Need for planning tools and methods to monitor and control urban sprawl

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Why are we here?

Gabi Rembarz
Poland have serious problems with monitoring and controlling spontaneous growth of cities

This is why we are glad to have an opportunity to learn from German experience (REFINA)

self-sufficient „island-like“ development based on a good public transportation system
Types of suburbanisation in Poland

1. Continuous, chaotic development along roads and/or railway with no breaks for ecological corridors or place for social coherency
   - dormits, commuting
   - good public transportation

2. New, very compact districts, situated at the city outskirts, with no sufficient transportational and social infrastructure (no public transport, no schools, kindergartens, shops etc.)
   - weak public transportation
   - dormits, commuting

3. Single houses/farms (?) spread within rural areas
   - lack of public transportation
   - waste of rural land
   - extremely expensive infrastructure (or lack of)

Ways of reducing urban sprawl:

1. introducing multifunctional and intensive land use (MILU) inside cities

2. limiting urban sprawl on the outskirts (Smart Growth)

But we still try to…
### 1. MILU types

<table>
<thead>
<tr>
<th>MILU Types</th>
<th>MILU Activities in Tricity</th>
</tr>
</thead>
<tbody>
<tr>
<td>introducing more uses on one space (intensification) (2D)</td>
<td>densification of build-up areas (fillings in the existing city tissue)</td>
</tr>
<tr>
<td>mixing uses (interweaving) (2D)</td>
<td>urban recycling of postindustrial areas (waterfronts)</td>
</tr>
<tr>
<td>multi-level use of space by different functions (layering 3D)</td>
<td>revitalisation of city centres (additional/new services, technical and social infrastructure, amenities)</td>
</tr>
<tr>
<td>multifunctional use of space in time (timing – 4D)</td>
<td>additional levels (houses on blocks of flats, underground garages etc.)</td>
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<tr>
<td>simultaneous use of space by different cultural, social, age groups (cultural dimension – 5D?)</td>
<td>temporary uses (fun city, parking places)</td>
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</tbody>
</table>

### MILU in Tricity

- [http://www.milu.net/](http://www.milu.net/)
- [http://www.garnizon.pl/](http://www.garnizon.pl/)
2. Smart Growth Principles

LOCAL:
• Create Walkable Neighborhoods
• Attractive Communities with a Strong Sense of Place
• Encourage Community and Stakeholder Collaboration
• Mix Land Uses

REGIONAL:
• Preserve Open Space, Farmland, Natural Beauty and Critical Environmental Areas
• Take Advantage of Compact Building Design
• Provide a Variety of Transportation Choices
• Create Range of Housing Opportunities and Choices

• Make Development Decisions Predictable, Fair and Cost Effective

Smart Growth in Tricity

• protection of environmentally important areas
• protection of areas of National Forests
• protection of outer-city rural areas
• enhancing public transportation
• extremely compact building design of new districts by developers
Main reasons of urban sprawl in Poland:

1. Land value (ground rent)

2. Accessibility (time/space)

3. Social expectations ("american dream")

1. Land value (ground rent)

<table>
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<tr>
<th>miasto</th>
<th>Maks. cena nieruchomości w kwietniu 2009 r. *</th>
<th>* w złotych</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gdański</td>
<td>500 000 zł</td>
<td></td>
</tr>
<tr>
<td>Kraków</td>
<td>310 000 zł</td>
<td></td>
</tr>
<tr>
<td>Poznań</td>
<td>270 850 zł</td>
<td></td>
</tr>
<tr>
<td>Warszawa</td>
<td>400 000 zł</td>
<td></td>
</tr>
<tr>
<td>Wrocław</td>
<td>320 000 zł</td>
<td></td>
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</tbody>
</table>

Mean price of a house 150m² in 2009

http://forum.investmap.pl

Mean price of a preferred flat about 50m² in 2009

Source: Open finance

Distribution of ground rent in cities

P – land price
C – distance to the city centre (km)

Map of Gdańsk, Sopot, and Gdynia showing urban sprawl:

http://www.woj-pomorskie.pl/images/31_strony_funkcjonal_TOM.jpg
2. Accessibility

- Easy transportation of people in time and space (commuting)
- Easy transportation of goods possible, thanks to new transportation systems
Gdańsk about 1833
Pedestrian movement

- Zarys obszarów zabudowanych
- Izochrona 15 minutowa dla pieszego – 1km
- Izochrona 1 godziny dla pieszego – 4km

Gdańsk about 1860
Horse-powered transportation:
- omnibus 1864
- tram 1873
Gdańsk about 1901
- Steam railway 1870
- Electrical tramway 1894

Evolution of transportation systems

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Gdańsk about 1920
- Car 1900
- Bus 1925
Conclusions

- Type of urban sprawl depends on a system of public transportation

- Urban sprawl could be reduced by acting simultaneously both inside and outside a city
Conclusions

• urban sprawl is the response to ground rent and increasing accessibility (caused by technological changes in transportation)

• urban sprawl is a natural process not possible to stop, but possible to steer!

Therefore, what are:

• the methods
• and tools

to monitor and control urban sprawl?

Is REFINA bringing answers suitable in Polish conditions?
Structure of the REFINA workshop

- Welcoming speech and the introduction to the REFINA research program by Maike Hauschild, Project Management Juelich (PtJ)

- Session 1
  Planning instruments and urban policies of Poland and Germany concerning land consumption and suburbanization

- Session 2 – 5
  REFINA research 2 - 5
  Comments of Polish experts
  Discussion
  Moderator 2 - 5

- Conclusions and Closing Remarks (round table of Moderators 1 - 5)

Thank you for your attention

and

wish you a fruitful meeting

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