

## Railway Track Reconstruction

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### ABSTRACT

*RailCorp / Sydney Trains have been moving towards significantly reducing rail track (PerWay) maintenance and associated maintenance costs for a number of years. Almost all of the suburban and inter-urban networks now consist of heavy duty rails and concrete sleepers, requiring minimal on-going maintenance. However, where trains change from one track to another via a 'turnout' or a 'cross-over', train impact as well as rail and component wear are such that renewal of these major pieces of infrastructure is necessary on a 10-15 year cycle. Because each of these renewals requires 'possession' of two or more tracks, the work is almost always performed during a weekend (or longer) 'closedown'. These pieces of infrastructure are critical to the safe and on-time running of trains, so each renewal must be completed in time for trains to run on Monday morning. Surveyors play a key role in the process, performing several tasks: (1) Initial site survey and horizontal and vertical alignment design, (2) setting out for the off-site construction of the turnout or cross-over, (3) setting out for final installation, construction and tamping support (tamping being when the rails are moved into their final design location), and (4) updating alignment and Track Condition Model (TCM) records and permanent marking. This paper outlines the role of the surveyors, and the interaction between the surveyors and designers and constructors, at the various stages of the process by reviewing the techniques and methods used by the surveyors and shows examples of the way the work is carried out.*

**KEYWORDS:** *Railway surveys, track maintenance, Sydney Trains.*