

Presentation to NZ Transport Agency / NZIHT Conference
Napier, Monday 13 October 2008

Mainstreaming active modes on urban and rural roads

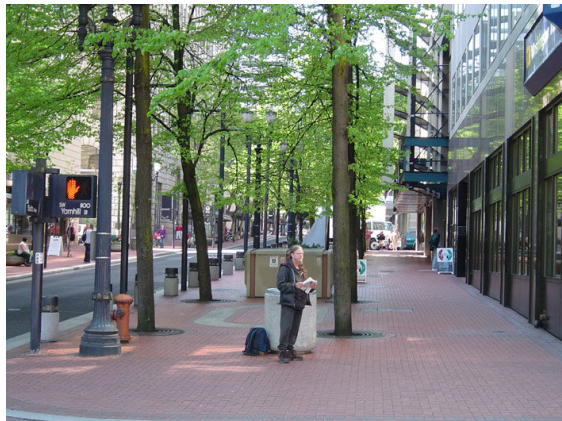
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Outline

- Definitions and background
- The new policy framework
- Walking
- Cycling
- Conclusions



Active modes

- Walking and cycling
- Includes other modes that require significant physical activity such as:
 - Wheelchairs and mobility scooters
 - Scooters and skateboards
- Special consideration of those with vision, hearing or cognitive impairments
- W & C – same policy & strategy implications but different design needs & technical manuals
- Try to give people the choice to use active modes

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Mainstreaming walking and cycling

- Mainstream – “a prevailing current or direction of activity or influence”
- Incorporation of walking and cycling into all activities of relevant agencies at all stages of projects and programmes
- Includes:
 - Transport planning
 - Traffic operations
 - Road maintenance



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Background

- This former Transit conference now has a broader mandate than state highways
- NZTA is “to provide an integrated approach to transport planning, funding and delivery”
- Presentation looks at ways of integrating walking and cycling into road systems
- Thanks to Tim Hughes and Lisa Rossiter (NZTA) for some material

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Road user hierarchy

1. Walking
2. Cycling
3. Public transport
4. Freight
5. Private motor vehicles



Different way of thinking about transport priorities

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Government policies and strategies

- NZ Transport Strategy and GPS (2008)
- *Getting there – on foot, by cycle*, the National Walking & Cycling Strategy (2005)
- Land Transport Management Act (2003, 08)
- Climate Change Strategy (Kyoto Protocol)
- Healthy Eating Healthy Action (HEHA; MoH)
- Nat'l Energy Efficiency and Cons'n Strategy
- Push Play (SPARC)

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The new policy framework

- NZ Transport Strategy 2008 has target of 30% of total trips in urban areas by walking and cycling by 2040
- GPS target: increase walking and cycling trips by 1% per annum through to 2015



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Strategy implementation

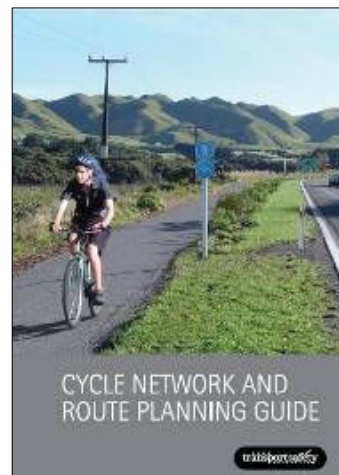
- *Getting there* – implementation plan (2006)
- Dedicated walking and cycling funding
- *Economic Evaluation Manual* (EEM) criteria
- *Programme Planning and Funding Manual*
- LTCCPs, RLTPs & 10 year State Highway plans
- *NZ Cycling Design Supplement* (2004) & update
 - Companion document to Austroads Part 14 Bicycles
- *Cycle Network & Route Planning Guide* (CNRPG; 2004)
- *Pedestrian Planning and Design Guide* (2008)

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Planning and design guides

- Pedestrian guide
- Cycle planning guide

Pedestrian planning
and design guide



Cycling design guides

- NZ Supplement (2004)
Use in conjunction with Austroads 14
Sep 2008 edition
- Austroads Pt 14 (1999)
Check against the NZ
Supplement
Currently being updated
- Don't use the old version
(1993, pink)



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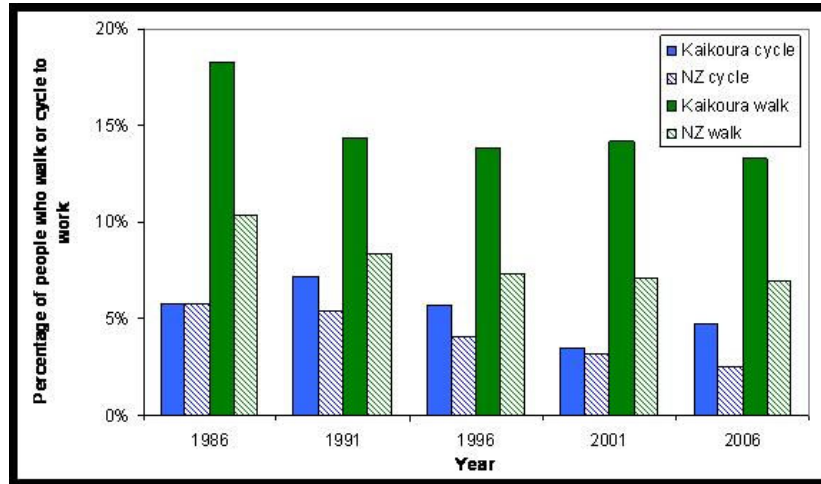
Land use and transport planning

- Land use planning and urban design affect travel behaviour
- CPTED – Crime prevention through environmental design
- Increase “permeability” for walking and cycling
- There is no such thing as free parking



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Trip to work mode share – Census



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IHT 5-step hierarchy (cycling)

1. Reduce traffic volumes
2. Reduce traffic speeds
3. Traffic management
4. Reallocation of space
5. Specific cycle facilities

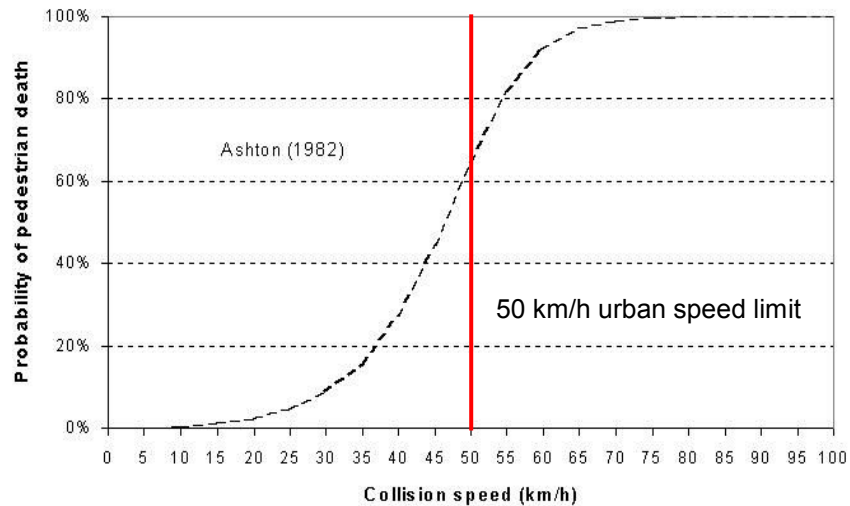
- *UK Cycle-Friendly Infrastructure Guidelines (IHT, CTC, et al, 1996)*



Not just about providing walking and cycling facilities

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Speed versus safety trade-off



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Taming traffic

- Cars may not need as many lanes
- Lanes can be narrower – 3 m
- Reclaim space for pedestrians and cyclists
- Cycle lanes benefit pedestrians too
- Traffic calming roundabouts improve safety for all users
- Shared spaces – order by chaos
- Reducing MV speeds allows people to consider active transport viable

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Funding

- Councils develop walking and cycling strategies with implementation plans, targets
- Include in LTCCPs, RLTPs & annual plans
- Apply for walking and cycling govt funding, minor improvements budgets
- Use community and other council budgets
- Build active transport into all road projects
- Cheap to build but expensive to design

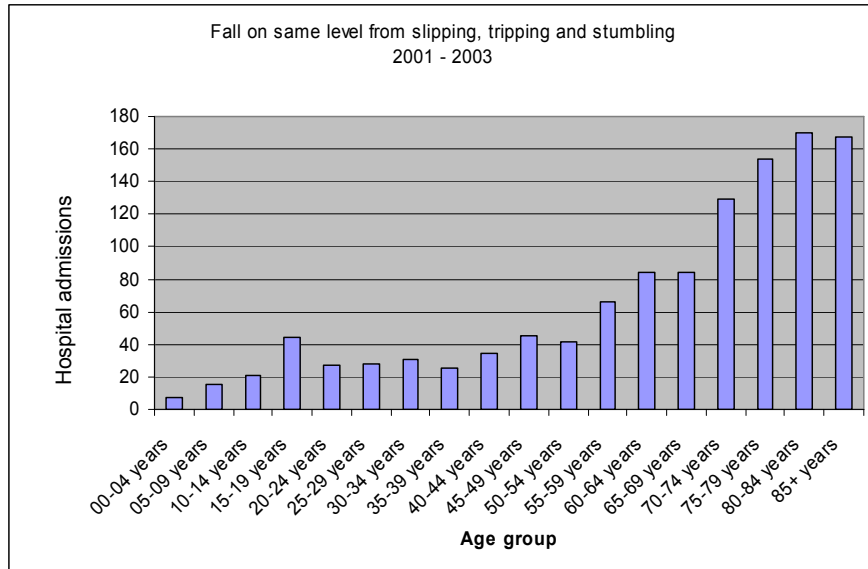
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Walking

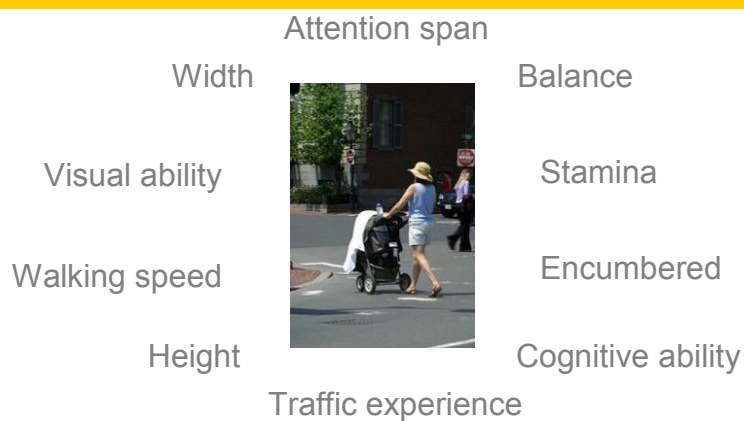
- Pedestrian – “Any person on foot or who is using a powered wheelchair or mobility scooter or a wheeled means of conveyance propelled by human power, other than a cycle”
- Walking is the original transport mode – everything else is an alternative mode
- Everyone is a pedestrian at some stage of each journey
- Improving PT increases walking

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Slips, trips and falls in road environment

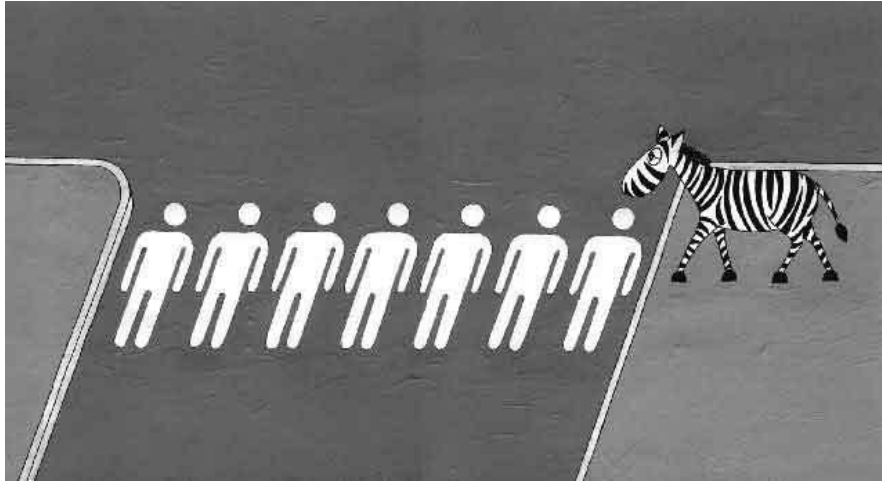


Pedestrian variations



- The most diverse group of travellers
- Design for the more challenged

Zebra crossings



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Cycling

- Offers a larger range of destinations than walking
- Perhaps 4 km/h walking and 16 km/h cycling (= 4 x distance or 16 x area)
- Has similar individual and societal benefits to walking
- Surveys show that most intermediate school kids would prefer to cycle to school

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Cyclists' trip types

- Cycle trip types
 - Neighbourhood
 - Commuter
 - Sports adult
 - Recreation
 - Touring



Different types of cyclists may need different facilities

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What sort of provision?

- No provision – quiet streets
 - Traffic calming
- Wide kerbside lane
- Sealed shoulders (rural)
- Cycle lanes
 - Against kerb or parking
- Cycle paths
 - Alongside or away from road



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Cycle lane and shoulder widths

- Without parking (kerbside):

Road Speed	≤ 50 km/h	70 km/h	100 km/h
Desirable Min. Width (m)	1.5	1.9	2.5
Acceptable Range (m)	1.2 - 2.2	1.6 - 2.5	2.0 - 2.5

- With parallel parking:

Road Speed / Lane	≤ 50 km/h	70 km/h	Parking
Desirable Min. Width (m)	1.8	2.2	2.0
Acceptable Range (m)	1.6 - 2.5	2.1 - 2.5	1.9 - 2.5

- Many caveats and footnotes – see NZ Supplement

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Bus lanes

- Bus lanes should be designed to accommodate cyclists
- Either "wide" (> 4.2 m) or "narrow" (< 3.2 m)
 - Wide bus lanes much preferred
 - Avoid in-between dimensions
- Education/enforcement required



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Parking always an issue



- Keep parking narrow to encourage good parking discipline

- Look for creative solutions

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Rural roads

- Adequate sealed shoulders may be fine
 - Use cycle lane widths as a guideline
 - Shoulders also provide benefits to motorists
 - Consider smoother shoulder surface
- Focus on areas with limited sight distance
 - Horizontal curves or vertical crests
 - Other pinch points (e.g. culverts or cuttings)
 - Refer to SH Geometric Design Manual for sight distance requirements
- Watch gravel migrating from side roads
- Is speed limit appropriate?

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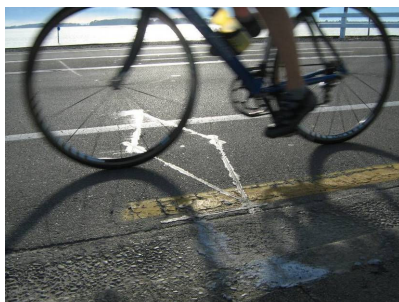
Rural roads

- Shoulder widening on crests, curves, can improve narrow roads for cycling



Monitoring

- Need to know if we're meeting the targets
- Use Census for trip to work; school and cycle parking surveys
- Manual and automatic cycle counts



Be opportunistic

- Look for opportunities in existing work programmes:
 - Resealing
 - Major maintenance
 - Major construction
 - Kerb and channel replacement
 - Intersection upgrades
 - Developer projects



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New facilities and upgrades

- Any new road bridge or tunnel should provide well for walking and cycling
- Same for road or intersection upgrades
- Urban collector and arterial roads should have footpaths on both sides
- If we can't afford to do it right, we can't afford the facility

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More information

- Fundamentals of Planning & Design for Cycling
 - <http://viastrada.co.nz/cycling-fundamentals>
- Fundamentals of Planning & Design for Walking
 - <http://viastrada.co.nz/walking-fundamentals>
- NZ Cycling Conference – Nov 2009
- NZ Walking Conference – 2010

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Conclusions

- Govt strategies now require inclusion of active transport
- Technical solutions exist for most design problems
- Get all plans and concepts audited externally
- Seek outside help or upskill yourself if necessary
- Take advantage of existing programmes and budgets
- Everyone in transport has a role
- Leadership needed – “just do it”!
- Follow-up:
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