




Sustainable residential development: What will the consideration of follow-up costs achieve?

Nachhaltige Siedlungsentwicklung: Was leistet die Betrachtung von Folgekosten?

Brussels, 21.6.2011

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Table of contents

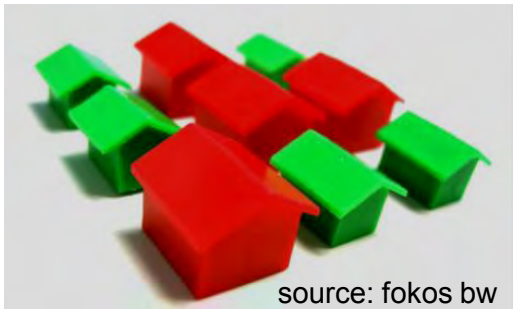
1. Preface: new tools of cost-efficiency
2. Example: LEAN²/ LEANkom
3. Overview and Outlook

1. New tools of cost-efficiency

New tools of cost-efficiency for planning in practice

- FIN.30 – Flächen Intelligent Nutzen
  www.fin30.uni-bonn.de
- fokos bw: Wirtschaftlichkeit von Wohnsiedlungsprojekten
  www.fokosbw.de
- FolgekostenSimulator, FolgekostenSchätzer und FIA
  www.was-kostet-mein-baugebiet.de
- LEAN*kom* – fiskalische Wirkungsabschätzung von Wohngebietsentwicklungen
  www.mit-zukunft-rechnen.de
- Regionales Portfoliomanagement
  www.rpm.rwth-aachen.de; www.empirica-institut.de

INKA - Initiative „Nutzen-Kosten-Analyse im Flächenmanagement“
a joint website presenting all available cost calculators
Sponsored by North Rhine-Westphalia‘s Ministry for Enviroment

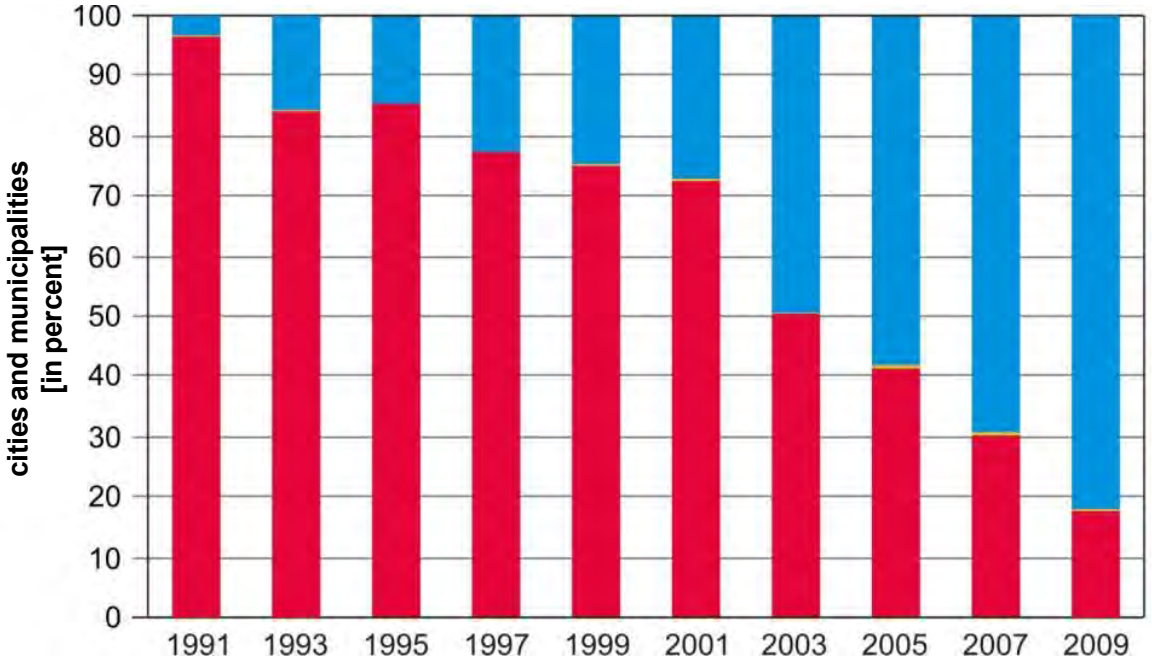

source: fokos bw

New tools of cost-efficiency: Push and Pull Factors

- technological advance and standardisation (Internet, Office, GIS)
- practice-orientated research and development
- changing conditions and municipal needs



Shrinkage as the „normal case“



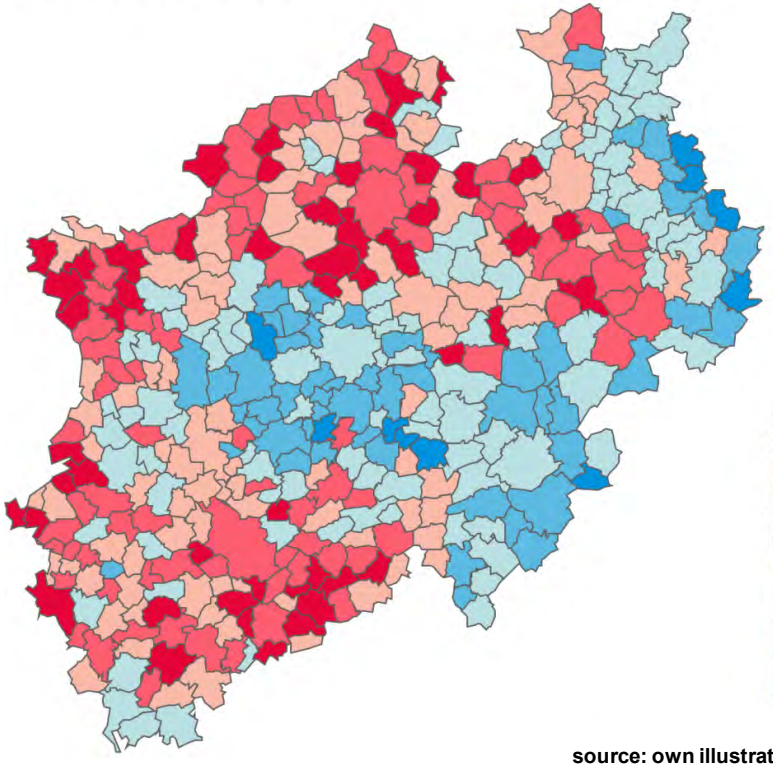
shrinkage/ growth cities and municipalities 1991-2009 North Rhine-Westphalia

shrinkage
stagnation
growth

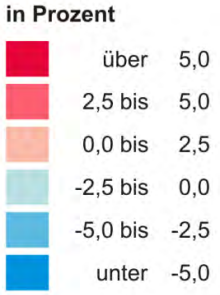
source: own illustration; based on IT.NRW

Growth and shrinkage side by side

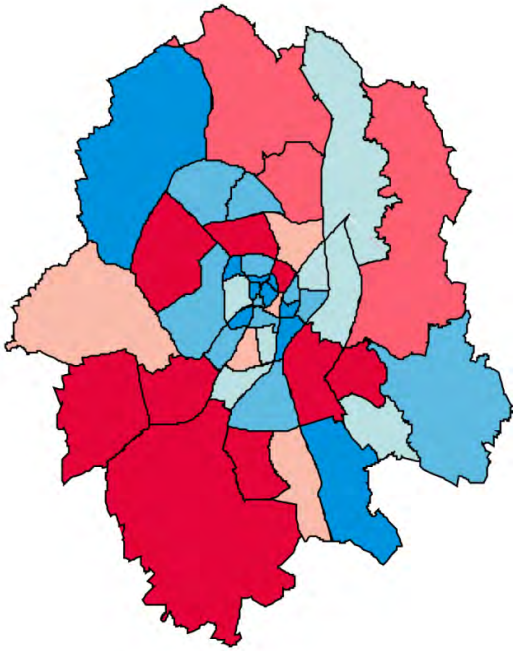
North Rhine-Westphalia
municipal boundaries



Population Change
2000-2007



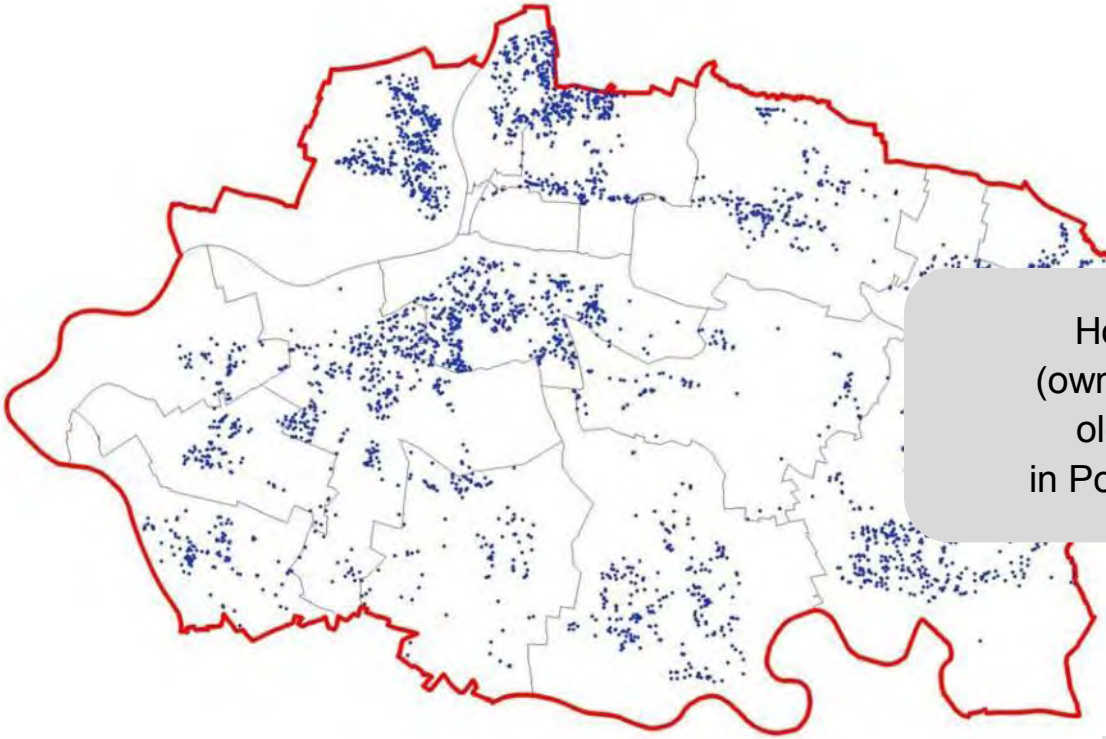
City of Münster
City districts



source: own illustration; based on LDS NRW, Stadt Münster

Aging of the population causes oversupply

source: Stadt Porta Westfalica 2008



Homeowners
(owner-occupiers)
older than 65
in Porta Westfalica



Follow-up costs of infrastructural networks: example municipal streets

source: Stadt Porta Westfalica 2008



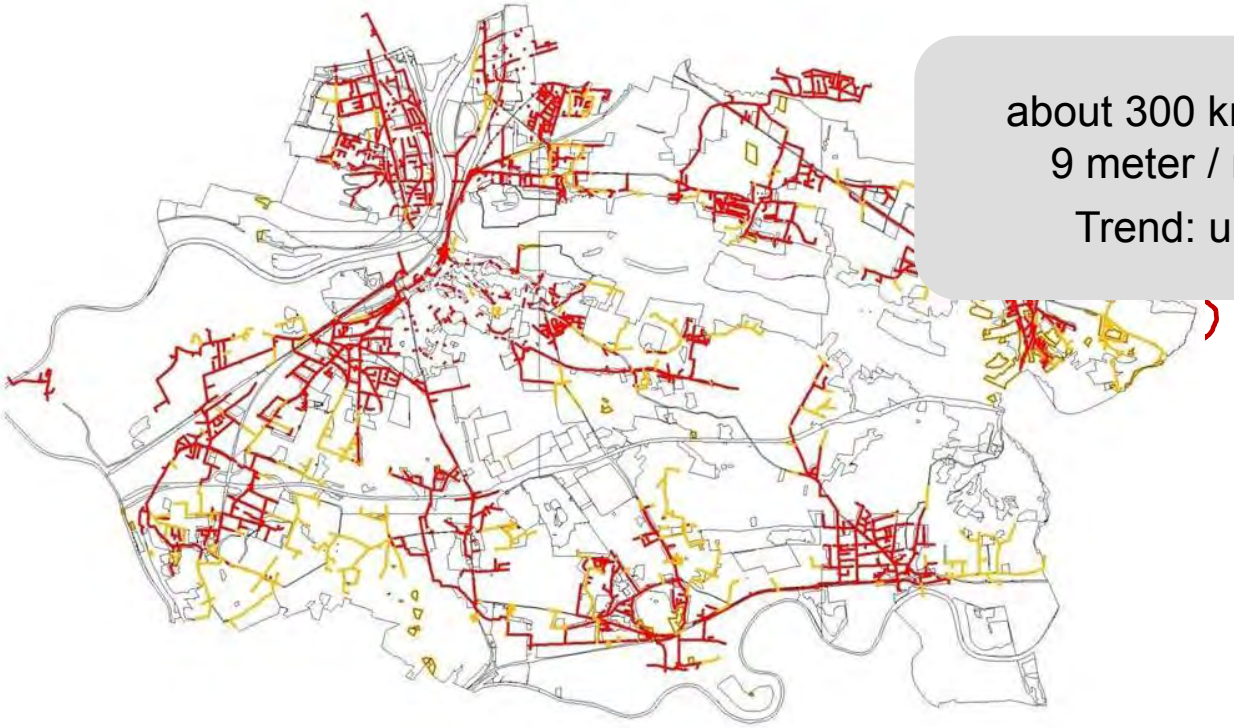
416 km municipal streets =
11,5 meter / resident

trend: upward!



Follow-up costs of infrastructural networks: example sewage system

source: Stadt Porta Westfalica 2008



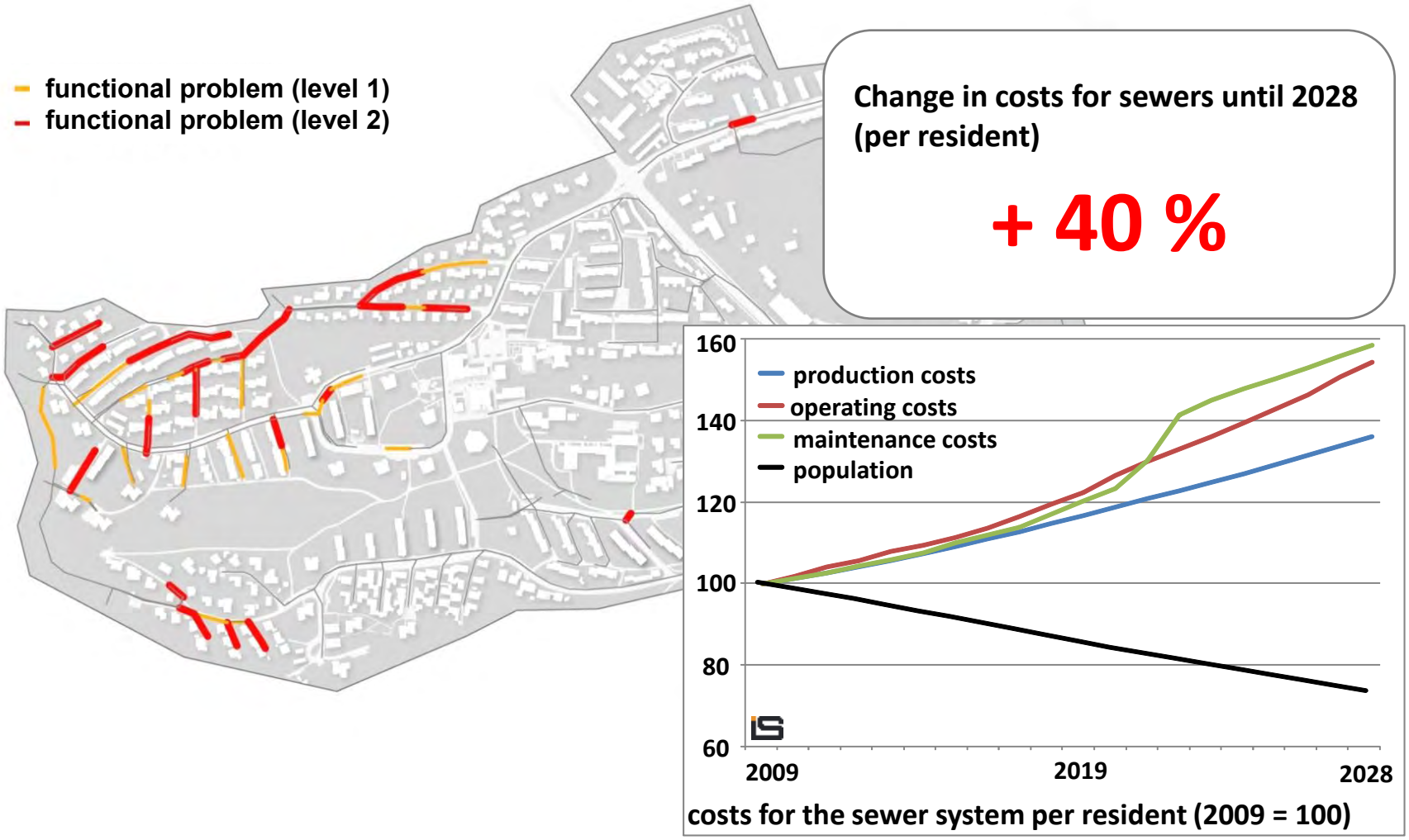
about 300 km sewer =
9 meter / resident

Trend: upward!



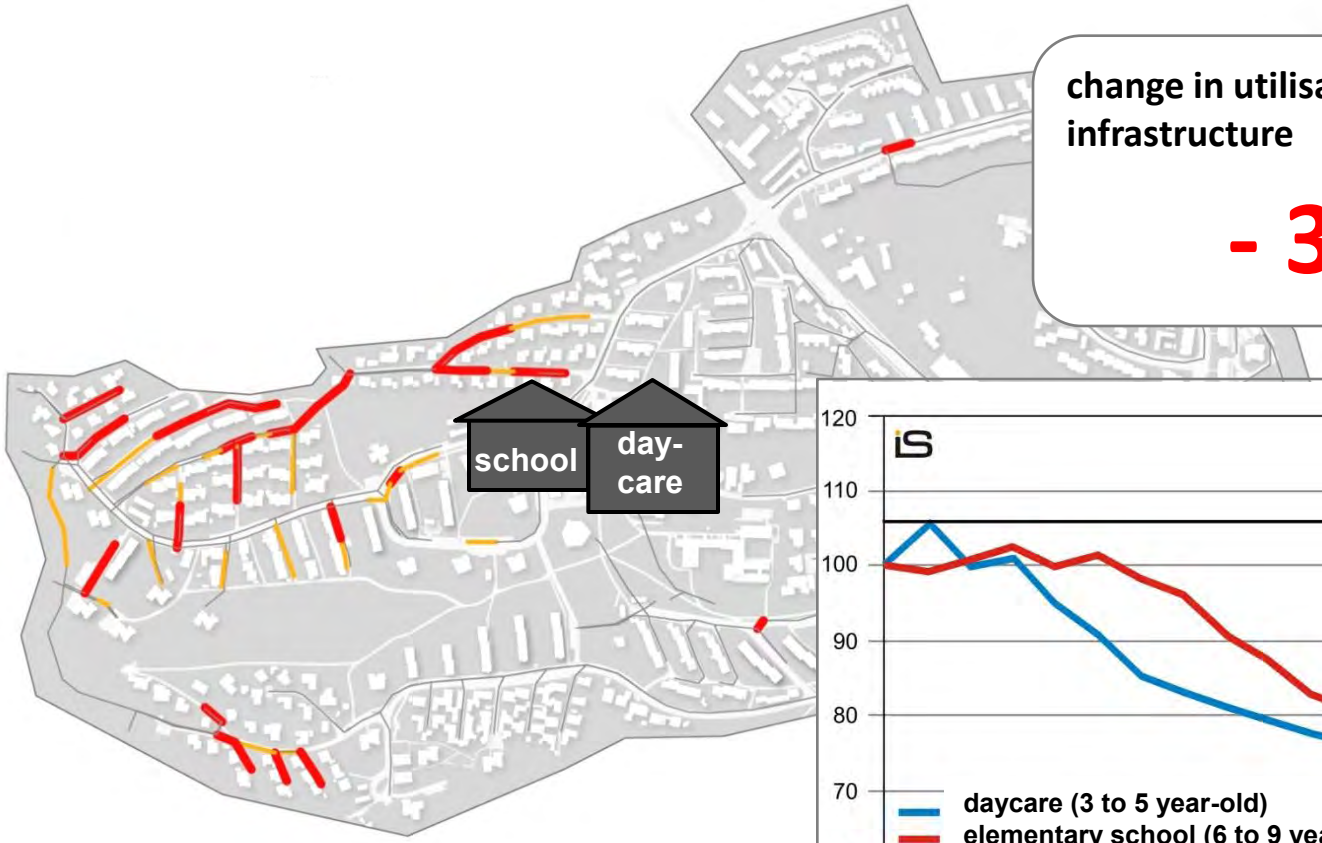
Follow-up costs of infrastructural networks: example sewage system

source: ILS / Planersocietät 2009



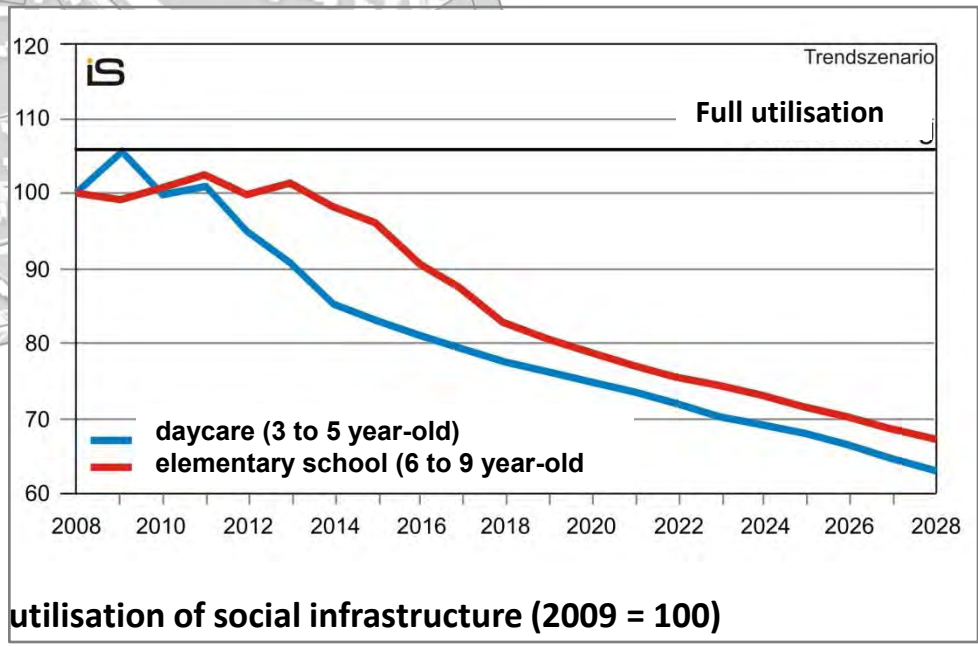
Follow-up costs of infrastructural networks: example social infrastructure

source: ILS / Planersocietät 2009



change in utilisation of social infrastructure

- 35 %



utilisation of social infrastructure (2009 = 100)

Demographic change as a „cost trap“

- downward trend in utilisation of infrastructure
- increasing municipal follow-up costs and burden of charges
- growing demand for tools which calculate and illustrate all costs

2. LEAN² / LEANkom

How much is this site going to cost us?



Quelle: MUNLV NRW

How much is this site going to cost us?



source: MUNLV NRW



source: Planersocietät/nts 2010

LEANkom: costs and benefits

Development

- external / internal transport infrastructure
- open space and compensation areas
- sewage system
- planning costs

Follow-up services

- day-care centres
- elementary schools
- mass transit
- school busses

Site & Budgeting

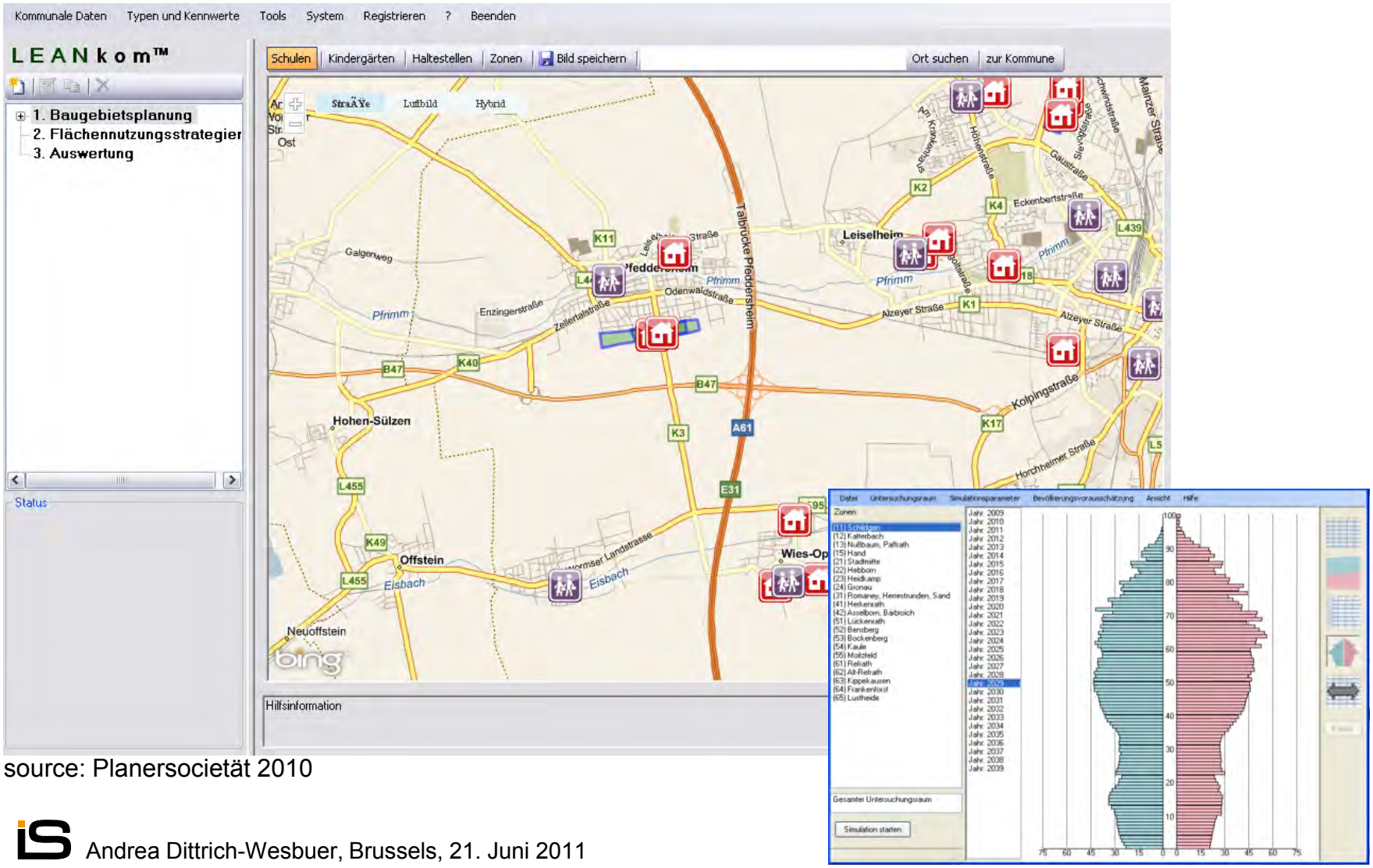
- apportionment
- interim purchase
- investor contract
- financing costs

Gains

- property tax
- income tax
- allocation of funds from the state
- multiplier effect (e.g. purchasing power)

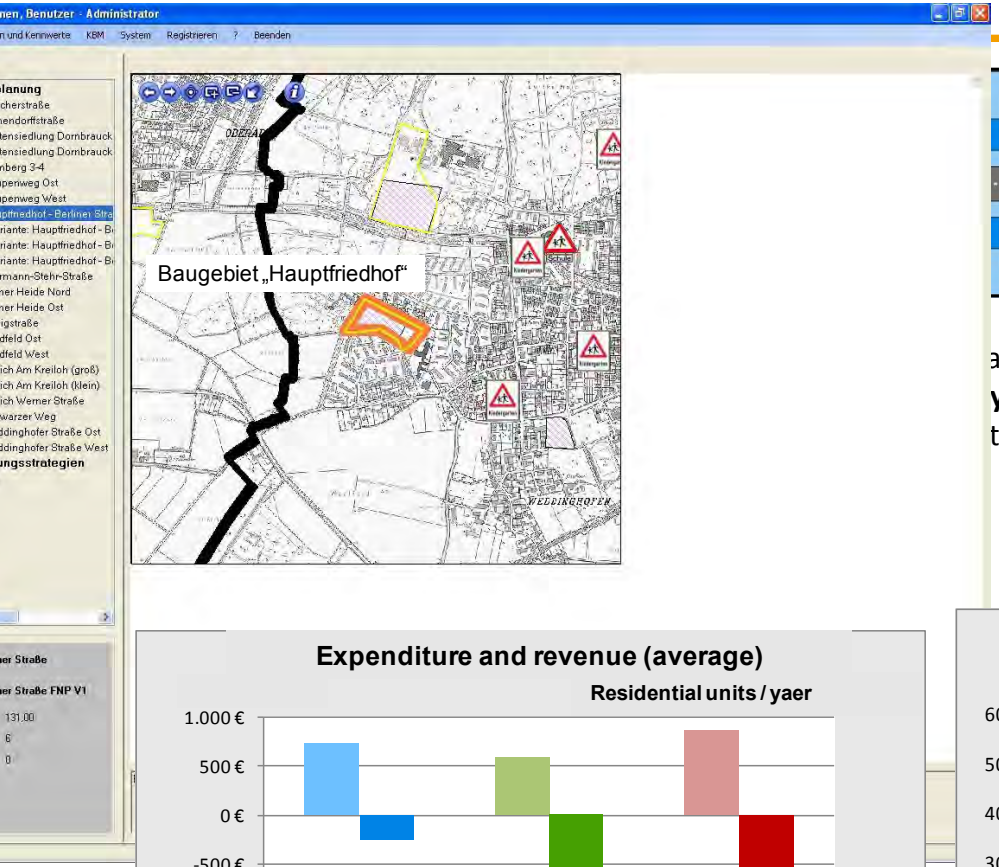


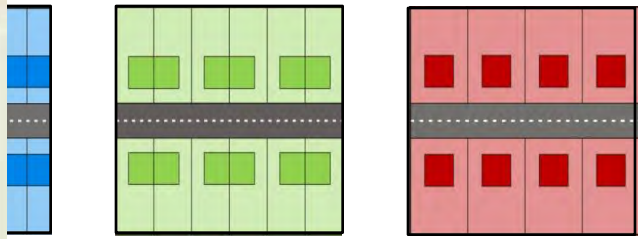
A tool with a population model



source: Planersocietät 2010

Focus: planning variants by comparison

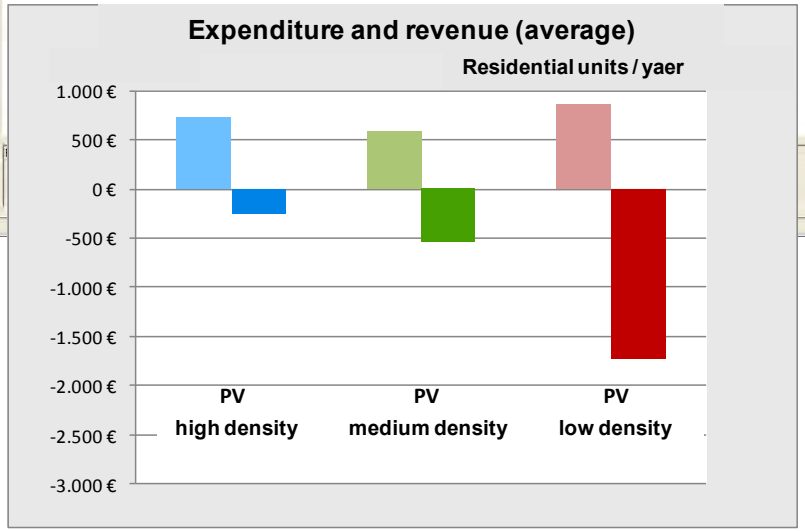


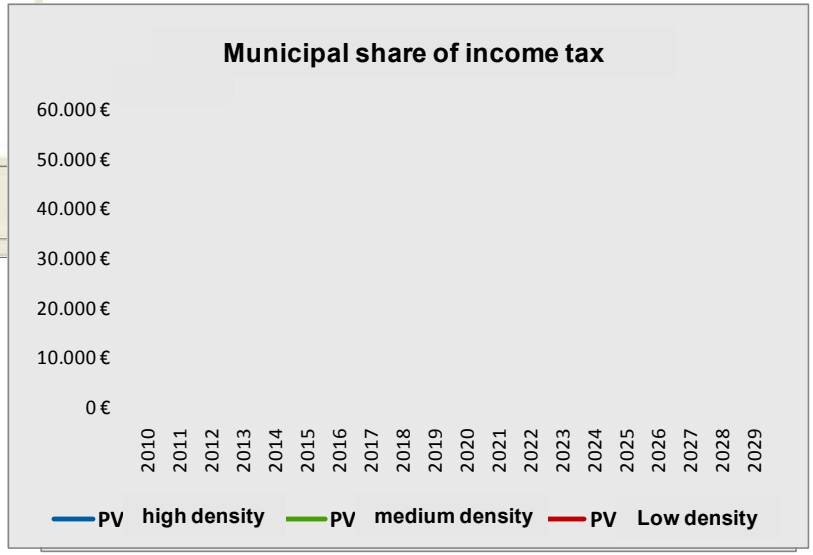


ant
y“
ts/ha)

planning variant
„medium density“
(45 dwelling units/ha)

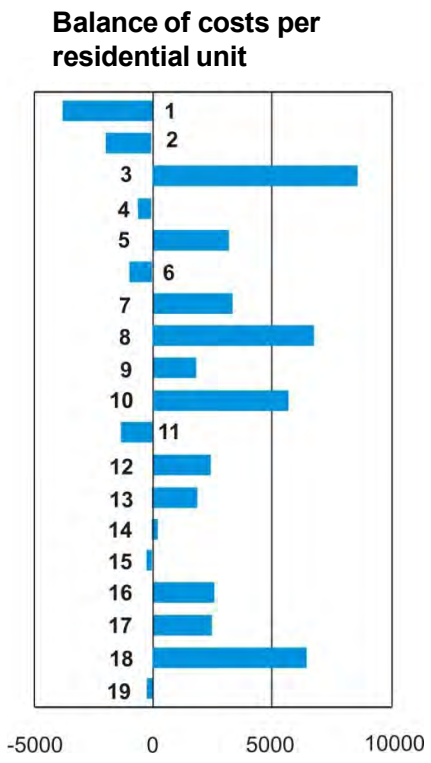
planning variant
„low density“
(15 dwelling units/ha)

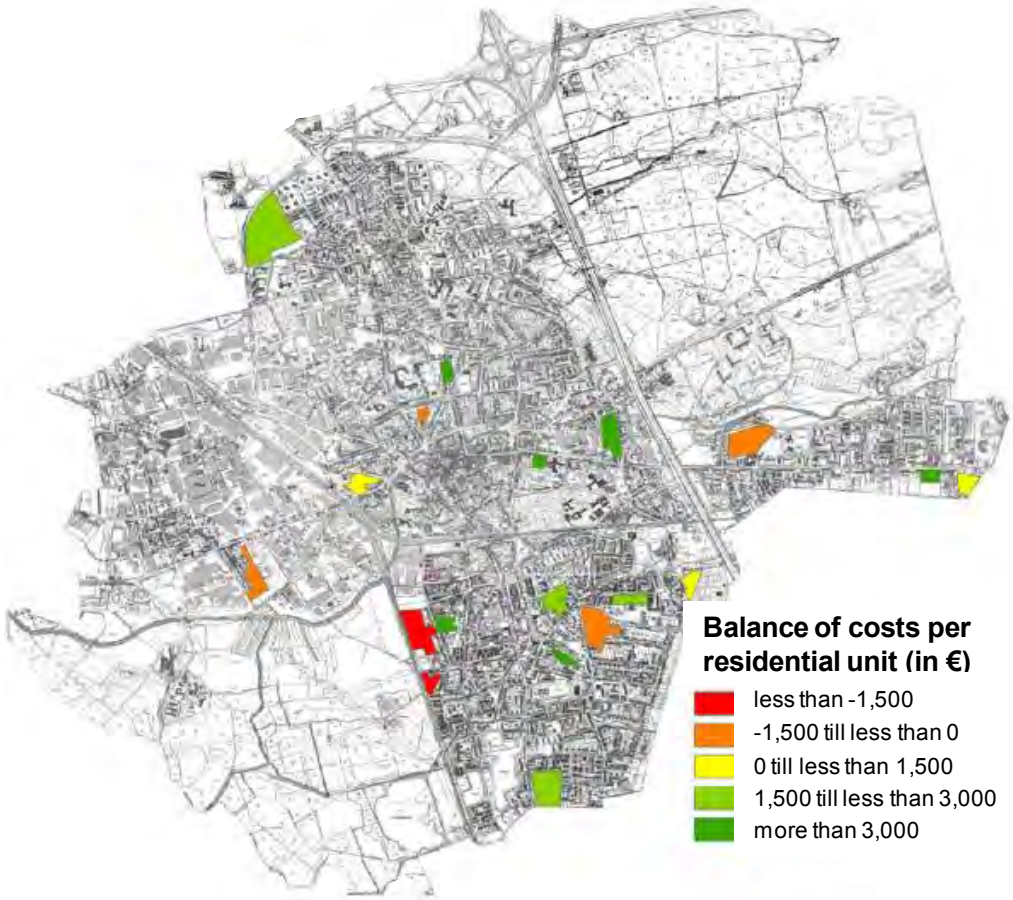




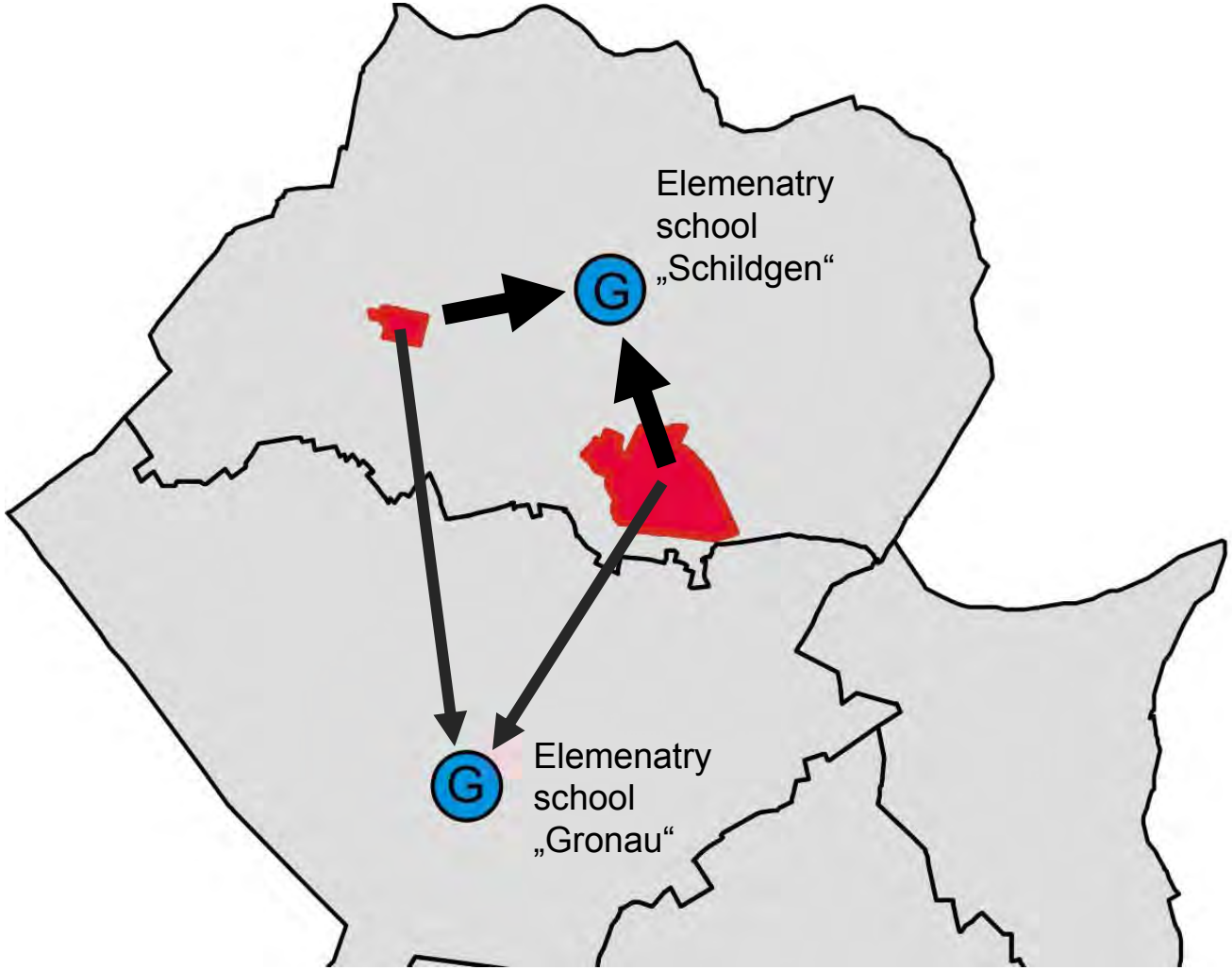
Focus: sites in comparison

source: Planersocietät 2010

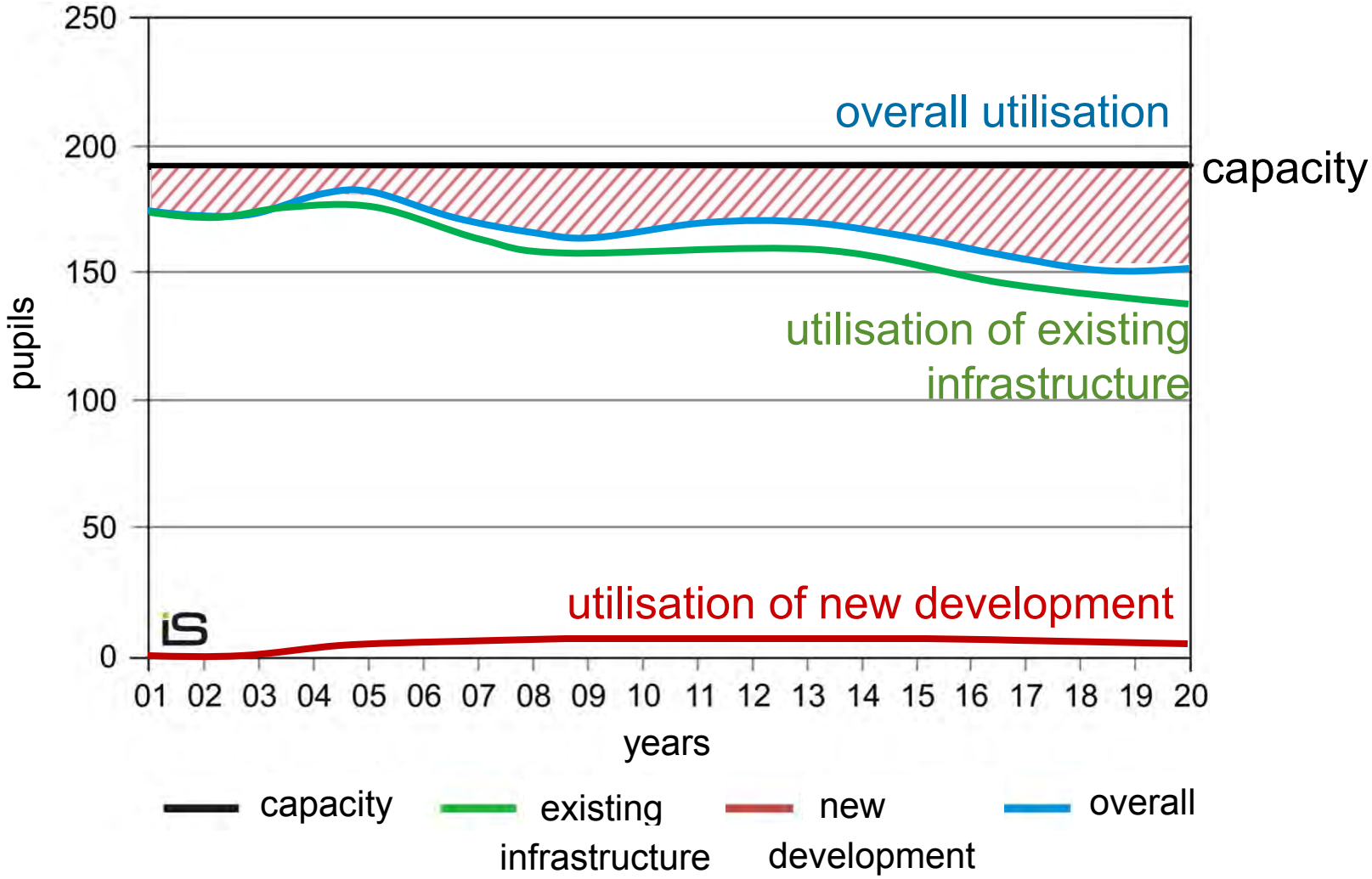




Focus: untilisation of social infrastructure



Focus: utilisation of social infrastructure



Density	**Double density = half costs** Features of the settlement structure such as density determine land consumption and costs for the internal transportation system.
Location	**Advantageous loacation means cost advantages** Well integrated sites reduce land consumption and costs for the external transportation system, especially in small residential areas.
Follow-up costs	**Follow-up costs as a cost-trap** In comparison to the production costs, follow-up costs of a residential area are rather neglected, although they are often eminent.
Benefits	**No general statement of financial benefits** General statements about additional municipal revenues caused by a new residential area do not address the complex mechanism of the financial system

3. Overview and Outlook

LEANkom: recent know-how

- demographic change as an „icebracker“
- transparency of financial effects of new residential areas
- enrichment (but not a replacement) in the consideration process in settlement planning
- a considerable (data) effort and period of vocational adjustment („a system for professionals“)
- of special interest: (small-scale) impact of demographic changes on social infrastructure



new tools of cost-efficiency for planning in practice: an interim conclusion

- there are usable tools of cost-efficiency (however: transparency and distribution are necessary)
- cost analysis has to be considered and used as an integrated component of sustainable land management.
- a regional dimension, industrial areas/ supply facilities and costs of existing residential areas have been hardly considered in the past (need for further development!)








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