

Long-term stability in active modes of travel to work

A stylized illustration of a man with short orange hair, wearing a light blue t-shirt and dark grey shorts, riding a blue unicycle. He is leaning his left hand on a grey metal railing that runs diagonally across the frame. The background is a light green gradient.

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#ICTH2016

Active modes of travel

- How can we discourage use of cars?
- Who is likely to be a committed public transport user?

Where can we get data from?

`census.ukdataservice.ac.uk`

- Census


- cross sectional aggregate data
- microdata
- longitudinal data

`calls.ac.uk`

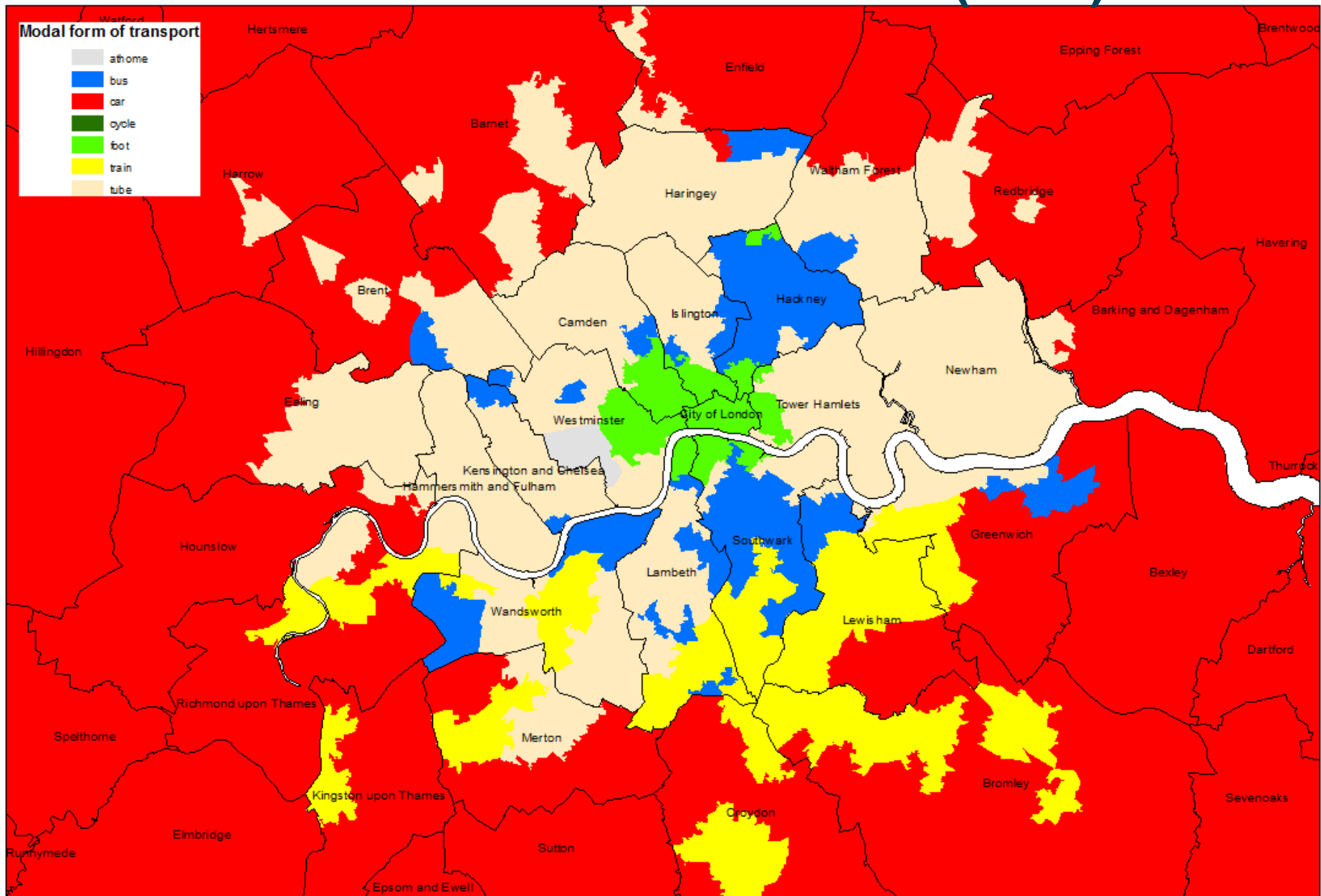
Travel to work: cross-sectional observations

Method of travel to work	1991	2001	2011
Work mainly at or from home	6%	9%	11%
Tube / light rail etc	2%	3%	4%
Train	4%	4%	5%
Bus, minibus, coach	10%	7%	7%
Motor cycle, scooter or moped	2%	1%	1%
Driving a car or van	54%	55%	54%
Passenger in a car or van	8%	6%	5%
Taxi or minicab	n/a	1%	1%
Bicycle	3%	3%	3%
On foot	12%	10%	10%
Other	1%	1%	1%
TOTAL	1,890,169	23,527,884	26,526,336

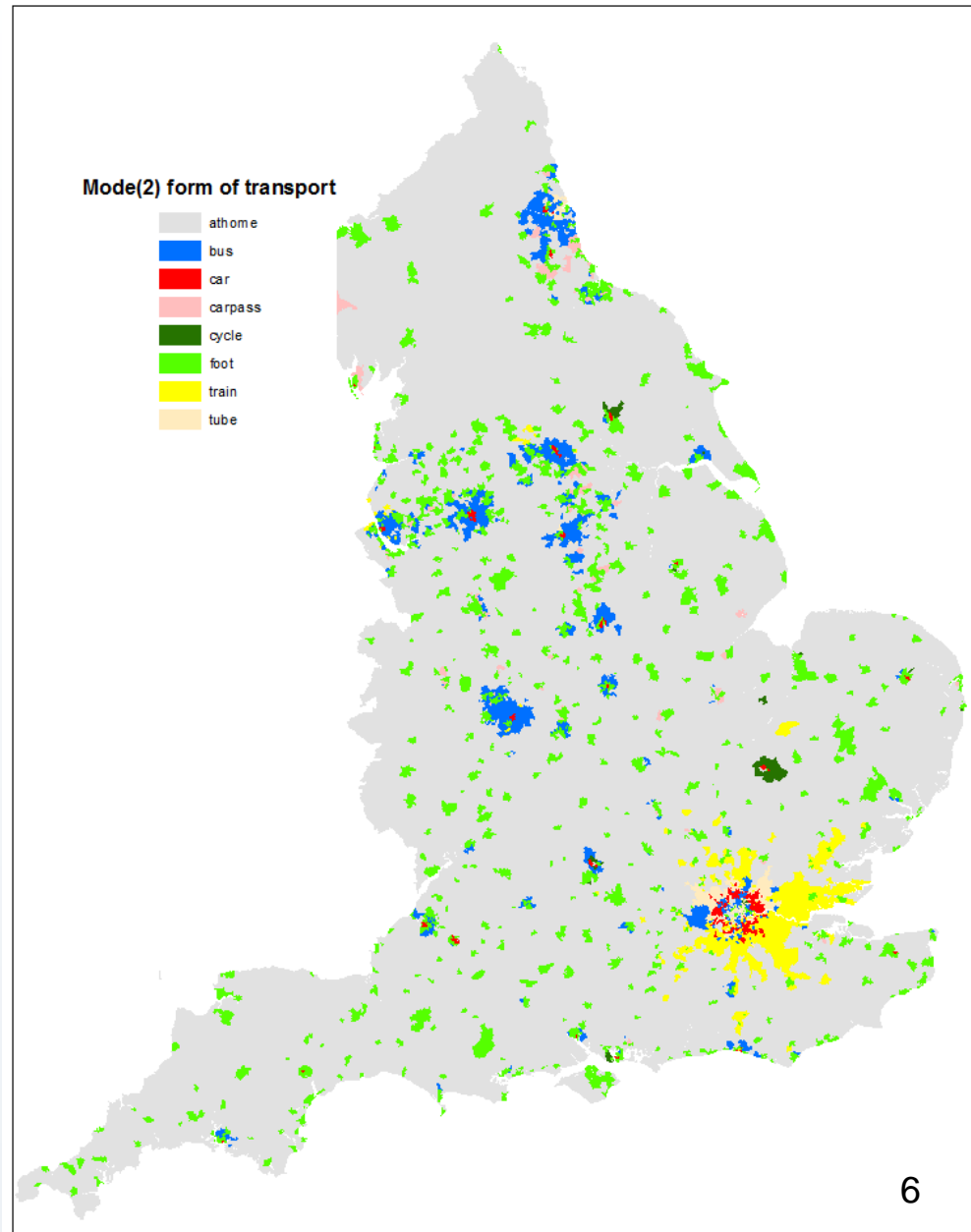
1991 data from a 10% sample...



Most common mode of travel to work (2011)



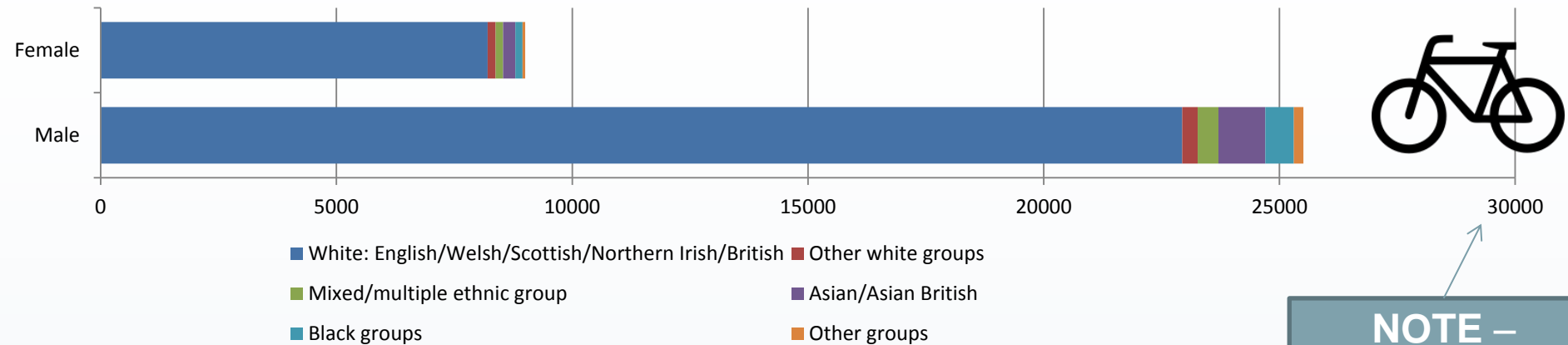
- Highlights importance of buses
- Local journeys by foot
- London remains different



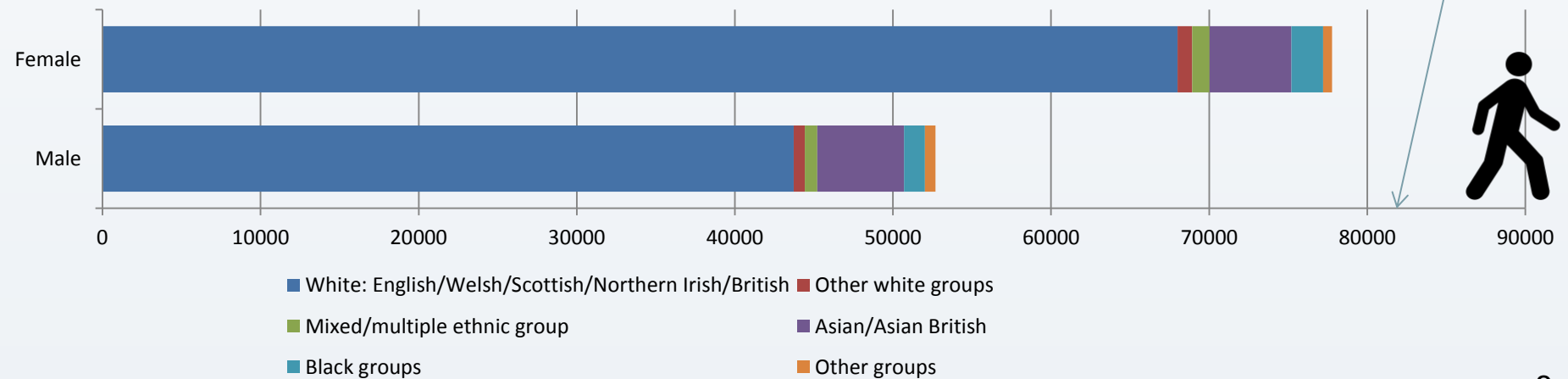
2011 cross-sectional microdata

- Who cycles to work?
- Who walks to work?

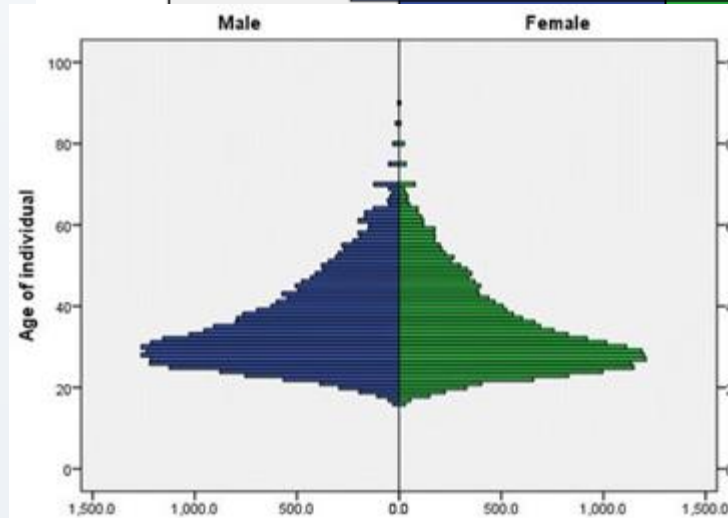
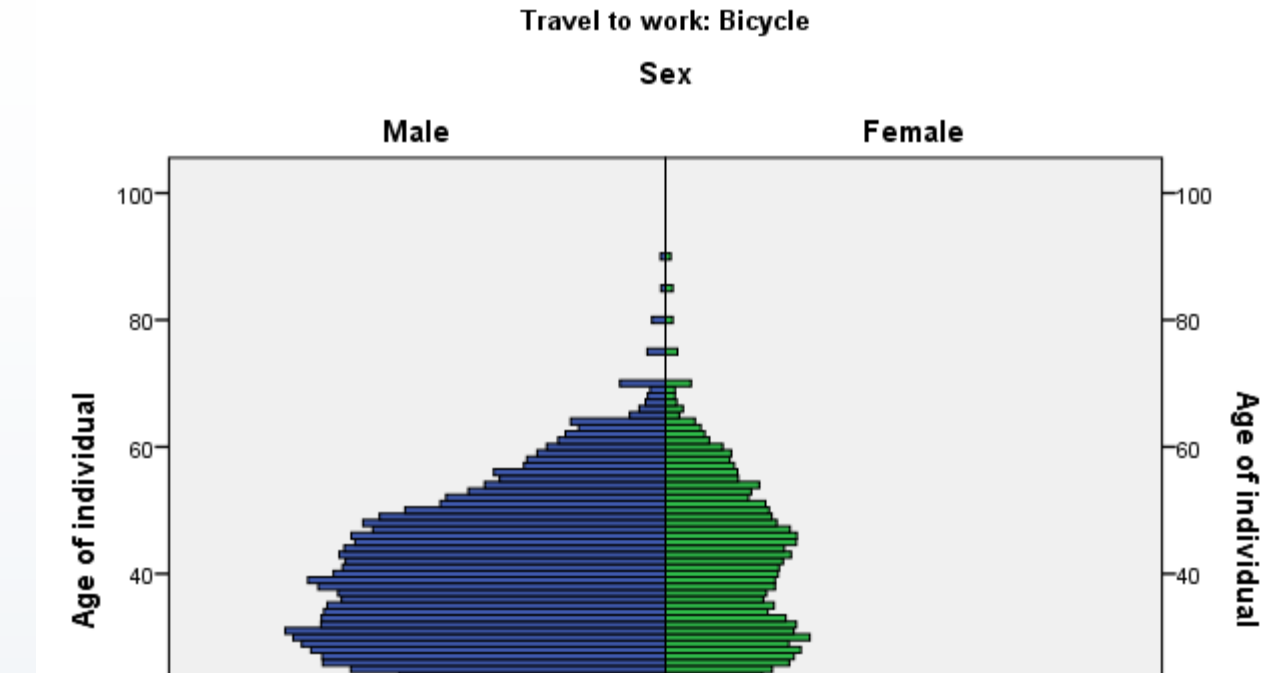




**NOTE –
DIFFERENT
SCALES**



Cycle-commuters (UK, 2011) by age



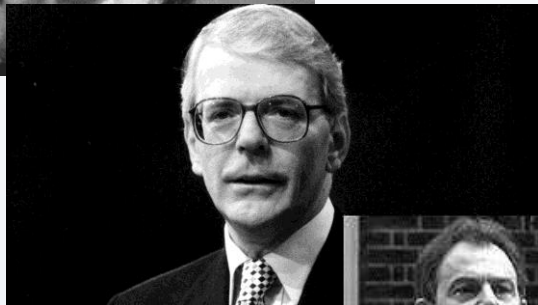
Longitudinal data: a sequence of censuses



1971



1981



1991



2001



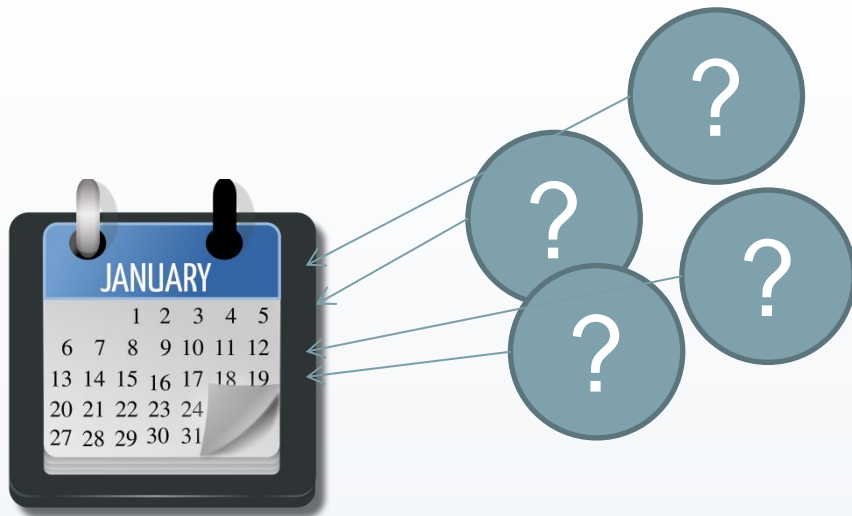
2011



2021

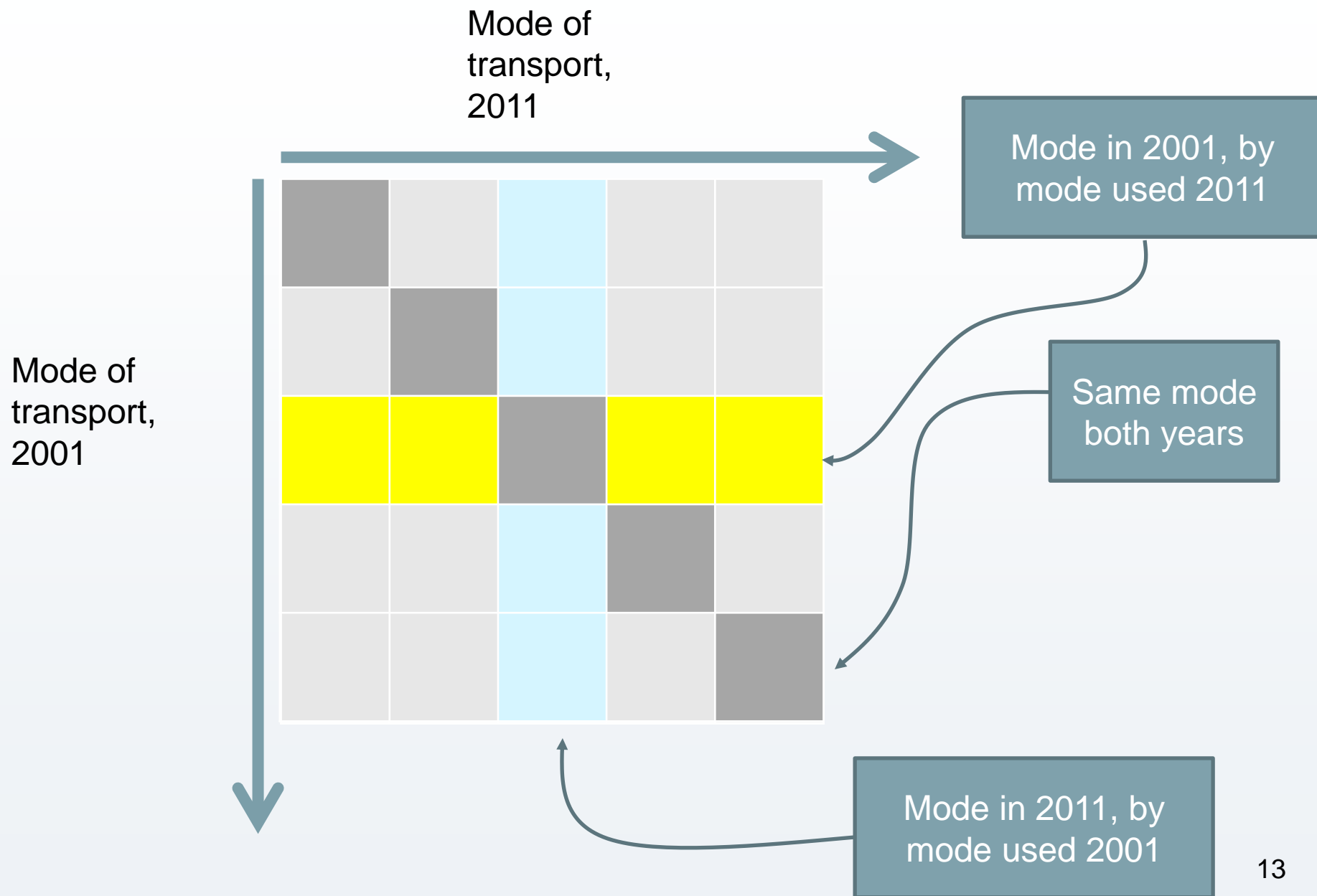


ONS Longitudinal Study



Four (undisclosed) birth dates
= $4 / 365$ sample size
= 1.1% approx



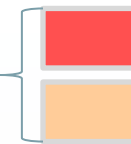


		Mode in 2001									Total	
		Train	Tube	Bus	Drive car/van	Passenger car/van	Taxi/Minicab	Motorcycle	Bicycle	On foot		Works at/from home
Mode in 1991	Train	37%	5%	5%	35%	3%	0%	1%	1%	4%	9%	5411
	Underground/Tube/Metro	15%	32%	7%	28%	2%	0%	1%	2%	4%	9%	3015
	Bus/Minibus/Coach(public or private)	3%	2%	27%	38%	10%	1%	1%	2%	11%	5%	11410
	Drive car/van	2%	1%	1%	78%	2%	0%	1%	1%	3%	10%	84083
	Passenger car/van	2%	1%	8%	51%	19%	1%	1%	2%	9%	6%	9969
	Motor cycle/Scooter/Moped	1%	1%	4%	56%	4%	1%	17%	6%	6%	6%	2301
	Pedal cycle	2%	1%	4%	41%	5%	0%	2%	28%	10%	6%	4496
	On foot	2%	1%	8%	37%	7%	1%	1%	3%	33%	7%	15025
	Mainly at home	1%	1%	2%	37%	3%	0%	0%	1%	7%	47%	6693
Total		4845	2330	7173	88755	6985	594	1562	3699	11239	15221	142403

- 28% of those cycling in 1991 still cycled 2001; most had become car drivers
- Similar story for those walking to work

Stability 2001 to 2011

For each 2001 mode



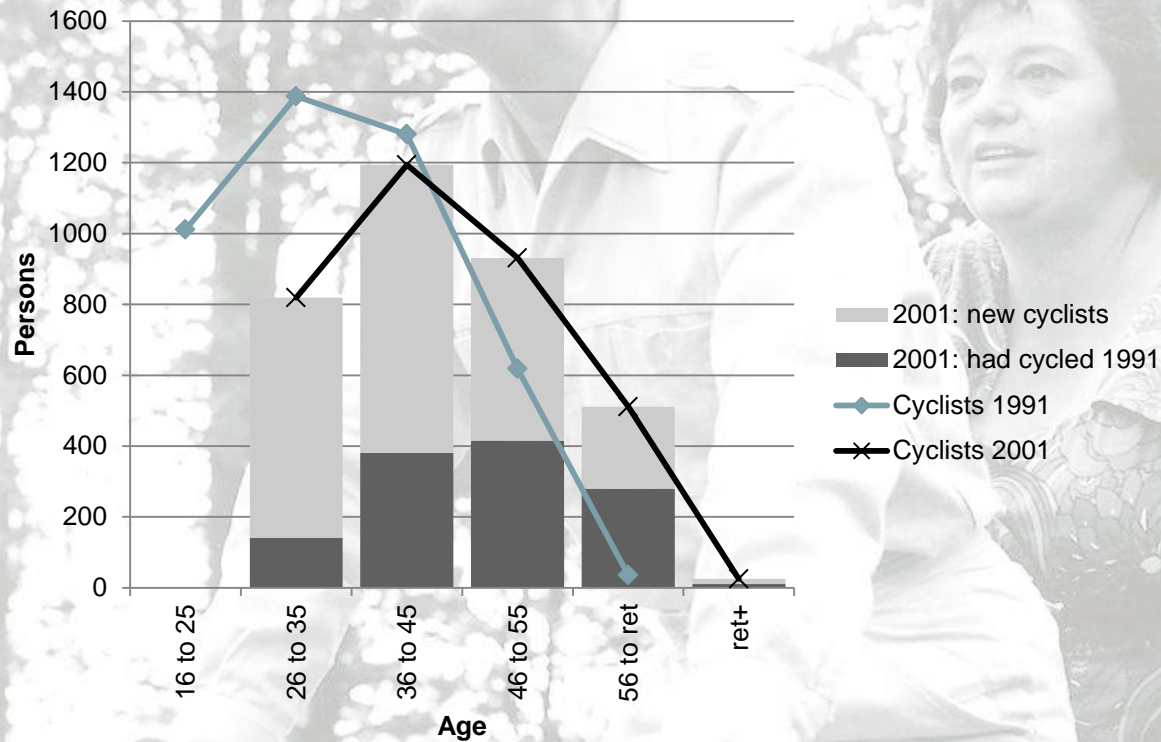
most common 2011 outcome

second most common 2011 outcome

		Mode in 2011									
		Train	Tube	Bus	Driving a car or van	Passenger in a car or van	Motorcycle	Bicycle	On foot	Work mainly at or from home	Total
Mode in 2001	Train	41%	6%	4%	32%	2%	1%	2%	5%	7%	6324
	Tube/Metro/Light rail/tram (E&W)	17%	33%	8%	24%	2%	1%	3%	5%	7%	3849
	Bus/Minibus/Coach	5%	3%	27%	39%	8%	0%	2%	12%	3%	10638
	Drive car/van	2%	1%	2%	82%	2%	1%	1%	4%	5%	93087
	Passenger car/van	3%	1%	8%	53%	20%	1%	2%	10%	3%	10522
	Motor cycle/Scooter/Moped	4%	2%	3%	56%	4%	19%	6%	4%	3%	1840
	Bicycle	3%	1%	4%	43%	4%	2%	30%	10%	3%	4415
	On foot	3%	2%	7%	40%	6%	1%	3%	34%	4%	14621
	Works at/from home	3%	1%	2%	54%	3%	0%	1%	7%	28%	14035
Total		7381	3428	7323	105507	6879	1248	4053	13075	10437	159331

- 30% retention rate for cyclists
- 34% retention rate for walkers

Cyclists 1991 and 2001



Younger people more likely to cycle
Older people more likely to carry on cycling



Effects of moving home...

- We can look at people
 - Employed or self employed in both 2001 and 2011
 - Who drove to work in 2001
 - Who moved between 2001 and 2011

Car-commuters in 2001, who moved to (from anywhere) or within, a region 2001-11

... of which, those who were active commuters in 2011



	East Midlands	East of England	London	North East	North West	South East	South West	Wales	West Midlands	Yorkshire and The Humber
Moved to	866	1053	656	193	592	1653	1121	395	618	584
Moved within	3547	4528	2160	1786	5110	7126	4349	2134	4211	3880
Moved to	21	61	114	11	28	112	96	18	28	42
Moved within	164	251	309	81	235	352	291	69	137	171
Moved to	2%	6%	17%	6%	5%	7%	9%	5%	5%	7%
Moved within	5%	6%	14%	5%	5%	5%	7%	3%	3%	4%

Stability over twenty years....

Mode	Persons in sample
Total persons in sample & working 1991, 2001, 2011	95,521
Train	780
Tube	314
Bus	766
Car driver	36,697
Car passenger	365
Motorcycle	93
Bicycle	352
On foot	1,387
Work at home	1,030

Questions?

Acknowledgements

The permission of the Office for National Statistics (ONS) to use the Longitudinal Study is gratefully acknowledged, as is the help provided by staff of the Centre for Longitudinal Study Information & User Support (CeLSIUS). CeLSIUS is supported by the ESRC Census of Population Programme (Award Ref: ES/K000365/1). The authors alone are responsible for the interpretation of the data.

Data sources

Slides 4, 5 & 6: Special Workplace Statistics 1991,2001,2011 - ONS; Slides 5 & 6: 2011 Digital Boundary Data - ONS; Slides 8 & 9: Samples of Anonymised Records 2011 - ONS ; Slides 14, 15, 16, 18 & 19: ONS Longitudinal Study

Image credits

Slide 2: Fawlty Towers, BBC; Slide 9: Star Wars, Lucasfilm; Slide 12: Back To The Future, Universal Pictures; Slide 16: Carry On Camping, Rank Films; Slide 17: Howl's Moving Castle, Studio Ghibli