Regional Development Australia
ADELAIDE HILLS FLEURIEU & KANGAROO ISLAND

Regional Development Australia
ADELAIDE METROPOLITAN INCORPORATED

People Transport Solutions for the Adelaide Hills

September 2021

Stantec

Flywheel Advisory
SUPPLY CHAIN MANAGEMENT

Southern & Hills LGA

Table of Contents

Acknowledgements 1
Introduction 2
Method 6
Analysis 8
Recommendations for People Transport in The Adelaide Hills 9
Special notes on Rail 10
Definitions 12
Summary 13
Appendix 1A: Initial Workshop Invitees/Participants 14
Appendix 1B: People Transport Working Committee 15
Appendix 2: Related Work 16
    Related Studies 16
    Relevant Plans 16
    Department for Infrastructure and Transport 16
Appendix 3: Current Infrastructure Works 17
Report Contact 18

Acknowledgements

This work is an initiative of and funded by Regional Development Australia Adelaide Hills, Fleurieu and Kangaroo Island, and Regional Development Australia Adelaide Metro.

Regional Development Australia Adelaide Hills, Fleurieu and Kangaroo Island are proud to partner with Southern & Hills Local Government Association.

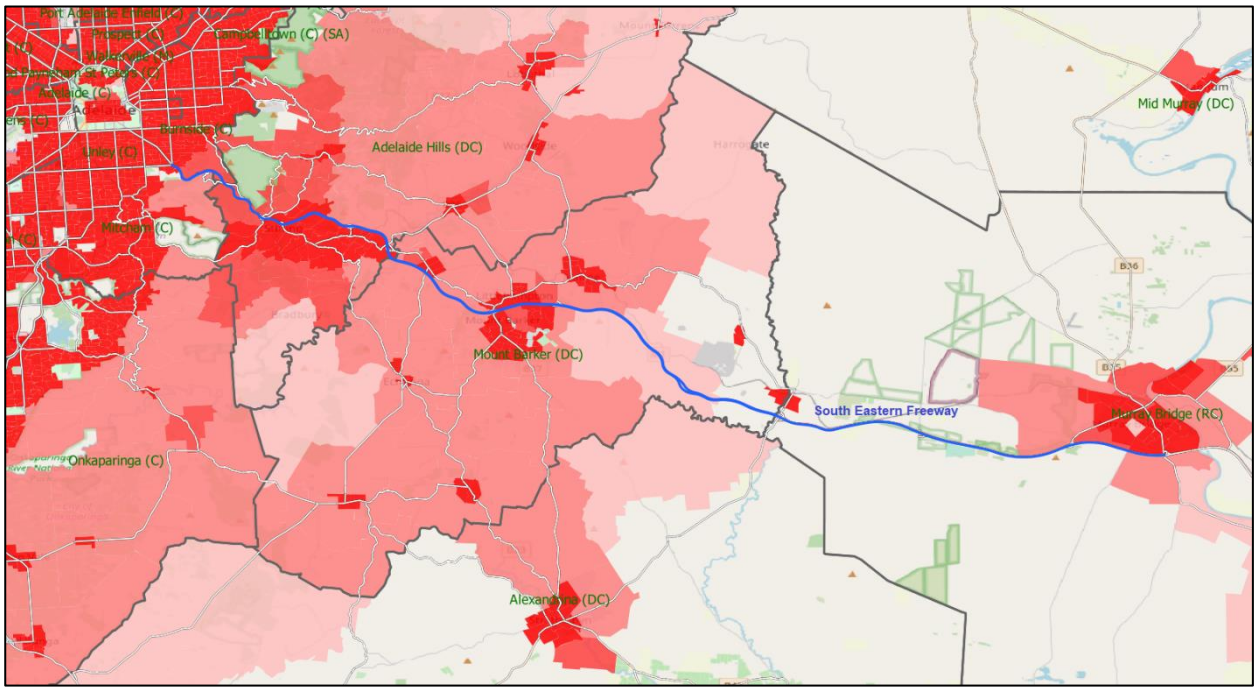
We thank all workshop participants who shared their knowledge, professional views and otherwise contributed to make this piece of work possible.

We thank the consultants, GTA Consultants now Stantec and Flywheel Advisory who guided this work and made significant contributions to this report.

Introduction

The Bureau of Infrastructure, Transport and Regional Economics estimated that congestion cost Australia $16.5 billion in 2015. Traffic congestion on the main corridors between Adelaide and the Adelaide Hills region has a negative impact on community wellbeing, economic productivity, and liveability. Forecast population growth in the region, particularly around Mount Barker (refer Figure 1 for current population densities in the region) predict a worsening situation including increased emissions and air pollution, reduced productivity and potentially more accidents. In recent times it appears that increasing traffic congestion is gaining wider appeal as a priority issue for hills residents and others travelling into or through the region.

Figure 1. Population Densities in the region.



Source: ABS Census, 2016

Several related studies have been completed (refer Appendix 2: Related Work) including in 2019 the Adelaide Hills – Fleurieu Peninsula Regional Public Transport Study, the recommendations of which are summarised in Table 2 and Table 3.

On December 1st, 2020, Regional Development Australia Adelaide Hills, Fleurieu & Kangaroo Island (RDA AHFKI) hosted a workshop to bring stakeholders together (refer Appendix 1: Study Participants) to collaboratively formulate a plan of action to address the challenges of the Adelaide Hills Transport corridors, including:

- Recapping on the transport challenges (mass transit and freight) faced by the Hills regions and the constraints of the Hills/Adelaide corridor;
- Revisiting previous studies and agree what remains relevant;
- Agreeing the process for resetting the ideas that will define the solutions; and
- Agreeing who is responsible for delivering and managing the outcomes.

A key conclusion from the initial workshop recognised that people movement and freight movement, while generally using the same road and rail corridors, have differing needs and seek substantially different outcomes. These outcomes may be complementary but are more often in conflict.

It was therefore agreed that two Working Committees be formed, one to examine Freight Transport (chaired by John Olson from HDS Australia) and one to examine People Transport (chaired by John Devney from GTA Consultants now Stantec). Members of the People Transport Working Committee are listed in Appendix 1B.

This report outlines the findings and recommendations for improvement to people transport through the Adelaide Hills corridors.

Both the people and freight transport reports are available at https://rdahc.com.au.

Table 1: Adelaide Hills – Fleurieu Peninsula Regional Public Transport Study (2019) – Region-wide Initiatives.

Type of Initiative	Short Term (under two years)	Medium Term (from 3 to 10 years)	Long Term (over 10 years)
Governance and contracting	• Review and implement bus contracts to attract new patronage and reduce costs with new service planning guidelines	• Implement Bus Quality Partnerships	• Continue to monitor the bus service contracts for better customer-focused public transport with more efficient cost recovery
Routes and services	• Conduct a comprehensive bus network review based on a route hierarchy that includes frequent routes and on-demand transport with more extensive community consultation during the planning of service changes and in the delivery stage	• Implement the bus network and service changes through an extensive, open and transparent community engagement program	• Conduct annual bus service performance reviews with customer and community consultation to accommodate population growth and changing demographics
	• Plan for and implement Regional Accessibility Networks		
Fares and ticketing	• Conduct a fare and ticketing review to integrate metro and country services	• Implement an integrated fare policy for metro and regional customers including an extension of the integrated fare zone to Murray Bridge	• Continue to review the fare policy to attract new customer markets
	• Introduce mobile phone and bank card fare payments	• Implement a new ticketing system with integrated metro and regional fares	• Implement more advanced ticketing systems
Information and promotion	• Set-up an integrated Adelaide CBD visitor and public transport information centre	• Implement tourist information centres with advanced public transport information	• Continue to engage with existing and new customers about the public transport network and service changes using innovative methods to distribute the information
	• Design and implement a single integrated website for public transport information		
	• Design and implement tourism campaigns with packages that include public transport to attractions and events		
	• Provide travel packages for new residents in growth areas	• Expand the companion transport program	
Infrastructure	• Establish an updated bus stop and shelter management program that includes safety audits of the walk access to the stops	• Implement more bus stop upgrades as required	• Continue to upgrade bus stops, interchanges and expand Park n Ride facilities throughout the region as required by the demand
	• Improve collaboration between DPTI and the Councils on bus and train station upgrades		
	• Plan new development areas and town centres with a public transport master plan approach		
Innovation and new technology	• Implement on-demand transport services in areas of need throughout the region with selected trials • Conduct autonomous bus trials in town centres	• Trial new types of vehicles for the bus fleets in the region	• Implement a bus fleet renewal program with clean energy power

Table 2: Adelaide Hills – Fleurieu Peninsula Regional Public Transport Study (2019) – Initiatives for the Adelaide Hills.

Type of Initiative	Short Term (under two years)	Medium Term (from 3 to 10 years)	Long Term (over 10 years)
Routes and services	• Plan for a comprehensive bus network review in the Hills zone	• Implement a new bus network with frequent service bus routes, a connected local bus network and on-demand transport services	• Continue to engage with customers and the wider community to enhance the bus network and services to support the population in new growth areas of Mount Barker and the Adelaide Hills
	• Implement on-demand transport service trials for the townships in the northern Adelaide Hills, Macclesfield/Stirling area and Langhorne Creek and Milang	• Expand the on-demand transport services in the Hills zone	
Infrastructure	• Investigate opportunity for another Park n Ride facility at Verdun with easy access from the South East Freeway and relocating the Dumas Street Park n Ride to a more convenient site for bus operations	• Implement infrastructure for the Bus Rapid Transit (BRT) between Adelaide, Hahndorf, and Mount Barker with new and expanded Park n Ride facilities and branded bus stops with improved amenity	• Conduct planning corridor and environmental studies to reserve potential alignments for a future passenger railway between Adelaide and Mount Barker
	• Plan for more efficient bus and traffic movements along Glen Osmond Road	• Implement reversible tidal flow lanes along Glen Osmond Road and other bus priority measures.	
Information and promotion	• Install bespoke wayfinding signage in Adelaide CBD to direct tourists and visitors to the Hahndorf bus services	• Provide an enhanced tourist information and visitor experience centre at Hahndorf	
	• Conduct an integrated tourism campaign to promote bus services to Hahndorf and the Adelaide Hills		

Method

The People Transport Working Group identified 20 options as potential solutions for improving the movement of people in the Adelaide Hills corridor, including to Murray Bridge. These options were grouped into the following three categories:

1. **Corridor Infrastructure Options.**
   Includes road upgrades, railway extensions and train services to Mount Barker and Bus Rapid Transit options.

2. **Public Transport Improvements.**
   Includes customer amenity improvements, review of fare policies and a redesign of the bus network.

3. **Travel Demand Management Options.**
   Includes carpooling, staggered work hours and mode shifting through Mobility as a Service options.

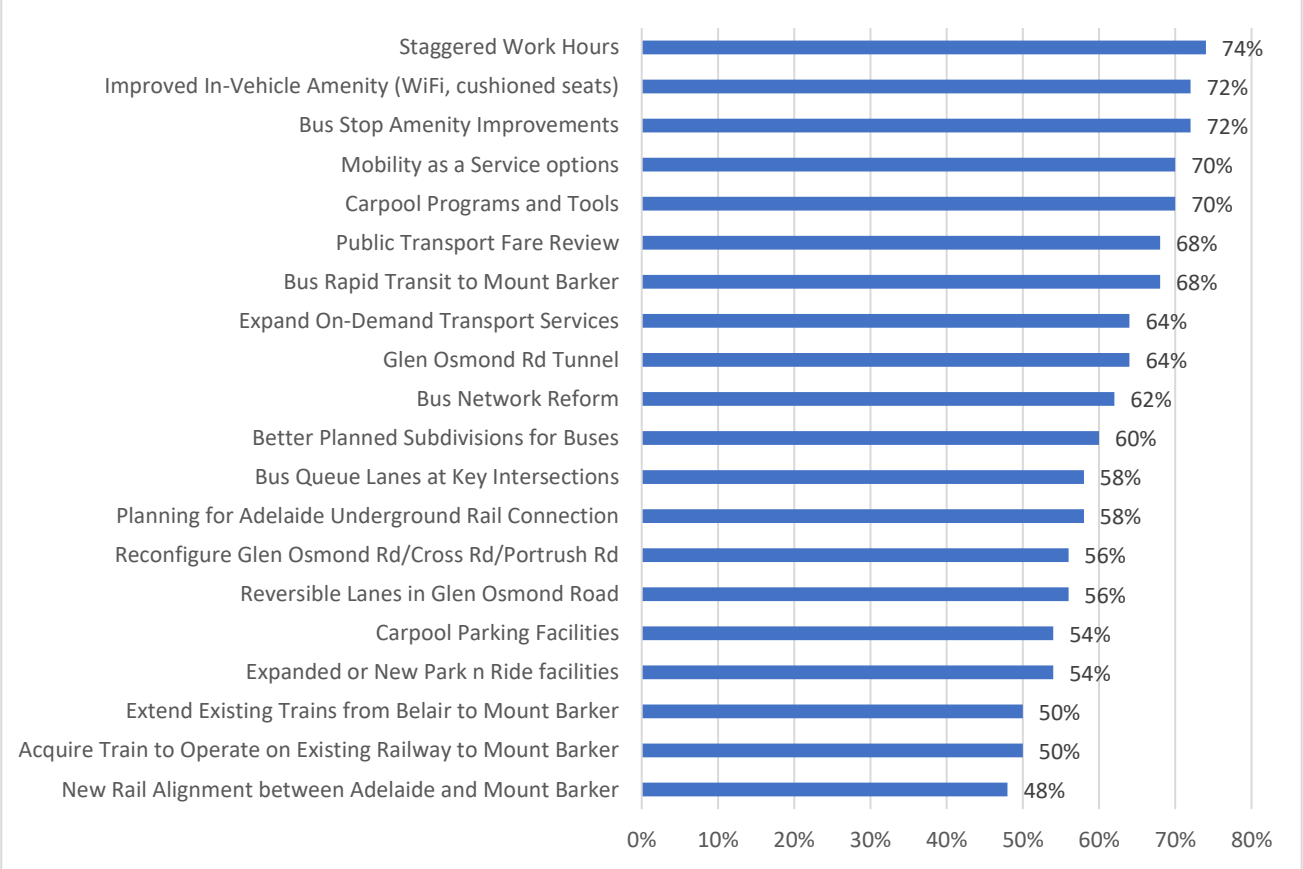
Each option was assessed using a Strategic Merit Test approach with 10 assessment criteria across social, environmental, and economic categories as provided in Table 3.

Table 3. Strategic Merit Test for improving people transport in the Adelaide Hills.

#	Assessment Criterion Name	Criterion Objective	Triple Bottom Line	Weighting
1	Transport Customer Experience	Maximise customer experience in buses and at boarding points	Social	15%
2	Travel Time Savings	Minimise travel times	Social	15%
3	Urban Development and Community Amenity Benefits	Maximise community benefits	Social	5%
4	Road Traffic Congestion Management	Minimise need for new road infrastructure	Social	15%
5	Environmental Benefits (air quality)	Maximise air quality and reduce emissions	Environmental	5%
6	Environmental Constraints for New Infrastructure	Minimise impacts on the physical environment	Environmental	5%
7	Operational Costs	Minimise operational costs	Economic	5%
8	Capital Costs	Minimise capital costs	Economic	15%
9	Feasibility for Implementation	Maximise ease of implementation	Economic	15%
10	Timing for Government Funding	Likelihood of government funding	Economic	5%

The strategic merit test of the 20 options was undertaken by each participant in the People Transport Working Group based on their agency or individual views and then pooled with an average of the scores from 1 to 5. Each option was given a total unweighted score out of 500 and it was represented as a percentage value as shown in Figure 2. These scores were used to identify the importance ranking of the priorities for the options.

Figure 2. Priority Ranking of the Adelaide Hills Passenger Transport Options



Analysis

Results of the Strategic Merit Test show the following:

- The top scoring option is to introduce staggered work hours to spread the travel demand for private vehicles and public transport. This is a low cost, Adelaide-wide travel behaviour initiative that would be challenging but that can be implemented with a targeted marketing campaign by the State Government and local Councils. Similar impacts could be obtained through alternative programs including increasing workplace flexibility and public transport fare incentives.
- Second and third placed options improve the attractiveness of public transport to drive increased patronage. These options are generally lower cost improvements to provide a higher quality amenity in buses and bus stop improvements.
- Fourth and fifth places represent sharing-economy options focused on transport experience and cost-sharing through car-pooling and Mobility as a Service (MaaS). These options require collaboration between the private sector transport providers and the State Government that is responsible for and determines the Adelaide Metro fare structure and ticketing policy.
- Sixth and seventh place options repeat recommendations of the 2019 report on public transport for the Adelaide Hills region undertaken by RDA AHFKI for design and implementation of effective Bus Rapid Transit (BRT) services and connecting, on-demand local bus services. The scope of a BRT service needs to be clearly defined because it can range from branded, high frequency bus services with a single or group of bus routes to a dedicated busway with an exclusive right-of-way for buses.
- All options to develop rail solutions scored poorly.
    - Due to the indirect and slow alignment through the Adelaide Hills via the Belair line, options to use the existing rail alignment do not provide competitive commuter times when compared to a private vehicle or bus services via the South Eastern Freeway and Glen Osmond Road.
    - A fast train option from Adelaide to Mount Barker on a new, more direct rail alignment would be cost prohibitive for the serviced population. It would also create major environmental impacts and land resumption requirements through a new corridor in the Adelaide Hills and through the metropolitan region of the Eastern Suburbs of Adelaide that would need to be addressed and mitigated.

The recommended solutions of this report combine the top recommendations of the Strategic Merit Test process utilised by the People Transport Working Group.

Recommendations for People Transport in The Adelaide Hills

Bus Rapid Transit (BRT) services between Adelaide and Adelaide Hills

It is recommended peerless Bus Rapid Transit (BRT) services between Adelaide CBD and the Adelaide Hills are planned, designed and implemented. BRT services come in a variety of forms, however for this region it is critical that a successful BRT incorporate as a minimum:

- High frequency services (e.g., every 15 minutes 7am-7pm Mon-Fri and every 30 minutes other times/days).
- Shortest routes with minimum stops for best commute times.
- Buses suited to the gradients of the Adelaide Hills to maintain effective travel speeds and commute times.
- Well located and designed bus stops with improved amenity encompassing Park n Ride facilities including a new site at Verdun to service hills residents feeding into the BRT from the Onkaparinga Valley.
- Attractive bus amenity (ie; climate control suited to the hills climate, cushioned seats, sufficient leg room, baggage racks, USB charging outlets, bicycle racks, on-board Wi-Fi).
- Service branding across buses and bus stops to identify the services with the Adelaide Hills and encourage community buy-in and ownership as well as tourist patronage.

In addition, a BRT service will be optimized with:

1. **Route planning**

   Community feedback during the 2019 RDA public transport study showed commuters from Mount Barker did not like the long, winding route through Bridgewater, Aldgate, Stirling. The most patronised services are express services. The 2019 RDA AHFKI public transport study recommended two BRT routes to ensure maximum benefit whilst servicing the demo-geography of the region:

   - Route 1: Adelaide - Crafers, Stirling, Aldgate, Bridgewater
   - Route 2: Adelaide - Verdun, Hahndorf, Mount Barker

2. **Bus Corridor Improvements on Glen Osmond Road**

   Corridor infrastructure options for dealing with constrictions and traffic congestion to improve travel times on Glen Osmond Road need to be considered for a holistic Adelaide Hills people transport solution. Options, in increasing complexity and cost order include:

   - Bus stop indents and bus queue lanes (priority) at key intersections.
   - Reversible lanes to increase number of lanes in peak hour flows.
   - Reconfiguration of the Glen Osmond Rd/Cross Rd/Portrush Rd intersection.
   - A Glen Osmond Road tunnel between Adelaide city and the Toll Gate at the start of the South Eastern Freeway.

3. **Mobility as a Service (MaaS)**

   According to Australian Trade & Investment Commission, MaaS combines multiple transport modes such as car and ride share, with public and even active transport options. Crucially, MaaS offerings are designed to out-compete conventional car transport options via a sleek user experience with dynamic journey planning and streamlined payment processes.

   Keolis Downer operate a very popular on-demand bus trial in Mount Barker, offering a responsive first/last-mile solution for residents and visitors moving through Mount Barker's bus hubs (Park n Rides) connecting with other bus services between Mount Barker and Adelaide.

   The continuation of on-demand bus services and streamlined fare payment options were recommendations of the 2019 RDA AHFKI public transport study and will help optimize a high performing BRT service.

4. **Dedicated or preferential lane access**

   Dedicated bus lanes that improve commute times are a key feature of well-developed BRT services, however dedication of an existing lane of the South Eastern Freeway is not possible due to extensive use of one lane (left lane) by comparatively slow, heavy freight and lack of capacity. Options exist however to provide improved commute times for BRT services:

   - Development of new lanes for dedicated BRT use over short distances to provide priority bus queue lanes at key intersections (e.g., at the Cross Road, Glen Osmond Rd, Portrush Rd) or dedicated access (e.g., between Hahndorf and the South Eastern Freeway to enable BRT to service tourist demand).
   - Shared, preferential use of the left lane (of three lanes between the Glen Osmond Tollgate and Stirling) by heavy freight and BRT buses.

   For the latter option, any reduction of heavy freight movements on the South Eastern Freeway through diversion of freight around the hills on alternative routes, or reduction of peak-time freight movements (eg; through differential pricing mechanisms to drive time-based separation of freight and other traffic) would increase the likelihood of improved travel times for BRT. It could also open the possibility for lane access to other forms of high occupancy vehicles including taxis, rideshare and carpool vehicles.

Special notes on Rail

Whilst BRT services outlined in this report could be expected to provide a solution for foreseeable forecasts of population growth, in the long-term, consideration should be given to investigate business cases for rail options that result in travel times supportive of high patronage, including any viable options:

- To upgrade the existing rail alignment and rolling stock.
- For a new rail alignment.

Figure 3. Tacoma's (Washington, USA) Pacific Avenue Hybrid Bus Rapid Transit.

https://www.theurbanist.org/

Figure 4. Transport for NSW B-Line BRT service.

www.transport.nsw.gov.au

Definitions

Bus Rapid Transit

Bus Rapid Transit (BRT) is a public transportation system that provides faster, more efficient service than an ordinary bus line. Often this is achieved by making improvements to existing infrastructure, vehicles, and scheduling. The goal is to approach the service quality of rail transit while still enjoying the cost savings and flexibility of bus transit. BRT offers cost effective, environmentally beneficial, and high-performance mass transit where population density often does not justify the construction of costly fixed rail systems and the need for greater flexibility in route mapping is better served by wheel-to-road transport systems.
OzeBus

Some key features of BRT include:

- *Dedicated right-of-way infrastructure (bus-only lanes).*
- *Off-board fare collection.*
- *Intersection treatments (signal priority, prohibited traffic turns).*
- *Rapid and frequent operations.*
- *Enhanced stations that are convenient, comfortable, secure, and weather protected.*
- *Excellence in marketing and customer service.*
- *A BRT system can use existing road systems or be built with dedicated pathways and station systems depending on the resources available for the project.*

Institute for Transportation & Development Policy

Sharing Economy

An economic system that is based on people sharing possessions and services, either for free or for payment, usually using the internet to organize this.

Cambridge English Dictionary

Mobility as a Service (MaaS)

Mobility-as-a-Service is an emerging type of service that, through a joint digital channel enables users to plan, book, and pay for multiple types of mobility services. The concept describes a shift away from personally-owned modes of transportation and towards mobility provided as a service.

Wikipedia

Summary

An extensive working group representing key stakeholders have worked together with a focus on development of options and making recommendations for improving freight and people transport across the Adelaide Hills.

This report provides a synopsis of recommendations that all stakeholders can refer to including all levels of government, government departments and agencies. The takeaway recommendations for people transport are:

1. Implementation of two Bus Rapid Transit (BRT) services using task-specific buses:
    - Route 1: Adelaide - Crafers, Stirling, Aldgate, Bridgewater
    - Route 2: Adelaide - Verdun, Hahndorf, Mount Barker

2. Supported with:
    - Bus corridor improvements along Glen Osmond Road.
    - Implementation of Mobility-as-a-Service (MaaS) to support transition between modes of transport.
    - Dedicated or preferential BRT lane access options.

Bus Rapid Transit (BRT) offering a high-frequency express services will have a profound, positive impact on public transport patronage resulting in reduced road congestion and improved liveability in the Adelaide Hills.

Appendix 1A: Initial Workshop Invitees/Participants

Name	Position	Organisation
Adrian Teaha (A)	Rail Policy Manager	Australian Rail Track Corporation
Andrew Aitken	Chief Executive Officer	Adelaide Hills Council
Andrew Stuart	Chief Executive Officer	Mount Barker District Council
Ben Fee (A)	Chief Executive Officer	RDA Murraylands and Riverland
Cathy Allen	General Manager – SA – Bus	Keolis Downer
Charles Mountain	Senior Manager Safety & Infrastructure	RAA
Chris Haskas	Manager Engineering	The City of Mitcham
Damien Cooke	Chief Executive Officer and Director	RDA AHFKI
Daryll Conlon	Head of Operations	Keolis Downer
David Lovell	Deputy CE	Infrastructure SA
Evan Knapp	Executive Officer	South Australian Freight Council
Graeme Martin	Executive Officer	Southern and Hills LGA
Henry To	Manager Infrastructure Strategy	Australian Rail Track Corporation
James Sexton	Chair	RDA AHFKI
Jarrod Bielby	Regional Manager - Infrastructure	RDA Murraylands and Riverland
Jim Nikas (A)	Business Development Manager	Keolis Downer
John Ashcroft	Board Member	RDA AHFKI
John Devney	Director	GTA now Stantec
John Olson	Managing Director	HDS Australia Pty Ltd
Karen Raffen	Chief Executive Officer	RDA Adelaide Metropolitan
Luigi Rossi	Principal Consultant	Luigi Rossi & Associates
Marc Voortman	GM Planning and Development	Mount Barker District Council
Mark Hennessy	Planning Leads	Dept. for Infrastructure and Transport
Matthew Vertudaches (A)	Traffic Engineer	RAA
Melissa Bright	Manager Economic Development	Adelaide Hills Council
Michael Sedgman (A)	Chief Executive Officer	Murray Bridge Council
Michelle English (A)	Business Development Manager	Flinders Port Holdings
Mike Wilde	Manager, Network Planning	Dept. for Infrastructure and Transport
Peter Tsokas	Chief Executive Officer	City of Unley
Phil Burton	General Manager Infrastructure	Mount Barker District Council
Rob Kerin	Chair	RDA South Australia
Rod Hook	Partner	Rod Hook and Associates
Scott McKay	Founder and Principal	Flywheel Advisory
Steve Shearer (A)	Executive Officer	SA Road Transport Association
Steve Shotton	Regional Development Manager	RDA AHFKI
Wayne Buckerfield	Executive Director, Transport Planning & Program Development	Dept. for Infrastructure and Transport

(A) Apology

Appendix 1B: People Transport Working Committee

Name	Position	Organisation
Cathy Allen	General Manager	Keolis Downer
Charles Mountain	Senior Manager Safety & Infrastructure	RAA
Daryll Conlon	Head of Operations	Keolis Downer
Fiona Cartwright	Manager Safety Strategy	Department for Infrastructure and Transport
Graeme Martin	EO	SHLGA
Henry To	Manager Infrastructure Strategy	Australian Rail Track Corporation
Jarrod Bielby	Regional Manager – Infrastructure	RDA Murraylands and Riverland
John Devney (Chair)	Director	GTA Consultants now Stantec
Karen Raffen	CEO	RDA Adelaide Metropolitan
Scott McKay	Founder and Principal	Flywheel Advisory
Steve Shotton	Regional Development Manager	RDA Adelaide Hills, Fleurieu & KI

Appendix 2: Related Work

Related Studies

- Regional Road Assessment – Adelaide Hills, 2020, RAA
- Regional Road Assessment – South Eastern Freeway, 2020, RAA
- Hahndorf Township Traffic Planning and Interchange Study, Jacob 2020
- GlobeLink, 2019, KPMG/AECOM
- Regional Public Transport Study, 2019, RDA AHFKI
- Northern Rail Bypass Scoping Study, 2018, RDA AHFKI / Tonkin
- Southern & Hills Local Government Association, 2020 Transport Plan – 2015 Update (HDS)
- The Integrated Transport and Land Use Plan, Government of South Australia, 2013
- Adelaide Rail Freight Movements Study, 2010, GHD

Relevant Plans

- 20 Year State Infrastructure Strategy - ISA 2020
- The 30-Year Plan for Greater Adelaide 2017 Update. Department of Planning, Transport and Infrastructure, Adelaide, South Australia, 2017.
- The Integrated Transport and Land Use Plan, Department of Planning, Transport and Infrastructure, Adelaide, South Australia, July 2015. (no longer State Government policy)

Department for Infrastructure and Transport

Planning Studies & Upgrades: Transport Network Planning Studies Program 2020-21

- Crafers and Verdun Park and Rides
- Bus Corridor Improvements – Glen Osmond Road
- Intersection Efficiency – Portrush Road/South Eastern Freeway/Cross Road intersection
- Corridor Planning – South Eastern Freeway

Other Studies

- Greater Adelaide Freight Bypass – Business Case
- Bus Rapid Transit Strategy and Investment Plan
- Public Transport Infrastructure Strategy, 10-year plan and selected preliminary business cases
- RAV Network expansion strategy
- Adelaide Hills Bus Rapid Transit (City to Mt Barker)
- Hahndorf Township Strategic Traffic Planning Study
- SE Freeway Freight Corridor Plan

Appendix 3: Current Infrastructure Works

Department for Infrastructure and Transport: committed and/or recently completed projects:

- Glen Osmond and Fullarton Roads Intersection Upgrade
- Heysen Tunnels refit and upgrade
- Keeping Metro Traffic Moving
    - Bus Indents on Glen Osmond Road to improve travel time for express buses and general traffic
    - Extended Clearway and Parking Restrictions – Glen Osmond Rd, Greenhill Road to Portrush Road
- South Eastern Freeway Pavement Rehabilitation: Crafers to Tollgate
- Mount Barker On-demand Bus Trial

Report Contact

Damien Cooke

CEO and Director of Regional Development

Regional Development Australia Adelaide Hills, Fleurieu & Kangaroo Island

M: 0411 140 735

P: 08-8536 9200

E: damienc@rdahc.com.au