

Paroo Shire Council

South West Queensland Regional Transport and Freight Strategy

Position Paper - **EXTRACT**

September 2010

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1. Introduction

1.1 The project

The *South West Queensland Regional Transport and Freight Strategy* is a multi-modal investigation into road, rail, land, air and active transport systems in the South West Region of Queensland. Specifically, the objectives of the study are to:

- Collate relevant information and analyse the existing transport systems for all modes in the region
- Consult key stakeholders to assess issues, constraints and opportunities for the region
- Develop a strategic transport vision to guide planning, funding and provision of regional transport infrastructure and services
- Identify sustainable, innovative and integrated freight and passenger transport solutions

1.2 Purpose of the position paper

The first stage of the study is to undertake a desktop review of the region's transport and freight needs to highlight transport issues and opportunities based on historic and current demands and is to consider potential future movement scenarios in the region. The purpose of the Position Paper is to report the findings and provide an information database to support strategy development.

1.3 Study area

The study area covers the South West Region of Queensland comprising Murweh, Quilpie, Paroo and Bulloo Shires with further consideration of key inter-regional and inter-state linkages connecting the South West Region to priority services and markets. The South West Region covers an area of 230,000 square kilometres.

The South West's largest centre is located approximately 750 kilometres (or 9.5 hours driving time) west of Brisbane, 7.5 hours from Toowoomba and three hours from Roma. Durham Downs near the Queensland-South Australia border is a further eight hours west of Charleville. For many properties in Bulloo Shire in the far south west of the region, it is quicker to travel to Broken Hill in New South Wales or Adelaide, South Australia than to travel east to Brisbane.

The remoteness of the region combined with the nature of local industry (e.g. pastoral, oil and gas, tourism, servicers) presents a number of challenges vis-à-vis transport networks, demand and linkages including:

- Extremely high reliance on road freight
- High proportion of heavy goods vehicles in the traffic flow, also presenting safety issues
- Substantially high proportion of caravans and associated leisure vehicles in the traffic flow
- Reliance on air transport
- The impact of extreme climatic conditions including drought and flood

2. Transport drivers, issues and needs

2.1 Population Growth

Consistent with recent trends, the population in South West Queensland is predicted to remain stable with very minor decline over the 20 years between 2006 and 2026. This stable population creates unique pressures on the transport network: whereas in the metropolitan areas of South East Queensland the rapidly growing population places pressure on the capacity of the network, the lack of population growth in the South West Region creates problems when justifying the maintenance and upgrade of existing networks to provide safe routes for residents and to support the region's important contribution to the State's economy.

2.2 Vehicle Ownership

Compared to Queensland, the South West Region has a high proportion of heavy vehicles registered per 1,000 population – 88 compared to 28. This is particularly evident in Bulloo Shire where there are 18.5 times more articulated trucks and 11.5 more heavy rigid trucks per 1000 population compared to the Queensland average. Quilpie Shire also has a high proportion of heavy vehicles with 12 times more articulated trucks and 6 times more heavy rigid trucks per 1000 population. These high proportions of heavy vehicle registrations can be attributed to livestock movements and traffic generation from the Eromanga, Jackson and Ballera Oil Fields.

2.3 Economic Drivers

The largest industry by employment is agriculture, forestry and fishing (accommodating 25% of the South West Queensland workforce). Grazing is the most dominant land use in the region, with almost all the non-desert parts of the region used for wool, lamb meat and beef production. Recent economic growth in the far west of the area has been driven by extractive industries, in particular oil and gas. However, forecasts of dwindling stocks of viable sources of conventional gas and oil mean that alternatives, such as coal seam gas, appear to be potential drivers in the medium to longer term. Future opportunities for more emerging industries such as nature-based tourism, renewable energy production and game meat processing are still somewhat dependent upon regulatory developments. Table 1 below provides a summary of the existing situation and future prospects for these key industries.

Table 1 Economic Drivers

Industry	Existing Situation	Future Prospects
Oil and Gas	<p>Extensive drilling of wells has been undertaken into the Cooper Basin, which has yielded viable fields in the region over the past 50 years.</p> <p>The majority of oil is transported on the Cooper Developmental Road and Diamantina Developmental Road in triple road trains going to Brisbane and Moonie. Eromanga has a small diesel refinery and this fuel is transported east to Brisbane and Moonie.</p> <p>Pipelines are a major transport mode for the extraction industries to the west of the South West Region. In particular, the intrastate and interstate gas distribution pipeline network has a major hub at Ballera.</p>	<p>Santos has made several new oil discoveries (Tickalara 23, Minos 1, Watkins 1, Zeus 1)</p> <p>Outlook for oil and gas fields beyond 25 years is not optimistic. Forecast supply is expected to contract over the coming 20 years.</p> <p>The viability of extraction industries beyond 25 years will likely hinge upon new finds of conventional oil and gas reserves or much higher global energy prices</p>
Coal Seam Gas	<p>Mostly in the Surat Basin, however some initial explorations in the Southern end of the Cooper Basin to the southwest of the South West Region (i.e.; south of Moomba, South Australia)</p>	<p>May be some potential in the southwest of the Region. Wells typically have an operating life of up to 20 years.</p> <p>Gas typically transported via pipeline, however, may be some trip generation impacts during construction phase.</p>
Shale Gas	None	Nappamerri Trough identified as potential source

Industry	Existing Situation	Future Prospects
		<p>with preliminary test drilling being undertaken in late 2010 and 2011.</p> <p>Gas typically transported via pipeline, however, may be some trip generation impacts during construction phase.</p>
Renewable Energies	None	<p>The South West has relatively high solar potential. Wind speeds are not likely to be strong enough to make Wind Power attractive when compared to southern Australia. The Eromanga Basin is one of Australia's key geothermal potential sites. Exploration permits have been granted to private firms investigating geothermal power generation south of Charleville</p> <p>The viability of technologies dependent upon technology development in each sector. Isolation of the South West from major sources of electricity demand mean that the transition infrastructure requirements (and transmission losses) will likely reduce commercial viability.</p>
Opal	Opal fields extend north-north-west from Hungerford then to the west of Cunnamulla, Quilpie and Longreach for a distance of about 1000 kilometres.	<p>The outlook for the industry is somewhat mixed as most of the existing diggings have been reworked using industrial-scale techniques; while more sophisticated exploration techniques are being used to search for new deposits in the opal region.</p> <p>The transport impacts of the opal industry are most likely to be associated with driving holiday tourist market.</p>
Cattle	<p>Highly dispersed industry. Livestock may be shipped by road train, rail or by hoof along stock routes to</p> <p>Cattle supply chains include transport via road, train or stock routes between properties and saleyards at Charleville, Cunnamulla, Quilpie and Roma. Cattle are usually then carted east to Brisbane, or into South Australia and New South Wales:</p> <ul style="list-style-type: none"> • Some via the Warrego Highway or Western Rail Line to Roma and Brisbane • Some via the Diamantina Developmental Road into Birdsville and down the Birdsville Track into South Australia, some using the 	<p>The long-term outlook for the industry depends in part on demand prospects, domestically and internationally. The outlook also depends on implications and responses to climate change. Lower predicted rainfall in the region could reduce the quality and amount of feed available.</p> <p>Ongoing transport impacts must balance the movement of livestock on hoof via stock routes compared to rail and road movements. The wellbeing of the animal and distance between centres generally determines supply chain movements.</p>

Industry	Existing Situation	Future Prospects
	abattoir at Naracoorte <ul style="list-style-type: none"> Others via the Bulloo Developmental Road into Eulo, then down the Mitchell Highway at Cunnamulla into Dubbo, New South Wales 	
Sheep	The sheep industry has experienced a long-term decline in Queensland and internationally.	<p>Ongoing drought support from the Commonwealth Government suggests that agriculture in these parts of the region could be marginal and, coupled with growing concerns about the negative impacts of climate change, likely to become less viable in coming years.</p> <p>In the short to medium term, the red meat industry body has predicted steady growth over the coming years for Australian grazing numbers.</p>
Other meat industries	Existing game meat processing plant at Charleville. Opportunities for harvesting of kangaroo, goat, wild boar and donkey.	The South West Regional Plan (2009) predicts that the alternative meat industry could become a significant export earner for the region and could reduce grazing pressure on the land. At this early stage, there are opportunities for industry stakeholders to work together to overcome regulatory, environmental and perceptual barriers in order to develop the industry.
Cropping	Some cropping and small-scale irrigated food production in eastern parts of the region around Augathella, Morven and Charleville.	Water supply is likely to limit any increase in production.
Tourism	South West Regional plan identifies tourism as an emerging industry.	<p>Potential for increased numbers of self-drive tourists ('grey nomads') associated with increased numbers of retiring baby-boomers.</p> <p>Safety issues including need to seal roads and conflict between time-constrained heavy vehicles, particularly road trains, and slow moving recreation campervans and caravans.</p>

2.4 Strategic Road Network

Details of the Strategic Road network in the South West Region, together with ongoing issues and a summary of completed and proposed road upgrades, are summarized in Table 2.

Annual Average Daily Traffic volumes on all roads within the study area range from the very low base of 8 on Blackall – Adavale Road to 1,357 on the Mitchell Highway at Charleville. The majority of roads in the South West Region carry a heavy vehicle proportion of greater than 25%. A high proportion of heavy vehicles on roads increases the need for maintenance caused by pavement roughness and rutting, and has significant safety implications including reduced visibility caused by dust and problems overtaking due to the length of trucks, particularly road trains and swaying rear trailers. Consequently, although there are no links in the South West Region exceeding the Department of Transport and

Main Roads Interim Vision Standard threshold for a two-lane rural highway of 12,000 vehicles per day, road upgrades, in particular road sealing and widening, are required to respond to the high proportion of heavy vehicles. This justification is exacerbated by the large number of tourist caravans and campervans passing through the area. Tourist routes often correspond with those routes carrying a high proportion of heavy vehicles.

2.4.1 Safety

The high proportion of heavy vehicles on roads in the South West Region creates unique safety issues:

- Reduced visibility caused by dust
- Problems overtaking due to length of road trains and the swaying of rear trailers
- Conflict between time pressured heavy goods movements and slow moving recreational vehicles, particularly on Diamantina Developmental Road, Cooper Developmental Road, Bulloo Developmental Road and the Mitchell Highway

Many of these issues can be overcome by providing sufficient formation width to allow safe overtaking. Discussions with the Department of Transport and Main Roads suggest that local residents would prioritise road widening over upgrades to improve roughness.

2.5 Maintenance and Upgrades

Transport and Main Roads funding for State-controlled Roads and local authority roads (through the Transport Infrastructure Development Scheme), is generally provided through the Roads Implementation Program. Over the five years between 2005 and 2010, the Department of Transport and Main Roads contributed \$90,116,000 to the maintenance and construction of road works in the South West Region. The total approved and indicative funding from 2009-10 to 2013-14 is \$139,650,000, including \$57,928,000 of approved funds to 2010-11.

The Commonwealth Government's *Nation Building Program* has completed projects in the study area at a cost of \$10,452,431. A further \$6,858,674 has been allocated for projects under construction, and \$5,105,559 for planned projects

Table 2 Proposed Works and Ongoing Issues on Strategic Roads

Road Name	AADT	Heavy Vehicles	Description	Completed/Ongoing Works	Proposed Upgrades	Ongoing Issues
Warrego Highway (Charleville – Roma)	291 – 4,696	30.9%	<p>The primary east-west arterial linking the region via Charleville east to Toowoomba with connections to Brisbane. The Warrego Highway is part of the National Highway Network east of Morven.</p> <p>Warrego Highway is both a Higher Mass Limit Freight Route and a key tourist route creating overtaking and other safety issues between conflicting user groups</p>	<ul style="list-style-type: none"> Road widening between Morven Charleville 	<ul style="list-style-type: none"> Widen bridge over Angellala Creek Continue road widening between Morven and Charleville including rest areas and heavy vehicle stopping places 	<ul style="list-style-type: none"> Continuing upgrades to provide Type 2 Road Train access to Roma Overtaking opportunities
Mitchell Highway (Barrington – Augathella)	163 – 1,357	34.5%	<p>Forms part of National Route 71 and Strategic Tourism Route A71 (Matilda Way) connecting Bathurst to Barrington, Cunnamulla, Charleville and Augathella.</p> <p>Conflicts between Type 2 road train designation (particularly cattle movements into New South Wales), local and tourist traffic. Formation widths below acceptable standards for a National Network.</p>	<ul style="list-style-type: none"> Upgraded heavy vehicle rest areas Line marking to delineate shoulders 	<ul style="list-style-type: none"> Reduce hazards between Charleville and Augathella Widen pavement between Barrington and Cunnamulla 	<ul style="list-style-type: none"> Thurrulgoonia Creek bridge in poor condition
Landsborough Highway	287 – 556	34.3%	<p>Landsborough Highway forms the northern connection of National Route 71 and Strategic Tourism Route A2 (Matilda Way). It runs from Morven to</p>	-	-	<ul style="list-style-type: none"> Exceeds acceptable roughness standards between Morven and Augathella

Road Name	AADT	Heavy Vehicles	Description	Completed/Ongoing Works	Proposed Upgrades	Ongoing Issues
			<p>Barcaldine via Augathella and Tambo, with onward connections to Mt Isa.</p> <p>Conflicts between tourism traffic and Higher Mass Limit freight route connections to Warrego Highway.</p>			<ul style="list-style-type: none"> • Bedourie Creek bridge in poor condition
Bollon-Charleville Road	6	14.5%	Connects Charleville south-east to the Balonne Highway east of Nebine.	-	-	-
Balonne Highway	148	24.4%	<p>State Road 49 provides a secondary east-west arterial to the Warrego Highway passing between Cunnamulla and St George.</p> <p>The Balonne Highway forms part of the Adventure Way Tourist Route.</p>	-	-	<ul style="list-style-type: none"> • Increased tourist traffic associated with Innamincka Road Upgrade
Hungerford Road	19	20.7%	The Type 2 road train route runs north-south from Eulo to Hungerford on the Queensland-New South Wales border	-	-	<ul style="list-style-type: none"> • Minor road narrowing around the 20km mark
Quilpie-Thargomindah Road	12 – 59	34.1%	<p>Runs north-south between Bulloo Developmental Road and Diamantina Developmental Road.</p> <p>Forms part of Opal By-way Tourist Route</p>	-	<ul style="list-style-type: none"> • Construct to seal standard to improve inconsistent formation width and pavement roughness 	<ul style="list-style-type: none"> • Conflict between freight and tourist movements on narrow formation width

Road Name	AADT	Heavy Vehicles	Description	Completed/Ongoing Works	Proposed Upgrades	Ongoing Issues
Quilpie-Adavale Road	13	15.8%	Runs north-south from Adavale to Quilpie where it joins Diamantina Developmental Road	<ul style="list-style-type: none"> Resheet and reseal crest 	-	-
Blackall-Adavale Road	8	25.2%	Runs north-south between Blackall and Adavale where it connects to Quilpie – Adavale Road	-	-	<ul style="list-style-type: none"> Minor narrowing around 127km mark
Adavale-Charleville Road, Quilpie	n.a.	n.a.	Unsealed local government road running east-west between Adavale and Charleville	<ul style="list-style-type: none"> Reseal floodways 		
Cooper Developmental Road	3.4 – 48	43.1%	<p>Passes through Quilpie, Eromanga and Bundeena and is expected to be sealed to the South Australian border by 2010.</p> <p>Cooper Developmental Road is a Type 2 road train route accommodating cattle movements to the Quilpie Depot and oil movements between Eromanga and Ballera oil fields.</p>	-	-	<ul style="list-style-type: none"> Formation width varies, with significant narrowing west of Durham downs Road
Diamantina Developmental Road	77 – 726	28.3%	<p>Links Charleville to Quilpie and continues to Windorah and Mt Isa.</p> <p>Part of the Opal By-way east of Quilpie.</p> <p>The Type 2 road train route is unsealed west of Quilpie and accommodates significant cattle movements between Quilpie Depot and Birdsville. This section of road between Quilpie and</p>	<ul style="list-style-type: none"> New bridge over Ward River 	<ul style="list-style-type: none"> Replace bridge and approaches over Woolshed Gully Widen pavement 	<ul style="list-style-type: none"> Significant narrowing between Quilpie and Windorah Exceeds acceptable roughness standards between Quilpie and Windorah Quillberry Creek,

Road Name	AADT	Heavy Vehicles	Description	Completed/Ongoing Works	Proposed Upgrades	Ongoing Issues
			Windorah experiences significant narrowing and roughness.			Beechal Creek and Coolbinga Creek bridges in poor condition
Bulloo Developmental Road	27 – 798	54.3%	<p>Runs east–west through the Paroo and Bulloo Shires, passing through Cunnamulla, Eulo, Thargomindah and Bundeena, where it meets the Cooper Developmental Road.</p> <p>Bulloo Development Road is a Type 2 road train movement accommodating livestock movements into New South Wales and oil movements between Jackson and Ballera Oil fields. It is also a designated tourist route (Adventure Way) that is expected to see an increase in tourist traffic with the Innamincka Road upgrade.</p>	<ul style="list-style-type: none"> Widen Moonjaree Crossing (Mirraparoo Creek floodway) Realignment Airport Road intersection 	<ul style="list-style-type: none"> Form and improve drainage between Cunnamulla and Thargomindah. Rough pavement was identified in the vicinity of Cunnamulla. 	<ul style="list-style-type: none"> Paroo River bridge and Lake Bindegolly bridge in very poor condition Bulloo River bridge in poor condition Conflict between increased heavy vehicle and tourist traffic
Innamincka Road	n.a.	n.a.	<p>Unsealed local government road providing western extension of Adventure Way Tourist Route from Bulloo Developmental Road to the South Australian border.</p> <p>Designated Higher Mass Limit route. Accommodates cattle and oil movements into South Australia.</p>	<ul style="list-style-type: none"> Realignment, gravel resheet and seal to reduce impact of heavy vehicle traffic from oil and gas industries 	<ul style="list-style-type: none"> Safety improvements at Arrabury Road intersection 	<ul style="list-style-type: none"> Increased tourist traffic associated with Innamincka Road Upgrade

2.6 Long Distance Bus Routes

There are two long distance bus routes passing through the study area – Brisbane to Charleville and Toowoomba to Cunnamulla. Both services pass through Toowoomba.

The Department of Transport and Main Roads, through *qconnect*, subsidises long-distance bus services in rural and remote Queensland to give people living in rural and remote communities' access to essential services, such as medical, education, social, and dental, at larger population centres. There are two long distance bus routes subsidised by TMR operating in the study area. These contracts will remain current until 31 December 2013.

2.7 Community Transport

The South West Region has a high proportion of persons in the most disadvantaged socio-economic quintile, many without access to a vehicle. The Department of Transport and Main Roads South West Area office and local communities have identified a gap in providing community transport to cater to this populus. There are few transport options available, including:

- Limited taxi services in Charleville and Roma
- Home and Community Care services for targeted groups (elderly and medical)
- Scheduled long distance bus services

TMR advises that a number of community transport trials have been funded through the Blueprint for the Bush initiative in the wider South West Queensland district. Anecdotally, there was inconsistent take-up of the community transport trials limiting commercial viability, even at a subsidized level.

2.8 Air

Airports are located at Charleville, Cunnamulla, Quilpie, Roma and Thargomindah. The majority of properties also have private air strips.

Given the long travel distances required to access remote communities, passenger air travel also serves an important public transport role in the South West Queensland. There are three existing public air services subsidized by TMR:

- Brisbane – Roma – Charleville (2 per week)
- Brisbane – Toowoomba – Charleville – Quilpie – Windorah – Birdsville – Bedourie – Boulia – Mt Isa (2 per week)
- Brisbane – Toowoomba – St George – Cunnamulla – Thargomindah (2<3 per day)

Currently, all public air services currently operate within Queensland only. However, as previously noted, communities in the far south west will often travel south into New South Wales and South Australia – a number of rural properties have head offices in Adelaide.

2.9 Rail

Queensland Rail (under the TravelTrain brand) operates 'The Westlander' rail service Charleville in the east of the South West Region to Brisbane (Roma Street). The service operates twice weekly stopping at a number of stations through Maranoa, the Western Downs and Toowoomba local government areas. Queensland Rail (QR) operates two connecting coach services from Charleville to Wyandra and Cunnamulla along the Mitchell Highway and Cooladdi, Cheepir and Quilpie along Diamantina Developmental Road.

The Westlander connection to Charleville and ongoing coach connections play two important roles in South West Queensland:

- In the development of the region's important tourism industry
- Providing opportunities for those in the eastern part of the region without access to a private vehicle to access the larger centres of Roma, Toowoomba and Brisbane, and their associated services.

In the booming South East and Surat Basin regions, railway issues revolve around capacity constraints. In the South West, the most pressing issue is of viability. Apart from the passenger services using the Brisbane to Charleville line twice a week in each direction, the only other rail traffic in the South West Region is freight. The most likely commodities to be carried by rail in the region are cattle and wool. Rail volumes have been falling substantially in years prior to 2010, with the flooding of the first half of 2010 severely disrupting services. Falls in volumes have been experienced across all lines between 2008 and 2009, however, decreases have been most dramatic on the Charleville to Quilpie line.

The average age of much of the rollingstock used on the Westlander is over 50 years old with a substantial amount due to reach the end of its practical life by 2013 (at the latest). Rail travel to Charleville costs between 6 and 20 times the air and coach services respectively. Savings could be achieved by replacing rail services with other modes at a substantially lower cost to government. However, any decision to remove The Westlander service must consider the impact on local communities including travel time, travel cost and transport of associated goods (e.g. luggage, higher order goods purchased at major centres).

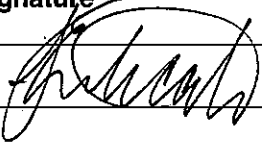
2.10 Existing Transport Networks

The role and function of existing transport networks in the South West Region can be summarized as follows:

- **Roads** are currently the primary means of movement in the region. There is a surplus of spare capacity but the accident rate is high and sections of the network are substandard and subject to flooding
- **Long distance bus services** from Brisbane to Charleville and Cunnamulla. Patronage is increasing
- **Community transport services** are limited to services in Charleville and Roma and Home and Community Care services for targeted groups
- **Passenger air services** subsidized by the Department of Transport and Main Roads. Increasing patronage
- **Passenger Rail.** Limited services, consistent patronage but deteriorating rolling stock that is expensive to replace
- **Freight Rail.** Declining tonnage moved by rail
- **Stock Routes** form a part of the transport network for cattle and sheep movements between pastoral holdings and nearby markets
- **Pipelines** are a major transport mode for the extraction industries to the west of the South West Region. In particular, the intrastate and interstate gas distribution pipeline network has a major hub at Ballera

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