Achieving the benefits of more people cycling: what works and managing risks

A/Prof Chris Rissel
Sydney South West Area Health Service
University of Sydney

Overview of session

- Set the scene for the day – current data on cycling

- Summarise main barriers, enablers and strategies to promote cycling

- Inspire us all to do more to encourage cycling (hopefully!)
Adrian Bauman¹, Chris Rissel¹, Jan Garrard², Ian Ker³, Rosemarie Speidel⁴, Elliot Fishman⁴

¹University of Sydney, NSW, Australia
²Deakin University, VIC, Australia
³Curtin University, WA, Australia
⁴Cycling Promotion Fund, VIC, Australia
Cycling is healthy!

- Clear cardiovascular and cancer prevention benefits
- Saves health system millions per annum
- Helps prevent obesity and manage weight
- Reduces air and noise pollution

- And many other good things!
Australia’s place in an obese world

![Chart showing obesity rates in various countries, with Australia highlighted.](chart-image)
Cycling and obesity in Australia

Obesity: AIHW analysis of the 2001 ABS National Health Survey – Cycling: ABS Exercise, recreation and sport survey 2001

R = -.83
P = .021
Driving to work increases weight

<table>
<thead>
<tr>
<th>Travel mode</th>
<th>%</th>
<th>Overweight or obese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other means</td>
<td>31</td>
<td>43.3</td>
</tr>
<tr>
<td>Driving a car</td>
<td>69</td>
<td>50.9</td>
</tr>
</tbody>
</table>

% o’weight or obese | Adj OR* | 95% CI
31 | 43.3 | 1.00 | 1.01-1.27
69 | 50.9 | 1.13 | 1.01-1.27

* Adjusting for sex, age, marital status, education, language spoken at home, level of physical activity, and SEIFA index

Wen LM, Orr N, Millett C, Rissel C. Driving to work is associated with overweight and obesity: Findings from the 2003 New South Wales Health Survey. *International Journal of Obesity* online publication 10 January 2006; doi: 10.1038/sj.ijo.0803199
Cycling to work decreases weight (Men)

<table>
<thead>
<tr>
<th>Mode</th>
<th>O’weight &amp; obese</th>
<th>Adj OR</th>
<th>Obese</th>
<th>Adj OR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving</td>
<td>60.8</td>
<td>1.00</td>
<td>15.5</td>
<td>1.00</td>
</tr>
<tr>
<td>Public transport</td>
<td>44.6</td>
<td>0.65*</td>
<td>11.1</td>
<td>0.84</td>
</tr>
<tr>
<td>Walking</td>
<td>52.7</td>
<td>0.91</td>
<td>17.4</td>
<td>1.32</td>
</tr>
<tr>
<td>Bicycle</td>
<td>39.8</td>
<td>0.49*</td>
<td>5.4</td>
<td>0.34*</td>
</tr>
<tr>
<td>Work at home</td>
<td>61.3</td>
<td>0.80</td>
<td>18.2</td>
<td>1.09</td>
</tr>
</tbody>
</table>

* Stratified by sex, adjusting for age, marital status, education, language spoken at home, level of physical activity, and SEIFA index

Wen LM, Rissel C. Inverse associations between cycling to work, public transport, and overweight and obesity: findings from a population based study in Australia. Preventive Medicine 2008; 46: 29-32
Health and Physical Activity

- Nearly 2/3 of men and half women are overweight or obese.

- Only about half the people in Australia meet the national physical activity guidelines.

We need more strategies to promote physical activity.
Current situation

• Audience participation...
## Potential for riding (CCC)

<table>
<thead>
<tr>
<th></th>
<th>Males (%)</th>
<th>Females (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has a bike (%)</td>
<td>45.5</td>
<td>34.9</td>
</tr>
<tr>
<td>Rode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Today</td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>Last week</td>
<td>10.7</td>
<td>1.7</td>
</tr>
<tr>
<td>Last month</td>
<td>11.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Last year</td>
<td>14.7</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Total over last year</strong></td>
<td><strong>39.6</strong></td>
<td><strong>17.4</strong></td>
</tr>
<tr>
<td>Longer than a year</td>
<td>57.5</td>
<td>63.8</td>
</tr>
<tr>
<td>Never</td>
<td>2.9</td>
<td>18.9</td>
</tr>
<tr>
<td>Would like to ride more (%)</td>
<td>64.4</td>
<td>67</td>
</tr>
</tbody>
</table>
Participation in cycling by age

### Table 2  Most frequent exercise, recreation and sport activities in Australia, 2006

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of participants</th>
<th>Participation Rate (%)</th>
<th>Number of participants with a frequency of more than 104 times per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>walking</td>
<td>6,001,700</td>
<td>36.2</td>
<td>3,615,900</td>
</tr>
<tr>
<td>aerobics</td>
<td>3,161,300</td>
<td>19.1</td>
<td>1,307,700</td>
</tr>
<tr>
<td>swimming</td>
<td>2,256,900</td>
<td>13.6</td>
<td>317,900</td>
</tr>
<tr>
<td><strong>cycling</strong></td>
<td>1,682,800</td>
<td>10.1</td>
<td>417,400</td>
</tr>
<tr>
<td>tennis</td>
<td>1,130,700</td>
<td>6.8</td>
<td>43,600</td>
</tr>
<tr>
<td>running</td>
<td>1,224,100</td>
<td>7.4</td>
<td>385,600</td>
</tr>
<tr>
<td>golf</td>
<td>1,132,000</td>
<td>6.8</td>
<td>84,400</td>
</tr>
<tr>
<td>bushwalking</td>
<td>774,000</td>
<td>4.4</td>
<td>79,500</td>
</tr>
<tr>
<td>football (outdoor)</td>
<td>697,400</td>
<td>4.2</td>
<td>74,000</td>
</tr>
</tbody>
</table>

Source: Australian Sport Commission, 2006
### Table 3: Bicycle Journeys to Work 2001 & 2006

<table>
<thead>
<tr>
<th></th>
<th>2001 No. of individuals who cycled to work</th>
<th>2006 No. of individuals who cycled to work</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melbourne</td>
<td>14,443</td>
<td>20,592</td>
<td>42.57%</td>
</tr>
<tr>
<td>Adelaide</td>
<td>5,101</td>
<td>6,695</td>
<td>31.25%</td>
</tr>
<tr>
<td>Hobart</td>
<td>707</td>
<td>886</td>
<td>25.32%</td>
</tr>
<tr>
<td>Perth</td>
<td>6,218</td>
<td>7,240</td>
<td>16.44%</td>
</tr>
<tr>
<td>Canberra</td>
<td>3,505</td>
<td>4,062</td>
<td>15.89%</td>
</tr>
<tr>
<td>Brisbane</td>
<td>7,890</td>
<td>8,889</td>
<td>12.66%</td>
</tr>
<tr>
<td>Sydney</td>
<td>11,131</td>
<td>12,132</td>
<td>8.99%</td>
</tr>
<tr>
<td>Darwin</td>
<td>1,653</td>
<td>1,536</td>
<td>-7.08%</td>
</tr>
</tbody>
</table>

*Source: ABS Census 2001 & 2006*
Australians want to cycle

- Census JTW data 22% increase across Australia with higher rates in most other capital cities. (Cycling Promotion Fund, 2008a)

- Third most popular regular recreational activity in Australia. (Australian Sports Commission)

- Bicycles outsold new cars in Australia for the last eight years. (Cycling Promotion Fund 2008b)

- 42% of NSW households in 2005 have a bike. (Transport Data Centre, 2008)

- RTA Bike counters on Sydney regional routes show cycling is consistently increasing.

- 2/3 people surveyed want to cycle more
  (Cycling Connecting Communities Project, 2007)

⇒ Potential for cycling increase in Sydney.
### Barriers to cycling

<table>
<thead>
<tr>
<th>Personal factors</th>
<th>Enjoyment, perceptions of safety, skill level, health &amp; fitness status, self efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built environment</td>
<td>Road/cycling infrastructure, engineering measures, cycling amenities</td>
</tr>
<tr>
<td>Socio-cultural context</td>
<td>Social values/attitudes, ownership, transport culture &amp; norms, economic &amp; political influences</td>
</tr>
<tr>
<td>Policy</td>
<td>Rules/procedures/laws influencing transport related decisions/actions</td>
</tr>
</tbody>
</table>
Methods: Study participants

- 12 focus groups
- 70 participants
- 24 males/46 females
  Of which:
- 22 non-riders
- 23 occasional riders
- 25 regular riders

Results: Personal factors

- Health/fitness/enjoyment
- Self efficacy
- Safety perceptions
Results: Built Environment

- Cycling Infrastructure—‘Tokenistic’
- Ideal cycling environment—mixed opinion
Results: Socio-cultural context

- ‘Ownership’ tension in shared spaces
- Social values- driver attitude
- Transport culture/norms ‘car culture’
Results: Policy

- ‘Invisible’ & cycle specific infrastructure
- Integration of transport modes
- Social and economic policies
Fear of cycling – an emotional barrier

Consistently identified

- Fear of the accident
- Fear of becoming ‘a cyclist’

Other fears
- being ‘on show’
- exerting in a public space
- Embarrassment of seeming inept
- concerns of others: “you might get hurt”
- losing status
Fear is socially constructed

- Part of a fearful culture – “be careful”
- The ‘bubblewrap’ generation
- Risk management frameworks (eg bike pool)*

Factors contributing
1. Road Safety Education
2. New cycling spaces
3. Objective risk

1. Road Safety Education

- Roads are public places
- Roads are dangerous because they’re filled with heavy fast moving motor vehicles
- Rather than tame the sources of danger, instill fear in the vulnerable, and teach them tactics to escape danger
- Take care, use ‘safe’ routes, be visible: onus is on the victim
2. New cycling spaces

• Dominant public perception is that cycling best occurs in ‘safe’ and pleasant places

• Therefore, normal roads are no place to cycle – they are to be feared

• On off-road shared paths, the focus of fear shifts from cycling, to ‘the cyclist’ – a threat to slower moving pedestrians
Fear of becoming ‘a cyclist’

• Low cycling prevalence, marginal road space allocation - ->marginalisation of cyclist and low status as ‘outgroup’
• Media stereotypes of cyclists as rule breakers, or ‘holding up traffic’
• Increasing popularity of cycling creates anxiety among some, who may have to confront the idea of themselves becoming a ‘cyclist’
Perception of cycling legitimacy - a hierarchy

- Recreational cyclist
- Cycling for sport or exercise (in lycra)
- Transport / commuter cycling
- Bike couriers
Perceptions of risk high – but exaggerated

• 22% correctly identified fewer than 20 deaths in NSW (50% said over 50, 25% over 100)
• 76% think quite likely to very likely to be hit by car – varies by riding experience

Third lowest injury rate

Note: Not all sports categories are shown due to inconsistencies between the sports categories and the participation data. Excludes 14,218 cases in those less than 15 years.

Figure 3.7: Hospitalisation rate per 100,000 participants (15 years and over) due to sport and recreation, Australia, 2002–2003
Interventions to promote cycling

- Bicycle friendly urban design and bicycle infrastructure development
- Mass marketing campaigns
- Bicycle education programs
- Behaviour change programs
- Cycling events

Mass marketing campaigns

- Cycling is safer than you think
- You don’t need to be super fit to cycle
- Improve road user behaviour/awareness of people riding bikes
- Benefits of choosing to cycle
- Early experiences of cycling need to be positive!
NSW media for cycling????

Road safety advertising campaigns
Current campaigns
Speeding
Speeding. No one thinks big of you (Pinkie)
P plate speeding
Drink driving
Paranoia – mobile random breath test (RBT)
Motorcycles
Safe cornering
Previous campaigns
Speeding
Country speeding
Stopping distance
Alcohol and drugs
The brain
Driver fatigue
Driver fatigue campaigns

Share the Road?

Seat belts
Seat belts
Heavy vehicle seatbelts
No belt No brain
Motorcycles
Look out for yourself
Young drivers
Notes
Road worker safety
Road office
Bicycle education programs

- Schools and CARES
- Adult skills classes eg SkillCycle, Coaches
- Ride leader training
Course description

- Six hours of instruction
- Verbal and practical exercises, including on-road group ride at end
- No more than 8:1 participants per instructor
- Beginner and intermediate versions
- (Show clip)

Summary of evaluation

- Participants enjoyed the course
- Significant improvement in confidence with bike skills and knowledge (at least double or up to 5 times)
- Significant increase in time riding for baseline non-riders
- Significant increase in other types of moderate physical activity
Bike Bus
Behaviour change programs

JOIN US ON 15 OCTOBER

national ride to work day 2008

www.ride2work.com.au

ride2school

TravelSmart
New South Wales
Ride to work summary

- In 2007, 29,000 registered riders (probably about 90,000)
- Has increased more than 5 fold since 2002
- On third (37%) or riders were women
- In 2006, 26% of registered riders were riding for the first time (60% usually drove)
- A quarter (27%) of first-timers were still riding five months later
Cycling events
Cycling in South Western Sydney

- Project funded by NSW Health, Health Promotion Demonstration Grant
- 2007-2009
- Increase use of existing cycling infrastructure?
- Does it increase population levels of physical activity?
Intervention overview

- Two similar local government areas with good cycling infrastructure

- Intervention area gets social marketing and community engagement
Interventions

- Major Events – eg Ride to Work, launch, rides, path discovery day, Sydney Spring Cycle, Ride to School
- Skills courses
- Minor events eg BUG rides
- Information eg maps, signage, articles, advice
- Bike loan / hire
- Trip generator interventions
- Communication strategy
Impact evaluation design

- Two newly built bike paths – one intervention and one comparison area
- Bike counters on infrastructure
- Telephone survey of residents living within 2 kilometres of bicycle path - pre and post with cohort of respondents
Conclusions

✓ We know what the barriers to cycling are
✓ We know what to do to increase cycling

🚴‍♀️ We need political will, leadership and funding!