

**Commission on Travel Demand
Evidence Session 3
Tuesday 13 June 2017**

‘Spatial Trends in Travel Demand’

Peter Headicar

pgheadicar@brookes.ac.uk

“focus on key points to help Commission understand how much and how rapidly why we travel might be changing and implications for decision-making”

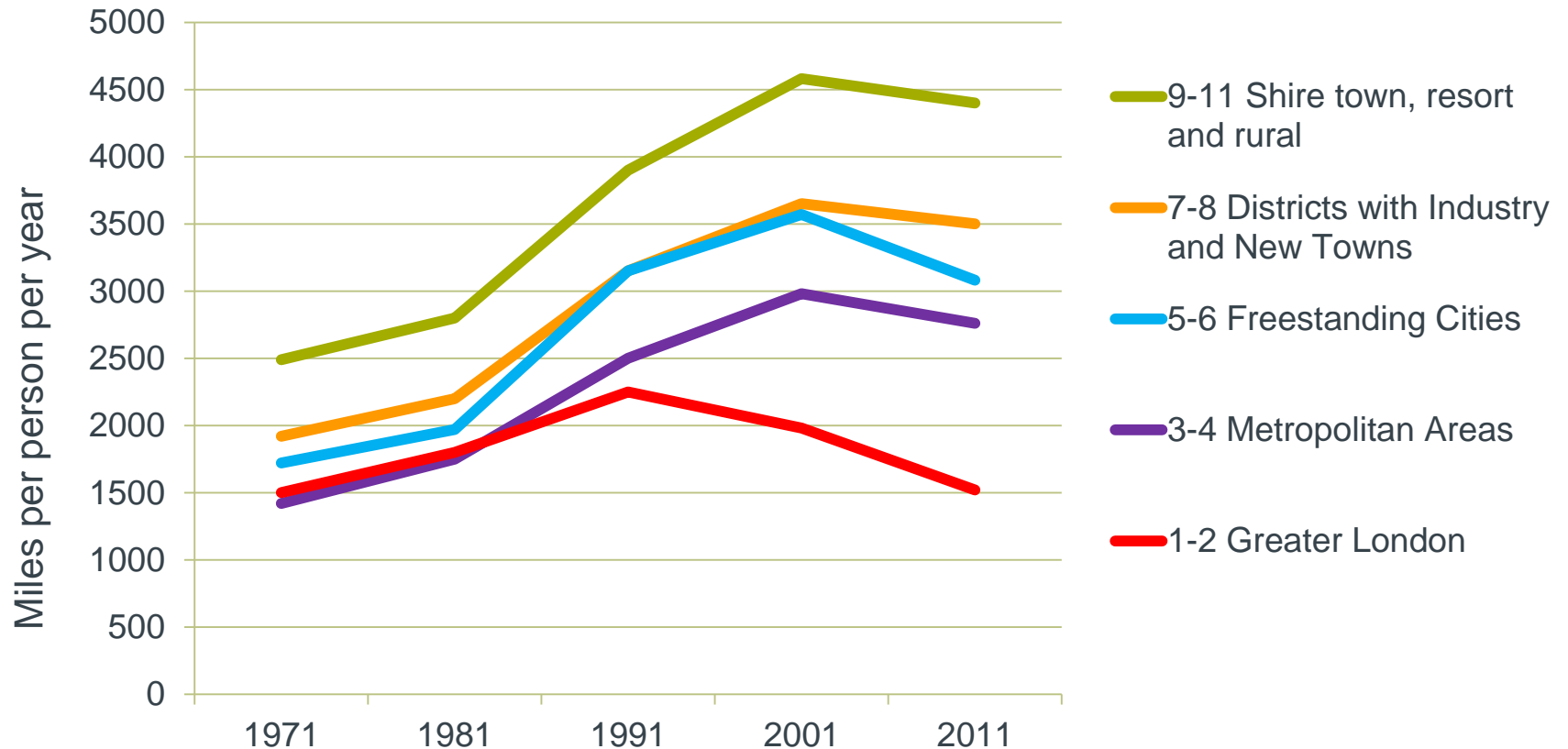
THE SIGNIFICANCE OF THE SPATIAL PATTERN OF DEVELOPMENT

- The pattern of settlement - and of land uses and development within settlements - is fundamental to the volume, mode and patterning of travel..... ...but it is not normally a source of 'rapid' change !
- The very permanence of development acts as a constraining, conservative influence on change [but activity/occupation more variable]
- Spatial variation in travel can nevertheless arise over time due to
 - i. Variations in behavioural change in different types of place (eg greater need and opportunity for car use in lower density areas)
 - ii. Renewal and additions to development stock and its distribution
 - iii. Changes in nature and intensity of development occupation
- (ii) and (iii) together result in changes in distribution of *population*
- Changes analysed here at an 'inter-urban' (LA) level; [but NB 'intra-urban' redistribution, esp of non-residential dev't, also significant]

BEHAVIOURAL CHANGE :

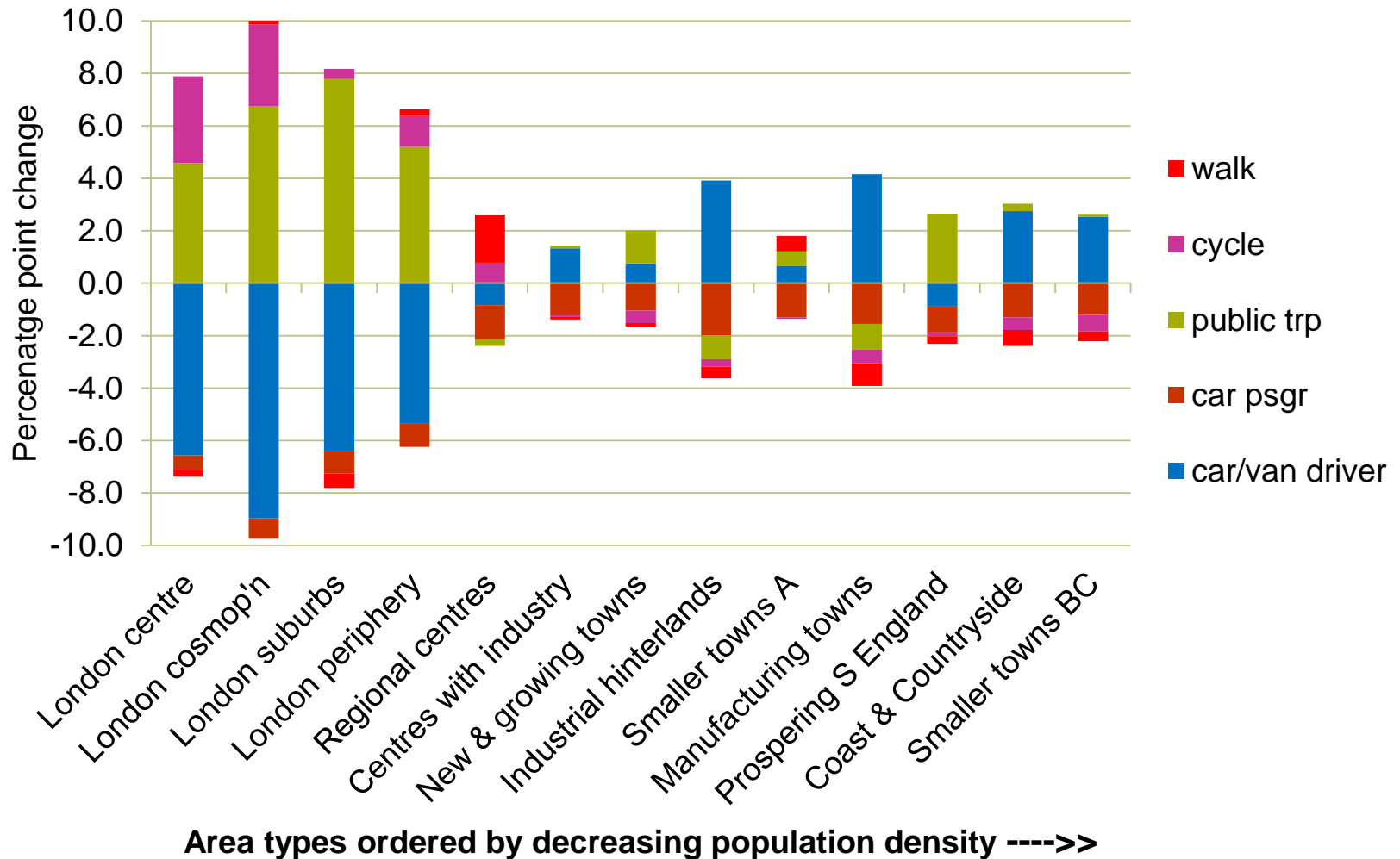
Increasing divergence in per capita car use

Car/van driver travel by grouped local authority area-types
1971-2011



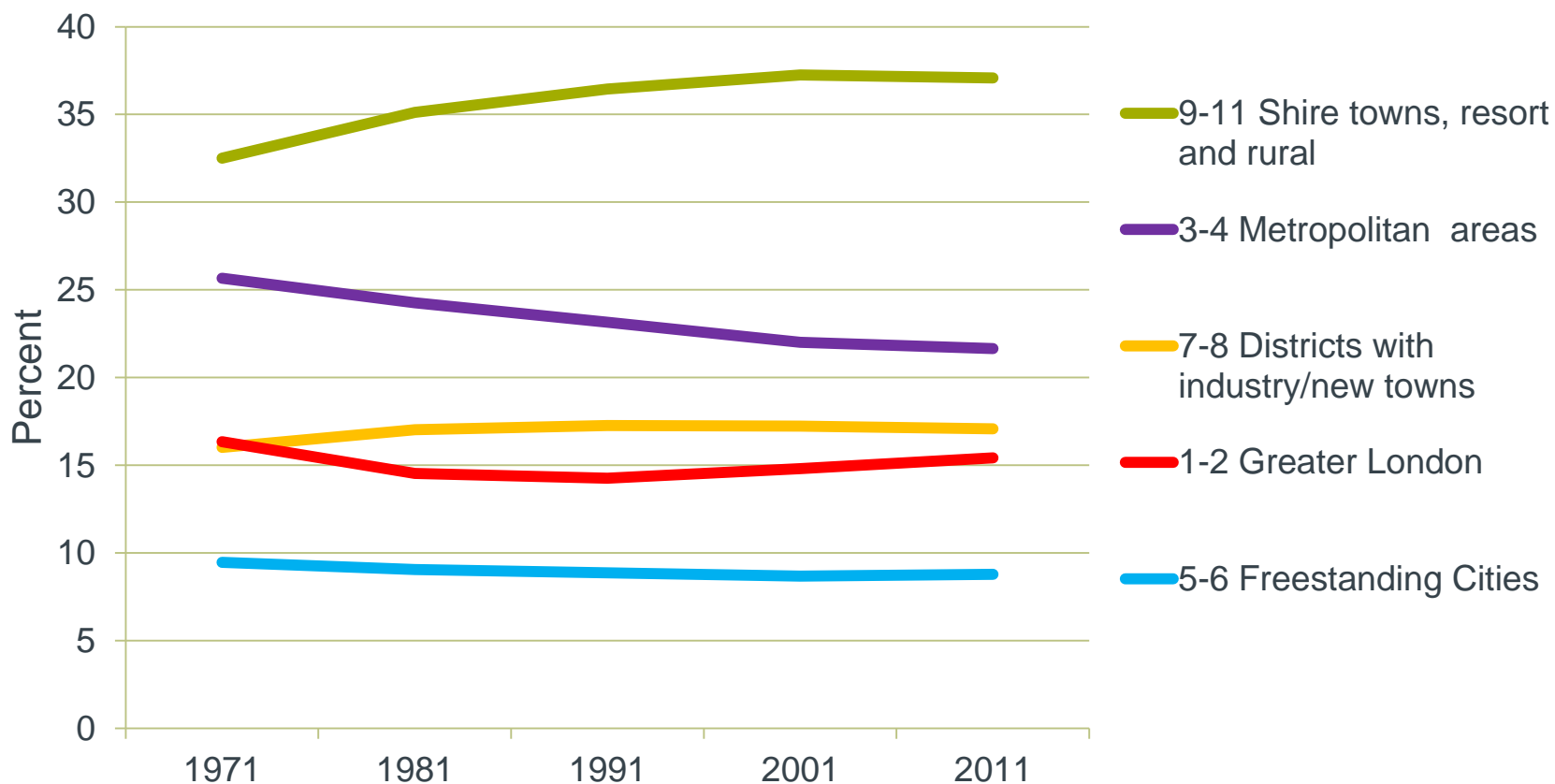
BEHAVIOURAL CHANGE DISAGGREGATED

Change in commuting mode share 2001 to 2011
by ONS 2001 local authority area type



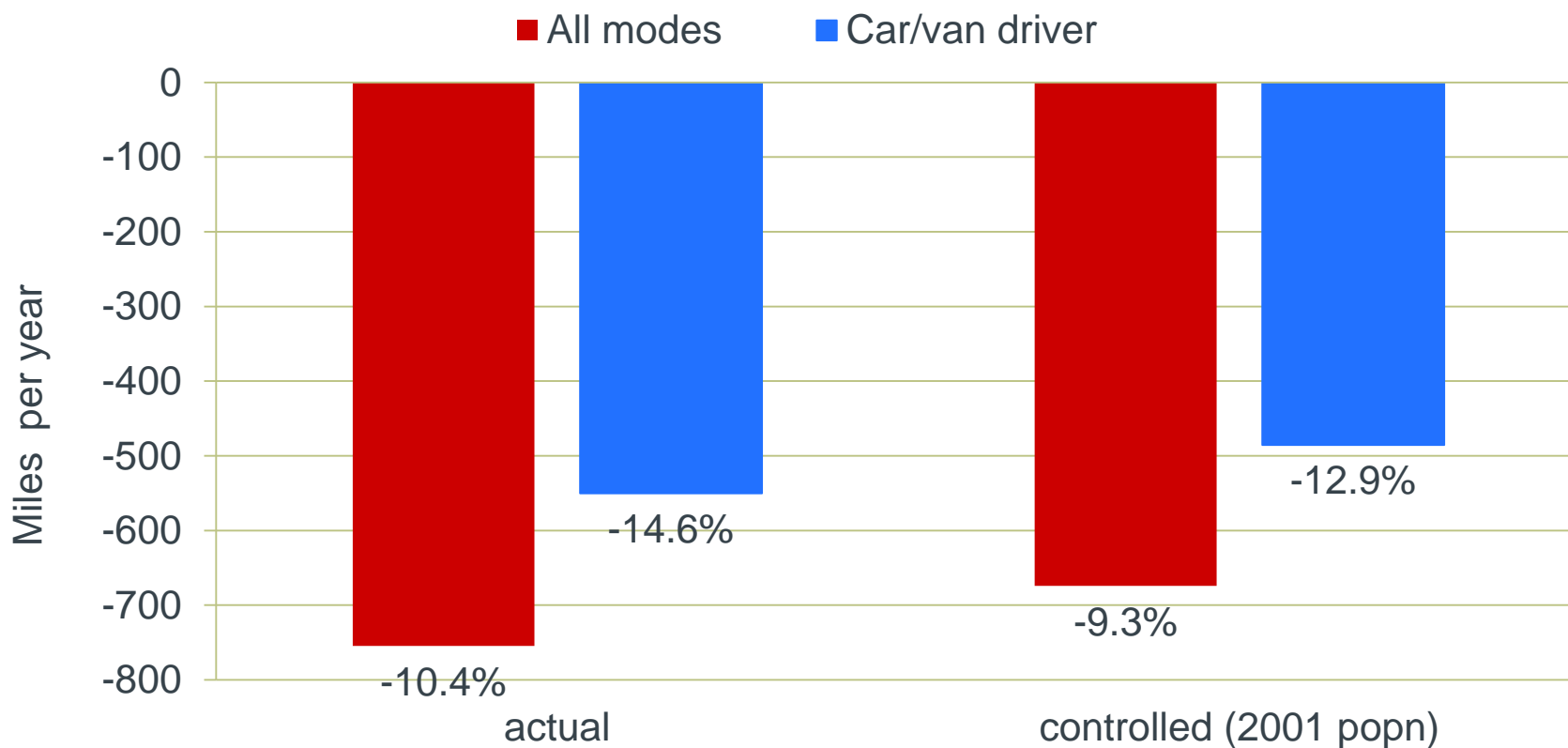
CHANGE IN POPULATION DISTRIBUTION

Population distribution by local authority grouped area-type
1971-2011



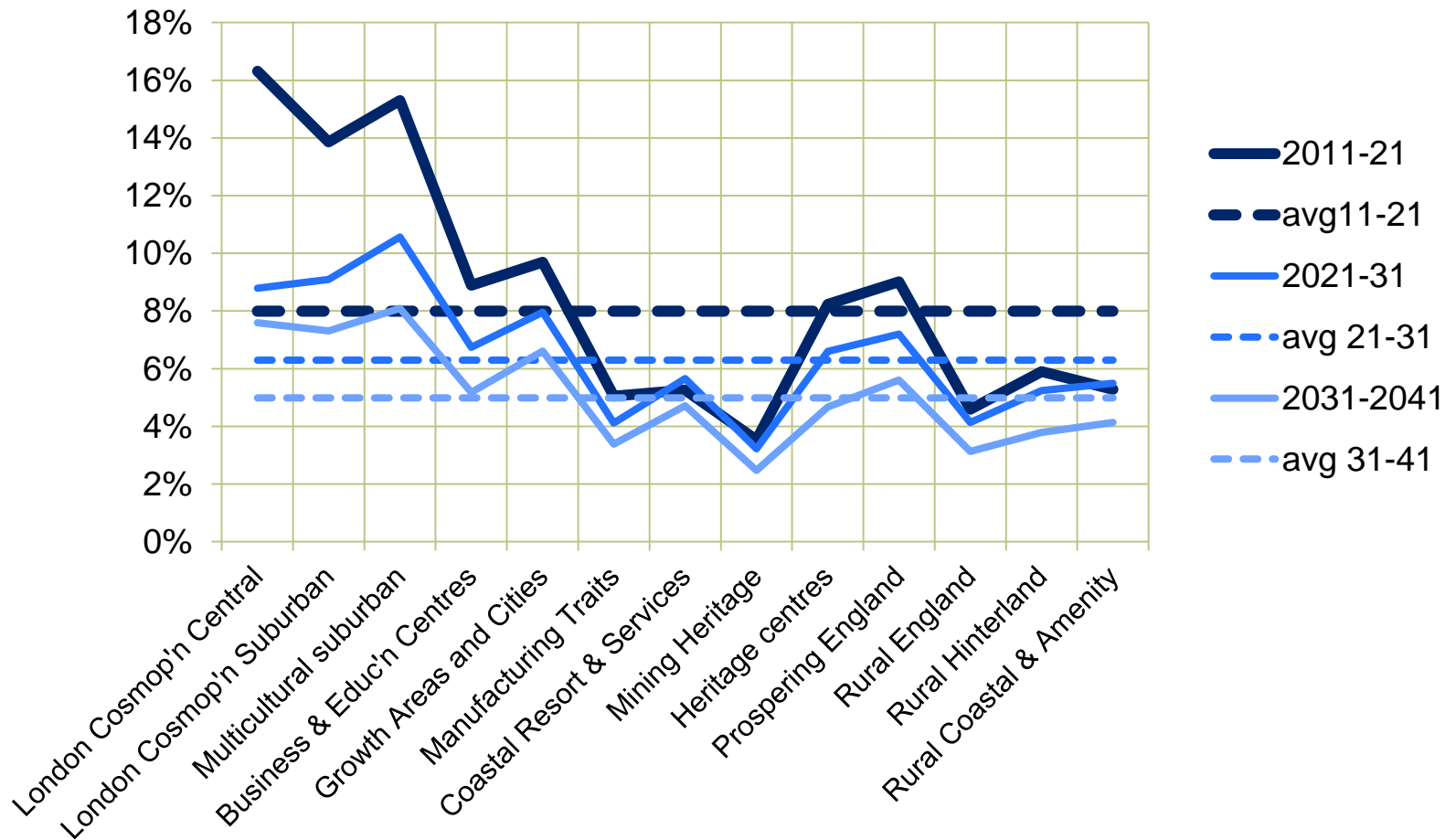
THE EFFECT OF POPULATION REDISTRIBUTION

Change in travel per person 2000/02 - 2012/14; actual and controlled for population distribution



POPULATION REDISTRIBUTION IN FUTURE?

Projected population change 2011-21, 2021-31 and 2031-41
by ONS 2011 Local authority area-type (group)

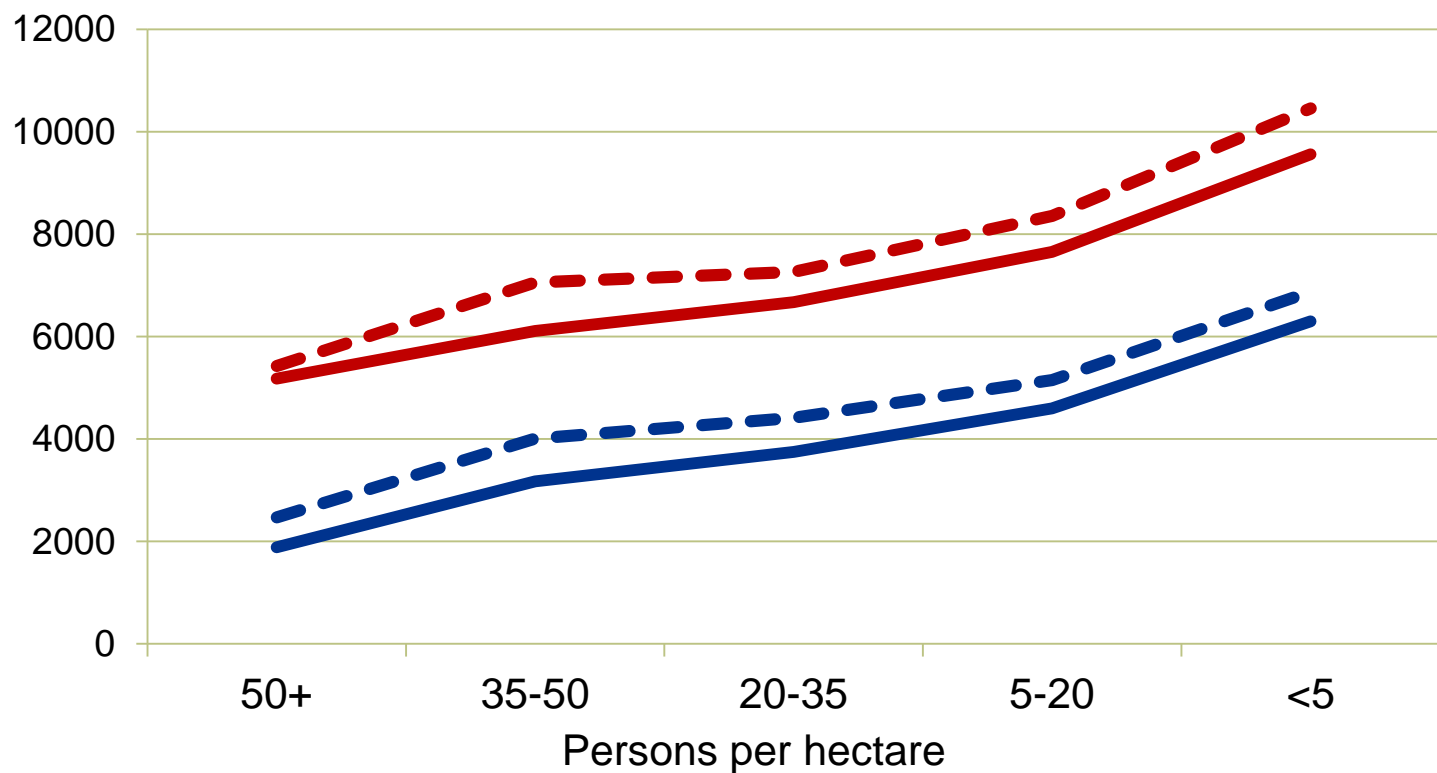


Area-types ordered by declining population density ----->

IMPLICATIONS FOR DECISION-MAKING

- Increasing polarisation in travel behaviour and ‘transport regimes’ (operations and management) of London and prospering cities compared with rest of the country
- Because of planning policies of ‘urban containment’ the population growth of cities implies densification – reinforcing current behavioural trends away from car ownership and use esp. amongst younger adults
- City environments and technological innovations present major opportunities for emerging transport regimes not predicated on individual car ownership
- Prospect of ‘business as usual’ in much of Middle England and rural areas....
- BUT with problems in managing/reconciling divergent regimes in provincial city regions where cities and suburban/rural hinterlands form part of the same functional area (eg Oxford/ Oxfordshire!)

Miles per adult per year by population density of post-code sector 1996/98 and 2012/14



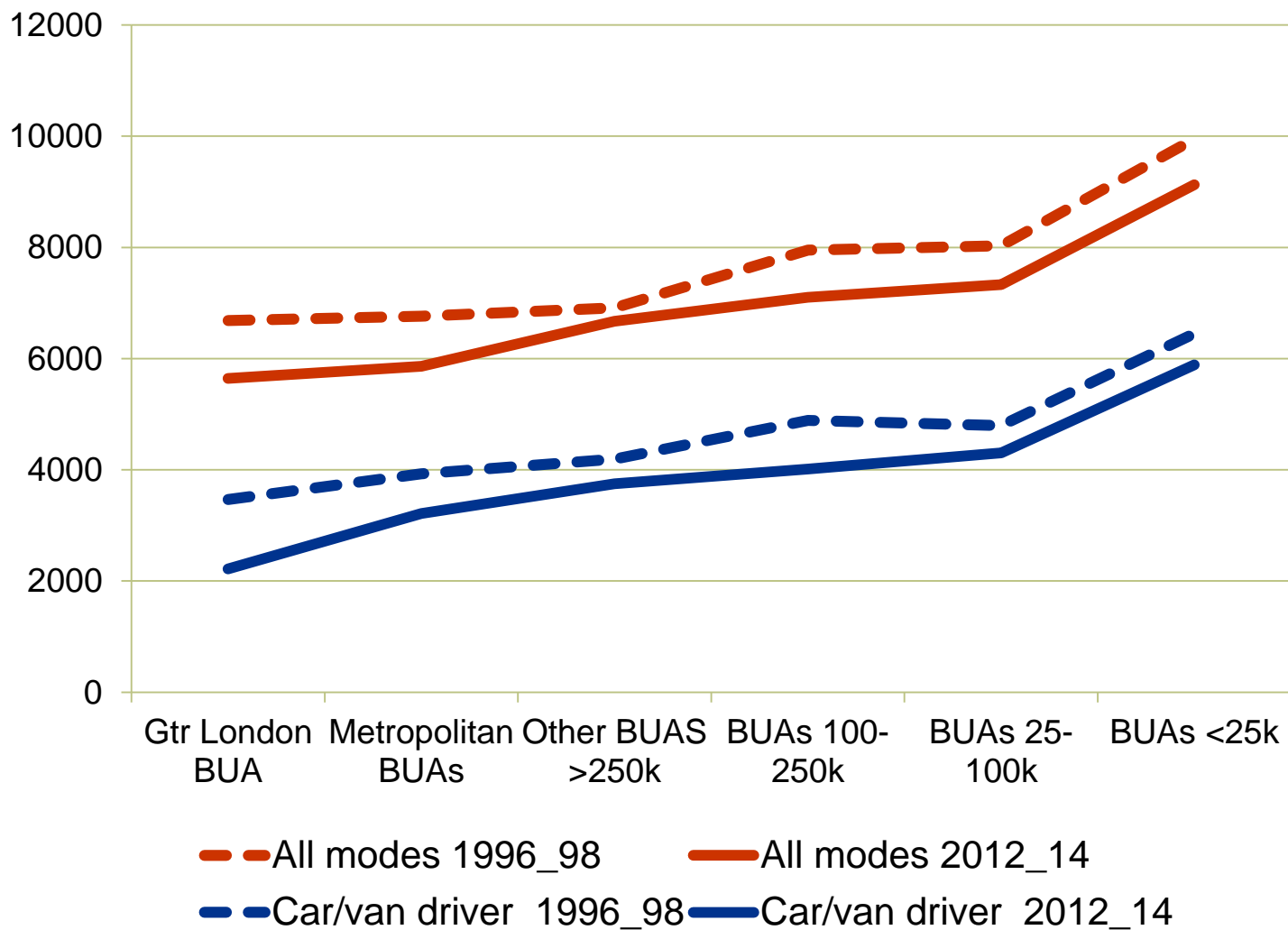
--- All modes 1996_98

— All modes 2012_14

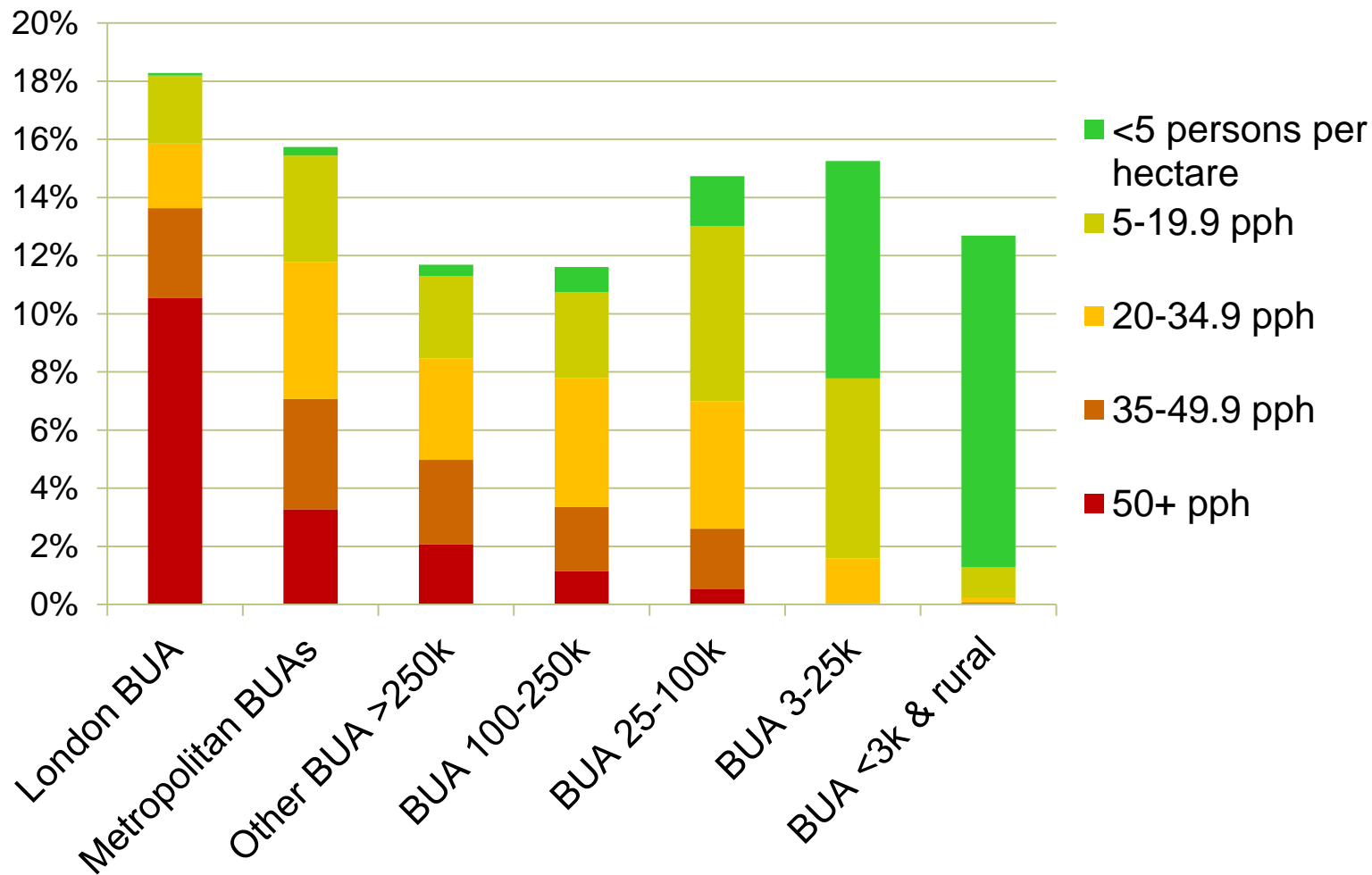
--- Car/van driver 1996_98

— Car/van driver 2012_14

Miles per adult per year by size of built-up area 1996/98 and 2012/14



Share of national population by size of built-up area and postcode sector density 2012/14



Miles per adult per year by size of non-metropolitan built-up area (BUA) and postcode sector population density 2012/14

