

Active Transport: Developing economic  
assessments for cycling and walking  
infrastructure in South Australia

Health in All Policies:  
Health Lens Analysis Project

June 2011



Government  
of South Australia

SA Health

# Active Transport Health Lens Project Proposal

*N.B. This Project Proposal was not endorsed as per the usual Health in All Policies approach, as the Health Lens project was completed by the time the proposal was finalised. This project followed a targeted policy review, which involved a more focused process than a full Health Lens Analysis.*

## 1. PROJECT TITLE

Active Transport: Developing economic assessments for cycling and walking infrastructure in South Australia.

## 2. AIM

To develop economic assessments for cycling and walking infrastructure in South Australia.

## 3. PROJECT PARTNERS

This project will be conducted jointly by the Office for Cycling and Walking (OCW) in the Department for Transport, Energy and Infrastructure and the Health in All Policies (HiAP) unit in SA Health. The OCW and HiAP will be jointly responsible for the management and delivery of this project.

OCW provides cycling and walking policy and investment advice for DTEI. OCW has a large knowledge base on which to draw in regards to supporting appropriate and safe cycling and walking infrastructure.

HiAP is a collaborative process between SA Health and other government agencies which involves assessing and analysing proposals, plans and policy decisions. The core aim of HiAP is to optimise population health goals while simultaneously contributing to the achievement of other departments or partner agencies' goals. The Executive Committee of Cabinet's Chief Executives Group (CEG) called for the HiAP approach to be applied to cycling and for there to be a comprehensive and coordinated approach to support appropriate and safe infrastructure for cycling.

OCW and HiAP will consult with other relevant stakeholders. In particular, it is noted that the Department of Treasury and Finance have specific expertise in economic modelling and an important policy interest in the transport area given the Government's interest in creating more cycling and walking communities for the social, health and transport benefits this would deliver the State.

## 4. PROJECT DESCRIPTION

This project is for consideration by CEG.

Transport infrastructure is central to the economic viability of the state. The mobility produced through transport also supports the community in accessing life's resources: employment, education, social services, goods, health services, recreation etc.<sup>1</sup> Mobility is central to a well functioning society and South Australia's transport system supports such mobility. However, in order to support this effective transport system congestion needs to be contained, road infrastructure costs need to be managed, and noise and air pollution needs to be controlled.

Cycling and walking (active transport)<sup>2</sup> has the potential to contribute to controlling these concerns, while supporting the State's economic, social and environmental capital. Active transport can contribute to a reduction in congestion. This, in turn, decreases the travel time for other road users, increasing productivity. Decongestion also contributes to reduced vehicle operating costs (including that of public transport), reduced road infrastructure costs, and reduced parking costs. In addition reduced vehicle use decreases greenhouse gas emissions, increases air quality, and decreases noise pollution. Walking and cycling also contribute to community liveability and social connectedness. In addition, cycling can work to complement public transport use – encouraging cycling to the station can increase the stations catchment area by a factor of 15.<sup>3</sup>

In addition, cycling and walking can contribute to reducing SA Health's disproportionate share of the state budget. Chronic disease within the population is consistently consuming a large part of the State's budget, at the expense of other important concerns, such as transport. Physical inactivity is one of the five main risk factors for chronic disease, and contributes to three others of these – obesity, high cholesterol levels and high blood pressure.<sup>4</sup> Cycling and walking are affordable, low impact forms of physical activity that can be incorporated into daily activities, particularly if used as forms of transport.<sup>5</sup> Some evidence suggests that lower rates of obesity occur in countries where people use active

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<sup>1</sup> UNECE/WHO, Transport, Health and Environment Pan-European Programme (THE PEP), *Economic valuation of transport-related health effects: Review of methods and development of practical approaches, with a special focus on children (Summary)*  
<[http://www.euro.who.int/\\_data/assets/pdf\\_file/0004/87484/PEP\\_EconValSum.pdf](http://www.euro.who.int/_data/assets/pdf_file/0004/87484/PEP_EconValSum.pdf)>

<sup>2</sup> Active transport in this project is defined as using cycling and walking as forms of transport, rather than as leisure activities. Unlike some definitions of active transport, public transport is not included here.

<sup>3</sup> Bauman A., Rissel C., Garrard J., Ker I., Speidel R., Fishman E., 2008 *Cycling: Getting Australia Moving: Barriers, facilitators and interventions to get more Australians physically active through cycling*, Cycling Promotion Fund, Melbourne. p.31.  
<http://www.cyclingpromotion.com.au/content/view/333/145/>

<sup>4</sup> Bauman A., Rissel C., Garrard J., Ker I., Speidel R., Fishman E., 2008 *Cycling: Getting Australia Moving: Barriers, facilitators and interventions to get more Australians physically active through cycling*, Cycling Promotion Fund, Melbourne. p.1.  
<http://www.cyclingpromotion.com.au/content/view/333/145/>

<sup>5</sup> Cycling Promotion Fund and Bicycle Federation of Australia, *Health benefits of cycling*, <[http://www.cyclingpromotion.com.au/images/stories/factsheets/1\\_TheHealthBenefitsOfCycling.pdf](http://www.cyclingpromotion.com.au/images/stories/factsheets/1_TheHealthBenefitsOfCycling.pdf)>

transport.<sup>6</sup> Further, a Danish study found that cycling to work reduces all-cause mortality risk, providing clear and positive evidence regarding the role of active commuting in improving health outcomes.<sup>7</sup> In the Australian context, Australians who drive to work are 13% more likely to be overweight or obese and are less likely to engage in adequate levels of physical activity.<sup>8</sup> A recent Australian study surveys the increasing body of evidence that correlates the design of walkable neighbourhoods with greater levels of walking and lower levels of obesity.<sup>9</sup> Footpaths, cycling infrastructure, pedestrian crossings and the like that support and encourage active transport have the potential to significantly reduce the economic health burden of physical inactivity.

The South Australian Government is actively encouraging cycling and walking. This support for cycling is apparent through the *Safety in Numbers: A Cycling Strategy for South Australia 2006-2010*, various tourism initiatives (such as the high profile Tour Down Under), and through planning initiatives (such as the focus on transit-oriented developments<sup>10</sup> in the 30-Year Plan for Greater Adelaide). The importance of walkability is recognised in the focus on transit-oriented developments in the 30-Year Plan for Greater Adelaide.

While cycling and walking have these transport and health benefits, and are recognised and promoted by the State Government, often bids for funding for cycling and walking infrastructure do not successfully compete with other transport projects. OCW has identified the need for a recognised methodology to quantify the economic benefits of cycling and walking to “make a strong case” to win funding for such projects. Currently, projects are argued on their strategic fit rather than their economic merit. The economic arguments are not well understood and there is no recognised method for quantifying the benefits of cycling and walking projects.

Accordingly, this project will explore ways in which to strengthen economic arguments for cycling and walking infrastructure and to develop an appropriate and acceptable method for economic appraisals of cycling and walking. It will do this by considering international best

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<sup>6</sup> Cycling Promotion Fund and Bicycle Federation of Australia, *Health benefits of cycling*, <[http://www.cyclingpromotion.com.au/images/stories/factsheets/1\\_TheHealthBenefitsOfCycling.pdf](http://www.cyclingpromotion.com.au/images/stories/factsheets/1_TheHealthBenefitsOfCycling.pdf)>

<sup>7</sup> Fiona Bull, Adrian Bauman, Bill Bellew, Wendy Brown, August 2004, *Getting Australia Active II: An update of evidence on physical activity for health*, <[http://www.nphp.gov.au/publications/documents/gaa\\_2\\_section\\_1\\_ver1.pdf](http://www.nphp.gov.au/publications/documents/gaa_2_section_1_ver1.pdf)>

<sup>8</sup> Cycling Promotion Fund and Bicycle Federation of Australia, *Health benefits of cycling*, <[http://www.cyclingpromotion.com.au/images/stories/factsheets/1\\_TheHealthBenefitsOfCycling.pdf](http://www.cyclingpromotion.com.au/images/stories/factsheets/1_TheHealthBenefitsOfCycling.pdf)>

<sup>9</sup> Australian Institute of Health and Welfare, March 2001, *Health and the Environment; A Compilation of the Evidence*, <http://www.aihw.gov.au/publication-detail/?id=10737418534&libID=10737418533&tab=2>

<sup>10</sup> TODs are mixed use developments located near public transport facilities which recognise the centrality of transport to planning for healthy communities. See the 30-Year Plan for Greater Adelaide, <<http://www.dplg.sa.gov.au/plan4adelaide/index.cfm>>

practice in regards to economic appraisals of cycling and walking and tailoring these to the South Australian context. Advice will be sort from various economists with a diverse range of expertise, including those working within DTEI. In addition, as the final decision makers regarding transport projects, Treasury will be closely consulted.

## 5. CONTEXT – DESCRIPTION OF CURRENT SITUATION

At an international and national level there is an increasing focus on the economic benefits of cycling and walking, including the health benefits of these activities, though this work is in its early stages. At an international level, in 2008 the United Nations Economic Commission for Europe and the World Health Organisation, under their Transport, Health and Environment Pan-European Programme (THE PEP) released a methodological guide on appraising the health effects of cycling and walking.<sup>11</sup> In the same year New Zealand's Transport Agency released a report on valuing the economic impact of active transport modes.<sup>12</sup> In 2010, the UK government produced a guide on the appraisal of walking and cycling schemes.<sup>13</sup> In March 2011 the Canadian Victoria Transport Policy Institute released its Evaluating Non-Motorized Transportation Benefits and Costs.<sup>14</sup>

At the national level, there has been some focus on the benefits of cycling, though less attention on the benefits of walking. In 2007 the Cycling Promotion Fund, commissioned by the Commonwealth Department of Health and Ageing, valued the benefit of commuter cycling to capital cities at between \$1,527 to \$2,018 million.<sup>15</sup> In April 2010, the City of Sydney commissioned AECOM Australia to undertake a demand assessment and economic appraisal of the Sydney Regional Bicycle Network.<sup>16</sup> With respect to walking, in November

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<sup>11</sup> The PEP, 2008, *Methodological Guidance on the Economic Appraisal of Health Effects Related to Walking and Cycling: Summary* Economic assessment of transport infrastructure and policies

<[http://www.thepep.org/en/workplan/candw/documents/Guidance\\_document\\_summary.pdf](http://www.thepep.org/en/workplan/candw/documents/Guidance_document_summary.pdf)>  
See also, <[http://www.thepep.org/en/workplan/candw/candw\\_docs.htm](http://www.thepep.org/en/workplan/candw/candw_docs.htm)>

<sup>12</sup> Genter, JA, Donovan, S, Petrenas, B & Badland, H (2008), Valuing the health benefits of active transport modes, NZ Transport Agency research report 359, New Zealand Transport Agency, accessible from

<<http://www.nzta.govt.nz/resources/research/reports/359/index.html>>

<sup>13</sup> UK government, Guidance on the Appraisal of Walking and Cycling Schemes TAG Unit 3.14.1 January 2010 Department for Transport Transport Analysis Guidance (TAG) <http://www.dft.gov.uk/webtag/documents/expert/pdf/unit3.14.1.pdf>

<sup>14</sup> <http://www.vtppi.org/nmt-tdm.pdf>

<sup>15</sup> Bauman A., Rissel C., Garrard J., Ker I., Speidel R., Fishman E., 2008 *Cycling: Getting Australia Moving: Barriers, facilitators and interventions to get more Australians physically active through cycling*, Cycling Promotion Fund, Melbourne. p.5.

<http://www.cyclingpromotion.com.au/content/view/333/145/>

<sup>16</sup> AECOM Australia Pty Ltd Inner Sydney Regional Bicycle Network: Demand Assessment and Economic Appraisal, City of Sydney 15 April 2010

<[http://www.sydneymedia.com.au/asset/2/upload/AECOM\\_Report\\_April\\_2010.pdf](http://www.sydneymedia.com.au/asset/2/upload/AECOM_Report_April_2010.pdf)>

2010 the NSW Government released a methodology that would allow walking initiatives to be subject to a cost benefit analysis for the purposes of the New South Wales treasury process.

All of these economic appraisals of cycling and walking adopt slightly different methodologies. They are also in the early stages of development and adoption, and need to be assessed for their rigour. The project will assess which of these, if any, are appropriate for the South Australian context.

In order to apply an economic appraisal of cycling and walking it is necessary to be able to predict the number of cyclists and walkers that will utilise the facility. The economic studies mentioned above offer methods by which to assess demand for cycling and walking. This project will review existing demand assessment methodologies, identify any cycling and walking data gaps that currently exist in South Australia, and make recommendations on cycling and walking demand assessment methodologies for use in South Australia .

## 6. POLICY DRIVERS

This project intends to develop an adequate and acceptable methodology for assessing the costs and benefits of cycling and walking projects. The current lack of such a methodology creates a policy barrier to achieving consistent support for cycling and walking projects in South Australia. Both DTEI and SA Health share a desire to increase cycling and walking in South Australia. There are a number of Federal and State government initiatives that are consistent with this focus.

The State Government's *Safety in Numbers a Cycling Strategy for South Australia (2006-2010)* has the goal of 'more people cycling more often in South Australia'. In December 2006 the *bikedirect* network consisted of 339 kms of bicycle lanes and 265 kms of off road sealed path, a total of 604 kms. In December 2010 the network consists of 450 kms of bicycle lanes and 369 kms of off road sealed path, a total of 909 kms. Since 2006 the length of facilities on the *bikedirect* network has increased by 50%.

In addition, the South Australian Government's focus on Transit Oriented Developments (TODs) in the 30-Year Plan for Greater Adelaide recognises that transport and planning are intricately connected and that community wellbeing and sustainability are important elements of society. Well functioning TODs support active transport options as affordable and sustainable forms of mobility.<sup>17</sup> The 30 Year Plan supports the development of a built form that encourages walking and cycling including streetscapes and a network of Greenways that

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<sup>17</sup> Victoria Transport Policy Institute, 14 June 2010, *Evaluating Public Transportation Health benefits*, p.3.  
[http://www.apta.com/resources/reportsandpublications/Documents/APTA\\_Health\\_Benefits\\_Litman.pdf](http://www.apta.com/resources/reportsandpublications/Documents/APTA_Health_Benefits_Litman.pdf)

include cycling and walking routes. Good walking access to public transport stations is essential to encouraging patronage: furthermore, encouraging cycling can increase a stations catchment by a factor of 15.

Earlier this year the Australian Transport Council (Commonwealth, State and Territory Transport Ministers) approved for release a new National Cycling Strategy 2011-2016. The Strategy sets out a series of actions that will help to deliver its overarching vision which is to double the number of people cycling in Australia over the next five years. All metropolitan and many regional Councils in SA have developed Local Area Bicycle Plans with the intention of increasing the amount of cycling in their community.

There is neither a national nor a South Australian Strategy for walking. Some local councils have prepared strategic walking plans in conjunction with their Local Area Bicycle Plans. Western Australia, Victoria and Tasmania have walking or pedestrian strategies and New South Wales has recently developed a Strategy.

Increasing active transport would support a number of State Strategic Plan Targets, including:

- **T1.15 Tourism industry** - Increase visitor expenditure in South Australia's tourism industry from \$3.7 billion in 2002 to \$6.3 billion by 2014.
- **T3.5 Greenhouse gas emissions reduction** - Achieve the Kyoto target by limiting the state's greenhouse gas emissions to 108% of 1990 levels during 2008-2012, as a first step towards reducing emissions by 60% (to 40% of 1990 levels) by 2050.
- **T2.3 Sport and Recreation** - Exceed the Australian average for participation in sport and physical activity by 2014
- **T2.2 Healthy Weight** - Increase the proportion of South Australians 18 and over with healthy weight by 10 percentage points by 2014.
- **T2.6 Chronic diseases** - Increase, by 5 percentage points, the proportion of people living with a chronic disease whose self-assessed health status is good or better.
- **T2.7 Psychological wellbeing** - Equal or lower than the Australian average for psychological distress by 2014.

At a national level, there is also much attention on physical activity to reduce overweight and obesity levels. The COAG National Partnership Agreement on Preventative Health emphasises healthy communities through increasing physical activity, and outlines physical

activity and weight targets. The Federal Government's policy Taking Preventative Action emphasises physical activity throughout.<sup>18</sup>

## 7. PROJECT SCOPE

This project will support the development of an appropriate and acceptable methodology for assessing economic impacts of cycling and walking projects for the South Australian context. This will include a demand assessment of cycling and walking. It will also involve an analysis of current data around cycling and walking and identify any gaps in this data.

The project will be guided by an expert working group composed of key expert stakeholders, including those from State Treasury. The project aims to bring together experts from transport and from health, including specialist economists. It will draw on the recent international and interstate work on economic assessments of cycling and walking and determine an appropriate methodology for the South Australian context.

## 8. PROJECT OUTCOMES, OBJECTIVES AND PROCESSES

### Aim:

To develop economic assessments for cycling and walking infrastructure in South Australia

### Objectives:

- Identify and document the need and benefits of developing an economic assessment of cycling and walking infrastructure in the South Australian context
- To identify through the literature current international and national methods of assessing the economic impacts of cycling and walking and document these.
- To seek expert advice from transport and health experts regarding the validity of various economic assessments
- To determine which, if any, of these approaches are appropriate for the South Australian context
- To develop policy recommendations for consideration by the Chief Executives of the Department of Transport, Energy and Infrastructure and of the Department of Health prior to this being provided to the Executive Committee of Cabinet's Chief Executives Group.

### Outcomes:

- An acceptable economic assessment has been adopted to strengthen the arguments for investing in cycling and walking infrastructure in South Australia.

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<http://www.preventativehealth.org.au/internet/preventativehealth/publishing.nsf/Content/taking-preventative-action>



## 9. PROJECT PLAN AND TIMEFRAMES

Key Activities	Completion Date	Responsibility	
		Lead	Support
1. Conduct a workshop on current practices in South Australia regarding transport funding decisions both generally and specifically for cycling and walking	July/Aug 2011	OCW	HiAP
2. Scan literature for dominant economic models for assessing cycling and walking	Completed for cycling. Walking to be completed June 2011	HiAP	OCW
3. Review identified economic models of cycling and walking, with a focus on methodologies	Aug-Sept 2011	HiAP/OCW	
4. Consult with a range of appropriate experts and economists to explore the adoption of a model for the South Australian context	Aug-Oct 2011	HiAP/OCW	
5. Develop an economic model for South Australia and test against a hypothetical proposal	Oct-Dec 2011	HiAP/OCW	
6. Develop recommendations for consideration by the Chief Executives Group.	Jan-Feb 2012	HiAP/OCW	
7. Evaluate process and outcomes	March-June 2011	HiAP	OCW

## 10. PARTNERSHIPS AND PROJECT MANAGEMENT

### Working Group Members

First Name	Surname	Organisation	Position
Carmel	Williams	SA Health	Manager, Health in All Policies
Peter	Watts	Department of Transport, Energy and Infrastructure	Manager, Office for Cycling and Walking
Peter	Tisato	Department of Transport, Energy and Infrastructure	Manager, Policy Analysis and Research
Brian	Delaney	Department of Transport, Energy and Infrastructure	Planner, Office for Cycling and Walking
Paul	Brooking	Department of Transport, Energy and Infrastructure	Senior Project Analyst Policy Analysis and Research
Zoe	Gill	SA Health	Senior Project Officer, Health in All Policies
Isobel	Ludford	SA Health	Project Officer, Health in All Policies