

A Built Environment for All Ages: exploring the challenges of accessibility

Inclusive Design for Getting Outdoors (I'DGO)

I'DGO Research Consortium
www.idgo.ac.uk

Inclusive Design for Getting Outdoors

I'DGO Consortium



**OPENspace, Edinburgh College of Art
with Heriot-Watt and Edinburgh Universities**



**WISE (Wellbeing in Sustainable Environments)
University of Warwick**



**SURFACE Inclusive Design Research Centre +
Centre for Rehabilitation and Human Performance
Research, University of Salford**

Engineering and Physical Science Research Council

EPSRC

EQUAL Programme: Extending Quality Life for older and disabled people

INCLUSIVE DESIGN FOR GETTING OUTDOORS

I'DGO: older people getting outdoors

Consortium established 2003

- The aim is to identify the most effective ways to ensure that the outdoor environment is designed inclusively, to improve the quality of life for older and disabled people
- What features facilitate or hinder physical activity in outdoor spaces?





I'DGO TOO Partners

Age Concern England
CABE Space
Central Council for Physical Recreation
(CCPR)
Department for Communities & Local
Government (CLG)
Department for Transport
EDAW
EDI Group
Elwood Landscape Design
English Courtyard Developments
English Heritage
Greenspace Scotland
Guide Dogs for the Blind
Health and Safety Executive/Lab
Help the Aged
Homes and Communities Agency
Ian Wall
Institute of Highway Incorporated Engineers

Jacobs Baktie
JMU Access Partnership Living Streets
John Gregory
Living Streets
Marshalls
Mayer Brown
NHS Health Scotland
Places for People
Peabody Trust
Peter Brett Associates
Phil Jones Associates
PRP Architects
Royal Institute of British Architects
Scottish Government
Steve Onger
Sustrans
Swindon Borough Council
The Orders of St John Care Trust
TRANSform Scotland

Why do older people need to get outdoors?

In our study, older people living in an environment that makes it easy and enjoyable to go outdoors were more likely to be physically active, healthier and more satisfied with life.



I'DGO 1 Measures & Instruments



Activity : The frequency and duration of walking (to go places, for recreation, gardening and other activities)

Health : The number of days (in the last 30 days) poor health prevents the person from doing daily activities

Happiness : Life satisfaction (5-item scale: SWLS)

Supportiveness : A 30-item scale to measure the quality of a local open space and neighbourhood area

Preferred local open space: Choice-based conjoint questionnaire (preference judgments on 14 paired comparisons of local open spaces)

Demographics : Gender, age, living arrangement, postcode, functional status, education, occupation

Data Collection Sample: I'DGO 1



Postal questionnaire (2200 older people living in 20 local authorities)	<i>n</i> = 211
Distribution through local housing associations (older people living in sheltered housing)	<i>n</i> = 102
Translated sessions (2 minority ethnic groups)	<i>n</i> = 22
Total Sample Size	<i>n</i> = 335
<hr/>	
Choice-based conjoint questionnaire	<i>n</i> = 237

What are the mechanisms through which neighborhood environments enhance health?

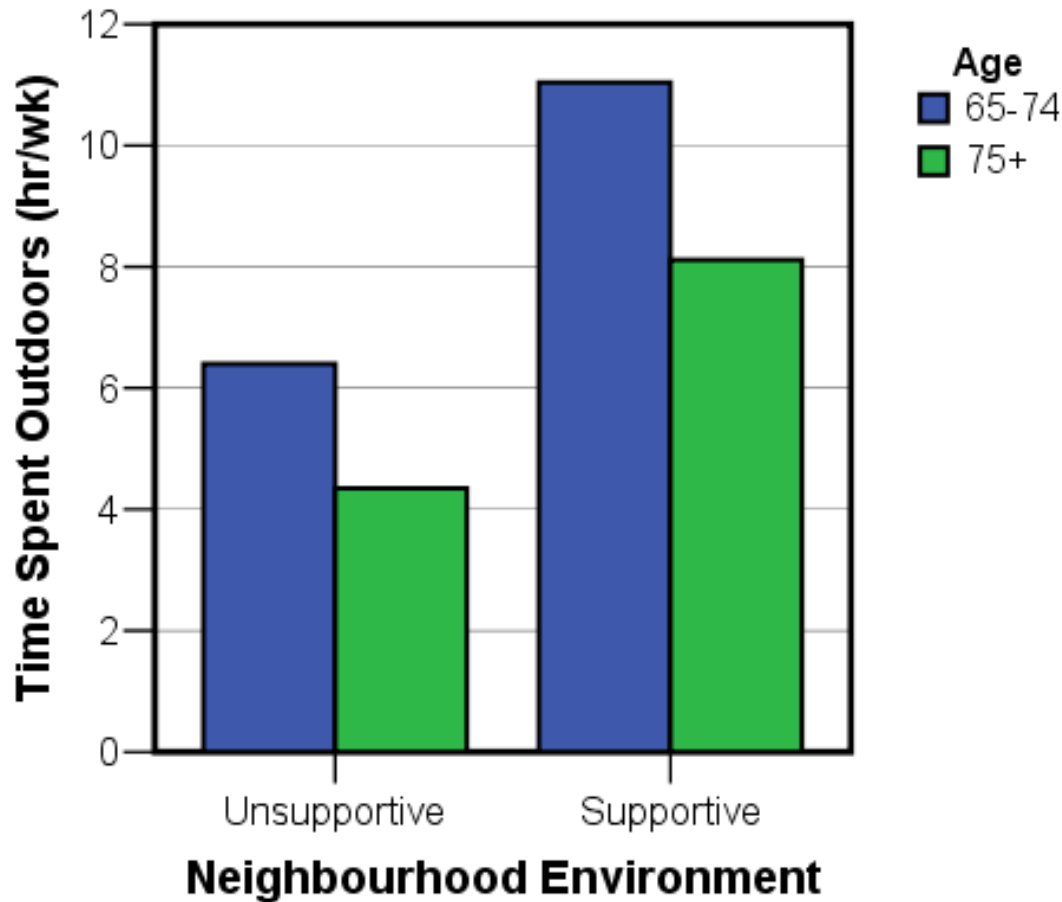
Through time spent on outdoor activity

- Time spent outdoors
- Walking outdoors

Through the quality of the outdoor experience

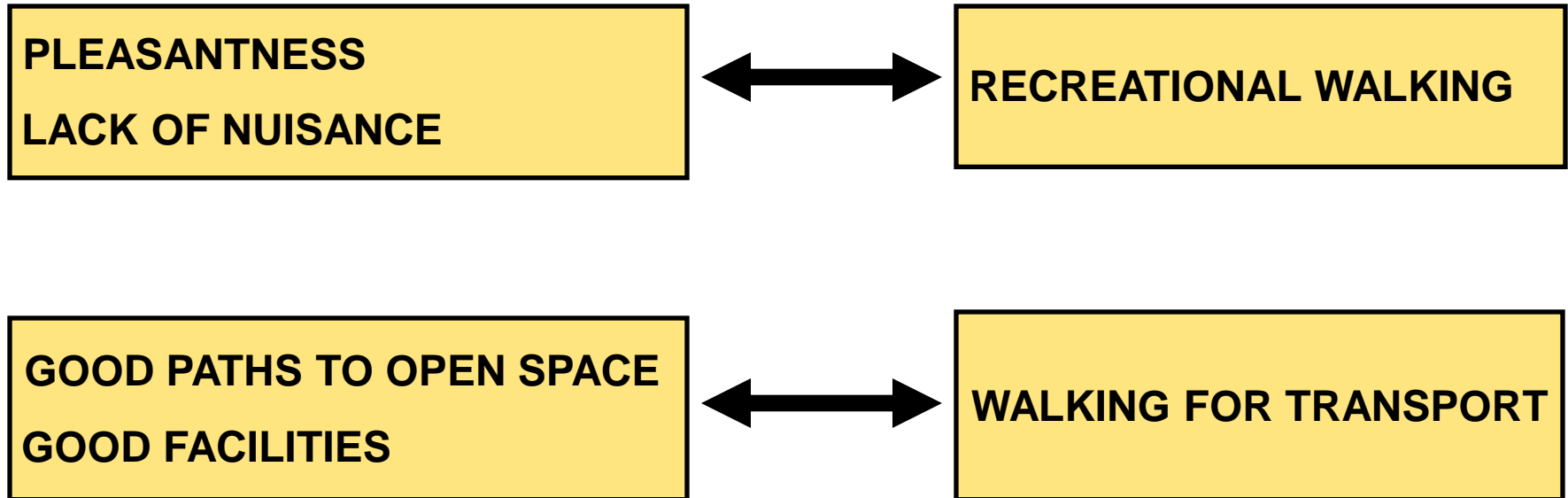
- Beyond time and quantity of activity outdoors, the quality of the experience (social and aesthetic dimensions) makes a difference.

Supportive Neighbourhood Environments & Time Spent Outdoors



People living in a supportive environment tend to spend a longer time outdoors
Those who perceive their neighbourhood environments as fairly or very supportive are more likely to be high-level walkers (≥ 2.5 hours/wk)

How do perceived quality and accessibility of neighbourhood open spaces affect patterns of activity?



A more pleasant neighbourhood open space is associated with a 40% increase in the likelihood of achieving more than 1 hour of recreational walking per week

What features facilitate walking for transport?



Perceived quality of paths to local open spaces

- paths easy to walk on
- enjoyable to walk on
- no obstacles to getting to open space

Using logistic regression, good paths to reach local open spaces are significantly associated with participant's total outdoor time (OR=1.57, 95% CI=1.13-2.19) and walking for transport (OR=1.38, 95% CI=1.1.77)

What features facilitate walking for transport?



- Good facilities at destinations
- enough seats to rest on in open space
 - cafes, toilets, shelters, etc

Using logistic regression, the presence of good facilities in local space is significantly associated with participant's total outdoor time (OR=1.57, 95% CI=1.14-2.15) and time walking for transport (OR=1.34, 95% CI=1.1.78)

What features facilitate recreational walking in outdoor spaces?

Pleasantness of open space



- clean and well-maintained
- attractive trees and plants
- good for children's play
- good for chatting with people

Using logistic regression, pleasantness of open space was a significant predictor of time spent walking for recreation (OR = 1.41, 95% CI = 1.01–1.98)

What features facilitate recreational walking in outdoor spaces?

Lack of nuisance



Using logistic regression, nuisance in local open space was a significant predictor of time spent walking for recreation (OR = 0.71, 95% CI= 0.55–0.91).

Does where you live make a difference?

Do you live **within 10 minutes' walk of a local open space?**

Participants who live within 10 minutes' walk of a local open space were twice as likely to achieve the recommended levels of **healthy walking** (2.5 hours/week) compared with those whose local open space is further away.

(OR = 0.46, 95% CI= 0.24–0.88)

Participants living within 10 minutes' walk of a local open space were more than twice as likely to be **satisfied with life** compared with those whose local open space is further away.

(OR = 2.17, 95% CI= 1.16-4.06)



Does where you live make a difference?

Do you have **good paths** on the way to your local open space?

Such participants were twice as likely to achieve the recommended levels of healthy walking activity (2.5 hours/week) as those with poor quality paths.

(OR = 1.96, 95% CI= 1.03–3.74)

Do you live in **sheltered accommodation or a care home**?

Participants living in sheltered accommodation or a care home were nearly three times less likely to get outdoors for >5 hours per week than people living in their own homes.

(OR = 0.36, 95% CI= 0.18–0.72)

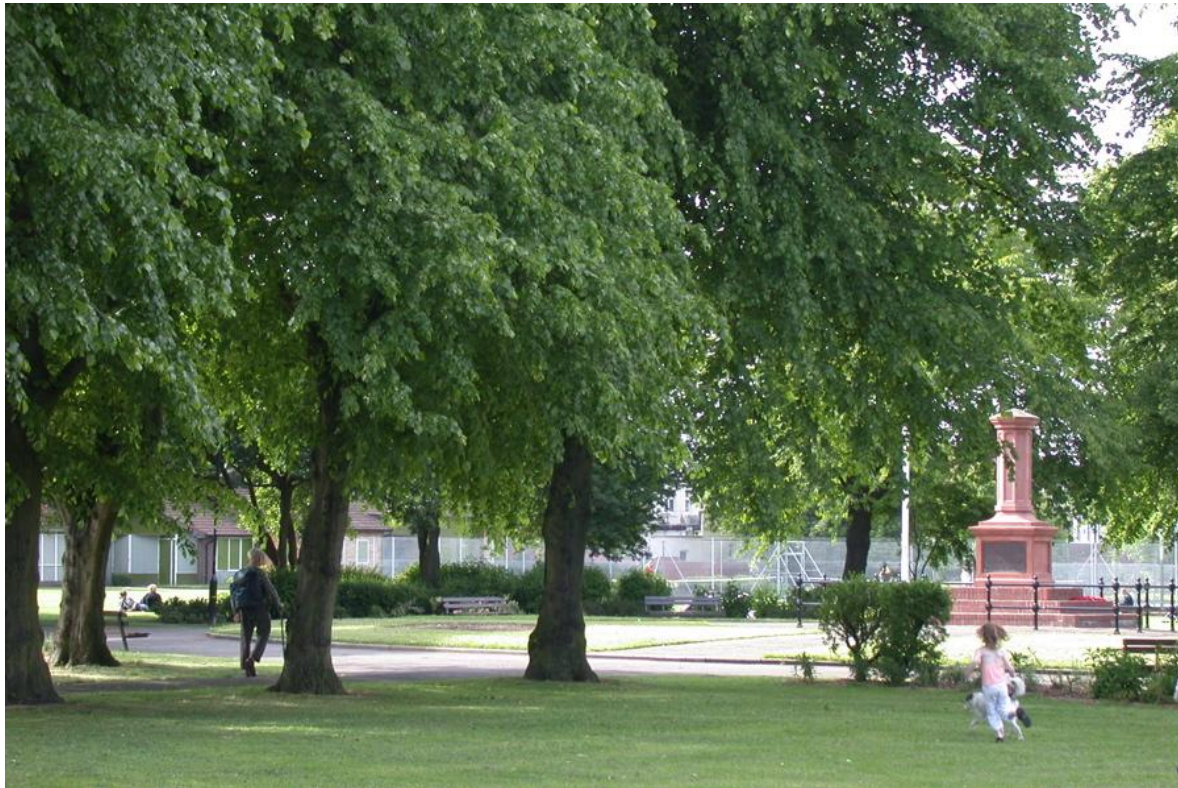


Guidance from I'DGO is on our website
www.idgo.ac.uk
(recommended by WHO Age-Friendly Cities Guide)



INCLUSIVE DESIGN FOR GETTING OUTDOORS

Phase 2 study 2007-2011



I'DGO TOO: Inclusive Design for Getting Outdoors 2 EPSRC EQUAL Programme 5

Home Zones and shared spaces



Research Questions

Does the implementation of Shared Space Projects, such as Home Zones, result in environments where older people:

- Go outside more often?
- Spend more time outside in the local environment?
- Have better social networks?
- Have a better quality of life?



Research Design

Longitudinal study comparing sites before and after Home Zone or shared space principles implemented

Data collection Participants - UK residents 65 years +

8 shared space project sites

- Sustrans 'DIY Streets'
- Edinburgh Home Zone

8 matching control sites

Almost all sites are in areas of high multiple deprivation



DIY: Brooke/Evering Rd - London



DIY: Castle St - Port Talbot



Control: Geldeston Rd - London



Control: Crown St - Port Talbot

Data Collection Methods

Structured interview on QoL, perceptions of neighbourhood environment and usual or desired activities

Measurement of physical activity (accelerometer and activity diary)

Street audits

Behavioural observations

Research Tools: Interviews include identifying personal projects

ACTIVITIES I USUALLY DO																	
Difficulty Ranking	Your outdoor activity	Place where the activity is normally undertaken	How difficult does the local outdoor environment make it for you to carry out the activity?					How important is this activity to you personally?					How enjoyable is this activity to you?				
			Very easy	Easy	Neutral	Difficult	Very difficult	Very important	Important	Neutral	Not important	Not at all important	Very enjoyable	Enjoyable	Neutral	Not enjoyable	Not at all enjoyable
	<i>Gardening</i>	<i>Backyard</i>	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	<i>Just go for a walk</i>	<i>Clapton Park</i>	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
			1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Research Tools: Structured Interviews

PART 3						
HOW OFTEN YOU GO OUT						
<p>We would like to know how often you do the following outdoor activities: walking where the main purpose is to get to places (including shopping and visiting friends), walking for recreation (including walking a dog), gardening and other outdoor activities (including sports, reading, talking to people or simply sitting outside).</p> <p>Please indicate how often you do the activities in a Winter month (e.g., December, January or February) and a Summer month (e.g., June, July or August) by circling the number that best describes your response.</p>						
		Never	Once a week or less	2-3 times a week	4-6 times a week	Once or more a day
Winter (e.g., January)	1. Walking to get to places	1	2	3	4	5
	2. Walking for recreation	1	2	3	4	5
	3. Gardening	1	2	3	4	5
	4. Other outdoor activities	1	2	3	4	5
Summer (e.g., July)	5. Walking to get to places	1	2	3	4	5
	6. Walking for recreation	1	2	3	4	5
	7. Gardening	1	2	3	4	5
	8. Other outdoor activities	1	2	3	4	5

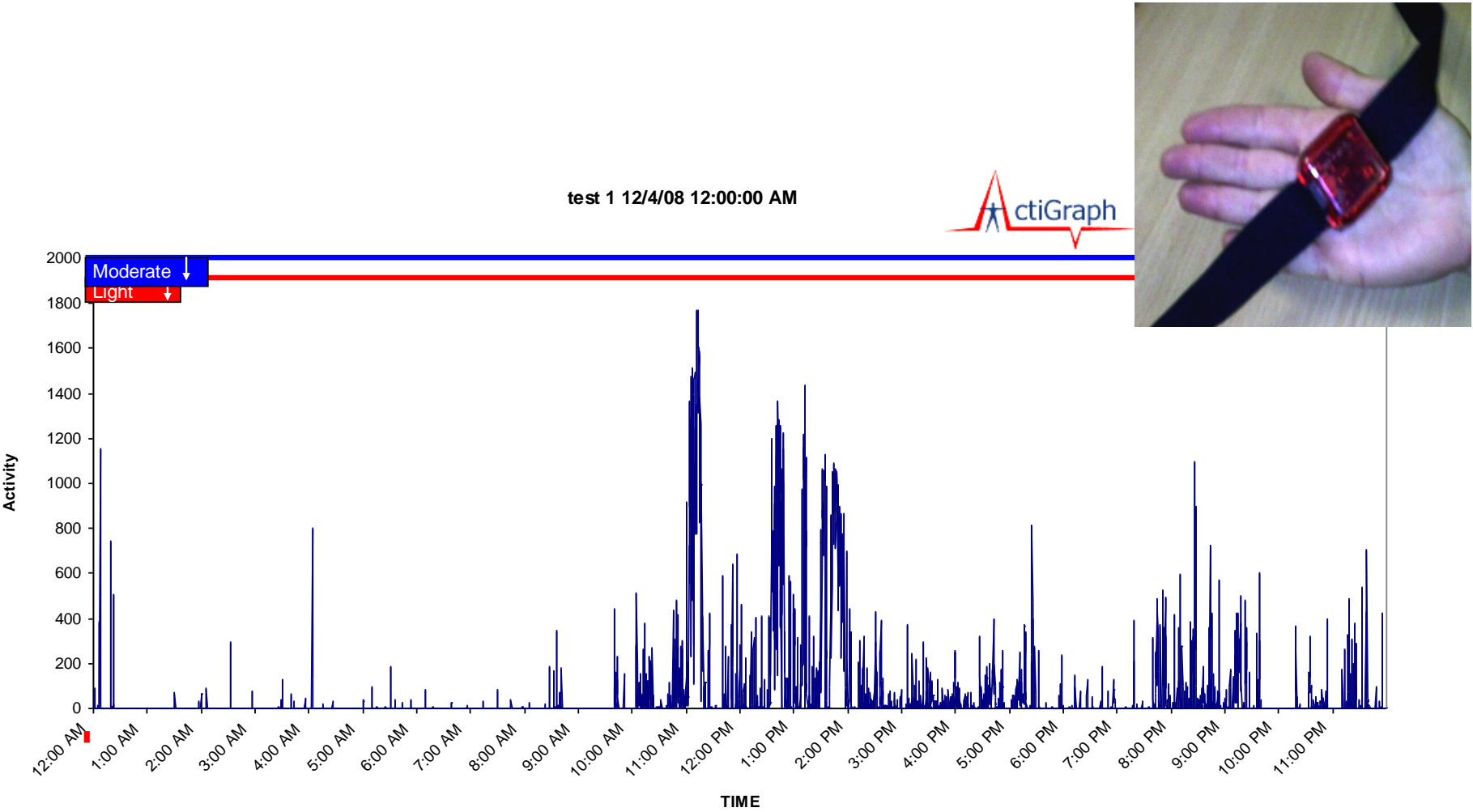
Research Tools: Activity Diaries

6

Activity Diary - Day 1

Morning	
I got up and put the activity monitor on at:	: (specify time)
I went out of the house at:	: (specify time)
I was (tick one): <input type="checkbox"/> Alone <input type="checkbox"/> With a Relative <input type="checkbox"/> With a Friend	
<input type="checkbox"/> Other (please specify):	
I went to (specify the location):	
The main purpose of going out was:	
I travelled there by (tick all that apply):	
<input type="checkbox"/> Walking <input type="checkbox"/> Cycling <input type="checkbox"/> Bus <input type="checkbox"/> Car <input type="checkbox"/> Train <input type="checkbox"/> Other (specify):	
While I was outdoors I did the following things (tick all that apply):	
<input type="checkbox"/> Sit outdoors <input type="checkbox"/> Walk <input type="checkbox"/> Cycle <input type="checkbox"/> Visit friends <input type="checkbox"/> Shop <input type="checkbox"/> Go to the doctor	
<input type="checkbox"/> Play Sports <input type="checkbox"/> Garden <input type="checkbox"/> Other (specify):	
While I was outdoors I met/chatted with the following for more than a few minutes (tick all that apply):	
<input type="checkbox"/> Relatives <input type="checkbox"/> Friends <input type="checkbox"/> Neighbours <input type="checkbox"/> Strangers	
<input type="checkbox"/> Other (please specify):	
Did you plan to meet them or was this by chance? (tick one):	
<input type="checkbox"/> Planned to Meet <input type="checkbox"/> Met by Chance	
I went back into the house at:	: (specify time)
Please use this space to report on other activities or outings:	

Research Tools: Activity Monitors



Street Audits

Street Audits map the physical features of streets, such as:

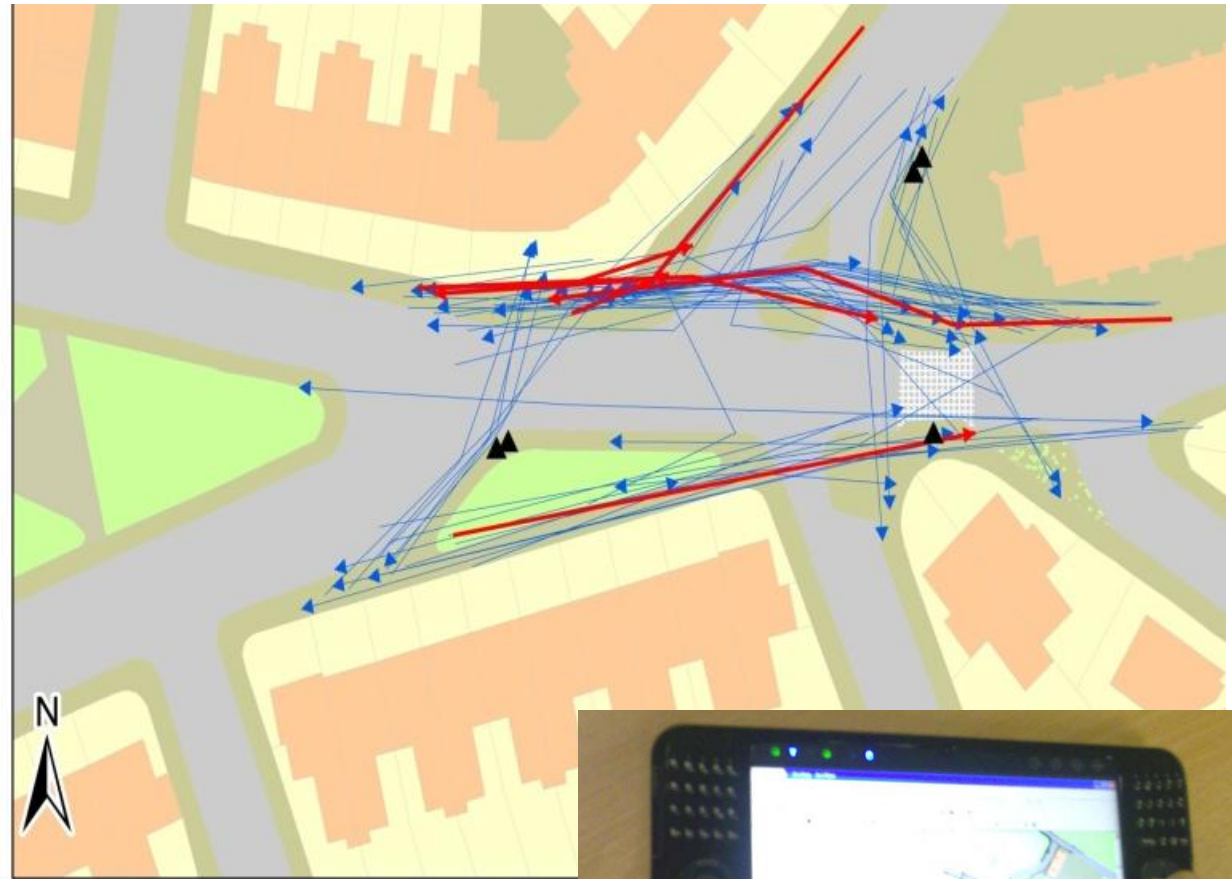
- Types of buildings
- Types of views
- Cleanliness
- Path material and location



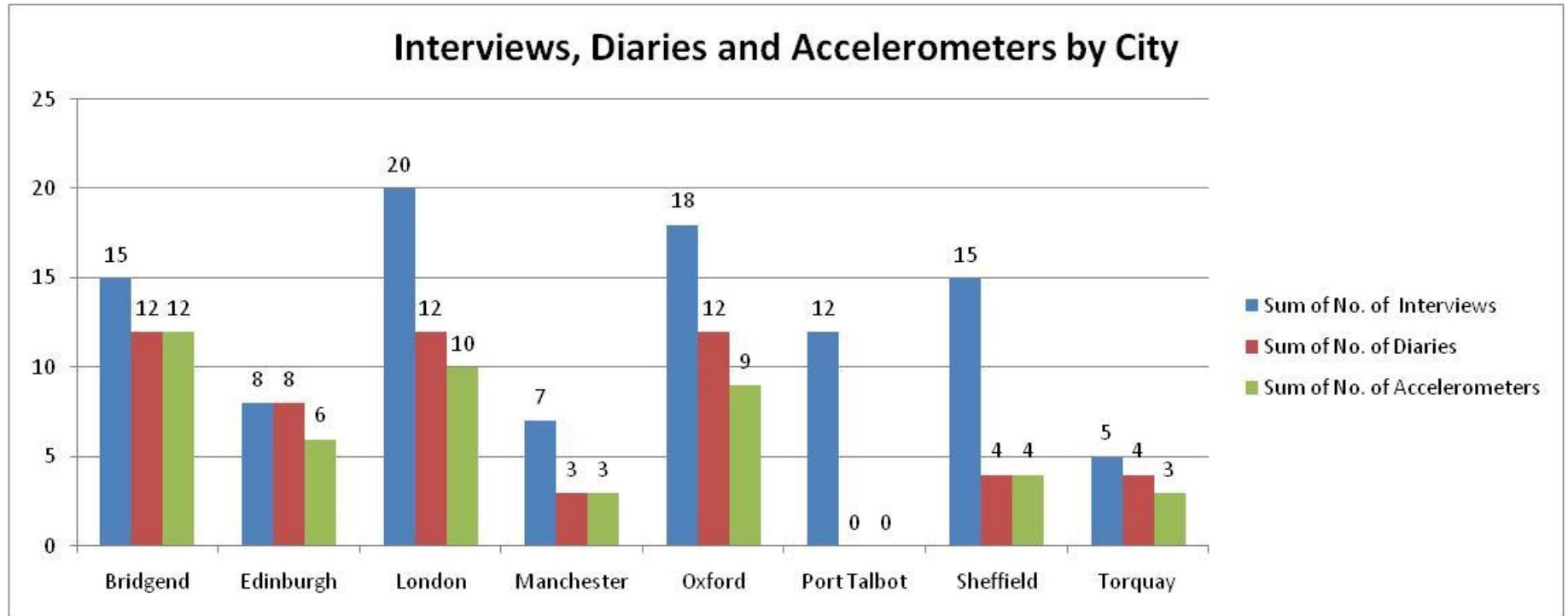
Behaviour Observations

The following were recorded for each person observed in a 30 minute period:

- Age
- Gender
- Mobility
- Social interaction
- Physical activity



Summary of data collection from participants



Choice-based Conjoint Questionnaire: Examples

❖ QUESTION 1 ❖

<input type="checkbox"/> Park 1	
High quality pavement to the park	No seats en route
Medium traffic	Few seats in the park

<input type="checkbox"/> Park 2	
Low quality pavement to the park	Some seats en route
Heavy traffic (including lorries)	Many seats in the park

Which park would you prefer as your local one?

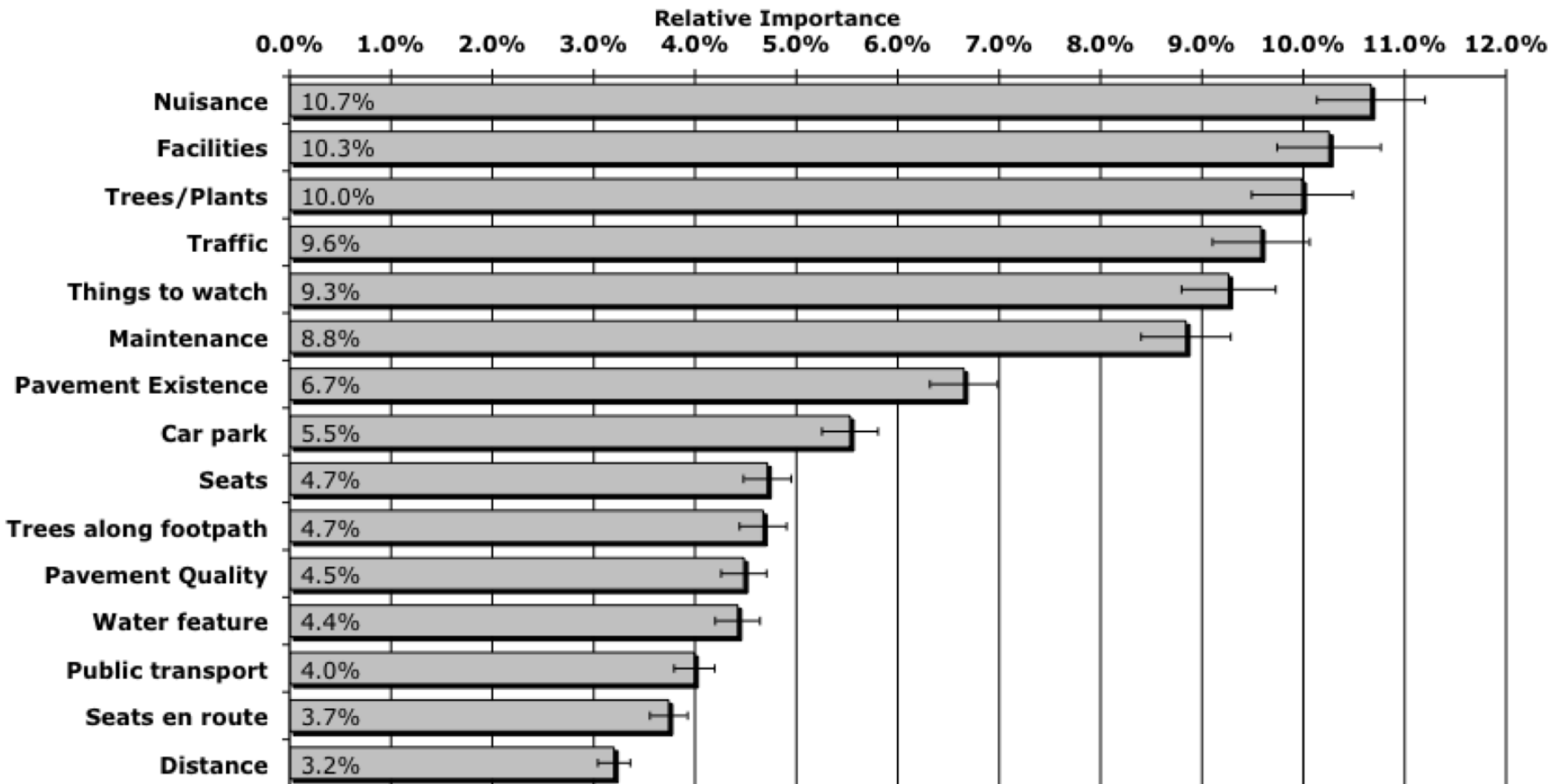
❖ QUESTION 2 ❖

<input type="checkbox"/> Park 1	
Takes 10 to 15 minutes' walk to get to	Dense trees and plants
Café and toilets	Signs of vandalism

<input type="checkbox"/> Park 2	
Takes 5 to 10 minutes' walk to get to	No trees and few plants
Toilets only	No particular nuisance

Results of choice-based conjoint questionnaire

Preferred environmental features for local open space



Potential trade-off scenarios among diverse open space features

1. Trees versus traffic

Participants would rather have an open space with few trees (both along paths and in the park) but light traffic than one with heavy traffic and lots of trees.

2. Trees versus facilities

Participants were willing to trade facilities (such as cafe and/or toilets) in order to have tree-lined paths and dense trees and plants in their local open spaces.

3. Aesthetically pleasing versus well-maintained open spaces

Participants would tolerate a poorly maintained open space in order to have an aesthetically pleasing one (i.e., dense trees/plants, water features, wildlife).

Publications

Sugiyama, T. & Ward Thompson, C. (2007) Outdoor environments, activity and the well-being of older people: Conceptualising environmental support.

Environment and Planning A, 39: 1943-1960.

Sugiyama, T. & Ward Thompson, C. (2007) Older people's health, outdoor activity and supportiveness of neighbourhood environments. *Landscape and Urban Planning* 83: 168–175

Sugiyama, T. & Ward Thompson, C. (2008). Associations between characteristics of neighbourhood open space and older people's walking. *Urban Forestry & Urban Greening* 7(1): 41-51

Alves, S., Aspinall, P., Ward Thompson, C., Sugiyama, T., Brice, R. and Vickers, A. (2008) Preferences of Older People for Environmental Attributes of Local Parks: The Use of Choice-Based Conjoint Analysis. *Facilities* 26 (11/ 12): 433-453.

Sugiyama, T., Ward Thompson, C. and Alves, S. (2009) Associations between neighborhood open space attributes and quality of life for older people in Britain.

Environment and Behavior, 41(1): 3-21

Aspinall, P., Ward Thompson, C., Alves, S., Sugiyama, T., Vickers, A. and Brice, R. (in press) Understanding the relative importance of older people's preferences for different features of neighbourhood open space. *Environment and Planning B*