



## Environmental support for older people's outdoor access: Inclusive Design for Getting Outdoors (I'DGO)

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## Inclusive Design for Getting Outdoors I'DGO Consortium



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



Oxford Brookes University  
(now Warwick University)



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

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## 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	Jacobs Babbie
CABE Space	JMU Access Partnership Living Streets
Central Council for Physical Recreation (CCPR)	John Gregory Living Streets
Department for Communities & Local Government (CLG)	Marshalls
Department for Transport	Mayer Brown
EDAW	NHS Health Scotland
EDI Group	Places for People
Elwood Landscape Design	Peabody Trust
English Courtyard Developments	Peter Brett Associates
English Heritage	Phil Jones Associates
Greenspace Scotland	PRP Architects
Guide Dogs for the Blind	Royal Institute of British Architects
Health and Safety Executive/Lab	Scottish Government
Help the Aged	Steve Ongeri
Homes and Communities Agency	Sustrans
Ian Wall	Swindon Borough Council
Institute of Highway Incorporated Engineers	The Orders of St John Care Trust
	TRANSform Scotland

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## 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.



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## 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

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### 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.

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### Supportive Neighbourhood Environments & Time Spent Outdoors

Neighbourhood Environment	65-74 (hr/wk)	75+ (hr/wk)
Unsupportive	~6.5	~4.5
Supportive	~11.0	~8.0

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).

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

```

    graph LR
      A[PLEASANTNESS  
LACK OF NUISANCE] <--> B[RECREATIONAL WALKING]
      C[GOOD PATHS TO OPEN SPACE  
GOOD FACILITIES] <--> D[WALKING FOR TRANSPORT]
  
```

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.

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### 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)

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### 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)

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### 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)

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### 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).

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### 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)



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### 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?**

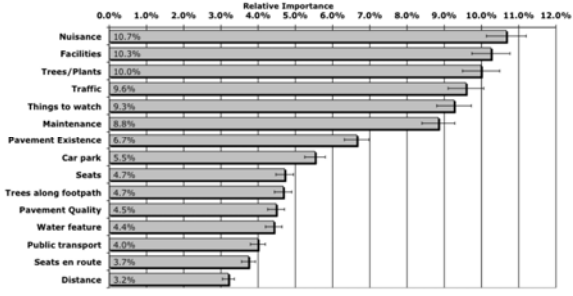
Participants living in sheltered accommodation or a care home were nearly three times less likely to get outdoors for >5 hours per week than people living in their own homes.  
(OR = 0.36, 95% CI= 0.18–0.72)



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### Results of choice-based conjoint questionnaire

Preferred environmental features for local open space



Feature	Relative Importance
Nuisance	10.7%
Facilities	10.3%
Trees/Plants	10.0%
Traffic	9.6%
Things to watch	9.3%
Maintenance	8.8%
Pavement Existence	8.7%
Car park	5.5%
Seats	4.7%
Trees along footpath	4.7%
Pavement Quality	4.5%
Water feature	4.4%
Public transport	4.0%
Seats en route	3.7%
Distance	3.2%

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### Potential trade-off scenarios among diverse open space features

- 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.
- 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.
- 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).

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### Phase 2 study 2007-2011



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

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## Home Zones and shared spaces

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## 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?

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## 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

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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

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## 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
	Gardening	Backyard	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
	Just go for a walk	Clapton Park	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

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### Research Tools: Structured Interviews

**PART 3**  
**HOW OFTEN YOU GO OUT**

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).

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.

	Never	Once a week or less	2-3 times a week	4-6 times a week	Once or more a day
Winter (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

**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):  Alone  With a Relative  With a Friend  
 Other (please specify):

I went to (specify the location):

The main purpose of going out was:

I travelled there by (tick all that apply):  
 Walking  Cycling  Bus  Car  Train  Other (specify):

While I was outdoors I did the following things (tick all that apply):  
 Sit outdoors  Walk  Cycle  Visit friends  Shop  Go to the doctor  
 Play sports  Garden  Other (specify):

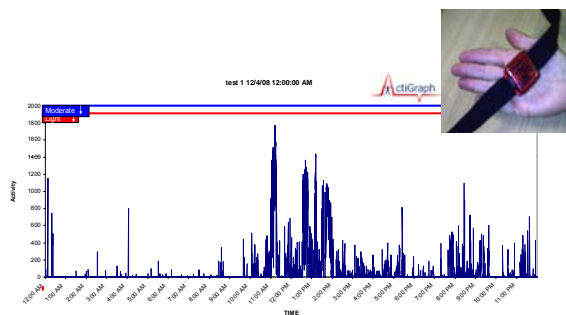
While I was outdoors I interacted with the following for more than a few minutes (tick all that apply):  
 Relatives  Friends  Neighbours  Strangers  
 Other (please specify):

Did you plan to meet them or was this by chance? (tick one):  
 Intended to Meet  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



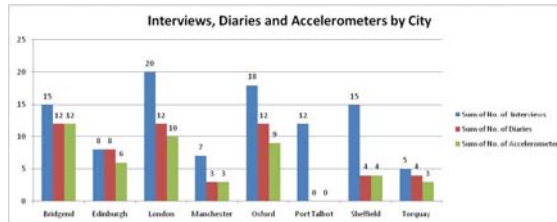
### Behaviour Observations

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



## Research Challenges

- Limited number of participants and likely retention to post-intervention stage
- How to analyse behaviour observations most usefully
- How to make best use of accelerometer data
- Aligning diary data and accelerometer data for analysis
- Subjective vs. objective measures of environment

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



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## 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*

## Data Collection Sample: I'DGO 1



Postal questionnaire (2200 older people living in 20 local authorities)  $n = 211$

Distribution through local housing associations (older people living in sheltered housing)  $n = 102$

Translated sessions (2 minority ethnic groups)  $n = 22$

Total Sample Size  $n = 335$

Choice-based conjoint questionnaire  $n = 237$

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