

Bevorzugter Zitierstil

Axhausen, K.W. (2011) What might be Good City Form for non-local friendship networks?, presentation at the PhD Seminar, Future Cities Laboratory, Singapore, April 2011.

What might be Good City Form for non-local friendship networks?

KW Axhausen

IVT
ETH
Zürich

April 2011

FUTURE
CITIES

LABORATORY

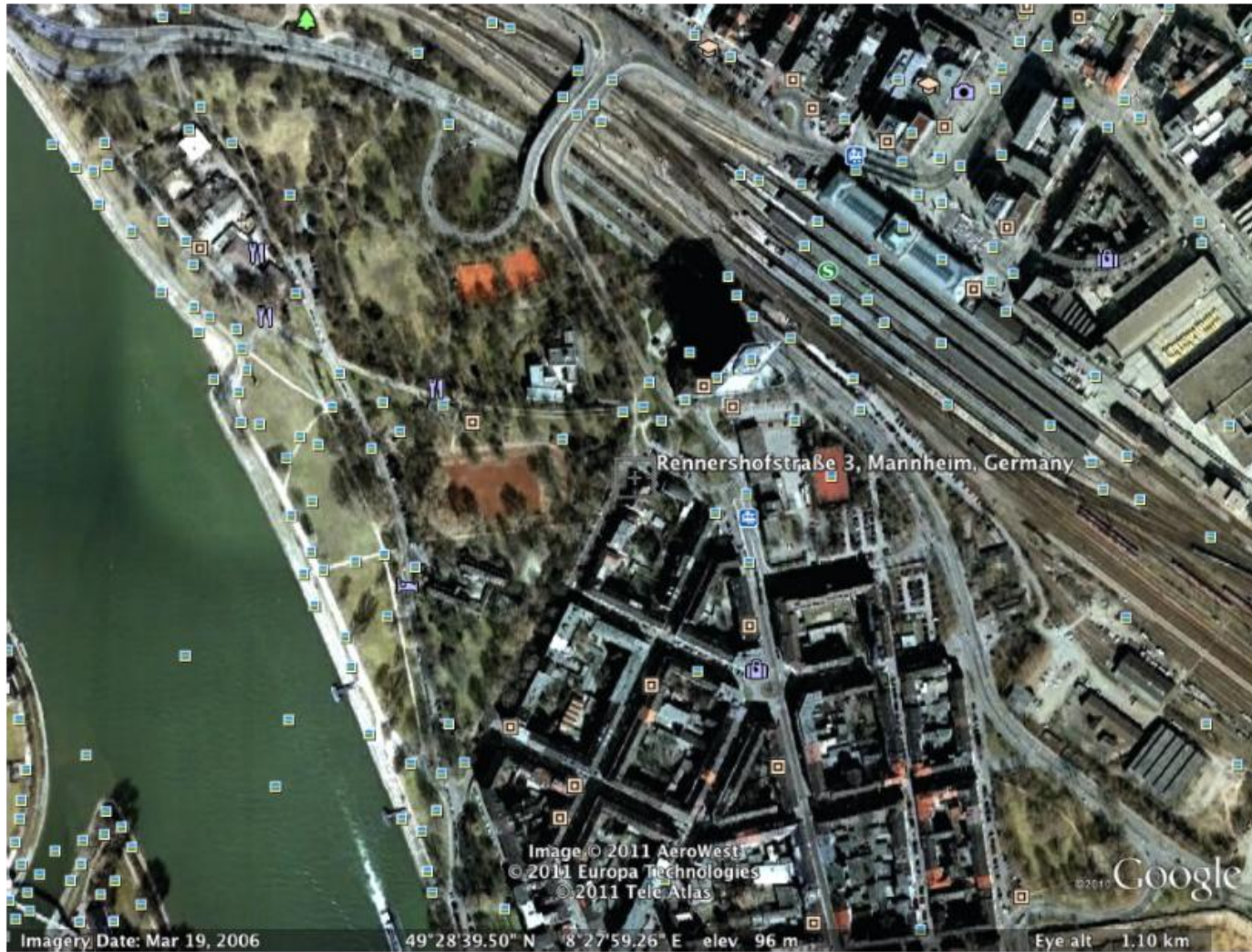
 *Institut für Verkehrsplanung und Transportsysteme*
Institute for Transport Planning and Systems

ETH

Eidgenössische Technische Hochschule Zürich
Swiss Federal Institute of Technology Zurich

Good city form ?

Background

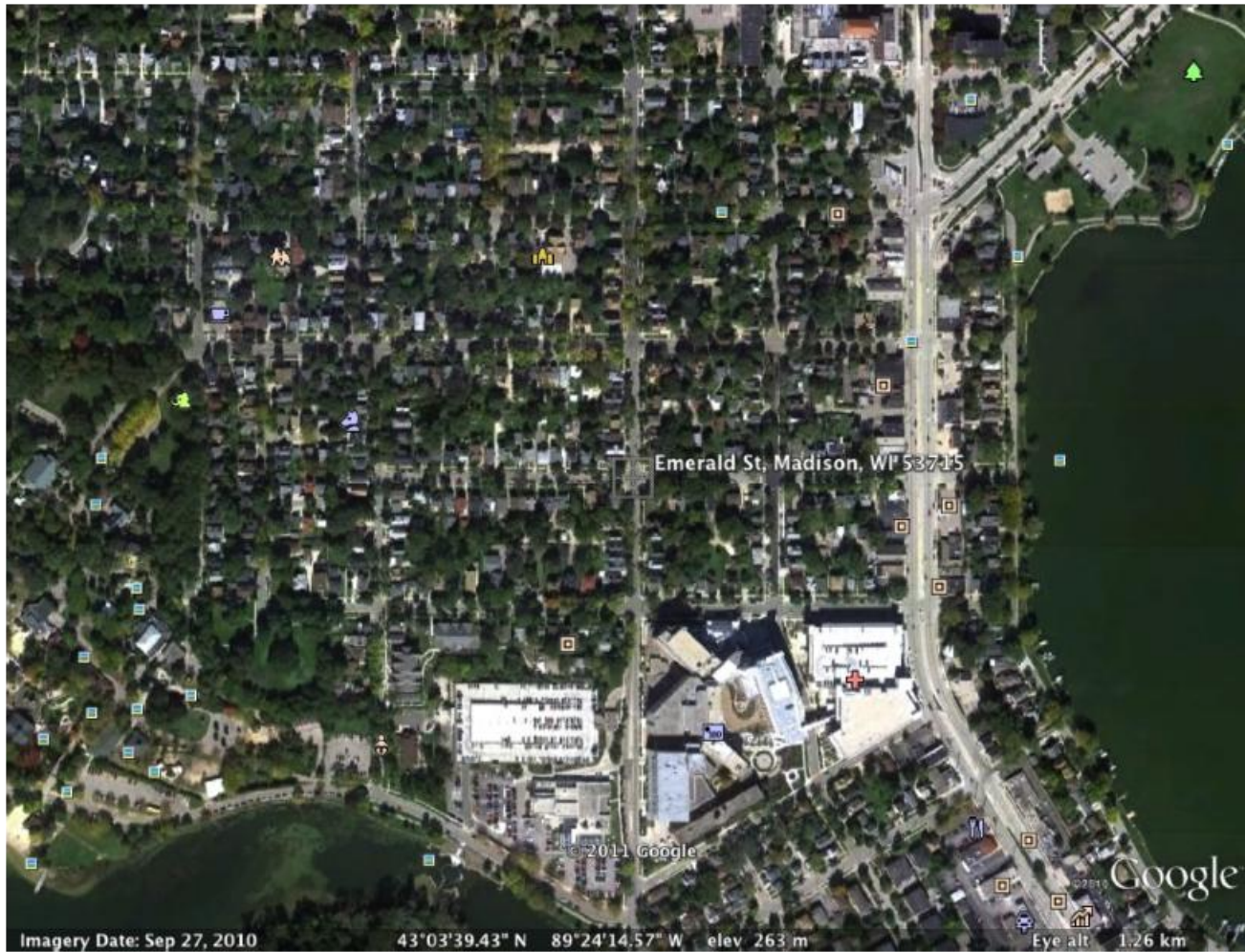


Background



Karlsruhe, 1978-1980

Background



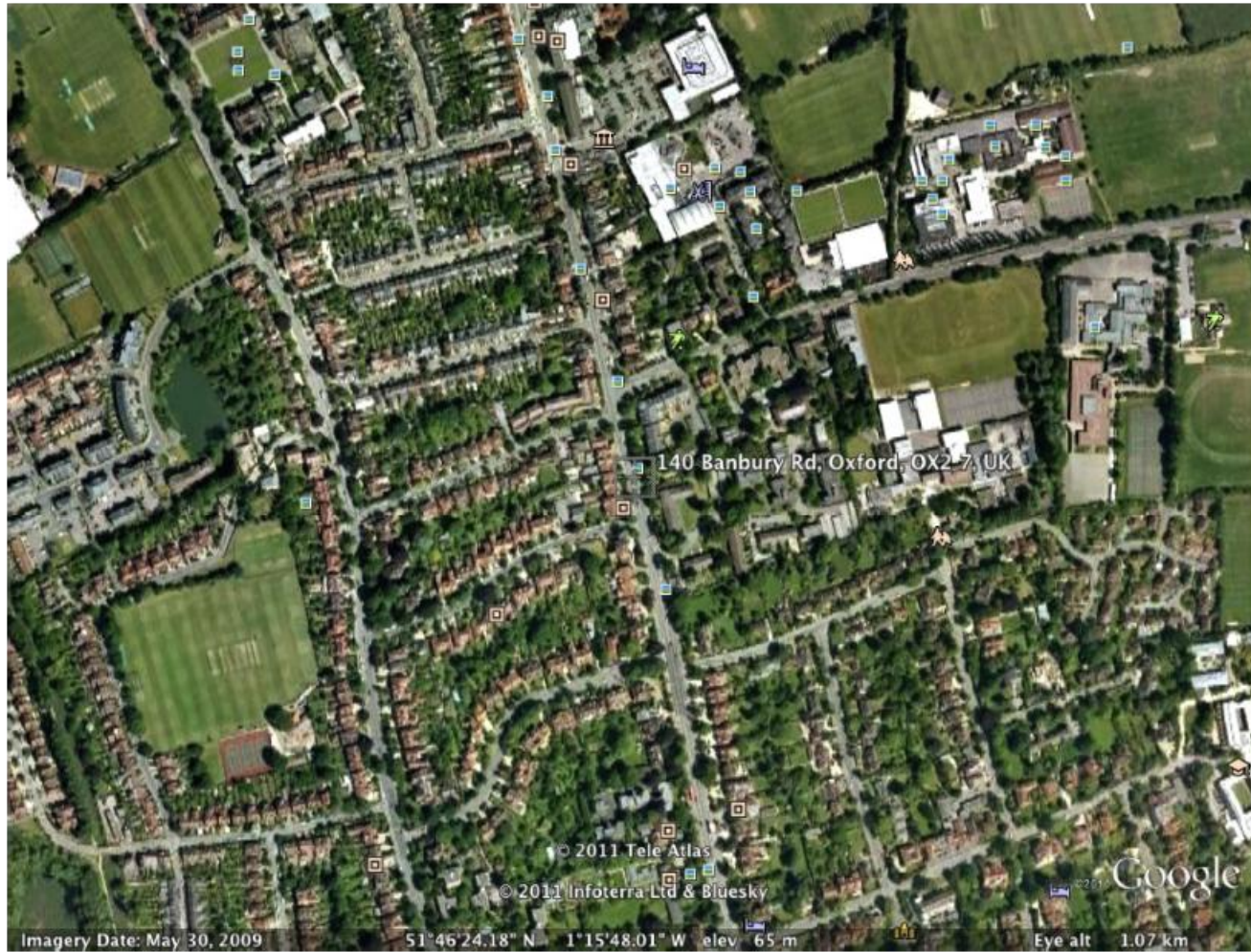
Madison, 1983-1984

Background



Karlsruhe, 1984-1989

Background



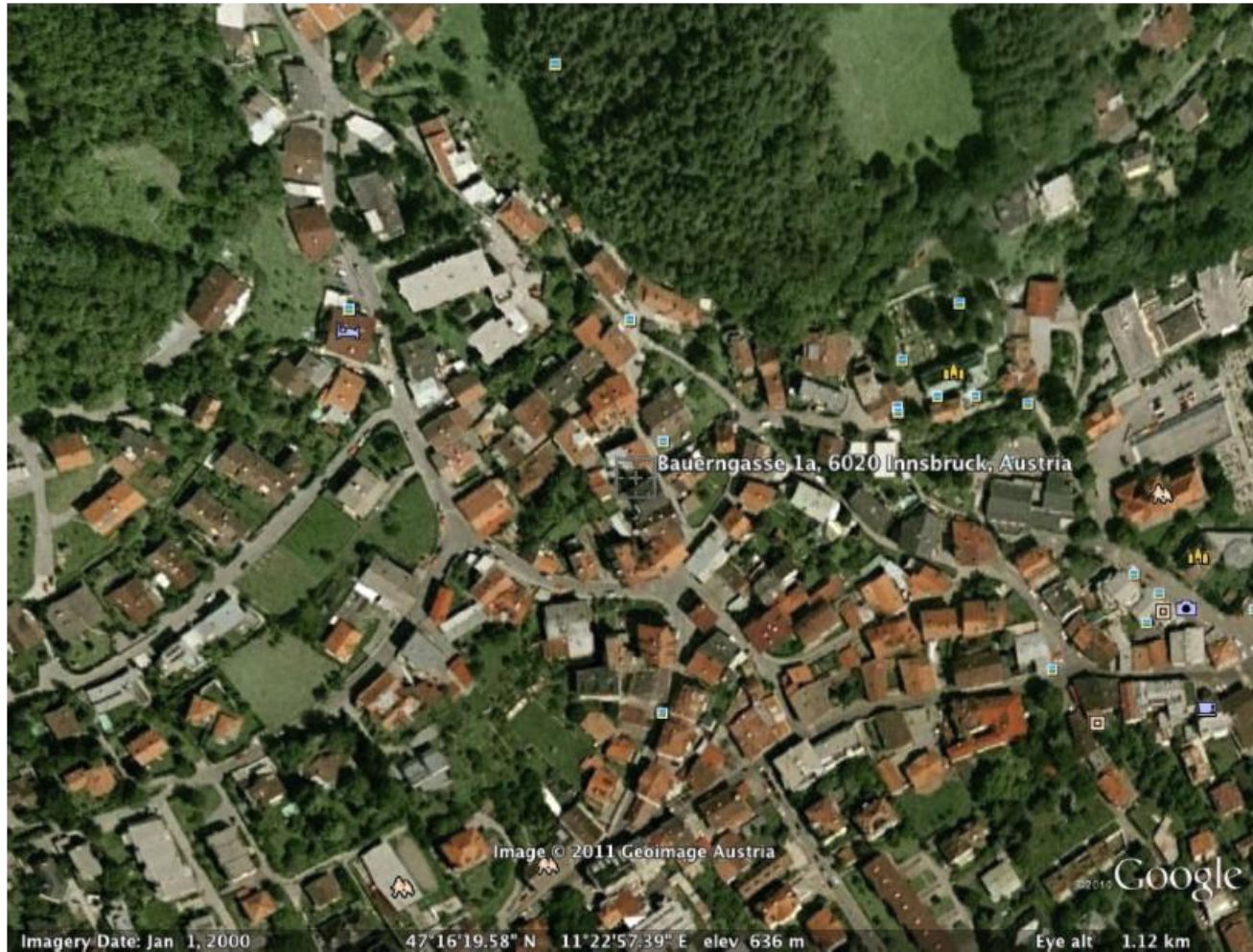
Oxford, 1989-1990

Background

London, 1990-1994

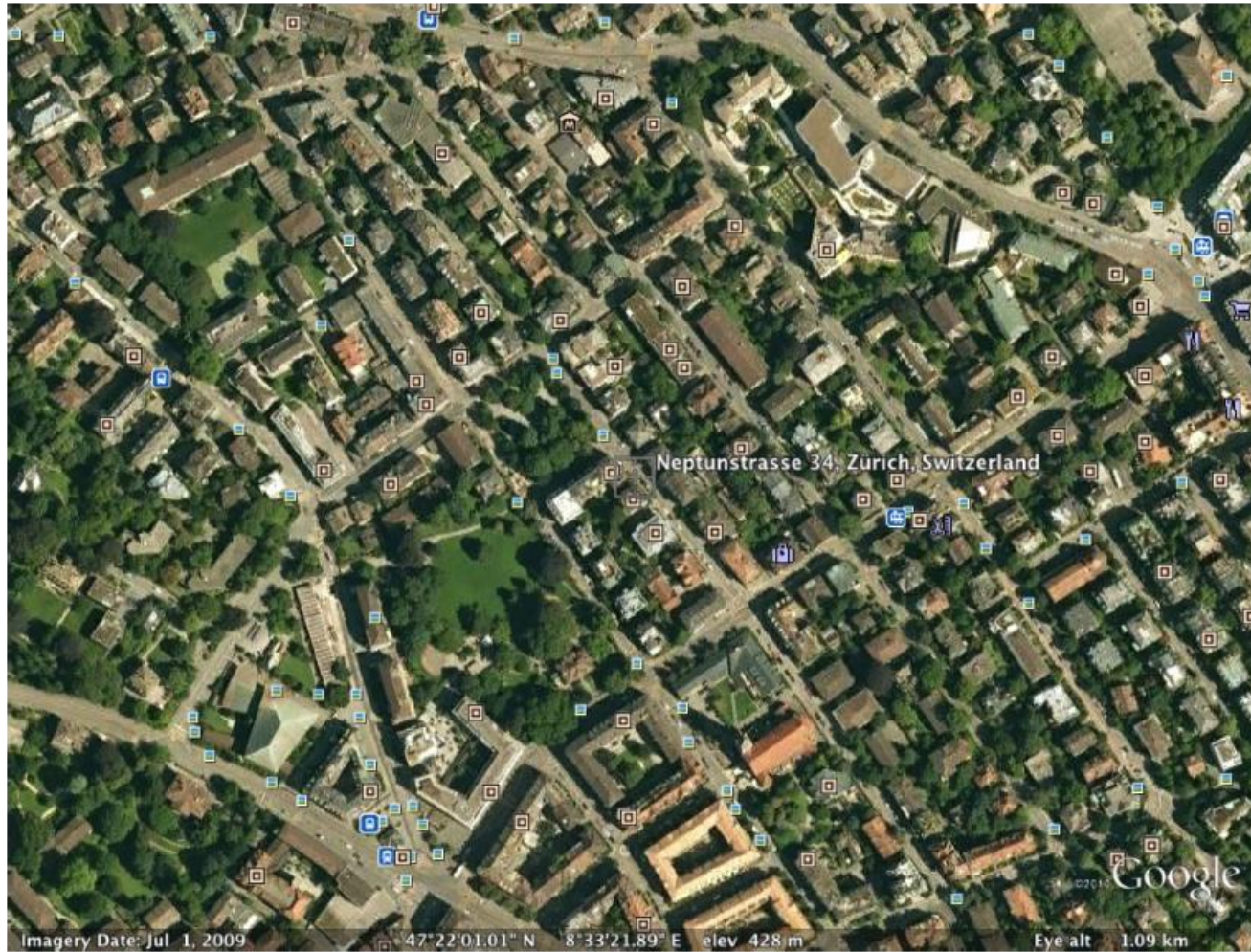


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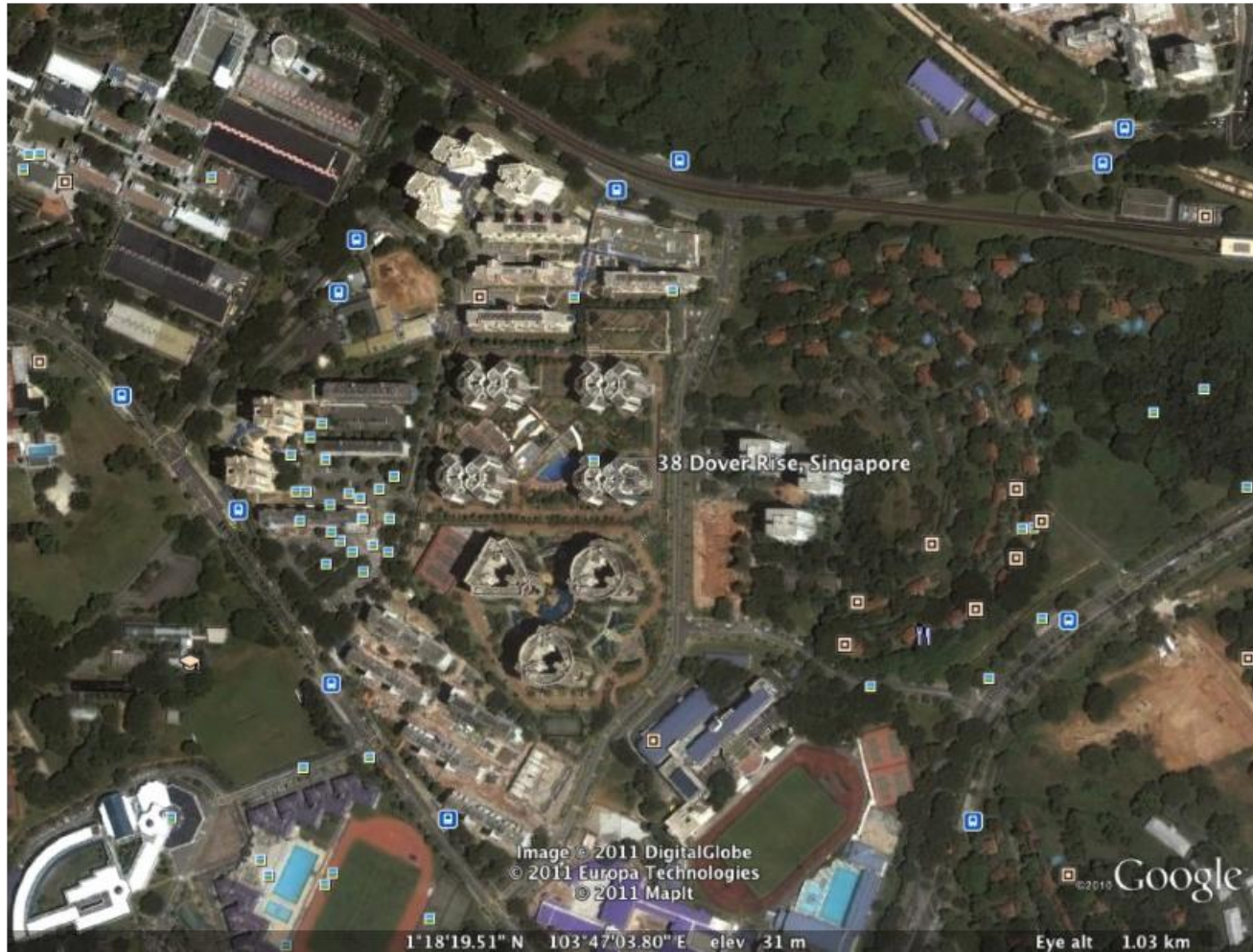
Innsbruck, 1995-1999

Background



Zürich, 1999-

Background



Good city form ?

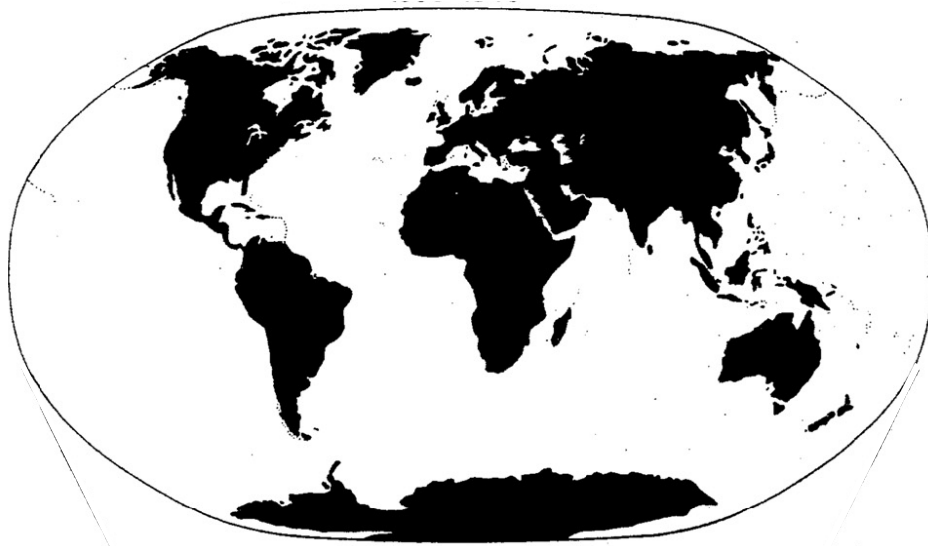
Greifswald, 1821



home.t-online.de/home/k-j.lebus/cdf-hgw.htm

For which world ?

A shrinking world



Coach and sailing boat until
1840



Steam ship and locomotive, 1840 - 1930

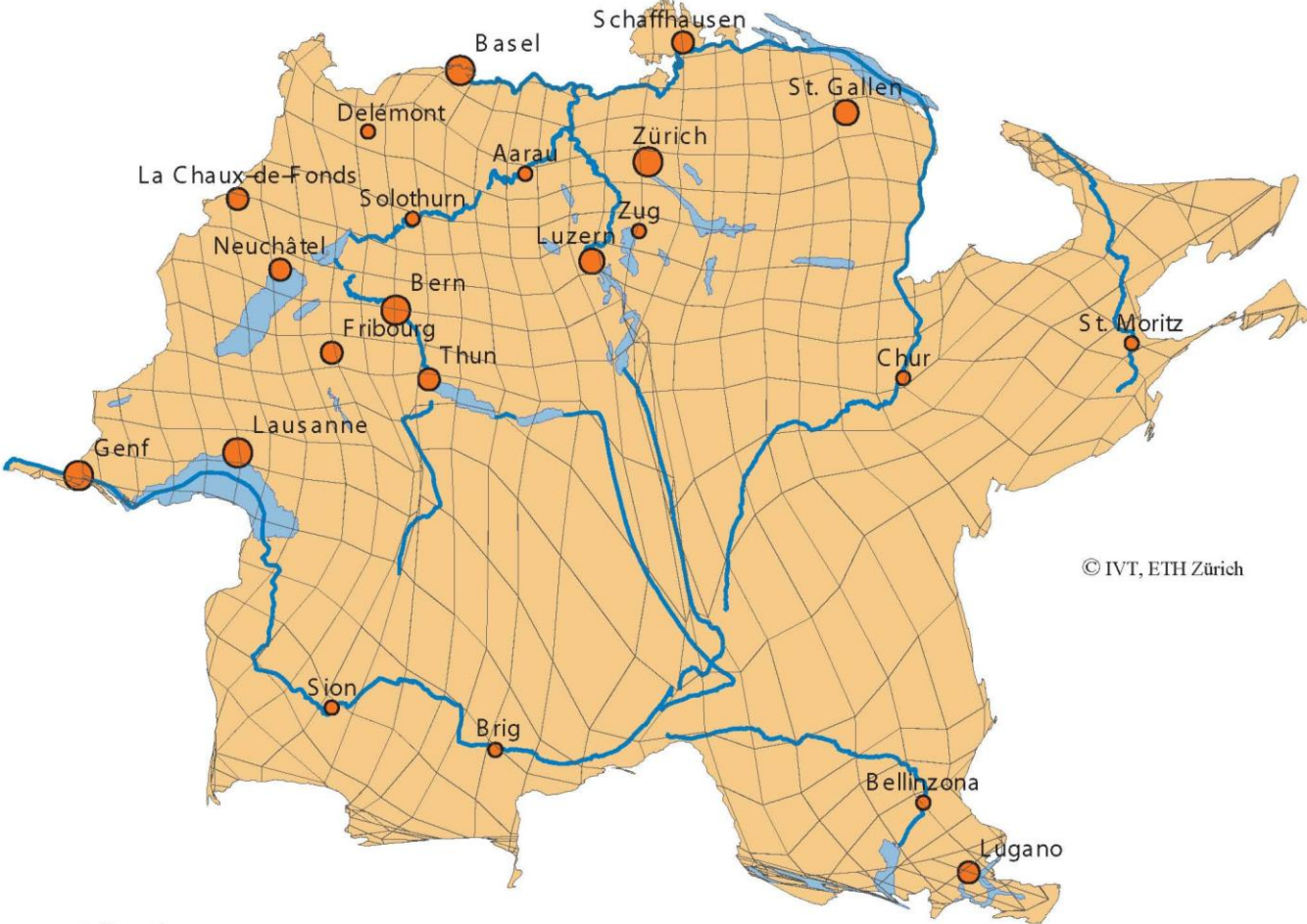
Propeller aircraft, 1930-1950



Jets, from 1950



Shrinking “road” – Switzerland (1950)



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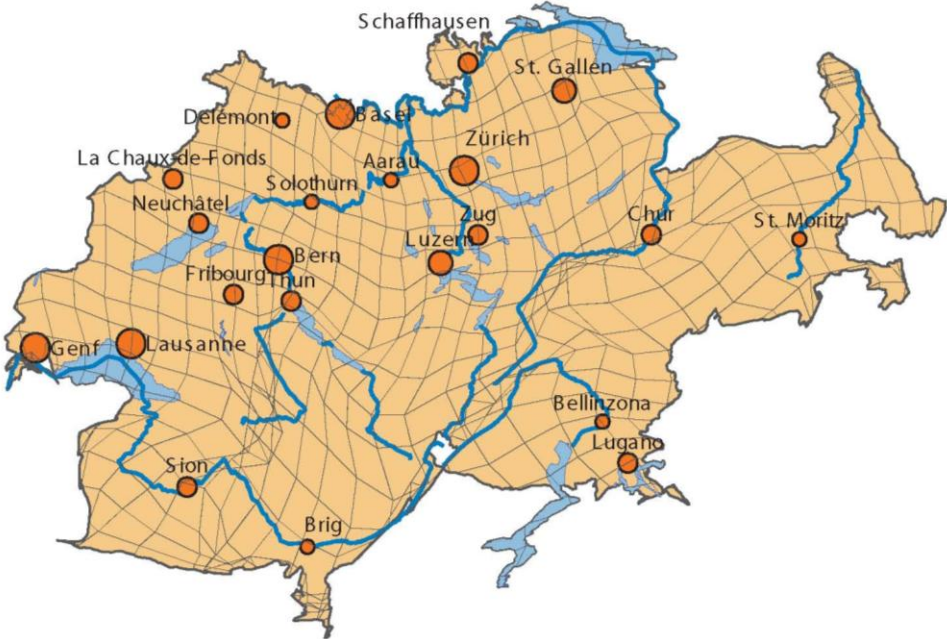
1 Stunde

10km x 10km Raster

Stunde 1

Scherer, 2004

Shrinking “road” Switzerland (2000)



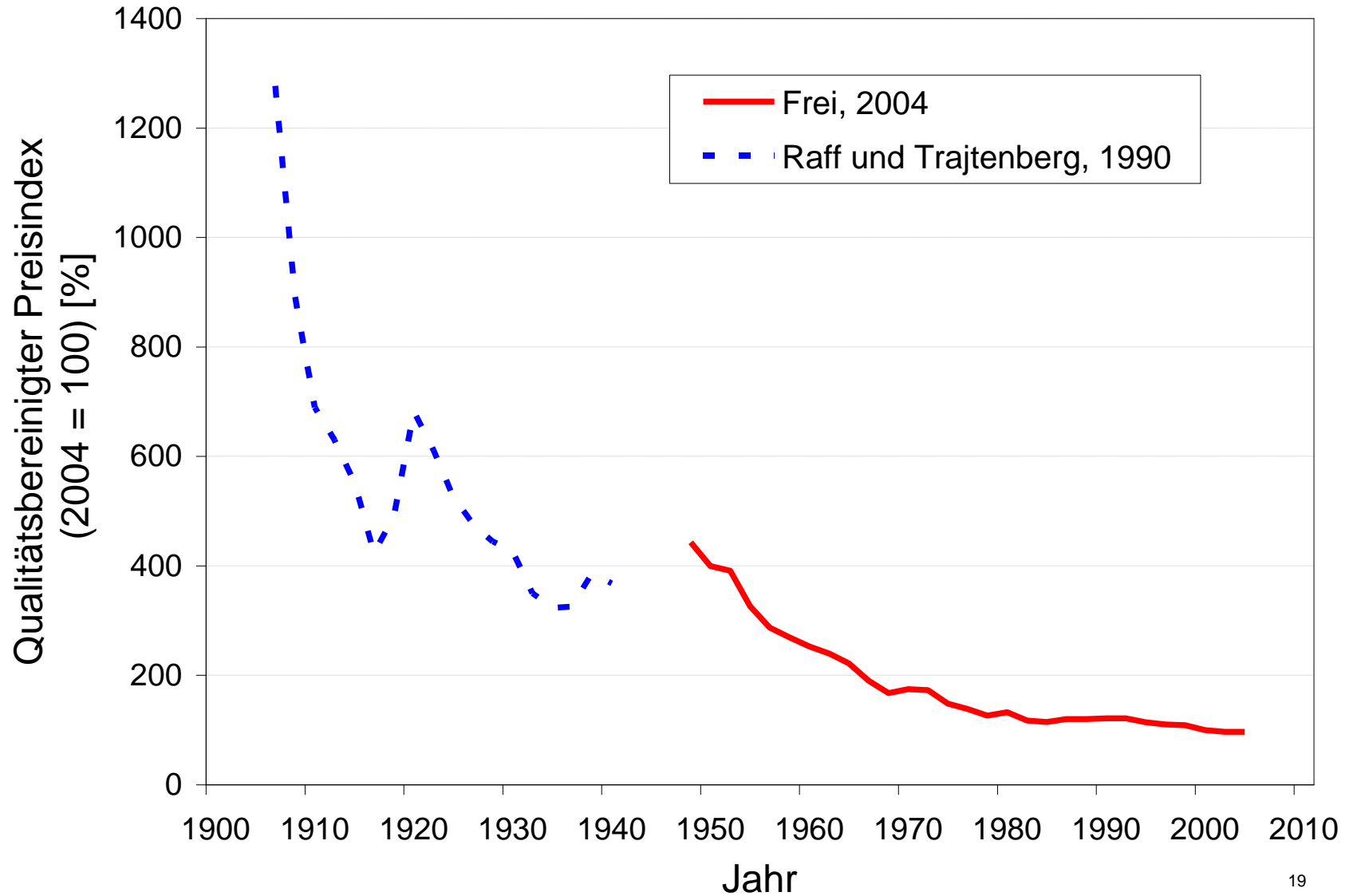
1 Stunde



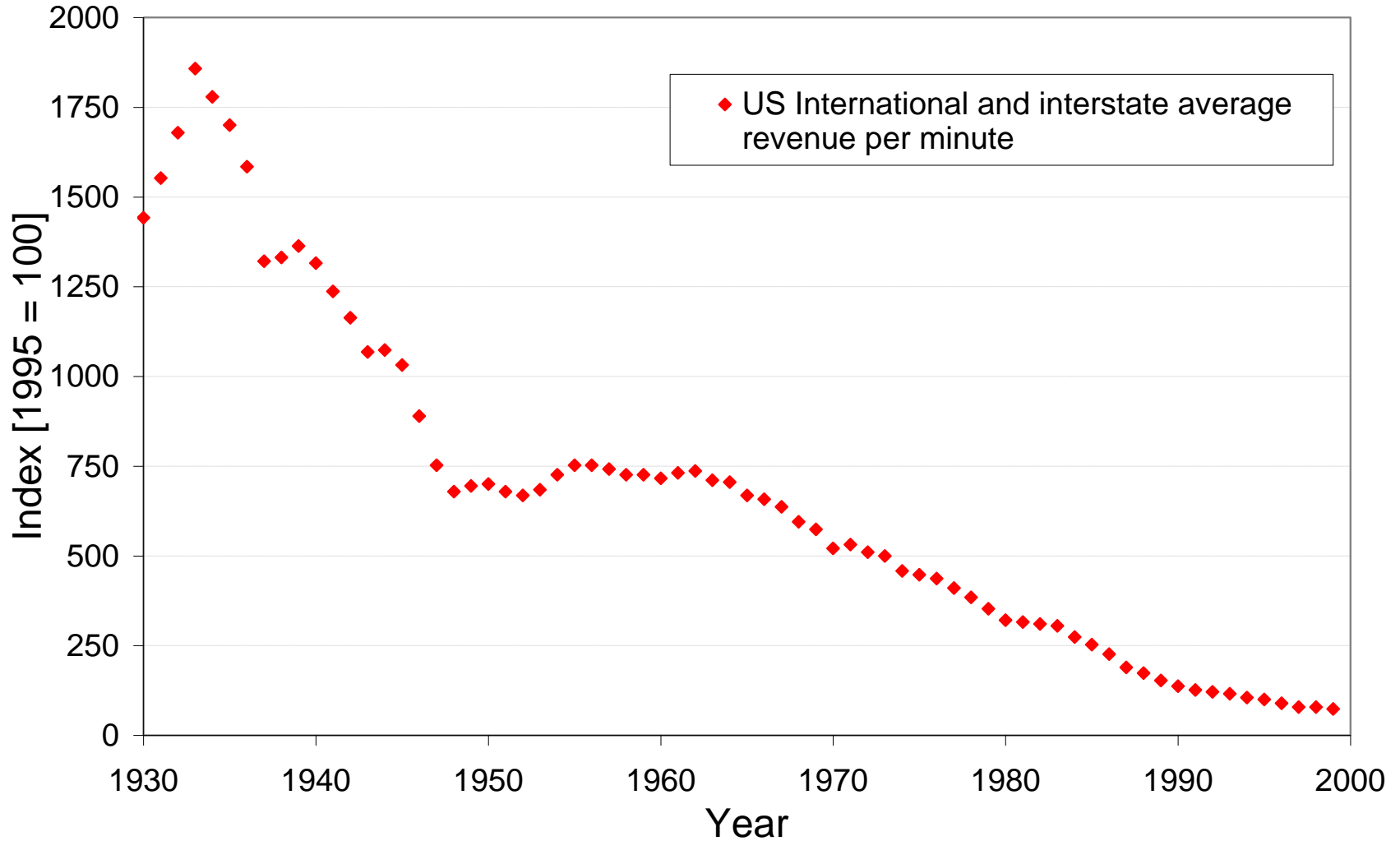
10km x 10km Raster



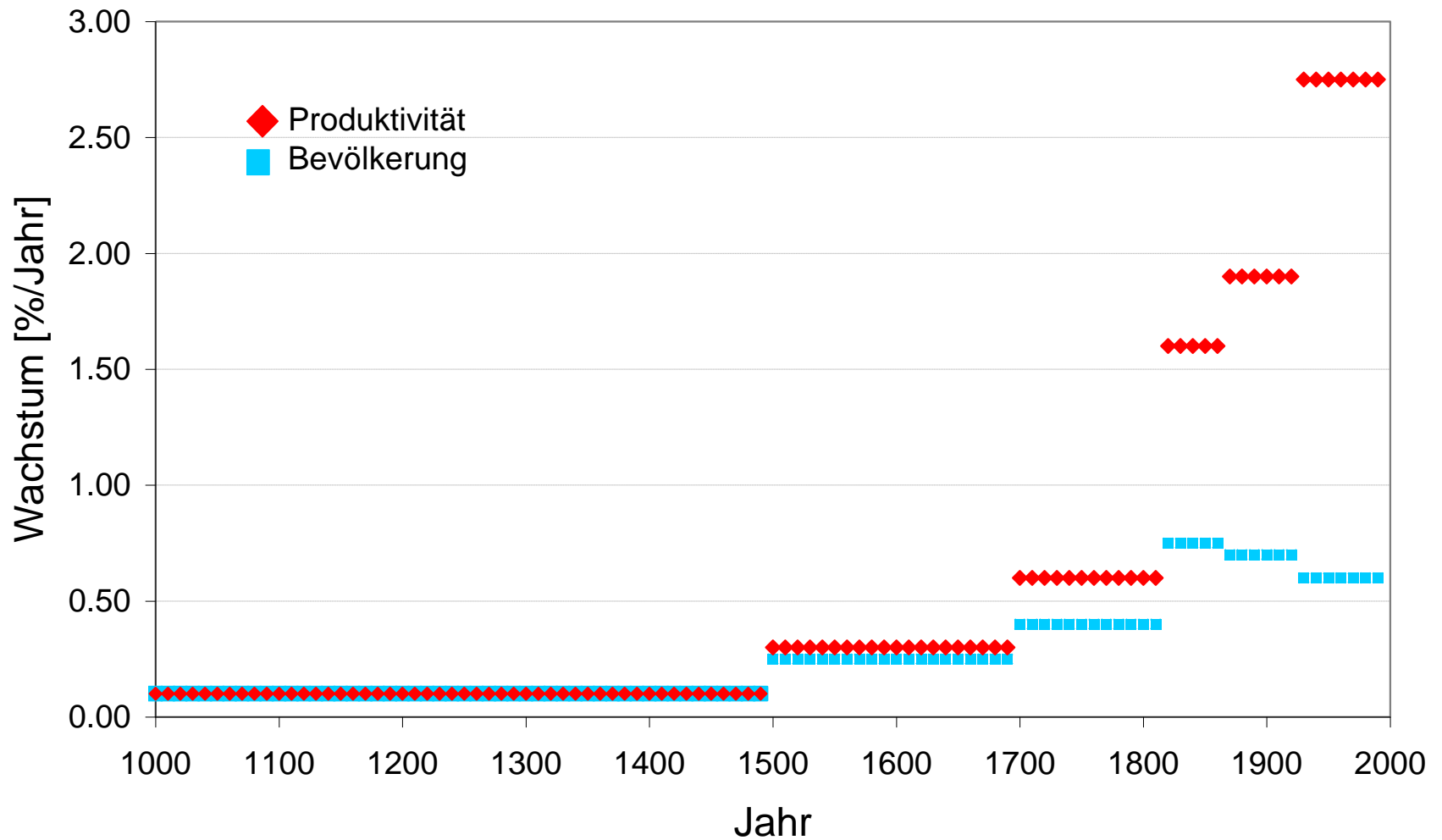
Quality-adjusted price of a new car in Switzerland



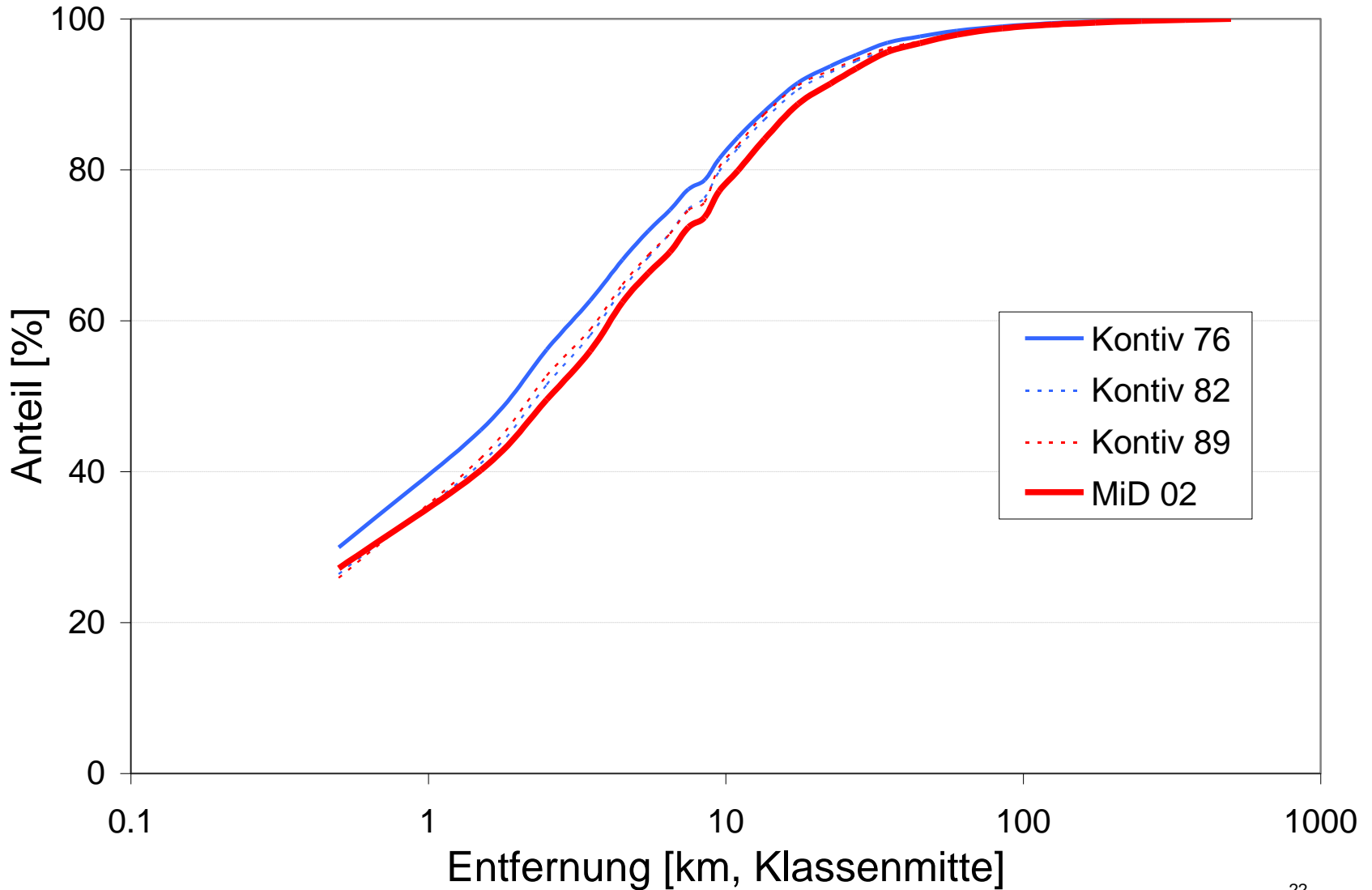
Price of telecommunication



Productivity and population growth in Western Europe

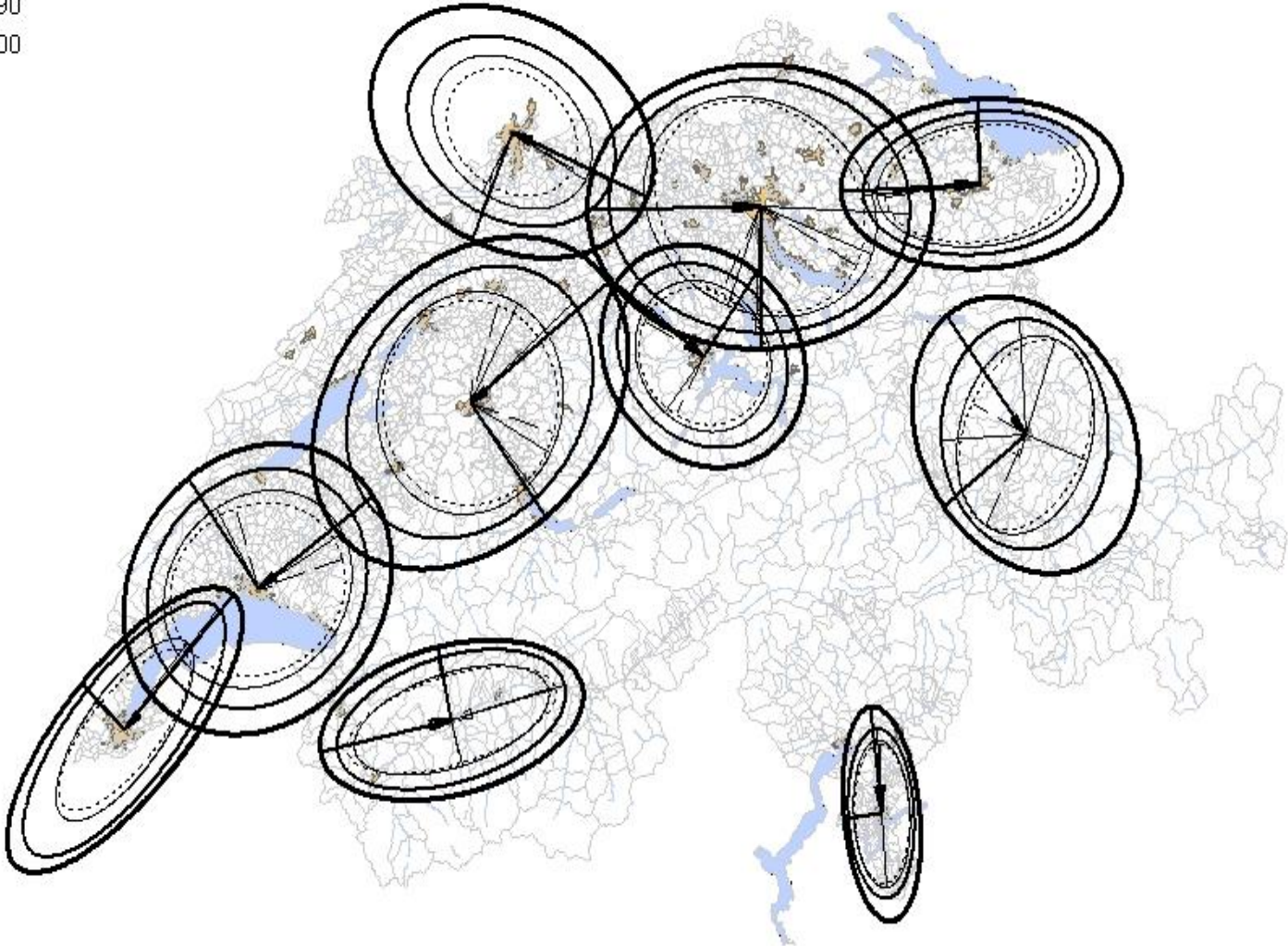


Trip distance distribution (Germany)



Swiss commuter catchment areas since 1970

- 1970
- 1980
- 1990
- 2000

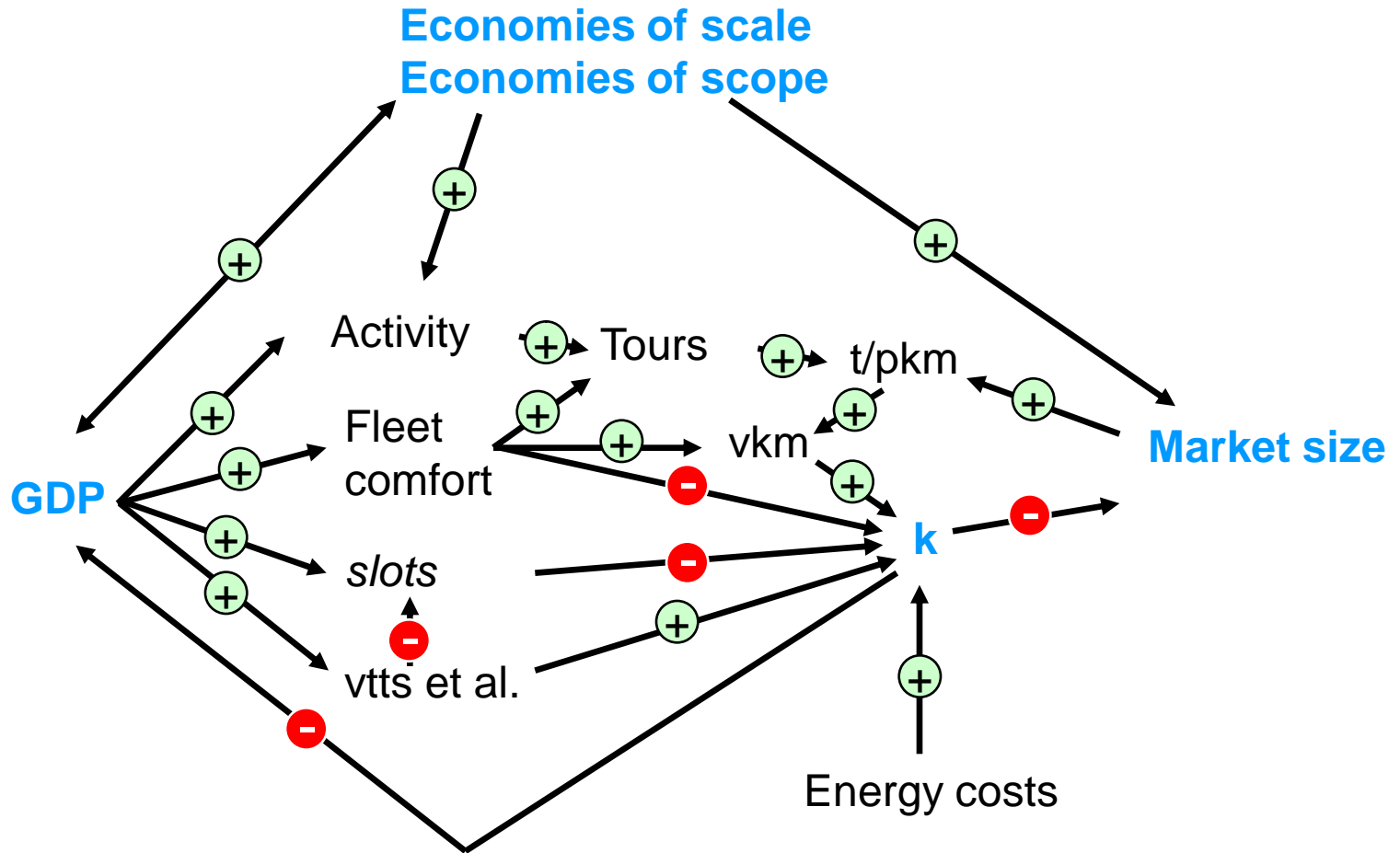


Adapted from Botte, 2003

Trip purpose distributions (ca. 2005)

Share of kilometers traveled [%]	Switzerland	Germany	UK	USA
Leisure	44.8	38.3	33.7	32.2
Work/School	35.0	29.7	32.0	31.3
Shopping/Private business	11.2	21.7	19.7	27.6
Escort	4.9	4.5	7.6	8.5
Others	1.8	4.8	7.1	0.5
Total	100.0	100.0	100.0	100.0

A macroscopic explanation ?

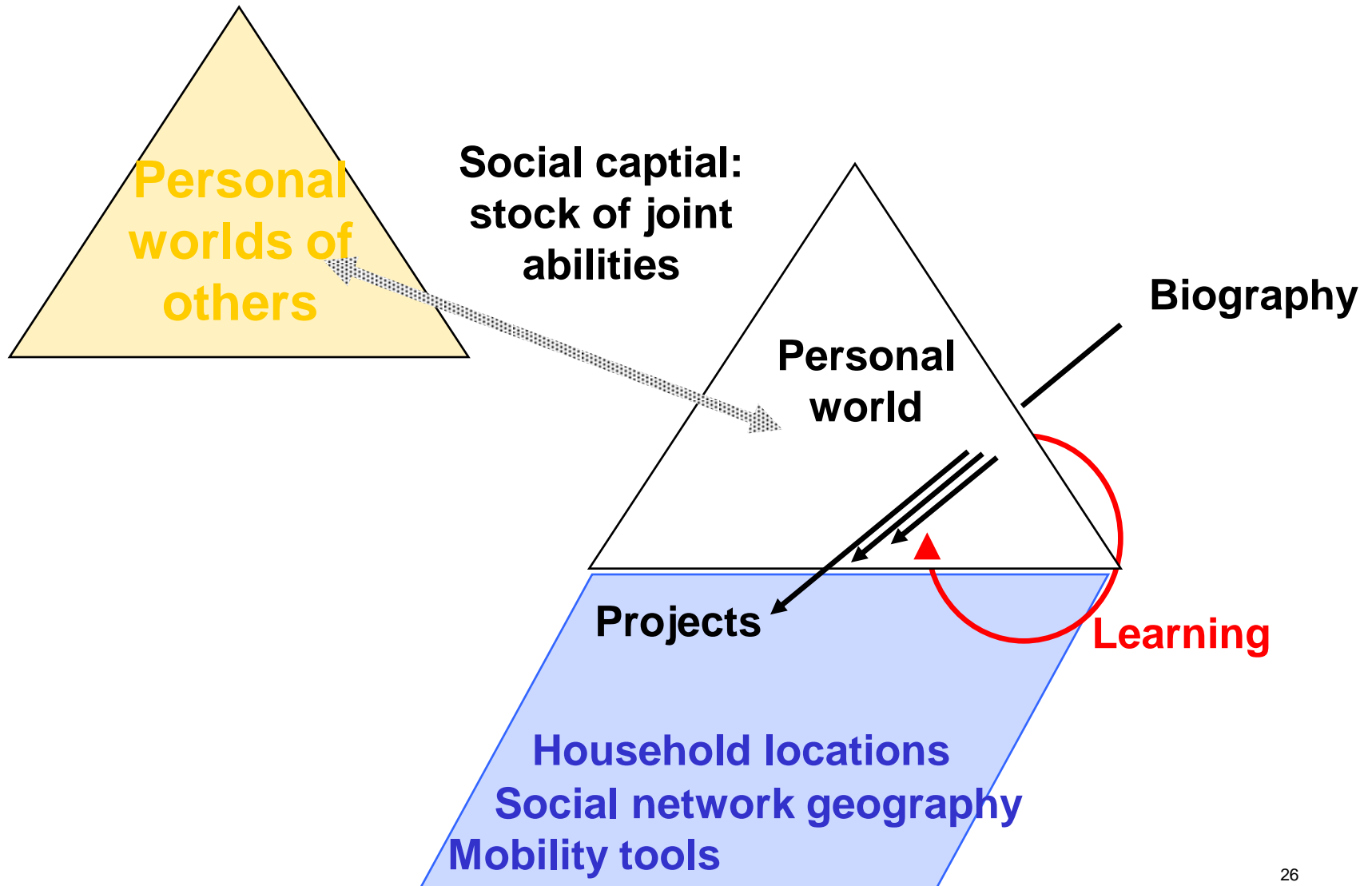


⊕ Elasticity > 0

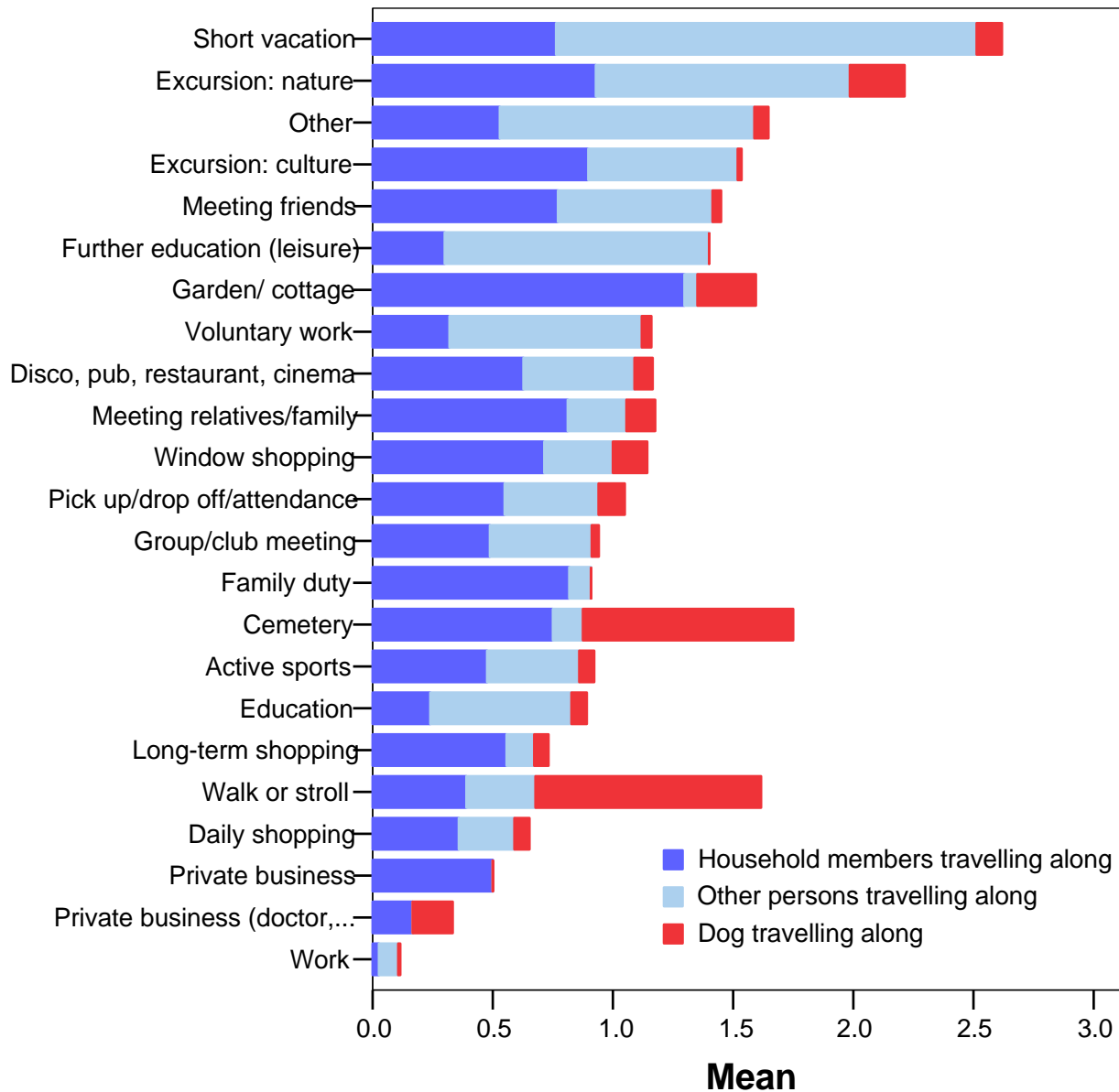
⊖ Elasticity < 0

Slots: possibilities to move goods or people
 For a given infrastructure and commercial and private fleet

(moving) actors in social/physical networks



Social leisure ! (2003 Thurgau 6-week diary)

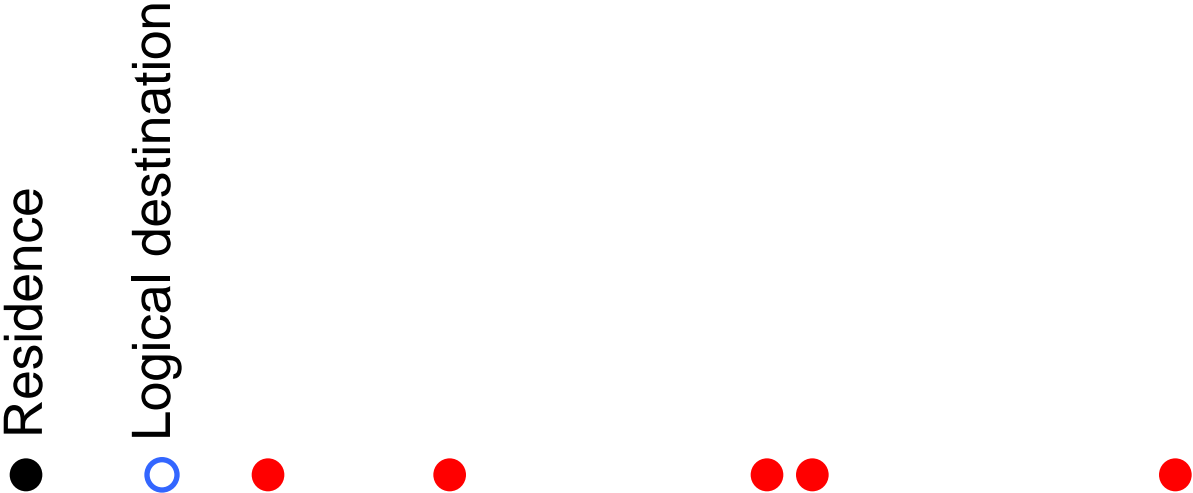


Impact of co-ordination, e.g. Location choice

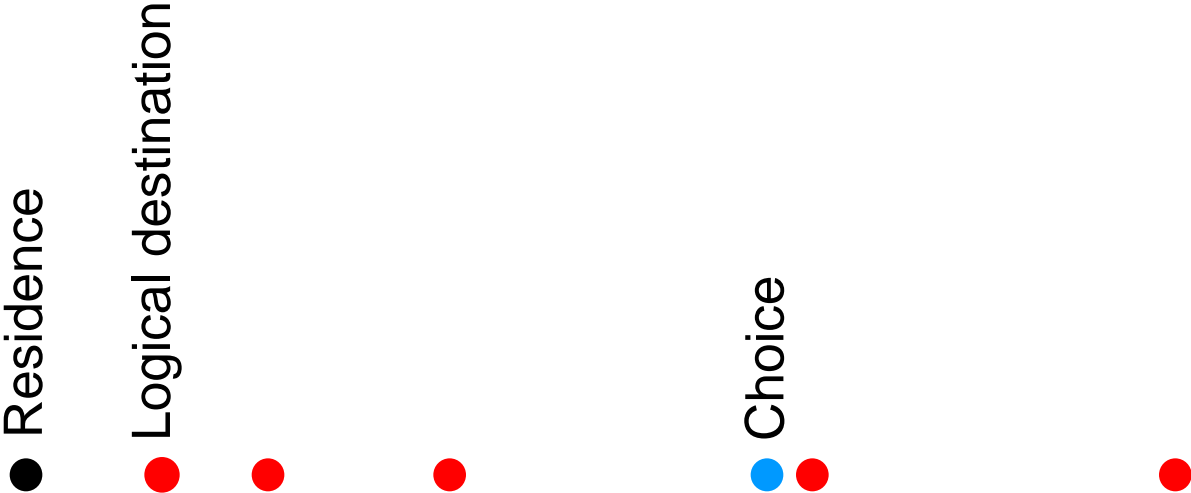
● Residence



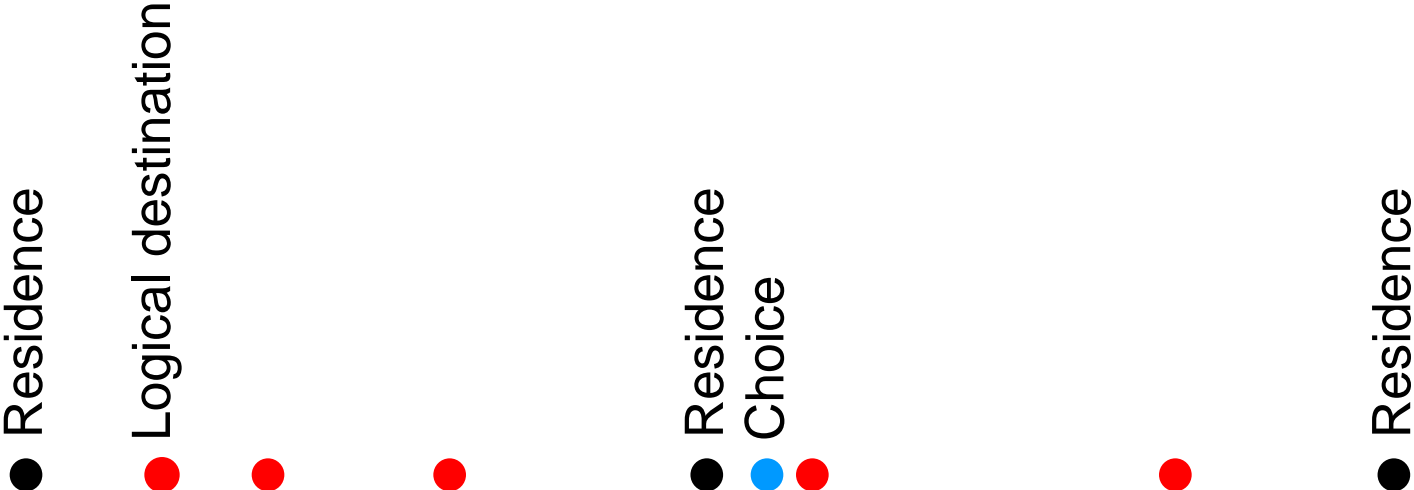
Impact of co-ordination, e.g. Location choice



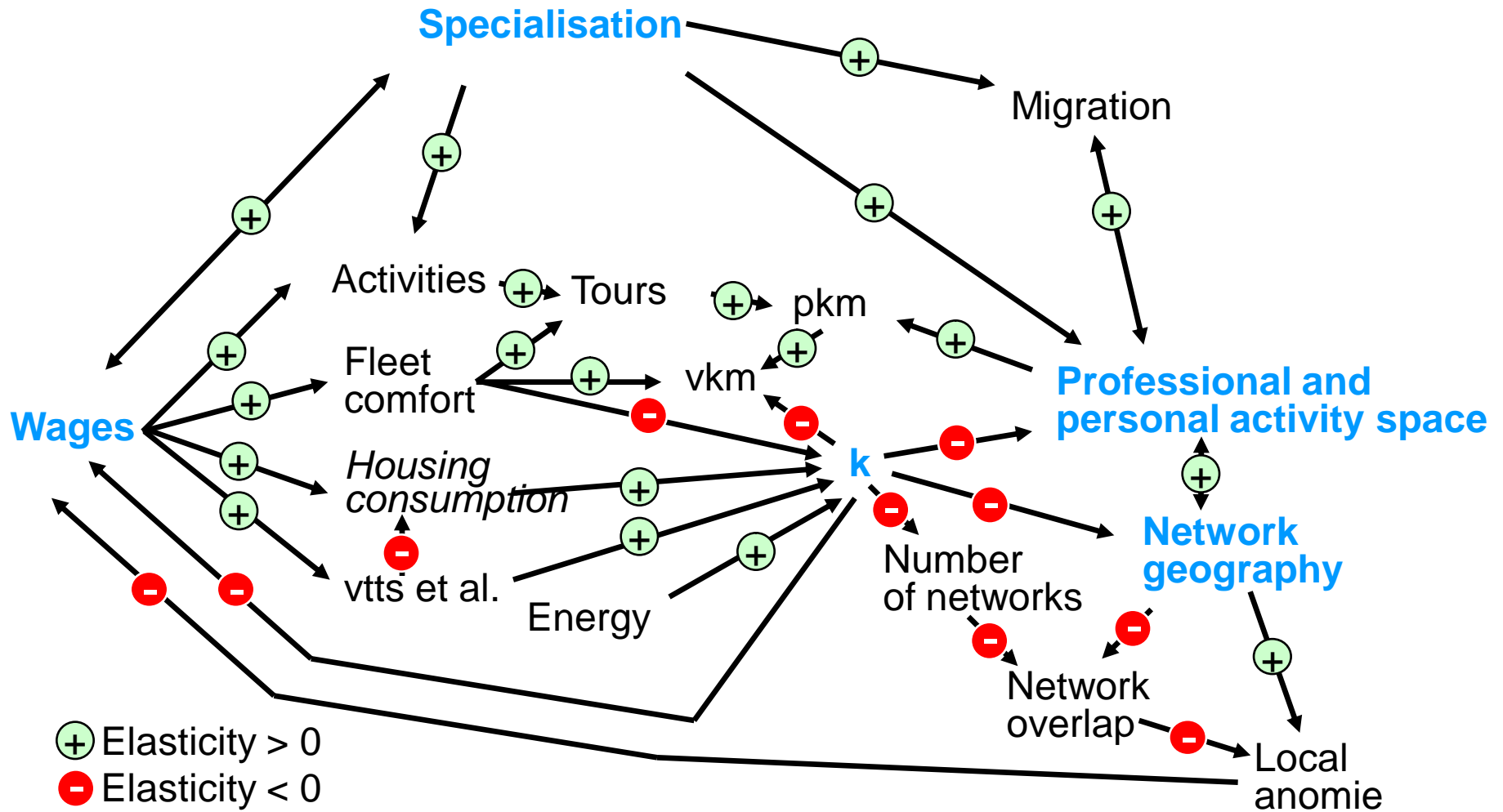
Impact of co-ordination, e.g. Location choice



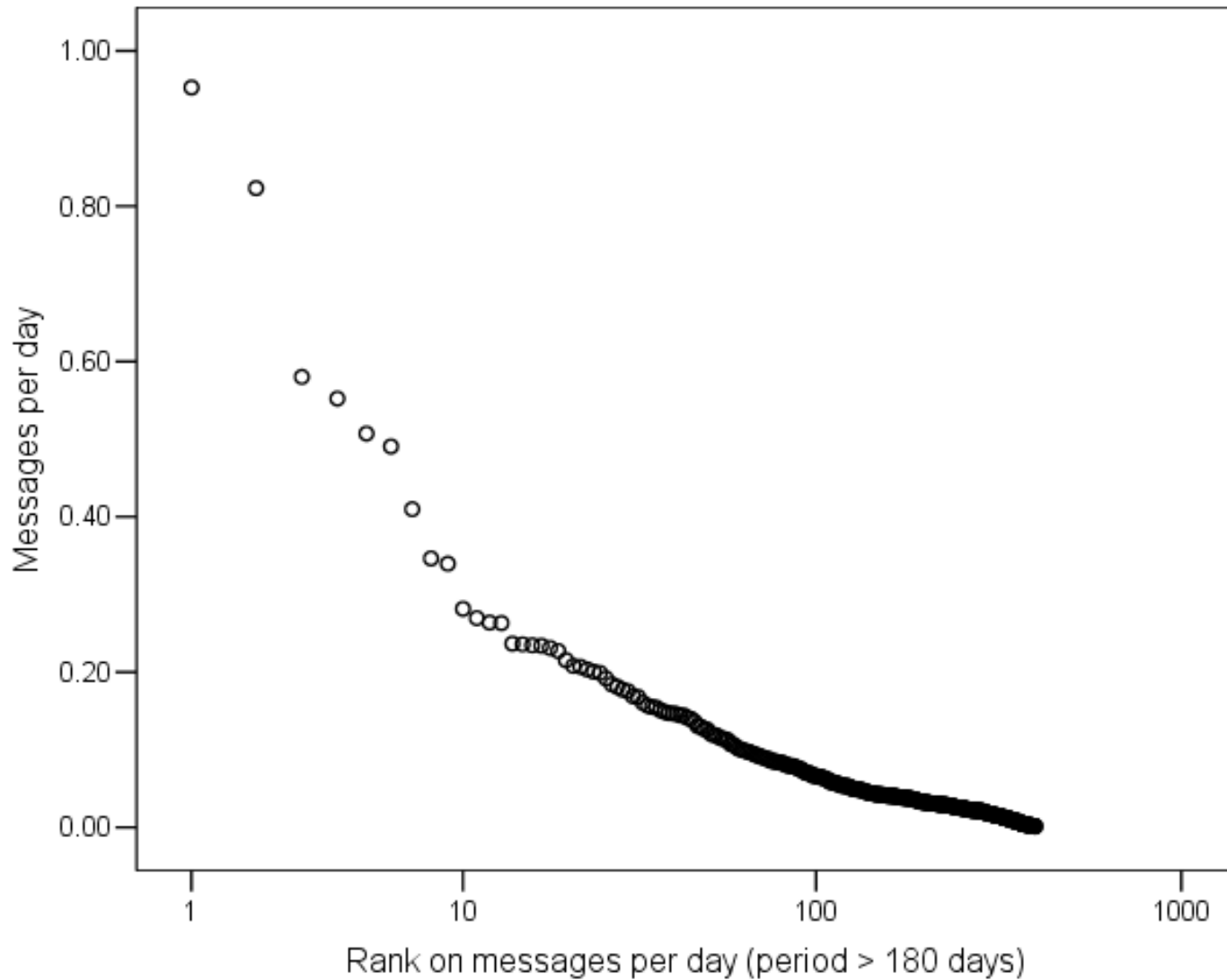
Impact of co-ordination, e.g. Location choice



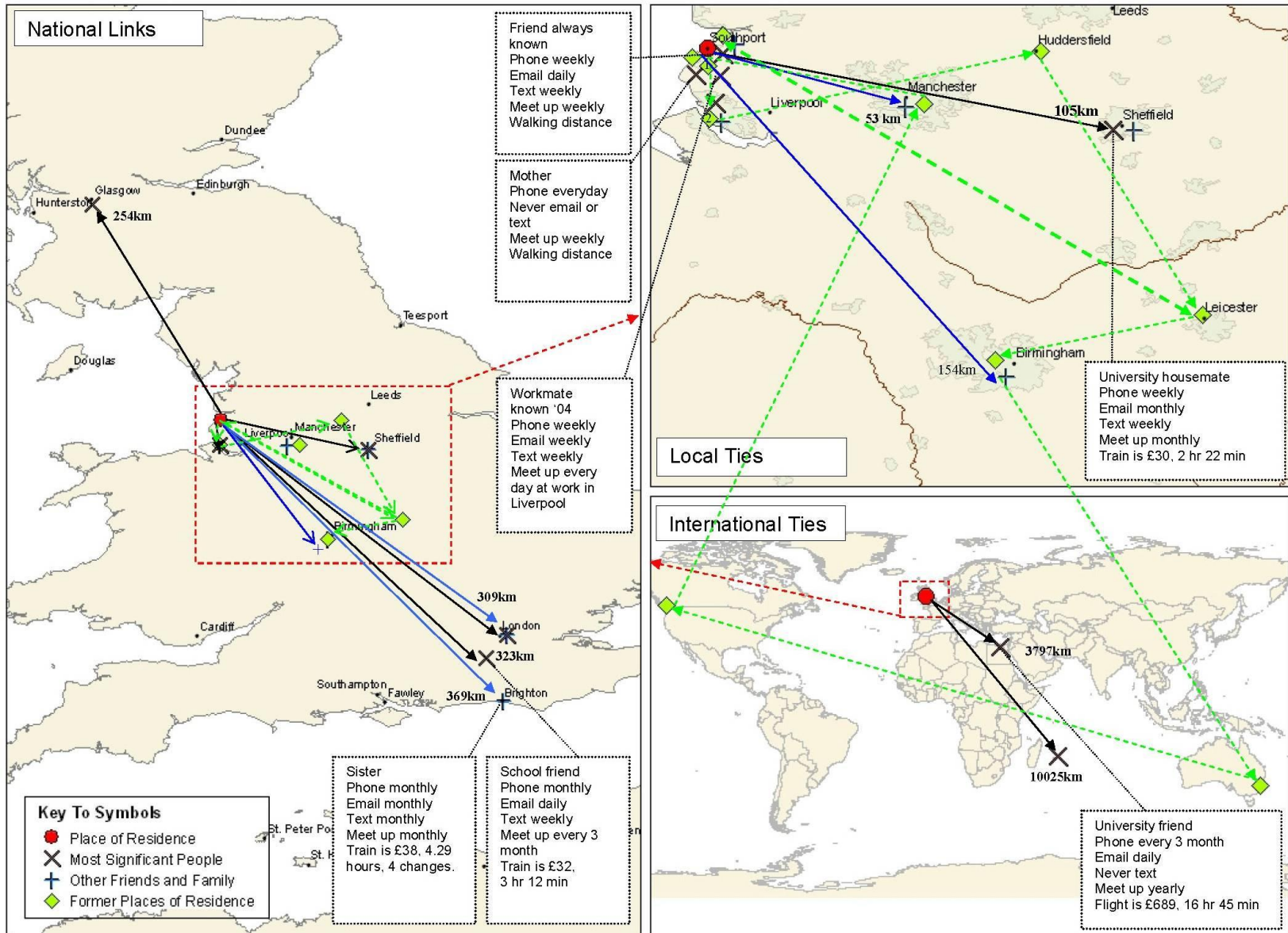
A microscopic explanation ?



Number and frequency of contacts – emails to kwa

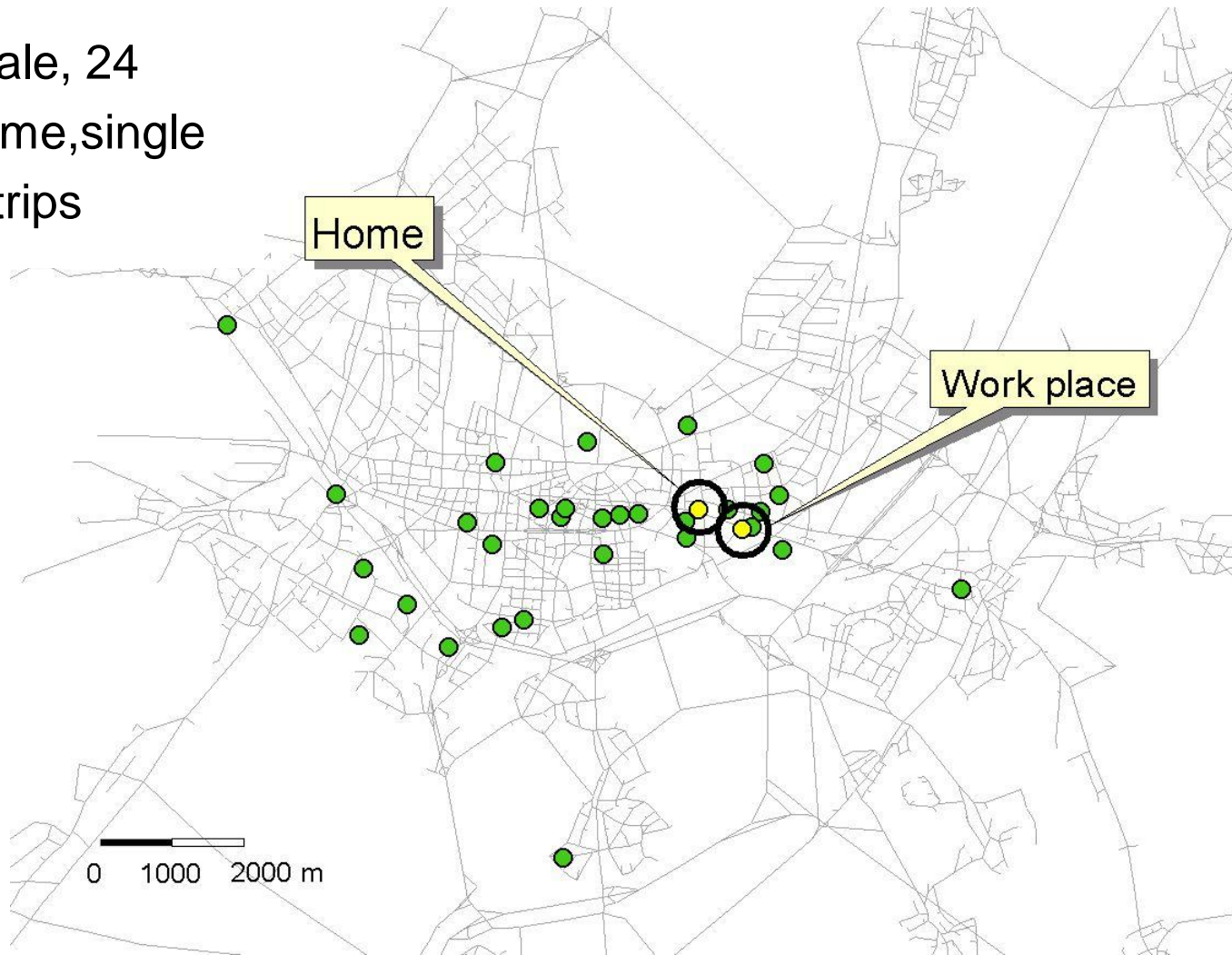


Biography of an architect in his early thirties

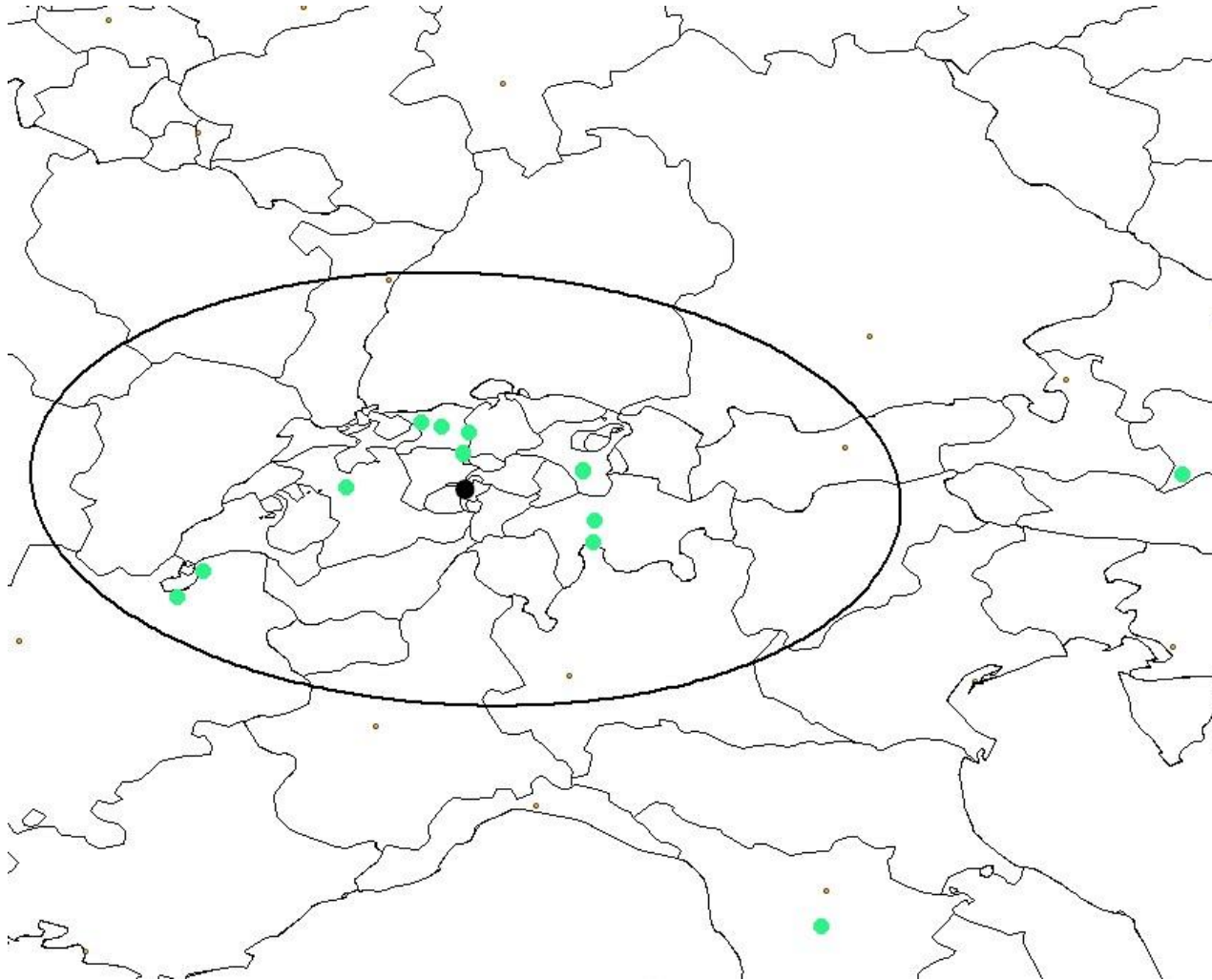


An example activity space

Female, 24
Fulltime, single
216 trips

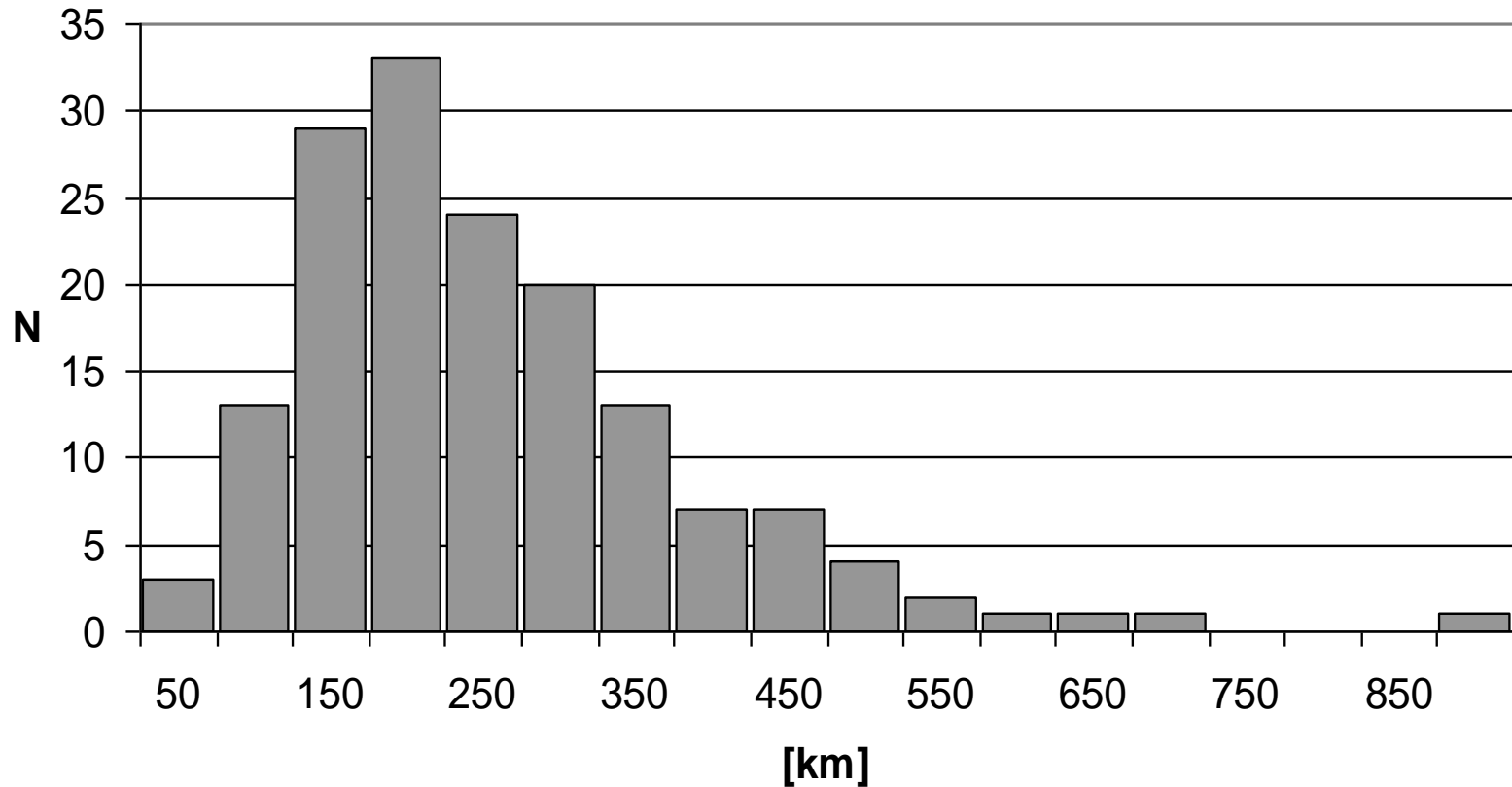


Example social network geography



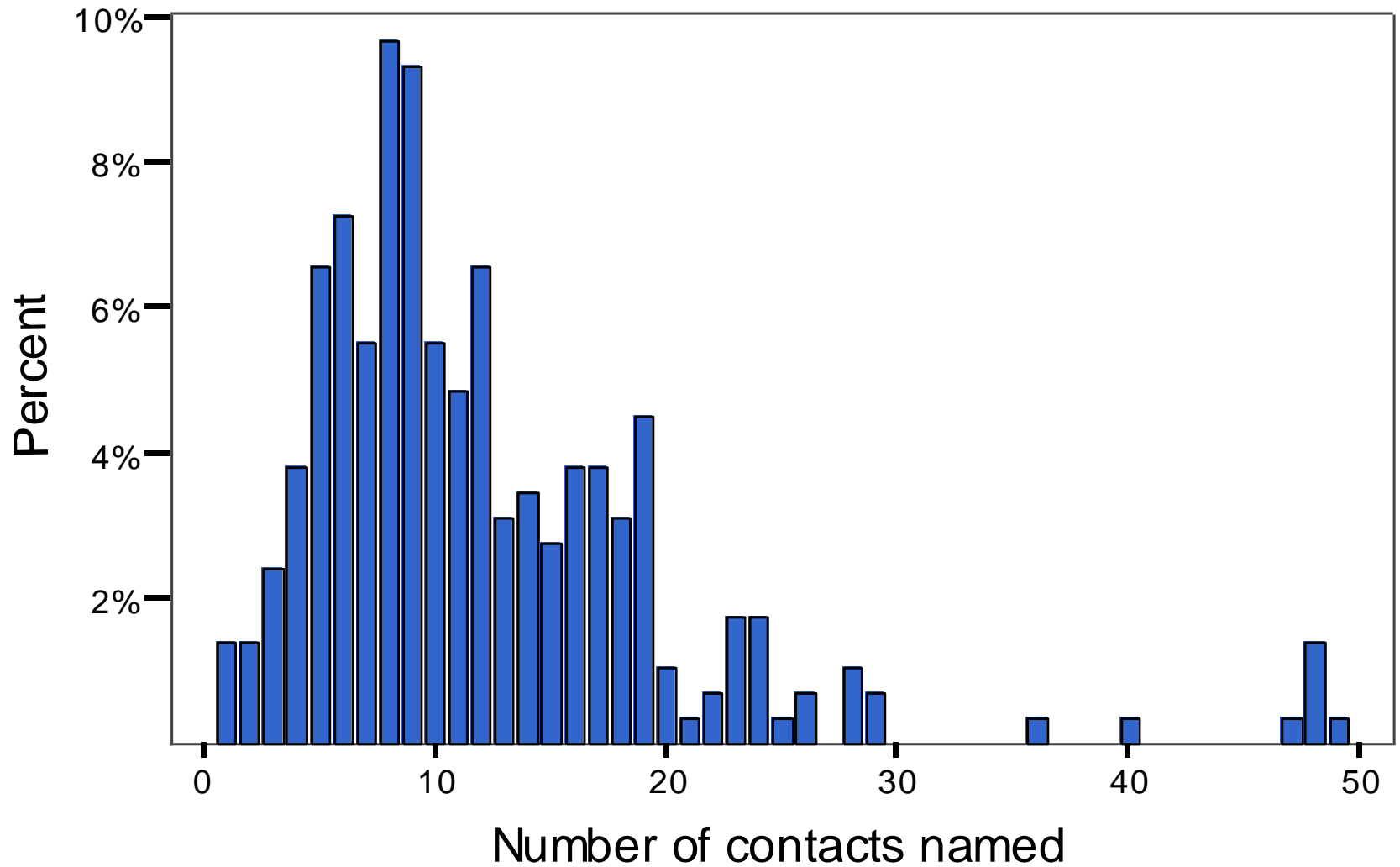
Female, 28,
4 residential
moves

Activity spaces: Lengths of the shortest paths*

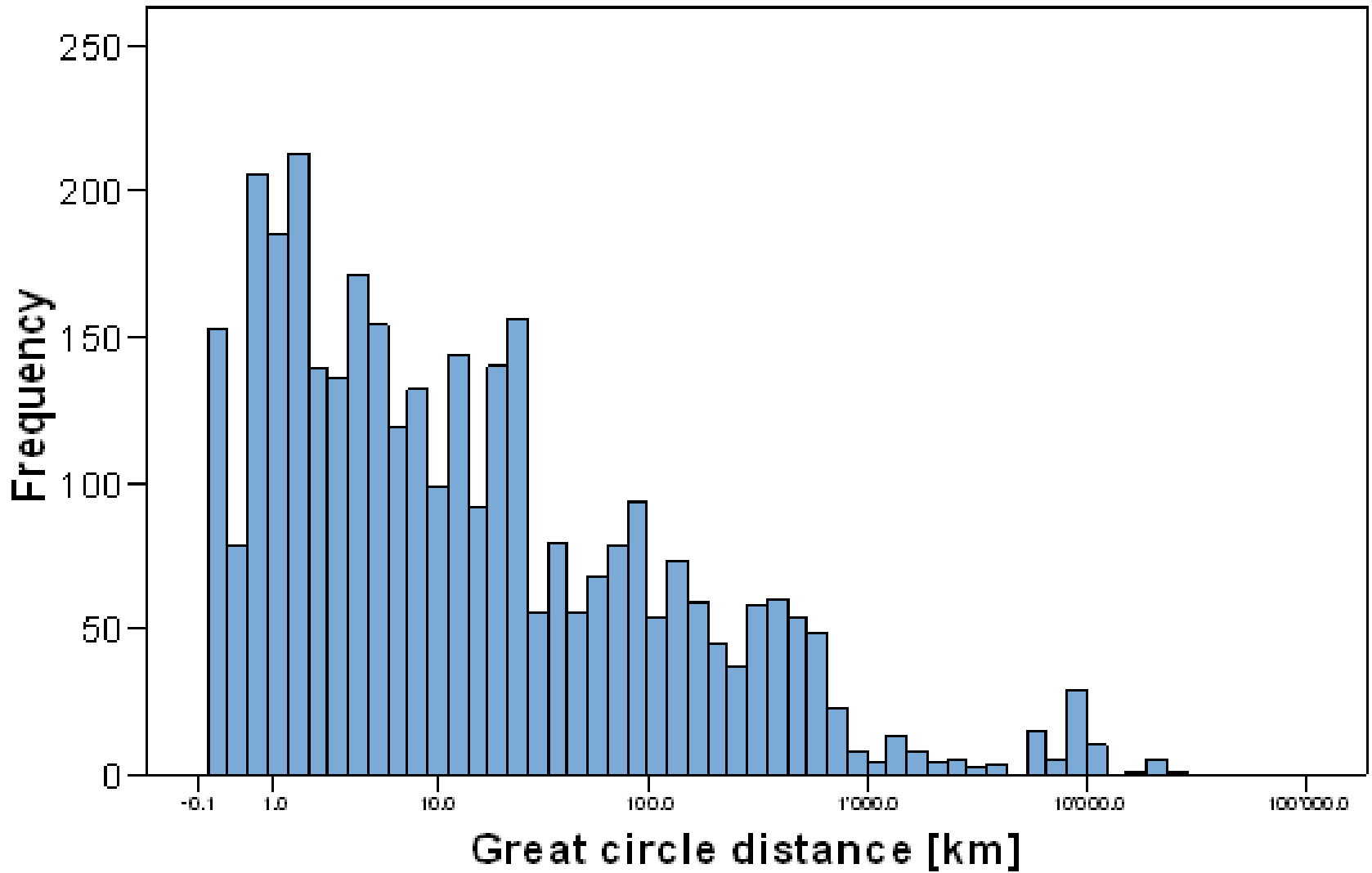


* 6-week diary; Karlsruhe subsample

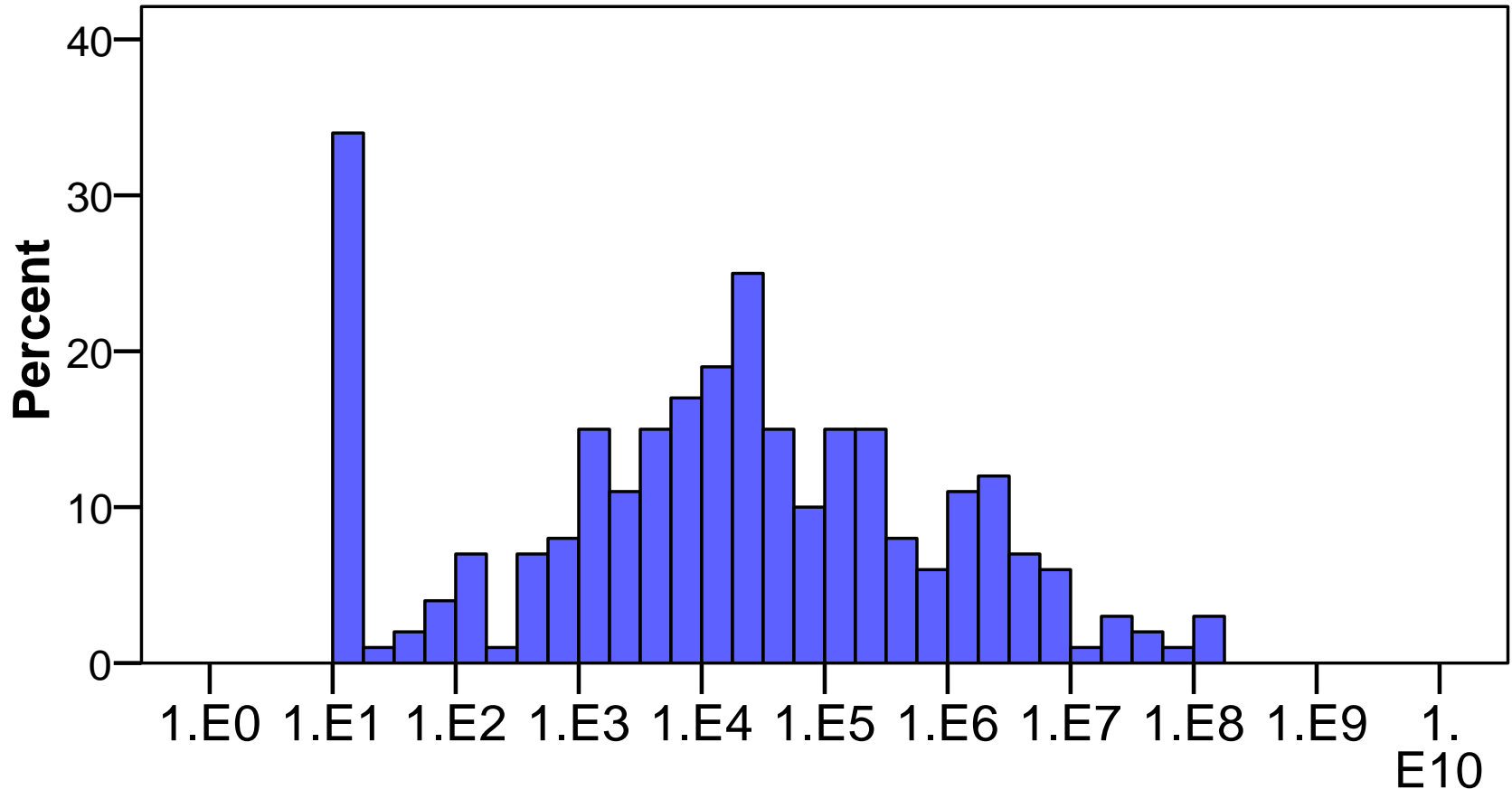
Number of contacts reported



Distances between home locations

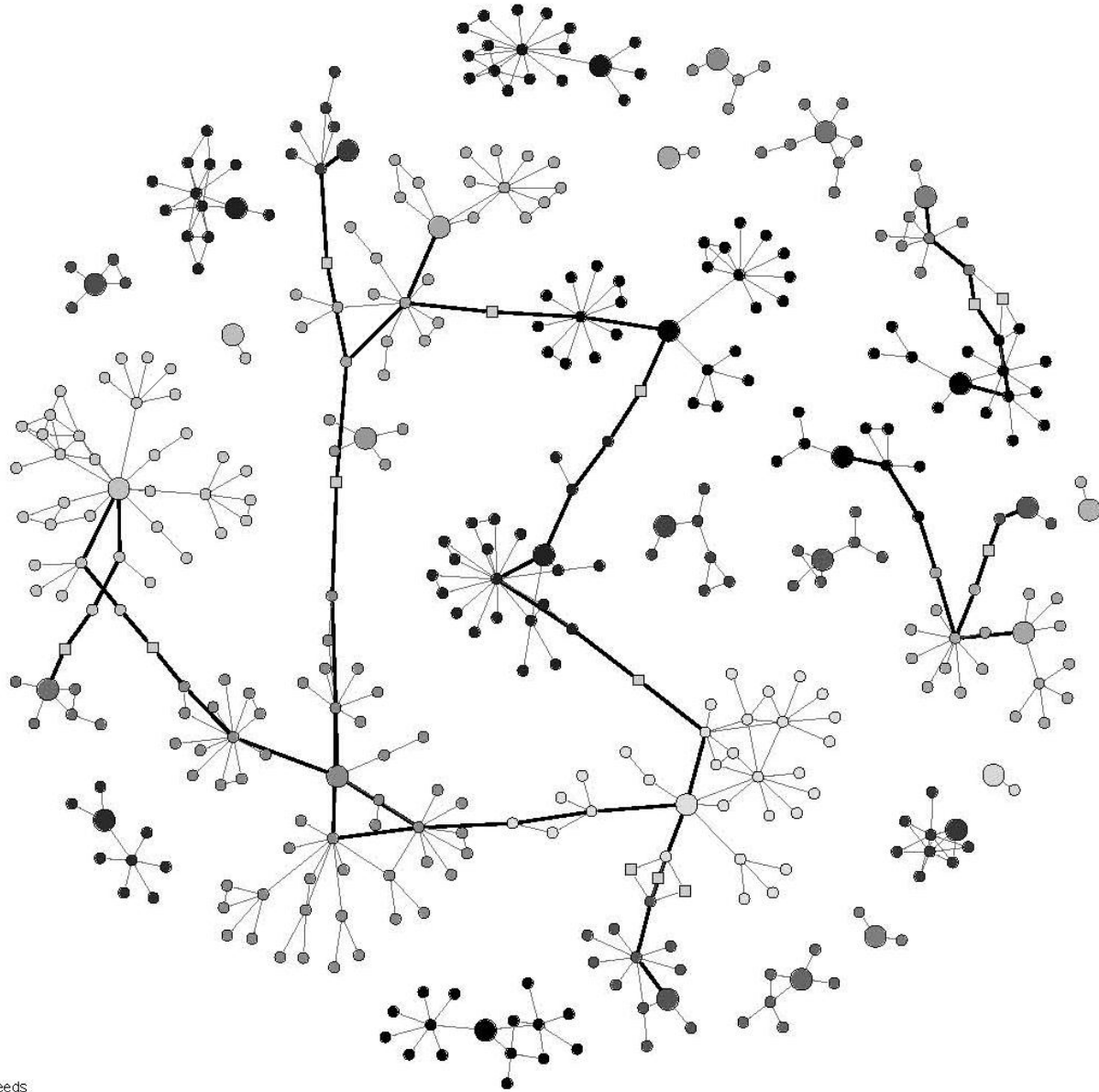


Size of network geometries



95%-confidence ellipse of the social network geography

Network structures



○ Seeds
○ Egos
□ Bridge-Altars

Good city form ?

Which network ? What grammars ?

Ahmedabad



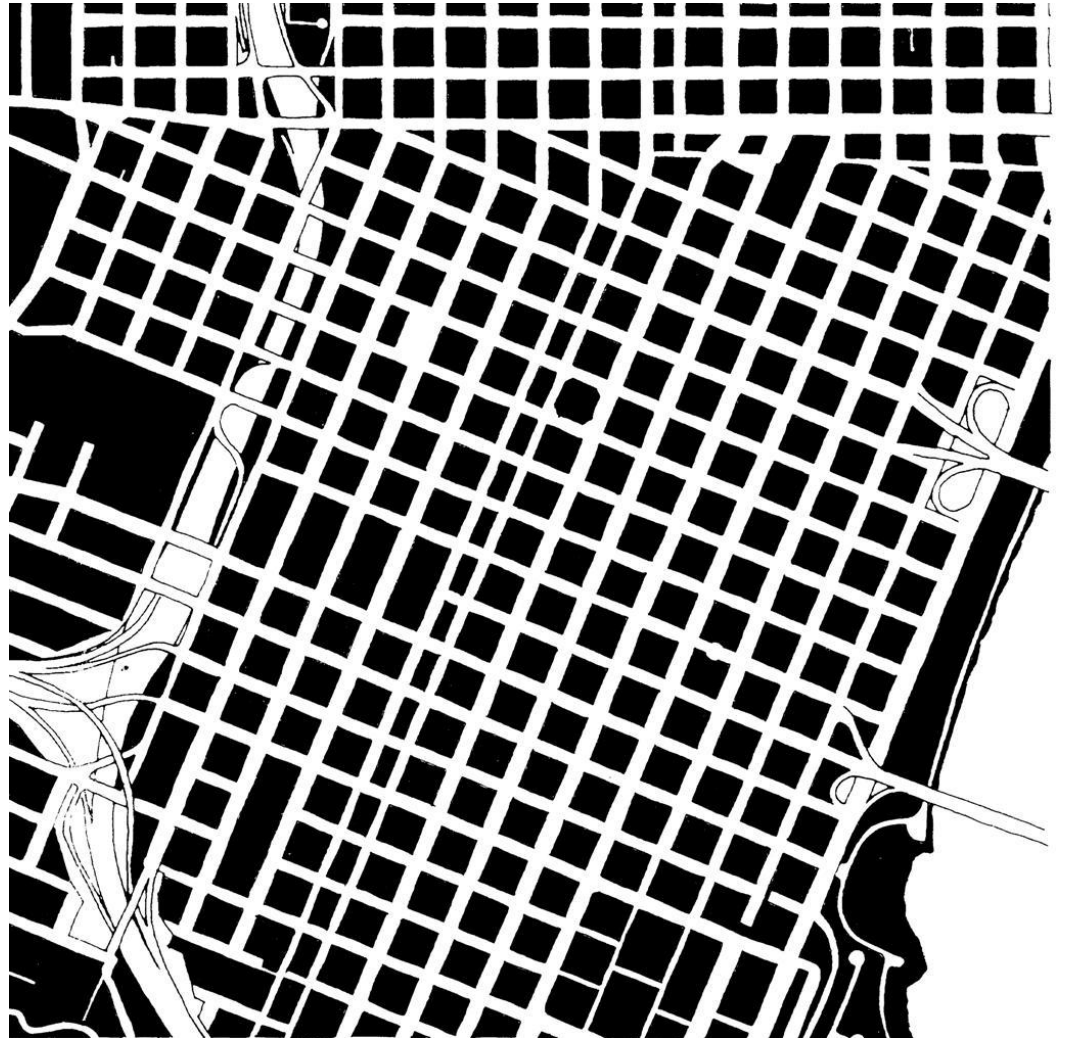
Which network ? What grammars ?

Berlin, 1750



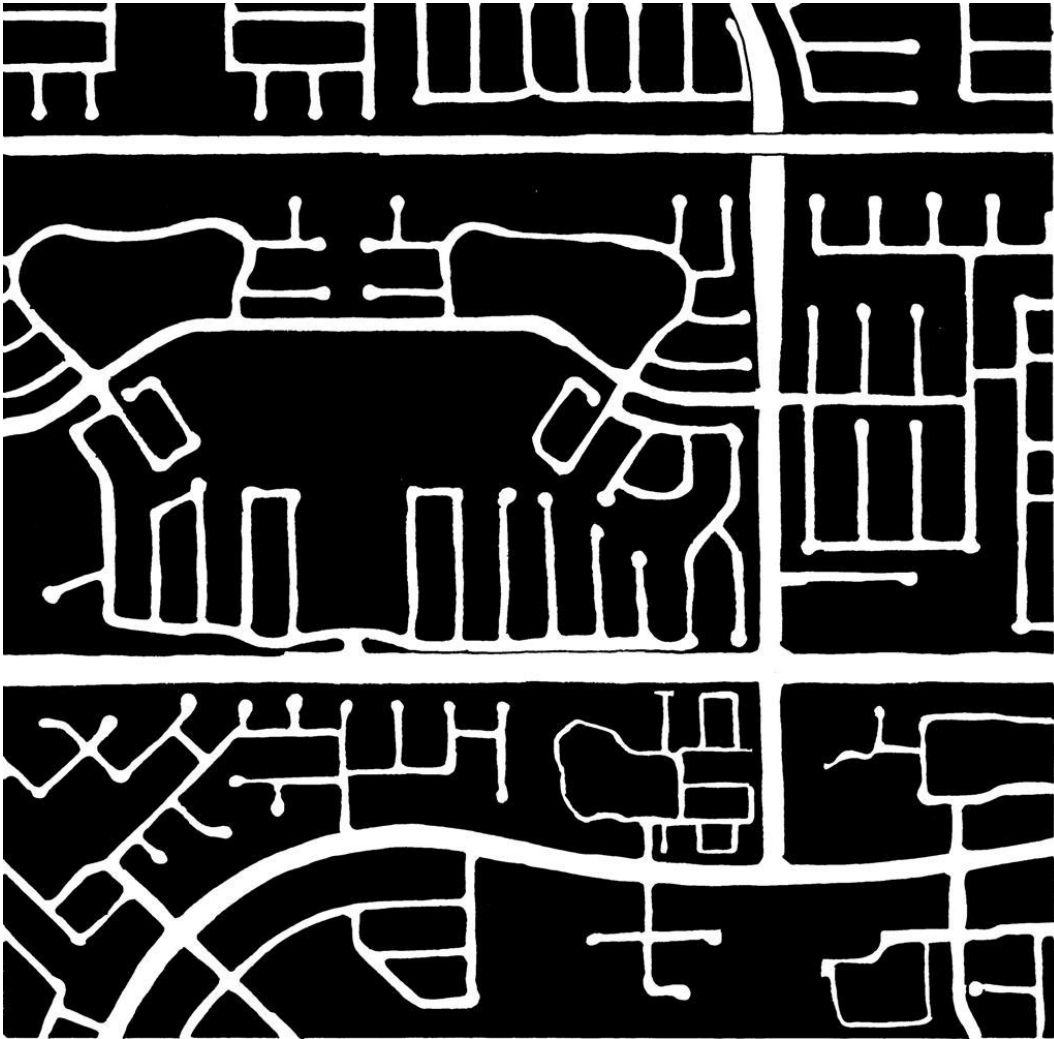
Which network ? What grammars ?

Portland, OR



Which network ? What grammars ?

Irvine



Questions ?

Literature

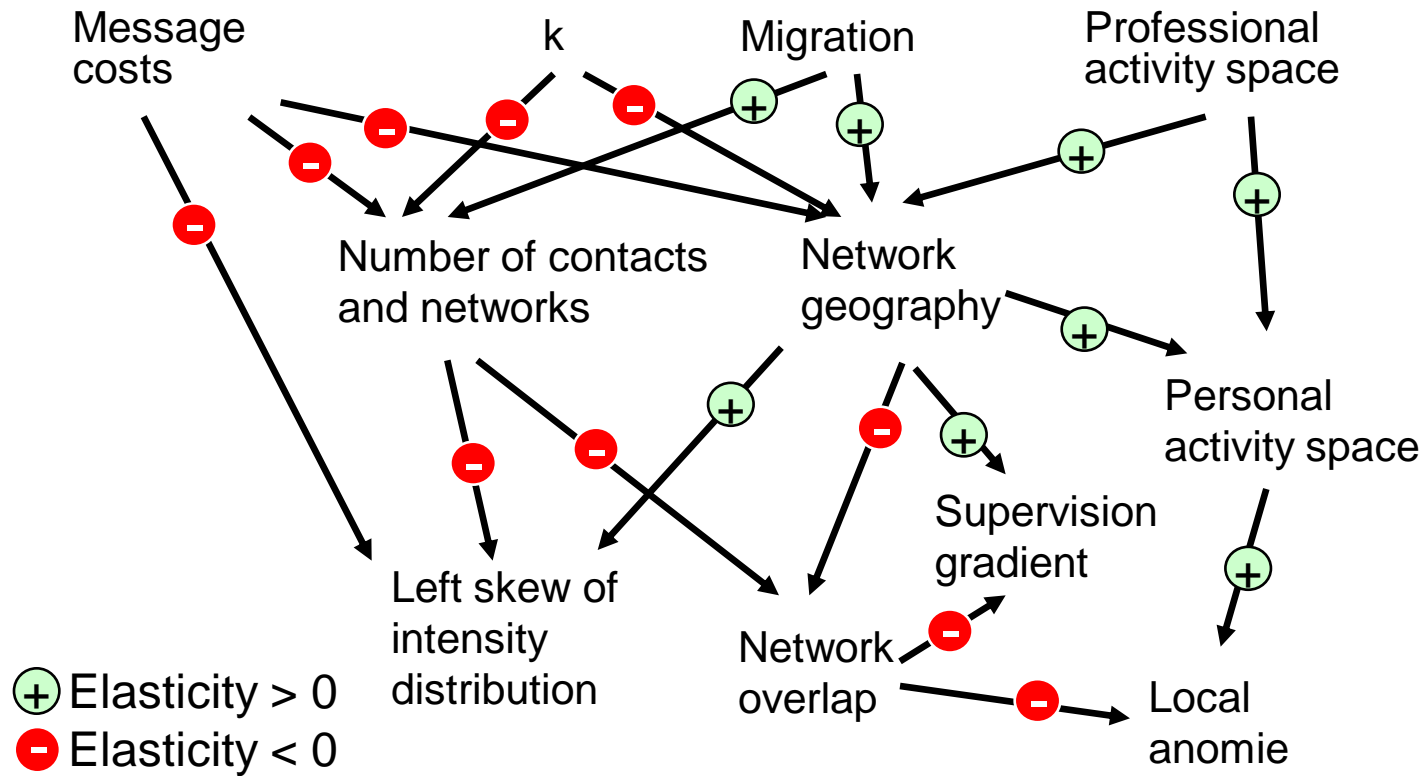
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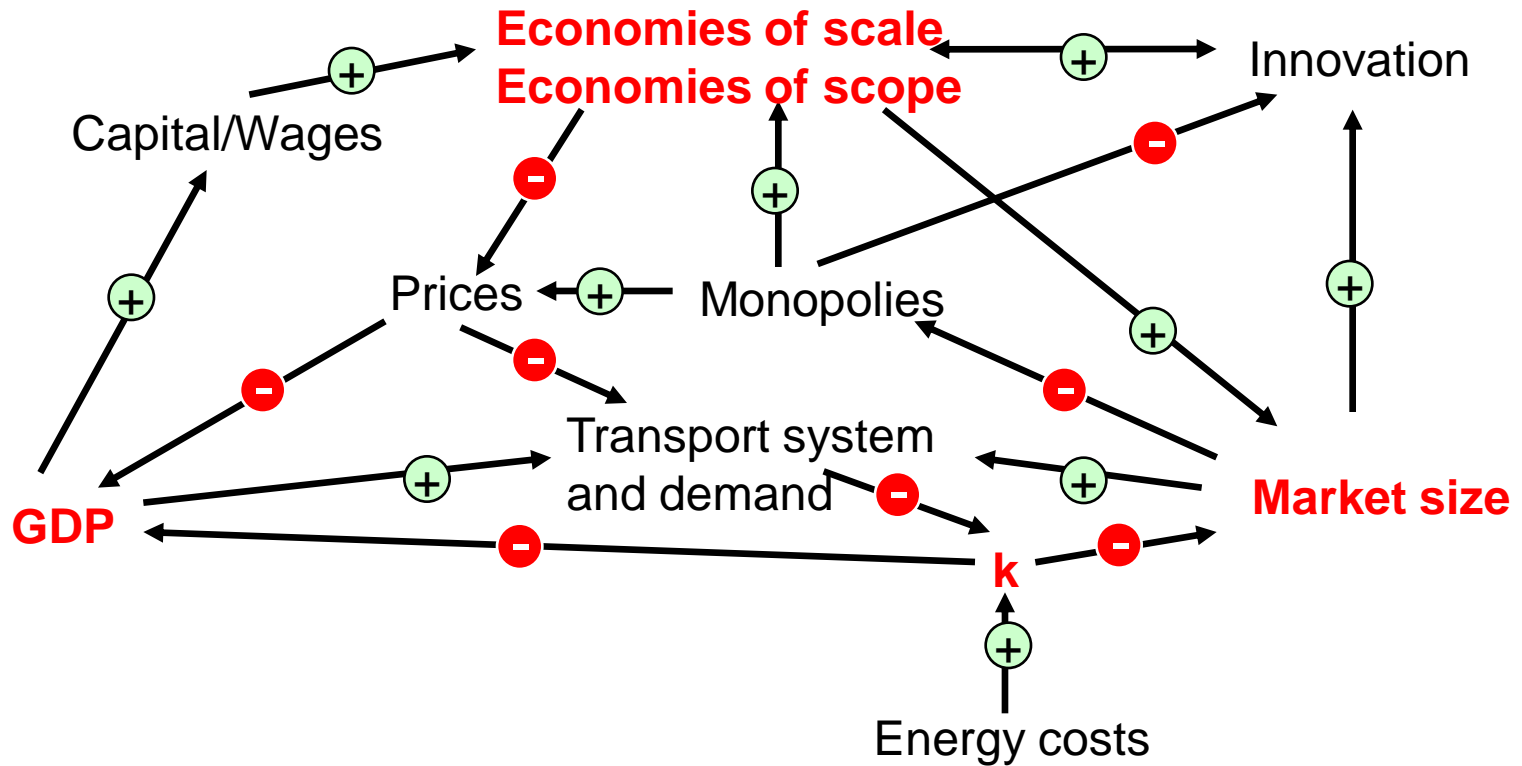
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Appendix

Social network hypotheses



Size of goods markets and productivity: A hypothesis



⊕ Elastizität > 0 k: Generalised costs
 ⊖ Elastizität < 0 of travel