

# Heavy vehicles

## About ARRB:

ARRB Group Ltd (ARRB) provides research, consulting and information services to the road and transport industry. ARRB applies research outcomes to develop equipment that collects road and traffic information and software that assists with decision making across road networks. ARRB is the leading provider of road research and best practice workshops in Australia.

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# Heavy vehicles

generating and applying new research into heavy vehicle safety, efficiency, and productivity

The ARRB heavy vehicles team comprises highly qualified and experienced engineers, with extensive theoretical and practical understanding of heavy vehicle dynamics, and the safety and operational issues involved with freight transport.

### Current projects include:

- addressing heavy vehicle strategic research needs
- working with operators to realise the benefits of Performance Based Standards (PBS)
- guiding national and international bodies on heavy vehicle regulatory policy
- advising industry sectors on key operational safety issues
- investigating and reconstructing heavy vehicle crashes
- helping fleet operators to manage operational safety
- optimising vehicle designs to maximise safety and productivity.

The team uses computer simulation and field-based test programs to investigate heavy vehicle performance and contributes to the development of, and compliance with, standards and regulations for the more safe and effective operation of freight vehicles.

Whether your needs are in development, assessment or compliance with regulations, the ARRB team can provide independent specialist advice and a complete solution.

ARRB has strong connections with road authorities and regulators across all levels of government which provides us with clear understanding of their strategies and direction.

ARRB is widely recognised as the industry leader in generating and applying heavy vehicle research and, has a proven record over 30 years.



### Our services

ARRB's services to the transport industry and regulatory bodies includes:

- heavy vehicle performance assessments by field testing
- development of validated vehicle computer simulation models
- on-site crash investigation, formal reconstruction and expert witness
- development of high productivity vehicle concepts
- rollover risk profiling of common or new freight routes
- assessing performance based vehicle (PBS) design concepts
- assessing heavy vehicle impacts on road infrastructure such as bridges
- driver and vehicle performance monitoring
- assessment and development of risk management strategies
- computer animations (video) of simulated vehicle manoeuvres
- detailed and focused reports with practical outcomes
- general advice on compliance with transport regulations.

### Your benefits

ARRB's services provide results which guide and allow informed decisions. Our technical rigour program ensures that results and recommendations are at the highest level of accuracy and quality. Research and performance assessment programs can be tailored to provide specific solutions.

Additionally, ARRB has a multi-disciplinary pool of highly qualified research professionals, experienced engineers, and specialist technical and support staff, offering a wide range of complementary services including:

- advice on transport policy, management and network operations
- transport economic and cost-benefit analysis
- road infrastructure inspection and asset management
- targeted road safety auditing
- specific advice for the mining and resource industry.

### Recent projects

The team has considerable experience in delivering large and small scale research projects. Recent notable examples include:

- assistance in the development of PBS assessment rules
- extensive field test programs focussing on acceleration, braking and yaw/roll dynamics
- benchmarking the performance of heavy vehicle designs on a global scale
- safety evaluation of haul vehicles and routes for mining logistics companies
- crash reconstruction of incidents involving rigid trucks, semi-trailers, B-doubles and road trains.
- an investigation into the introduction of an in-service road-friendly suspension test
- network screening of a 40 km road to identify critical bends (posing a risk of rollover).