Development of Strategic Urban Land Use Analysis Model

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Starting point

• Information on land use is crucial for city planning and management

• Land use is part of both strategic and local (implementational) level of city planning and management

• Land use facts and trends can be achieved by confrontation of existing and planned land use (ELU vs. PLU)

• Existing models are not fully adopted to the intended purpose
Research methodology and goals

• Combination of elements from both urban planning and geoinformation science

• Based on analysis of existing land use models on local, regional, national and european level

• Main goal is development of comparable land use analysis model fit for strategic city planning and management

• Testing of developed model in real life conditions in City office of strategic planning and development of the City of Zagreb
Strategic land use analysis questions

• Planned extent of land use development/transformation in given time?  **ELUx vs. PLUx**

• Extent of achieved land use change over given time period?  **ELUx vs. ELUy**

• Achievement of planned land use development over given time period?  **PLUx vs. ELUy**

• Changes of land use policies over given time period?  **PLUx vs. PLUy**
Existing models
Analysis of existing models

Comparison of existing land use models, systems and theories on local, regional, national and European levels:

- Land use theory in urban planning
- INSPIRE land use
- European Urban Atlas
- Land use/land cover statistics – EUROSTAT
- National planning model of Croatia
- Mode d’Occupation du Sol (MOS) - Île-de-France
- Realnutzung - Vienna
Analysis of existing models

Quest for the best theories and practices in several elements important for development of land use analysis model:

• Purpose and type of model or system
• Coverage, spatial and temporal resolution
• Land use classification and nomenclature
• Delineation of land use zones
• Geoinformation modeling elements
• Data sources
• Applications
<table>
<thead>
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<th>Purpose</th>
<th>Urbanism</th>
<th>Environment, harmonisation</th>
<th>Regional planning</th>
<th>Statistics</th>
<th>Spatial and urban planning</th>
<th>Regional and city planning</th>
<th>City planning</th>
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<td>Satellite and aerial images</td>
<td>Field measurement</td>
<td>Base maps, existing plans</td>
<td>Orthoimages</td>
<td>Orthoimages, topo bases</td>
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Purpose of a new model

Strategic Urban Land Use Analysis Model should serve to several purposes:

- Development planning of urban areas;
- Management of urban areas;
- Harmonization and comparison of urban data from local to international level;
- Optimization of usage of existing sources of spatial data;
- Further scientific research in the field of urban planning and geoinformation;
- Development of regulations in the field of urban planning.
Basic conceptual rules of a new model (1)

- Model includes both ELU and PLU with equal importance
- ELU and PLU have to be harmonized in classification and delineation of zones
- PLU is based on official land use plans
- ELU is based on several data sources, official and unofficial
Basic conceptual rules of a new model (2)

• Data scale is fitted to character of urban area and to the least detailed data source

• Classification of use and land use is in line with local conditions and international standards

• Data are updated according to changes in official land use plans and changes in real world

• Answers to strategic issues are result of confrontation of ELU and PLU in different time periods
ELU and PLU data sources
ELU and PLU data harmonization
ELU and PLU database
ELU and PLU analysis and confrontation
Output information and application
Future development

• Defining of urbanistic elements (in progress)

• Defining of geoinformation elements

• Testing the model – pilot area in Zagreb

• Using and upgrading
Development of Strategic Urban Land Use Analysis Model

Thank you!

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