Submission to the Queensland Parliamentary Transport, Housing and Local Government Committee – Rail Freight Use

BACKGROUND

Quilpie Shire Council supports and congratulates the government for initiating this inquiry. Quilpie Shire Council, together with South West Regional Economic Development Board partners Balonne Shire, Bulloo Shire, Murweh Shire and Paroo Shire, have been investigating the issue of livestock transport and rail freight on the South West line for the past 12 months. In 2013, the Board commissioned Devine Agribusiness to prepare *the South West Queensland Livestock Transportation Report*. A copy of this report is provided for your information and reference.

Mayor Stuart Mackenzie, on behalf of the Board, has participated in the following meetings with industry groups:

- ✓ July and August 2013 Dick Loveday Transport, Steve Bonsey Transport and Welk Transport;
- ✓ 8 October 2013 Senior Department of Transport & Main Roads officers;
- ✓ 11 October 2013 Aurizon representatives;
- ✓ 1 November 2013 Teleconference with JB Swift

The information and recommendations provided in the submission are for the South West line only.

KEY POINTS

The following key information points have been identified based on the investigations and meetings undertaken to date:

- Only processors and large cattle companies can book trains. Smaller producers cannot.
- The contract between the State Government and Aurizon is to rail cattle from Quilpie to processors. To change this would require a new contract.
- Presently there is one available cattle train path per week from Quilpie.
- In October 2013 a cattle company tried to book a train from Quilpie but was told there were none available and to truck the cattle to Winton and rail from there.
- The cattle product out of Quilpie has changed in the last few years. Only approximately 40% goes direct to works.
- The distance from Quilpie to meatworks is short enough to allow trucks to be used. Winton and Cloncurry are too far from Brisbane and rail has to be used.
- Axial loading allowed on the Quilpie – Charleville line is less than from Charleville to Brisbane. This restricts the allowable tonnage per train.
- The last cattle train out of Quilpie was in November 2012.
- 2013 saw one of the largest movements of cattle through Quilpie. All movements were by truck.
- The State Government pays $22M in subsidies to Aurizon each year to provide cattle freight services across the state.
- Aurizon maintains they lose money by not running a service to Quilpie.
- All parties - Aurizon, Government, trucking companies, processors and graziers - express the desire to see the cattle freight task operate by rail.
- The last general freight train to Quilpie was many years ago. All general freight is now by road transport.

Identified Needs

The following issues have been identified as necessary to facilitate the effective use of the South West line for transporting cattle:

- A reliable and consistent service so graziers / trucking companies can plan their cattle movements to the rail head accordingly.
- The rail freight must be able to transport to sale yards and feedlots and not just meatworks.
- Someone needs to co-ordinate the property / transport company / rail / destination interfaces.
- Infrastructure upgrades to maximise the efficiency of the rail option, particularly on the Charleville – Quilpie section.

Recommendations

Based on the research undertaken to date for the South West, the following recommendations are made to the Committee:

- Improve the communication and coordination between graziers, Aurizon and end users. For example a coordinator initiating a calling program to graziers to establish mustering programs, turnoff turns and numbers and sale points.
- Incentivise Aurizon to want to make the partnership work for commercial reasons.
- Investigate the opportunity to introduce a more flexible and mutually beneficial service frequency. For example two shorter rail seasons per year with a greater number of services during these periods.
- Investigate potential efficiency gains by utilising loading facilities at Quilpie, Charleville, Roma and Dalby.
- Undertake a cost benefit analysis of upgrading infrastructure on sections of the South West line to allow increased train speeds and loads.
- Review planned and ad-hoc stoppage times en route.

If the state government and industry cannot make the South West rail freight work effectively for all partners it is imperative that this be identified and action taken. Under this scenario, an investigation would be required into the long term impacts of ceasing rail operations west of various points and diverting that infrastructure and subsidy spend to the road network. Critical road links requiring upgrading are:

- Charleville - Quilpie Road due to the large number of trucks and road trains and the narrow pavement;
- Complete the Charleville to Morven Type 2 road train access;
- Complete the Mitchell to Roma upgrades to eliminate the need to cross load at Mitchell; and
- Design long, narrow truck parking bays for cattle trucks. Head to tail parking allows for the social structure in the cattle mob to remain as is. Trucks arranged side-by-side interrupts this social structure and cattle remain agitated longer, thus reducing the effectiveness of the spelling time.

Council would request the opportunity to present to the Committee if such an opportunity is made available to submitters.

Dave Burges

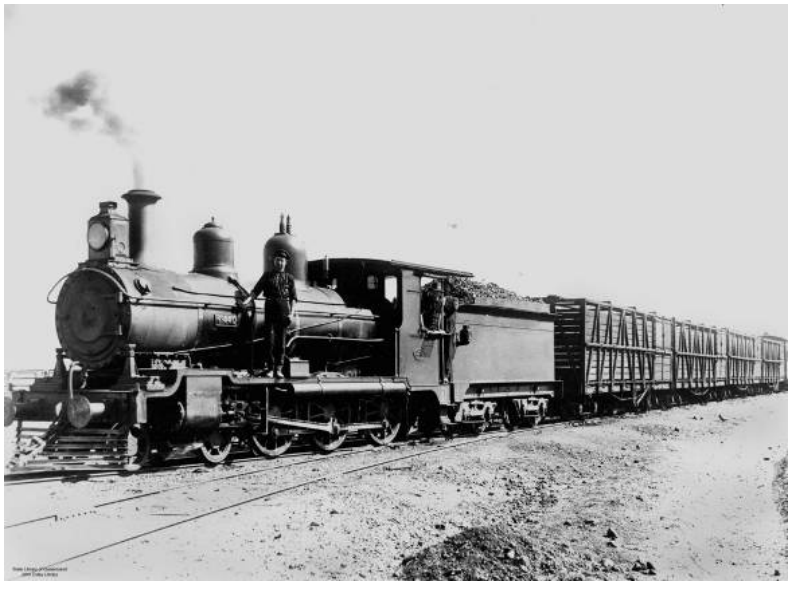
Chief Executive Officer

Devine

Agribusiness

www.devineagribusiness.com.au

South West Queensland Livestock Transportation Project



A report prepared for:

South West Regional Development Association Inc

ABN 25 983 616 169
49 Stockyard Street, Cunnamulla

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Front Cover Photo courtesy of the State Library of Qld – *Livestock Train in Quilpie 1905*.

OUR APPRECIATION

Devine Agribusiness thanks the many grazing, transport and manufacturing professionals that have contributed their information, thoughts and opinions for this report. Your contributions have been enlightening and your frankness beneficial.

In order for many to speak frankly and where individuals or organisations could be easily identified; we agreed to make their comments and key data confidential. To that end we have reported themes and aggregate statistics. We thank you, the reader, for understanding this choice.

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EXECUTIVE SUMMARY

This project investigates the issues surrounding the current patronage of the Quilpie-Brisbane cattle train (SW Line) and identifies a number of ideas and opportunities.

The graziers in this study area run about 250,000 to 550,000 head of cattle depending on the quality of seasons. In most reasonable seasons, approximately 210,000 head are transported out of this area to a variety of destinations and markets.

This report is focussed on the transport activity, we did not report on ownership change. Some of the transport tasks are in-house transfers of cattle from one station to another without an ownership change. These transfers are included in the freight task estimations.

The main destinations for this 210,000 head transport effort are as follows.

Destinations	%
Brisbane Abattoirs	43%
South Australian Abattoirs	18%
Darling Downs Backgrounders and Feedlots	11%
NSW Abattoirs	7%
Central Qld Backgrounders and Feedlots	5%
Maranoa Backgrounders and Feedlots	5%
Oakey Abattoir	5%
Roma Sale Yards	2%
NSW Backgrounders and Feedlots	2%
Dalby Sale Yards	1%

*Total % does not add to 100% due to rounding

Livestock in the study area are either born there or are transported into the area from the north-west, north and north-east. It is not common practice for cattle to come into the area from other directions.

Based purely on the numbers collated for this report, there are sufficient cattle available to fill current rail capacity on the SW line if the impediments to use were removed or alleviated.

If cattle trains ran at will, that is with no supply side restrictions, there are approximately 52,000 to 115,000 potential passengers (demand) for the full Quilpie to Brisbane leg. The range is a result of the variance in stocking rate over time due predominately to fluctuations in seasonal conditions.

Critical Relationships & Communication

The interaction and information flows between 3 groups of people are critical for increasing this cattle train's patronage:

1. Grazier (the cattle owner)
2. Abattoir (the train's customer)
3. Aurizon (the train operator)

Conversations with participants along the freight task indicate that the communication and coordination across these 3 groups has deteriorated significantly over the years. To the point where we regularly heard "*it is just too hard*" when asking about the main impediments to cattle train use.

Grazier confidence in the service and potential risk of market downgrades are also issues raised as suppressing the use of the service. Confidence relates mainly to the on-time and service availability/reliability issues. Market down-grades relate to the quality impacts of long transit times on animal weight and beef eating quality.

Recommendations

- Investigate options for improving this three-way partnership; for example, Aurizon instigate a calling program with Graziers to gain insights into mustering programs, turnoff times and numbers, and potential sale points (Brisbane or elsewhere).
- Investigate the opportunity to run two shorter rail seasons per year, but double the services per week in these truncated seasons.

Partial Service

Anecdotal evidence suggests services that operate inside the SW line may be worthwhile investigating. The current service runs exclusively (express?) between Quilpie and Brisbane once a week for approximately 7 months of the year. There is a large increase in general rail activity once the service enters the Darling Downs coal fields at (about) Warra and further increases through Jondaryan and on into Brisbane.

A much more vigorous coordination role would be required, but it might open up a new pool of graziers' livestock bound for sale yards, as well as abattoirs. Split load options will also increase the available pool of cattle.

Recommendations

- Investigate the feasibility of cattle train services running more frequently within the Quilpie-Dalby sector and utilising loading facilities at Quilpie, Charleville, Roma and Dalby.

Diversion of Infrastructure Spend

Rail usage on the Brisbane-Quilpie line has declined significantly compared to the recent strong usage seen on the other cattle train lines (Central and North). Road transport infrastructure is under increasing pressure to take the freight that used to be railed. Passenger and general freight patronage of rail has also declined, particularly the western end of the SW line.

Recommendations

- Investigate the long term socio-economic impacts of ceasing rail operations (west of various points) and diverting that infrastructure and subsidy spend to the neighbouring road and air networks.
- An evaluation of investment choices for the area's transport solutions and services needs to be done at a system wide level, not just evaluating an individual service option such as cattle rail.

Decrease Service Journey Times

Time taken for train journeys into Brisbane was highlighted as a significant impediment to utilising the cattle train service as opposed to trucking. SW cattle train scheduled time for Quilpie to Brisbane is 27 hours, whereas trucks take about 15 hours including truck configuration changes and cross-loading. The gap between the costs of rail and road has eroded sufficiently that the time impost for graziers appears to be no longer sufficiently compensated by the lower rail cost.

There is a significant volume of feeder cattle (30% of transported cattle) transported from this area to the Maranoa and Darling Downs. Journey time via rail, according to graziers, is excluding this pool from potential rail transport due to the excessive time (off feed).

Excessive time off feed can impact on feeder cattle future productivity. The additional journey time for rail compared to road transport is excluding this sizable pool of potential passengers. One grazier commented "we can have the cattle trucked and in the feedlot eating before the train is past Charleville".

Recommendations

- Investigate infrastructure spend required to increase overall train speeds on significant sections of the SW line.
- Review planned and ad-hoc stoppage times en route.

Transport Infrastructure Spend

Investment in road network enhancements such as increased access for Type 2 Road Trains[1], a second Toowoomba range crossing, a Roma Sale Yards access route and general road surface condition improvements will exacerbate the shift from rail to road for almost all of the respondents. However, this may also open up some of the study area's cattle to markets not currently eligible that have transit time restrictions (MSA grading, etc).

Many graziers listed the main barriers to further improvement to trucking solutions as:

- Charleville-Morven road upgrade to Type 2 Road Trains to eliminate the need to go via Augathella.
- Type 2 road train access into the Roma Saleyards precinct.
- Toowoomba Range bottle neck (the need to cross-load between trailer configurations).
- Redesign truck stops and parking bays for improved cattle spelling outcomes.

Recommendations

- Investment needed to complete the Charleville-Morven Type 2 Road Train access will further decrease the transit times for trucking cattle.
- Investment needed to complete the Mitchell to Roma upgrades to eliminate the cross loading requirements at Mitchell.
- Design long, narrow truck parking bays for cattle trucks. Head to tail parking allows for the social structure in the cattle mob to remain as is. Trucks arranged side-by-side interrupts this social structure and cattle remain agitated longer, thus reducing the effectiveness of the spelling time.

[1] **Type 2 road train -** means a road train using either a rigid truck hauling unit towing two trailers when the combination length is not longer than 47.5m or a road train using a prime mover hauling unit towing three or four trailers when the combination length is not longer than 53.5m.

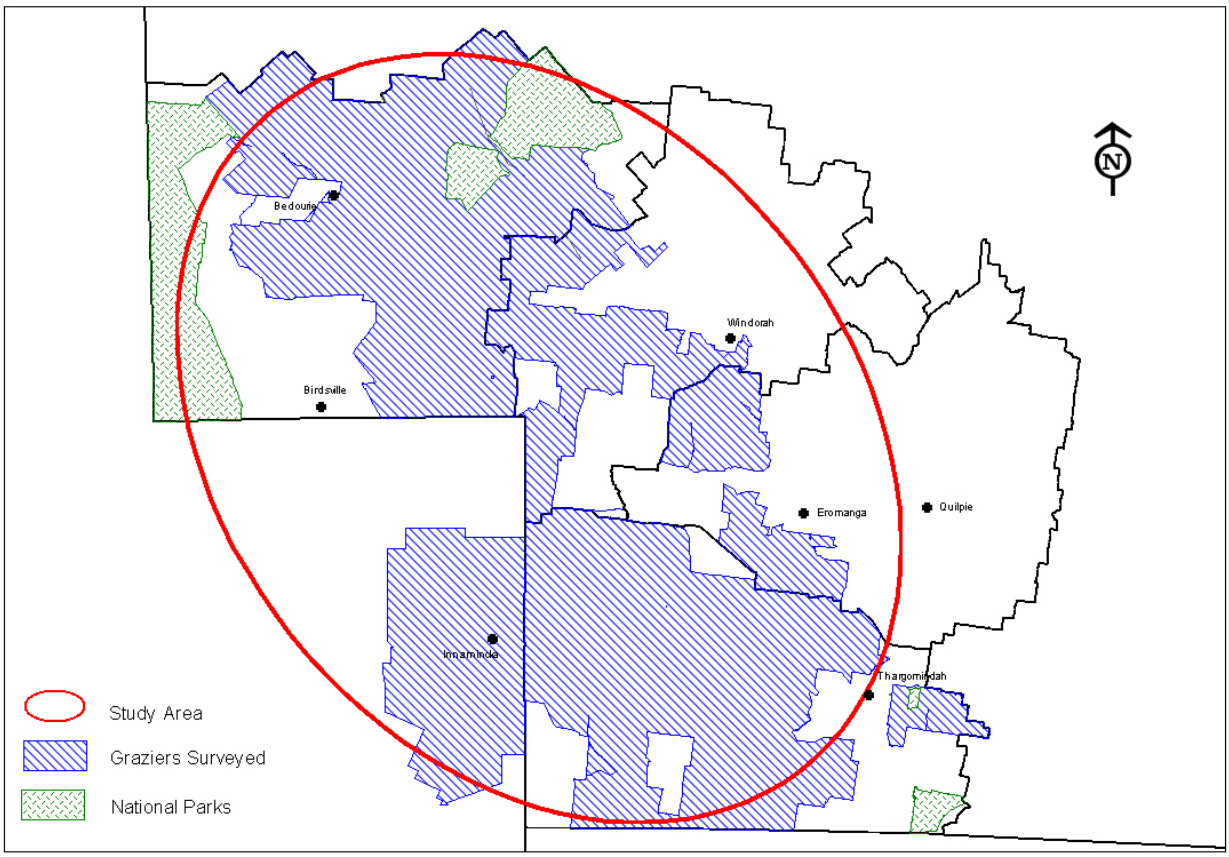
PROJECT SUMMARY

Devine Agribusiness is a rural business consulting, accounting and valuation firm contracted by SWRED to undertake this project. SWRED is an organisation made up of the Councils in SWQ that pursues regional development opportunities and activities that promote business in the area (Murweh, Paroo, Bulloo, and Quilpie Shires).

SWRED contracted Devine Agribusiness to collect information and opinions regarding the SW transport corridor, in particular, cattle trains, to identify issues and ideas for improvement. The contract also explored the scale of the transport task in the train catchment.

The research task is intended to highlight the reasons why use of cattle trains on the SW line have declined and explore potential solutions to increase its use.

Study Area



The ellipse in the above diagram outlines the study area. It is approximately 265,000 km^2 of grazing land. Survey respondents and information contributors own or manage approximately 66% (175,000 km^2). Respondents' cattle stations are shaded blue.

The study area shown above is defined by two key features of resident graziers:

1. The SW line's cattle train service is (or has been) a logistics solution for a grazier's cattle transport in concert with, or in place of, road transport from Quilpie to Brisbane.

2. These graziers can meet current criteria as specified by Aurizon. That is, each of the graziers have sufficient scale to fill a train with slaughter cattle suitable for the Brisbane abattoirs (i.e. each shipment is 800 head or thereabouts).

There are approximately 50 cattle stations within the study area which are owned by approximately 27 different entities (partnerships, individuals, companies, etc).

Some of the survey respondents did not meet the scale criteria, but supplied valuable information about their transport issues that are specific to smaller scale graziers.

Business Descriptions

The majority of graziers in the study area run businesses that fall into two main enterprises.

1. Breeding - where progeny are grown out to weaner or feeder weights and shipped to another property for the animal to grow further through the weight range (progeny ownership may or may not be retained).
2. Fattening - where young cattle are brought (transferred or purchased) onto the property from another station (usually a breeding station) to be grown through the next stages of their life either to backgrounder, feeder or bullock weights.

Some stations in the catchment area operate both enterprises simultaneously. Progeny are typically kept on that station and grown out and sold. Cattle may also be purchased and transported in.

Cattle Freight Equipment

Cattle transport for the graziers in the study area is almost exclusively via truck or train/rail. Very few cattle are shifted by droving (walking) these days. Prior to extensive road networks and large capacity trucks (1800's to mid-1900's) cattle were walked to the rail head and loaded on trains.

Some vehicle configuration differences are important to note.

Cattle Train – a rail locomotive pulling 30 to 40 single storey cattle wagons. Each wagon is measured as a "deck" and holds about 20 adult cattle. This deck terminology is the same in the road trucking industry.

Source: http://gallery3.qrig.org/

Road Trains – this is a term for cattle trucks that have a prime mover pulling more than one trailer. These multi-combination trucks are very common in Western Queensland. There are many configurations available to trucking companies, but the three main configurations used in the study area are:

- Type 1 Road Train – Prime Mover pulling two trailers with each trailer having an upper and lower deck giving a load of four decks (2 x 2). The front and rear trailers are hitched together by a "dolly".

Source: http://farm5.staticflickr.com/

- Type 2 Road Train – Prime Mover pulling three trailers with each trailer having an upper and lower deck giving a load of six decks (3 x 2). The trailers are hitched together by "dollies".

Source: http://www.eldersinternationaltrading.com.au/

- B-Double – strictly speaking is not a Road Train, but is commonly used in the transport task. It is a Prime Mover pulling a half trailer and a full trailer with each trailer having two decks (upper and lower) giving a load of three decks (1.5 x 2). The rear trailer attaches directly to the front trailer through a turntable, not a dolly.

Source: http://farm5.staticflickr.com/

For simplicity, we will only discuss transport in terms of the three configurations listed above. Perusal of Qld Department of Transport and Main Roads information will show many more prime mover and trailer combinations that are permitted on various road systems in Queensland.

http://www.tmr.qld.gov.au/business-industry/Heavy-vehicles.aspx

Freight Task Size

Approximately 200-210,000 head of cattle are transported by road and rail out of the study area during reasonable seasons. The diagram below shows the reported destinations for these cattle.

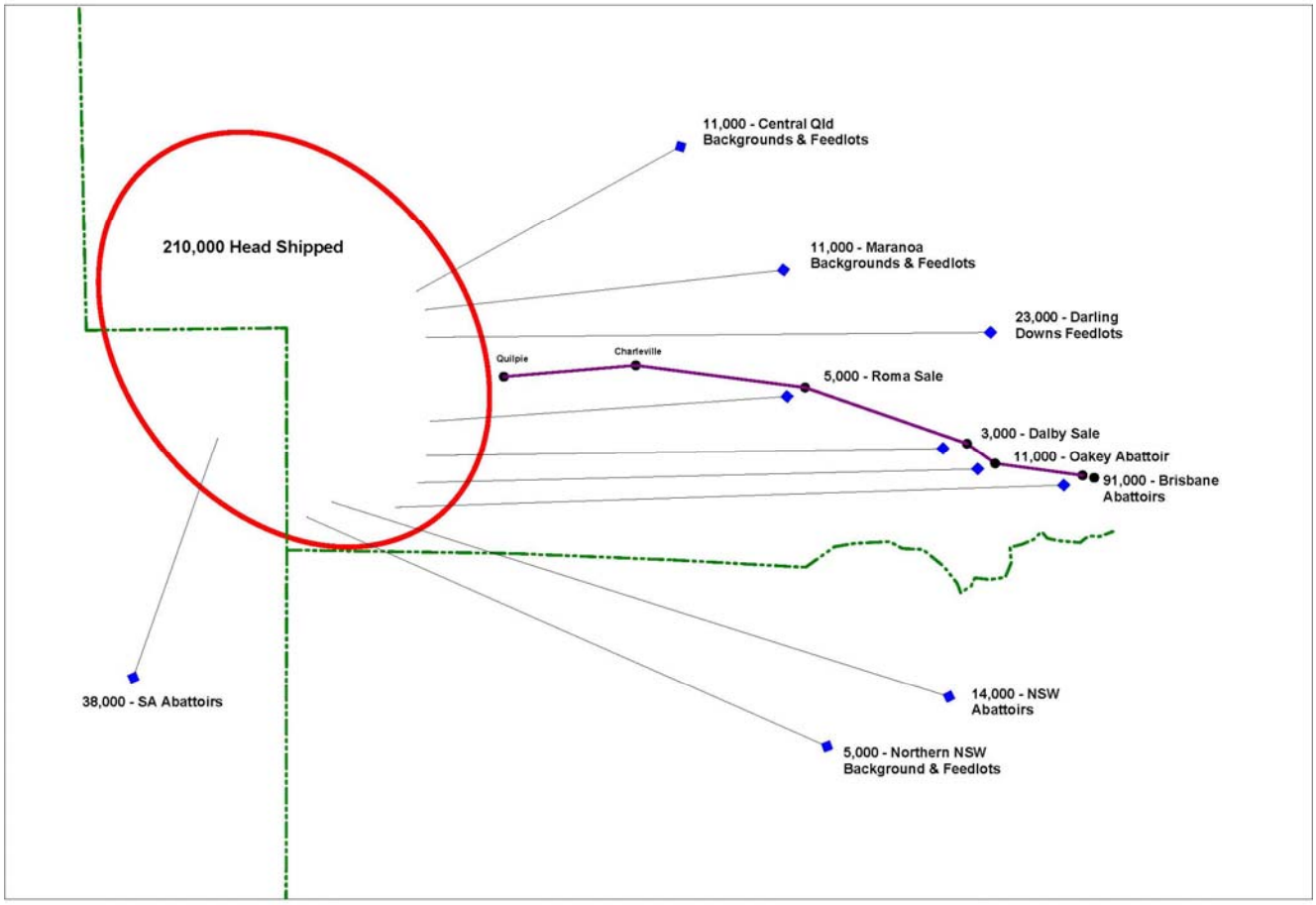
The main freight route is easterly along the SW Line / Warrego Highway. Approximately 115-120,000 head will use some of (or the entire) freight route on its journey out of the study area.

If the above freight task along the SW Line / Warrego Highway was delivered solely by road transport it would require approximately:

- 970 Type 2 Road Trains to Mitchell which then cross load onto -
- 1,560 Type 1 Road Trains to drop cattle at yards and properties through the Maranoa and Darling Downs and about 1,120 continuing onto Toowoomba.
- These 1,120 Type 1 Road Trains cross-load onto -
- 1,500 B-Doubles to traverse the Toowoomba Range and continue into Brisbane.

If the SW cattle train runs to capacity each season, it has the potential to remove up to 250 Type 2 Road Train journeys from the Warrego Highway (to Mitchell). This may flow on to remove up to 370 Type 1 Road Trains from the Maranoa and Darling Downs stages and up to 500 B-Doubles from the Toowoomba Range crossing.

Diagram of Freight Destinations



Cattle Train Freight Task Stakeholders

The list below describes the key stakeholders and the tasks involved in getting cattle through the transport system from the cattle station to Quilpie, onto the cattle train and through to Brisbane.

- Graziers – muster, draft and prepare cattle for transport.
- Truck Operators – load and transport the cattle from the grazier's yards to the spelling yards at Quilpie railhead.
- Spelling Facility Operators – unload the cattle and draft into pens for spelling; once spelled, the cattle are loaded onto the train.
- Train Operators (Aurizon) – load and transport cattle to the destination and unload at the yards adjacent to the abattoir.
- Abattoir Operators (Cattle Train Clients) – unload the cattle and draft into pens for spelling; once spelled, the cattle enter the abattoir process.
- Track Owners (Qld Rail) – maintain and operate the tracks and below track rail infrastructure.
- Aurizon – operate and maintain the above track infrastructure and rolling stock.

CATTLE TRAIN DESCRIPTION

Ownership

Aurizon (formally QR National Limited) is a heavy haul freight railway operator and rail transporter of coal from mine to port for export markets. It also has bulk, general and containerised freight businesses, and provides large-scale rail services.

The 2012 Annual Report outlines that the QR National Limited (now Aurizon) haulage task for the year was 252 million tonnes, of which Coal was 186 million tonnes (74%). The report does not quantify the tonnage of agricultural freight.

QR National Limited was formed when the Queensland Government transferred assets to it in preparation for floating on the ASX. Until 2012 Aurizon was known as QR National Limited.

The above track rolling stock for cattle transport on the SW Line is owned and operated by Aurizon. Rolling stock is the wagons and locomotives.

The below track infrastructure (including the tracks) is owned, maintained and operated by the State Government via the entity Queensland Rail.

Funding & Service Obligations

Aurizon is paid commercial rates to freight cattle on the SW line. There are two components to the rate. Aurizon bills their commercial customer a freight charge for the task undertaken. Aurizon also receives a government subsidy in recompense for delivering on a Service Obligation via a TSC (Transport Service Contract) for regional and livestock freight.

Aurizon receives this government subsidy to provide a number of cattle train services to the beef industry on particular rail lines across the State (see sections later in this report for details).

Aurizon declined to comment on the subsidy quantum due to it being commercial in confidence.

Our research suggests this subsidy is probably between $20 and $25M per annum across the Qld cattle train service as that was the loss attributed to QR prior to privatisation (mentioned in Senate Estimates Committee C – Transport, 15 Jul 2010, page 42). If this subsidy is allocated across the state on an approximate pro-rata basis, the SW line is likely to receive up to $2M per annum.

Customer Interface

Aurizon explained that it has two customers for the Quilpie line – Swifts and Teys. Aurizon will not entertain cold calls from graziers.

When graziers were asked “who do you talk to about cattle trains”, many graziers didn’t know. Some recalled that years ago reps from QR talked regularly to graziers to discuss mustering programs and prospective rail use in order to see if things could be scheduled and coordinated.

Some graziers talked to their “Works” (abattoirs they supply to) and they make the arrangements for the grazier. Some graziers and others involved in cattle and freight transport still refer to the cattle train operator as QR.

CATTLE TRAIN SERVICES – STATE & SW LINE

Current Cattle Train Services

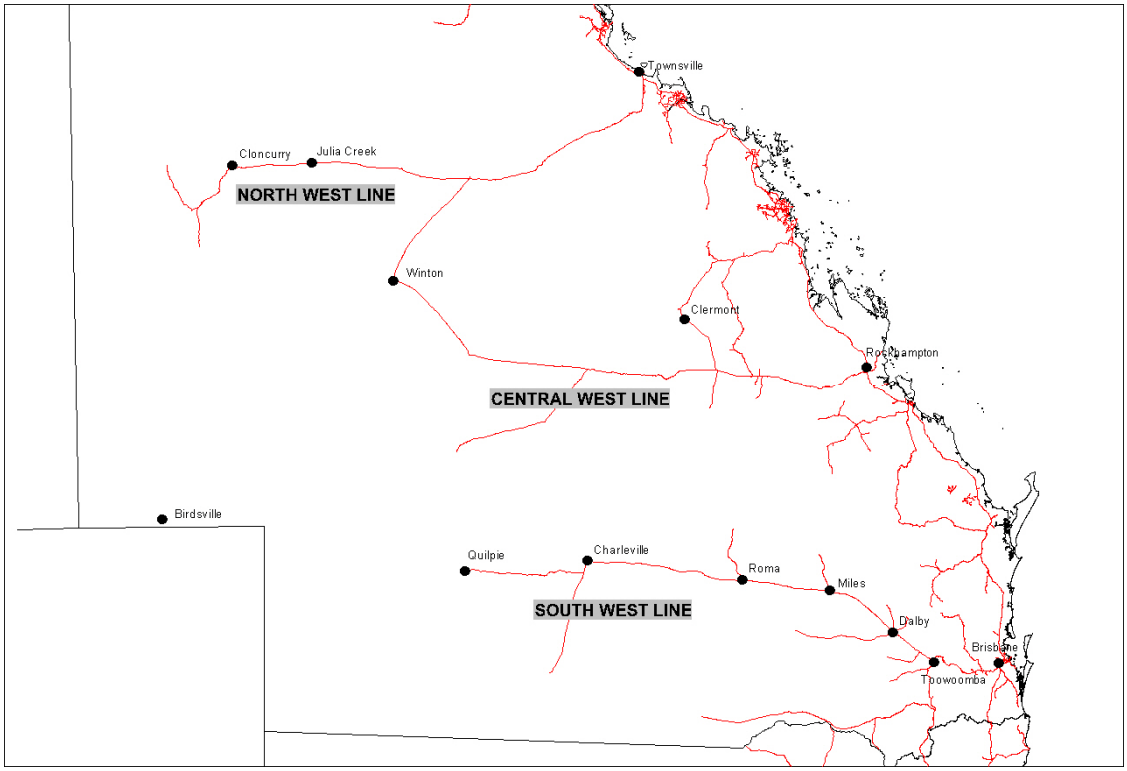
The cattle trains run mainly during the Northern Dry Season (April to November). This activity coincides with the main mustering and turn-off periods for cattle stations. Aurizon is contracted to provide 325 services per year across the State; arranged approximately as follows:

- North West Line = 4 per week for 9-10 months
  - 2 x Julia Creek to Rockhampton
  - 2 x Cloncurry to Brisbane

- Central West Line = 5 per week for 7-8 months
  - 1 x Winton to Rockhampton
  - 4 x Winton/Clermont to Brisbane

- South West Line = 1 per week for 7 months
  - 1 x Quilpie to Brisbane

Qld Rail Lines



The above program results in Brisbane expecting 7 cattle trains per week (1 of those from SW line) and Rockhampton receiving 3 per week.

Alterations to the above are possible via a Business Case being raised and agreed to in advance. Traditionally, these negotiations have included Aurizon, DTMR, QR and Customers (JBS and Teys).

Minimum service size is approximately 36 wagons and maximum 44 wagons. Maximum service size on the SW line is defined by a train length of 650m. The below track infrastructure (passing loops, tunnels) dictate this restriction.

The Queensland Government has recently published the "DRAFT Moving Freight" policy document. For expediency; it is recommended the readers of this report review the Snapshot section of that report to gain an understanding of this area's cattle freight task in the context of the State freight task. The report is at www.tmr.qld.gov.au/business-industry/Transport-sectors/Freight/Moving-Freight.aspx.

Our estimations put the study area's livestock freight task at about 120,000 tonnes per annum, of which the SW line's current cattle train service could be tasked with about 16%. Queensland's total meat and livestock freight task (road and rail) is approximately 1.05M tonnes per annum as described in the DRAFT Moving Freight policy document. The current SW cattle train service, if running to capacity, moves approximately 1.8% of the State's meat and livestock freight task.

Aggregate state level usage of cattle trains has been below capacity for some time. The period 2006/07 through to 2008/09 saw usage rates fluctuate between 38% and 49% (Queensland Parliament, Question on notice No. 1425, 7 October 2009).

We were unable to obtain more recent rail patronage information for the SW line from either QR or Aurizon.

In 2011/12 Aurizon transported 945 wagons (decks) from Quilpie to Brisbane (22-26 services). 1,320 wagons (30-37 services) were committed for the 2012/13 year. It is most likely that this target will not be met.

Partial Journeys

The vast majority of rail services on the SW line have been for the full length, Quilpie to Brisbane. Although, the line has been used for a select few partial journeys:

- Quilpie to Roma for a cattle sale (10 years ago, cattle trucked into Quilpie, then railed).
- Roma to Brisbane – cattle purchased at Roma Sale Yards were railed to Brisbane (JBS/Teys) but discontinued as customers chose road options in preference. Transit time (vs trucks) and (less likely) an increase in Direct Consignment may have contributed to this service being removed.

Aurizon's cattle train preference is a full length journey (Quilpie to Brisbane).

SW Cattle Train Ordering & Patronage

A service is originated and ordered by a customer. The customer is either JBS or Teys. The vast majority of services are Single Vendor and Single Customer; that is either JBS or Teys shipping cattle for slaughter from 1 Grazier/Vendor. Confirmation of train service is provided to the grazier about two weeks in advance.

An individual grazier (cattle vendor) cannot "cold call" Aurizon for a train or a mixed vendor service. Only one enquiry to Aurizon has been made regarding the South West Service this year.

Despite services being available since May and large numbers of cattle moving from the general catchment area; no shipments have been made via the SW line. The Central and Northern lines are both well patronised and running close to full capacity.

There is very little freight (general) railed west of Roma. One passenger service per week runs on the SW line; it terminates in Charleville (known as the Westlander).

Below Track Features Define Above Track Use

Four main below track features restrict the capacity and frequency of rail services on the SW line.

1. Track class
2. Passing loop length
3. Tunnel size
4. Paths available on the Toowoomba range

Track Classes:

- A Class – Brisbane to Charleville – 15.75 tonne axle load limit
- B Class – Charleville to Quilpie – 10.75 tonne axle load limit
- S Class – Special Tracks – generally in the Coal Fields (none on SW line)

The Cattle Train on the SW line is operating a 62 tonne Locomotive to meet the Quilpie-Charleville line axle load restrictions. On other A-class lines the Locomotives are generally 90-94 tonne and can utilise the higher axle load limit up to 15.75t. The S Class rolling stock configurations and load limits will vary line by line.

The maximum cattle train size on the SW line is dictated by length (650 metres) due to limitations in passing loops. This overall length incorporates two 60 tonne locomotives and up to 44 cattle wagons.

These axle load limit restrictions are significant. For example, if a coal train was to run on the Quilpie-Charleville line it could only use half full wagons pulled by two 60 tonne locomotives or smaller.

Tunnel dimensions limit the locomotive size on the SW line, although not an issue for the cattle train as the axle load limits cut in first. Some tunnels on the Range are heritage listed raising further issues in re-designing and modifying them for handling higher capacity rolling stock.

Each section of rail network has a prescribed number of journeys (or paths) that can be run on it in a particular time period (eg paths per day). The below track features of the Toowoomba range crossing appear to be the main constriction point for paths on the SW line. Commuter peak hour arrangements also contribute to restricting paths open to non-passenger activity in the metro network.

According to QR and Aurizon; a shortage of paths on the Range does not impact on the SW line's cattle service as there are paths set aside for agricultural freight as first preference (cattle, grain and cotton). If a path is not going to be used by its designated commodity, it is reassigned to another.

An increase in the number of passing loops is planned for construction in the near future. This will increase the number of paths available for traversing the Range and will result in a greater volume of freight being railed. It is not anticipated that agricultural commodity paths will be increased.

Anecdotal evidence suggests that if a cattle train misses its path time (e.g. arrives late at the path gate); it is likely to incur a significant wait until another path is secured for that service.

Trackside Features of the SW Line

- Quilpie – Loading and Spelling Yards.
- Charleville – Loading and Spelling Yards – generally only used when the Quilpie line is closed due to damage (eg flood repairs).
- Roma – Loading and Spelling Yards in the Sale Yard complex, mainly for emergencies.
- Dalby – Loading and Spelling Yards adjacent to the track. Only used if transit time will be an issue due to a derailment or other emergency occurring further east.
- Dinmore – Unloading and Spelling Yards beside the JBS Swift Abattoir complex. QR owns the yards, leased to Aurizon.
- Homeview – Unloading and Spelling Yards beside the Teys Abattoir complex. QR owns the yards, leased to Aurizon.

Above Track Features

There are 2 types of cattle wagons in use across Queensland; 40 foot and 50 foot. The SW line operates 40 foot rolling stock, however the NQ and CQ lines utilise 50 foot rolling stock. In both instances the unit of measure for capacity estimations is the “Deck” being the 40 foot equivalent.

A 40 foot deck will hold 20 Bullocks and a 50 foot deck will hold 25 bullocks. A shipment of 800 bullocks will always be converted to a lift of 40 decks. If the lift is from Longreach there would be 32 wagons used; if from Quilpie it would be 40 wagons.

The standardised 40 foot volumetric measure is used across cattle freight solutions.

Aurizon has accumulated all the 40 foot wagons to the SW line as they progress to obsolescence. Efficiency of maintenance is improved somewhat by running homogenous rolling stock on just one line. The accumulation of the (obsolescing) 40 footers may predispose the SW line to increased service interruptions due to break-downs.

LIVESTOCK FREIGHT COSTS & JOURNEY TIME

Cattle transport costs have differing metrics for estimating the costs involved. Key terminology used by the livestock industry for costing a journey is:

- Cost per head ($/hd)
- Cost per deck ($/deck)
- Cost per loaded deck per kilometre ($/deck/km)

The cattle industry convention is for the freight company to quote the cost of a journey on a "loaded" basis. The vast majority of cattle movements in SW Queensland are eastwards leaving the likelihood of getting a backload on the return leg of the journey fairly low.

Our estimates are based on transporting a 600-650 kg animal loaded at 20 per deck.

Cattle Train Service Costs

Aurizon's cost for 36-44 decks from Quilpie to Brisbane is Commercial in Confidence.

Graziers that have used the rail in the last couple of years estimated the rail leg Quilpie-Brisbane at about $1,200 per deck. This converts to approximately $1.30 per deck per km or $60 per head.

Our research estimates the subsidy provided to Aurizon (for the SW line) was in the vicinity of $2M per annum. This puts the subsidy somewhere around $68/head, $1,351/deck, or $1.60/deck/km.

The combined estimated cost/fee and subsidy is $128/head, $2,551/deck, or $2.90/deck/km for the Quilpie-Brisbane journey.

Cattle Road Transport Costs

Road freight estimates from graziers put the cost of trucking cattle from the study area catchment into Brisbane at about $100 to $130 per head. This includes the road freight part of the journey into Quilpie, as well as the Quilpie-Brisbane leg by road.

Owners/Managers of trucking companies were surveyed as part of the project to gain an understanding of the cost structure and transit times for shifting livestock via road. The trucking companies have depots in Cunnamulla, Quilpie and Tambo and regularly service the SW line catchment. Each of the companies surveyed charged graziers on a $/km/loaded deck basis which includes the cross loading tasks if required.

The average charge rates ($/km/loaded deck) for these companies are shown in the table below.

	Destination	Quilpie	Charleville	Roma	Dalby/Oakey	Brisbane
Source	**Birdsville**	$1.63	$1.63	$1.63	$1.63	$1.63
	Quilpie		$1.67	$1.66	$1.63	$1.63
	Charleville			$1.67	$1.63	$1.63

(Rates shown are GST exclusive)

The approximate distances (km) between centres are shown in the table below. The trip between Charleville and Roma requires a deviation via Augathella for Type 2 Road Trains, adding 74km to the journey.

Source \ Destination	Quilpie	Charleville	Roma	Dalby/Oakey	Brisbane
Birdsville	632	842	1,184	1,452	1,659
Quilpie		210	552	820	1,027
Charleville			342	610	817

The approximate animal transport costs ($/head) between centres are shown in the table below.

Source \ Destination	Quilpie	Charleville	Roma	Dalby/Oakey	Brisbane
Birdsville	$52	$69	$96	$118	$135
Quilpie		$18	$46	$67	$84
Charleville			$29	$50	$67

(Rates shown are GST exclusive)

Transit Times

The SW line cattle train has a fixed schedule:

- Departs Quilpie 11.30pm Monday
- Arrives Dinmore 02:00am Wednesday
- Arrives Homeview 03:00am Wednesday

The transit times for the SW cattle train service is:

Source \ Destination	Roma	Dalby	Dinmore	Homeview
Quilpie			26.5 hours	27.5 hours

The transit times for all trucking companies were very similar. All indicated that they spelled cattle at Quilpie before continuing east. The average transit times (hours) for the surveyed companies are shown below:

Source \ Destination	Quilpie	Spell	Charleville	Roma	Toowoomba	Brisbane
Birdsville	12	24	39	44	49	51
Quilpie			3	8	13	15
Charleville				5	10	12

(Times shown assumes Type 2 Road Train travel between Charleville and Morven via Augathella)

A representative from a surveyed trucking company indicated that cattle from Innamincka, Thargomindah and surrounding areas tended to be transported east via the Balonne and Moonie Highways as road conditions have improved and transit times are shorter than via Quilpie.

The estimated transit times along this route are as follows:

	Destination	Thargomindah	Cunnamulla	Spell	Dalby	Toowoomba	Brisbane
Source	Innamincka	9	12	24	42	43	45
	Thargomindah		3		11	12	14
	Cunnamulla				8	9	11

Road / Rail Comparisons

A number of graziers commented that the cost competitiveness of railing cattle from Quilpie is almost gone compared to road freighting. The differential is no longer sufficient when other factors such as transit time are taken into consideration.

Summarised below is the cost comparison for the Quilpie-Brisbane leg of the study area's freight task.

	Quilpie to Brisbane	Road	Rail
Cost of Transport	**$/deck/km**	$1.63	$1.30
	$/deck	$1,675	$1,200
	$/head	$84	$60

Graziers are risk conscious, particularly when it comes to market downgrades and animal welfare issues. A truck breakdown results in inconvenience and risk for 6 decks of cattle (120 head) until an alternate freight solution is arranged. A train breakdown results in the full consignment of ~800 head being at risk. Sourcing an emergency trucking or spelling option for 120 head is far simpler than for 800 head.

THE CATTLE TRAIN CUSTOMER

The Brisbane abattoirs owned by Swifts and Teys draw cattle from a very large geographical area and fattening systems. Grass Fed Ox (the typical SW cattle train passenger) is only one type of beef animal processed.

Based on capacity estimates (publicly available) the study area provides between 7-9% of the Brisbane abattoirs' combined throughput. This does not include the cattle transferred to other stations/feedlots and then onto the abattoirs at a later date.

Graziers often sell cattle directly to the abattoir without the sale passing through an agent or sale yards. The volumes of direct-to-works sales have been fairly consistent with one abattoir noting it has been about 85% for many years. This feature of cattle selling does not appear to have been a driver behind rail service's decline in patronage.

LOGISTICAL & LEGAL CONSIDERATIONS FOR CATTLE TRANSPORT

During stakeholder interviews, the issues of animal welfare and safe driving regulations were front of mind for most. The key obligations on participants in the cattle transport sector are spelt out in two main areas of legislation:

- Animal Welfare – this is making sure the animals are fit for travel, have appropriate in-transit treatment and care, and are unloaded with care. These are obligations on the grazier and the transporter.

  http://www.animalwelfarestandards.net.au/land-transport/

- Transport Operator Obligations – are responsible operation of the machinery and care of the animals whilst in transit as prescribed in Animal Welfare Legislation. Transporters also need to adhere to fatigue management protocols and other legislative obligations. These are commonly referred to as the Fatigue Laws.

  http://www.tmr.qld.gov.au/business-industry/Heavy-vehicles/Fatigue-management.aspx

GRAZIER SURVEY & OPINIONS

This project interviewed a sample of the graziers in the Study area. Survey respondents manage about 66% of the grazing land in that area. For expediency, we have used the land area managed to define the sample-to-population extrapolation index of 1.50.

We defined the geographic boundary of the catchment when we discovered a grazier that would use another rail head (e.g. Winton or Longreach) in preference to Quilpie, or didn't send any cattle along the Eastern routes (SW rail line, Warrego or Balonne Highways).

Outlined in the next sections are a summary of results from the survey.

High & Low Cattle Numbers

Seasonality and sequences of seasons play a very large part in driving the cattle numbers in this area. We estimate the herd size in the study area fluctuates between 240,000 to 525,000 head based on respondents' reported high and low cattle numbers.

Over the longer term the estimated annual shipment of cattle out of this area is around 200-210,000 head. In most years, these cattle are shipped March to November unless seasons dictate otherwise (flood, drought, etc).

Historical Rail Use

The vast majority of graziers surveyed (85% of the study area's herd) had used at least one cattle train in the past few years.

Some of the key drivers of historical (more than 3 years ago) rail use described by respondents were:

- Shortage of trucks and less bitumen
- Convenient at the time
- 2 trains per week
- Smooth for the cattle
- Cost effective
- Seemed to be simpler to organise
- If the Central line was booked out, we'd look to Quilpie

Some drawbacks noted by respondents included:

- Had to book a whole train and early, up to 2 months out
- Line only goes to two works
- Guaranteeing a train load in any weather

Intentions for Future Use

All current (and recent past) users of the service would consider using again in the future if arrangements suited and/or impediments were resolved.

> *"When the rail was reliable, we used it. We would still use it if we knew the train would be there and was running."*

It is likely that some respondents that hadn't used rail before would contemplate it. These graziers were most likely to use rail if split loads (share train with another grazier) and more than one destination could be arranged in the one service (e.g. drop at both works).

The split load issue appears to be one of the key impediments to smaller scale graziers utilising rail transport.

Standard of Service

The grazier respondents gave the cattle train a rating of 7.3 (out of 10) for its quality of service in the recent past (up to 2010/11). Respondents have rated the current service at an average of 3.3 out of 10. These ratings are expanded upon with qualitative responses in following sections of this report.

Some respondents mentioned their disappointment at previous state governments letting the infrastructure and equipment run down and then hand off the issue via privatisation. Anecdotal evidence suggests that there are industrial and wage arrangements that might be restricting the efficiency of operating the SW line (compared to road freight).

A significant majority of the cattle transported out of the catchment area are road freighted. Most graziers framed their comments regarding rail in comparison to road transport.

> *"Years ago, someone from the train would ring us and talk about our program."*

Impediments to Using Service

Many graziers commented that it is just simpler and easier to make a phone call to a trucking company and everything flows from there. Trucks turn up on time, cattle are loaded and shipped.

Many graziers did not know who to talk to about railing cattle. One commented that they couldn't find a livestock transport phone number (for Aurizon) and could only find a call centre number.

Grazier confidence in the service has eroded considerably in recent years; "*if we know the train was going to be there when we needed it we would use it*". The grazier may not know the rail service is to be available as short as two weeks out from shipping date.

Graziers also noted that the lead time for securing trains was often a lot longer than the lead time abattoirs give on prices. Graziers are reluctant to lock in a freight solution when the sale price of their cattle is unknown. Usually there is a price and grid difference across the abattoirs. These price spreads vary from week to week depending on many factors. The price swings may result in a mob of slaughter cattle being sent somewhere other than the abattoir last used. Graziers reported this season has seen variances across abattoir grid prices of $0.10 to $0.30 per kilo dressed. Over a train load of bullocks, this could equate to $25,000 to $75,000.

For the grazier, the difference in transport choice (as outlined earlier, $60 vs $84/hd) on cost alone equates to about $0.04 per kilogram live weight, or $0.07 per kilogram dressed. A minor shift of a few cents in the grid price easily wipes out the rail freight cost advantage.

Summarised below are key phrases outlining the main impediments to rail use collected from grazier respondents. Some comments were quite similar from many graziers, for convenience these have been collated and reported.

Marketing Options

- *Using the Quilpie line restricts the marketing options down to 2 and sometimes just 1 abattoir.*
- *Markets have been better to the south when we had cattle to go.*
- *Most of our cattle are going to SA this year; other years they go to Dalby via Cunnamulla.*
- *Lack of options at the other end, no prices that far out.*

Own Trucking Solutions

- *We have our own trucks, so need to keep them moving.*
- *With our own trucks we can do split loads (e.g. 2 decks to Roma, then the other 4 decks onto Wandoan).*
- *We back load (mainly hay, etc) to spread some costs.*

Local Trucking Company

- *We use a local trucking company that is reliable.*
- *Prefer to use local truck operators.*
- *Trucking is more flexible; if the cattle need more spelling, then they can do it.*
- *Full booking required.*
- *Our short trip into Quilpie makes it simpler to keep them on trucks and do the cross loads further east.*
- *Once on the truck, just keep them moving.*
- *Have used the spelling yards but not the train (truck – spell – truck).*

Scale of Grazing Operation

- *Rail excludes the smaller grazier that can't fill a train.*
- *Lack of numbers in our business.*
- *Having a full load.*
- *Too small.*

Transit Time

- *Transit time to the south is better.*
- *Time to get into town (Brisbane) compared to trucks is an issue.*
- *Less stress and time by road.*

Service Quality & Quantity

- *Reliability.*
- *Lack of continuity.*
- *Only 1 train per week and is hard to line up.*
- *More trains need to be available.*
- *Lack of trains.*
- *Coal has priority.*
- *Just too hard to organise.*
- *Had to go through the 1800 number to try and find someone to talk to.*
- *Every time we have tried to book something there is no service, nothing available, or booked up.*
- *Just can't get it and have to wait so long.*
- *Breakdowns and follow-up with grazier when cattle dropped somewhere in emergency.*
- *Timing.*
- *Indecision; is the train coming or not?*
- *Don't know who to contact.*
- *There is no service anymore, it doesn't even come out.*
- *Just too hard to organise.*
- *SA couldn't do anything terribly well either; no cattle trains run in SA now.*
- *Tried before to get onto it.*
- *Lead time of 6 weeks to 2-3 months.*

Costs Compared to Road

- *Cost competitiveness is shrinking.*

Ideas & Opportunities

One drawback of trucking instead of rail is the need for splitting trucks and cross loading at Mitchell and Toowoomba and the associated risks of bruising during this process. For many of the cattle the unloading and spelling at Quilpie is required anyway.

Investment in road network enhancements such as increased access for Type 2 Road Trains, Second Range Crossing, and general road surface condition improvements will exacerbate the shift from rail to road for most of the respondents. However, this may also open up some of the study area's cattle to markets not currently eligible that have transit time restrictions (MSA grading, etc).

Many graziers mentioned the main barriers to even more efficient trucking solutions.

- Charleville-Morven road to be Type 2 Road Trains (6 decks) to remove the Augathella leg.
- Type 2 road train access into the Roma Saleyards precinct. Simpler for saleyard destined cattle and the logical area for cross-loading and emergency (or planned) spelling.
- Toowoomba Range bottle neck (the need to cross-load between trailer configurations) solved by a second range crossing that can handle Type 1 road trains.
- Redesign truck stops and parking bays for improved cattle spelling outcomes.

Truck rest areas and pads are not designed for optimal cattle resting. Often a cattle truck has to pull in alongside another, thus creating a social structure impost on the cattle. The cattle don't rest (spell) effectively when a foreign animal(s) is introduced, albeit in a truck next door. This lack of rest may not be as strenuous as whilst moving, but may have animal and meat quality implications. A better design is to have very long parking/rest bays rather than big square pads.

Accumulation & Unloading Points

There were some remarks from graziers regarding the idea of opening up further loading and unloading points along the route. This may increase patronage, but most thought that unless the transit times were improved, once cattle were on trucks and at (say) Charleville, they may as well keep moving by road.

Freight task numbers show a significant number of grower (backgrounding and feeder) cattle being shipped into the Maranoa and Darling Downs. Again, transit time appeared to be the main hurdle for graziers' rail patronage on this type of journey. One comment summed it up; *"we can have the cattle trucked and in the feedlot eating before the train is past Charleville".*

Community Wide Considerations

Graziers are cognisant of their transport decisions' impacts on the wider community, particularly the potential for flow on effects that influence the townships and communities in the catchment. Graziers are also aware of these decisions on other communities (e.g. road congestion on the Toowoomba Range, etc). Collectively the graziers are often the main industry for that area and associated communities.

Graziers discussed their commitment to local trucking companies whilst they expand capacity and upgrade their prime movers and trailers. It is a preference for some to not return to (or start using) rail as they now have a good relationship with a trucking company.

A return to rail for a while, for it to then not be successful, and to then try to re-establish a relationship with the trucking company would be far from ideal. They would not like to see the negative impacts on local trucking businesses in Quilpie of taking that freight task elsewhere.

Some graziers have purchased their own road trains and now conduct the bulk of their own freight task. Back-loading goods (mainly hay) are also undertaken.

Respondents mentioned some favourable impacts of increasing cattle rail patronage. The ability of SW based truck drivers to work the “short loops” out of Quilpie (for example, channel country to rail heads) would result in drivers being home more often when compared to long haul runs from the Border country through Quilpie or Winton and into Brisbane.

The short loops are often a better financial and efficacy proposition for the trucking operator. It appears that a short loop is up to about 12 hours travelling one way (e.g. Birdsville to Quilpie). A long loop is significantly more than that (e.g. Innamincka to Brisbane).

Anecdotally, the longer haul runs in/out of Brisbane appear to increase the prospects of drivers infringing fatigue compliance legislation in their efforts to reduce the transit/welfare imposts on the cattle. Trucking companies in the catchment area are, from time to time, struggling to attract operators with sufficient experience, skill and willingness to do the longer runs.

Some graziers noted that trucking services were also easier to get when the rail was running to capacity. This may be due to the increased proportion of short loop tasks and some excess capacity in the local trucking market.

Graziers noted that it is not just cattle transport that has shifted heavily towards road in recent years, general freight has too. Timeliness and confidence in dispatch/tracking/delivery appears to have underpinned this shift in general freight.

BIBLIOGRAPHY

Department of Transport & Main Roads. 2013. DRAFT Moving Freight. A plan for more efficient freight movement.

Standing Council on Primary Industries. 2012. AUSTRALIAN ANIMAL WELFARE STANDARDS AND GUIDELINES. Edition One. Version 1.1. 21 September 2012

Australian Livestock Transporters Association. STOCK PREPARATION PRE-TRANSPORT – A GUIDE TO BEST PRACTICE.

MEAT STANDARDS AUSTRALIA. 2013. Amendment Advice 1/2013 – 31st May 2013. Form No: 2.1.4 Release Date: 30/05/12.

QR National. 2012. Annual Report.

GHD. 2011. South West Queensland regional transport and freight strategy.

Record of Proceedings (Hansard). 2010. Senate Estimates Committee C – Transport, 15 Jul 2010, page 42.

TERMINOLOGY

Deck – carrying capacity of a standard size cattle wagon that is equivalent to a 40 foot road cattle truck (surface area of cattle crate floor). The trucking (road) industry uses the same "deck" in their terminology. The SW line operates 40 foot rolling stock, however the NQ and CQ lines utilise 50 foot rolling stock. In both instances the unit of measure is the "Deck" being the 40 foot equivalent.

Rolling Stock – the powered and non-powered part of a train configuration (locomotives and wagons). Cattle Wagons can really only be used for Cattle. Some Cattle Wagons (the 50 footers) are a little simpler to re-configure as they are cattle crates on top of a flat bed. The 40 footers are single use and purpose built.

Below Track – generally refers to the rails and other infrastructure upon which a rail service operates.

Above Track – generally refers to the rolling stock and associated equipment.

Feeder Cattle – cattle that have reached the target weights for entry into a feedlot.

Backgrounder Cattle – young cattle that have reached the target weights to go into a pasture based system in preparation for a feedlot finishing program. Over time a Backgrounder becomes a Feeder.

Rail Path – is a scheduled time for a train to traverse a section of track between two points. For example, time to traverse the Toowoomba range. The scheduling of paths ensures trains are able to co-ordinate their access to and use of passing loops with minimal delays to journey times. If a train misses its path, it will need to wait for another path opening.