

## **‘Iconic Design’ as Deadweight Loss: Rent acquisition by design in the constrained London office market**

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[http://www.spatialeconomics.ac.uk/textonly/SERC/  
publications/download/sercdp0154.pdf](http://www.spatialeconomics.ac.uk/textonly/SERC/publications/download/sercdp0154.pdf)



# Why does incidence of tall buildings vary so much?

- Sao Paulo less than half skyscrapers per person as New York but nearly 1.75 times as many high rise (35m+) buildings;
- Brisbane 6 times as many skyscrapers per person as Paris - 8 times as many as London.
- Topping all cities in the tall buildings league table is a real surprise: Benidorm in Spain!
- Only tall building league London tops is *Trophy Architect* designed

| City      | Bldgs >100m<br>per million<br>Population | Total<br>Bldgs<br>>100m | TA<br>Bldgs | TA<br>Percentage |
|-----------|--|-------------------------|-------------|------------------|
| London    | 7  | 57                      | 14          | 24.56%           |
| Chicago   | 111                                      | 301                     | 9           | 2.99%            |
| Houston   | 40                                       | 88                      | 5           | 5.68%            |
| Brussels  | 15                                       | 17                      | 0           | 0.00%            |
| Benidorm  | 384                                      | 26                      | 0           | 0.00%            |
| Sao Paulo | 20                                       | 231                     | 1           | 0.43%            |

Source: <http://www.emporis.com/>

# Not so much rent-seeking as rent-acquiring by design...

- Krueger 1974 – idea of ‘rents’ generated by regulatory supply restriction: context of developing country & import licenses; one of AER all time 20 ‘greats’
- Availability of rents generated ‘rent-seeking’ behaviour: lobbying, networking, PR, bribery...the horse’s head in the bed... or a Kalashnikov;
- Point was that such quantitative restrictions, the rents they gave rise to and the rent-seeking behaviour this generated, were suboptimal in welfare terms - and rent-seeking behaviour was a deadweight loss:
- Land use regulation in Britain employs quantitative restrictions of supply of space for given uses –
- So - as Cheshire & Sheppard 2005 or Cheshire & Hilber 2008 – it generates rents.

| Office Market        | Years with Available Data | Regulatory tax as % |      |
|----------------------|---------------------------|---------------------|------|
|                      |                           | Mean 1999-2005*     | 2005 |
| City of London       | '61-'05                   | 488                 | 334  |
| London West End      | '61-'05                   | 809                 | 889  |
| Canary Wharf         | '98-'05                   | 327                 | 277  |
| Manchester           | '73-'05                   | 230                 | 250  |
| Newcastle upon Tyne  | '65-'05                   | 97                  | 119  |
| Croydon              | '65-'05                   | 94                  | 98   |
| Edinburgh            | '65-'05                   | 291                 | 262  |
| Glasgow              | '65-'05                   | 204                 | 205  |
| Reading              | '65-'05                   | 203                 | 161  |
| Bristol              | '73-'05                   | 157                 | 196  |
| Birmingham           | '65-'05                   | 250                 | 268  |
| Leeds                | '73-'05                   | 193                 | 217  |
| Amsterdam            | '91-'05                   | 202                 | 192  |
| Brussels             | '91-'05                   | 68                  | 84   |
| Frankfurt            | '91-'05                   | 437                 | 331  |
| Paris – City         | '91-'05                   | 305                 | 375  |
| Paris – La Défense   | '91-'05                   | 167                 | 193  |
| Stockholm            | '91-'05                   | 379                 | 330  |
| New York (Manhattan) | Range 1996-2000           | 0 to 50             |      |

## Measuring the Regulatory Tax on Cost of Office Space

(as % mark up of price of space relative to marginal costs of construction).

Excludes cost of compliance.

Rents are greatest in London;  
smallest in Brussels & NY...& where are the TA buildings?

# A more gentlemanly form of rent-seeking...

- So – there are surely rents available if you can get permission for an unlikely site: or you can flex the regulatory system to get more lettable office space on a given site
- Employ expensive design & a “trophy architect” (Cheshire & Hilber 2008)
- Permission to develop via process of ‘development control’ – each development requires specific permission from LPA
- Political: two tiers of appeal: ultimately to Secretary of State:  
*[the Minister]... “will only approve skyscrapers of exceptional design. For a building of this size to be acceptable, the quality of its design is critical... the proposed tower is of highest architectural quality”* (John Prescott 2003, giving permission for the ‘Shard’)

So each decision involves negotiation/bargaining/delay: & the bigger the decision the more...

# The Hypotheses...

- Going to test whether *Trophy Architects* can acquire rents:
  - For the developer who employs them? for themselves?
  - Or – **maybe** – estimate a substantial ‘cost’ of compliance - risk and uncertainty?
  - What is a Trophy Architect (TA)? At time planning application submitted had won one of 3 lifetime achievement awards: RIBA; AAA; or Pritzker Award;
  - Before – because of need to signal TA status
  - Work in progress: **just** produced SERC DP with expanded sample from 10 to 43 Trophy Architect buildings & attempts to test alternative causal explanations of findings;
  - Start with 2932 sales of offices in London 1998-2011 – end up with 515 distinct buildings; 625 sales (RCAnalytics & E.G.)

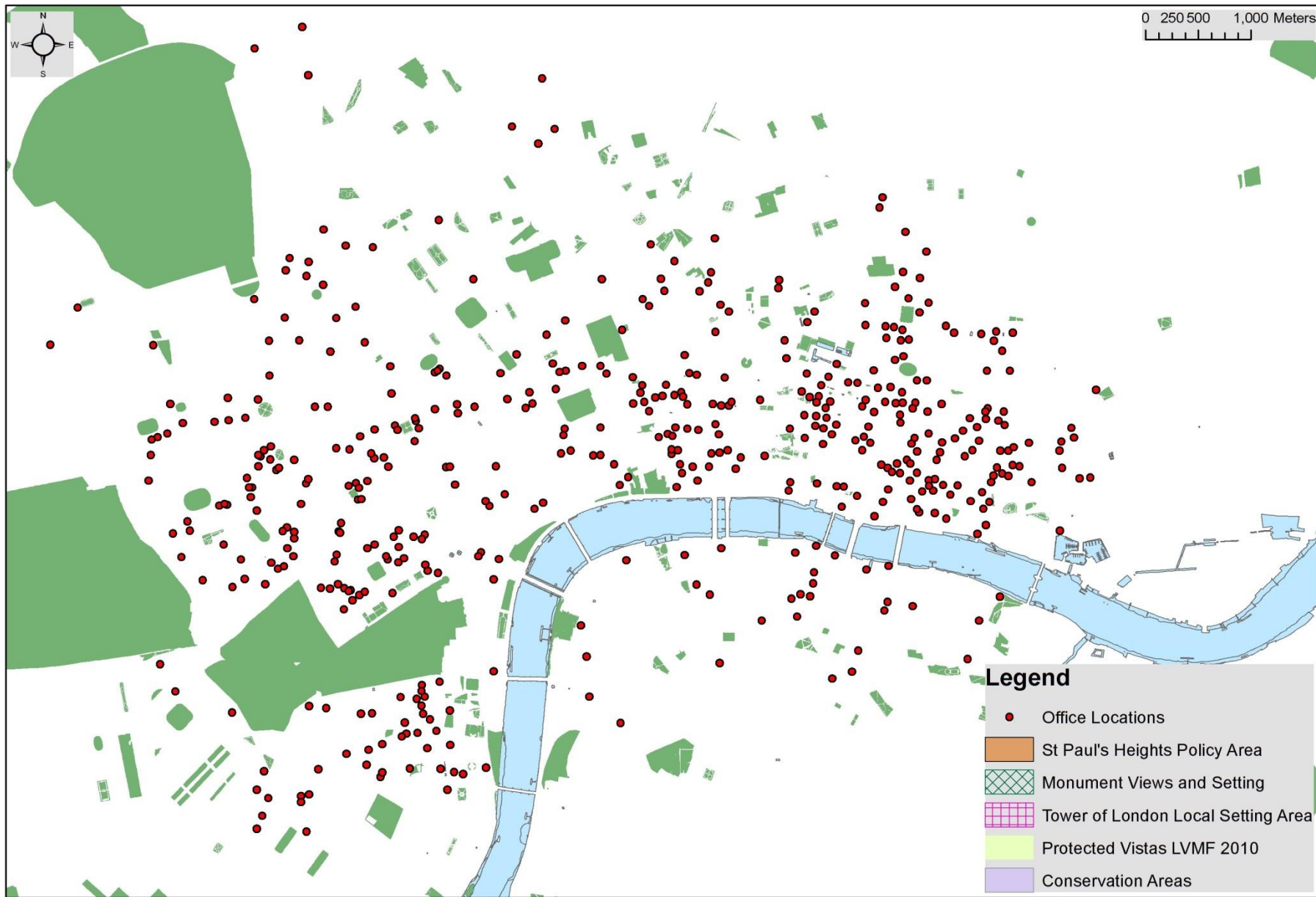
# The Planning System in London

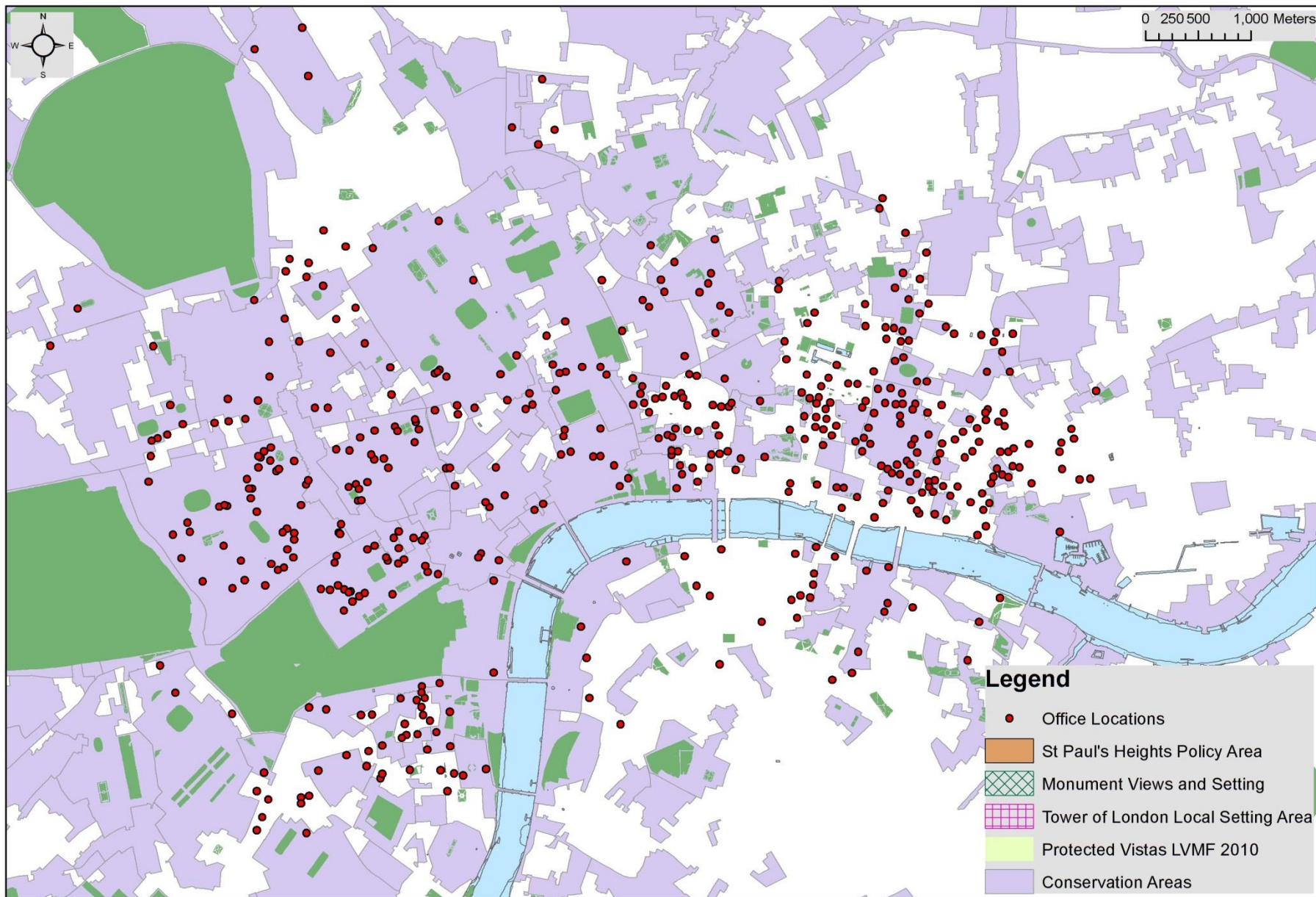
- Much as elsewhere in England – especially use of Development Control;
- But special features: 2-tiers – GLA and Boroughs
- City and most of period Docklands had own arrangements
- A much longer history – London Fire Brigade - secured London Council Act of 1890 – no building above 27ms
- Repealed in 1956; so absolute height limit until 1956 – ‘Modern’ & Pre-modern’ TA buildings
- Plot-ratios set at 5:1 [ $5\frac{1}{2}$ :1] in 1951 – became negotiable
- But in effect NO buildings higher than St Pauls until 1960
- Then Conservation Areas and Listed Buildings + height protected areas & corridors

# Data

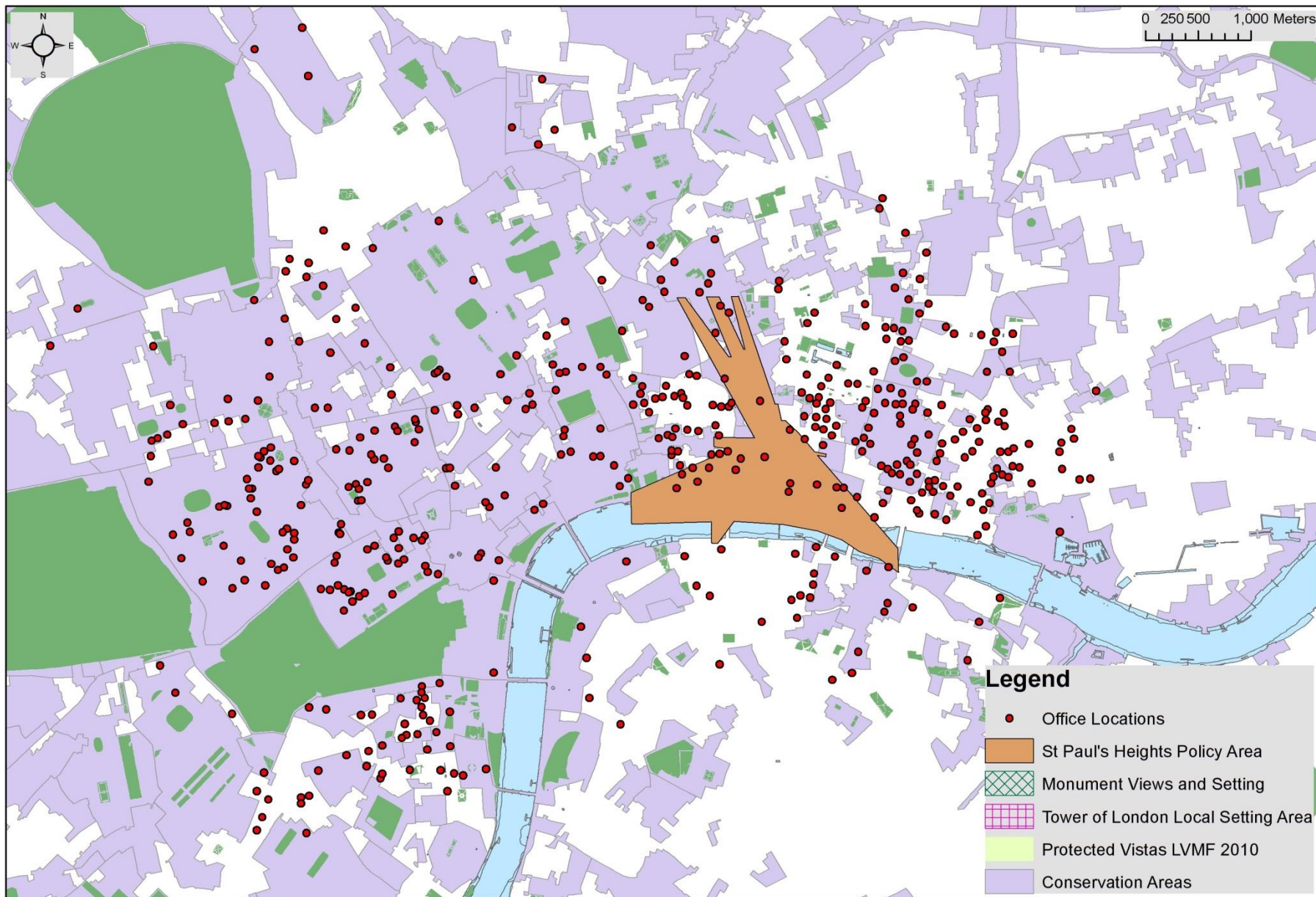
- Buildings extend over 546 postcode Central London sectors;
- These are the spatial units for spatial variables such as *employment density*
- Define and map all those areas which are ‘height protected’
- **That is:**
  - within a Conservation Area at time of planning application
  - or**
  - In other height protected zones at time of planning application –
  - Unless** actual site already occupied by pre-existing tall building
- Planning data: the restrictiveness measured by refusal rate of office proposals – mean 1990-2008 (buildings models); moving average (price models)

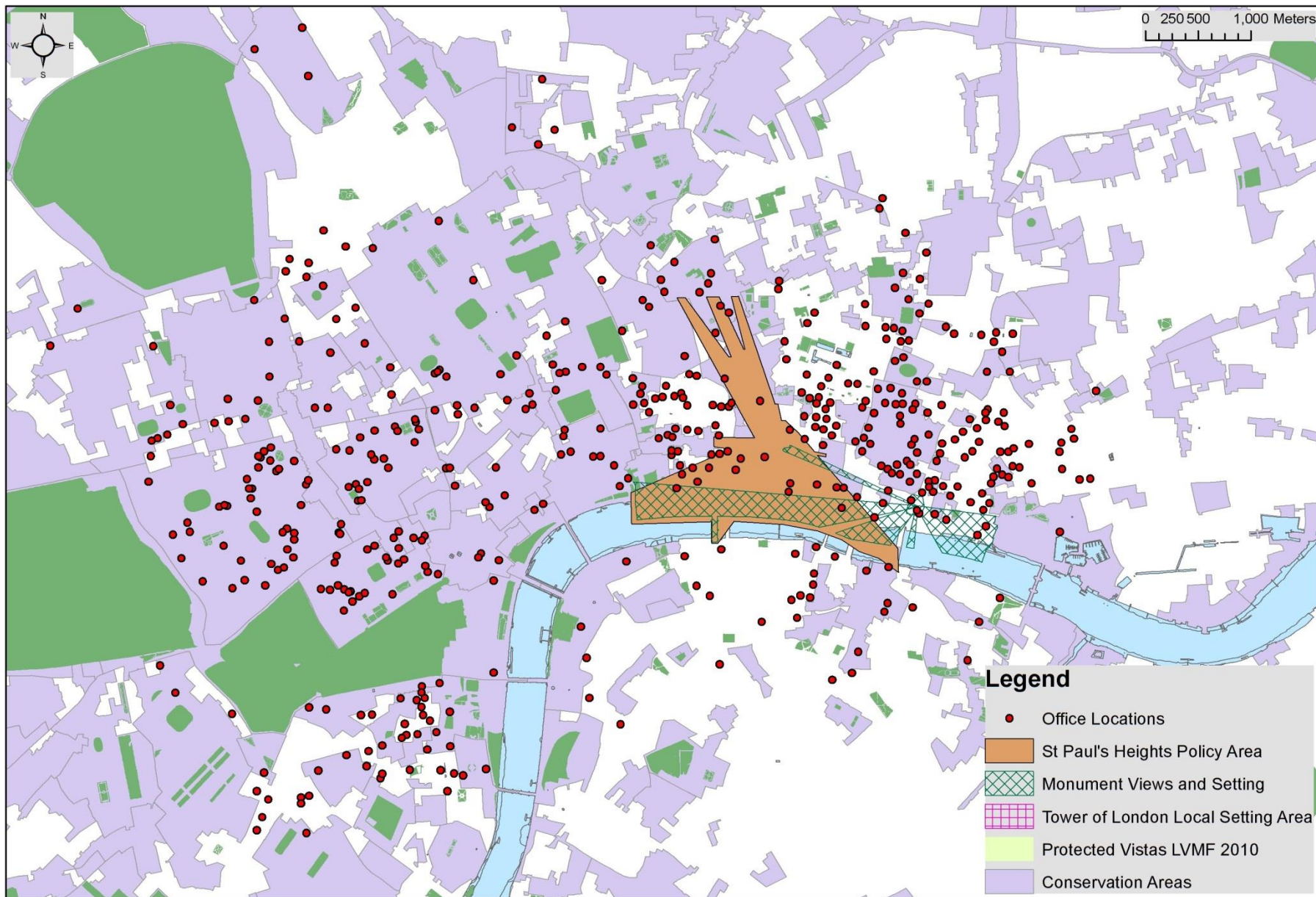




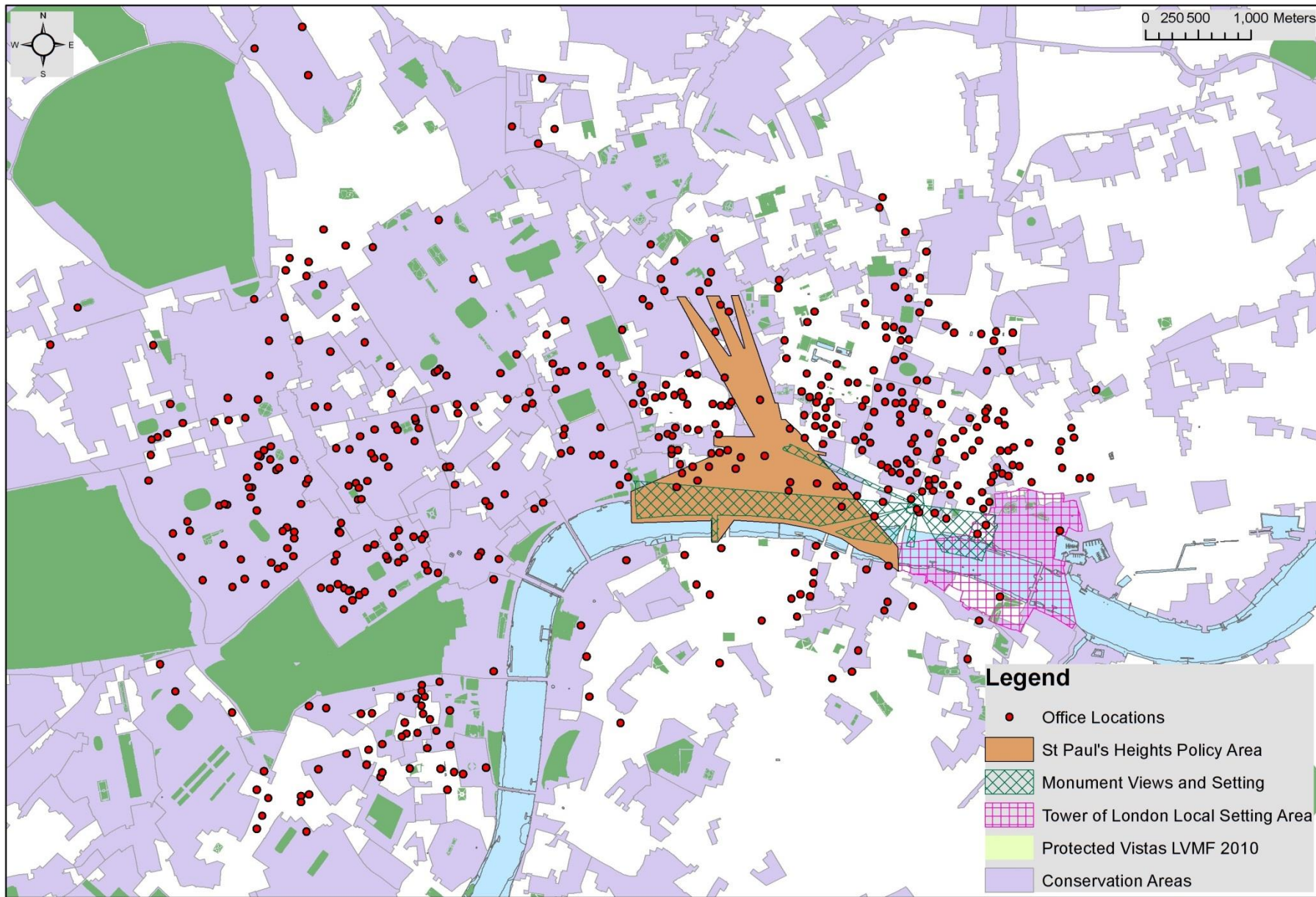


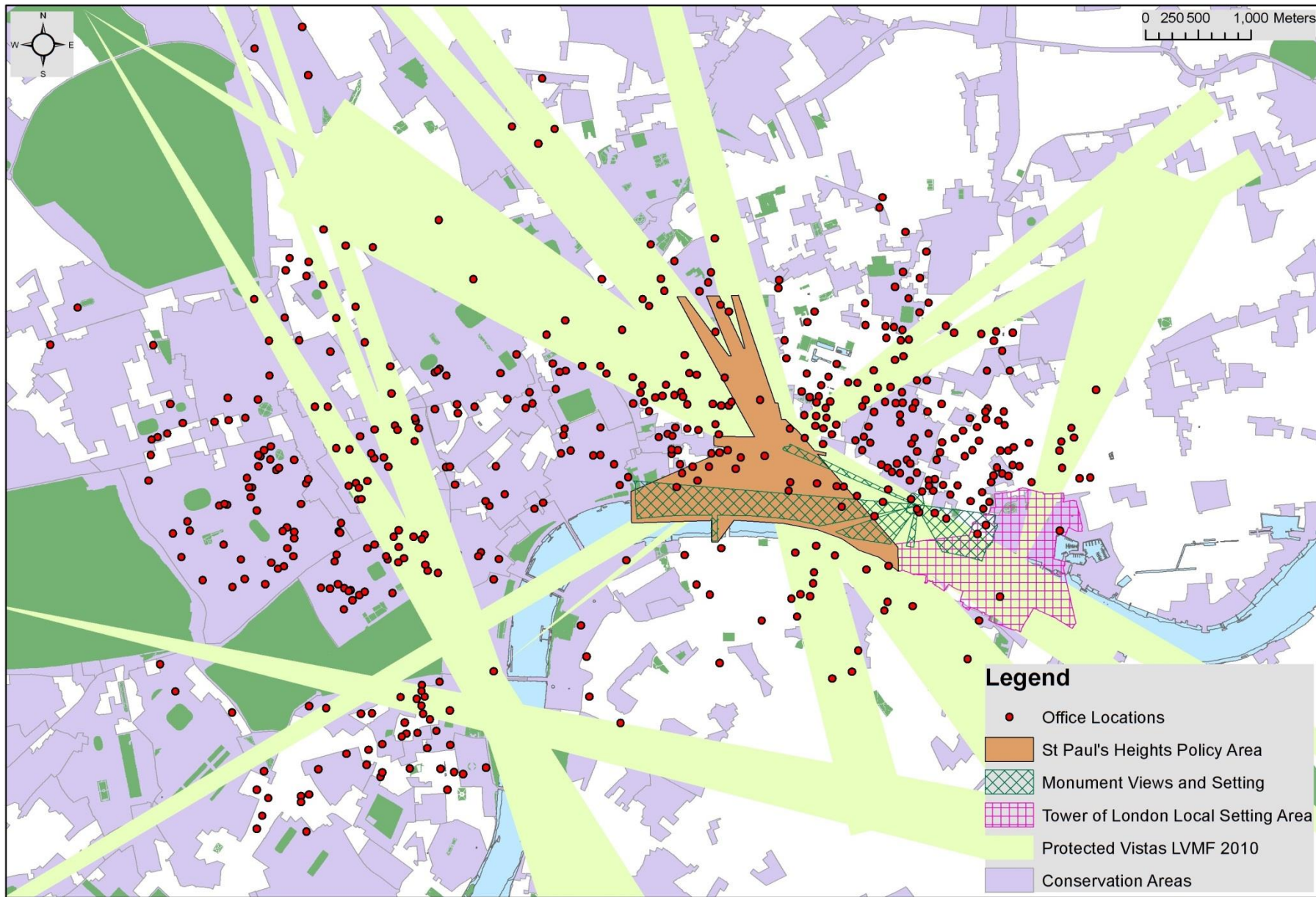














## Data cont.

- Conservation Area *density*, Listed buildings *density*, Parks & Gardens *density* in surrounding 300 metres; fronting Park or Garden
- Banking, finance, business services & insurance employment density in surrounding 600 metres – tested 100 to 1,000
  - Endogeneity – occupied building adds to density – but not much – mean building only 1.2% of local employment; & here does it matter?
- Building specific characteristics e.g. year built, year(s) sold, footprint, site size, floors, ‘depreciation’ age, occupied, multi-tenants, below ground floors, ‘quality’ (Estates Gazette), parking spaces, etc
- Accessibility - how far to a station – (other measures tried)
- Designed by a ‘Trophy Architect’: only 43 buildings & 58 sales
- 36 -Modern (post 1956) & 7 -Pre-Modern (1888 to 1955)
- 15 Modern TA buildings outside height protected zone

# Can a Trophy Architect build bigger?

Location & decade built controls not shown

| VARIABLES                              | (1)<br>Floorspace/<br>Site area | (2)<br>Floorspace/<br>Site area | (3)<br>Floorspace/<br>Site area | (4)<br>Drop 3 tallest     |
|--|---------------------------------|---------------------------------|---------------------------------|---------------------------|
| Modern TA outside Height<br>Prot. Area |                                 | 8.733***<br>(1.772)             | 6.626***<br>(1.599)             | 4.149***<br>(1.332)       |
| TA                                     | 3.700***<br>(0.908)             | 0.624*<br>(0.367)               | -0.137<br>(0.376)               | 0.128<br>(0.340)          |
| Built in Height Prot. Area             | -0.580**<br>(0.225)             | -0.148<br>(0.174)               | -0.666***<br>(0.209)            | -0.643***<br>(0.196)      |
| Planning restrictiveness               | -10.27***<br>(1.717)            | -10.16***<br>(1.603)            | -11.25***<br>(3.201)            | -10.88***<br>(3.050)      |
| Employment Density                     |                                 |                                 | 1.56e-05***<br>(5.02e-06)       | 1.60e-05***<br>(4.48e-06) |
| Constant                               | 5.549***<br>(0.192)             | 5.442***<br>(0.184)             | 4.643***<br>(0.443)             | 4.562***<br>(0.426)       |
| Observations                           | 515                             | 515                             | 515                             | 512                       |
| R-squared                              | 0.197                           | 0.378                           | 0.498                           | 0.395                     |



# Can a trophy architect build taller?

Location & decade built controls not shown

| VARIABLES                              | (1)<br>Floors          | (2)<br>Drop 3 tallest    |
|--|------------------------|--------------------------|
| Modern TA outside Height Prot.<br>Area | 18.77***<br>(4.669)    | 12.22***<br>(3.140)      |
| TA                                     | 0.400<br>(0.887)       | 1.181*<br>(0.652)        |
| Built in Height Prot. Area             | -1.746***<br>(0.402)   | -1.632***<br>(0.332)     |
| Planning restrictiveness               | -5.553<br>(8.602)      | -3.961<br>(7.910)        |
| Employment Density                     | 1.41e-05<br>(1.23e-05) | 2.16e-05**<br>(8.43e-06) |
| Constant                               | 6.019***<br>(1.121)    | 5.481***<br>(0.966)      |
| Observations                           | 515                    | 512                      |
| R-squared                              | 0.567                  | 0.479                    |

# Value of Trophy architects per m<sup>2</sup> of building

| VARIABLES  | (5)<br>Ln(Price/Sqm)        |
|--|-----------------------------|
| Modern TA  | <b>0.0645</b><br>(0.0615)   |
| Pre-Modern TA  | <b>-0.168**</b><br>(0.0846) |
| Within Height Protected Area                             | <b>0.00931</b><br>(0.0324)  |
| Listed   | <b>0.0770*</b><br>(0.0457)  |
| Ln(Office Permission Refusal<br>Rate 9yr Moving Average) | <b>0.0240*</b><br>(0.0137)  |
| Ln(Employment 600m)                                      | <b>0.185***</b><br>(0.0315) |
| Decade Built   | <b>YES</b>                  |
| Submarket  | <b>YES</b>                  |
| Year Sold  | <b>YES</b>                  |
| Constant   | <b>5.306***</b><br>(0.507)  |
| Observations   | <b>625</b>                  |
| R-squared  | <b>0.546</b>                |

**Note: Building &  
area controls  
not shown.  
Mainly significant &  
'correctly' signed**

# Value of Trophy Architect for Sites

| VARIABLES                                  | (1)<br>Ln(Price/Site area)  | (2)<br>Drop 3 tallest       |
|--|-----------------------------|-----------------------------|
| Modern TA outside<br>Height Protected Area | <b>0.701***</b><br>(0.193)  | <b>0.485***</b><br>(0.146)  |
| Modern TA                                  | <b>0.135</b><br>(0.0842)    | <b>0.143*</b><br>(0.0841)   |
| Pre-Modern TA                              | <b>-0.261</b><br>(0.185)    | <b>-0.278</b><br>(0.181)    |
| Within Conserv. Area                       | <b>-0.111</b><br>(0.0749)   | <b>-0.130*</b><br>(0.0756)  |
| Built in H, P. Area                        | <b>-0.0596</b><br>(0.0834)  | <b>-0.0613</b><br>(0.0842)  |
| Listed                                     | <b>-0.00913</b><br>(0.0658) | <b>-0.0110</b><br>(0.0657)  |
| Planning restrict.                         | <b>0.0335*</b><br>(0.0182)  | <b>0.0269</b><br>(0.0181)   |
| Ln(Employment 600m)                        | <b>0.243***</b><br>(0.0535) | <b>0.216***</b><br>(0.0513) |
| All controls                               | <b>YES</b>                  | <b>YES</b>                  |
| Constant                                   | <b>6.636***</b><br>(0.661)  | <b>6.638***</b><br>(0.640)  |
| Observations                               | <b>625</b>                  | <b>619</b>                  |
| R-squared                                  | <b>0.609</b>                | <b>0.584</b>                |

**Note: Building &  
area controls  
not shown.  
Often sig. & mainly  
'correctly' signed.**

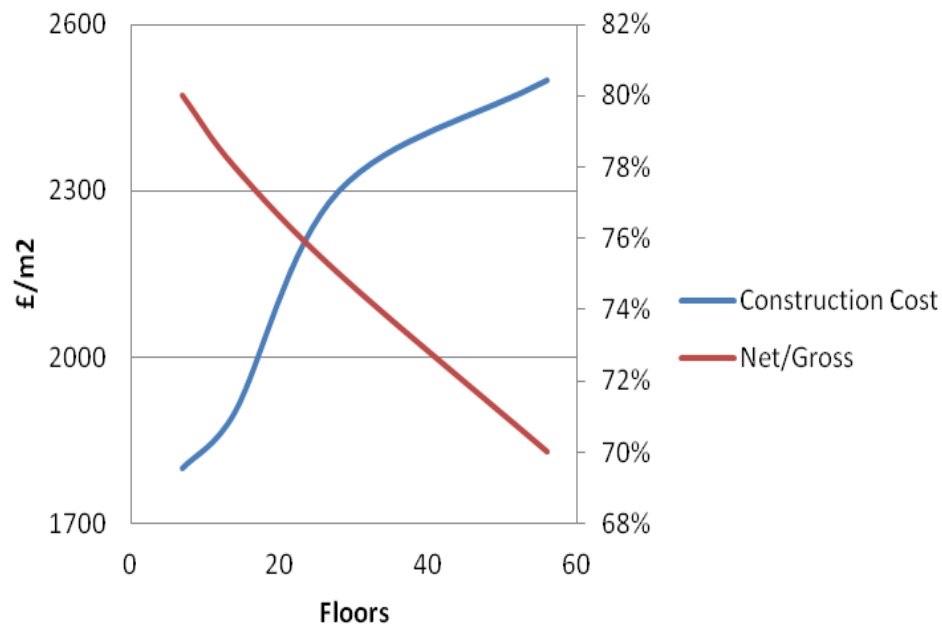
# What a trophy architect brings by design

- So evidence that a trophy architect can - outside a Height Protected Area - build bigger by building taller
- 19 Floors taller!
- Tighter local restrictiveness - buildings smaller but dearer
- Negative effect on price per m<sup>2</sup> of a trophy architect arises from Pre-Modern: old and likely Listed so asset is frozen
- But a trophy architect adds value per m<sup>2</sup> to a site (outside a Height Protected Area)
- Results stand up to dropping tallest T.A. buildings
- TAs add nothing per m<sup>2</sup> (contrast Fuerst *et al* 2011 – **rents**)
- What do they add to site value? More space but no premium per m<sup>2</sup> – from preferred specification add about 130% if outside HP Area. But T.A.s cost. Fees, construction costs, rent out, delays + uncertainty
- **So: are they worth it?**

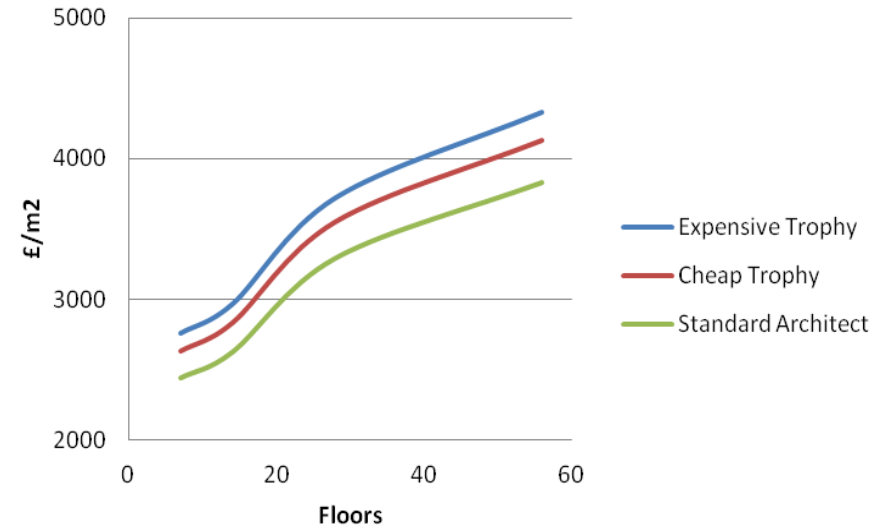
# They cost....

- Data on building costs for Regular, Modest Trophy & Expensive Trophy (Gardiner & Theobald)

## Building costs & Lettable space% by Floors



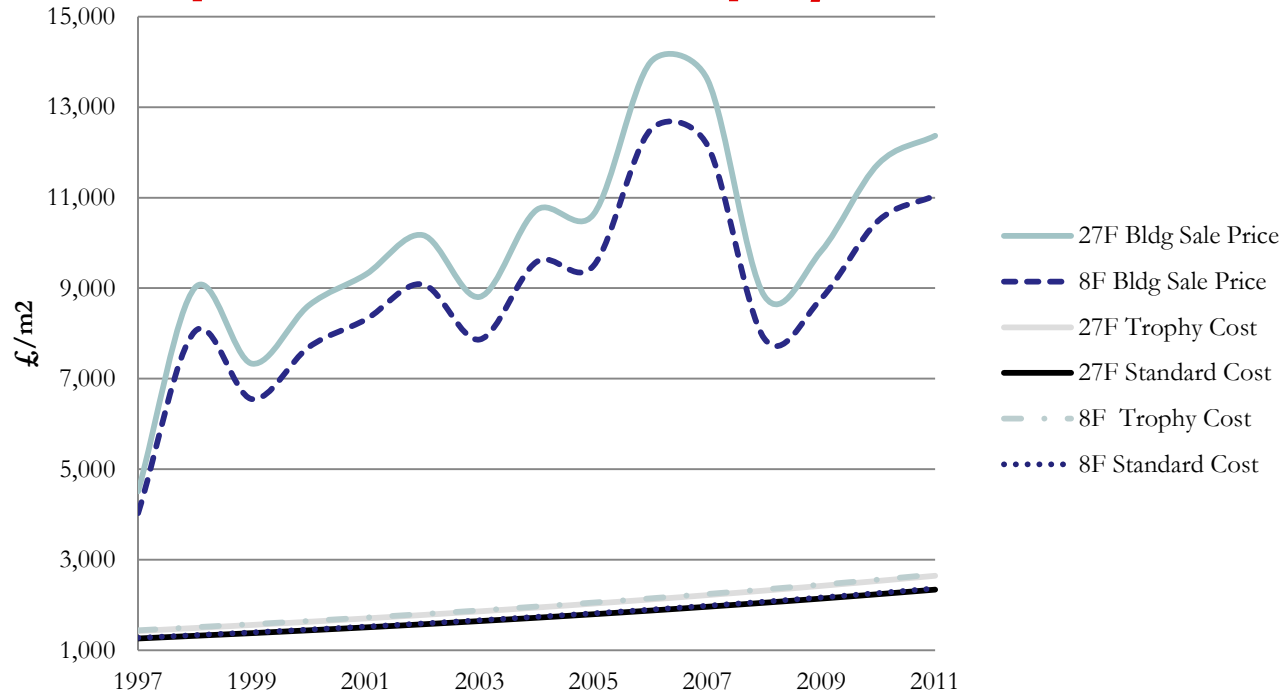
## Costs by Height by Architect type



# What does a Trophy Architect add to a Site Net?

- Assume sample mean, City of London Site outside HP Area + sample mean City of London building characteristics
  - Sample mean Height = 8 Floors
  - Trophy Architect Height – 27 Floors
  - Use estimates on price per m<sup>2</sup> then construct hedonic price series: and cost series assuming 2012 levels
- Then – partial equilibrium – estimate profits for normal and expensive trophy architect plus profit maximising height.

# A representative trophy architect building



**And profit max.  
height is much  
higher:  
Normal Architect  
= 90 floors  
Trophy Architect  
= 84 floors**

- **Note:** partial equilibrium; assumes permission certain – ignores risk and cost of failure; assumes no external benefits; ignores additional application costs and costs of delay (Heathrow T5 appeal estimated to have direct costs of circa £100m).

# A representative trophy architect building

- 8-floor standard architect building would earn profits/site value of £56m
- 27-floor expensive TA building would earn profits/site value of £129m:
- implying economic rents of £73m (+130%)
- **But are there £1million, even £50 notes lying about?**
- **At least 2 extra sources of cost**
  - extra costs negotiating a way through the process of development control
  - higher expected rate of return that required to offset for the greater risks & uncertainty
- **Indeed may be glimpsing dark matter of compliance costs**



# Compliance costs — more detail

- Know there are additional assessments needed – e.g. air traffic, TV/radio, environmental, London Views Management
- Plus additional agencies inc: London City airport, BAA, Royal Parks, Mayor, Surveyor to the Tower of London, Surveyor to the Fabric of St Paul's Cathedral, International Council on Monuments and Sites (UNESCO), Design Council/CABE, adjoining LPAs, LPAs with Strategic Views identified in LVMF
- Also planning period - evidence fragmentary – small sample of 'planning histories' of buildings in City
- **Very labour intensive but results suggestive:**
- extra 6 to 18 months: more likely to go to SoS
- And slower let outs: 1<sup>st</sup> lets 16-43 months later; full lets +28-60 months (cf Fuerst *et al* 2011)

# Causation??

- We are observing a correlation and arguing a causal relationship - employing TAs to 'game' the planning system and get more lettable space on a given site;
- A lot of plausible circumstantial evidence
- But are there other possible – even plausible – explanations?
- **Two suggested** (Steve Gibbons & Hans Koster)
  - 1) Only TAs have the necessary technical expertise to build tall
  - 2) Big companies want a landmark building: build tall and employ TAs
- But absolutely no evidence for 1) Brussels or Benidorm – no TA buildings; seems to be signalling effect – after award
- No evidence that TA buildings occupied by single companies or bespoke.
- So cannot find any evidence for alternative explanations

# Conclusions

- Strong evidence of T.A.s & iconic design as rent-seeking (acquisition) behaviour – when successful obtain very substantial ‘rents’ but!
- 130% additional ‘rent’ for representative City site:
- **But** costs of delays, lawyers, planning appeals & extra risk/uncertainty;
- Very modest evidence of external benefit associated with iconic architecture – Conservation Area & Listed building Density non-significant price (but tourist + residents’ WTP?);
- And no premium paid in market for TA buildings per m<sup>2</sup>
- ‘Rent seeking’ is (Krueger) a deadweight loss in welfare terms unless offset by social gain;
- So is rent acquisition;
- However – through other end of telescope – if no large denomination banknotes lying around on streets...

# Conclusions

- Measuring costs of compliance?
- A further economic cost of very tight regulatory control of supply of space in Britain:
- Note profit maximising building height of 84 floors greatly exceed even 'TAs' mean achievements;
- Maybe 'rents' = 'planning cost': a deadweight loss
- No direct evidence trophy architects' buildings have external benefits – no premium though may be 'consumption' value not measured in private market values;
- Even if there is - likely to be **very** inefficient method of increasing architectural quality of cityscape.