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## POLY-FUNCTIONAL ZONING AS A FACTOR OF URBAN SUSTAINABILITY

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▶ ***The target of this work***

- ▶ is to define the features of urban functional zoning in sustainable development.

▶ ***The main tasks are:***

- ▶ to make revision of present urban functional zoning system;
- ▶ to create functional zoning models using new graph methods;
- ▶ to define metabolistic phenomena in urban planning.



## The relevance of this work

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- ▶ Growing reclamation of territories shows conflict of space, matter and time.
- ▶ Therefore urban expansion and development are very involved not only in political and economical guidelines, but also in ecological and social aspects.



## The Methods

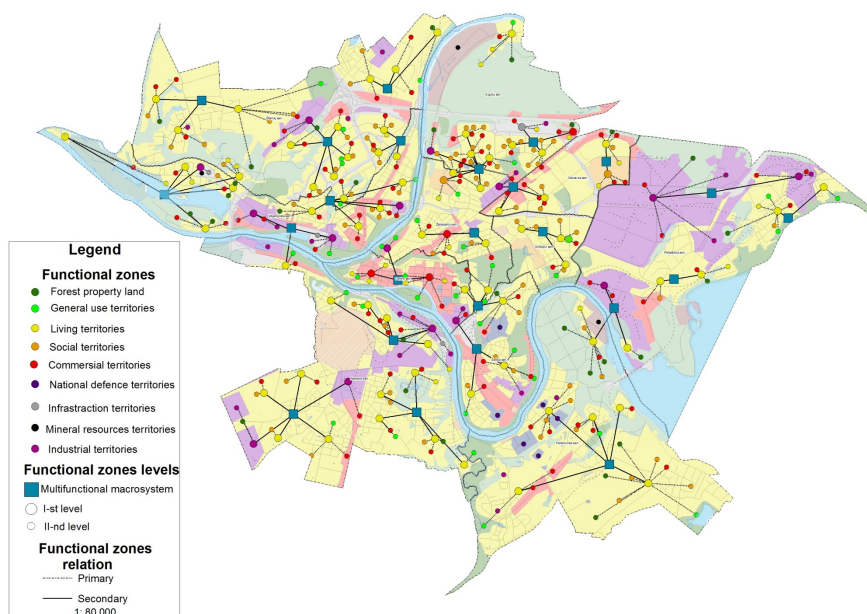
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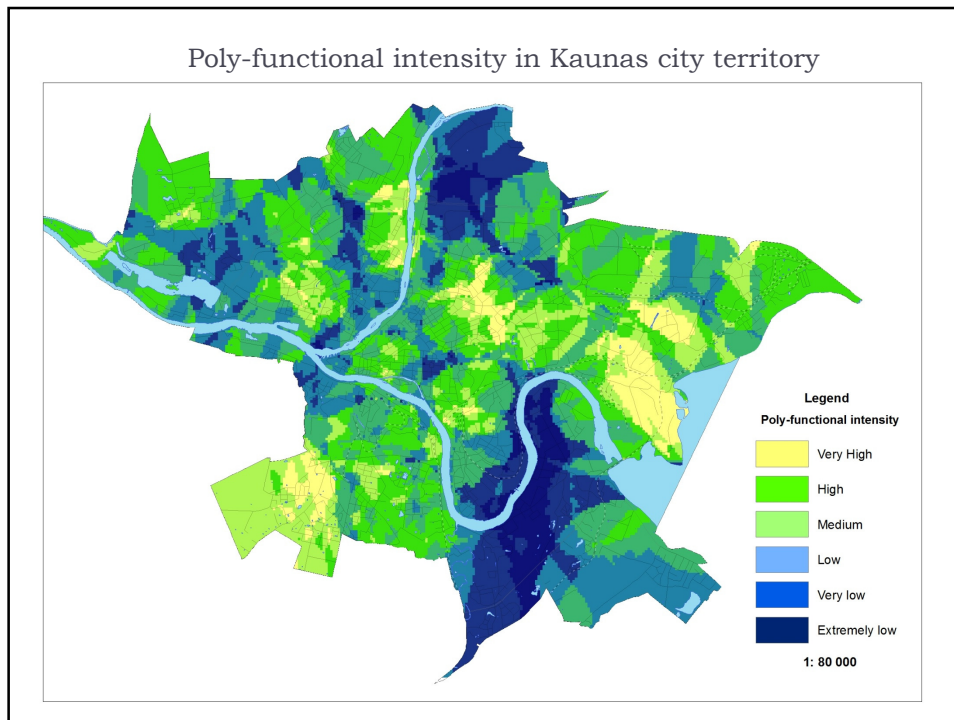
- ▶ In this research we use document analysis, theory of generalisation, statistical method, computer data processing, mathematical simulation and cartographical method.
- ▶ The complex of these methods makes a mixed research between architecture, geography and sociology.



## Results and Discussions

*Metabolism in Kaunas city territory*





## Conclusions

1. Poly-functional zoning must be recognized as one of the instruments for realising the idea of sustainable and balanced development;
2. Therefore the principles of sustainable development should be oriented towards the development of territories with different functional complexity, but not to merely poly-functional or merely mono-functional zones;
3. Overuse of the urban territory should be understood not only ecological, but as social systems that are affected by metabolistic urban streams;
4. The urban streams can be seen as the movement of matter in the territory, which influences the positioning of the poly-functional zones properties, also determines usage priorities in the territory.