

VEHICLE INSTABILITY – TRACK BASED MONITORING

THE PROBLEM

Unstable vehicles lead to:

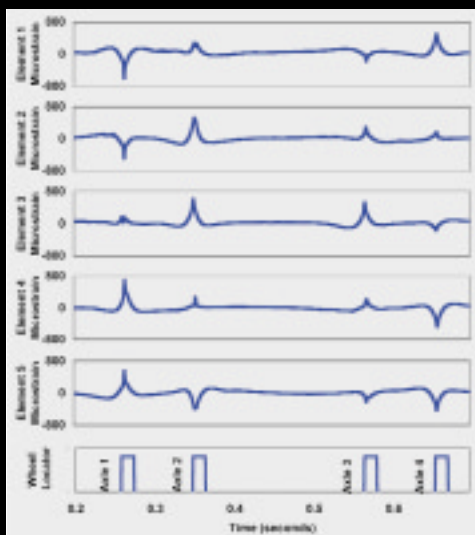
- increased capital costs (worn components)
- increased labour costs (maintenance personnel)
- reduced revenue (downtime)
- safety concerns (derailment risk)

The compounding cycle of unstable vehicles:

Instability ↔ Component wear



A cocked bearing adaptor (left) due to wear caused by excessive vehicle response



Typical response of an unstable ore car



There is no such thing as a cheap derailment!

ACTION TAKEN

Development of a track-based monitoring system enabled:

- vehicle stability to be quantified and the entire fleet ranked
- maintenance to be focused on the cars that most need it
- common problems to be identified
- optimum maintenance practices to be evaluated and implemented

RESULTS AND BENEFITS

- empty vehicle instability has been reduced by 17% across the fleet
- elimination of track delays caused by unstable vehicles
- evaluation of different vehicles (different manufactures)
- evaluation of increased operating speed
- identification of bogie tracking biases (uneven wear)



Speed effects

