11 December 2021

Rail a genuine option for Hills

Mount Barker District Council is calling for the State Government to investigate upgrading an existing rail line from Mount Barker to Adelaide to provide genuine travel choices for tens of thousands of residents.

A report by Rod Hook & Associates, commissioned by Regional Development Australia on behalf of Mount Barker District Council, found it would cost around $10 million to upgrade a section of un-used track between the Australian Rail Track Corporation (ARTC) line and Mount Barker station, which has an existing Park n Ride.

A further $25m would be required for the purchase of new variable gauge rolling stock, which could operate across both standard and broad-gauge track on the existing rail corridor, and also access the Dry Creek depot for maintenance and repairs.

Under this solution it would be necessary to negotiate an access agreement with ARTC and to be able to schedule services around the movement of freight and the interstate Overland Rail Services.

"Recent South Australian governments have been strong advocates of expansion of the Mount Barker area, having presided over extensive population growth in the area," Mayor Ann Ferguson said.

"The disappointing aspect is that the governments have not accepted the corresponding obligation to oversee the development of infrastructure to support this expansion."

Currently at around 38,000 people, the population of the Mount Barker district is estimated to reach 60,000 in the next 15 years. The South Eastern Freeway is the only main transport link from Mount Barker to Adelaide.

"The direct route to the city via the Freeway and Glen Osmond Road is already operating at capacity at peak periods and congestion occurs right down the corridor into the city," Phil Burton, General Manager Infrastructure, said.

"An accident anywhere along the Freeway or Glen Osmond Road sends the whole corridor into grid-lock, sometimes for many hours. This will only get worse as our population and traffic into Adelaide increases."

The report points out that if the sole focus for public transport for Mount Barker residents is a bus only option, any real improvement to traffic flow and peak travelling times would require the addition of an extra lane in each direction.

This would be a significant undertaking, requiring additional tunnelling for road widening and extensive property acquisition, particularly down Glen Osmond Road, at a cost of more than $2 billion.

While the use of the existing rail corridor is substantially more cost effective than other options and potentially reduces congestion along the road corridor, it does little to reduce travelling times because of its indirect route into Adelaide. As such a longer-term solution that could be progressively developed should also be considered, the report says.

One such option is constructing a new more direct rail corridor from Mount Barker to the Adelaide Railway Station with a tunnel from Belair to Torrens Park. At an estimated cost of between $1bn and $1.5bn this would reduce the rail corridor length from 55km to around 38km and achieve real travel time savings for use of rail connecting into the Adelaide CBD over road travel.

Council will be forwarding the report to Infrastructure Australia for consideration.

“Infrastructure Australia is assessing quite a number of rail proposals from other states generally in the range of several hundred million dollars. South Australia seems to be alone in not taking up opportunities for developing and expanding rail options in the state,” Mayor Ferguson said.

The report finds there is a genuine opportunity for rail services to be introduced to offer the community additional choices and as a means of addressing, in particular, the current congestion along the road corridor in the morning and afternoon peaks.

“Rail options exist and can be progressively developed,” the report concludes.

“It is not acceptable to leave the Mount Barker and Adelaide Hills region south east of the city with … no operating services beyond Belair.”

Media contacts:

Michael Owen
Managing Director
Owen Media Relations
P: +61 400 042 214
E: michael@owenmediarelations.com.au

Ian Hildebrand, Manager, Communications
Mount Barker District Council
P: 08 8393 6470
E: ihildebrand@mountbarker.sa.gov.au

RHA

Rail Public Transport Options for

MOUNT BARKER & THE ADELAIDE HILLS

December 2021

Regional Development Australia
ADELAIDE HILLS FLEURIEU & KANGAROO ISLAND

RHA

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This report was commissioned by Regional Development Australia Adelaide Hills, Fleurieu and Kangaroo Island (RDA) on behalf of Mount Barker District Council.

The views of Rod Hook & Associates (RHA) do not necessarily reflect the views of RDA.

Regional Development Australia
ADELAIDE HILLS FLEURIEU & KANGAROO ISLAND

DELIVERING GENUINE PUBLIC TRANSPORT CHOICES

The Need

The Mount Barker LGA is located south-west of the City of Adelaide and contains a population of 37,774 people in 2020 (ABS) which is expected to grow to around 56,710 by 2036.

The town of Mount Barker is located approximately 34 kilometres from the CBD of Adelaide by road. More than 55% of residents commute outside of the council area for work (ABS) and there is one main existing road corridor which is the SE Freeway. This corridor is operating at capacity and at peak period is often congested and at times grid-locked.

There is an existing rail line linking Mount Barker to Adelaide over a distance of 55 kilometres, taking account of the indirect nature of the line which links from Belair back through Blackwood and Eden Hills before heading down to the Adelaide plains in the Lynton/Mitcham area. There are no train services operating between Mount Barker and the city.

This report considers some of the issues associated with retention of rail as one of the genuine opportunities for future public transport services between Mount Barker and the City of Adelaide. We do not propose a particular solution. We do conclude that rail solutions warrant further consideration and that this opportunity should be retained in future planning. Mount Barker and Adelaide Hills residents deserve to have a choice to be able to access public transport services using an existing under-utilised rail corridor.

To place this in context, recent governments in South Australia have invested in excess of a billion dollars in public transport services by upgrading the Adelaide Metro rail corridors, extension of the Noarlunga line to Seaford, electrification of the Seaford and Gawler lines and improvements to city access from the O'Bahn corridor.

Significant commitments have also been made in recent years to upgrading the SE Freeway, without necessarily improving the capacity of the Freeway corridor and its connections.

The residents of the hills south east of Adelaide deserve better. The discussion that follows shows how sensible and practical improvements can be made progressively to rail services along the corridor. Further consideration of these opportunities is warranted.

A Road Solution

The single main road link is the SE Freeway linking Mount Barker to the top of Glen Osmond Road. Once traffic heading into the city from Mount Barker reaches the bottom of the Freeway it is in theory able to disperse onto any one of Port Rush Road, Glen Osmond Road or Cross Road. The direct route to the city via Glen Osmond Road is also operating at capacity at peak periods and congestion continues to occur right down the corridor into the city.

An accident anywhere along the Freeway or Glen Osmond Road sends the whole corridor into grid-lock, sometimes for many hours.

Bus services are provided to connect Mount Barker to Adelaide city but these services use the same road corridor and therefore are caught in the same congestion impacts.

Timetables for buses in peak period show around one hour for travel, although this reduces to 40-45 minutes when the bus runs express for a part of the service.

The current government came to office on a promise to divert trucks off the freeway via GlobeLink. This hasn't happened. Therefore, we still have trucks and buses running down the hill generally in a single lane at a maximum of 60 kmph in theory. Average speeds at the best of times are likely to be closer to 40 kmph. On-time running for bus services is problematic.

A short-term opportunity is available to make some incremental improvements to public transport services along the road corridor by introducing some additional express services between Mount Barker and the City, particularly in the morning and afternoon peaks.

Additional capacity has the potential to encourage additional patronage. The buses, however, will still need to negotiate their way up and down the Freeway using the slow heavy vehicle lane typically used by trucks and buses. The buses and cars will also still be required to negotiate the congestion in Glen Osmond Road to access the City.

If the sole focus for public transport is a bus only option along the existing road corridor, the only realistic solution is a major project to widen the Freeway by adding an extra lane in each direction for all traffic between Mount Barker and the City, including Glen Osmond Road.

This is a significant undertaking, requiring additional tunnelling for road widening to secure the capacity for the extra lanes through the tunnels and along the Freeway. Extensive property acquisition would also be required, particularly down Glen Osmond Road.

A road solution to improve travel for all to and from Mount Barker could be expected to cost in excess of $2 billion. Even with this level of expenditure, the corridor will still be subject to accidents or breakdowns.

The Option of Rail

An existing rail corridor is already available between Mount Barker and Adelaide, albeit with some complications in ownership and gauges. The existing rail corridor is 55 kilometres, some 21 kilometres longer than the road corridor.

There are no existing rail services currently operating between Mount Barker and the City.

This report considers the opportunity for rail services to be introduced to offer the community additional choices and as a means of addressing, in particular, the current congestion along the road corridor in the morning and afternoon peaks.

Peak times are the immediate priority. Given the additional length of the rail corridor, it is difficult to see how attractive rail services can be offered during off-peak period, when travel times for rail will generally exceed that offered by road.

Services in the morning and afternoon peak could, however, be presented as a reasonably attractive and realistic alternative without significant cost. Works can also be undertaken incrementally to improve the services.

This should be evaluated against the limitations of the road corridor, where apart from increasing the number of peak bus services, incremental improvements to the capacity of the road corridor are not possible.

An active standard-gauge track under ARTC control exists from a point approximately 5 kilometres outside of Mount Barker township extending down to Mile End, just west of the Adelaide CBD.

Adelaide Metro train services operate on a broad-gauge track between Belair, through Mile End, into Adelaide Railway Station.

For rail to be considered as part of the solution it will be necessary to negotiate an access agreement with ARTC and to be able to schedule services around the movement of freight and the interstate Overland Rail Services.

The second basic requirement is to be able to access the standard-gauge track, given that all Adelaide Metro rolling stock is broad gauge.

A rail solution can be developed and implemented incrementally.

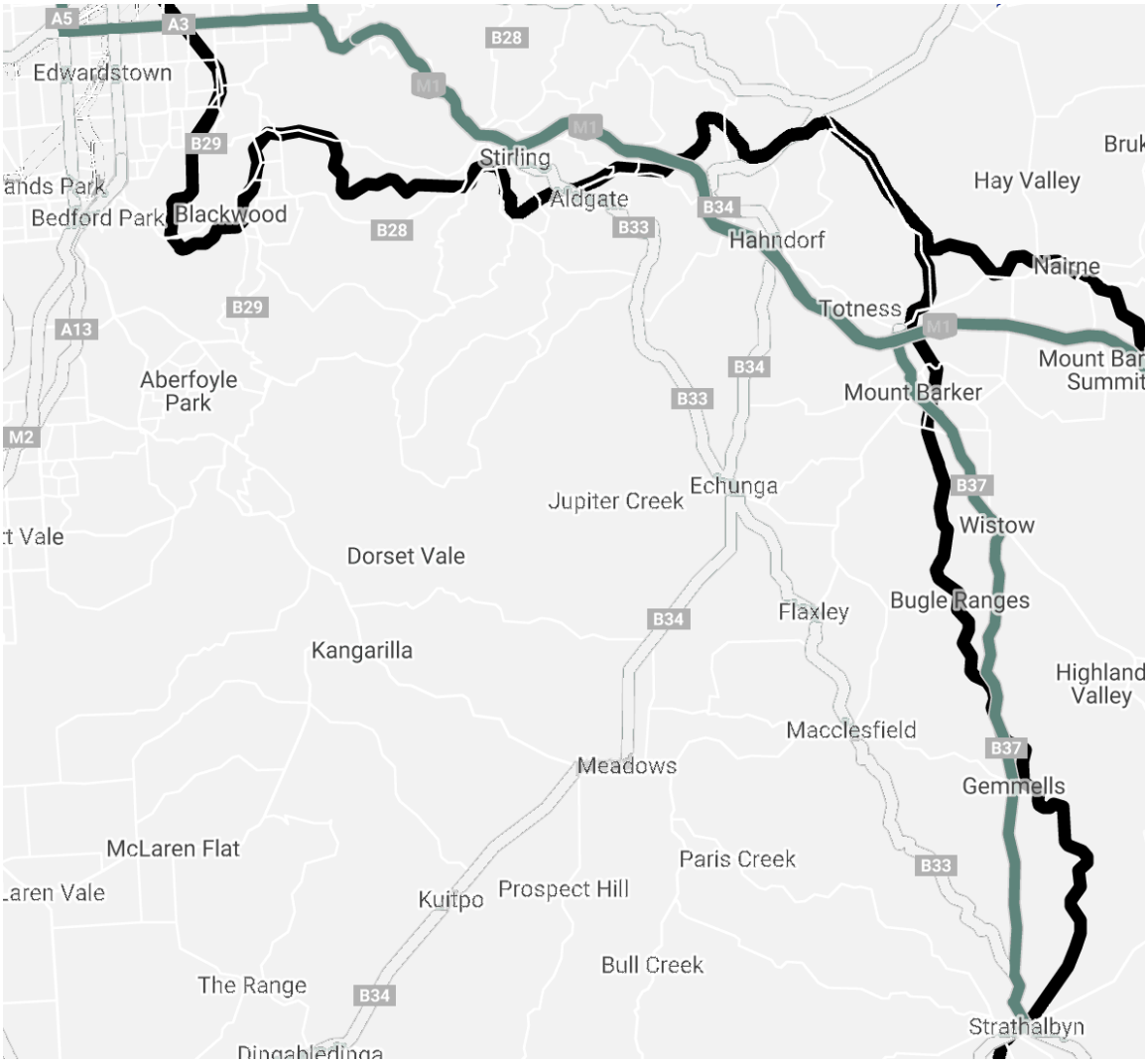
A) USING EXISTING CORRIDOR

Opportunities/requirements include:

Track

Upgrade the section of un-used track between the ARTC line and Mount Barker station, which has an existing Park n Ride. $10 million should be allowed for this. Alternatives are to

- Make Nairne the hills terminal, rather than Mount Barker – an upgrade of the station and Park n Ride facilities will be required, or
- Make Bridgewater the hills terminal, rather than Mount Barker – not ideal because of the distance from Mount Barker, or
- Build a new station closer to the ARTC line near Mount Barker, potentially where more capacity will be available for Park n Ride and the location serves the Mount Barker Community better.



Rolling Stock

Acquire new, modern, air-conditioned, Wi-Fi accessible rolling stock to run services along the corridor.

⇒ The preferable option is to recognise that modern rail cars are being developed today with variable gauge convertible bogies. A variable gauge system allows railway vehicles in a train to travel across a break of gauge caused by two railway networks with differing track gauges. Under these systems the gauge is altered by driving the train through a gauge changer, linking tracks of different gauges. As the train passes through the gauge changer, the wheels are unlocked, moved closer together, or further apart, and are then relocked. Systems for changing gauge, without stopping, are widespread for passenger traffic in the internal network of Spain and are installed on international links across Europe.

With variable gauge rolling stock, it will be possible to provide morning and afternoon peak services from Mount Barker directly into Adelaide Railway Station without the need for transfer at Showground station. It will also enable the new rolling stock to move onto the broad-gauge network at cross-over points below Belair, which will assist flexibility with service scheduling.

Five rail cars may need to be acquired to offer two x two car sets operating in each peak. Variable gauge rail cars will also be able to access the Dry Creek depot for maintenance and repairs.

Rolling Stock Cont...

⇒ Alternatively, a small number (possibly five) of standard gauge rail cars could be acquired. Services could be run from and to Mount Barker during the morning and afternoon peaks – two x two car services down in the morning and up in the afternoon peaks.

Although less attractive, an initial solution could be achieved by terminating the standard gauge serve at Wayville (Showgrounds) station, where passengers could alight and catch the next service from Belair or Seaford into Adelaide Railway Station.

⇒ Whilst the number of rail cars (either standard gauge or variable gauge) acquired to operate Mount Barker services can be easily increased if required, an initial purchase of five allows for two two-car sets to be used in each period.

This provides an option, even at around 70% capacity for around 400 people to choose to leave their car behind and travel to and from the city each day in the relative comfort of new, modern rail cars, even without significant travel time savings at least in the first instance. This could account for the removal of the equivalent of 250-300 cars (at 1.5 persons per car) or ten bus services (at 40 people per bus) in each peak from the congested road corridor.

Rolling Stock Cont...

- A further opportunity is to transfer the whole Belair line to standard gauge. The line from Belair to the City has over the past 10 years been rebuilt on new gauge convertible sleepers. It would not take long to transfer the whole line to standard gauge. This would of course mean acquiring a sufficient number of standard gauge railcars to operate all services to and from the City linking with Belair and Mount Barker.

Commute Time

- All options described above use the existing 55 kilometre corridor from Mount Barker into the city. With express services operating at 60 kilometres per hour, the travel time to and from the city would be approximately 55 minutes. Whilst this is comparable to bus travel in peak periods and is expected to provide a more comfortable ride, it does not offer the community any real travel-time benefits. If the incentive is to get people out of cars in favour of public transport, we are still failing the community and unlikely to attract substantial additional patronage, whenever public transport travel times fail to compete with the travel time for cars.
- A further incremental step in reducing travel times along the existing corridor would require an allocation of $70 million of funds to improve geometry and condition of the standard gauge track, providing opportunities to increase speeds along the corridor. For instance, if speeds of 75 kph can be achieved along the existing corridor, travel times would be reduced to around 45 minutes.
- Any improvements to track geometry and condition will improve the efficiency of all rail services using the ARTC track, not just the Adelaide Metro services.

B) REDUCE CORRIDOR LENGTH

Various proposals have been presented for a new corridor to be developed which eliminates the indirect nature of the existing corridor. Although not the focus of this report, there appears to be a prima facie case to build a tunnel to run the line from a point around Belair straight down to the Torrens Park/Mitcham area before re-joining the existing Belair line. Information that has been provided suggests this could reduce the rail corridor length from Mount Barker to the City to around 38 kilometres and would be likely to cost between $1 and $1.5 billion. This opens up the opportunity to achieve real travel time savings for use of rail connecting into the City over road travel.

Whilst this level of expenditure on rail is likely to be a longer-term solution for the corridor, it should be considered in the context that there is inevitably going to be pressure for a broad range of improvements for a higher speed rail link along the whole of the Melbourne/Adelaide rail corridor. There are currently investigations into building high speed rail corridors up the eastern seaboard of Australia. This will inevitably include a link to Adelaide.

A Belair to Torrens Park tunnel improving Mount Barker services can be considered to be just one step of the works that will be involved in establishing more efficient and higher speed passenger and freight rail services between Melbourne and Adelaide.

Capital Cost of Rail Options

In summary, the incremental nature of the preceding analysis can be illustrated by the following:

Step 1	
• Mt Barker Station link track or new station at Nairne	$10m
• Rolling Stock – allow 5 cars	$25m
Step 2	
• Standard gauge track improvements	$70m
Step 3	
• New Corridor and tunnels Belair to Torrens Park	$1.5b

South Australia's Position on Rail

The public perception is that the current South Australian Government is anti-rail. Any suggestion that rail should be supported is quickly dispatched. This seems at odds with the position taken in other jurisdictions.

There seems to be a prevailing view in South Australia that rail is not viable unless it supports a population of 500,000 people. This position is clearly detrimental to the future of South Australia.

A check of the Infrastructure Australia web site shows many rail projects presented for assessment over recent years.

Some examples are:

- Byford Rail Extension – WA
- Morley Ellenbrook Line – WA
- Melbourne to Barnsdale Line – Victoria
- Beerburrum to Nambour Rail Upgrade - Queensland
- Port Botany Rail Line Duplication – NSW
- Yanchep Rail Extension, Wanneroo Line – WA
- Maldon to Dombartin Line – NSW
- Murray Basin Rail Network – Victoria
- Shepparton Line Upgrade - Upgrade

These are a series of rail proposals which are currently being assessed or have recently been assessed by Infrastructure Australia. They include line extensions, line duplications and track upgrades. Projects are generally in the range of several hundred million dollars. It is quite common too for these proposals to show a BCR below 1.0, at times considerably below.

It is relevant to note in particular, the Shepparton Line Upgrade, which is envisaged to deliver faster and more reliable services between Shepparton, a population centre of around 60,000 people, and Melbourne. Victoria seems to have little difficulty proposing rail upgrades to service population centres with considerably less than 100,000 people.

The only South Australian Government rail project considered by Infrastructure Australia in recent years is the completion of the Electrification of the northern line to Gawler, a project initiated under the previous government.

In addition, for a direct parallel with Mount Barker, the AvonLink rural passenger train service operating in Western Australia warrants special consideration. This is a passenger train service operating between Midland and Northam, a distance of 97 kms with an average journey time of 1 hour 20 minutes. The Avon Sub-Region of Western Australia was noted as home to around 27,000 people in 2012. Of particular interest is that one AvonLink service operates on weekdays in each direction.

It appears that South Australia is alone in turning its back on opportunities to keep rail alive in the State.

Conclusion

It is not the purpose of this report to advocate for the adoption of any particular solution for upgrading the rail line to Mount Barker.

The purpose is to show that rail options exist and can be progressively developed.

Recent South Australian Governments have been strong advocates of expansion of the Mount Barker area, having presided over extensive population growth in the area.

The disappointing aspect is that the Governments have not accepted the corresponding obligation to oversee the development of infrastructure to support this expansion.

> ***The Australian Government has recently funded a new interchange at Mount Barker, giving easier access to the freeway, This does not address the issue of congestion on the SE Freeway. It only makes it easier for traffic to access this single corridor.***

It is not acceptable to leave the Mount Barker and Adelaide Hills region south east of the city with ageing infrastructure and a rail line with poor track geometry and no operating services beyond Belair.

If the Government intends to truly support the current and future residents of Mount Barker and surrounding areas, it must offer them genuine travel choices. They deserve to be offered equitable service levels with other parts of the Greater Adelaide region.