

### Measuring Walkability

- Consumer Satisfaction Surveys -



Living Streets Ambassador  
New Zealand Walking Conference 2006



### What is Walkability?

- It is not the “performance of walking” i.e. John Cleese
- It is the “performance of the environment when walking”
- Performance:  
*inviting, functional, safe, aesthetic, secure, comfort, convenience, continuity, system coherence, compliance, accessible, pleasant, legible, people populated, legal, seductive, social interaction, convivial, connected...*
- Walkability: the extent to which the built environment is walking friendly

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### How is walking improved at the moment?

Practitioners consider important:	Local Authority prioritisation:
73% engineering compliance	25% use judgement
71% community perception	23% significant public influence
68% accessibility	17% politically determined
65% safety from traffic	15% benefit/cost
56% personal security	14% other
49% urban design	6% don't prioritise
45% cleanliness	100%

These lists are not complementary

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### Provision vs. quality



What is this?



Is it basically this?  
Photo Source: Living Streets (UK)

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### Do we always get quality right?




add 117 years of (so called) 'improvements' to Reading UK

Photo Source: Intelligent Space Partnership

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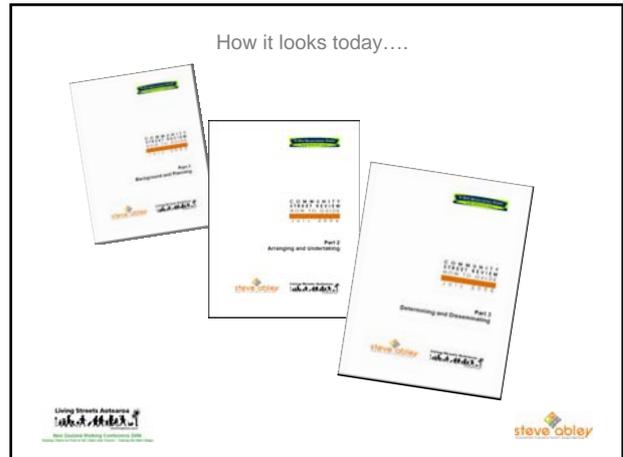


### How do you measure walkability?

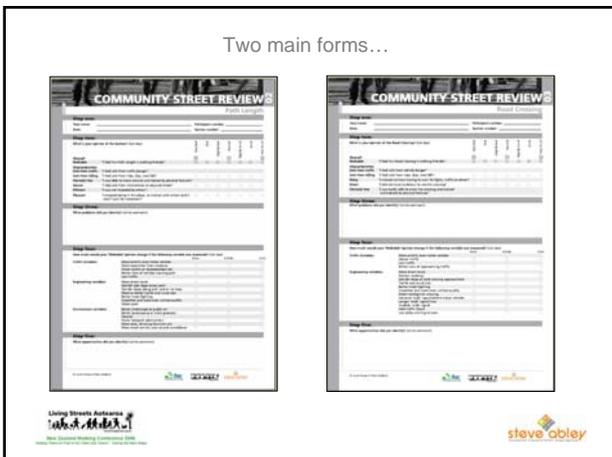
- Walkability is very difficult to measure because it is based on consumer satisfaction i.e. people
- “Count what is countable...measure what is measurable...  
**What is not measurable, make measurable**”  
Galileo - (February 15, 1564 – January 8, 1642)
  - “I’m ¾ happy today”
  - ...but what questions do I ask myself to determine happiness?
  - ...do I want to be more ‘happy’ than ‘content’?
  - ...if I’m ¾ happy, are you?
  - ...what would make me more happy?

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- ### How it works...
- Minimum group of 5 participants, minimum age 15 years, no max age
  - "Path lengths" and "Road Crossings"
  - 4 types of user groups
    - Not impaired – can see, are mobile
    - Mobility impaired – can see are not mobile
    - Sight impaired – can not see are mobile
    - Sight and mobility impaired – can not see, are not mobile
  - There are groups within groups
  - Have to do a lot more collecting of data (Land Transport NZ)
  - Have to make level of service calculations easy



### Road Crossing example

**Step one:**  
 Your name: Steve Abley Participant number: 12  
 Date: Saturday 4 Nov 2006 Section number: B

**Step two:**  
 What is your opinion of the Section? (tick box)

	Very Bad	Bad	Slightly Bad	Neutral	Slightly Good	Good	Very Good
<b>Overall</b> Walkable "I feel this Path Length is walking friendly"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Characteristics</b> Safe from traffic "I feel safe from traffic danger"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Safe from falling "I feel safe from trips, slips, and falls"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Obstacle free "I was able to move around unhindered by physical features"	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Secure "I feel safe from intimidation or physical attack"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficient "I was not impeded by others"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Pleasant "I enjoyed being in this place, to interact with others and it wasn't just for movement"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Road Crossing example (cont)

**Step three:**  
What problems did you identify? (write comment)  
**Hurt when I fell into big pothole**

**Step four:**  
How much would your 'Walkable' opinion change if the following variable was improved? (tick box)

	None	A little	A lot
<b>Traffic Variables:</b>			
More priority over motor vehicles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More separation from roadway	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fewer cyclists or skateboarders etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better view of vehicles crossing path	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Less traffic	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Engineering Variables:</b>			
More direct route	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gentler side slope across path	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Gentler slope along path and/or no steps	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
More or better tactile and visual aids	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better street lighting	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Smoother and more even surface quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

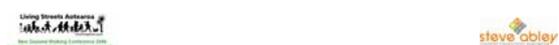
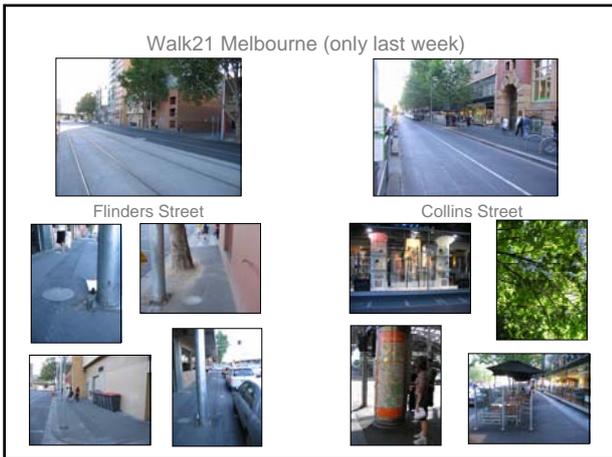
**Step five:**  
What opportunities did you identify? (write comment)  
**Thought planters were nice but tulips would be better**



### Walkability descriptors

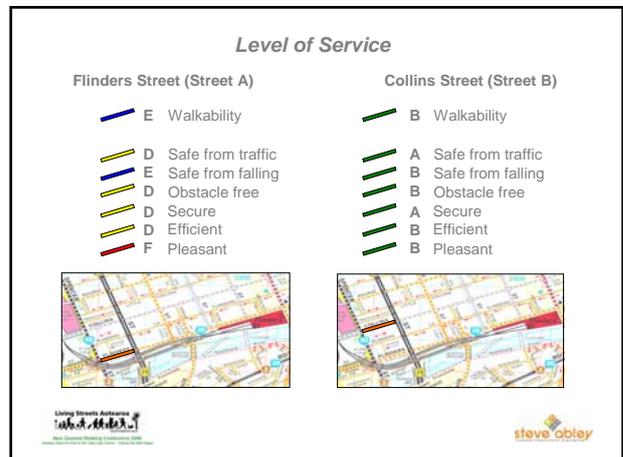
**Level of Service Comparisons**

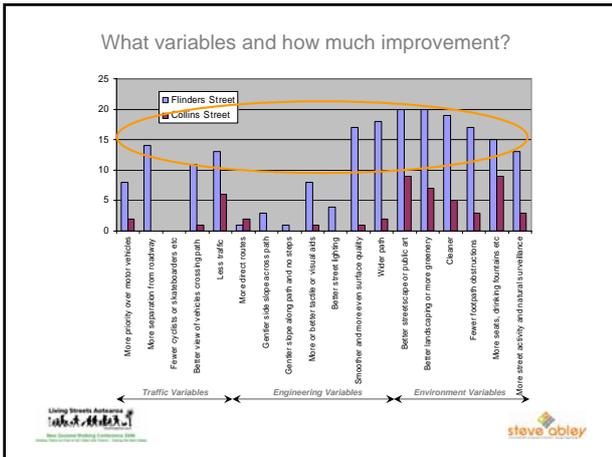
Opinion
Very Good
Good
Slightly Good
Neutral
Slightly Bad
Bad
Very Bad

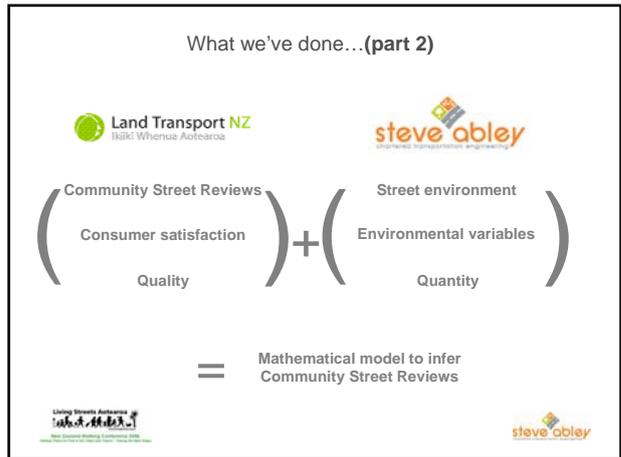
- ### Problems
- | Street A   | Street B  |
|--|---|
| <ul style="list-style-type: none"> <li>Noisy</li> <li>Rubbish</li> <li>Narrow footpath</li> <li>Uneven footpath</li> <li>Driveways</li> <li>Not sufficient street life</li> <li>Obstacles</li> <li>Holes in footpath</li> <li>Closed up buildings</li> <li>Road works</li> <li>Polluted (suspect emissions)</li> <li>Broken glass</li> <li>Too many levels</li> <li>Overhead safety</li> </ul> | <ul style="list-style-type: none"> <li>Noisy</li> <li>Litter</li> <li>Footway width varies</li> <li>Surface variations</li> <li>Lots of vehicles</li> <li>No one stopping to enjoy</li> <li>Lots of people</li> </ul> |
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- ### Opportunities
- | Street A  | Street B   |
|---|--|
| <ul style="list-style-type: none"> <li>Public art on walls</li> <li>Open up buildings</li> <li>Lanes could be more interesting</li> <li>Better view of driveway vehicles</li> <li>Wider footpath</li> <li>Resurface area</li> <li>Shade</li> <li>More control of construction site</li> </ul> | <ul style="list-style-type: none"> <li>Public art</li> <li>Volume on the iHub</li> <li>More public seating</li> <li>More greenery</li> <li>Tourist signage</li> <li>Better control of café dining areas</li> <li>Drinking fountains</li> </ul> |
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- ### Community Street Reviews
- Are strongly supported by Land Transport New Zealand
  - Need promotion – practitioners need to understand usefulness
  - Are labour intensive – but not necessarily expensive
  - Need experienced operators (especially when so new)
  - Used as transportation planning tool – doesn't replace thinking



- ### Variables in the environment
- Effective width
  - Footpath cross fall
  - Footpath longitudinal fall
  - Area adjacent footpath walkable
  - Adjacent land use
  - Footpath materials
  - Deviation around obstacles
  - Source of smells
  - Quantity of litter
  - Stumbling hazards
  - Height of buildings
  - Distance from moving vehicles
  - Quantity of greenery
  - Shared path
  - Directional information
  - Posted speed limit
  - Street activity
  - Road width
  - Vandalism
  - Detritus
  - Temporary hazards
  - Weather
  - Vehicle speed
  - Density of people
  - Comfort features
  - Utility features
  - Trip hazards
  - Tactile aids
  - On street parking
  - Use of vehicle access ways
  - Visibility to driveways
  - Designed steps
  - Protection from hazards



