Urban Sprawl in dwindling European agglomerations - Sustainable development and Policy Implications

Introduction:

- Dwindling regions (shrinking pop. or businesses) possess sufficient space in the inner city: a suburban development seems less comprehensible compared to growing agglomerations
- Europe with its old tradition, industrial economical basis and accompanied inflexibility faces major adaptation problems in times of faster change, e.g. change from the industrial to the service economy, globalisation
- The cities as places for marketing and business and with its long-lasting structures face strong problems of adaptation which is solved with development on the urban fringes
- Urban sprawl is associated with
  - land use change from rural or natural to urban uses
  - with longer commuting distances and motorized individual traffic
    - → more transport CO2
  - with bigger living spaces → more heating energy and land consumption

→ unsustainable development

Suburban Leipzig.
Photos: Nuissl, Meyer-Veden

Hypothesis:

- People in dwindling regions move for other reasons to the suburbs than in growing cities, as e.g. lack of space. It uncovers the real/pure personal incentives to move.
- Dwindling regions follow the life-cycle theory in a very long time span.
- Dwindling encompasses a set of characteristics and interdependencies which form a process and enable younger dwindling regions to learn from older ones.
- The personal CO2emissions when living in urban inner areas differ from those in suburban areas, but with decreasing extent as technology for heating, insulation and automobile technology decreases energy demand.

Research Question:

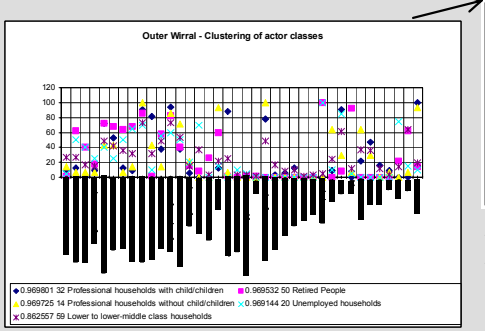
Why do people move to the suburbs in dwindling regions?

Is the process in line with the life-cycle-theory of urban areas (urbanisation/ sub-urbanisation/ des-urbanisation/ re-urbanisation)? Can younger dwindling regions learn from older ones ?

What is the accountable (!!!) difference in personal CO_2emissions (excluding construction) between urban and suburban living?

What planning and policy alternatives remain to steer urban development towards a more sustainable European urban landscape?

Further Questions: What is more sustainable - re-urbanisation or sub-urbanisation with technological progress?



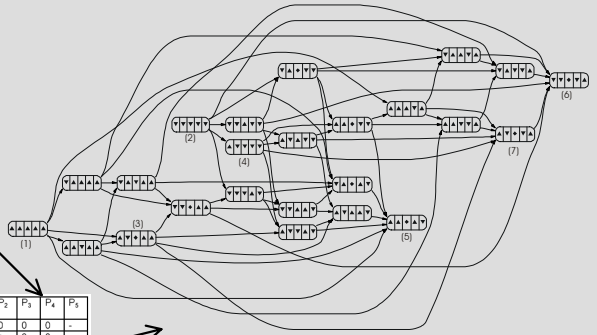
Clustering of the respondents from Outer Wirral according to preferences and attributes, cluster size not pre-given

Actor class P_i: / Preference:	I RetH	II PHwithCh	III PHwithoutCh	IV LLMCH	V UnH	+: increased -: decreased by actor class #
Being near to your place of work						
Being near to food shopping						+I, +V
Being near to other shopping						
Being near to leisure places						
Being near to countryside or coast						none
Having good road connections						none
Being near to a railway station						+I, +V
Being in an area with good bus links						+I, +V
Being in a low-crime neighbourhood						-V
Being in an area with good schools						+II
Being near to friends or family						Same class
Being in a quiet neighbourhood						-V
Affordable housing, upper segment						-II, -III
Affordable housing, lower segment						-V, -IV
Being near to a park						

Preferences for each actor class, the black cells stand for an issue named 70% of the respondents or more whereas the issues marked with grey cells are marked between 30-70% of the respondents: when they are more than 5 shaded cells there were issue named with equal frequency
RetH – Retired Households
PHwithCh – Professional Households with Children
Phwithout Ch – Professional Households without Children
LLMCH – Lower to Lower-Middle Class Households
UnH – Unemployed Households

Population→ / ↓Attractiveness	P_1	P_2	P_3	P_4	P_5
A_1	0	0	0	0	-
A_2	0	+	0	0	-
A_3	0	-	-	0	-
A_4	0	0	0	-	-
A_5	0	0	0	-	-

Outer Wirral matrix



Qualitative modelling result: graphical representation of resulting trends of actor classes and regional development
Legend: one ellipse represents one qualitative state (QS),
The number of rows in one ellipse stand for the number of actors in successive order, numbered QS mark decisive points in time, the up- and downwards arrows show the population trend of this actor class

Methods:

- Postal questionnaires to recent movers in two European cities: Liverpool+Leipzig
- Qualitative modelling (QM)
- QM includes clustering of questionnaire respondents to groups of actor classes,
  drawing up of interdependencies between actor classes that reflect back onto the qualities preferred by movers,
  influence matrix which feeds the model
  - → output of scenario-like future development with trends of the population of actors
  - → enables the consideration of different developments paths and its implications for sustainable development

First Results:

- Sprawl in dwindling regions is a pattern.
- Sprawl increases because of the dwindling environment as long as the inner cities are not renovated and cleared and living space remains un-refurbished. Dwindling induces sprawl.
- People move especially for environmentally criteria as e.g. proximity to green spaces (extremely few in old-industrialised areas and on brownfields) and quietness (seldom in cities under renovation), not so much for financial reasons since property prices are lower
- When cities are renovated re-urbanisation begins → induced life-cycle
- Policy options: availability restrictions (as e.g. greenbelts in England), re-urbanisation and inner city renovation strategies → restrictions for residential sprawl easy enforceable, instruments for the restriction of greenfield development by industrial, retail and business sectors less successful
- .... still missing:
  - Quantification of CO2emmissions between inner and outer urban areas
  - Comparison of younger and older dwindling region

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