hr of labour
 - \$/m³ of materials
 - Output based
 - \$/pothole
 - \$/m² of reseal
 - Outcome (or performance) based
 - \$/km/month that meets standard



To Implement a PBC Well Requires

- Knowledge of assets
- Defined LOS and Performance Measures
- Knowledge and allocation of risks
- Clear auditing guidelines
- Consequence of non-conformance related to the impact on the owner (not just the cost on the contractor)
- Cost of delivering the service

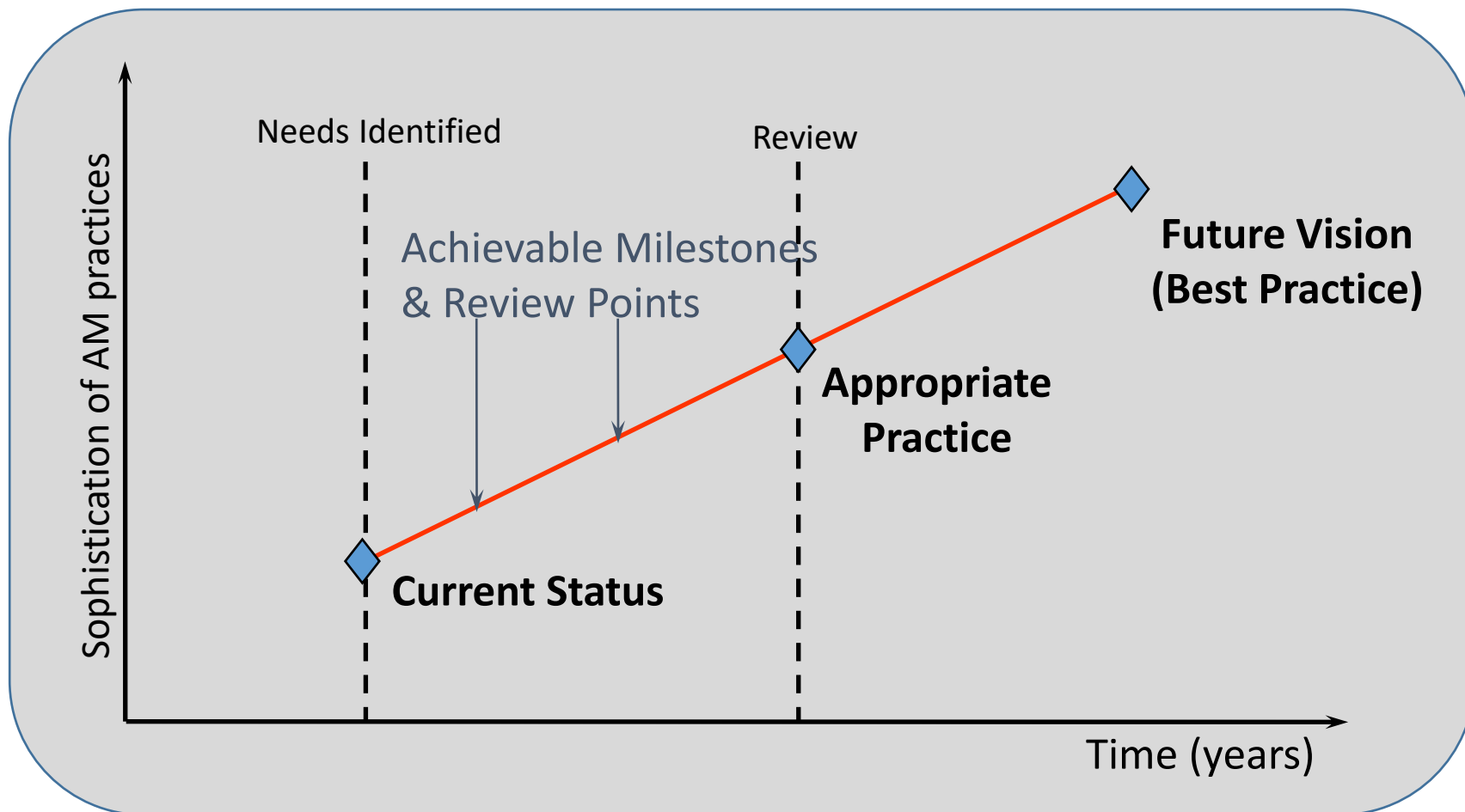
....Which has a lot of an AM sound to it!

Key Points on PBC

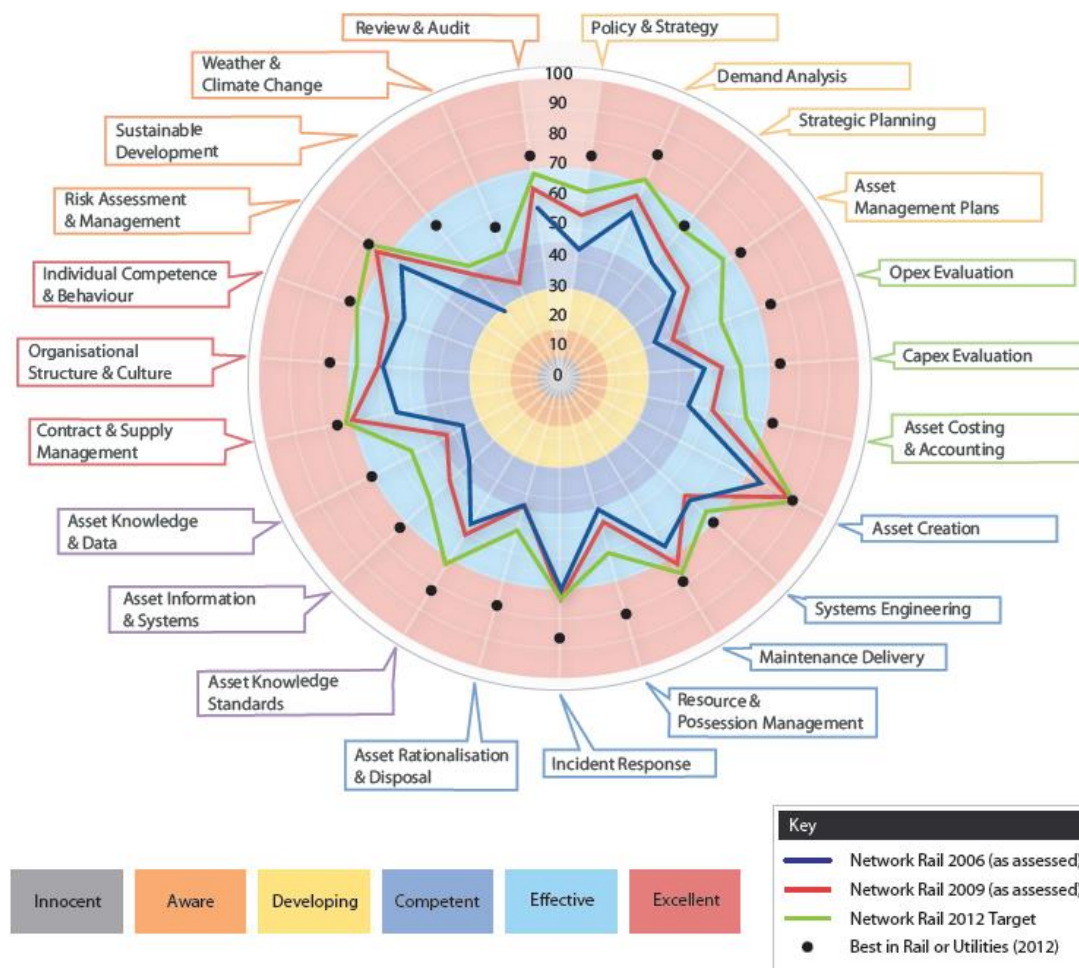
- PBCs can drive the paradigm shift in all parties necessary to deliver good Asset Management outcomes
- Careful management of the full PBC implementation chain is necessary
- PBCs are not a panacea, but are a valuable instrument in a road agency's contracting toolkit
- There are advantages and disadvantages and PBC is not the solution for every scenario.
- Partnership and Trust are key to success!



Improvement Planning of RAM Processes



Network Rail (UK) Target for 2012



Indicative Timeline

