

RELIABILITY OF CIVIL ENGINEERING PLANT

A large fleet of dedicated track maintenance machines exist, which vary in age and reliability. Operating practices have evolved such that machines are frequently required to work together within tight possession constraints. As a result of this, the reliability of civil engineering plant has become a critical factor that has significant influence on the effectiveness and financial viability of current track maintenance strategies.

The report details an investigation into the reliability issues of on-track machines, to address the current deficiencies in reliability. Findings show that

- The reliability of on-track plant appears to be generally low (based on availability, as no failure data exists).
- No facilities exist to provide plant organisations with the ability to monitor the reliability performance of machines and to develop engineering solutions that will increase the reliability of equipment.
- Plant reliability (with the possible exception of work planning factors) is the single largest element of lost production. This often causes possession overruns and the potential risk of interfering with revenue earning traffic.
- Some equipment would require significant refurbishment to restore acceptable levels of performance.
- Machine design may not be the direct cause of failure, and operational and management regimes may need to be examined to determine their influence on performance.