



# Scenario Planning for an Innovative Response to the Water Challenge in the Murray Riverina Region

## *Delivery Strategy*

Regional Development Australia Murray, Regional Development Australia Riverina and Trade & Investment NSW

July 2011

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## Executive Summary

Governments recognise many of the challenges facing rural and regional Australia. Developed countries as a whole are increasingly nurturing their natural resources in recognition that such resources constitute the foundation for sustainable economic growth. In Australia’s case water is a particularly important issue. The challenge of a water constrained future is especially important in the Murray and Riverina regions with their traditional economic base of agriculture and related industries.

The purpose of this study was to develop an innovative, robust and sustainable response to the water challenge in the Murray-Riverina region.

The study considered the implications of the water challenge for the two regions as a whole and considered possible investment directions that could help underpin economic and social progress on a sustainable basis. It provides five indicative but objective and evidence-based “business cases” for a shortlist of practical and sustainable development opportunities, which highlight potential for further investment based on clear ongoing benefits to investors.

These five areas of opportunity are outlined in the table below.

Opportunity	Scope	Costs (total)	Peak annual benefits (direct & flow-on GRP)
Transport and logistics	Identify key freight routes, develop an upgrade program for more efficient transport options, advocate for appropriate regulation reduction and review current intermodal hubs to ensure efficient network and operations.	TBD	\$32m (year 2)
Forestry	Develop new investment framework for commercial forestry plantations and pilot the framework NSW south-west slopes. Develop a joint industry-government approach to investment in priority upgrades to industry identified backbone and primary transportation routes and upgrade to a fit-for-purpose standard.	\$405m	\$46m (year 3)
Education	Develop a Regional Education and Training Clearing House, setup the Regional Enterprise and Innovation Network, and establish	\$1.195m	\$0.88m (year 4)

Opportunity	Scope	Costs (total)	Peak annual benefits (direct & flow-on GRP)
	the region as recognised innovation region.		
Health	Develop a pilot regional e-Health network and develop, install and support specific regional e-Health applications.	\$6.615m	\$3.02m (year 3)
Tourism	Develop a themed Sturt Highway Touring Route, establish a food and wine trail, associated development of new businesses, a monitoring and evaluation program for the Murray Riverina tourism industry and quality improvement systems.	\$0.385m	\$3.022m (year 3)

A significant part of the study was engaging with organisations that already are in the business of promoting economic development in their particular areas of interest and expertise. These organisations included local government, industry and associations. The consultations reinforced in the minds of the study team, the power of the community and its existing institutions as a solid building block onto which could be crafted these incremental investment proposals. Most of the ideas that were explored were generated through this consultation.

While of significant individual merit, local investment proposals were not identified for further evaluation: the study was to focus on regional outcomes. Candidate investment opportunities were assessed as to economic impact, social impact, job creation outcomes and ease of implementation.

Opportunities were considered and categorised according to whether they represented social infrastructure investment, greater utilisation of existing assets (for example tourism facilities) or investment in new capability or capacity. Connectivity between the candidate opportunities was also recognised. For example, an investment in roads may not only directly enhance business investment attractiveness but also benefit tourism.

Naturally, business, industry groups, Local Government and other agencies can all play a role in implementing the strategies and communicating the development direction. Importantly, the study identified those additional things that could be done by the RDAs to support economic development and, hence, encourage investment largely from the private sector. RDAs have a role in:

- **communicating** development direction to enhance business investment attractiveness;
- **advocating** selective investment and other support mechanisms by governments; and
- **facilitating** intra-regional collaboration and cooperation.

The study concluded with a set of specific actions associated with each prioritised investment areas utilising a phased approach: plan; validate; and Implement.

The first actionable steps for the RDAs are provided in the following table.

Opportunity	First step
Transport and logistics	Undertake a strategic route study.
Forestry	Mobilise the Murray and Riverina RDA Softwoods Working Group to develop a proposal and secure funding for a consultancy to develop a new investment framework for commercial forestry plantations (building on recent work for Forest and Wood Products Australia) and to commence engagement of key stakeholder expected to contribute to the government-industry taskforce for the road project.
Education	Discuss the proposal and promote the concept with the CSU, Riverina TAFE and other relevant education and training and R&D bodies (e.g. such as CSIRO) to get their support and input
Health	Discuss the proposal with the Murrumbidgee Local Health District (MLHD) to get their support. MLHD will need to be a sponsor or partner in this project
Tourism	Gain stakeholder buy-in and confirm management arrangements for the complementary Sturt Highway and Murray Valley Touring Route.

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## Introduction

Sinclair Knight Merz (SKM) was commissioned by RDA Murray on behalf of the RDAs of Murray and Riverina to undertake the Department of Trade, Investment, Regional Infrastructure and Services (DTIRIS NSW) funded project to develop an innovative, robust and sustainable response to the water challenge in the Murray-Riverina region.

The project comprises six main stages:

- Project Start Up
- Existing Situation Analysis
- Industry/Market Assessment
- Options Analysis / Scenario Planning
- Business Case Development
- Delivery Strategy

## Outputs

This document represents the final key deliverable of the project and comprises an implementation roadmap and delivery strategy for the prioritised opportunities based on the five previous stages.

# Project summary

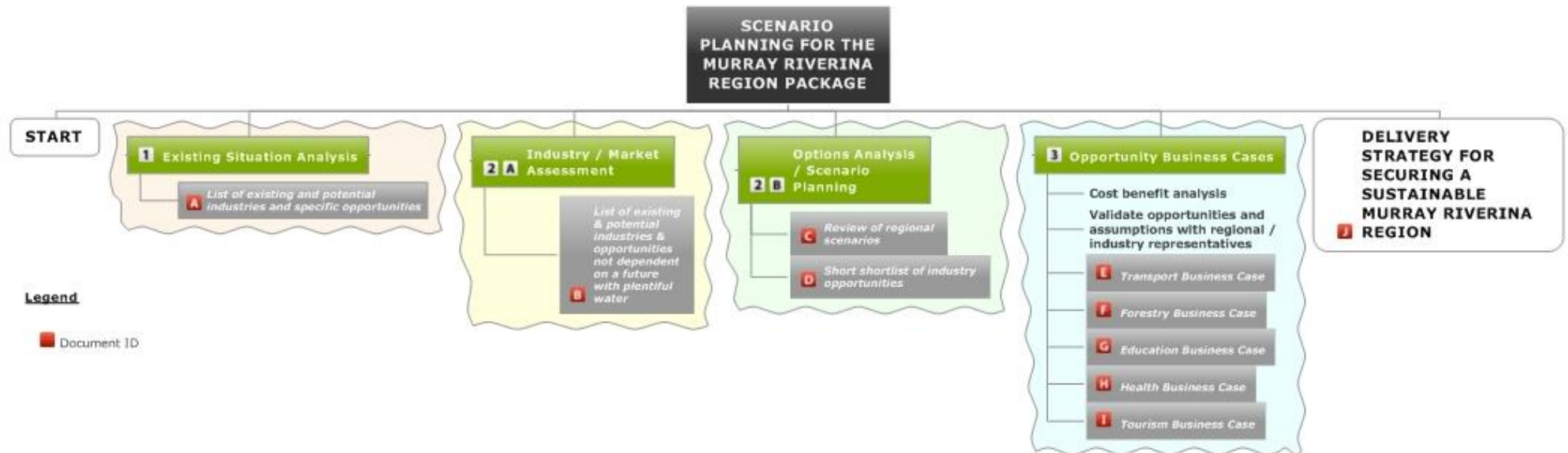


Figure 1 Project summary

Figure 1 outlines the core components and deliverables of this project. This section summarises the process and key findings of each deliverable. For more detailed information about each component, please refer to the relevant document in the *Scenario Planning for an Innovation Response to the Water Challenge in the Murray Riverina Region* package.

## 1 - Existing situation analysis (A)

The existing situation analysis provides a summary of the current position of the Murray Riverina region. It includes a profile of the region's socio-economic state and a description of the regional drivers, challenges and opportunities.

The socio-economic profile shows that the population of the Murray Riverina region will continue to grow slowly over the next 20 to 30 years. Growth is likely to be from an increase in older residents and will continue to be based around urban centres such as Albury, Wagga Wagga and Griffith. A major reason retirees may be moving to the region is the significantly lower cost of housing in the region compared with capital cities and coastal areas and the opportunity for a 'tree change'. The Evocities program (which includes Albury and Wagga Wagga as two of the seven regional NSW evocities) and potential State Government grant to encourage city dwellers to move inland is expected to further enhance this trend. This is likely to increase demand for health and aged care services and infrastructure as well as general liveability attractions (e.g. gourmet food, arts and recreation).

However a major barrier to developing a more diversified economy in the Murray Riverina region is attracting and retaining young people and skilled workers. Skills and labour shortages are apparent in health care, education, child care, transport and agriculture. Together, agriculture, forestry and fishing, retail trade, manufacturing, and the health care and social assistance industries account for almost half of the total employment in the region, with opportunities to further develop these industries depending on the availability of a qualified local workforce.

Some of the reasons the region is struggling to attract and retain a qualified workforce include:

- Significantly lower salaries (in 2008 the average income in the Murray Riverina region was about 20% less than the average income across NSW);
- Lack of choice in employment compared with capital cities;
- Poorer access to health care;
- Fewer opportunities for education (the percentage of people with Bachelor or Postgraduate degrees is lower than more urban parts of NSW and more rural parts of the region only employ primary school teachers);
- Limited accessibility to parts of the region due to a lack of / deteriorating rail and road infrastructure; and
- Geographic isolation.

A major driver for economic diversification in the region is a push away from reliance on irrigated agriculture. This industry has declined over the last few years because of drought, and more recently, flooding during the harvesting period.

Another key driver is the government's rollout of the National Broadband Network. This is expected to increase connectivity across the regions as well as with capital cities, which will reduce the relevance and dependence on physical location for delivering and receiving services.

## 2B – Scenario Planning (C)

Scenario planning draws out those factors which are most important to but also most uncertain about the future. Various types of scenario planning have been used in the Murray and/or Riverina Regional Development Australia (RDA) regions of southern New South Wales or nearby regions of Victoria to assist in strategic planning in response to climate change, water and other natural resource issues. These include narrative scenarios, aspirational scenarios, numerical scenarios and option evaluation.

This work was reviewed as part of this project, and was found to contain a common set of drivers and critical uncertainties, mostly around climate change and water (resource availability, policy, trade and management). These findings are most pertinent to agriculturally-dependent (particularly irrigation-dependent) communities and economies of the Murray and Riverina. They are less pertinent to the region's two largest and less-agriculturally-dependent communities, Albury and Wagga Wagga and to its dryland farming and forestry-dependent communities, particularly in the east.

Some of the scenario planning work also considered critical change drivers and uncertainties beyond those relating to water. These include, among other things, global economic forces, climate change policy, environmental, trade or socio-political shocks and technological developments in agriculture and food production.

The key change drivers highlighted by this previous work were considered in combination with the existing situation analysis when assessing the suitability of each of the industry opportunities. They also further confirmed the importance of selecting economic diversification opportunities that assist the region in facing future water challenges.

## 2A & 2B – Industry and options assessment (B & D)

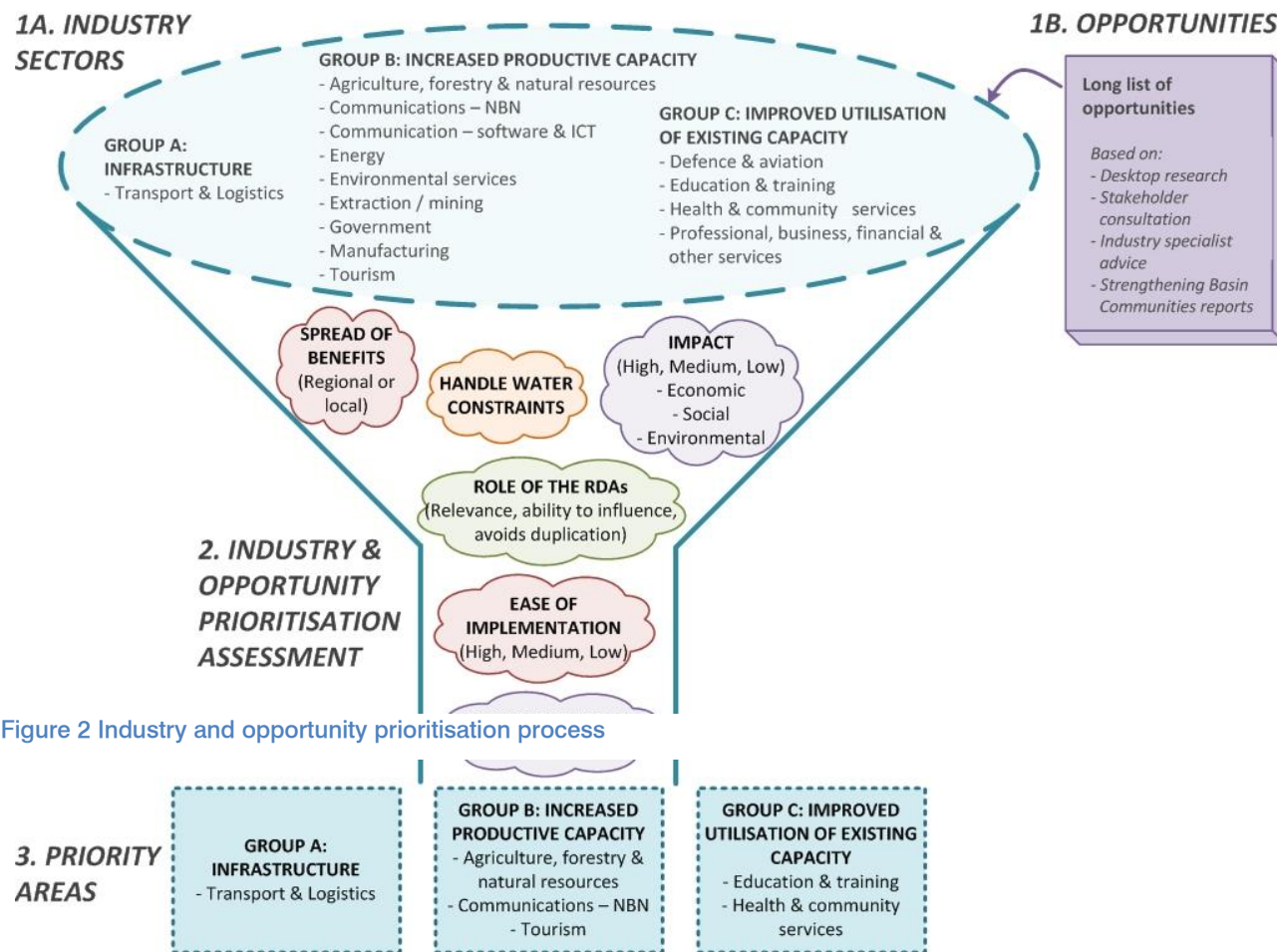


Figure 2 Industry and opportunity prioritisation process

Figure 2 illustrates the process used to shortlist priority industries and opportunities. The first step involved identifying industry sectors which were currently or potentially could play an important role in the Murray Riverina region’s economic development.

This list was based on regional stakeholder consultation and desktop research. The industries were categorised as: A) *Infrastructure* – new infrastructure or a significant upgrade to existing infrastructure; B) *Increased productive capacity* –new, expanded and/or upgraded facilities or activities that could increase the productivity of new and existing regional industry; C) *Improved utilisation of existing capacity* – new or improved facilities or activities designed to increase the utilisation of existing capacity.

At the same time as assessing the industries, a long list of specific opportunities within each of the industries was collated based on existing studies, reports, consultation and other regional input. This input was sourced from the RDAs, local government, state reports, regional industry bodies and other regional industry representatives. The long list contains 52 opportunities in category A (infrastructure), 23 in category

list contains 52 opportunities in category A (infrastructure), 23 in category

B (increased productive capacity) and 13 in category C (improved utilisation of existing capacity). Of these opportunities, most were expected to have a predominantly local impact, whereas the aim of the project was to focus on opportunities that could link up resources to achieve regional economic diversification outcomes.

### Prioritisation criteria

A combination of these opportunities and the broader industries were assessed according to the following criteria:

- Spread of benefits – industry opportunities focused on regional outcomes were preferred over those focused on local outcomes.
- Handle water constraints – industry opportunities which were not expected to cope with less availability of water were eliminated.
- Impact – industry opportunities were rated high, medium or low according to their expected economic, social and environmental impact.
- Role of the RDAs – industry opportunities where the RDAs could play a legitimate, influencing and/or enabling role were preferred. Also, any opportunities which are expected to be implemented under other programs (e.g. agricultural innovation and the Strengthening Basin / Irrigation Communities Program) were not considered.
- Ease of implementation – industry opportunities were rated high, medium or low according to a broad judgement about the potential cost of implementation, legal or practical impediments,

likelihood of regional support and level of interest from potential investors.

- Linkages between opportunities – industry opportunities that link resources and could work together as a ‘package’ of opportunities to maintain a sustainable Murray Riverina region were preferred.

### Priority areas

Based on this initial assessment, the priority areas chosen for more detailed investigation were:

- Transport and logistics
- Agriculture, forestry and natural resources
- Communications – NBN
- Tourism
- Education and training
- Health and community services

### Final shortlist (E – I)

The priority areas listed above underwent a more detailed assessment using previous reports and studies conducted in the region, policy documents from state and federal government, and interviews with regional representatives from local government and the relevant industries. This process resulted in the recommendation of five specific economic diversification opportunities for the region which have been documented with supporting business cases. The five opportunities and their overall objectives are outlined in the table below.

Table 1 Final opportunity list and objectives

Opportunity	Objectives
Transport and logistics	<ul style="list-style-type: none"> <li>■ Maintain a viable transport industry in the region.</li> <li>■ Develop a safe and fit for purpose transport and logistics network in the region for use by industry and the community.</li> </ul>
Forestry and forest products	<ul style="list-style-type: none"> <li>■ Maintain a viable forestry and forest products industry in the Murray and Riverina regions.</li> <li>■ Develop a safe and fit for purpose network of roads that may be used by the forestry and forest products industry, particularly the industry identified backbone and primary transportation routes.</li> </ul>
Tourism	<ul style="list-style-type: none"> <li>■ Increase tourism yield based on increased visitor numbers, longer stay and higher value tourism products.</li> <li>■ Improve the quality and quantity of the tourism products in the region.</li> <li>■ Improve the profile of tourism as an industry.</li> </ul>
Education, learning and innovation	<ul style="list-style-type: none"> <li>■ Ensure the regional industry and community have access to high quality and responsive education and training and research and extension information based on identified regional needs.</li> <li>■ Develop and maintain an economic competitive advantage and build an educated, skilled and resilient community based on the collaborative use of the region's education and training and R&amp;D knowledge and capability.</li> <li>■ Develop a regional culture of innovation to ensure the Riverina Murray is a leading region in terms of</li> </ul>

Opportunity	Objectives
	<ul style="list-style-type: none"> <li>■ industry technology, product development, workforce skills, productivity, liveability and community resilience.</li> </ul>
Growing regional health networks	<ul style="list-style-type: none"> <li>■ Provide access to broadly equivalent healthcare across the region that is also similar to the healthcare received by residents in the metropolitan areas and in regional cities, cost effectively.</li> <li>■ Build on the national health reforms to leverage regional health outcomes to meet the above aim.</li> <li>■ Use the regional health developments as a catalyst to develop a wider range of health related business opportunities.</li> </ul>

The reason agriculture and communications (NBN) are not included in the final list of opportunities is primarily because the RDAs are expected to have less impact and influence on these two areas as they are already have strong government support and are likely to be further developed regardless of a high level of involvement from the RDAs. Agriculture is supported through the Strengthening Basin / Irrigation Communities program, while the regional NBN rollout is supported by the Federal Government.

Although it was agreed that the NBN would not be included as an opportunity in itself, the RDAs are expected to play a role in advocating for the timing, location and technology associated with the NBN. Furthermore, the potential of the education, health and tourism opportunities is highly dependent on increased regional capability provided by the NBN infrastructure.

Similarly, improved transport infrastructure in the region will be pivotal in achieving the desired objectives of the forestry, health and tourism opportunities.

These dependencies and the ‘package’ of connected opportunities are illustrated in Figure 4.

Because of its overarching regional nature, access to the NBN is also likely to offer opportunities to the transport and logistics and forestry and forest products industries but these are likely to be more peripheral to the opportunities proposed. However further development of the proposed opportunities could make the NBN vital across all opportunities as shown in Figure 3.

Similarly, access to improved public transport could benefit the education opportunities although again are unlikely to be essential for the proposed opportunities which rely on virtual rather than physical access in the main.

Figure 3 NBN central to further development of all identified opportunities

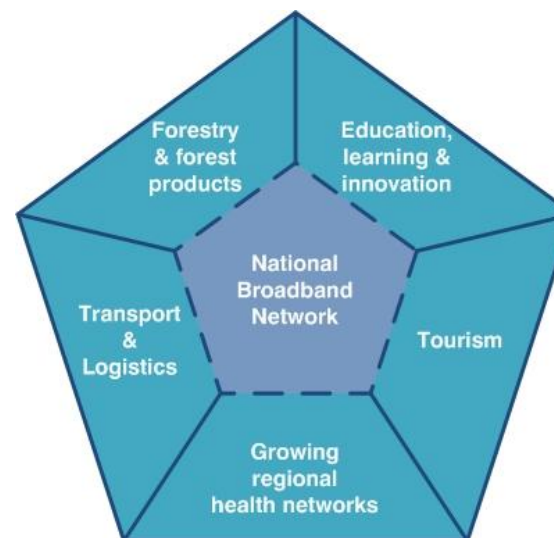
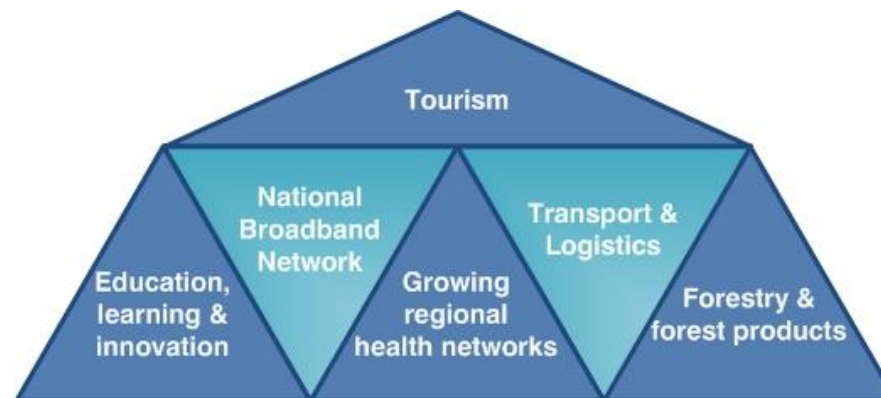


Figure 4 Connected package of recommended opportunities



## Roadmap to securing a sustainable Murray Riverina region

The roadmap on the following page describes the overall implementation plan for the five proposed economic diversification opportunities. The roadmap outlines the:

- Project objectives
- Short, medium and long term activities associated with each opportunity (categorised as planning, validating or implementation)
- Estimated project costs (These are based on previous studies and similar projects, with costs to be more accurately determined in the proposed planning stage for each opportunity. In particular, the transport costs relate to potential projects but are not confirmed recommendations)
- Enabling factors (stakeholders involved, investment, project management etc)

# Roadmap to securing a sustainable Murray Riverina region

RDA Murray and RDA Riverina roles  
May 2011

Objectives	Program			Enablers		
	Plan	Validate	Implement	Stakeholders	Investment & Policy	
<p><b>1. Forestry</b></p> <p>Maintain a viable forestry &amp; forest products industry in the Murray &amp; Riverina regions</p> <p>Develop a safe &amp; fit-for-purpose network of roads that may be used by the forestry &amp; forest products industry</p>	<p>Establish a business entity to manage investment in operations of softwood plantations (\$0.5m)</p> <p>Develop a new investment framework for commercial forestry plantations (\$0.3m)</p>	<p>Test alternative investment frameworks with key stakeholders</p> <p>Pilot the selected investment framework in the NSW southwest slopes region (\$0.5m)</p>	<p>Establish 30,000 ha of new softwood plantations by 2025</p> <p>Buy land, establish and maintain plantations as investment and land availability allow (\$168.8m)</p>	<ul style="list-style-type: none"> <li>Forest products industry</li> <li>Softwoods Working Group</li> <li>Forests NSW</li> <li>Private forestry companies</li> <li>Forestry contractors</li> <li>Transport operators</li> <li>VicRoads</li> <li>Local government</li> <li>Superannuation funds</li> </ul>	<ul style="list-style-type: none"> <li>Wholesale (e.g. investment banks, super funds)</li> <li>Retail investors</li> <li>Plantations 2020</li> </ul> <p><b>\$352.2m</b></p>	
<p><b>2. Education</b></p> <p>Regional industry &amp; community access to responsive education &amp; research information</p> <p>Build an educated, skilled &amp; resilient community based on the region's knowledge &amp; capability</p> <p>Develop a regional culture of innovation</p>	<p>Clearing House &amp; REIN</p> <p>Work with regional industry &amp; RTOs to establish initial funding &amp; proposal (\$0.05m)</p>	<p>Promotion &amp; awareness - generate interest (\$0.03m)</p> <p>Facilitate forums to develop new innovative ways to address regional industry issues through R&amp;D</p>	<p>Develop user requirements, build &amp; populate database (\$0.3m)</p> <p>Ongoing training needs brokerage between industry &amp; education providers (\$0.8m)</p> <p>Annual maintenance &amp; operation (\$0.03m)</p> <p>Pilot an example of both a physical &amp; virtual industry technology cluster</p> <p>Develop specific industry &amp; technology clusters in the region</p>	<ul style="list-style-type: none"> <li>Higher Education facilities</li> <li>Local business</li> <li>DET</li> <li>Local government</li> <li>Business Enterprise Centres</li> <li>Industry &amp; Technology Parks</li> <li>Murray Now</li> </ul>	<ul style="list-style-type: none"> <li>Innovation Pathways Program (DTIRIS)</li> <li>Commercialisation Australia</li> <li>National TAFE Directors Strategic Plan</li> <li>Riverina TAFE Strategic Priorities</li> <li>CSU Strategy</li> <li>Inspiring Australia</li> </ul> <p><b>\$1.2m</b></p>	
<p><b>3. Transport</b></p> <p>Maintain a viable industry in the region</p> <p>Develop a safe &amp; fit for purpose transport &amp; logistics network in the region for use by industry &amp; the community</p>	<p>Planning (\$0.15m)</p> <p>Further studies required to assess the feasibility &amp; costs of particular transport projects</p>	<p>Test proposed Murray Riverina transport plan with key stakeholders (\$0.1m)</p>	<p>Undertake road infrastructure projects (\$82.6m*)</p> <p>Undertake rail infrastructure projects (\$95m*)</p>	<ul style="list-style-type: none"> <li>RTA</li> <li>Transport operators</li> <li>Local government</li> <li>DIT</li> <li>VicRoads</li> <li>DSEWPAC</li> <li>MDBA</li> </ul>	<ul style="list-style-type: none"> <li>NSW Freight Strategy</li> <li>Port of Melbourne</li> <li>Sydney Ports</li> </ul> <p><b>\$177.9m</b></p>	
<p><b>4. Health</b></p> <p>Provide cost effective access to broadly equivalent healthcare across the region</p> <p>Build on the national health reforms to leverage regional health outcomes</p> <p>Use the regional health developments as a catalyst to develop a wider range of health related business opportunities</p>	<p>Establish regional health working group</p> <p>Develop an investment &amp; action plan for the regional eHealth Network Model (\$0.12m)</p> <p>Extension - design &amp; development (\$0.14m)</p> <p>New super clinic - design &amp; development (\$0.49m)</p>	<p>Test the proposed model &amp; sites with key stakeholders (\$0.03m)</p>	<p>National Digital Rural &amp; Remote Healthcare Centre (\$2m)</p> <p>Continue the development of regional eHealth initiatives</p> <p>Extension of existing medical centre (\$1.8m)</p> <p>Construction of a new super clinic (\$6.1m)</p>	<ul style="list-style-type: none"> <li>Regional Divisions of General Practice &amp; Medicare Locals</li> <li>Hospitals</li> <li>NSW Health</li> <li>Other medical &amp; Allied Health Professionals</li> <li>eHealth application industry</li> <li>Local Government</li> <li>Developers &amp; operators of super clinics</li> <li>DHA</li> <li>Regional education providers</li> </ul>	<ul style="list-style-type: none"> <li>DTIRIS</li> <li>National Health &amp; Hospitals Network Agreement</li> <li>National E-Health Transition Authority</li> </ul> <p><b>\$10.6m</b></p>	
<p><b>5. Tourism</b></p> <p>Increase tourism yield based on increased number, longer stay &amp; higher value tourism products</p> <p>Improve the quality &amp; quantity of the tourism products in the region</p> <p>Improve the profile of tourism as an industry</p>	<p>Long Paddock Extension</p> <p>Research &amp; consultation (\$0.05m)</p> <p>Food &amp; Wine Trail</p> <p>Project planning (\$0.2m)</p> <p>Monitoring &amp; Evaluation</p> <p>Data collection method development (\$0.02m)</p> <p>Quality improvement systems</p> <p>Develop quality improvement system &amp; associated training programs (\$0.05m)</p>	<p>Test proposed trail with relevant stakeholders</p> <p>Pilot data collection method (\$0.02m)</p> <p>Pilot quality improvement systems (\$0.02m)</p>	<p>Business Development Program (\$0.05m)</p> <p>Signage &amp; promotion material (\$1m)</p> <p>Data collection (\$0.15m** per program)</p> <p>Training program (\$0.35m)</p> <p>Program management (\$0.1m)</p> <p>Capital costs of extension trail (\$8m)</p> <p>Annual operating costs (\$0.1m)</p> <p>Annual operating costs (\$0.05m)</p> <p>Data collection (\$0.2m)</p>	<ul style="list-style-type: none"> <li>Long Paddock Touring Route</li> <li>Murray Regional Tourism Board</li> <li>Tourism NSW</li> <li>Tourism Victoria</li> <li>Local business</li> <li>Local Government</li> <li>DTIRIS</li> <li>Indigenous community</li> <li>CRC for Sustainable Tourism / Southern Cross University</li> <li>Regional Training Providers</li> <li>Relevant Victorian LGAs</li> <li>Riverina Tourism Association</li> </ul>	<ul style="list-style-type: none"> <li>National Long-Term Tourism Strategy</li> <li>NSW Tourism Strategy</li> <li>Tourism Towards 2020</li> <li>Riverina Regional Tourism Strategic Plan</li> <li>Long Paddock Touring Route Strategic Plan</li> </ul> <p><b>\$10.4m</b></p>	
<p><b>AGG: \$2.17m, CUM: \$2.17m</b></p>			<p><b>AGG: \$0.70m, CUM: \$2.87m</b></p>		<p><b>AGG: \$549.33m, CUM: \$552.20m</b></p>	
<p><b>Investment attraction strategy</b></p>						
<p><b>Effective governance and commercial mechanisms</b></p>						
<p><b>Program management</b></p>						

\* These costs are subject to the planning and validation stage outcomes and are only based on projects previously costed through other studies

\*\* Assumes data collection for 2 programs

## Program

This section summarises each opportunity based on the business case.

### Forestry

#### The industry and market

The Murray Valley plantations region, which includes the NSW south-west slopes region and north east Victoria, is one of Australia's major softwood production regions. Of the almost 200,000 ha of forest plantation in the Murray Valley plantations region, about 96% is softwood plantation (*Pinus radiata*). This represents almost 20% of the entire Australian softwood plantation estate. About 120,000 ha of the softwood plantation estate is located in the NSW south-west slopes sub-region.

Collectively, the forestry and forest products industry are major employers and add significant value to the regional economy. In 2002-03 it was estimated that the total direct value of production from plantation softwoods in the south-west slopes region was approximately \$574M. Direct employment in the industry was about 1,750 people. With an estimated multiplier of two, the industry contributes to about \$1.7 billion of economic activity and over 5,000 jobs. Recent investments by most of the major operators were projected to directly add a further \$1 billion to the regional value of production and about 450 additional full time jobs.

#### Regional need

The regional need is twofold:

- Continued expansion the region's softwood plantation estate to meet the future supply requirements of its forest products industries, ensure they remain nationally and internationally competitive and maintain their significant presence in the regional economy. The need operates in the context of a near total investment 'drought' in new commercial forestry plantations throughout Australia.
- Strengthening key regional roads used by the forestry and forest products industries to ensure safe and efficient transport of logs and forest products.

#### Scope of work

The project includes four major activities, as follows:

- Development of a new investment framework for commercial forestry plantations;
- Piloting that framework in the NSW south-west slopes region with the objective of establishing 30,000 ha of new softwood plantations by 2025;
- Developing a joint industry-government approach to investment in priority upgrades to industry identified backbone and primary transportation routes.
- Backbone and primary road network upgrades to fit-for-purpose standard for the forestry and forest products industry.

## Costs

Element	Cost (\$m)
Investment framework for commercial forestry plantations	0.3
Establish 30,000 ha of new softwood plantations in south-west slopes region by 2025	
Investment attraction	0.5
Establish business entity	0.5
Buy land, establish and manage plantations	168.8
Industry government taskforces to upgrade key regional transport routes	0.1
Road upgrade to backbone and primary routes	182.0
<b>SUB TOTAL</b>	<b>352.2</b>
Contingency (15%)	52.8
<b>TOTAL INDICATIVE COST</b>	<b>405.0</b>

## Stakeholders

Key stakeholders are proposed to have the following primary roles in the development of this opportunity:

- **Project owner** – Murray RDA Softwoods Working Group (SWG)
- **Project investors** – Forest NSW, private forestry companies, investment banks, superannuation funds, NSW RTA, Australian government
- **Beneficiaries** – forest products industry, local government

- **Advisors** – industry organisations (Australian Forest Products Association), DAFF, RTA, DIT

There are also a number of stakeholders likely to be impacted by the development of this opportunity and therefore need to be informed of the project and its progress. These include forestry contractors, local Government (Albury City, Greater Hume, Gundagai, Tumbarumba and Tumut Councils), transport operators and VicRoads.

The main role of the RDAs in this opportunity is expected to be promotion, including facilitating the linkage with State and Australian Governments.

## Benefits

The major Benefits associated with the project include:

- Profits from timber production operations and sale of carbon offsets generated from the conversion of agricultural land to permanent plantation.
- The value of enhanced output from the operations of the forest products industry in the region.
- Direct employment created from plantation establishment phase and the anticipated expansion in the forest products industry and flow on indirect employment through the regional economy.
- Reduced operating costs and improved operational efficiency associated with the transport of wood to processing facilities and of wood products to market.
- Reduced travel costs for non-industry users of the upgraded backbone and primary road network

- Improved safety for road users.

The project’s economic impact would vary over its life, with a maximum direct and flow on benefit of over \$46 million in year 3 within the region and \$65 million for NSW as a whole. This equates to a maximum of about 0.5% of Gross Regional Product. Direct and flow on employment would likewise vary to a maximum of about 600 full time employees in year 3 within the region and 652 for NSW as a whole.

### Key Performance Indicators

The table below suggests some key performance indicators (KPIs) for the forestry opportunity.

Table 2 Forestry KPIs

KPI 1	Increased real value of production from forest products industry.
KPI 2	Increase in direct employment in forestry, forest products and related services.
KPI 3	Maintain the four major regional forest products operations at least at their current scale.
KPI 4	Length of industry-identified backbone and primary transport network upgraded to standard suitable for forest industry traffic volumes and loadings.
KPI 5	Number of accidents attributed to poor conditions on industry-used roads.
KPI 6	30,000 ha new softwood forestry plantations established on former farmland within regional supply zone by 2025.

## Education

### The industry and market

Education and training is a major industry in the region. At the 2006 census the sector ranked 5<sup>th</sup> largest in terms of employment. Based on the Shift Share analysis undertaken for the Murray part of the region, education is a growing sector so that the relative position of education as a regional industry is likely to have grown since 2006 and is expected to grow further into the future.

The region is well endowed with tertiary institutions including major campuses of Charles Sturt University at Wagga Wagga and Albury, the Riverina TAFE with 20 campuses across the region and specialist education and training such as aviation training at the Australian Airline Pilot Academy at Wagga Wagga and academic tuition, acrobatic and circus training for students at the Flying Fruit Fly Circus in Albury. In addition, the region has ready access to the Wodonga TAFE and the northern Victorian campuses of LaTrobe University.

### Regional need

The regional needs for this proposed development are:

- To identify and/or develop training programs that meet specific regional enterprise needs.
- To identify and/or develop training programs that address local and regional training needs as well and cater for small group and individual training requirements cost effectively across the region.

- To facilitate access to relevant high quality R&D and extension services as the reduction of public sector or publically funded industry R&D and extension services that has led to a more piecemeal approach, lower take up because of incomplete information on the services available and restrictions on choice of services because the information and extension is provided by specific companies and related to proprietary products and services.

involves building on existing regional economic and technology forums and literature to provide an extra-regional process for promulgating regional best practice and innovation.

#### Further stages

Other opportunities in the education sector include:

- More online education models with greater personal interaction
- Development of multiple level campuses /precincts

### Scope of work

#### Stage 1

This opportunity comprises three key areas:

- Regional Education and Training Clearing House – Provide a process to match VET and industry needs with appropriate courses, including development and promotion of a database detailing available VET programs and short courses and their providers.
- Regional Enterprise and Innovation Network (REIN) – In some cases co-location of industry and R&D institutions in University associated technology parks may provide a catalyst to innovation. In others virtual co-location via the internet may be successful and others may be a mix of both. The result should be the development of regional industry technology clusters that link industry players with relevant ‘best practice’ R&D and innovation wherever it is located.
- Regional culture of innovation - The aim of this opportunity is to establish Murray-Riverina as a recognised innovation region. This

#### Costs

Element	Cost (\$m)
Project planning	0.05
<b>ANNUAL OPERATIONAL COSTS</b>	
Employee expenses	0.45
Administration	0.125
Marketing	0.03
Motor vehicle / travel	0.075
ITC support	0.05
<b>Sub total</b>	<b>0.76</b>
Contingency (15%)	0.11
<b>Total indicative cost</b>	<b>0.87</b>
<b>DATABASE COST</b>	
Establishment	0.3
Upgrade (per annum)	0.025

Element	Cost (\$m)
Total indicative cost	0.325
<b>TOTAL COST OF EDUCATION OPPORTUNITY</b>	<b>1.195</b>

### Stakeholders

Key stakeholders are proposed to have the following primary roles in the development of this opportunity:

- **Project owner** – Higher education (CSU), VET Riverina TAFE and potentially Murray NOW
- **Project investors** – NSW DET, DTIRIS, Commercialisation Australia, Business Enterprise Centres, Industry and Technology Parks
- **Beneficiaries** – Regional industry, Local business, higher education and VET providers
- **Advisors** – Local business, local government

For this opportunity, the main roles of the RDAs will be to facilitate stakeholder engagement, liaise with State and Commonwealth Government Agencies, attract funding to address key infrastructure gaps, promote awareness of investment opportunities, facilitate access to business advice and support services and project coordination as required.

### Benefits

The direct and flow on impacts of the proposed education opportunity were modelled over the first three years of implementation and operation. These are assumed to be years 2 to 4 of the total project.

Expenditure and employment peak in year four at both the regional and State level with additional regional direct employment at this stage of some 5 FTE people.

The impact on GRP, GSP and household income also peak in year 4, with the total GRP peaking at just over \$880,000 and additional household income of some \$700,000. Again, regional employment peaks at 11 new FTE jobs in the fourth year of the project. This is anticipated to expand further after the fourth year as the project becomes more successful.

### Key Performance Indicators

The table below suggests some key performance indicators (KPIs) for the education opportunity.

Table 3 Education KPIs

KPI 1	Number of new commercial products developed based on or assisted by regional R&D
KPI 2	Number of new companies established based on or assisted by with regional R&D. (Note including university start up companies)
KPI 3	Number and depth of industry – R&D clusters
KPI 4	Economic impact of these new products and companies in terms of level of regional investment and new jobs
KPI 5	Extent of development of enabling technologies that support the development and efficiency of existing industry sectors as well as creating new knowledge based industries (e.g. waste management, renewables, ICT, biotechnology, etc.)
KPI 6	Amount of investment in regional R&D by regional industry and businesses (business expenditure on research and development-BERD)

KPI 7	Number of industry – R&D institute partnerships including formal MOUs and similar agreements
KPI 8	Numbers of disclosures, patents and licenses and amount of royalty income earned. (E.g. ensure for the region that the number of patents filed per million population is similar or greater than the NSW and national figures.)
KPI 9	Number of refereed papers including jointly authored papers by University and industry participants
KPI 10	Number and value of successful applications for R&D funding for industry based R&D and extension
KPI 11	Numbers of regional graduates joining regional R&D partner businesses
KPI 12	Increasing the proportion (number) of the regional resident population with trade, training or tertiary qualifications
KPI 13	Number of skilled workers in the region who received their training in the region
KPI 14	Numbers of professional and technical development programs offered in the region and numbers of professional and technical staff undertaking these programs
KPI 15	Increased ability to source appropriate training within the region
KPI 16	Number of enterprise requested training programs delivered in the region
KPI 17	Client satisfaction based on post program surveys

## Transport

### The industry and market

Nationally, the Transport and Logistics sector comprises about 14.5% of the nation's GDP<sup>1</sup>. The proportion of economic activity and people employed in the sector is greater in regional areas. Transport and logistics are derived demands, supporting most other sectors of the economy, but with the greatest impact in primary, resource and manufacturing industries.

Improvements in transport and logistics infrastructure, resources and services will enhance the competitiveness and capacity of the Riverina and Murray regions in supporting industries with substantial freight tasks; it will increase the attractiveness and ease of visitation by tourists and visitors; and it will reduce the time and costs involved in transacting business in the region.

### Regional need

The regional strategic needs are to:

- Increase regional productivity and profitability
- Reduce regional transport and logistics costs
- Reduce regional fuel use and greenhouse gas emissions
- Ensure a safe transport environment.

### Scope of work

The scope of work required is directed to four major objectives, with a high level listing of the requirements recommended for each summarised below.

- Increase regional productivity and profitability:
  - Identify key current and potential freight routes by mode (road and rail). Identify constraints and barriers preventing more efficient operational patterns and transport modes.
  - Assess opportunities to improve efficiency through removing barriers to more efficient vehicles, routes and most appropriate transport mode
  - Advocate for appropriate reduction in regulatory restrictions
  - Review intermodal terminals, to enhance network availability and efficiency.
- Reduce regional transport and logistics costs – predominantly through targeted infrastructure investment as prioritised through region wide needs assessment
- Reduce regional fuel use and greenhouse gas emissions –through increased use of rail, biofuels and more fuel efficient vehicles.
- Ensure a safe transport environment – through assessing the transport and logistics hazards and safety concerns, and determining measures to improve safety performance.

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<sup>1</sup> Australian Logistics Council Yearbook 2011 <http://austlogistics.com.au/>

### Costs

Costs for many of the transport infrastructure projects likely to be recommended cannot be estimated until initial assessment work is undertaken. The cost for a region wide assessment of transport infrastructure needs and priorities is estimated at \$150,000.

Total cost for a full range of initiatives is likely to be high, but with commensurate benefits. Funding is likely to be required from Federal, state and local resources.

### Stakeholders

Key stakeholders involved in these initiatives will include:

- **Project owner** – Murray Riverina Transport Taskforce (to be set up in planning stage)
- **Project investors** – RTA, DIT, ARTC
- **Beneficiaries** – Transport operators
- **Advisors** – Local government, VicRoads, Infrastructure Australia

The RDA role is likely to include sponsoring and or supporting agreed projects, attracting investment in projects, assessing and prioritising proposals, supporting business case development and facilitating stakeholder engagement

### Benefits

Estimates are that direct and flow-on GRP in the Murray Riverina region from the identified transport and logistics initiatives are positive

throughout the evaluation period. The direct and flow-on GRP are expected to peak at over \$36 million in year 2. In the peak year, the projected GRP total impact would boost the region’s total by around 0.4 per cent.

The estimates show direct household income in the Murray Riverina region is expected to increase by \$2.4 million in year 1 with the maximum boost of round \$6.8 m in year 3. Based on 2009/10 aggregate household income of approximately \$5.5 billion, this would represent an increase of 0.5 per cent in the region’s direct household income. Virtually all of the direct employment in the construction phases is expected to be located in the Murray Riverina region.

The impact on region wide employment is an expected increase of 0.4 per cent in the peak year, based on current regional employment of 122,800 in 2009-10.

### Key Performance Indicators

KPI 1	Increased freight activity
KPI 2	Increase in transport business activity and profitability trends
KPI 3	Reduction in freight transport costs
KPI 4	Gaining high productivity vehicle access to key locations
KPI 5	Increase in role and activity levels of intermodal terminals
KPI 6	Reductions in Regional transport fuel sales per kilometre as result of transport efficiency savings
KPI 7	Increase in rail and intermodal terminal market share
KPI 8	Establishment and performance of biofuels production companies

KPI 9	Regional use of biofuels and alternative vehicle fuelling and increase in percentage of ethanol in fuel sales
KPI 10	Transport and logistics related fatalities, injuries and reported collisions
KPI 11	Regional expenditure on transport safety related projects

## Health

### The industry and market

Health is a major industry in the region. At the 2006 Census the sector ranked 4th largest in terms of employment with nearly 10% of the regional employment. Based on the Shift Share analysis undertaken for the Murray part of the region, Health is a growing sector so that the relative position of Health as a regional industry is likely to have grown since 2006 and is expected to grow further into the future proportionately faster than more traditional industries.

The Murray-Riverina region is predominantly serviced by the Murrumbidgee Local Health District, with Balranald and Wentworth covered by Greater Western Area Health Service.

Based on a review of NSW's Health (2010a) list of health services, the Murray-Riverina region was serviced by approximately 32 public hospitals (facilities that provide public acute response in the Murrumbidgee Local Health District), 8 aged care services, 31 community health service centres, 16 mental health service centres, 5 sexual assault health service centres and a large number of low and high care aged care centres.

In addition, based on the latest published Primary Health Care Research and Information Service (PHCRIS) data in the Riverina Division of General Practice and Primary Health Care there was one GP for every 1240 people in the population, in the Murrumbidgee Division of General Practice 1260 and in the Albury Wodonga Regional GP Network 1067. These proportions

compared with one GP for every 910 people in NSW, 884 in Victoria and 814 in greater Sydney.

### Regional need

The regional needs associated with this opportunity are:

- Better access to quality health care in regional areas to address lower health outcomes.
- Recruitment and retention of staff to enable quality lower cost health services. Currently a high number of locums are needed in both acute and primary care and are therefore very costly.
- Taking advantage of the significant upgrade in technology expected in regions that will offer the ability to provide access to high quality services widely across regional areas through e-health applications cost effectively.

### Scope of work

#### Stage 1

Projects proposed under Stage 1 for the Murray-Riverina health opportunities include:

- Development of a pilot regional e-health network including a regional referral Hospital, anticipated to be the redeveloped Wagga Base Hospital, linked to smaller regional health precincts (for example the proposed Griffith precinct with both public and private hospital facilities and associated health services) and e-health based community Emergency Departments, Health Centres and/or GP Super Clinics linked to individual GP practices and

smaller community health facilities in a smaller towns without a permanent GP supported with appropriate e-health applications.

- Regional development, installation and support of specific e-health applications – this opportunity will involve the development of new services within the region that replace existing services currently purchased from outside the region, develop and grow new local services, and develop services that can be marketed outside the region.

#### Further stages

Following the development of Stage 1, there would be potential for several other opportunities to be realised in the Murray-Riverina health sector. For example:

- The development of a radiology service including image management services and interpretation.
- Patient records management.
- Medical education and training and professional development.
- Medical tourism.
- Deniliquin National Digital Rural and Remote Healthcare Centre.

#### Costs

Element	Cost Extension	Cost New Build
Planning	\$150,000	
Construction Preliminaries	\$117,000	\$387,000
Building Works	\$1,047,000	\$3,482,000

Element	Cost Extension	Cost New Build
External Works	\$50,000	\$620,000
CONSTRUCTION WORKS SUBTOTAL	\$1,214,000	\$4,489,000
Consultants Fees	\$163,000	\$541,000
Loose Furniture & Equipment	\$150,000	\$350,000
Design Development	\$140,000	\$485,000
Construction Contingencies	\$90,000	\$300,000
IT & Equipment	\$100,000	\$200,000
Escalation	\$80,000	\$250,000
ASSOCIATED COSTS SUBTOTAL	\$723,000	\$2,126,000
<b>PROJECT TURNOUT COST (+\$150,000 in planning costs)</b>	<b>\$1,937,000</b>	<b>\$6,615,000</b>

### Stakeholders

Key stakeholders are proposed to have the following primary roles in the development of this opportunity:

- **Project owner** – Murrumbidgee Local Health District Board, Regional Division of General Practice and Medicare Locals
- **Project investors** – DTIRIS, Department of Health and Ageing
- **Beneficiaries** – Community
- **Advisors** – NSW Health, Local government

Other stakeholders to be potentially impacted by the project that therefore need to be aware of the projects are industry suppliers, developers, installers and supporters of e-health applications; GPs

including regional Divisions of General Practice and Medicare Locals; hospitals; other medical and Allied Health Professionals; and developers and operators of Super Clinics.

In this project the RDAs suggested role involves facilitating stakeholder engagement, liaising with State and Commonwealth Government Agencies, attracting funding to address key infrastructure gaps, promoting awareness of investment opportunities, facilitating access to business advice and support services and providing project coordination as required.

### Benefits

This opportunity provides a range of on-going regional benefits including:

- Improved health outcomes
- Increased attractiveness of the region to medical and other health professionals
- Reduced cost of locums
- Opportunities for existing regional industry to support the new network and grow
- Opportunities for new businesses to start up and develop in the region
- Opportunity to extend the proposed network to provide a National Digital Rural and Remote Healthcare Centre.

Direct expenditure and employment associated with the first stage of the project peak in year three at both the regional and State level with additional direct employment at some 23 FTE people. While the numbers

drop off after the initial construction they build up again to 13 FTE jobs for the remaining part of this first stage. Given the ability to bring additional stages on line it is likely that this figure will be substantially exceeded going forward (e.g. the proposed National Digital Rural and Remote Healthcare Centre offers potential direct employment of some 76 FTE jobs in the region)

Gross Regional Product (GRP) and Gross State Product (GSP) peak in year 3 with the total GRP peaking at just over \$3million. The impact on household income also peaks in year 3 with additional household income of some \$2.25m, while direct and flow on regional employment peaks at 36 new FTE jobs in the third year.

### Key Performance Indicators

KPI 1	Similar standard health care outcomes in the region compared with the equivalent metropolitan standards.
KPI 2	Similar population numbers per medical and allied health practitioner as metropolitan areas.
KPI 3	Appropriate per patient locum costs compared with metropolitan services
KPI 4	Number of developments of or improvements to existing e
KPI 5	Qualitative effectiveness of e
KPI 6	Development of new, and growth of existing, e-health applications development and support enterprises
KPI 7	Number of local businesses providing installation and support services for e-health and other health applications in the region.
KPI 8	Number that provide similar services more widely

KPI 9	Number of regional businesses that supply direct health support services such as diagnostic and interpretation services regionally, nationally and potentially globally
KPI 10	Increased number of skilled e-health applications development and support employees/contractors
KPI 11	Increased collaboration and partnership between health providers based on service and referral mapping, MOUs and joint venture agreements
KPI 12	Increased communication between service providers
KPI 13	Number of collaborative services, research projects and other initiatives
KPI 14	Reduction in the number of health and allied health practitioner vacancies
KPI 15	Increase in the retention rate of health and allied health practitioners
KPI 16	Increased qualification levels of regional health and allied health practitioners
KPI 17	Increased ease of recruitment and shorter recruitment time period
KPI 18	Number of locums reflects the short term staffing needs such as holiday and LSL replacement and not long term use of locums for base load staffing.
KPI 19	Increase in regional based training and professional development

### Tourism

#### The industry and market

Tourism is an important industry in the Murray Riverina region which attracted nearly 1.8 million domestic overnight visitors in the year to June 2010. These visitors stayed some 4.7 million nights at an average of some

2.7 nights each visit. Domestic overnight visitation to the region has been declining a little over the past five years or so from some 2.15 million visitors and just over 6million nights at an average of 2.8 nights per visit in the year to June 2005. The fall in visitors seems to have reversed a little in the past two years while visitor nights have been broadly static in a band from some 4.5 – 5 million nights per annum since early 2006.

The main purpose of travel to the Murray region is for holiday or leisure (45% of visits and 55% of nights). However, there is also a strong Visiting Friends and Relatives (VFR) motivation (32% of both visits and nights). The main purpose for travel to the Riverina region in the year end to June 2010 was VFR (nearly 38% of visits and 47% of nights) followed by holiday and leisure (31% visits and 28% nights). Riverina has a very successful Ambassador program to encourage extra visits and longer visits to friends and relatives. They have done a lot of things to educate locals and encourage them to participate in the program. There may be an opportunity to extend this program including providing similar and/or additional incentives to local residents and their friends and relatives in the Murray region to encourage visitors to stay longer or make more visits.

The main transport to the region is by private or company vehicle estimated at over 85% of trips in both Murray and Riverina. Air travel accounted for some 5-6% of trips. The use of camper vans or motor homes was third most used travel option in some periods indicating the growing popularity of this form of transport and significance of the 'grey nomad' market. There is also a backpacker segment, including both domestic and international travellers.

## Regional need

The regional need in tourism is to:

- Increase the value of Murray-Riverina tourism as it is currently underperforming relative to its potential.
- Improve the tourism product and consistency in quality of services offered

## Scope of work

### Stage 1

The initial projects proposed for the tourism opportunity involve:

- Development of a themed east west Sturt Highway Touring Route to complement the very successful Long Paddock Cobb Highway Touring Route.
- Developing a food and wine trail through Leeton and Griffith and linked as an added loop from the Sturt Highway Touring Route.
- Associated development of new businesses.
- Monitoring and evaluation program to provide fit-for-purpose information on the tourism industry in the Murray Riverina region.
- Quality improvement systems.

### Further stages

Following on from Stage 1, potential additional projects include:

- Developing a Ned Kelly touring route.

- Developing a nature-based touring route.
- Developing an indigenous touring route, with one or more cultural centres.

### Costs

Element	Cost (\$M)
<b>Sturt Highway Touring Route</b>	
Research and consultation	.05
Capital Cost	8
Business Development Program	.05
Annual Operating Costs	.1
<b>Food and wine trail</b>	
Project planning	0.2
Signage and promotion material	1.0
Annual Operating Costs	.05
<b>Monitoring and Evaluation</b>	
Data collection method development	.02
Data Collection per program	.02-.1
<b>Quality improvement systems</b>	
Training programs	0.4
Data collection	0.2
Program management	0.1
<b>SUB TOTAL (Development)</b>	<b>9.9</b>

Element	Cost (\$M)
Contingency (15%)	1.5
<b>TOTAL INDICATIVE (Development) COST</b>	<b>11.4</b>
<b>SUB TOTAL (Annual Operations)</b>	.25-.35
Contingency (10%)	.025-.035
<b>TOTAL INDICATIVE (Annual Operations) COST</b>	<b>.275-.385</b>

### Stakeholders

Key stakeholders are proposed to have the following primary roles in the development of this opportunity:

- **Project owner** – Murray Now, Riverina Tourism Association, Long Paddock Touring Route and supporting local government authorities, Murray Regional Tourism Board
- **Project investors** – DTIRIS, CRC for Sustainable Tourism / Southern Cross University
- **Beneficiaries** – Local businesses, tourism operators
- **Advisors** – Tourism NSW, Tourism Victoria, local government (Victoria and NSW)

Other stakeholders to be potentially impacted by the project that therefore need to be aware of the projects are local business,

In this project the RDAs suggested role involves facilitating stakeholder engagement, liaising with State and Commonwealth Government Agencies, attracting funding to address key infrastructure gaps, promoting awareness of investment opportunities, facilitating access to business

advice and support services and providing project coordination as required.

### Benefits

Based on the assumptions and discussions above the overall project benefits exceed the costs by just over 5 times. This suggests that on a conservative basis the estimated benefits to the region in terms of additional visitor income would be approximately \$5 for every \$1 invested in the project.

The direct expenditure and employment on the first stage of the project is expected to peak in year three at both the regional and State level with additional regional direct employment at this stage of some 21 FTE people.

Both the GRP and the GSP also peak in year 3 with the total GRP peaking at just over \$3million. The impact on household income again peaks in year 3 of regional income with additional household income of some \$2.4m.

Direct and flow on employment impacts with regional employment peak at 38 new FTE jobs in the third year.

### Key Performance Indicators

KPI 1	Increase tourism related employment from X to X.
KPI 2	Increase tourism related expenditure from X to X.
KPI 3	Increase tourism related businesses
KPI 4	Implementation of the food and wine trial by Dec 2012.
KPI 5	Increase the number and quality of regional recreational and day trip

	opportunities
KPI 6	Increase the number and quality of cafes, restaurants and other tourism and hospitality businesses that also offer increased amenity to local residents.
KPI 7	Improve access to regional natural and cultural heritage places for visitors and residents.
KPI 8	Increase tourism contribution to the gross regional product from X to X.
KPI 9	Reduce regional unemployment.
KPI 10	Increase opportunities to gain new skills and experience in both paid and volunteer employment.

## Enablers

### Investment attraction strategy

A key enabler for the RDAs in implementing the program of opportunities is investment and funding. During the planning and validation stages, a core objective should be to undertake a detailed analysis of each opportunity to provide cost estimates which are more robust and accurate.

Part of the RDAs' role in the proposed program of opportunities is associated with coordinating and attracting investment, so there is a need for an overall investment attraction strategy to be owned and driven by

the RDAs. It should outline the specific benefits the region offers to qualified potential investors so that industry/business is attracted based on significant and sustainable benefits specific to them.

Figure 5 shows that the cost of the transport and forestry opportunities is expected to be significantly more than the education, health and tourism opportunities combined. This is predominantly due to the need for greater capital investment in infrastructure but also reflects that the health and education opportunities only cover and cost the first stage of development. Later stages of the proposed projects will require further funding but also offer increasing benefits.

The graphs from Figure 6 to Figure 9 provide a breakdown of the costs of each opportunity by program stage (planning, validation and implementation). The key point illustrated by these graphs is that the implementation costs are much greater than both the planning and validation costs together.

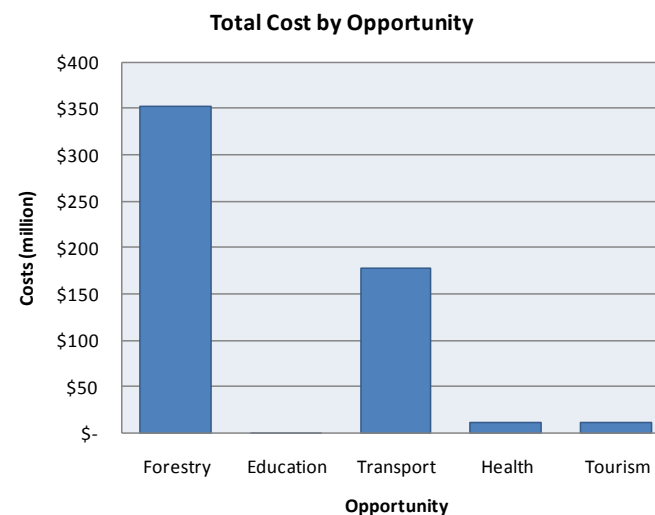


Figure 5 Total costs of each opportunity

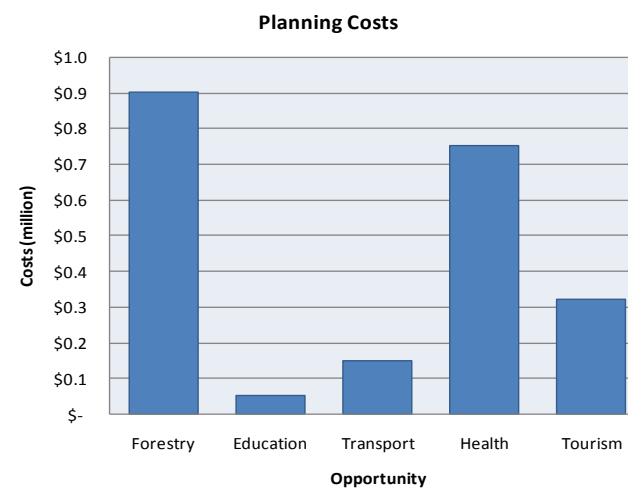


Figure 6 Planning stage costs by opportunity

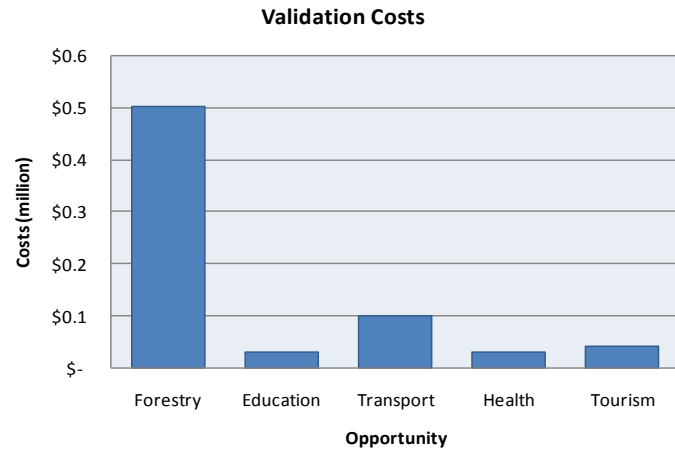


Figure 7 Validation stage costs by opportunity

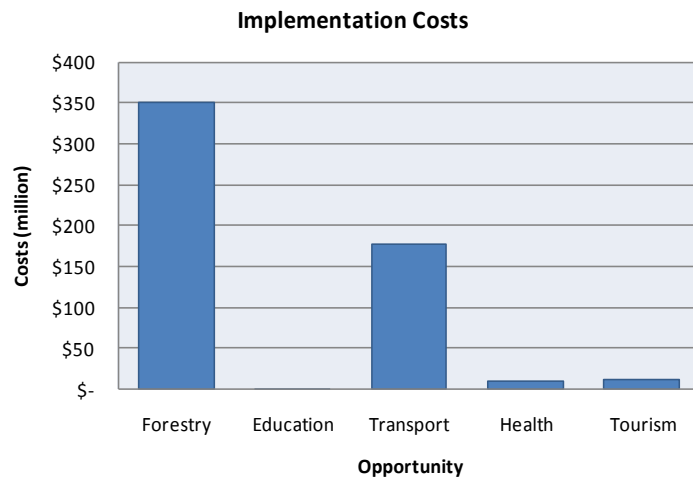


Figure 8 Implementation stage costs by opportunity

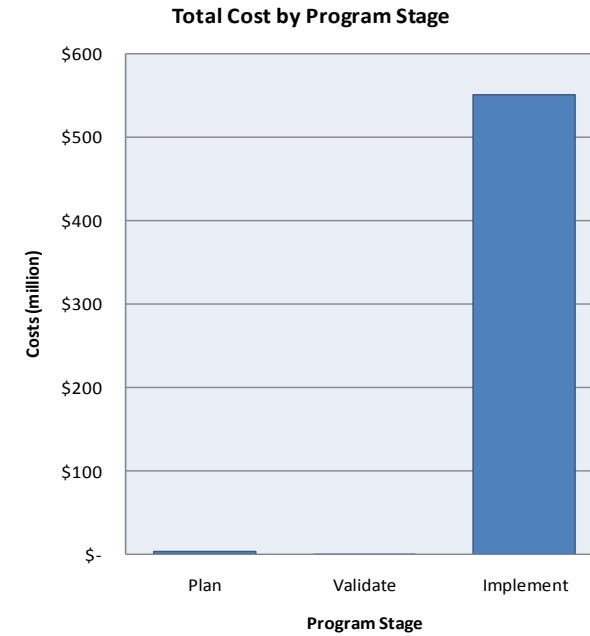


Figure 9 Total costs by stage

## Effective governance and commercial mechanisms

Although there are already some working groups set up for some of the opportunities, similar groups need to be established for others. These should include representatives from industry, local and state government, and other key regional representatives relevant to the opportunity. The structure and model for these groups should be based on existing groups which have been deemed successful (e.g. Softwoods Working Group).

## Program management

Program management is another key part of the RDAs' proposed role in this program of works. The RDAs need to provide oversight of project activities to ensure project goals are successfully met and dependencies and synergies between the projects are addressed. The RDAs' program management arrangements must be strongly connected to the governance structures put in place.

## Economic Impact of the Total Opportunity Program

This section indicates the direct and flow on impacts of the program of the five opportunities over the first five years of implementation and operation. The estimates are based on aggregating the impact estimates for the individual projects. On this basis the results assume that the region has the capacity to support all these projects as scheduled over a five year period.

This initial five year period also includes the initial planning and development of the individual projects which in some cases (for example forestry and transport) assumes significant construction expenditure which will not be repeated during operation although there may be significant periodic maintenance expenditures. In addition, some of the projects (for example health and education) will open opportunities for additional developments including significant development expenditure and benefits beyond the five year horizon.

On this basis the aggregate estimates below are indicative rather than substantive.

A summary of these data is provided in the project summaries in this document and more detail on the economic impacts of each project is provided in the respective business case documents.

Table 4 indicates the estimated direct expenditure and employment attributable to the program of projects would peak in the third year.

Table 4: Total Program – Direct Expenditure and Employment

Years	1	2	3	4	5
<b>Murray - Riverina</b>					
Goods & Services (\$M)	8.71	14.311	99.29	16.647	54.02
Labour (M)	2.505	8.016	16.738	8.034	15.402
Employment (FTE)	33	106	222	106	205
<b>Total NSW</b>					
Goods & Services (\$M)	8.815	22.276	107.438	23.258	60.794
Labour (M)	2.505	9.08	18.201	8.034	15.402
Employment (FTE)	33	121	243	106	205

Table 5 indicates the potential impact on the region's Gross Regional Product (GRP) and Gross State Product (GRP). Both the GRP and GSP peak in year 3 with the estimated GRP peaking at just over \$88million in year 3 or some 0.9% of the total GRP.

Table 5: Total Program – Direct and Flow on GRP and GSP

Years	1	2	3	4	5
<b>Murray - Riverina</b>					
Direct	2.475	8.016	16.696	8.034	15.374
Flow-on	6.484	12.794	71.47	14.404	40.415
Total	8.959	20.811	88.165	22.436	55.787
<b>Total NSW</b>					
Direct	2.475	9.08	18.159	8.034	15.374
Flow-on	13.147	27.192	126.886	26.993	83.217
Total	15.622	36.274	145.046	35.025	98.691

Table 6 indicates the impact on household income. This is expected to increase to over \$61million in the peak third year with the total state household income rising to a little short of \$100million.

Table 6: Total Program – Direct and Flow on Household Income

Years	1	2	3	4	5
<b>Murray - Riverina</b>					
Direct	2.475	8.016	16.696	8.034	15.374
Flow-on	3.9409	7.431	44.569	8.415	24.671
Total	6.424	15.446	61.264	16.448	40.143
<b>Total NSW</b>					
Direct	2.475	9.08	18.159	8.034	15.374
Flow-on	8.054	16.251	78.449	16.104	51.079
Total	10.529	25.332	96.608	24.136	66.452

Table 7 indicates the employment impacts with regional employment increases in total of over 1,100 FTE in the peak third year and some 1,333FTE additional employment in NSW.

Table 7: Total Program – Direct and Flow on Employment

Years	1	2	3	4	5
<b>Murray - Riverina</b>					
Direct	33	106	222	106	205
Flow-on	78	150	900	168	478

Total	112	256	1124	274	685
<b>Total NSW</b>					
Direct	33	121	243	106	205
Flow-on	88	243	1090	238	665
Total	122	363	1333	344	871

## Next steps

The section outlines the key early steps and stakeholders to be involved in implementing each of the initiatives.

### Forestry

ID	Task	Timeframe	Lead stakeholder(s)
	<b>Softwood plantation expansion:</b>		
FO1	Mobilise the Murray RDA Softwoods Working Group to develop a proposal and secure funding for a consultancy to develop a new investment framework for commercial forestry plantations (building on recent work for Forest and Wood Products Australia).	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>Murray RDA Softwoods Working Group</li> </ul>
FO2	Form a project control group from the Working Group to oversee the contracting and delivery of the project.	Year 1 / 2 Jan – Dec 2012	<ul style="list-style-type: none"> <li>Murray RDA Softwoods Working Group</li> </ul>
	<b>Upgrade backbone and primary road network:</b>		
FO3	Mobilise the Murray RDA Softwoods Working Group to commence engagement of key stakeholders expected to contribute to the government-industry taskforce for the road project.	Year 1 Jul – Dec 2012	<ul style="list-style-type: none"> <li>Murray RDA Softwoods Working Group</li> </ul>
FO4	Develop a proposal and secure funding for a consultant/contractor to facilitate the taskforce and develop the action plan to upgrade the road network.	Year 1 / 2 Jan – Dec 2012	<ul style="list-style-type: none"> <li>Murray RDA Softwoods Working Group</li> </ul>

## Education

ID	Task	Timeframe	Lead stakeholder(s)
ED1	Discuss the proposal and promote the concept with the CSU, Riverina TAFE and other relevant education and training and R&D bodies (e.g. such as CSIRO) to get their support and input	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
ED2	Work with these bodies to identify and promote the project to other key stakeholders including industry assistance bodies/agencies, regional and local government economic development bodies and relevant R&D bodies wherever located	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
ED3	Governance arrangements: <ul style="list-style-type: none"> <li>■ Establish an appropriate development coordinating body</li> <li>■ Establish a working party to review the project and develop it further as necessary</li> </ul>	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
ED4	Develop with CSU, Riverina TAFE, other relevant education and training and R&D bodies and other key stakeholders a presentation package to promote the concept to all levels of government	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Development coordinating body</li> </ul>
ED5	Support/facilitate a series of presentations/workshops and other forums as appropriate to promote the requirements and benefits of the project to regional industry, industry assistance bodies/agencies, regional and local government economic development bodies and any other relevant bodies	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
ED6	Support the working party to refine the concept as necessary including but not limited to: <ul style="list-style-type: none"> <li>■ Determining whether the education and training and R&amp;D databases should be managed by a single body or whether they should be separate</li> <li>■ Determining an appropriate governance and management structure for each activity or for the whole concept as appropriate. This should include consideration of funding and pricing including commercial and membership models</li> <li>■ Identifying potential “host” organisations</li> <li>■ Determining the information requirements to be available on the Education and Training and the R&amp;D</li> </ul>	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> <li>■ Development coordinating body</li> </ul>

ID	Task	Timeframe	Lead stakeholder(s)
	<p>databases</p> <ul style="list-style-type: none"> <li>■ Determining the approach for obtaining the initial basic information, e.g. survey of education and training providers and R&amp;D bodies</li> </ul>		
ED7	<p>Provide support for funding applications for project development activities including:</p> <ul style="list-style-type: none"> <li>■ Developing a system specification for the database(s) and the user interface. This will involve education and training providers and R&amp;D bodies being able to add new information and amend existing information about their offerings and work and industry and other users being able to tap in to understand what is on offer. It will also require the ability for providers and users to ask question and verify information and at some stage to talk to each other directly</li> <li>■ Based on the specification, identifying or developing an appropriate database structure and user interface for the Education and Training and the R&amp;D information</li> <li>■ Identifying existing and potential promotional channels including but not limited to industry assistance bodies, VET and R&amp;D bodies</li> <li>■ Any necessary seeding funding to establish the service. It is anticipated that the service would become self funding over an agreed period</li> </ul>	<p>Year 2 Jul – Dec 2012</p>	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> <li>■ Development coordinating body</li> </ul>
ED8	<p>In parallel with the development of the database project confirm with stakeholders the current range of education and training and R&amp;D and innovation forums across the region that could be promoted as part of the region's innovation base. This could include but not be limited to technology networks, technology and innovation clusters and parks/precincts, regular relevant conferences and meetings, newsletters etc.</p>	<p>Year 2 Jul – Dec 2012</p>	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
ED9	<p>Report on or promote reports from partner organisations on implementation including case studies of successful developments and practice.</p>	<p>Ongoing</p>	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>

## Transport

ID	Task	Timeframe	Lead stakeholder(s)
TR1	Establish Transport Working Group (see tasks FO3 and FO4 under forestry – membership between the two groups is likely to overlap, so using the same group with additional transport industry representatives is recommended).	Year 1 Jul 2011 – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> </ul>
TR2	Obtain funds to undertake a strategic route study.	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> <li>■ RDA Transport Working Group</li> </ul>
TR3	Undertake a strategic route study.	Year 2 Jul – Dec 2012	<ul style="list-style-type: none"> <li>■ RDA Transport Working Group</li> </ul>
TR4	Promote projects and activities which provide best value in terms of infrastructure investment and explore co-funding opportunities	Ongoing	<ul style="list-style-type: none"> <li>■ RDA Riverina and RDA Murray</li> <li>■ RDA Transport Working Group</li> </ul>

## Health

ID	Task	Timeframe	Lead stakeholder(s)
HE1	Discuss the proposal with the Murrumbidgee Local Health District (MLHD) to get their support. MLHD will need to be a sponsor or partner in this project.	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> </ul>
HE2	Work with MLHD to identify and promote the project to other key stakeholders e.g. the relevant Medicare Local(s), other key health professionals.	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ MLHD</li> </ul>
HE3	Governance arrangements: <ul style="list-style-type: none"> <li>■ Establish an appropriate coordinating body</li> <li>■ Establish a working party to review the project and develop it further as necessary</li> </ul>	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> </ul>
HE4	Develop with MLHD and the key stakeholders a presentation package to promote the concept to all levels of government.	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ MLHD</li> <li>■ Coordinating body</li> </ul>
HE5	Support/facilitate a series of presentations/workshops and other forums as appropriate to promote the requirements and benefits of the use of e-health across the region to key members of the health profession and the regional community.	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ MLHD</li> <li>■ Coordinating body</li> </ul>
HE6	Provide support for funding applications for relevant projects that progress the project objectives.	Ongoing	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> </ul>
HE7	Report on or promote reports from partner organisations on implementation including case studies of successful developments and practice.	Ongoing	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> </ul>

## Tourism

ID	Task	Timeframe	Lead stakeholder(s)
	<b>Finalise project scope and budget</b>		
TO1	<ul style="list-style-type: none"> <li>Finalise project scope and required budget</li> <li>Develop financial plan</li> </ul>	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>RDA Murray and RDA Riverina</li> <li>Murray Regional Tourism Board</li> <li>Riverina Tourism Association</li> </ul>
TO2	<ul style="list-style-type: none"> <li>Identify process for sharing costs between the participants and other stakeholders</li> <li>Develop full proposal including funding application for relevant state and commonwealth consideration</li> </ul>	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>RDA Murray and RDA Riverina</li> <li>Murray Regional Tourism Board</li> <li>Riverina Tourism Association</li> </ul>
	<b>Develop implementation plan</b>		
TO3	<ul style="list-style-type: none"> <li>Finalise project governance arrangements</li> <li>Develop risk management strategy</li> <li>Launch the project.</li> </ul>	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>RDA Murray and RDA Riverina</li> <li>Murray Regional Tourism Board</li> <li>Riverina Tourism Association</li> </ul>
	<b>Gain stakeholder buy-in and confirm management arrangements for the extended Long Paddock Touring Route.</b>		
	<p>Confirm process for extending the Long Paddock Touring Route including:</p> <ul style="list-style-type: none"> <li>Support and participation by additional Councils</li> <li>New Council support arrangements</li> <li>Management by existing LPTR staff and process for managing the extended route</li> </ul>	Year 1 Jul – Dec 201	<ul style="list-style-type: none"> <li>Long Paddock Touring Route</li> </ul>

ID	Task	Timeframe	Lead stakeholder(s)
	Conduct community research and consultation on the extended Long Paddock Sturt Highway Touring Route history	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ Long Paddock Touring Route</li> </ul>
	Develop interpretation themes and delivery process including links with the existing route	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Long Paddock Touring Route</li> </ul>
	Determine additional business development process	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Long Paddock Touring Route</li> <li>■ RDA Murray</li> </ul>
	Develop communication plan including marketing and promotional strategy and potential materials	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Long Paddock Touring Route</li> </ul>
	Align final project design with stakeholder needs	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Long Paddock Touring Route</li> <li>■ RDA Murray</li> </ul>
	<b>Gain stakeholders buy-in and confirm management arrangements Wine and Food Trail.</b>		
	Identify participants in the trail and determine participation process, criteria, benefits and responsibilities.	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> <li>■ RDA Riverina</li> </ul>
	Confirm participant and other stakeholder support	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> <li>■ RDA Riverina</li> </ul>
	Conduct targeted community research and consultation to determine theme and branding including logo and signage	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> </ul>
	Identify gaps in product and determine any required additional business development process	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> <li>■ RDA Riverina</li> </ul>
	Confirm management arrangements	Year 1	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> </ul>

ID	Task	Timeframe	Lead stakeholder(s)
		Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ RDA Riverina</li> </ul>
	Develop communication plan including marketing and promotional strategy and potential materials	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> </ul>
	Align final project design with participant and other relevant stakeholder needs	Year 1 Jan – Jun 2012	<ul style="list-style-type: none"> <li>■ Riverina Tourism Association</li> <li>■ RDA Riverina</li> </ul>
	<b>Develop Monitoring and evaluation and quality improvement systems</b>		
	Conduct research and consultation with the industry and other key stakeholders to identify and/or develop and agree a monitoring and evaluation and quality assurance process	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ Murray Regional Tourism Board</li> <li>■ Riverina Tourism Association</li> </ul>
	Establish an implementation working group	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ Murray Regional Tourism Board</li> <li>■ Riverina Tourism Association</li> </ul>
	Document the benefits to the industry from the proposal	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ Murray Regional Tourism Board</li> <li>■ Riverina Tourism Association</li> </ul>
	Determine implementation plan: <ul style="list-style-type: none"> <li>• Review and confirm the implementation cost and timing</li> <li>• Determine an appropriate staged process for implementation</li> <li>• Develop a detailed implementation plan</li> <li>• Present to industry and confirm participants.</li> </ul>	Year 1 Jul – Dec 2011	<ul style="list-style-type: none"> <li>■ RDA Murray and RDA Riverina</li> <li>■ Murray Regional Tourism Board</li> <li>■ Riverina Tourism Association</li> </ul>

## Glossary

### Abbreviation

ARTC	Australian Rail Track Corporation
CSU	Charles Sturt University
DAFF	Department of Agriculture, Forestry and Fisheries
DET	Department of Education and Training NSW
DHA	Department of Health and Ageing
DIT	Department of Infrastructure and Transport
DTIRIS	Department of Trade, Investment, Regional Infrastructure and Services
MDBA	Murray Darling Basin Authority
RTA	Roads and Traffic Authority
SEWPAC	Department of Sustainability, Environment, Water, Population and Communities