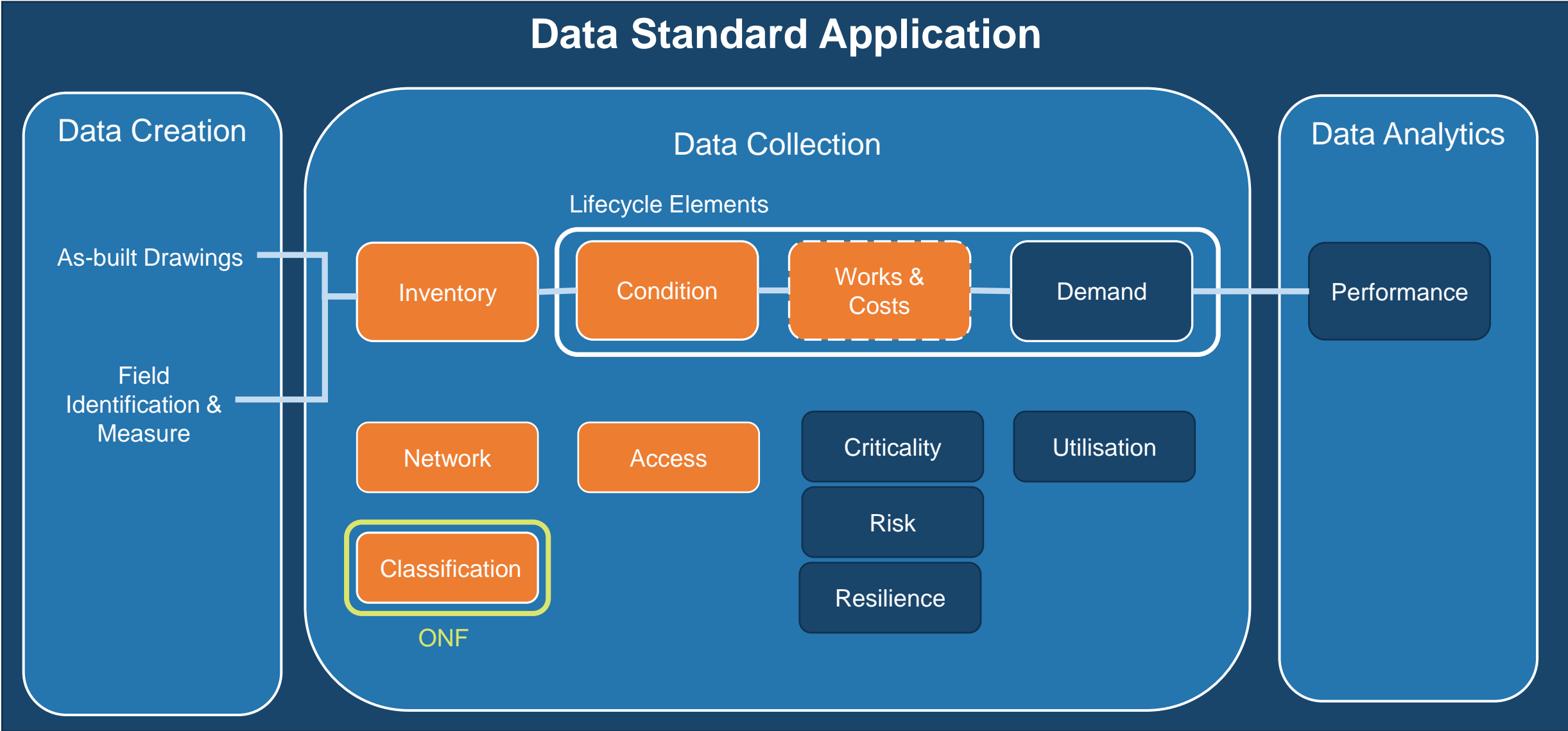


Asset Management Data Standard

Lifecycle Methodology

Data Standard Application



Lifecycle Phase 1

Condition and Works & Costs

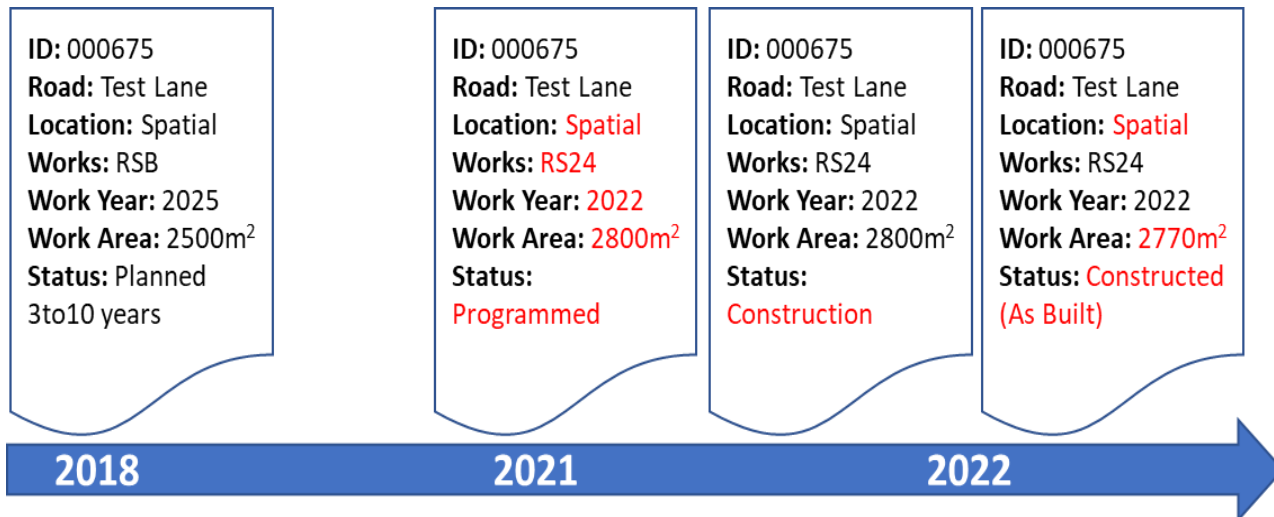
- Split by operational vs tactical management requirements, recognising the different functionality required at these levels.
- Condition is split into
 - Faults (Operational)
 - Condition (Tactical)
- Works & Costs split into
 - Maintenance Works (Operational)
 - Capital & Renewal Works (Strategic/Tactical).
- These lifecycle elements broadly covers the Maintenance, Renewals and Planning elements required in the management of AMDS Assets (Inventory).



Lifecycle Elements

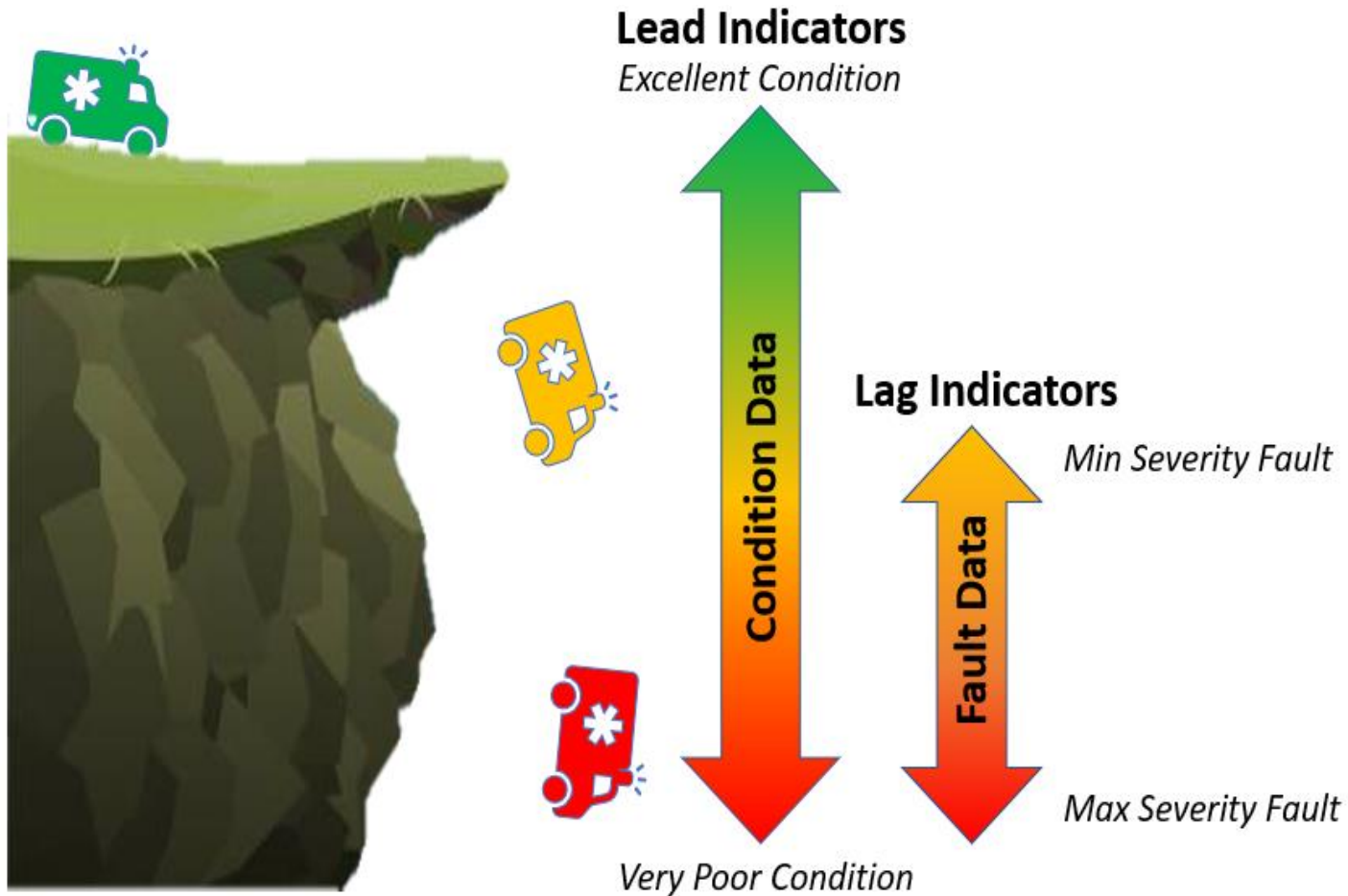
Common Features

- **Asset Inclusive:** Each element will be structured to accommodate all assets. Initial development will focus on Pavement & Surfacing assets. The exception will be Condition where a number of structures will exist to accommodate all condition types required for pavement and surfacing assets.
- **Status Tracking:** Each element (e.g. Fault, Condition or Works) will be tracked through its life from identification through to completion/closing. A status flag will identify the key stage of the element at any point in time.
- **Temporal:** Ability to roll back the clock to view historical information



Conditions

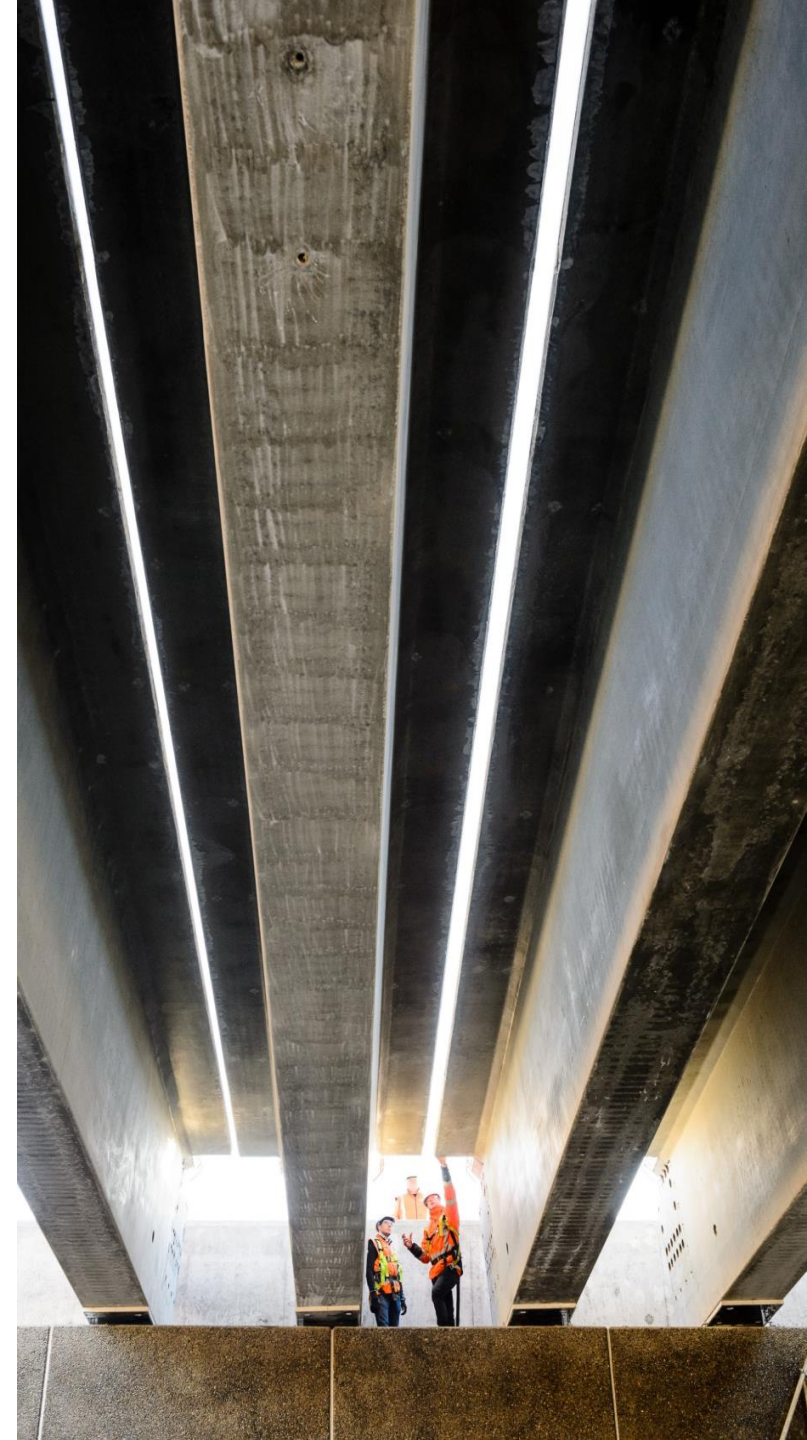
Relationship between Faults and Condition



Condition - Operational

Faults

- An observed issue (or symptom) on an asset. Capturing and recording data at this level provides several key benefits including but not limited to:
 - Improved operational maintenance planning delivering better value for money outcomes (planned rather than reactive improves productivity)
 - Improved transparency around service level outcomes
 - Improved understanding of both the rate of network change and the effects of maintenance which in turn improves our ability to forward plan and predict future need
 - *From a data storage perspective, this is a new element that is a combination of the RAMM Rating and the RAMM Contractor Dispatch.*
- Faults have:
 - an Extent (how big it is),
 - a Severity (how bad it is),
 - a Priority (how quickly a response is required),
 - a Cause (reason it occurred) and
 - a Works item (which has been decoupled from the Faults and treated as its own entity (Maintenance Works). Each Fault can only relate to one Work item).



Condition - Tactical

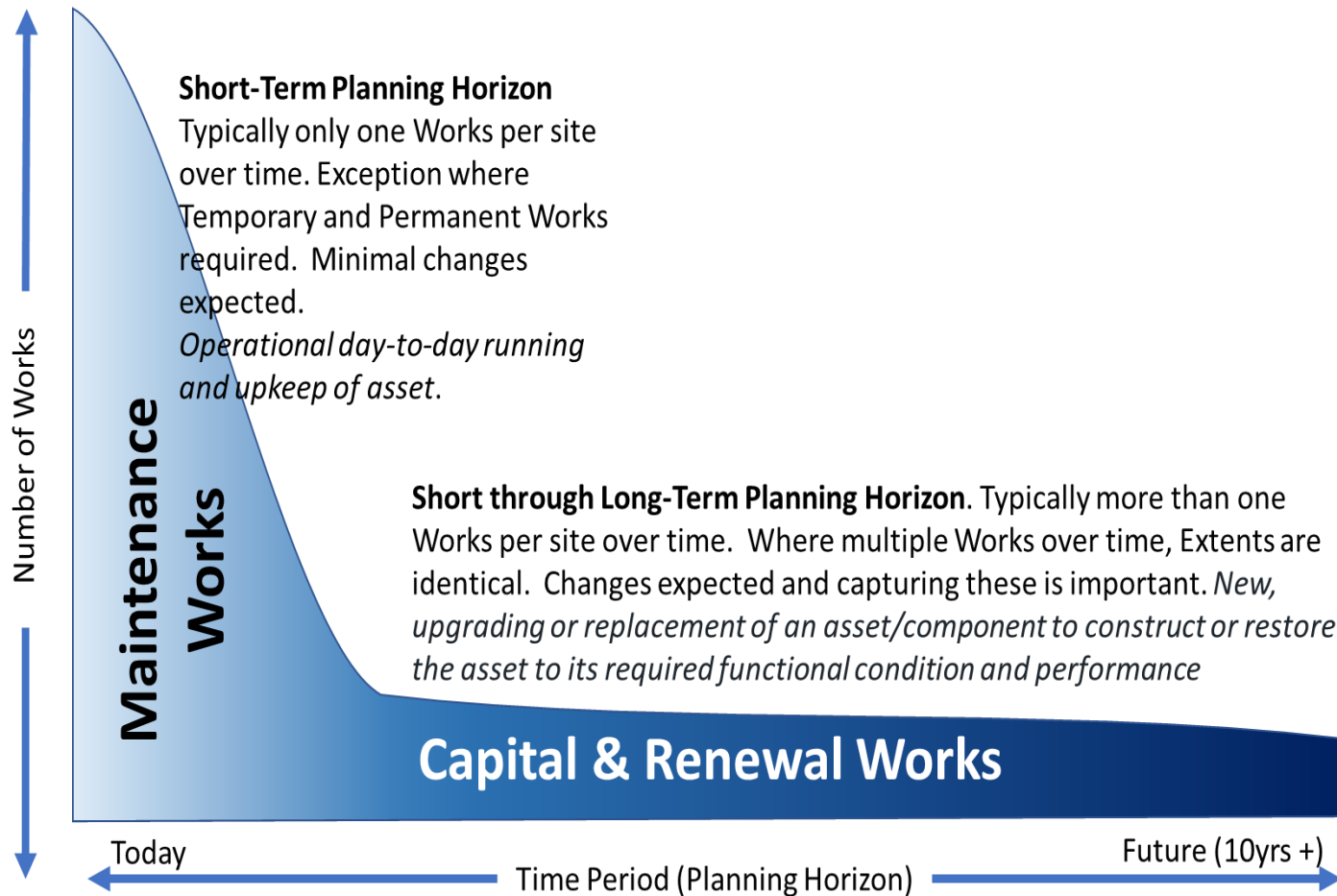
Condition

- 'Reflects the physical state of the asset'. (IIMM 2020; Section 1.2.2 Lifecycle Asset Management)
- Condition can be continuous or aggregated and typically spans the full breadth of an asset lifecycle from New (excellent condition) through to Decommissioned (very poor condition).
- *From a data storage perspective, this includes decoupling condition from inventory for non-pavement assets into a new framework, and refinement of the current Condition Tables in RAMM for pavement assets.*



Works & Costs

Maintenance vs Capital & Renewal Works



Works & Costs - Operational

Maintenance Works

- The treatment selection for remedy (repair) of the Fault, limited by size of repair (excludes renewals, does not create new inventory).
- These works are required as part of the day-to-day running and upkeep of assets.
- *From a data storage perspective, this is a new element that is a combination of the RAMM Maintenance Cost Table and RAMM Contractor Dispatch.*
- Works have:
 - an Extent (how big the repair is – may differ from the Fault Extent) and
 - each Works can relate to one or many Faults.



Works & Costs - Operational

Maintenance Works

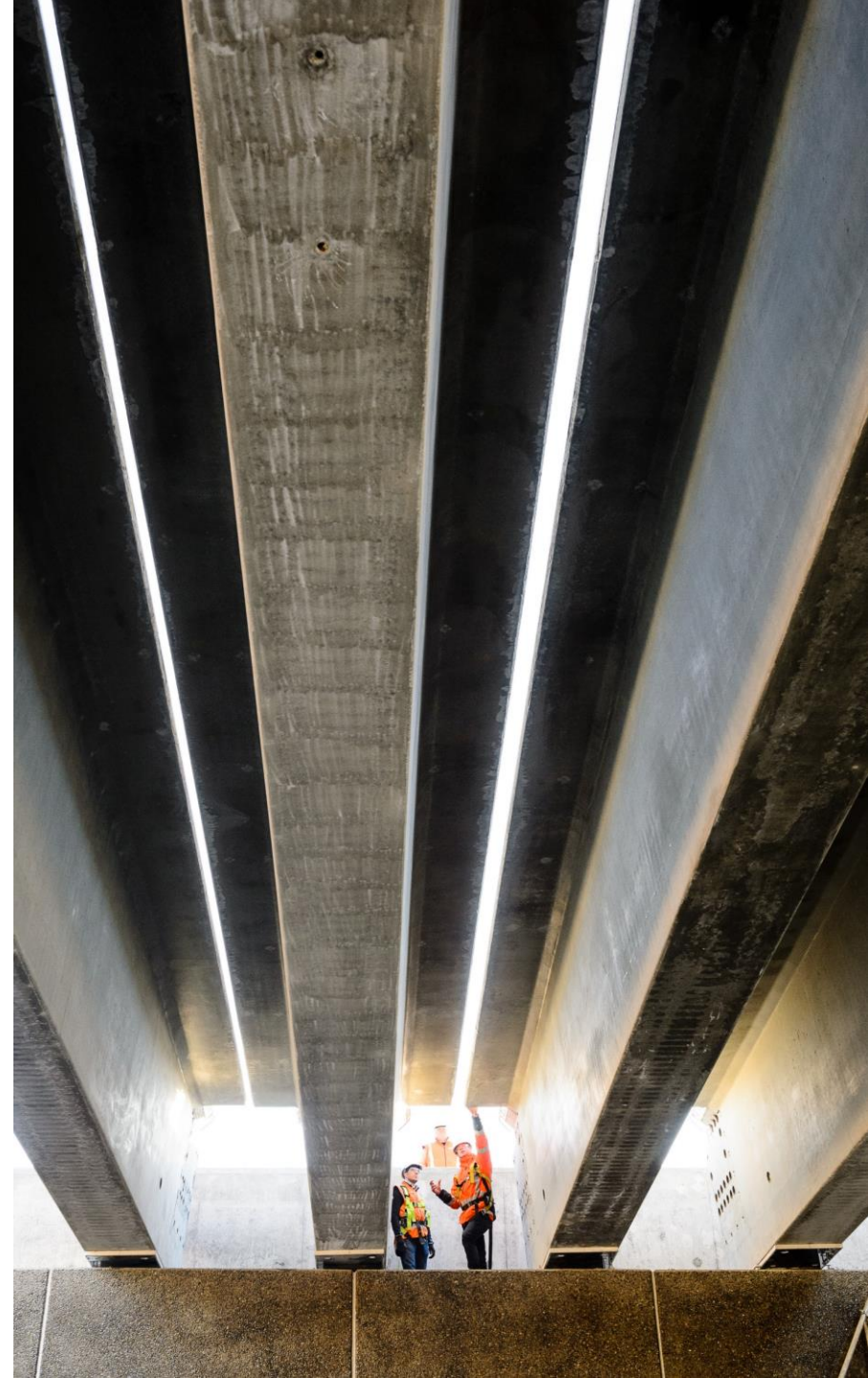
- The value list for Maintenance Works types has been established through Subject Matter Expert judgement drawing on current supplier practice.
- Maintenance Works are decoupled from and have a one-to-many relationship with Faults.
- Works are tracked through life using their unique ID. Change Management attributes will capture details of changes to any Works record, capturing as a minimum, the date when the Works is initiated and when it is completed. The Extent of the Maintenance Works will commonly be larger than the Extent of the Fault.



Works & Costs - Tactical

Capital & Renewal Works (Forward Works Program)

- The planning of and treatment selection and timing for construction, refurbishment or renewal of the Asset.
- Is the construction of, or significant upgrading or replacement of an asset or asset component, and associated planning, to construct or restore the asset to its required functional condition and performance.
- *Equivalent to the current NOMAD module in RAMM and includes both Capital and Renewal works.*



Works & Costs - Tactical

Capital & Renewal Works (Forward Works Program)

- The AMDS proposal for this element represents a notable shift from the current RAMM NOMAD approach with the following key features.
 - Work is tracked through its life from initiation through to construction as built through the unique Works ID.
 - All asset types included
 - Each Works belongs to a Project. Multiple Works (including Works on different assets) are grouped under an umbrella Project.
 - Assess the removal of the hierarchical dependency on road centreline Treatment Lengths (TL)
- Linear asset Activities (Pavement, Surfacing, Pathways, Drainage, Shoulder, Barriers/Railings) have associated TL definition.
 - Different TL segmentation for each asset type
 - Base TL segmentation established using industry accepted practice for each asset type
 - First Treatment: Changes to Work Extent (start and end on the first treatment on a site) will drive changes to TL segmentation.
 - Subsequent Treatments: Work Extents will auto update to match the TL or first Work on the site.
 - Lane or Side definitions accepted



Data Standard Application – Next Steps

