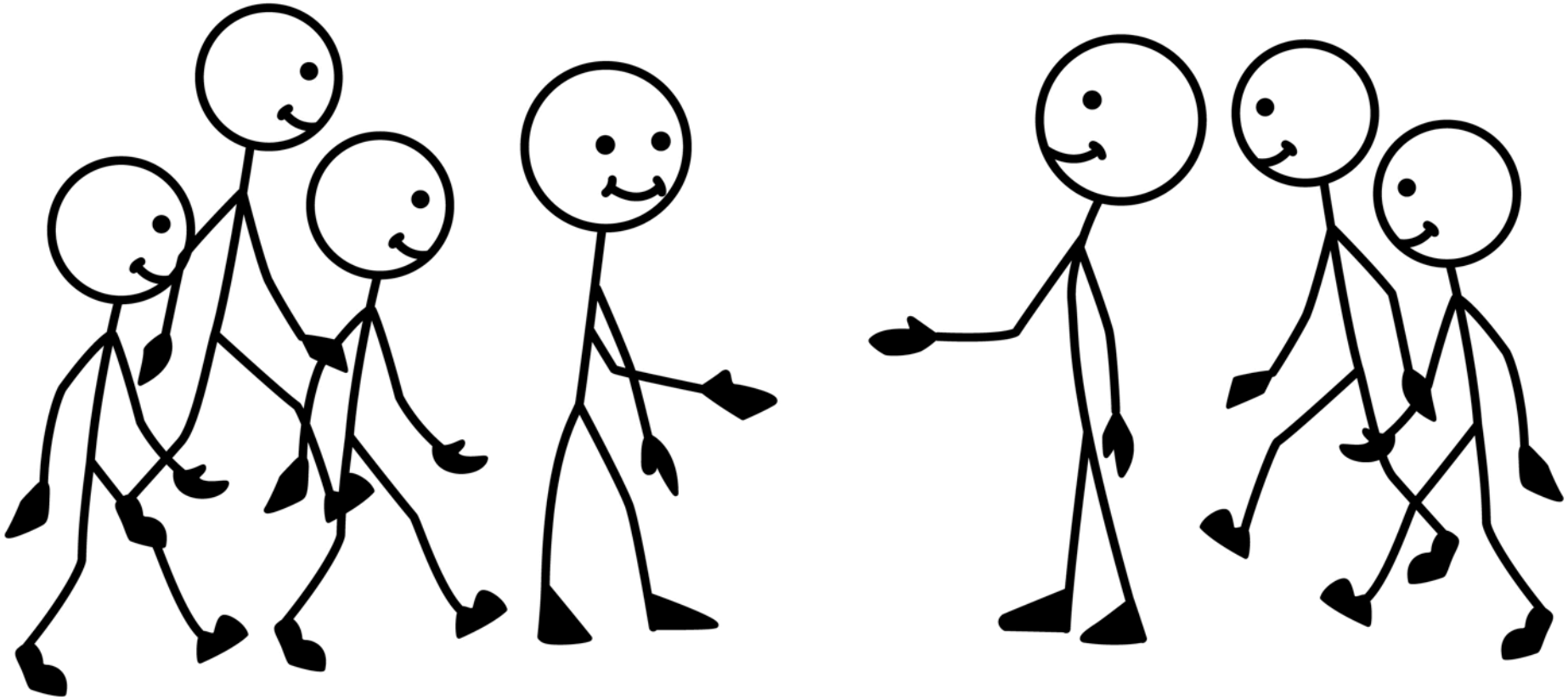
University of Glasgow | Institute of Health & Wellbeing

CRESH
Centre for Research on Environment, Society and Health

Health and environmental behaviours: 'new' data

Prof Rich Mitchell

‘New’ data don’t need to be *new* – they might just be new to the environmental / health agenda.

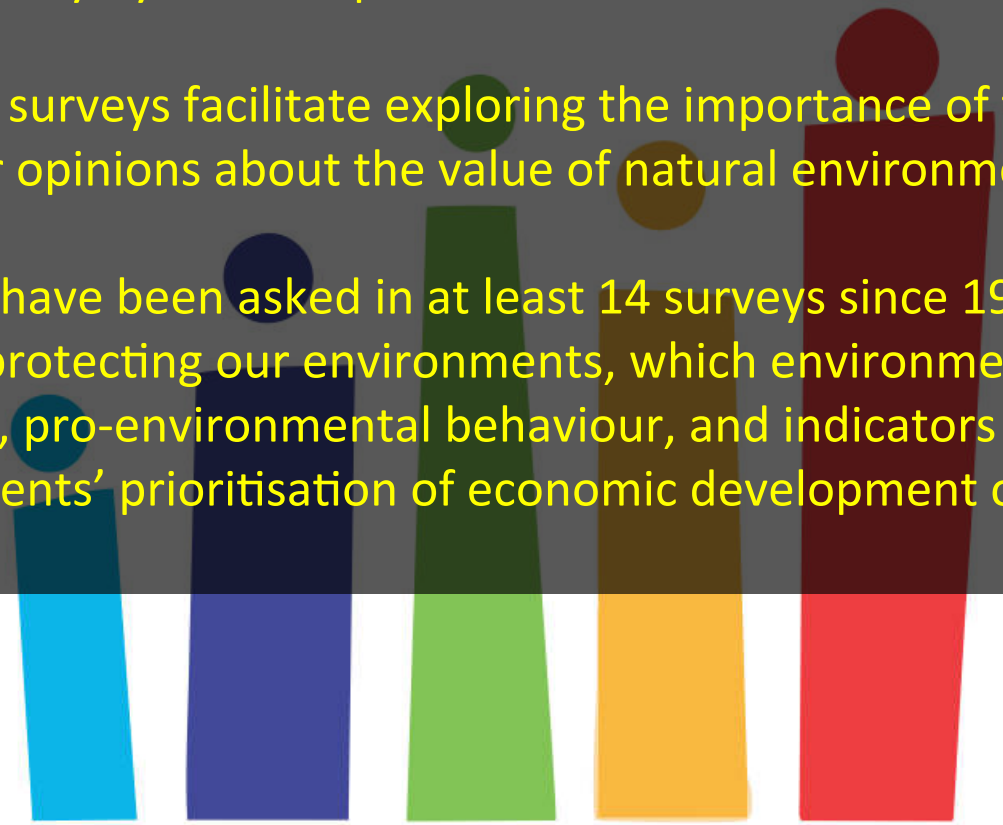


Time is vital. Relationships between environment, environmental behaviours, and health evolve and interact over life-times.

Eurobarometer, is a repeat cross-sectional series of public opinion surveys commissioned regularly by the European Commission.

These international surveys facilitate exploring the importance of temporal and national context for opinions about the value of natural environment.

Relevant questions have been asked in at least 14 surveys since 1974 and include; the importance of protecting our environments, which environmental attributes are of greatest concern, pro-environmental behaviour, and indicators of environmental value from respondents' prioritisation of economic development or environmental protection.



EUROBAROMETER

http://www.gesis.org/en/eurobarometer/survey-series/standard-special-eb/

Historical archives. Example of reconstructed green space data for Edinburgh. Attach them to cohort data

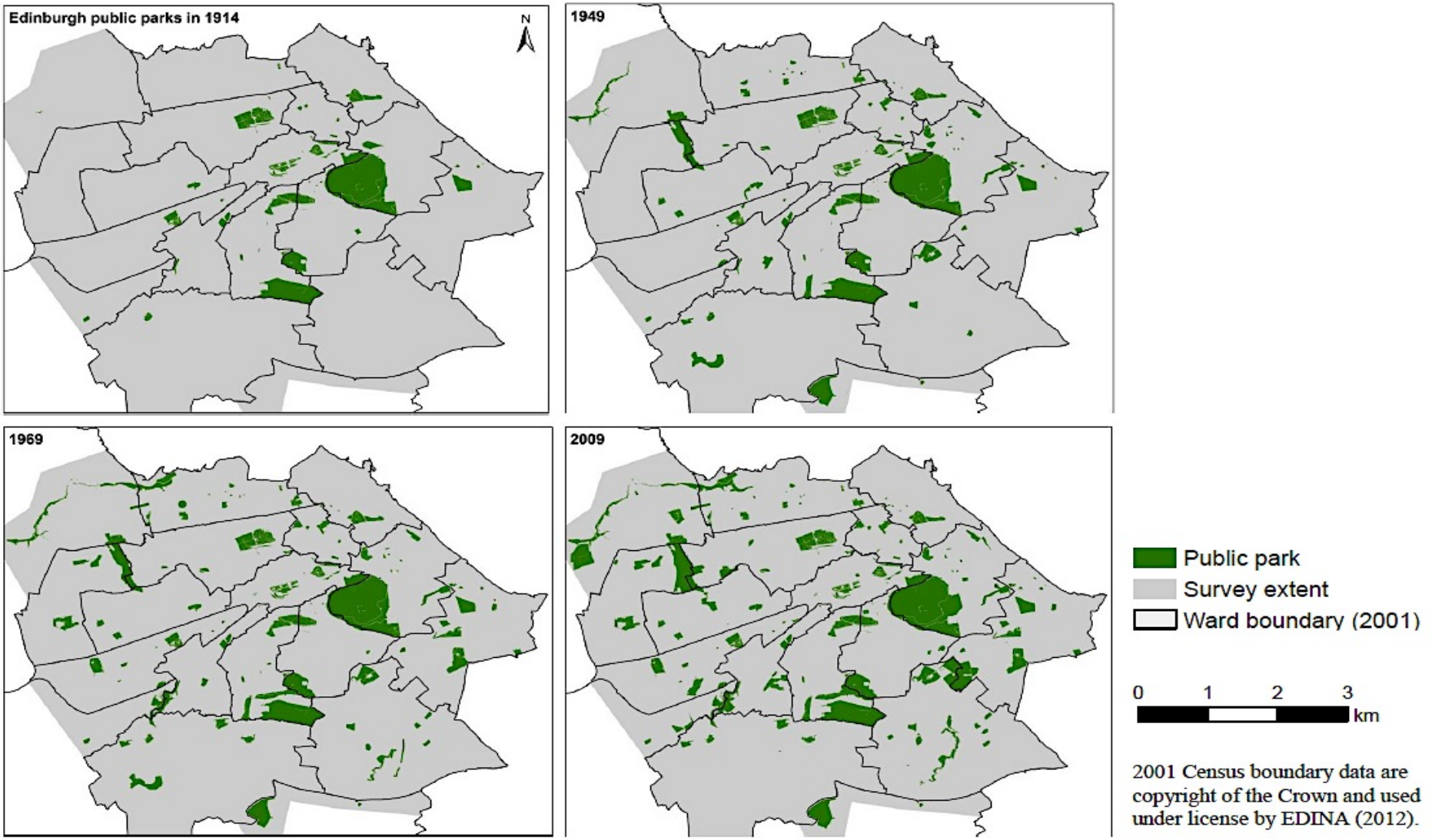


Figure 2. Mapping the public parks in Edinburgh in 1914, 1949, 1969 and 2009.
Data sources: M'Hattie 1914, Abercrombie et al. 1949, City of Edinburgh Council (Town Planning Department) 1965, 1969 & 2009

Work led by Jamie Pearce, Funded by the European Research Council [ERC- 2010-StG Grant 263501].

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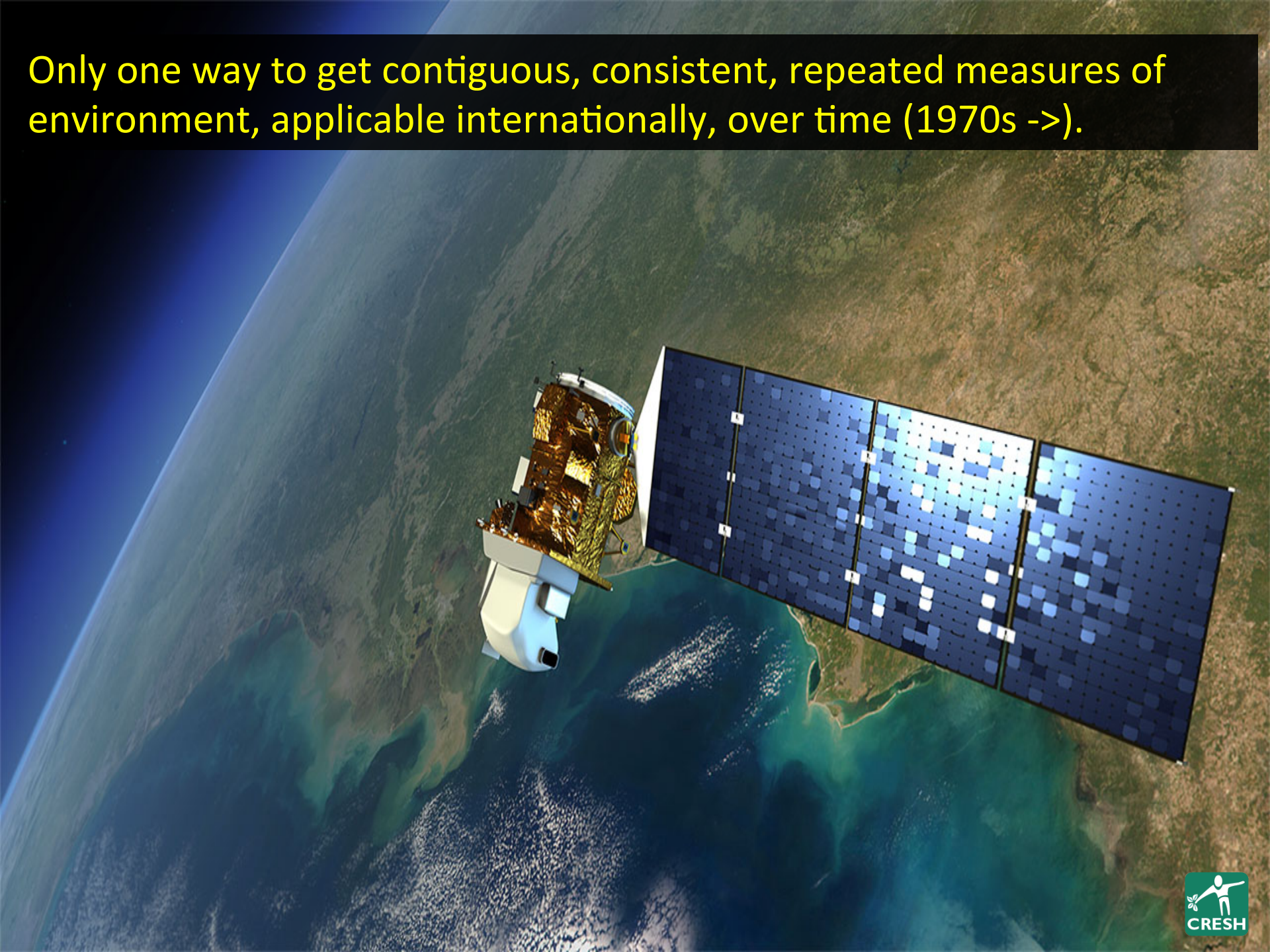
Only one way to get contiguous, consistent, repeated measures of environment, applicable internationally, over time (1970s ->).



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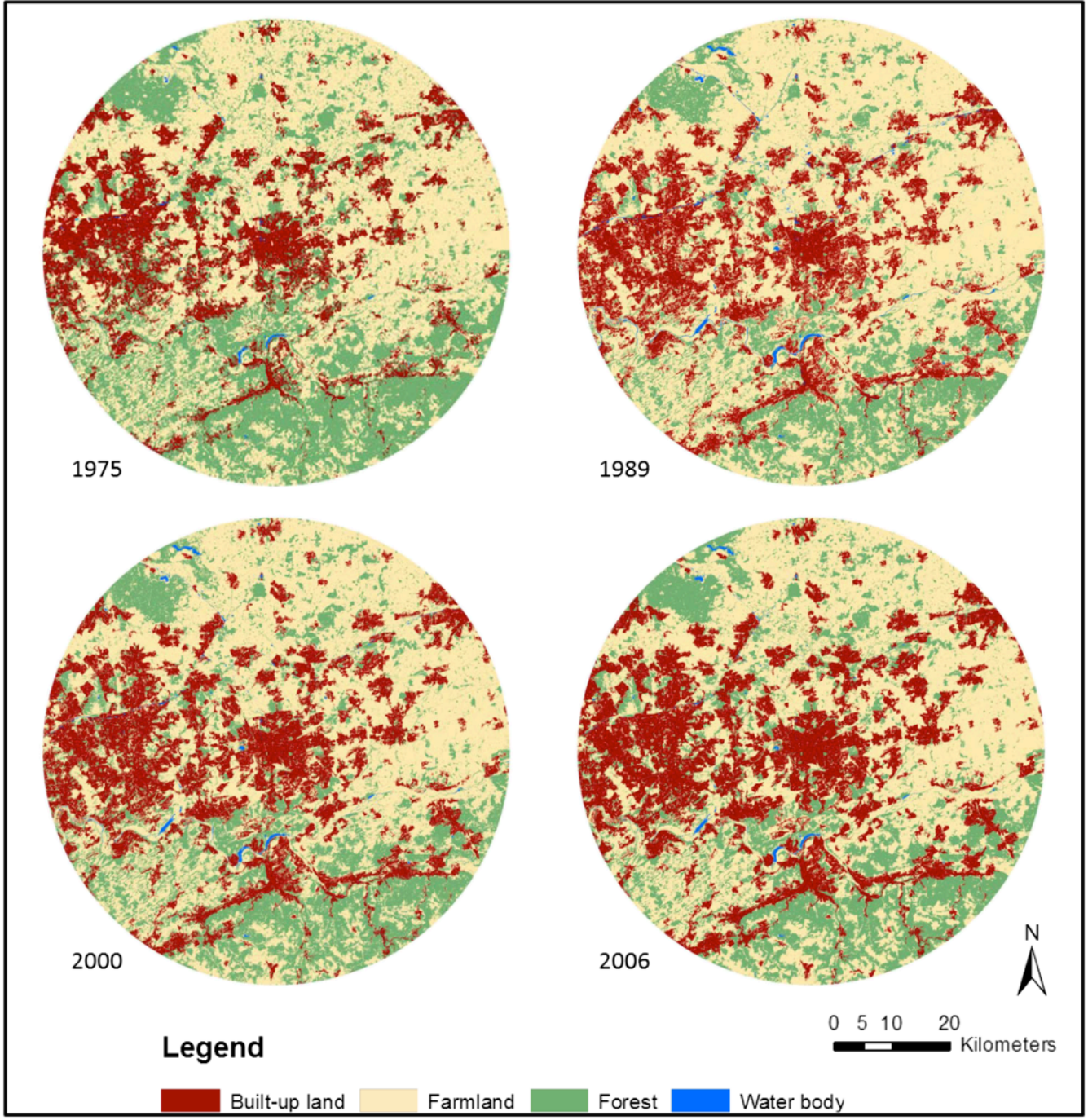
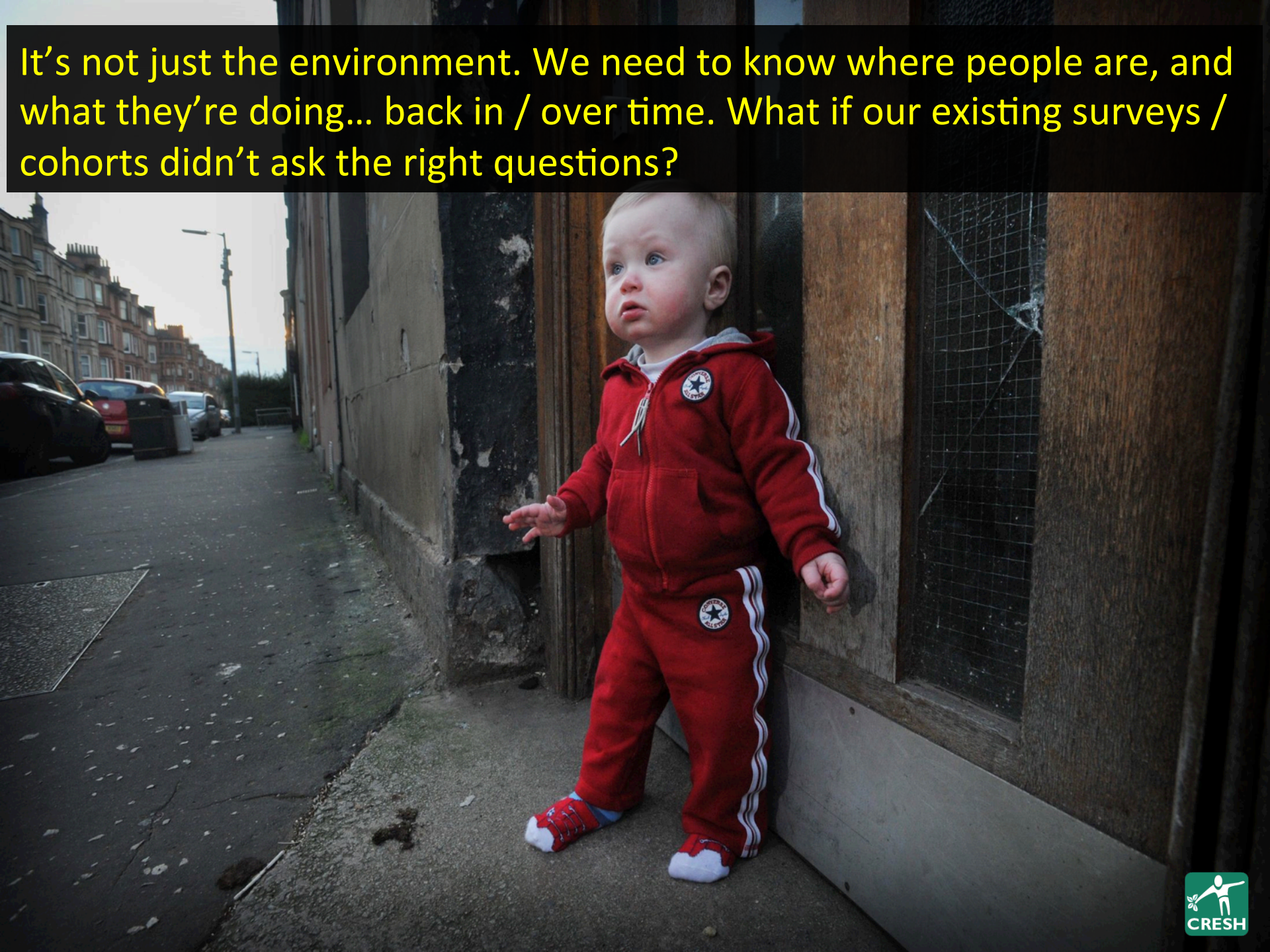


Li & Thinh. Appl. Remote Sens. 7(1), 073458 (Dec 23, 2013). doi:10.1117/1.JRS.7.073458

But, environment data don’t always easily reveal their interaction with environmental / health behaviours

It’s not just the environment. We need to know where people are, and what they’re doing… back in / over time. What if our existing surveys / cohorts didn’t ask the right questions?



‘Life grid’ technique – local, global and personal events are used to prompt recollection of past home addresses, behaviours, lifestyles

Year	Home address	Local/global/personal events	Work
	Write the street name, suburb and town/city of the home where you lived at the start of each decade e.g. 1930, 1940, 1950…	Major events that may help you date home address. Personal events could include the likes of marriage, birth of children, major holidays, death of parents…	**Write the title of your job** (or your Father’s job if appropriate) at the start of each decade
1970 1972 1974 1976 1978	Eglen Rea Cottages Gorgie Road Edinb.	Oil crisis Married Margaret Thatcher becomes prime minister	Self Employed Mobile Fruit Van
1980 1982 1984 1986 1988	Harrison Gardens Slateford Edinb.	Falklands War Father Died Lockerbie bombing, Hillsborough disaster	
1990 1992 1994 1996 1998	Forrester Park Gardens Edinb. EH12	John Major becomes prime minister Diana Princess of Wales dies Scottish Parliament opened	Self Employed Black Taxi Driver
2000 2002 2004 2006 2008		9/11 attacks in New York	
2010 2012 2014		Earthquake and tsunami off coastal Japan	

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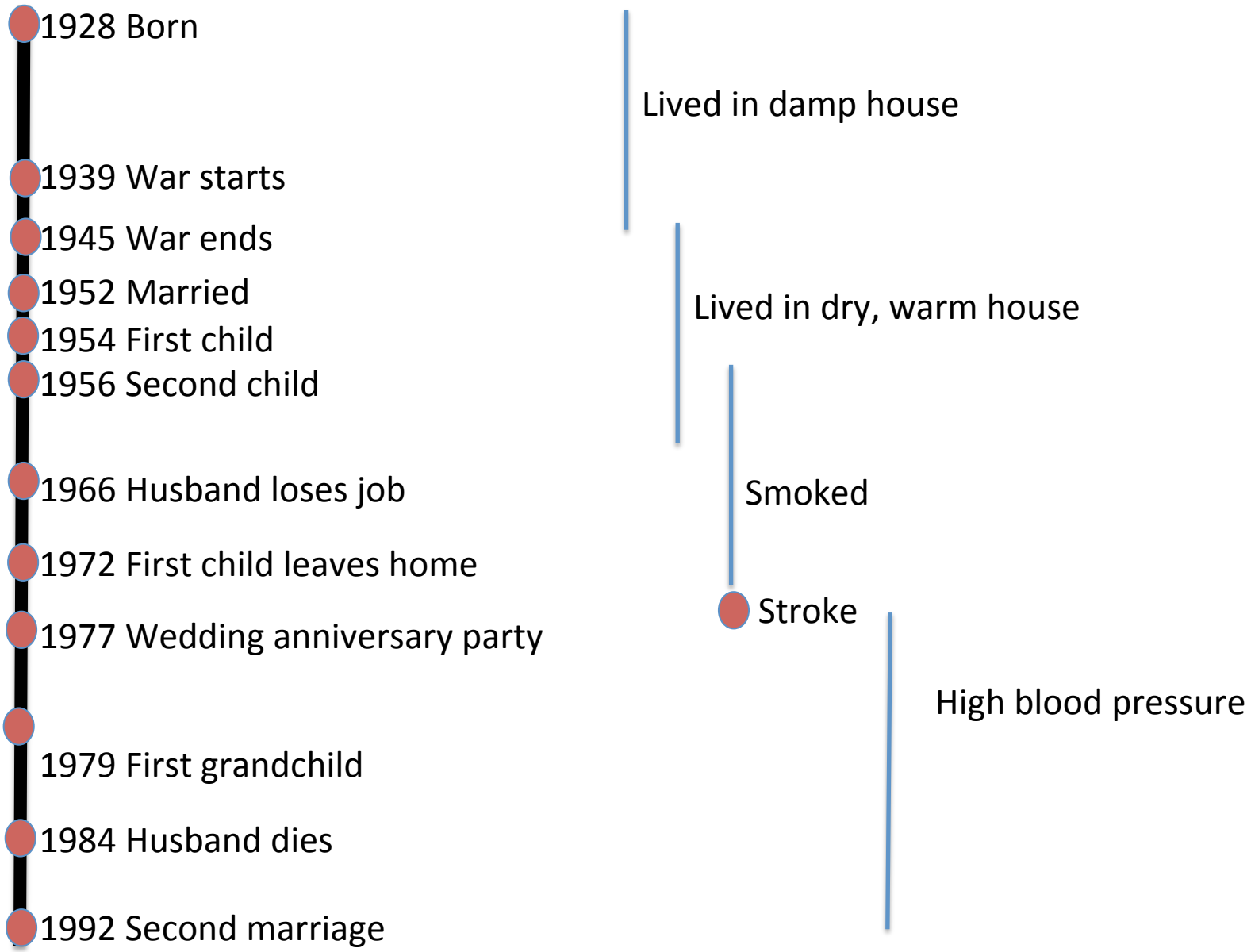
1928 Born
1939 War starts
1945 War ends
1952 Married
1954 First child
1956 Second child
1966 Husband loses job
1972 First child leaves home
1977 Wedding anniversary party
1979 First grandchild
1984 Husband dies
1992 Second marriage
Lived in damp house
Lived in dry, warm house
Smoked
Stroke
High blood pressure


Potential data: we have access to rich data about our current and recent environments, and these can be sources of data on behaviour too
Kelvindale, opp...
Kelvindale, after...
Weymouth Dr
Cleveden Rd
© 2012 Google
Report a problem
Image Date: October 2008
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Figure 1. Images of cycle traffic before (left; 2009) and after (right; 2010) construction of a cycling path Note: Photos show the intersection of Pennsylvania Avenue NW and 9th Street NW, Washington DC;

Images processed by Mechanical Turk

Hipp et al. Emerging Technologies: Webcams and Crowd-Sourcing to Identify Active Transportation. American Journal of Preventive Medicine, Volume 44, Issue 1, 2013, 96–97

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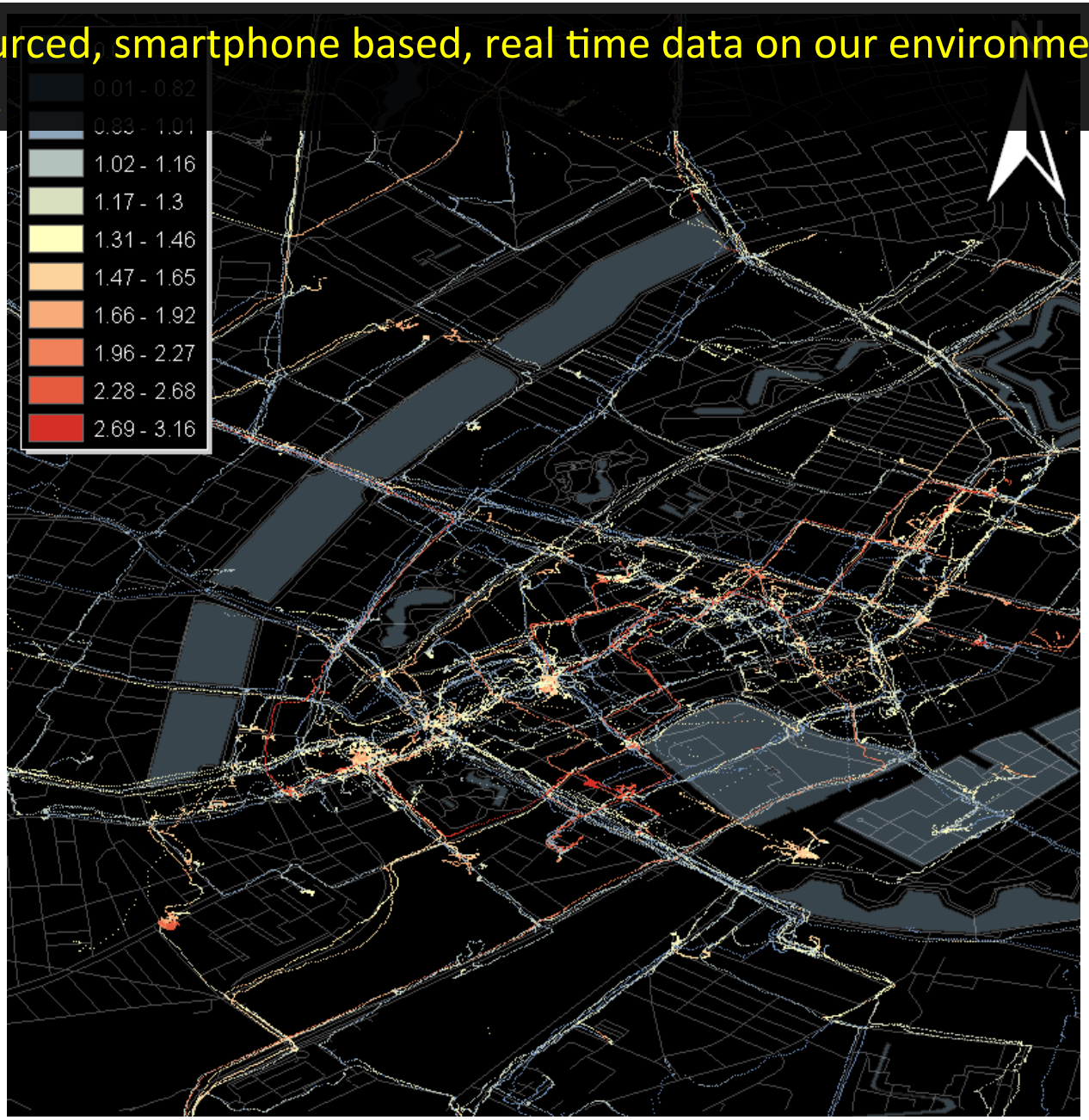
Kelvin Way
Glasgow, Scotland
Street View - Aug 2015
Kelvin Way
Kelvingrove Lawn Bowls Centre
Back to Map
Google
Image capture: Aug 2015
© 2015 Google
Terms
Privacy

Crowd-sourced, smartphone based, real time data on our environments: the smart city.



Mobile CO measurements in the city of Copenhagen (December 2009).
Kamel Boulos et al. International Journal of Health Geographics 2011, 10:67

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WHO OWNS A SMARTPHONE

% OWN A SMARTPHONE BY GENDER AND SOCIAL GRADE

	All	15-24	25-34	35-44	45-54	55-64	65+
Males	68%	91%	90%	85%	72%	57%	22%
Males AB	75%	98%	100%	98%	89%	70%	30%
Males C1	73%	94%	95%	86%	68%	65%	21%
Males C2	64%	87%	86%	73%	77%	44%	16%
Males DE	59%	86%	84%	74%	47%	32%	14%
Females	65%	90%	91%	86%	73%	48%	18%
Females AB	71%	93%	95%	93%	83%	62%	27%
Females C1	69%	95%	96%	88%	81%	51%	21%
Females C2	63%	82%	92%	86%	65%	40%	9%
Females DE	55%	88%	83%	74%	47%	32%	11%

0-49% 50-69% 70-100%

Base: circa 4,000 GB adults aged 15+: Q3/ Q4 2014 Q1/Q2 2015

Source: Ipsos MORI

SOCIAL NETWORKING – TWITTER

% ACCESSING TWITTER IN THE PAST 3 MONTHS, BY GENDER AND SOCIAL GRADE

	All	15-24	25-34	35-44	45-54	55-64	65+
Males	20%	39%	27%	24%	17%	9%	3%
Males AB	25%	45%	43%	36%	30%	14%	6%
Males C1	24%	42%	36%	33%	16%	10%	3%
Males C2	15%	39%	20%	15%	11%	3%	1%
Males DE	13%	31%	17%	8%	9%	5%	1%
Females	16%	42%	21%	21%	11%	6%	2%
Females AB	19%	59%	35%	30%	11%	10%	4%
Females C1	20%	52%	27%	27%	14%	4%	2%
Females C2	15%	38%	21%	18%	8%	5%	0%
Females DE	9%	28%	7%	5%	6%	2%	0%

0-49% 50-79% 80-100%

Base: circa 4,000 GB adults aged 15+: Q3/ Q4 2014 Q1/Q2 2015

Source: Ipsos MORI

SOCIAL NETWORKING – FACEBOOK

% ACCESSING FACEBOOK IN THE PAST 3 MONTHS, BY GENDER AND SOCIAL GRADE

	All	15-24	25-34	35-44	45-54	55-64	65+
Males	52%	80%	72%	61%	49%	38%	15%
Males AB	53%	90%	81%	64%	62%	41%	20%
Males C1	59%	79%	76%	78%	54%	39%	17%
Males C2	47%	80%	69%	50%	37%	37%	8%
Males DE	48%	75%	66%	50%	41%	31%	11%
Females	55%	86%	76%	71%	58%	41%	16%
Females AB	55%	82%	79%	76%	56%	41%	25%
Females C1	61%	87%	82%	79%	68%	49%	19%
Females C2	57%	86%	76%	73%	57%	39%	12%
Females DE	49%	87%	68%	53%	49%	29%	9%

0-49% 50-79% 80-100%

Base: circa 4,000 GB adults aged 15+: Q3/ Q4 2014 Q1/Q2 2015

Source: Ipsos MORI