

Transport infrastructure priority development for the Australian dairy industry

Summary of study by Advantia Transport Consulting, completed March 2016

Introduction

Dairy Australia commissioned Advantia Transport Consulting in late 2015 to identify and prioritise transport infrastructure needs, and address supply chain efficiencies for the Australian dairy industry. Advantia subcontracted Marsden Jacob Associates to identify areas where increased infrastructure capacity would have the most benefit.

The study was commissioned in response to industry suggestions, particularly from milk companies, that transport costs could be reduced across the supply chain, thereby increasing productivity growth and reducing costs. Farmers would benefit indirectly with savings passed on through farmgate milk prices. Eight milk companies processing collectively more than 90% of Australia's milk were consulted for the study, plus two transport companies.

This summary covers the study's main findings, and includes additional information to inform industry responses from work undertaken by Infrastructure Australia, the CSIRO TRANSIT study, and the federal Department of Infrastructure, Transport and Regional Economics.

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Main findings:

- Main efficiency opportunities lie in farm to supply chains, through a shift to larger vehicles and heavier loads.
- Regions with greatest potential for larger vehicles and/or higher mass limits (due to longer distances between farms and processors):
 - Farms to processors in Victoria (incl. SE SA and southern NSW)
 - Farms in northern Victoria to Sydney processors
 - Farms to processors in southern Qld and northern NSW
 - Farms to processors in NW Tasmania
- The most commonly used vehicles often cannot fully load due to mass constraints on many roads. Seeking approval from road management authorities for the higher mass limits is time consuming and expensive for individual companies.
- Larger vehicles may be approved on some routes, but similarly then unable to fully load due to mass constraints, usually related to bridge capacity.
- Improved access to farms for larger, heavier vehicles is just as important as improved access to the PBS network. Companies are working with farmers to improve access where feasible, and it considered this matter is best dealt with at this level with no action required by industry representative groups.

Recommended actions:

1. The National Heavy Vehicle Regulator (NHVR) administers the Performance Based Standards (PBS) scheme. The scheme enables heavy vehicles to exceed regulatory mass and dimension limits, and to adopt non-standard truck/trailer configurations. The dairy industry can engage with the NHVR to:
 - Advise on priority routes for improved access for PBS vehicles;
 - Identify roads that State authorities and local government should formally classify as PBS level 1, allowing vehicles up to 20m long and 50.5 tonnes; and up to 63 tonnes where suitable.
 - Identify roads to reclassify as level 2A, allowing up to 26m and 68.5t, up to 74.5t where suitable.
 - Identify roads to reclassify as level 2B, allowing up to 30m and mass over 68.5t, up to 85.5t where suitable.
2. Engage with State Road authorities to upgrade/replace bridges on key routes identified in the case studies (see Impediments section for details).

3. Seek clearer information from the Victorian Government on whether the proposed Western Distributor will improve access to the Port of Melbourne as an alternative to the Westgate Bridge, and whether 68.5-tonne mass limits may be eased once the Westgate is carrying less traffic.
4. Engage with VicRoads and the Victorian Government for upgrades and better roads maintenance on key routes (see Impediments section for details).
5. Engage with NSW Roads and Maritime Services, and the relevant NSW Minister, to get better cooperation on identifying key routes with constraints, and addressing those constraints.

The industry's current transport context

The dairy industry has experienced rapid changes since deregulation, with fewer farms, increased processor competition, processing facilities in cities, milk transported further, and more inter-factory transfers. This has created a far more complex matrix of transport configurations and logistics across the industry.

Challenges in preparing the study:

Transport logistics are considered highly competitive, as companies perceive they can gain an edge through different strategies to improve efficiency and boost productivity. This limited the data companies were prepared to share with the consultants and with each other through the release of the final consultant's report.

In reading this summary, the following limitations need to be kept in mind:

- Varying detail and quality of data provided
- Incomplete data – ie, only inbound or outbound, not both
- Logistics outsourced, often to multiple contractors
- Transport variations: intermediate storage; tanker to tanker; second trailers – so not possible to determine a one-size-fits-all industry approach to addressing infrastructure and regulatory constraints.
- Transport variations reflect supply chain variables: terrain, no. and proximity of factories; farm locations; variable milk supply; types of vehicles used; and, road and bridge infrastructure.
- Difficulties with State road departments providing technical information to inform cost-benefit analysis (in particular, the NSW Roads and Maritime Services).

State transport profiles

The study covered the following dairy regions:

- Gippsland
- Southwest Victoria and SE South Australia
- Northern Victoria and southern NSW (Murray Dairy)
- NSW south coast (Bega region)
- Northern NSW and southern Queensland
- Northern Tasmania
- Western Australia

The findings in the study are most relevant for supply chains from farm to processor in Victoria, SE South Australia, northern Victoria and southern NSW, and Gippsland. Following is a summary of findings for the other regions.

Northern NSW and southern Queensland

Transport from farm to processors in this region is characterised by long and short haul movement, with most milk sourced from farms more than 50 kilometres away from processing facilities.

Most vehicles are the smaller 19-metre, 6-axle articulated trucks and 19m, 7-axle B-doubles. The hilly terrain in the hinterland west of the Pacific Highway constrains a shift towards larger, heavier vehicles beyond the coastal strip.

The typical annual number of trips from farm to processor is around 20,000.

Further research is required to estimate the return from major and emerging routes such as the Hunter and central NSW to Brisbane.

Northern Tasmania

Milk production is concentrated across northern Tasmania. Transport from farm to processors is characterised by long and short haul movement, with most milk sourced from farms less than 50 kilometres away from processing facilities.

The longer distance movements are for milk sourced from the northeast and transported for processing at facilities in the north-west, and for milk sourced in the north and transported to Mondelez near Hobart. The Bass Highway is a particularly important route.

Most vehicles are the smaller 19-metre, 6-axle articulated trucks and 19m, 7-axle B-doubles, although the data made available to the consultants was more limited than for other regions.

The typical annual number of trips from farm to processor is around 25,500.

Further research is required to estimate the return from major and emerging routes from northeast and central Tasmania to processing facilities in the northwest.

Western Australia

The major freight company in WA did not indicate any discontent with the current mix of smaller and larger vehicle configurations. In addition, the 26-metre B-double and 26-metre PBS A-double are not the preferred truck configurations, since many routes already allow access for the 27.5-metre pocket road train.

Transport from farm to processors is characterised by mostly long-haul movements up to 350 kilometres, with some short-haul movements to the processing facility in Harvey.

The typical annual number of trips from farm to processor is around 9,600.

Potentially related transport research by other entities

BUREAU OF INFRASTRUCTURE, TRANSPORT AND REGIONAL ECONOMICS

Bureau of Infrastructure, Transport and Regional Economics is a research arm of the Australian Government

The Bureau has completed a range of work and also has a range of projects underway, including

- Road Freight Survey (BITRE and ABS)
- Project on empty truck movements
- Research on commodity movements across Australia
- Freight Data

CSIRO TRANSIT MODEL

The CSIRO TRANSIT model is a modular tool that maps freight movements across Australia. The model can be used to understand changes in regulation, and the impact of improved infrastructure on supply chains. The model calculates costs of moving freight and associated costs

From the original development/s on mapping live beef movements in northern Australia, the model is now being expanded to other regions and other agricultural commodities.

Efforts are being made to map as much of the supply chain as possible, but mapping depends on the availability of GPS data from the various transport vehicles. This data is more publicly accessible for livestock movements, due to biosecurity tracking requirements. But in the dairy industry's case, where raw milk and finished products are the relevant supply chain, the GPS data is held by the milk companies and their transport contractors, and may not be available to the CSIRO TRANSIT model due to commercial confidentiality issues.

Access to this information for CSIRO's model may be something for dairy industry representative groups to pursue with the milk companies.

INFRASTRUCTURE AUSTRALIA

A National Infrastructure Plan is being developed, following the National Infrastructure Audit released in April 2015. The plan brings the full range of national reform together in one document. Many of the issues have been discussed and well understood for some time.

For example, over the last 15 years, road-related taxation revenue such as the petrol excise, has held steady at around \$15.5-16 billion a year. Road expenditure was roughly in line with revenue until 2005-06, when expenditure began to diverge and rapidly increase to 25 billion in 2013-14. Across infrastructure broadly, the Commonwealth is an investor of approximately 10-15 per cent of total funds invested.

The 'Infrastructure Plan – Priorities and Reforms for our Nation's Future' report released in February 2016 includes several recommendations of potential interest to the agricultural sector, and dairy.

In particular, to address the divergence in revenue and road expenditure, the report recommends full implementation of a **heavy vehicle** road charging structure in the next **5** years, and full implementation of a **light vehicle** road charging structure in the next **10** years. This type of user pays system is considered fairer, more financially sustainable and economically efficient.

Infrastructure Australia recommends the Federal Government initiate a public inquiry into road user charging reform, including a large-scale voluntary trial of different options. The question for dairy is whether such reforms would increase transport costs overall for the dairy industry.

The report also recommends development of a National Freight and Supply Chain Strategy in partnership with governments and the private sector.

Infrastructure Australia suggests the strategy should map nationally significant supply chains and their access to supporting infrastructure and gateways (work now underway through the CSIRO TRANSIT model and others); evaluate the adequacy of the institutional framework supporting freight networks; and, recommend reforms and investment that will enable to more efficient movement of freight.

Finally, the report recommends establishing a corporatised infrastructure delivery model, to remove the politics from infrastructure investment. It recommends that Government direct an entity such as Infrastructure Australia or the Productivity Commission to research the merits of a corporatised model for Australian road networks, and define and evaluate the pathway to establish the model in the States, including addressing tax issues before user charging is introduced.

Infrastructure Australia in February 2016 also released its Infrastructure Priority List – full report can be read at http://infrastructureaustralia.gov.au/projects/files/Australian_Infrastructure_Plan-Infrastructure_Priority_List.pdf

The following projects may be relevant for dairy, but none correlate specifically with the initiatives identified in the Advantia report for dairy:

Urban Congestion NSW: Near term Business case development
Issue: Sydney inner west road congestion
Proposal: West Connex Stage 3 road connection from M4 to M5

Urban Congestion NSW: Near term Business case development
Issue: Connectivity in outer western Sydney
Proposal: M4 motorway upgrade (Parramatta to Lapstone)

Corridor Preservation NSW: Near term Options assessment Future
Issue: Connectivity between Western Sydney and Central Coast/Illawarra
Proposal: Preserve corridor for Outer Sydney Orbital road and rail / M9

Urban Congestion Victoria: Vic Near term Business case development
Issue: Connectivity between West Gate Freeway and Port of Melbourne and CBD North.
Proposal: Road connection between West Gate Freeway and Port of Melbourne and CBD North (Western Distributor)

Corridor Preservation Victoria: Near term Business case development
Issue: Future connectivity between Melbourne outer south west and outer north
Proposal: Preserve corridor for Melbourne Outer Metropolitan Ring Road/E6†

Urban Congestion Victoria: Medium term Initiative development
Issue: Connectivity between M80 and Eastlink in outer NE Melbourne
Proposal: Complete Metro Ring Road from Greensborough to the Eastern Freeway

National Connectivity: Near term Initiative development
Issue: National strategic planning for future freight initiatives
Proposal: National Freight and Supply Chain Strategy

Today's Australian dairy fleet to transport raw milk to processors (March 2016)



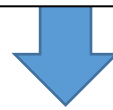
**6-axle articulated, 19m (50.5 tonnes, PBS level 1)
Av. net load 25,327 litres (50% of national fleet).**

**B-double, 7-axle, 19m (50.5 tonnes, PBS level 1)
Av. net load 30,312 litres (25% of national fleet)**

Both the above can carry up to 63 tonnes on PBS Level 1 roads with State/local government approval.

A 10 – 50% shift in the fleet mix from the two most commonly used vehicles above to the larger B-double 9-axes below (orange arrow) would deliver **NPV productivity benefits from \$20 million to \$100 million.**

A 10 – 50% shift in the current fleet mix to the larger PBS 26m A-doubles (blue arrow) would deliver **NPV productivity benefits worth \$19 million and \$97 million.**



**B-double, 9-axle, 25/26m (68.5 tonnes, PBS 2A)
Av. net load: 36,169 litres (9% of national fleet)**

**PBS 26m A-double (68.5 tonnes, PBS 2A)
Av. net load: 38,296 litres (8% of national fleet)**



A permitted increase in gross mass for these vehicles, from 68 to 74.5 tonnes would deliver **NPV productivity benefits worth \$26 million to \$128 million**, due to more milk being carried in each load (43,814 litres)

Reduction in the number of trips from farm to processors, with shift to larger and heavier vehicles			
% shift from fleet to:	B-Double 68.5 gross tonnes	A-double 68.5 gross tonnes	A-double increased to 74.5 gross tonnes
10%	10,000	10,000	18,000
20%	20,000	20,000	35,000
30%	32,000	32,000	51,000
40%	44,000	44,000	70,000
50%	56,000	56,000	88,000

Impediments to the transition to heavier mass and larger vehicles

1. **Mass and dimension limits in Performance Based Standards (PBS) scheme:** The National Heavy Vehicle Regulator (NHVR) administers the PBS scheme. The scheme enables heavy vehicles to exceed regulatory mass and dimension limits, and to adopt non-standard truck/trailer configurations. PBS assessors inspect vehicles to determine if they meet performance-based standards on road safety and infrastructure impacts.

PBS vehicles are restricted to defined road networks (see Table 1). Heavy dairy vehicles use either Level 1 or 2A, from farm to processors. Level 2B is included in a small number of cases from processor to customer.

Table 1: PBS road networks matched to equivalent standard road networks

	Equivalent standard road network	Max. overall length (m)
Level 1	General Access	20.0
Level 2A	B-double network	26.0
Level 2B	N/A	30.0
Level 3A	Type I road train network	36.5
Level 3B	N/A	42.0
Level 4A	Type II road train network	53.5
Level 4B	N/A	60.0

State road authorities can only add arterial roads to the PBS Level 1 network, while it is up to councils to add local roads. However, many councils lack the resources and expertise to assess and classify local roads, which means many local roads are missing from the level 1 network. The Victorian PBS Level 1 network map shows a sparse network missing large areas of local roads

<https://vicroadsmaps.maps.arcgis.com/apps/Viewer/index.html?appid=a6e43c6c48c243119b2fa79ee7a2bca2>

It is understood that VicRoads is working on a batch of approved local roads to add to the Victorian map.

PBS level 1 roads are usually limited to 50 - 50.5 tonnes. Councils and State governments have discretion to allow heavier loads, and usually do approve access for heavier vehicles where the Level 1 road makes up only the last mile, for example. They also have discretion to allow vehicles longer than 20m on Level 1 roads following inspection.

The published level 2A network is extensive and comprises major routes in every State and Territory. Mass limits are generally 68.5 tonnes for 26m B-doubles, but approval can be sought for up to 74.5 tonnes.

The current 68.5-tonne mass limit is in particular constraining milk transport from northern Victoria to Sydney, with the NSW Road and Maritime Services and NSW councils reluctant to engage and address the issue.

The Level 2B network is a subset of Level 2A, to allow vehicles longer than 26m and less than 30m to use some Level 2A roads. The mass limit is 68.5 tonnes, but approval can be sought for up to 85.5 tonnes on some routes. The 2B network has not yet been defined and published, except for a few roads in Queensland and SA.

Recommended actions:

Lobby VicRoads and road authorities in other States to prioritise in dairy regions:

- a) A published subset of the Level 1 network that allows vehicles up to
 - Up to 20.0 metres
 - Up to 63.0 tonnes
- b) A published subset of the Level 2A network that allows vehicles up to

Up to 26.0 metres
Up to 74.5 tonnes
A 10-50% shift in the fleet to higher mass would deliver productivity benefits worth \$26 million to \$128 million.

c) A published subset of the Level 2B network that allows

Up to 30.0 metres

Up to 85.5 tonnes

d) Standardised criteria for local government to allow access to PBS level 1 roads, for B-doubles

2. Bridge loadings: Companies can apply for permits for heavier mass vehicles on PBS roads. NHVR charges \$70 for each applications, and consults with relevant state and local government road managers.

Road managers will typically cite bridge loading as needing to be addressed before a decision can be made. In Victoria, the applicant is required to get an assessment from the PBS assessor. VicRoads and the assessor typically charge for this process, with typically total fees of more than \$5000.

Other States may charge by the hour to conduct assessments without engaging external consultants.

A detailed audit by a qualified bridge engineer would be required to understand what would be involved to allow higher-mass vehicles on many local roads used by dairy vehicles.

Note: Many bridges built in the second half of last century could be strengthened to take 75% of SM1600 (120 tonnes). Strengthening bridges to take higher mass loads is costly. Indicative costings provided to the consultants suggest a base \$250 - \$1600 per square metre of deck area, rising to \$500 - \$3200 for total cost (including site preparation, design costs, traffic management, service relocations, and so forth).

Base replacement costs are an estimated \$1700 - \$4500 per square metre of deck area, rising to \$3400 - \$9000 total cost.

Recommended actions:

Work with Victorian Road managers to identify priority bridges requiring assessment to allow higher mass for PBS level 1 and 2A vehicles, where the benefits will be shared by all road users, not just the dairy industry.

Examples:

- Four bridges on the Princes Highway from Sale to Stratford.
- 87 bridges on Princes Highway from Maffra to Bega.
- 36 bridges on the South Gippsland Highway

Lobby for State Road Manager to undertake assessments as matter of priority, and cover costs given broad benefits to all road users, not just dairy. This will reduce the administrative costs in obtaining new permits and renewing existing permits (permits last only 12 months). Routes can then be published as a subset of the PBS Level 2A network where 74.5 tonnes mass is allowed as of right.

3. Westgate Bridge: A two-year trial in 2009 allowed permits for up to 77.5 tonnes on the bridge, but no new permits have been issued for vehicles over 68.5 tonnes since June 2015 due to the pressure on a bridge designed to carry much less traffic and smaller vehicles. Heavier vehicles are now banned.

The ban forces large trucks into inner-Melbourne streets to get to the port – and it will get worse with the State Government expected to announce an expansion of Swanson Dock to handle an extra 100,000 containers a year.

The Westgate restrictions are a severe productivity constraint for the dairy industry from processor to customer. All freight from the west must cross the bridge to get to the Port. All freight from the east must cross twice, to get to distribution centres on the west side, and back again to get to the Port.

The State Government on 19 April announced it would allocate \$5.5 billion over four years for the Western distributor, providing a duplicate East-West route and bridge to Citylink to take traffic off the Westgate. But State transport operators told *The Age* on 19 April 2016 that the ban will likely remain on vehicles over 68.5 tonnes on the Westgate, given its fragility.

Recommended action:

- Seek clearer information from the State Government on whether the distributor will improve access to the Port as an alternative to the Westgate, or whether mass limits may be eased once the Westgate is carrying less traffic.

- 4. Road quality:** Some processors and transport carriers perceive the quality of roads could be improved through more frequent maintenance and some better shouldering. This would reduce vehicle operating costs (tyre wear and suspension), and improve vehicle safety.

Key roads identified for upgrades and better maintenance:

- South Gippsland Highway: Bass Highway – Leongatha – Sale (includes 36 bridges that should be assessed for higher mass access)
- Strzelecki Highway btw Morwell and Leongatha (includes 17 bridges that should be assessed for capacity to carry higher mass vehicles)
- A440 between Leongatha, Foster and Yarram
- C444, C445, C446 between Yanakie and Foster
- Princes Freeway – Ring Road to Morwell to Sale.
- C105, C487 Traralgon to Maffra to Rosedale
- Stratford Road

Other general issues identified by processors:

- Traffic congestion along major arterial roads at particular times of the day, moving process dairy product from Gippsland to warehouses in Melbourne’s western suburbs.
- Queuing of heavy vehicles at the Port of Melbourne to unload product for export.

A potential solution to both the above is for Gippsland processors to use a mooted **intermodal terminal at Lyndhurst** to transfer product from road to rail, and then to port. However, the proposal seems little more than conceptual at this stage, and no processors raised it as possibility. When prompted, they still did not indicate it would be part of their forward thinking for a more efficient supply chain.

Case studies

Consultation with processors indicated several routes with the greatest potential to shift the current fleet to the larger configurations illustrated on p6 of this summary:

- Routes from farm to processor in Victoria, including from SE South Australia and southern NSW.
- Routes from farms in northern Victoria to processors in Sydney.
- Routes from farms to processors in southern Queensland and northern NSW.
- Routes in Tasmania, especially for farms to processors in the north-west.

The large range in the potential productivity benefits described above reflects uncertainty over whether the benefits of improving infrastructure and upgrading farms access for larger, heavier vehicles will always outweigh the costs.

Benefits are more likely to outweigh cost on routes carrying relatively large milk volumes over longer distances.

Three routes with these characteristics were examined as benefit-cost case studies for improved access to larger, heavier vehicles. Improved access would require bridge strengthening and/or replacement, and may require approvals from relevant State and local government road agencies within the PBS scheme.

The benefit-cost analysis does not include benefits to other industries, in part because these vehicle configurations are currently specific to the dairy industry. But other industries could adapt these configurations, or use other vehicle configurations of similar mass.

- Case Study 1: Mount Gambier to Warrnambool to Laverton
- Case Study 2: Strathmerton to Sydney
- Case Study 3: Finley to Stanhope

Case Study 1: Mount Gambier to Warrnambool to Melbourne



Potential for higher mass loading on the 26-metre PBS A-Double, from 68.5 tonnes gross to 74.5 tonnes gross on farm-processors routes from Mount Gambier to Warrnambool and nearby towns, and then to Melbourne via Hopkins/Hamilton Hwy, and Princes Highway/Freeway from Geelong. Typical annual trips from farm to processor in the SW Victoria and SE South Australia region is around 83,760.

PBS 26m A-double (68.5 tonnes, PBS 2A)

Max modelled milk load: 38,000 litres

Modelled capacity at 74.5 tonnes: 43,814 litres

13% of the fleet operating in south-west Victoria and SE South Australia

Net benefits of allowing PBS 26 A-double dairy vehicles to increase mass from 68.5 tonnes to 74.5 tonnes:

- -\$12 million to \$0 million net benefit, if six bridges upgraded
- 0.2 – 1.0 benefit-cost ratio, with upgrading
- -\$39.8 million to -\$12.9 million, if six bridges replaced.
- 0.1 to 0.2 BCR if bridges replaced

Costs comprise bridge upgrades and additional road wear. VicRoads provided a full list of bridges it manages on this route. Six would require strengthening or replacing to carry the heavier mass vehicles:

- 2726 Princes Highway West – Warrnambool-Geelong rail
- 2728 Princes Highway West – Warrnambool-Geelong Rail

- 2729 Princes Highway West – Merri River ('Dennington' Bridge)
- 2731 Princes Highway West – Moyne River
- 4172 Hopkins Highway – Hopkins River
- 9214 Bridge (Warrnambool) Road – Merri River, Woodford (shortcut from Koroit to Hopkins Hwy.)

The study does not include bridges under local government management.

Two other bridges have also been identified by the local MP Roma Britnell as needing Vicroads inspection to approve a mass increase for PBS Level 1 vehicles from 57.5 tonnes to 63 tonnes. They are:

- Cassady's bridge on Caramut Road over the Merri River near Warrnambool
- Deans Creek bridge on the Princes Highway west of Colac

Case Study 2 – Strathmerton (northern Victoria) to Sydney



Potential for higher mass loading on the 26-metre PBS A-Double, from 68.5 tonnes gross to 74.5 tonnes gross on farm-processor routes from Strathmerton to Sydney along the Murray Valley Highway, the Hume Highway and some key Sydney arterial routes. Typical annual trips from farm to processor in the Murray Dairy region is around 77,200.

PBS 26m A-double (68.5 tonnes, PBS 2A)

Max modelled milk load: 38,000 litres

Modelled capacity at 74.5 tonnes: 43,814 litres

8% of the fleet operating in northern Victoria and southern NSW

Net benefits of allowing PBS 26 A-double dairy vehicles to increase mass from 68.5 tonnes to 74.5 tonnes:

- -\$3.3 million to \$7.6 million net benefit, if bridge upgraded
- 1.5 – 3.9 benefit-cost ratio, with upgrading
- -\$6.1 million to \$2.9 million net benefit, if bridge replaced
- 0.6 – 1.4 BCR if bridge replaced

Costs comprise bridge upgrades and additional road wear. VicRoads provided a full list of bridges it manages on this route, but NSW Roads and Maritime Services did not, despite repeated requests. It means the bridge strengthening/replacement costs are underestimated, and this in turn will affect the BCR. Only one Victorian bridge was identified as needing work to carry higher mass vehicles:

- 1457 over the Ovens River on the Murray Valley Highway.

The study does not include bridges under local government management.

Case Study 3 – Finley (southern NSW) to Stanhope (northern Victoria)



Potential for higher mass loading on the 26-metre PBS A-Double, from 68.5 tonnes gross to 74.5 tonnes gross on farm-processor routes from Finley to Stanhope, along the Newell Highway, Murray Goulburn Highway, Goulburn Valley Highway and Midland Highway. Typical annual trips from farm to processor in the Murray Dairy region is around 77,200.

PBS 26m A-double (68.5 tonnes, PBS 2A)

Max modelled milk load: 38,000 litres

Modelled capacity at 74.5 tonnes: 43,814 litres

8% of the fleet operating in northern Victoria and southern NSW

Net benefits of allowing PBS 26 A-double dairy vehicles to increase mass from 68.5 tonnes to 74.5 tonnes:

- \$1.1 million net benefit
- 5.7 benefit-cost ratio

No bridge upgrade or replacement costs are expected. However, NSW Roads and Maritime Services did not provide a list of bridges it manages, despite repeated requests. VicRoads did provide a full list.