



# 2017 Timetable - Technical Maintenance Plans for Signalling

<p><b>Project</b> 2017 Timetable - Technical Maintenance Plans for Signalling</p>
<p><b>Client</b> Sydney Trains</p>
<p><b>Location</b> Sydney, Australia</p>
<p><b>Dates &amp; Duration</b> 2017 – 2018 (9 months)</p>
<p><b>Services Provided</b></p> <ul style="list-style-type: none"> <li>▶ Operations Control &amp; Management Systems</li> </ul>

## Background

Sydney Trains were implementing a new timetable with increased service frequency on a number of lines within the Sydney metropolitan area. The asset management directorate required an assessment of the Technical Maintenance Plans (TMPs) for signalling assets to confirm that they would remain fit for purpose following the implementation of the new, enhanced timetable.

On acceptance of the report, the project was extended to deliver one of the recommendations, which was to develop a pilot for Risk Based Maintenance.

## Scope of Works

In order to deliver a comprehensive review and assessment of the future fitness for purpose of the TMPs following the implementation of the enhanced timetable, Network Rail Consulting undertook the following activities:

- ▶ Assessment of the changes to the timetable to understand the impact on the volumes of traffic over different parts of the network;
- ▶ Development and agreement of a selection methodology for the TMPs that would receive a detailed review;
- ▶ Review of every maintenance task in each of the selected TMPs to assess whether the failure mode the task was designed to mitigate would be impacted by the increase in traffic;
- ▶ Review of each maintenance task mitigating a traffic related failure mode to assess the impact of increased traffic and comparing it to the current frequency to confirm its continued fitness for purpose by using FMEA analyses, historic failure data and benchmarking with Network Rail practice; and
- ▶ Production of a report detailing the methodology, high level findings and recommendations based on both the project remit and general observations and opportunities for improvement based on our experience. Full details of the analysis of each TMP were appended to the report.

The scope was extended to include the development of a Risk Based Maintenance pilot, including:

- ▶ Selection of two asset types for the pilot;
- ▶ Provision of basic Risk Based Maintenance training;
- ▶ Undertaking Risk Based Maintenance workshops with subject matter experts to assess maintenance requirements for two asset types;
- ▶ Developing a methodology for classifying assets according to criticality; and
- ▶ Developing success criteria against which to measure the effectiveness of the pilot.

#### **Key Project Outputs**

- ▶ The project provided confirmation to Sydney Trains that they could implement the new timetable without having to make major changes to their maintenance regime for signalling assets;
- ▶ The report also made recommendations for Sydney Trains to review some of their current maintenance regimes in the light of international experience; and
- ▶ The extended project delivered a risk-based maintenance regime ready to seek approval to pilot for two signalling asset types.