BIG BENEFITS FOR TOOWOOMBA TO PORT OF BRISBANE CORRIDOR

The Intelligent Access Program (IAP) has helped unlock big opportunities for improved safety, productivity and environmental outcomes for the Toowoomba to Port of Brisbane corridor.

INTRODUCTION

Opening up access to state-of-the-art high-productivity Performance Based Standard (PBS) 2B vehicles on the route between Toowoomba and the Port of Brisbane[1] is generating some big opportunities for the export of grain to international markets.

Enabling access to high-productivity vehicles means fewer truck trips, less wear and tear on roads, reduced greenhouse gas emissions and big savings for the entire supply chain – including consumers.

But none of this would have been possible without transport operators, trailer manufacturers, road and port authorities, governments, telematics businesses, road safety bodies and IAP Service Provider Transtech Driven all working together towards a common goal.

The route from Toowoomba to the Port of Brisbane is particularly important to grain growers seeking to access export markets.

They have seen productivity gains of up to 100% for the carting of grain to the port through the introduction of PBS 2B vehicles, with Andrew Rankine, Port of Brisbane Pty Ltd (PBPL) Manager, Logistics, saying that: 'Approval of these PBS 2B vehicles adds enormously to productivity and efficiency, with the benefits extending all the way from the farm gate to export markets.'

Queensland's Department of Transport and Main Roads (TMR) General Manager of Road Safety and System Management, Mr Bruce Ollason, adds 'the decision on access for PBS 2B vehicles followed an extensive assessment of their performance, bridge loading effects and road safety implications.'

'TMR engaged ARRB Group to conduct a route assessment of these roads using PBS principles, while the loading effects on bridges were conducted by TMR's Engineering & Technology Division.'

'TMR's Road Safety and System Management Division also conducted on-road performance testing of these units, which are up to 30m long and up to 79 tonnes gross combination mass (GCM).'

Mr Ollason says TMR co-ordinated route approval in conjunction with other road owners, including PBPL, Queensland Motorways and Toowoomba Regional Council, to enable end-to-end route access between Toowoomba and the Port of Brisbane.

AN INNOVATIVE APPROACH TO VEHICLE DESIGN

Two transport operators benefiting from the decision by TMR to open up access to PBS 2B vehicles are Woods Transport and South East Queensland Hauliers (SEQH).

Trailer manufacturers, Haulmark Trailers (Australia) and O'Phee Trailers, developed innovative purpose-built vehicles which meet PBS parameters, while addressing the specific operational requirements of both transport operators.

Mr Mark Johnston, National Sales and Marketing Manager of Haulmark Trailers (Australia), says his company 'wanted to develop an A-double with a higher GCM than B-double configurations while remaining within normal axle group masses and spacing, the ability to carry two 40-foot containers, and the flexibility to allow transport operators to split the combination.'

This Haulmark A-double, which has a steering dolly to provide enhanced vehicle stability and dynamic performance, is fully approved to operate at a GCM of 79 tonnes on this corridor,' he says.

'TMR was concerned about bridge strength at locations along this key freight route. To provide additional assurance to asset owners, Haulmark, with the assistance of Brisbane-based electronic weighing specialist Tramanco, successfully developed a proposal to link on-board mass monitoring to the IAP.'

[1] Access is available within the Toowoomba urban area to 27 Heinemann Road and to the intersection of Reilly and Hillman streets, which are routes owned by the Toowoomba Regional Council. Access to these routes and to the Port of Brisbane is via the Toowoomba-Cecil Plains Road, the Warrego Highway, and the Cunningham Highway, each of which is owned by the TMR, the Logan Motorway, the Gateway Motorway and the Port of Brisbane Motorway, each of which is owned by Queensland Motorways Ltd, and to routes within the port precinct, which are owned by the Port of Brisbane Pty Ltd.

IAP What's In It For Me?

'Haulmark's rationale was that the inclusion of on-board mass reporting in these units, alongside the IAP, provided an enhanced level of axle mass compliance. This gave assurance to asset owners and justified a reduction in the bridge loading factor.'

Mr Mick O'Phee, Managing Director of O'Phee Trailers, says his company redesigned a conventional container skel trailer in close collaboration with component suppliers, TMR and National Transport Commission officials as well as their customer, Woods Transport.

'This purpose-built A-double combination comprises a prime mover pulling a lightweight trailer capable of carrying one 20-foot equivalent unit (TEU) container which in turn, using a converter dolly, pulls a second light-weight trailer, which can carry two TEUs,' he says.

'The first light-weight design was required to maximise the payload of each container to set axle weights and overall GCM and we were also very mindful in design that the construction could be separated if required and used individually in other freight tasks.'

'This unit is also fitted with IAP and on-board mass monitoring to provide compliance assurance and is approved to operate to 79 tonnes GCM.'

'Our company pioneered a number of trials on the proposed route from Toowoomba to the port which satisfied officials that the engineering and safety parameters associated with PBS could be met.'

USING THE INTELLIGENT ACCESS PROGRAM (IAP)

The IAP was a key component that drew everything together, with IAP Service Provider Transtech Driven playing a lead role.

Mr Shaun Owen, Chief Executive of Transtech Driven, says his company's role 'was to give the road owners assurance of the vehicle's location and axle group masses whilst in transit'.

'Each of the four road owners needed assurances that these high-productivity vehicles would be operating in compliance with their permit conditions at all times in terms of approved routes through the IAP and axle group masses.'

'Transtech was keen to demonstrate leadership by developing a live on-board mass monitoring extension to the IAP that would meet this need.'

'This involved an understanding of all stakeholder needs, which was achieved through detailed discussions with TMR and PBPL, trailer manufacturers, on-board mass monitoring provider Tramanco and, ofcourse, both transport operators Woods and SEQH.'

'We were able to deliver a compliance system that delivered road owners the assurances they needed.'

Mr Owen says Transtech Driven took a flexible approach in terms of product development by customising its telematics products and services to fit in with specific requirements.

Mr Roger Sack, Managing Director of Tramanco, adds that both trailer manufacturers recognised the need for the inclusion of live on-board scales for mass monitoring.

'Both trailer manufacturers made separate approaches to Tramanco about the need to add the live on-board mass requirement alongside the IAP platform,' he says.

'Tramanco worked closely with IAP Service Provider Transtech Driven and TMR to ensure the on-board weighing technology could operate alongside the IAP platform.'

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ADOPTION BY INDUSTRY

Mr Andrew Woods, Managing Director of Woods Transport, says his company moves grain for export from Toowoomba and saw PBS 2B vehicles as a means to substantially improve productivity and efficiency.

'Because each container has 25 tonnes of grain net, we previously had to use single trailer combinations moving one 20-foot box to the port per trip,' he says.

'O'Phee Trailers innovative A-double design allows for two TEU containers of export grain to be moved per trip and can return with a third empty container.'

'This has led to a doubling in productivity on the export leg, a reduction in truck trips by 50% and a saving in fuel use of almost 40%.'

'Given these substantial benefits, we had no problem with having our trucks monitored through the IAP.'

Mr Brett Plummer, Managing Director of SEQH Group, says: 'IAP and on-board mass monitoring have enabled SEQH to achieve substantial productivity improvements in the movement of grain from Toowoomba to the Port of Brisbane and empty containers to their transport depot on Fisherman Islands.'

'SEQH is able to move up to four TEUs using the IAP and on-board mass monitoring. The A-double units incorporating Haulmark's purpose-built trailers are used to move two TEUs fully laden with grain to 25 tonnes net from Toowoomba to the Port of Brisbane for export as well as four empty TEUs on the return journey to the company's depot.'

'Haulmark's design allows us to move either two 40-foot empty import containers from the port back to our depot or four 20-footers.'

'A-doubles give SEQH considerable operational flexibility because the axle configuration aligns well with the operational requirement to move full containers for export as well as empties ex-wharf and the regulatory requirements regarding axle group and GCM limits.'

'This means we can increase productivity by up to 100% on our export leg and by one-third on our import leg, thus achieving substantial benefits in terms of fewer truck trips and lower emissions.'

Mr Chris Koniditsiotis, Chief Executive Officer of Transport Certification Australia Limited (TCA), which certifies IAP Service Providers to monitor route compliance by high productivity vehicles, comments that: 'Australia's freight task is growing so it is important that we look at innovative ways to drive improved productivity, efficiency and safety.'

'Transport operators can now carry up to two 40-foot containers on a PBS 2B vehicle whereas previously they could only operate on a single combination.'

'Modelling undertaken by TMR has indicated that a transport operator would have needed to make 4,800 trips between Toowoomba and the Port of Brisbane to carry 120,000 tonnes per annum. With a PBS 2B vehicle those trips could be slashed by up to 50% to 2,400 trips.'

IAP What's In It For Me?

‘Considering that a round trip from Toowoomba to Port of Brisbane is around 260 km, the TMR modelling also indicates that the introduction of PBS vehicles could result in a reduction of up to 624,000 truck kilometres. This equates to an estimated saving of approximately 230,000 litres of fuel and a greenhouse emissions reduction of around 490 tonnes or 40%.’

Mr Koniditsiotis adds: ‘I have said previously that IAP creates ‘win-win’ outcomes. This application and associated innovation demonstrated by Queensland has considered the entire logistics chain and used the reforms of PBS and IAP to achieve a new paradigm.’

‘This has not simply been a bit more vehicle length or mass capacity, rather a totally new way to deliver a freight transport task. ‘It is particularly pleasing that Queensland’s grain growers are likely to be amongst the first to benefit from the new access arrangements. Queensland grain growers will now have available to them a much more efficient means of moving containerised grain from Toowoomba to the Port of Brisbane where they can access international markets.’

FURTHER INFORMATION

For further information, visit the TCA website at www.tca.gov.au

Information in this case study has been provided in collaboration with the Queensland Department of Transport and Main Roads, Port of Brisbane Pty Ltd, Transtech Driven, South East Queensland Hauliers, Woods Transport, Haulmark Trailers (Australia), O’Phee Trailers, Tramanco and Transport Certification Australia Limited.

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