



CASE STUDY

Visualizing rail assets for **optimized asset management**

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BACKGROUND

As part of a metropolitan rail operator's transition to a new corporate EAM system, the organization identified a need for advanced decision analytics that could optimize their asset management outcomes in terms of cost, risk and performance.

To select and prioritize annual works programs the organization wanted a multi-variant, model-based analysis to identify the best asset management outcome. This analysis required the balancing of:

- Asset Condition vs
- Asset Criticality vs
- Risk vs
- Time + Cost for Maintenance vs
- Resources vs
- Access or Availability of assets for Maintenance

Siemens Involvement

Siemens delivered the project using the established methodology of "Diagnose - Construct and Calibrate - Outputs," across the following five steps:

1. Collated data based on generational assessment criteria and data availability.
2. The model development workshop established when, why, how and where the organization wanted to intervene as part of their renewal strategy.
3. Siemens detailed remaining data requirements to the organization, ensuring the model was completed in a way that delivered all required outputs.
4. Model calibration involved collaboration with key organizational stakeholders to confirm that data, intervention points, prioritization and finalized work program was correct and in line with the organization's renewal strategy.
5. Assets handed over all outputs; visualizations of the organization's strategy and scenario alternatives using Esri online story maps was integral in communicating the strategic asset management outcomes to decision makers at the organization.

Customer: Metropolitan Rail Operator

Location: Australia

Vitals: The operator of a suburban passenger rail network in Australia

- 170 stations over eight lines
- Covers hundreds of miles of track

Challenges: Transition to a new corporate EAM system.

Results: The ability to display multiple future asset scenarios.

RESULTS

The ability to display multiple future asset scenarios on spatial layers enabled powerful senior stakeholder engagement and was integral to overall project success.

The project outputs fed directly into key corporate documentation, including:

- Strategic Asset Management Plan (SAMP)
- Asset Maintenance Plans (AMP)
- Annual Work Program (AWP)

“The outcomes of our work with Siemens have enabled us to achieve some important high-level business objectives. We have various works program scenarios and what-if analyses considering asset condition, criticality, degradation and location.”

— General Manager Asset Management



