Main Contributors to the high costs of Rail construction in Australia, in particular NSW: VEVANS & PECK



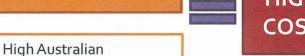
SCOPE

- III-defined service level uplift, over-engineered solutions
- Changing project objectives and user requirements
- Changes to performance and functionality requirements
- Changes to technical standards
- Impacts of rolling stock characteristics
- Design growth
- Integrating with existing old technologies (signalling)
- Land requirements
- Stakeholder requirements
- Community demands
- **Environmental impacts**

DELIVERY CONSTRAINTS

- Brownfield or Greenfield?
- Site access constraints
- Design approval impacts (scope, time)
- Construction approvals (delays caused by scope changes)
- P.U.P. relocations (cost + time)
- Temporary works and staging
- Possession availability and costs
- Changes to possessions
- Operator's resource availability
- Safety requirements
- Hours of working
- Latent conditions in rail corridors

HIGH COST BASE



- professional salaries
- High Australian labour costs
- High equipment costs
- Limited resources
- High contractors' indirect costs
- High margins
- Limited competition
- High financing costs
- Cost escalation risk
- Project pipeline uncertainty

