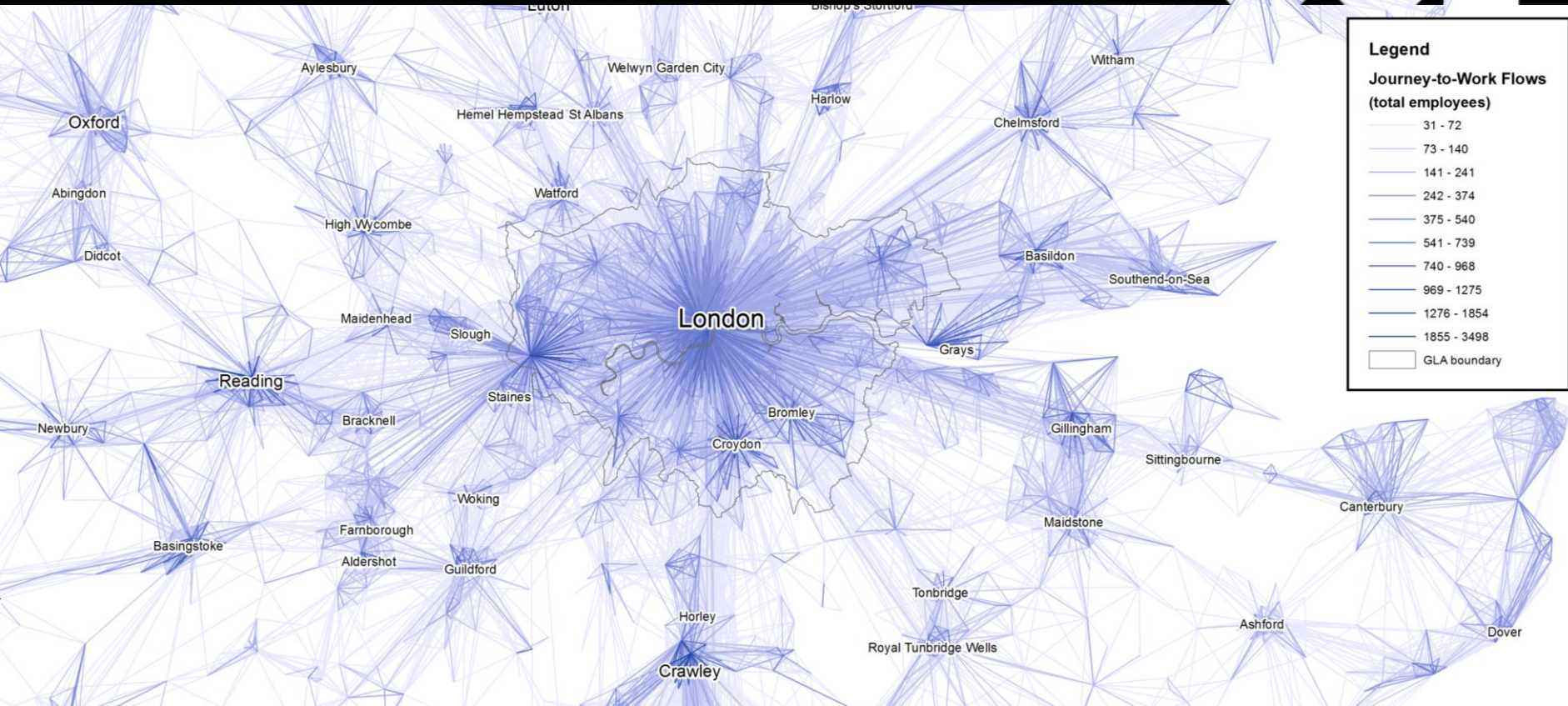


# Exploring Connections Between London and the South East Region



**Duncan Alexander Smith**

*Defining the Region Seminar, 09/09/10*

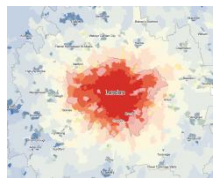


# Exploring Connections Between London and the South East

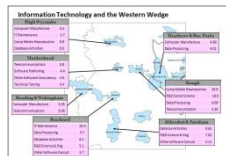
Discuss approaches to defining London's regional connections and influence. Identify most appropriate for the Land Use Transport Modelling projects. Consider how is the geography of the SE region likely to change in the future.



**Functional Economic Regions and Administrative Geographies.**



**Core approaches to defining Functional Urban Regions. Journey to Work analysis; accessibility.**



**Business geography- communication flows, agglomeration.**

## Dimensions of Regional connections-

### **Administrative**

Boundaries of regional and local government.

### **Physical Interactions**

Commuting flows; trade flows.

### **Connectivity/Potential Interaction**

Transportation networks; accessibility.

### **Business Connections**

Informational/communication flows; business agglomeration-markets.

### **Social Connections**

Communication flows; migration; community-identity.

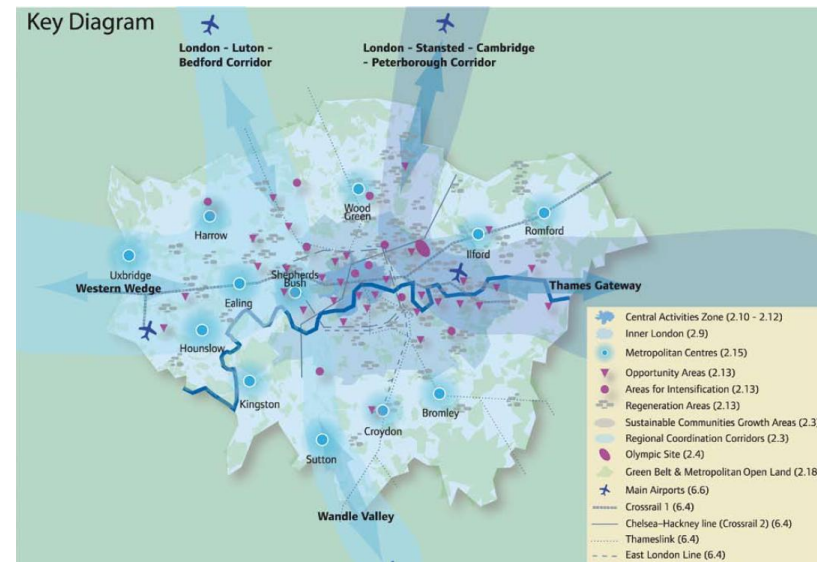
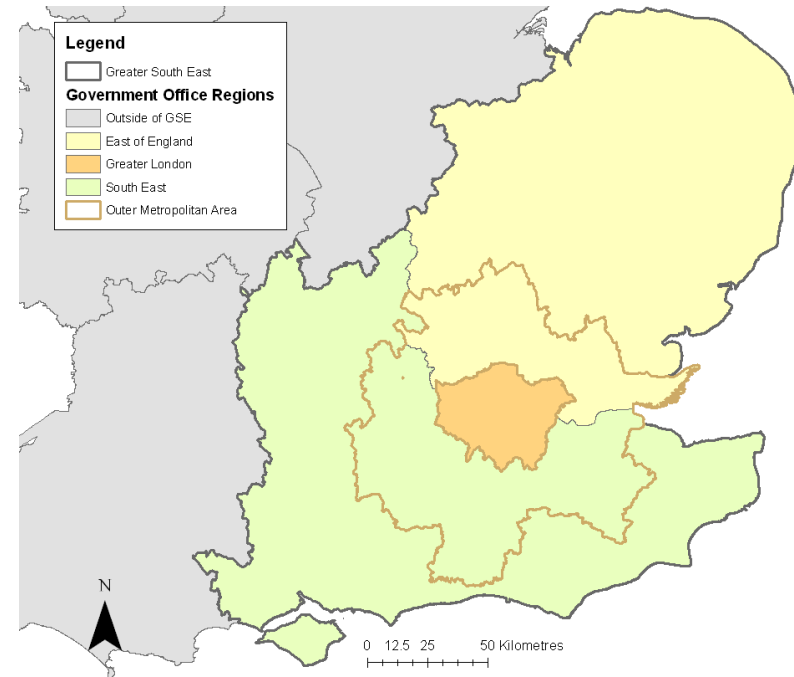
# Administrative Geographies

Admin geography basis of planning policy and strategy development.

*Changed frequently over the past 30 years, driven mainly by short term political considerations.... London boundaries gone from the County of London, Greater London Council (GLC), GLC abolished in 1980's. The Greater London Authority (GLA) was re-created in 2000 using boundaries of the 1964 GLC. The GLA already become the familiar idea of London. (Chesire & Gornostaeva, 2001).*

Current definition of GSER made up of 3 Government Office Regions, Greater London, South East and the East of England. Cooperation through inter-regional forum and on specific strategic planning projects such as the Thames Gateway.

*"London exerts a substantial effect over South East England. It is inextricably linked with this wider region, in terms of patterns of employment, skills and education, housing markets, airport policy, patterns of commuting, responding to environmental challenges like climate change, management of resources like water and power or the handling of waste." (Draft London Plan, 2009)*



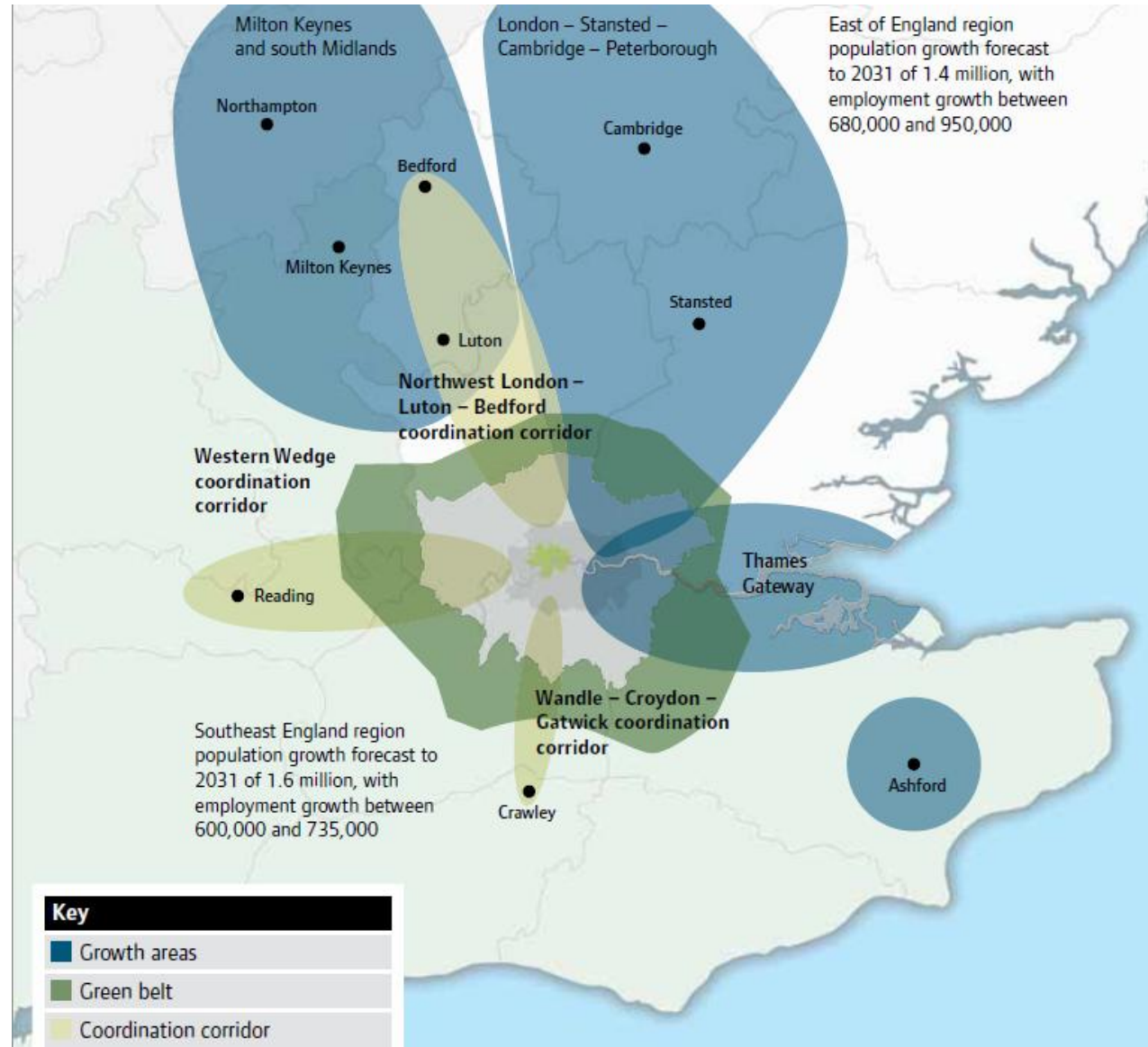
# Growth Areas in the Greater South East

## Two Neighbouring Regional Bodies

South East England Partnership Board and the East of England Regional Assembly.

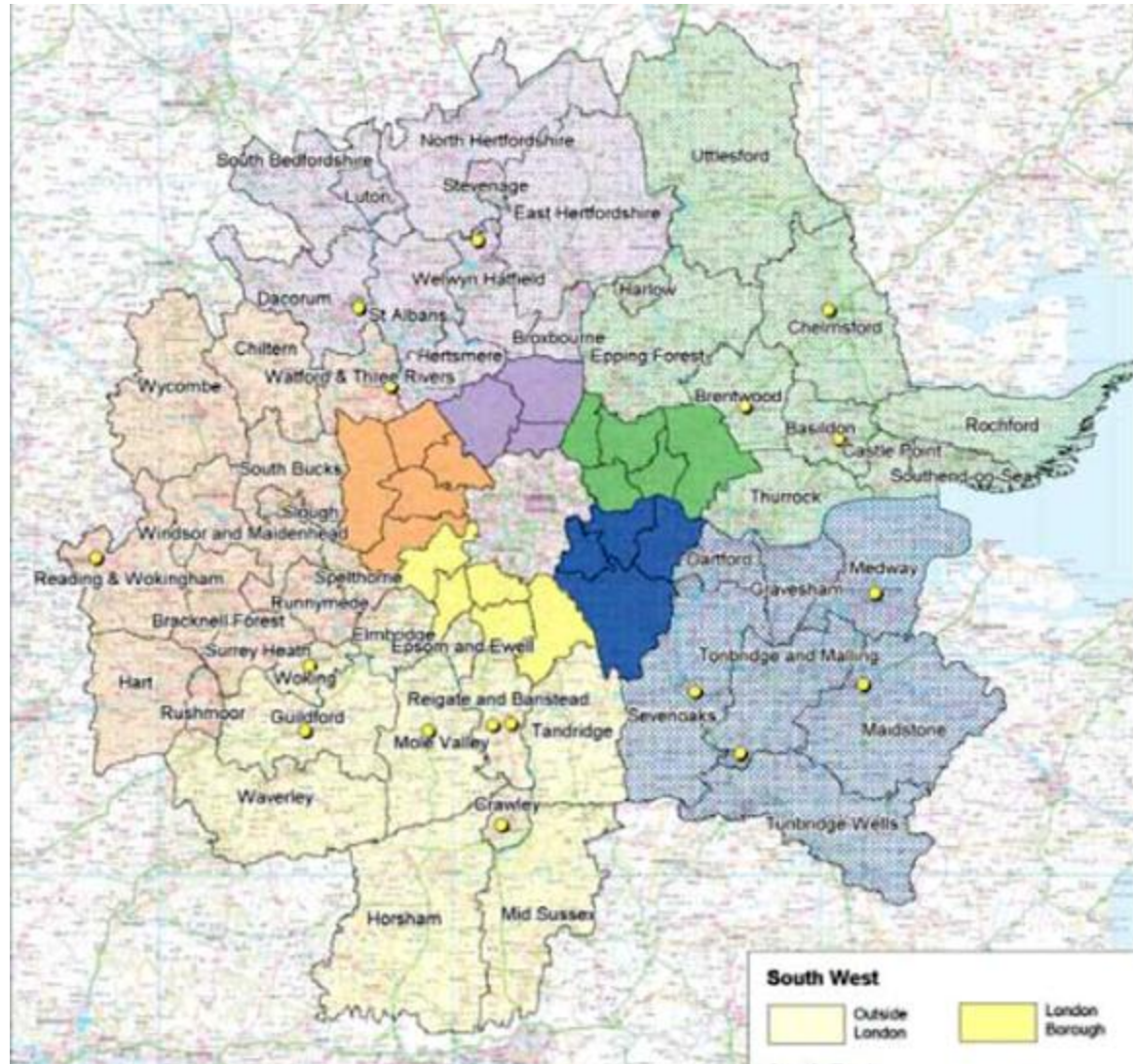
The Regional Transport Strategy for South East England is contained within the South East Plan, published by the Government in May 2009, and that for the East of England is contained within the East of England Plan, published in May 2008.

The significant forecast levels of employment and population growth in the GSE will increase demand for transport to London and need to be catered for in the MTS.



## Outer Metropolitan Area

Not a formal administrative geography, but used in policy documents to describe district authorities within London's immediate influence e.g. Office Policy Review.



# Functional Urban Regions

Means of defining cities based on socio-economic geography and commuting flows, rather than administrative regions.

## History of FURs

Began with Metropolitan Statistical Areas in USA in 1950's. Define core based on employment/population threshold, and commuting hinterland. Early work on London by Hall and Hay (1980). Further discussion later on regional change over time by Basak.

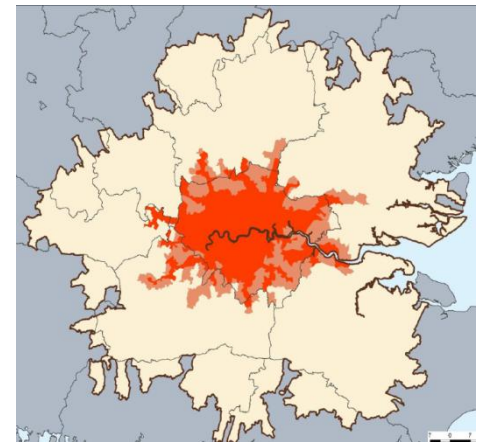
Alternatively use hierarchical clustering techniques usually for division of state into multiple FURs (e.g. Feldman *et al.*, 2005).

## Selection of studies of FURs for London-

INTERREG IIC project - GEMACA II – funded by the EU based on 1991 Census data (Cheshire, 2001).

GLA Defining World Cities (Lewis, 2005).

Polynet study (Hall and Pain, 2006) focussing on the polycentric nature of the South East.

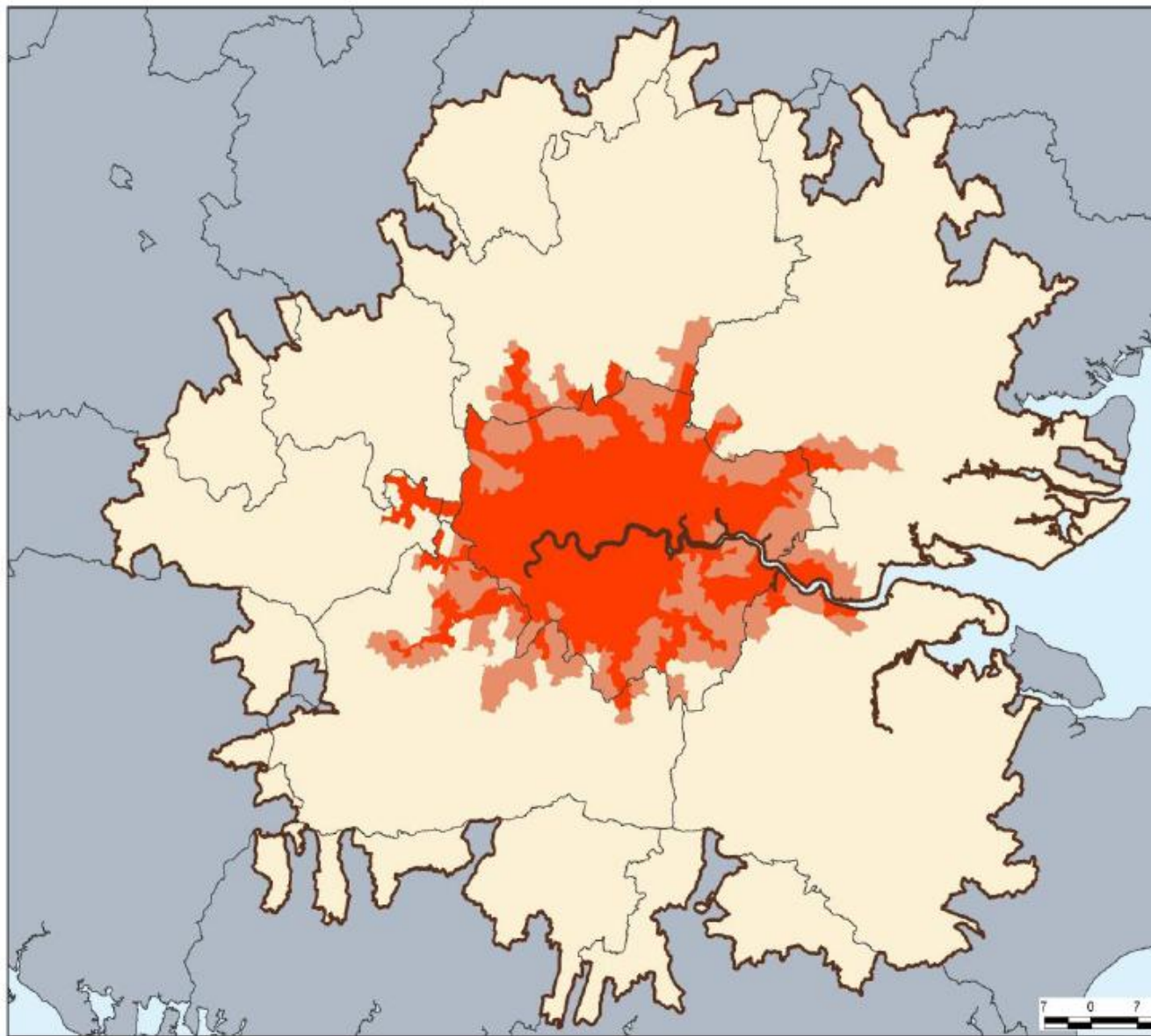




Institutes of Statistics

CON

# LONDON FUNCTIONAL URBAN REGION



**Limits**

- NUTS 3 (county)
- FUR

**Typology**

- Economic core
- Morphological Urban Region (built up area)
- Functional Urban Region



7 0 7



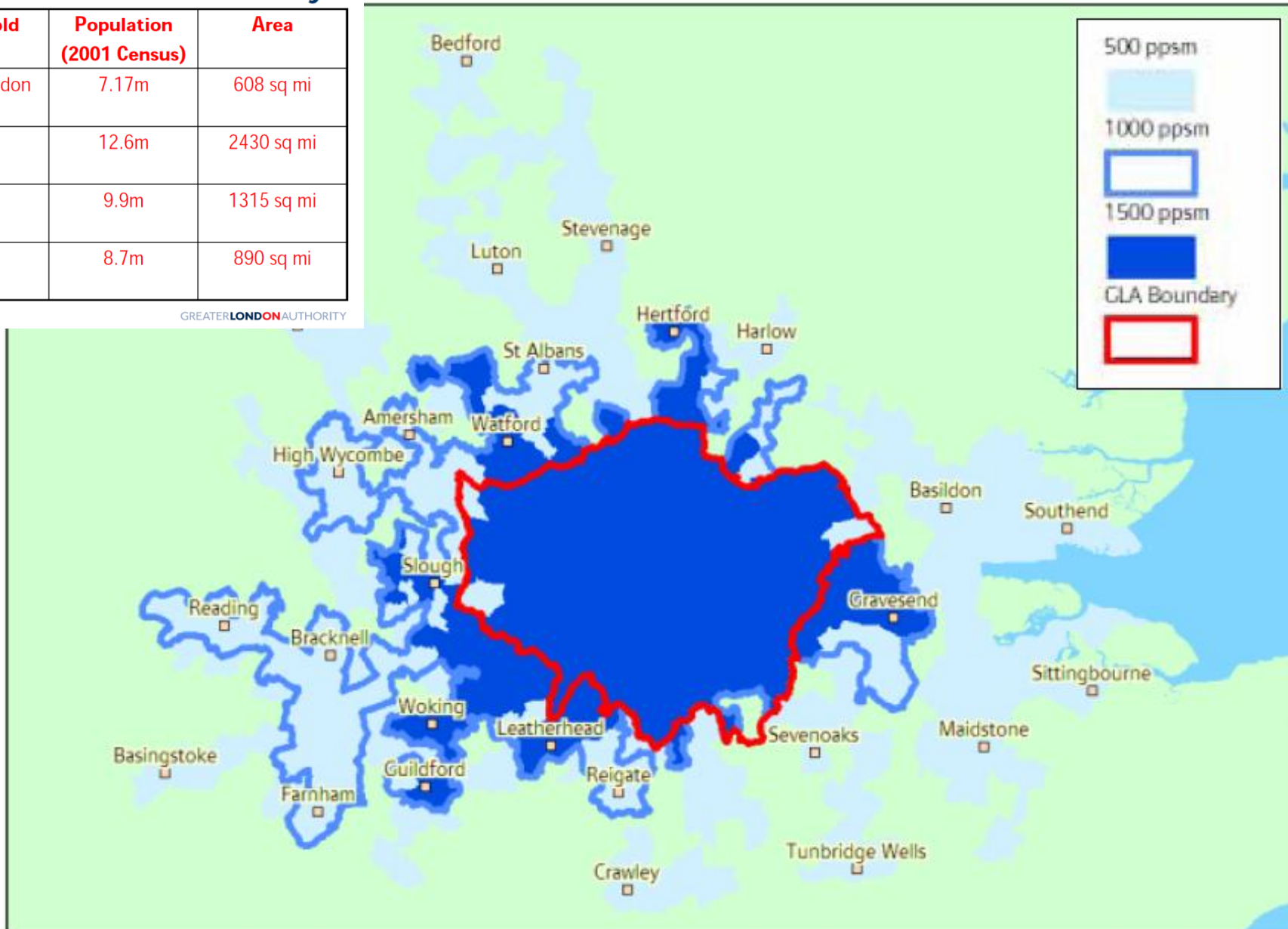
Source: Where does London end? (Lewis, 2005)

## Population and Area Summary

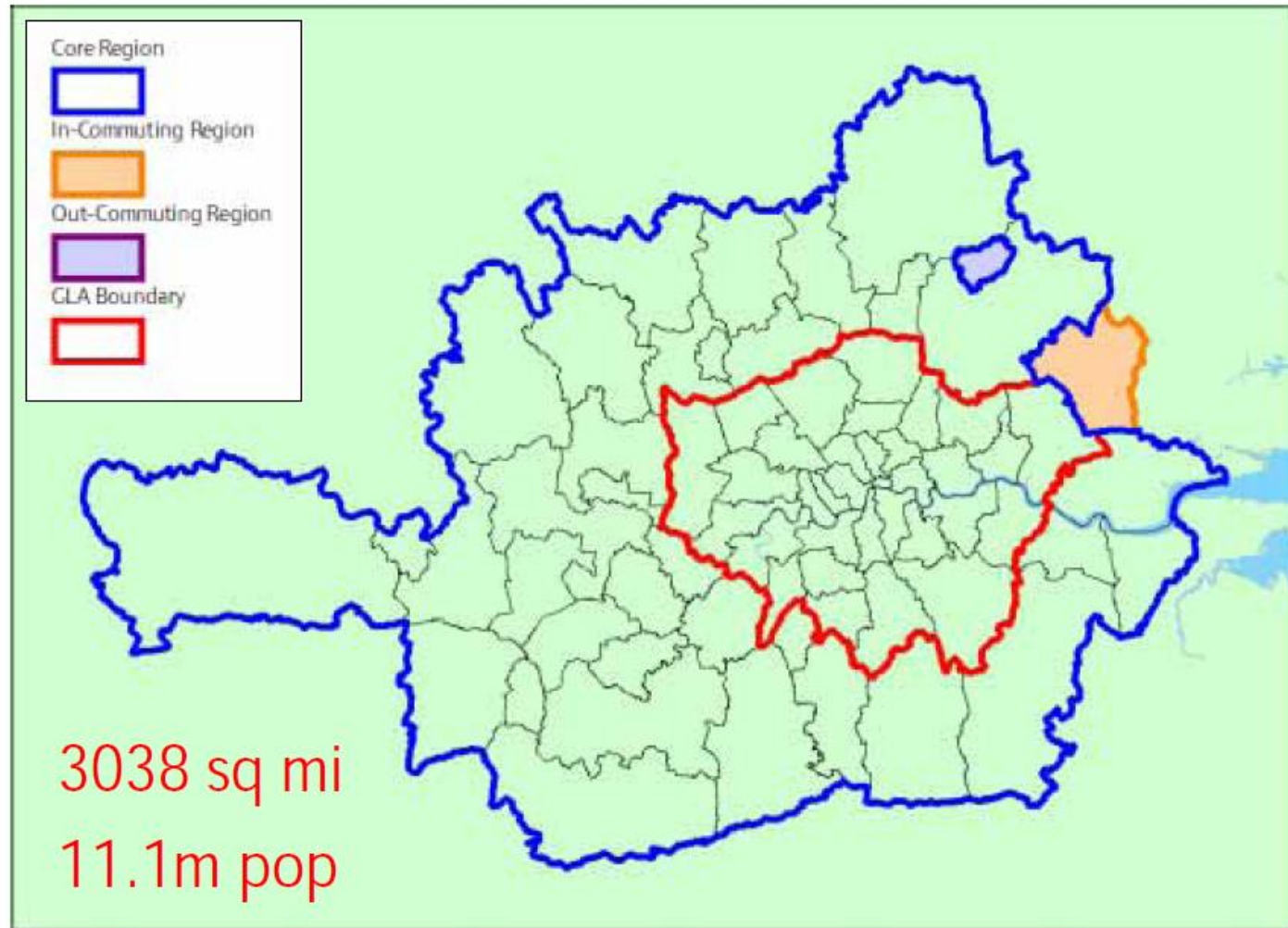
Threshold	Population (2001 Census)	Area
Greater London	7.17m	608 sq mi
500 ppsm	12.6m	2430 sq mi
1000 ppsm	9.9m	1315 sq mi
1500 ppsm	8.7m	890 sq mi

DIMAG

GREATER LONDON AUTHORITY



Source: Where does London end? (Lewis, 2005)



- Core definition

- 1000 persons per square mile
- Calculated at LAU2 level
- Degraded to LAU1 level

- Travel to work

- 25% in-commuting
- 25% out-commuting

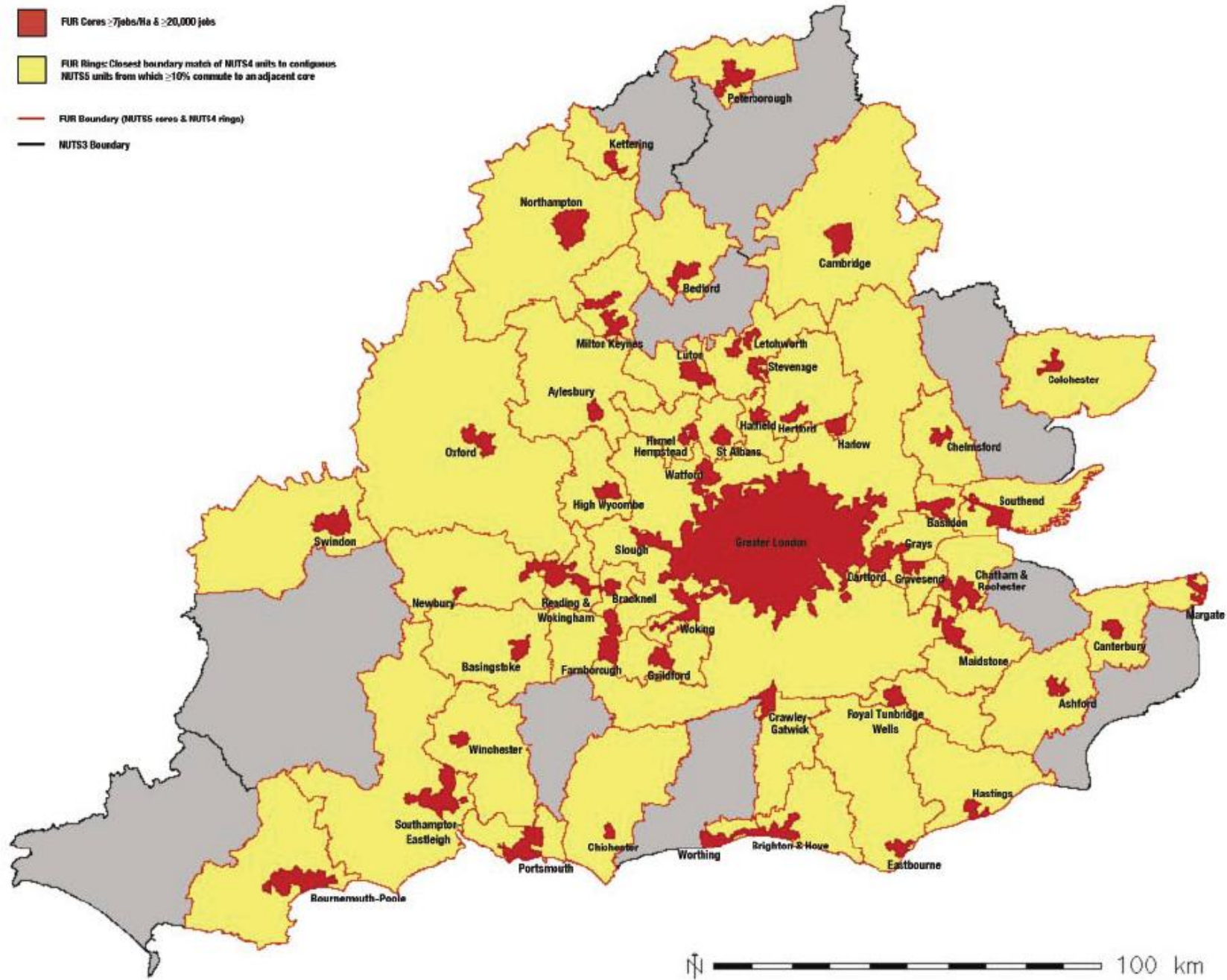


Figure 2: SE England Functional Urban Regions (FURs)

Source: Polynet (Hall & Pain, 2006)

## Summary of FURs

More robust than administrative geographies as measures of regional interaction.

Dependent on thresholds used for defining core and commuting relationships.

Previous studies of London FUR have tended to produce broadly similar results to the London Outer Metropolitan Area concept.

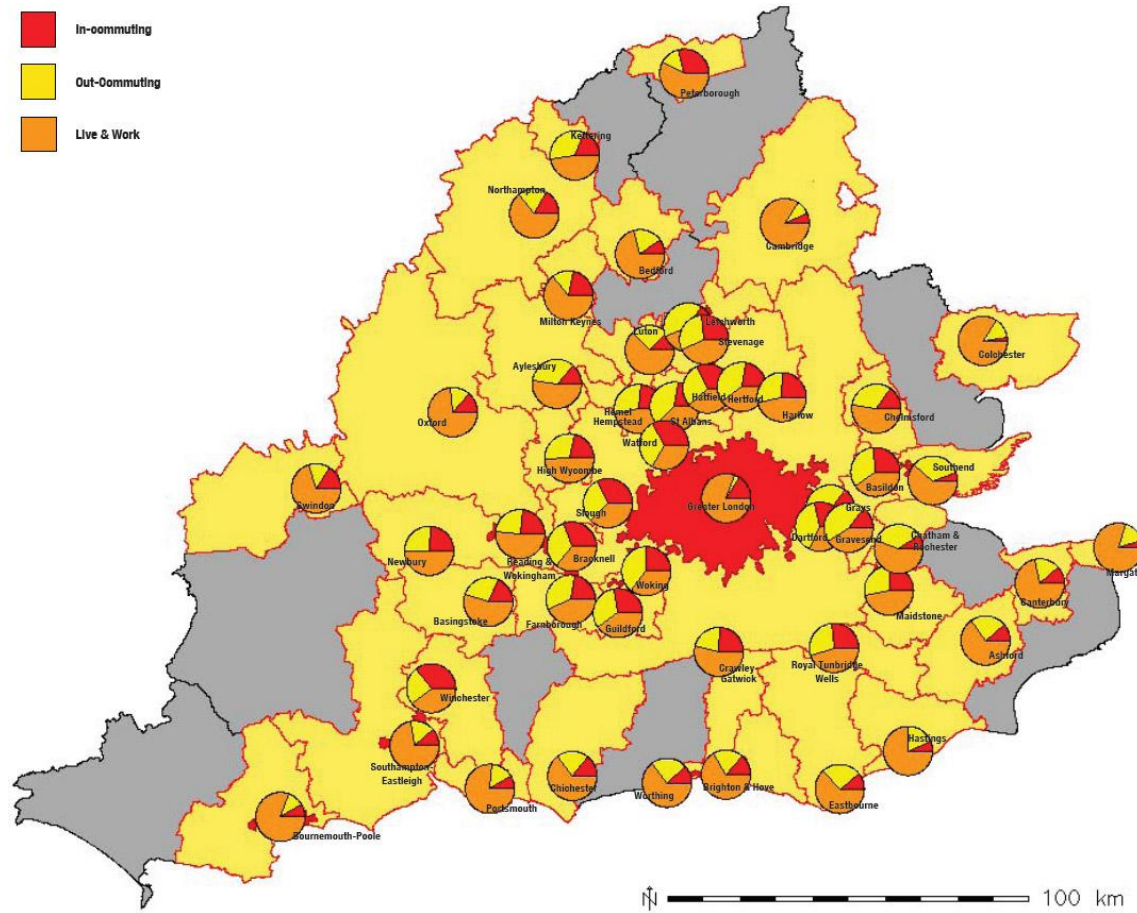
# Journey-to-Work Analysis

Traditional basis of defining Functional Urban Region 'rings' or hinterlands.

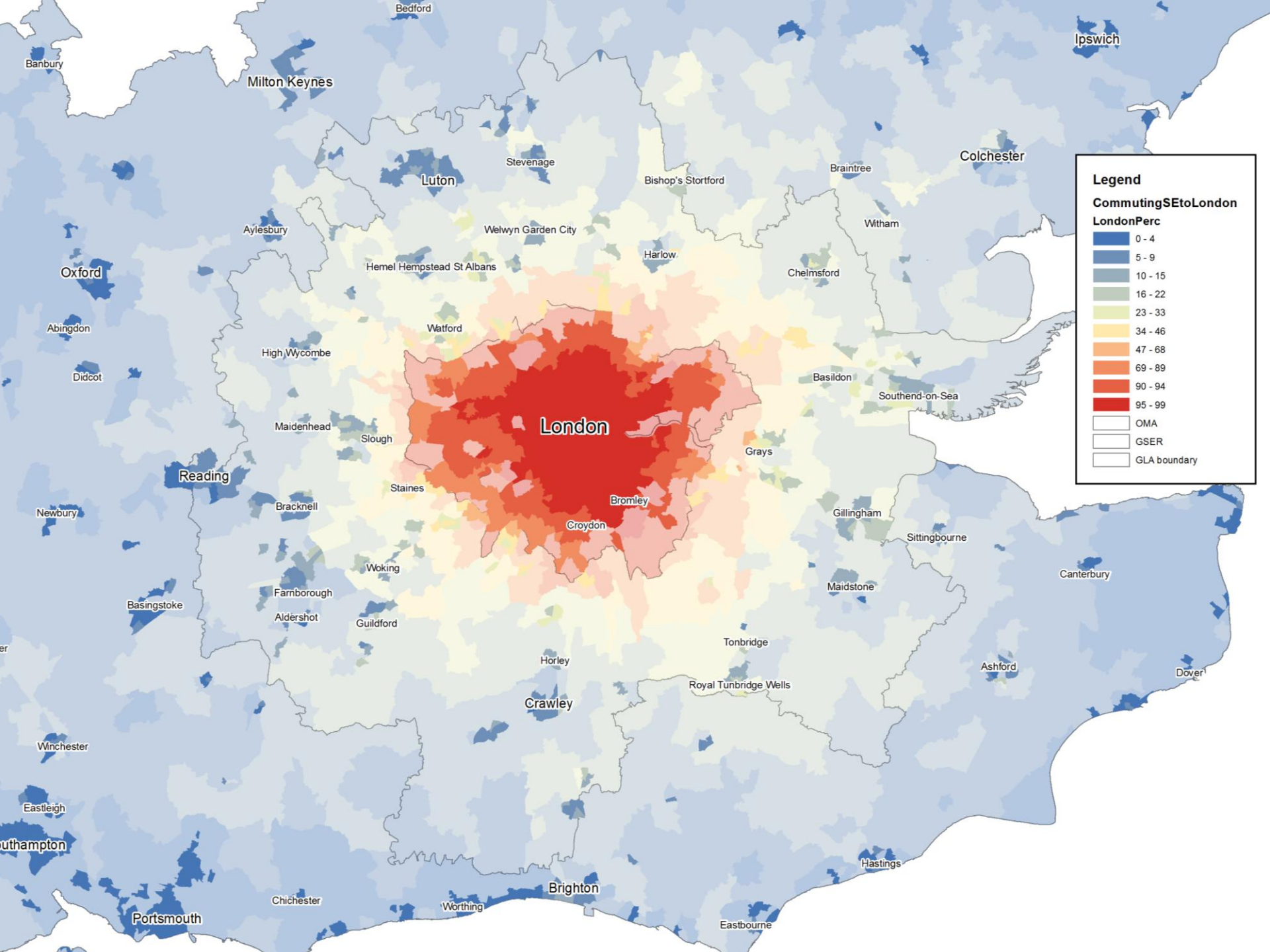
High level of detail provided in 2001 Census, not yet fully analysed.

Possible to explore connections between sub-centres in GSE and Outer London, directions of flows.

Larger centres at greater distance from London more self-contained, but other research found commuting distances increasing with distance from London (Titheridge & Hall, 2006).



Source: Polynet (Hall & Pain, 2006)



> 3500

300-3500

50-300

Commuting Numbers – Approx People/Day

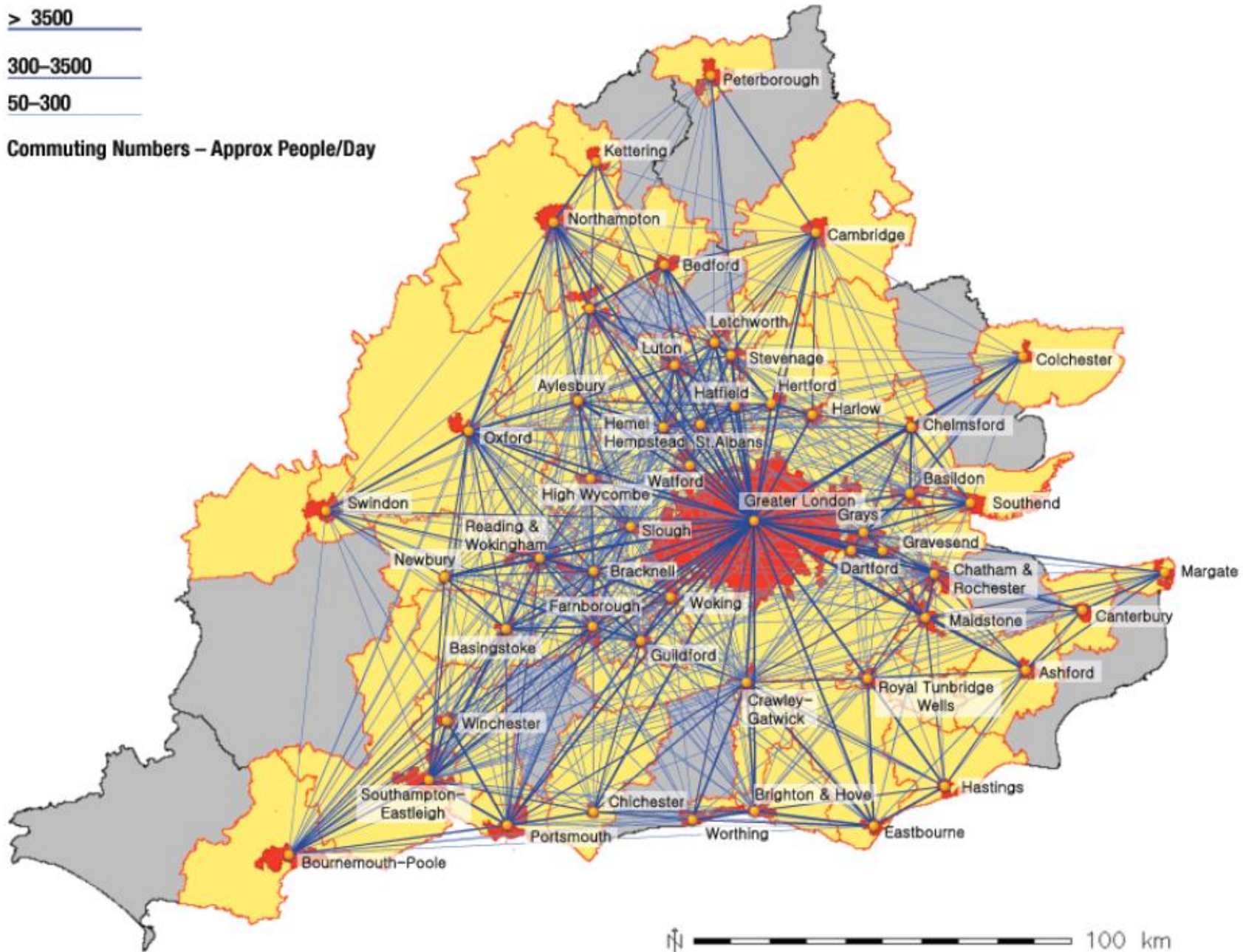
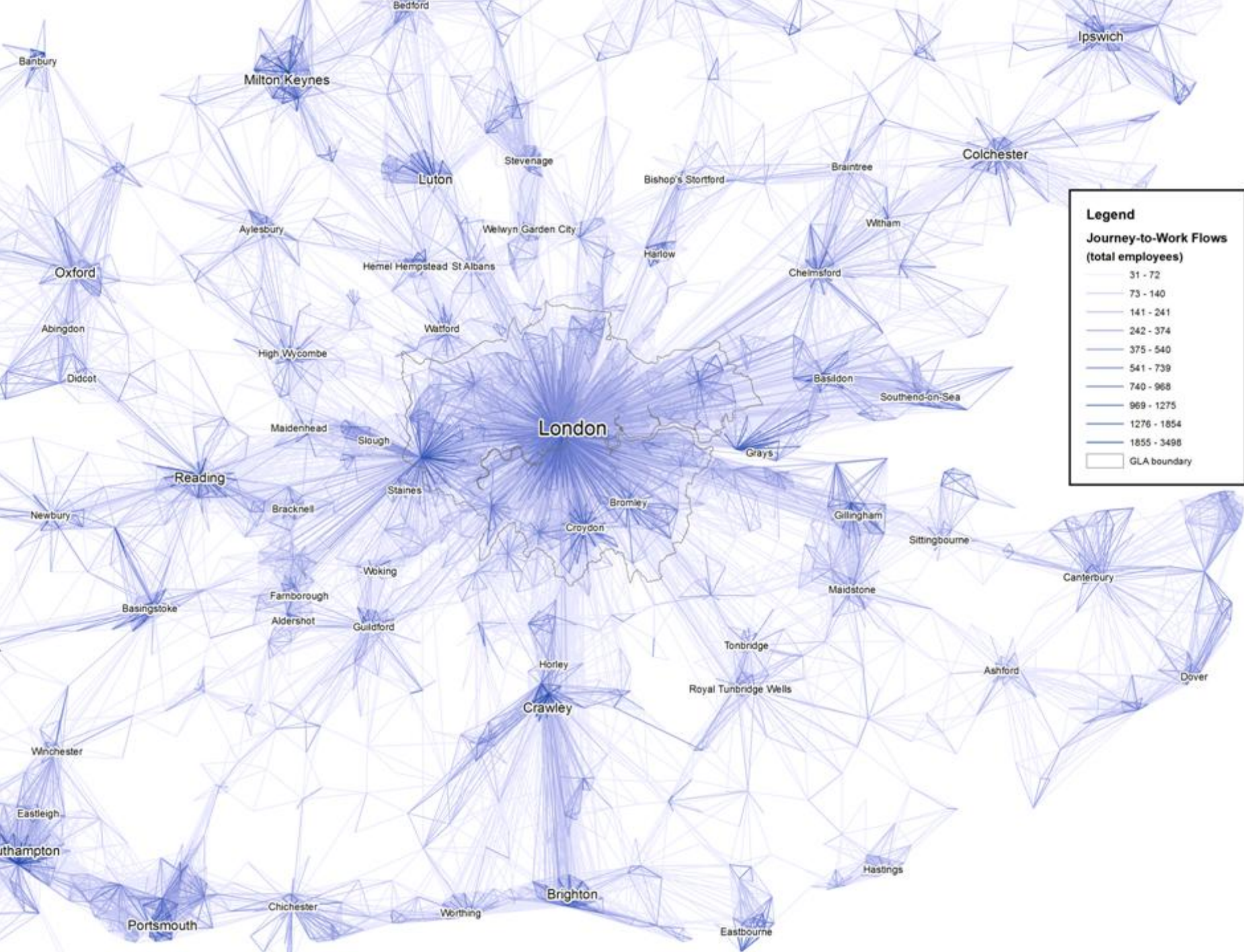


Fig 10: Commuting Networks, 2001

Source: Polynet (Hall & Pain, 2006)

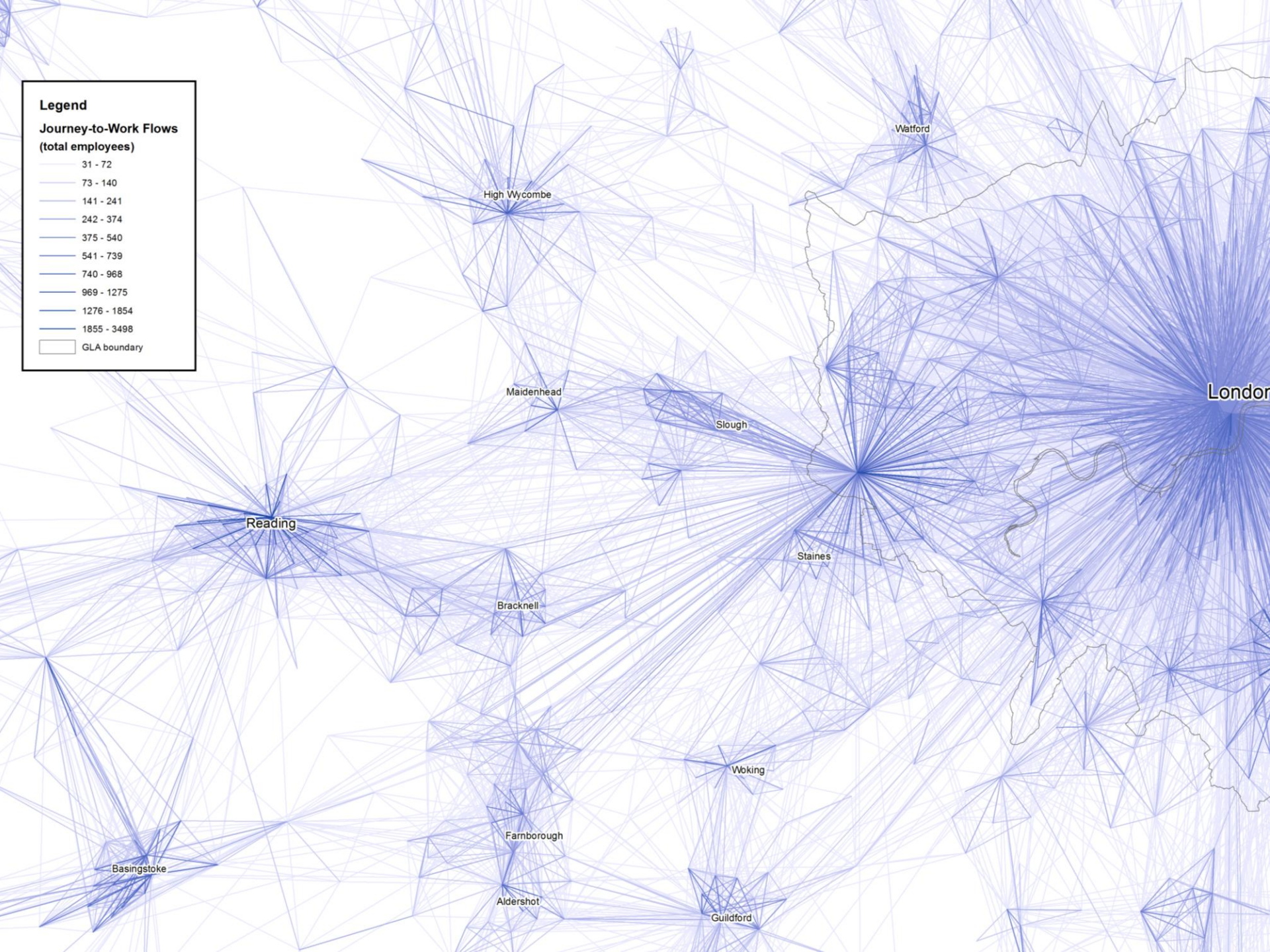




**Legend**

**Journey-to-Work Flows  
(total employees)**

- 31 - 72
- 73 - 140
- 141 - 241
- 242 - 374
- 375 - 540
- 541 - 739
- 740 - 968
- 969 - 1275
- 1276 - 1854
- 1855 - 3498
- GLA boundary



## Summary of Journey to Work Overview

Complex relationships of radial and cross-commuting flows.

Polycentric relationships

‘Pull’ of Central London declines fairly linearly with distance, but east-west split. Higher independence in areas such as Western Sector. Heathrow also major attractor of long distance commuting.

No clear commuting boundary, but larger centres at distances of approx. 100km much less directly connected to London in terms of journey-to-work (e.g. Oxford, Southampton).

Commuting relationships may be misleading in terms of other business and economic connections (e.g. Reading).

# Transport Networks and Accessibility

Alternative means of regional definition to measure potential travel, accessibility.

## Network Analysis

Land use – transport model will be able to calculate travel times through public transport and road networks. Joan Serras discuss methodology.

New datasets and methods allowing more accurate measurements of travel time, congestion.

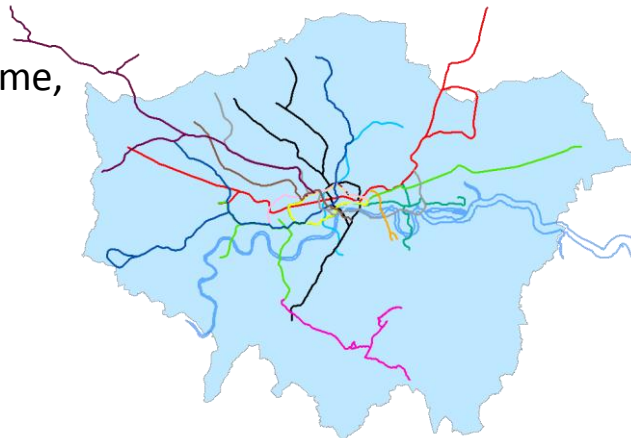
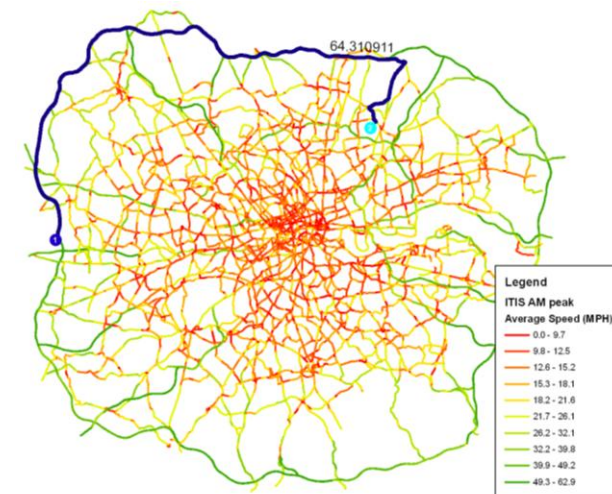
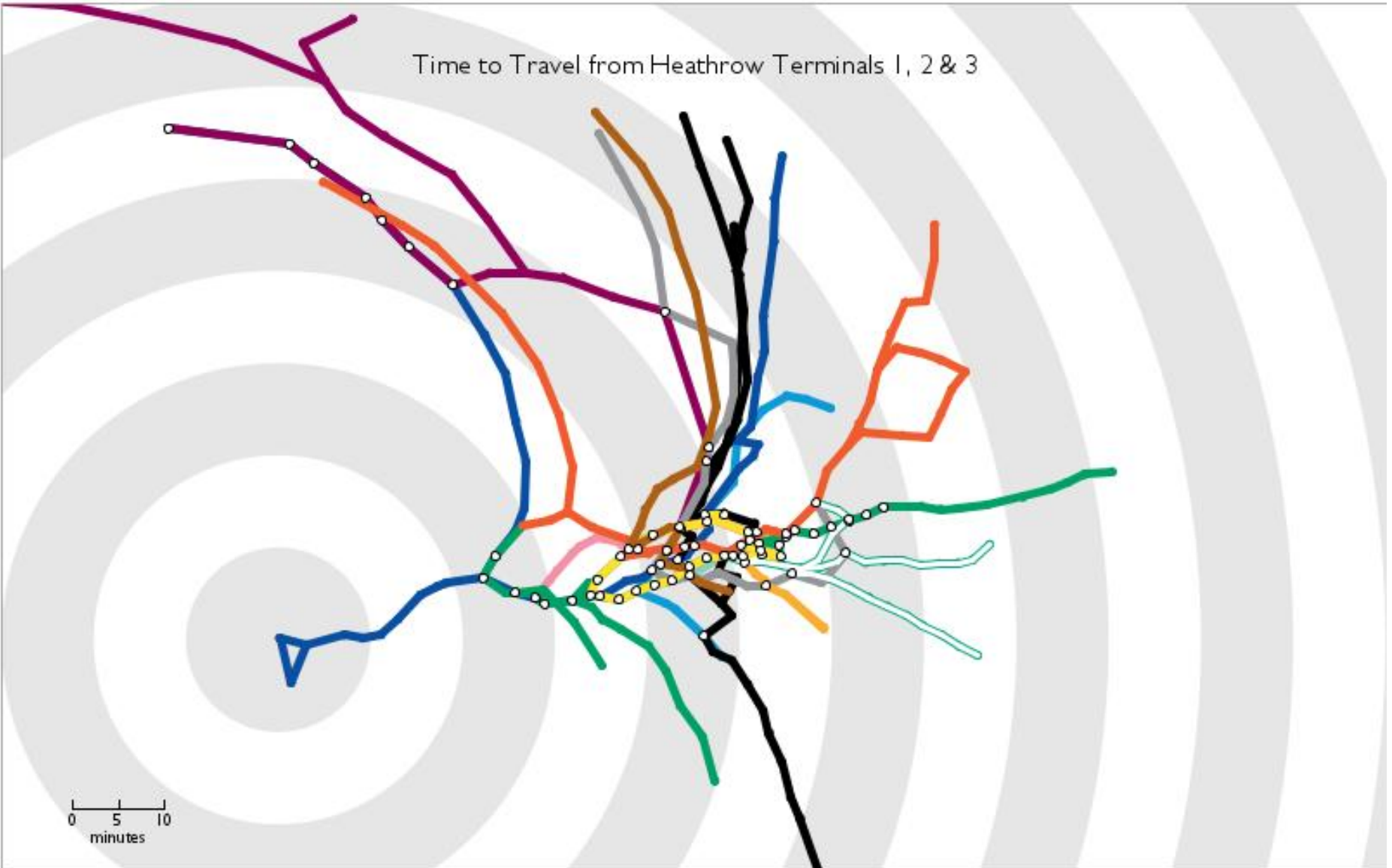


Figure 6: London's economic inter-relationship with the Greater South East



# Travel Time Visualisation Examples



# Future Infrastructure and Accessibility

Major transport projects altering accessibility geography.

## High Speed Rail

Completed line to Ebbsfleet and Ashford. Future plans for HST on West Coast Mainline.

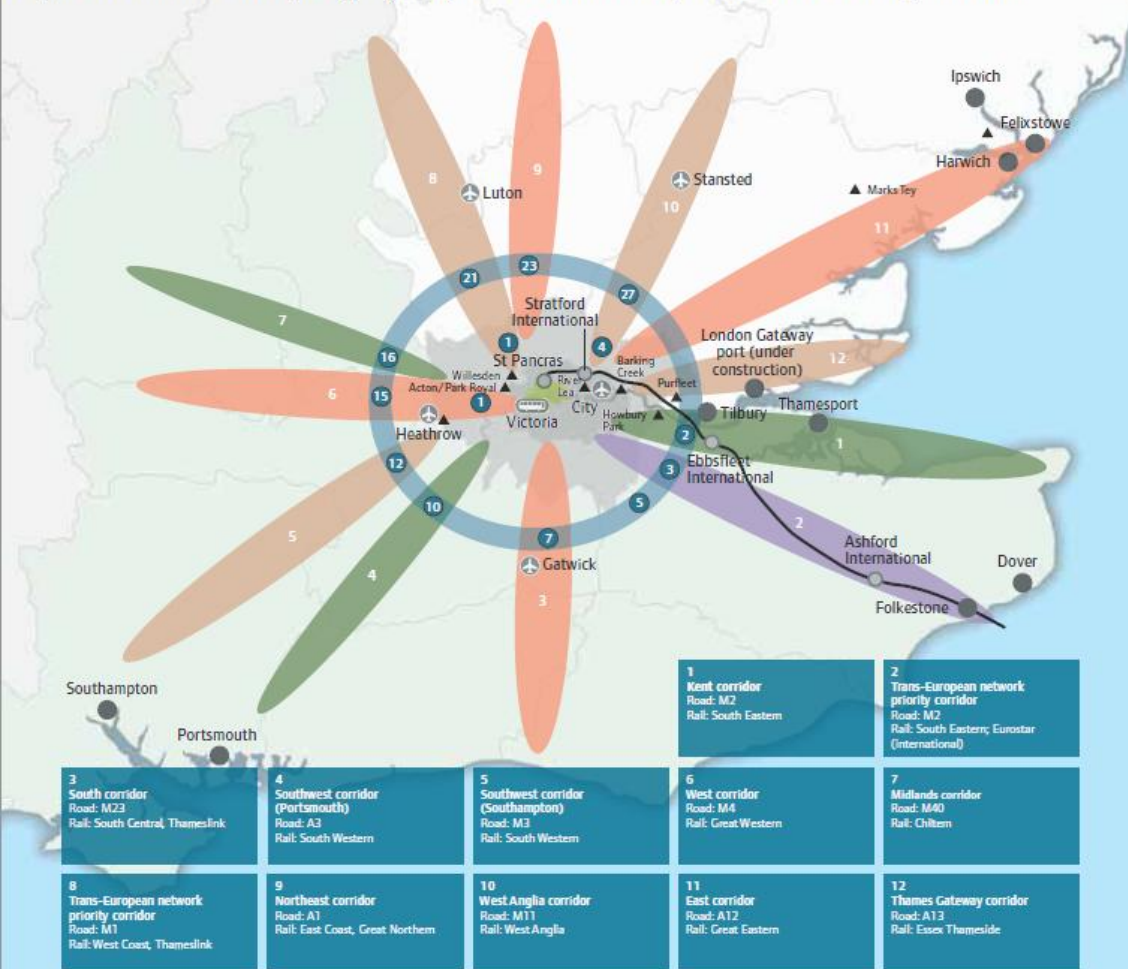
## Crossrail

Speed and capacity expansion on main east-west growth corridor.

## Infrastructure Upgrades

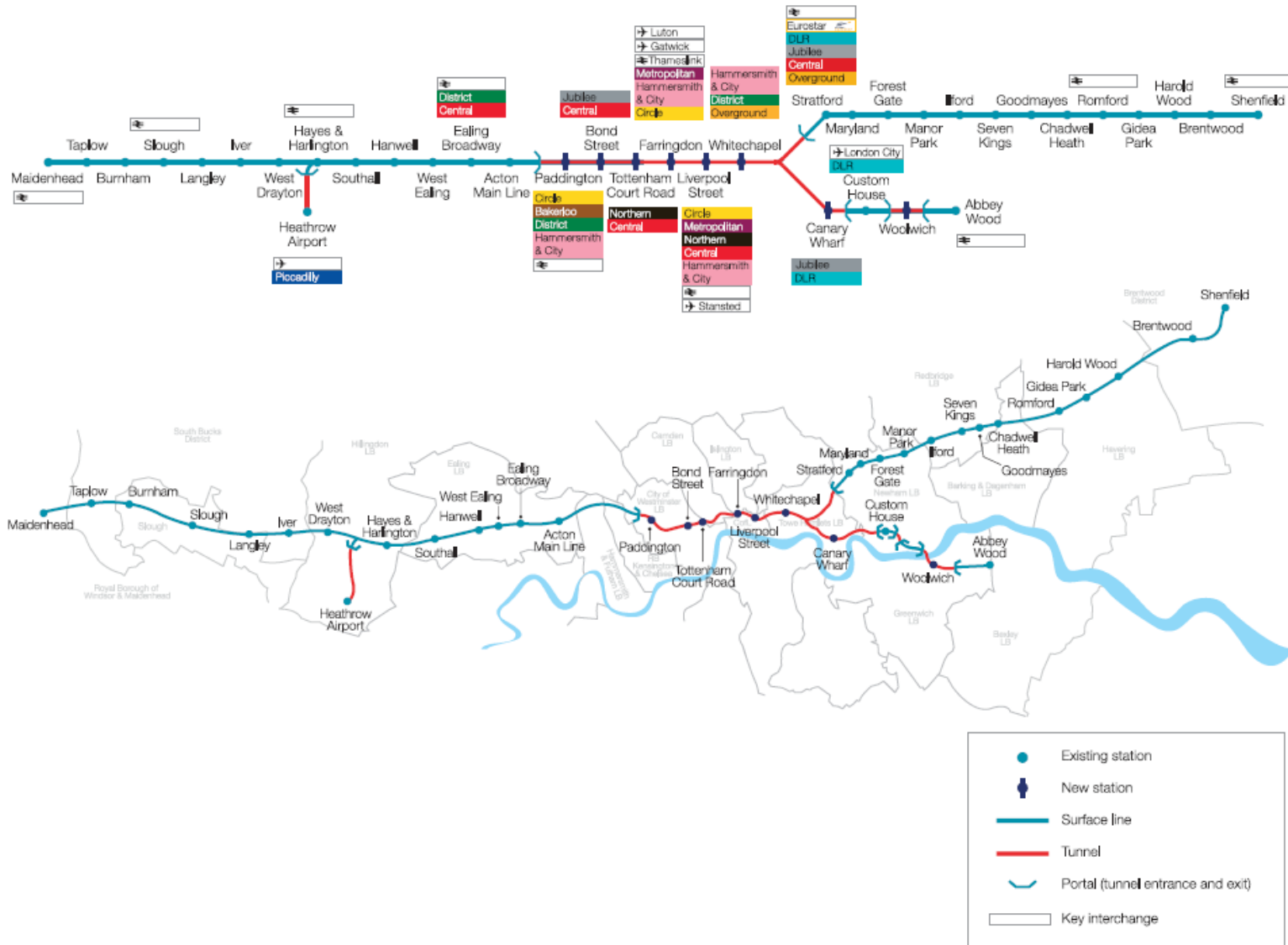
General capacity expansion on most rail corridors; London Overground; Thameslink; Underground upgrades.

Figure 5: London's transport geography at the international, national and inter-regional level



Key		
High-speed rail link	International rail station	Inter-regional corridor
Airport	Port	International corridor/gateway
Motorway junction	Major logistics node/siding/wharf	Inter-regional and national corridor
National and international coach station (Victoria)	National corridor	Orbital corridor

# Crossrail Route Connections

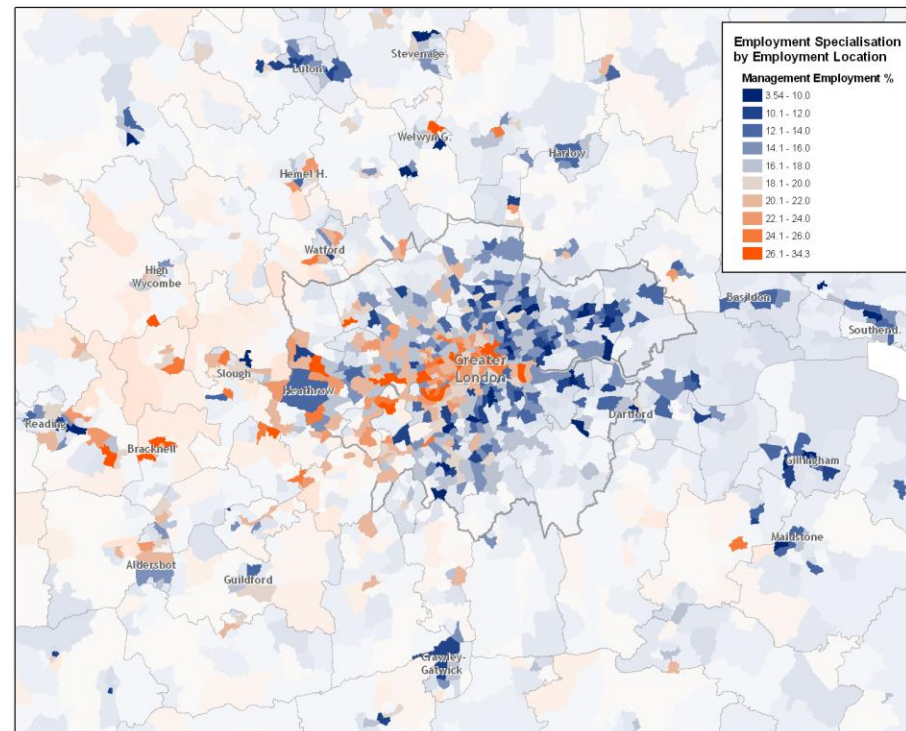
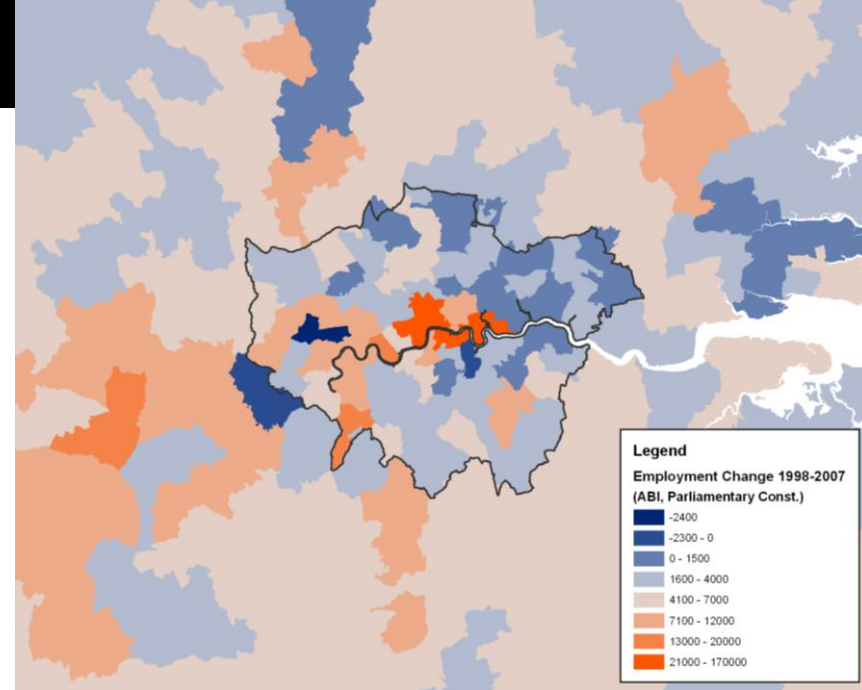


## Business and Communication Links

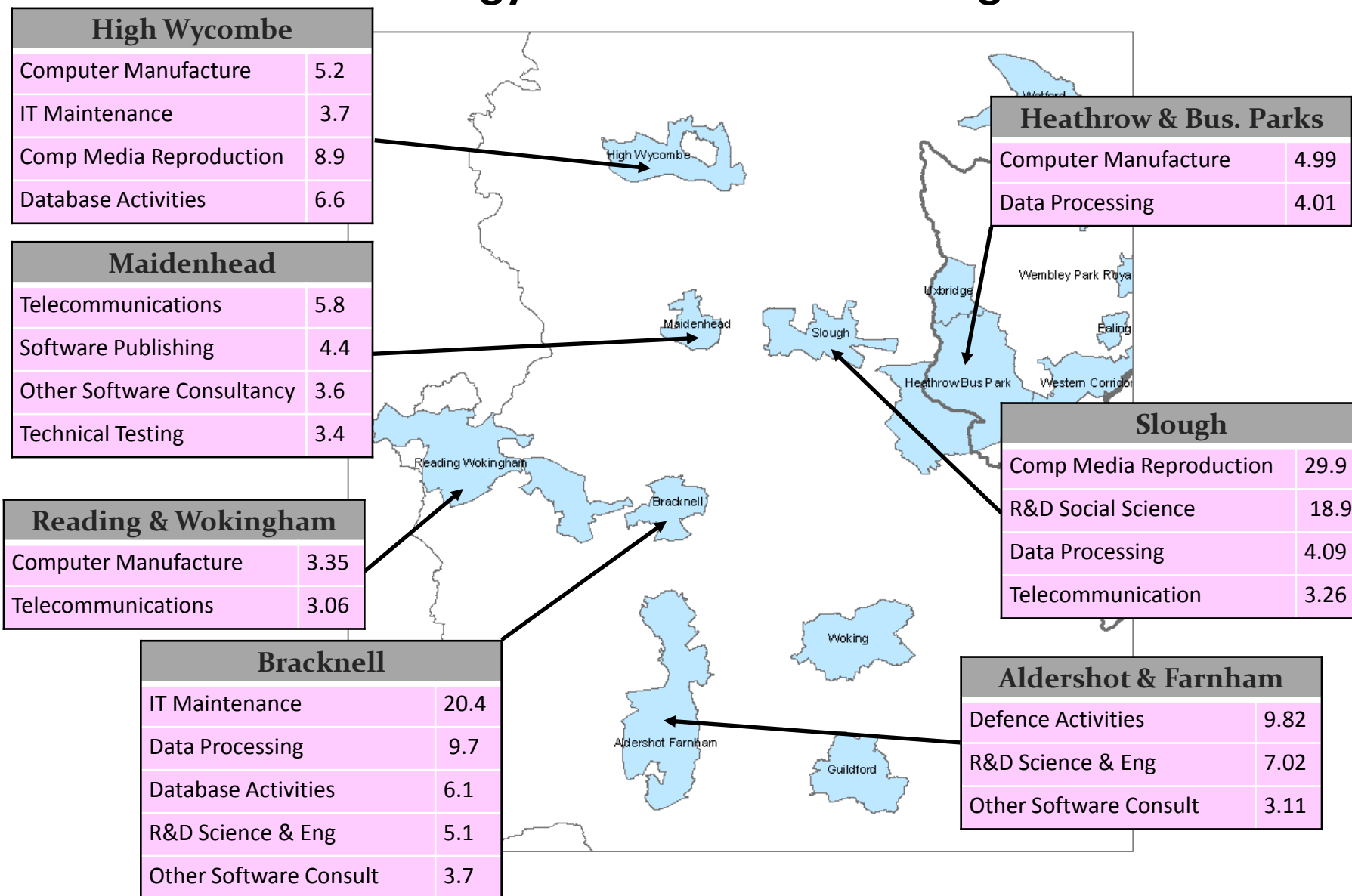
Economic links much wider than commuting. Intra-firm connections between offices; firm-to-firm transactions and agglomeration relationships.

Difficult to measure. Jon discussing communication flows later.

Try to infer agglomeration from economic clustering and specialisation geography.

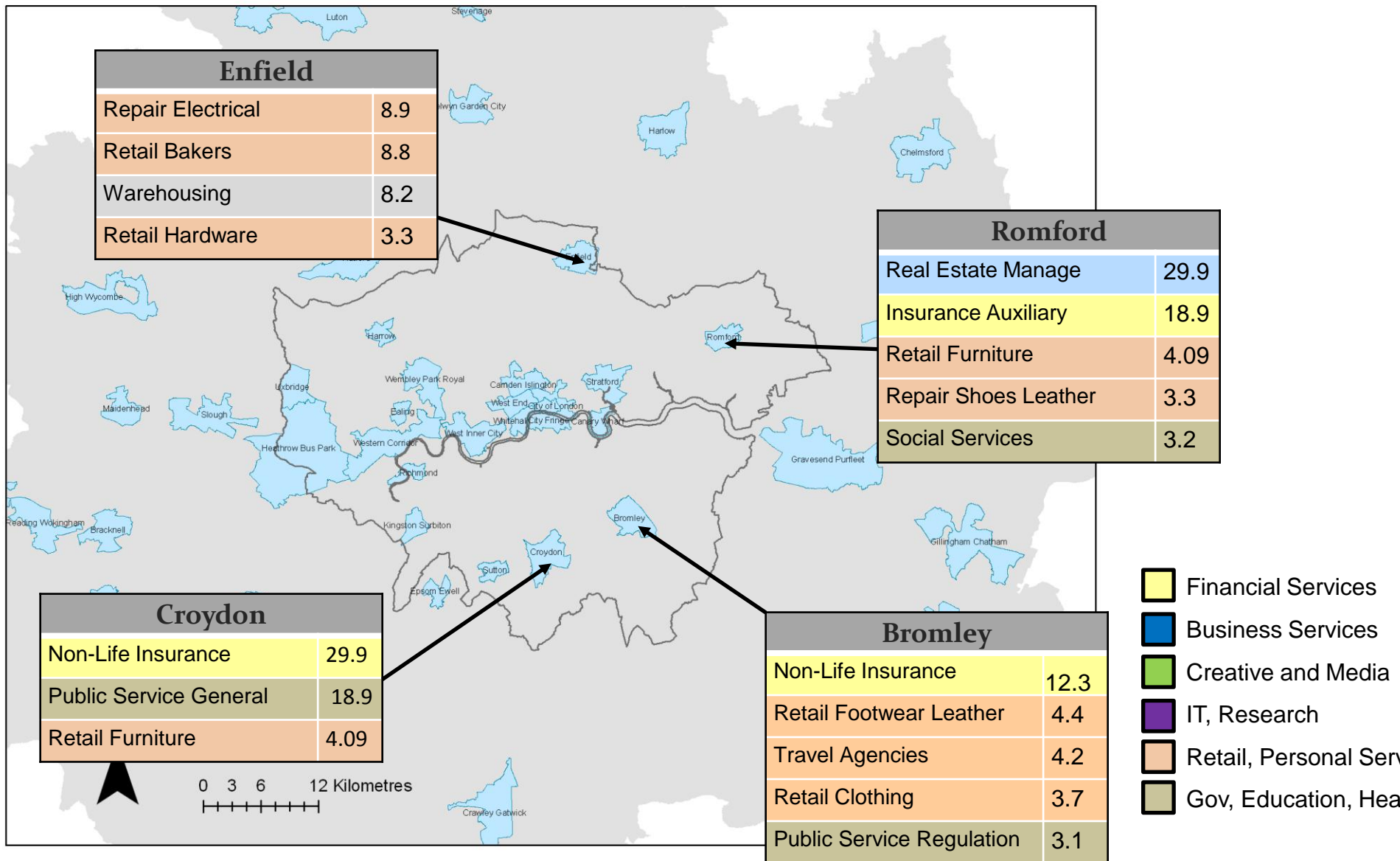


# Information Technology and the Western Wedge





# Economic Specialisation and Struggling Centres



# Conclusions

## **Functional Urban Regions**

Functional urban regions long established robust method for defining regional relationships. Dependent on thresholds used for defining urban core and commuting ring.

## **Characteristics of London FUR**

Polycentric mega-city region with multiple centres and complex radial and cross-commuting flows. 'Pull' of Central London declines fairly linearly with distance, but east-west split. No absolute journey-to-work boundary- OMA area broadly consistent with a 10% commuting threshold.

## **Economic Specialisation and Regional Links**

Stronger economic centres in the western sector minimise radial commuting. But possible that business-to-business connections more intensive with Greater London, and journey-to-work only one dimension of regional interaction.

SIC	SIC Name	Getis-Ord G Norm.	Z-Score	Sub-region Distribution			
				Central	Inner	Outer	OMA
6720	Insurance Auxiliary	10.84	19.40	50.3;	3;	15;	31.7;
6712	Broking Fund Mng.	9.39	27.33	76.7;	13.5;	1.9;	7.9;
6511	Central Banking	9.29	6.75	95.2;	0;	0;	4.8;
6601	Life Insurance	9.25	20.47	31.6;	0.5;	10.8;	57.1;
6603	Non-Life Insurance	8.60	19.34	40.7;	1.3;	21.6;	36.4;
7411	Legal Activities	8.02	32.37	64.3;	7.0;	11.9;	16.8;
6523	Other Financial Inter.	7.79	24.71	54.6;	35.2;	3.5;	6.7;
6711	Finance Market Admin.	7.76	9.52	65.5;	5.9;	10.7;	17.9;
6512	Banks Building Soc.	7.28	28.62	51.9;	12.7;	15.1;	20.2;
6713	Financial Inter. Auxil.	4.13	17.98	42.0;	23.4;	10.9;	23.7;
2232	Video Reproduction	3.52	14.61	9.7;	2.6;	66.5;	21.2;
9220	Radio & Tel Activ.	3.00	16.23	39.9;	33.3;	19.7;	7.2;
9212	Motion-Pict. Video Dist.	2.71	6.92	48.1;	34.0;	11.1;	6.8;
7440	Advertising	2.51	29.44	51.2;	10.0;	15.5;	23.2;
6420	Telecommunications	2.48	18.32	33.5;	5.5;	18.5;	42.5;
9240	News Agency Activities	2.46	6.95	71.8;	19.3;	4.8;	4.0;
7240	Database Activities	2.34	11.06	43.3;	4.3;	16.7;	35.7;
9211	Motion-Pict Video Prod.	2.20	18.89	54.7;	14.6;	15.1;	15.5;
7412	Accountancy	2.14	11.83	51.2;	5.0;	15.9;	27.9;
7414	Business Mng. Consult.	2.07	33.68	38.8;	10.1;	16.5;	34.6;
6521	Financial Leasing	2.06	12.06	21.6;	4.8;	14.1;	59.5;
7522	Defence Activities	2.05	5.72	44.6;	0.7;	12.9;	41.8;
7012	Own RealEst. Buy & Sel.	2.04	25.44	42.9;	10.9;	23.8;	22.4;

	Financial Services
	Business Services
	Creative and Media
	IT, Research
	Retail, Personal Serv
	Gov, Education, Health