Data for Spatial Planning – A Comparison of Three Cities

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Introduction

- Urbanization is global trend
  - Cities are highly populated → social conflicts may arise
  - Contact to “soil services” lost (Braimoh and Vlek 2008)

- Spatial Planning objective
  - Efficient management of natural resources – especially land

- Requirements to fulfill objective
  - Information about what is where
  - Information about what is missing
  - Information about existing and emerging conflicts

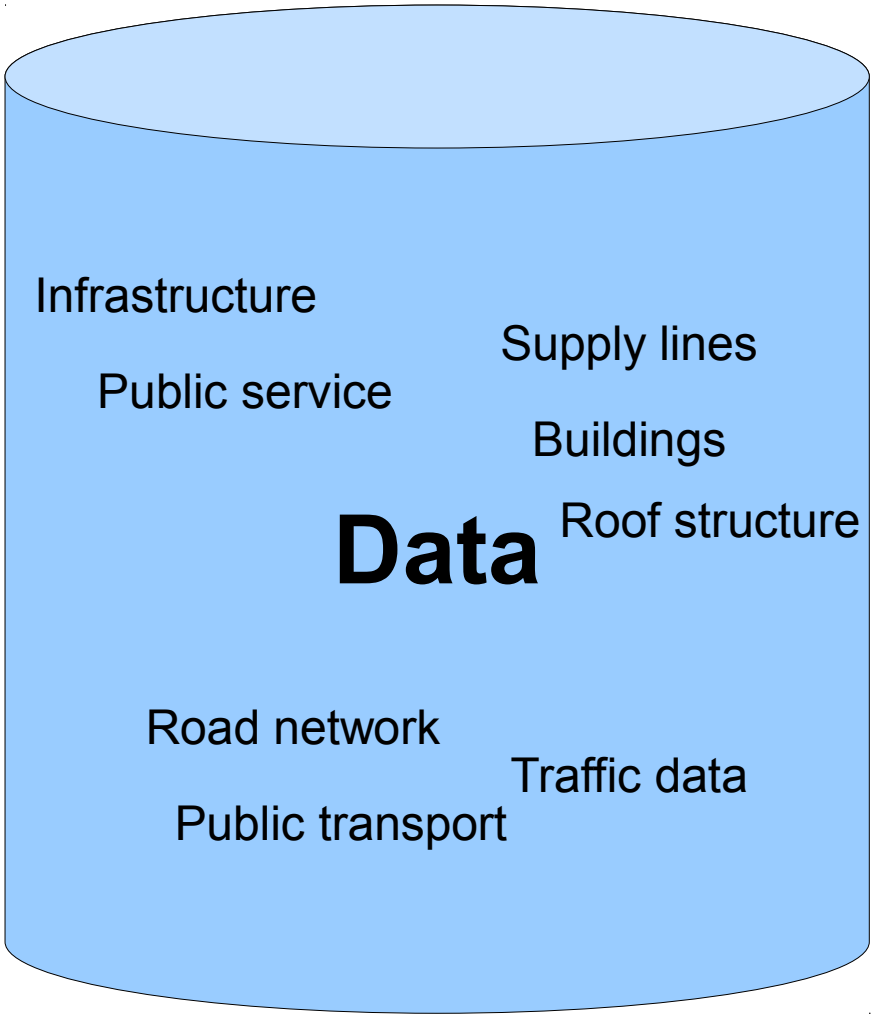
Introduction

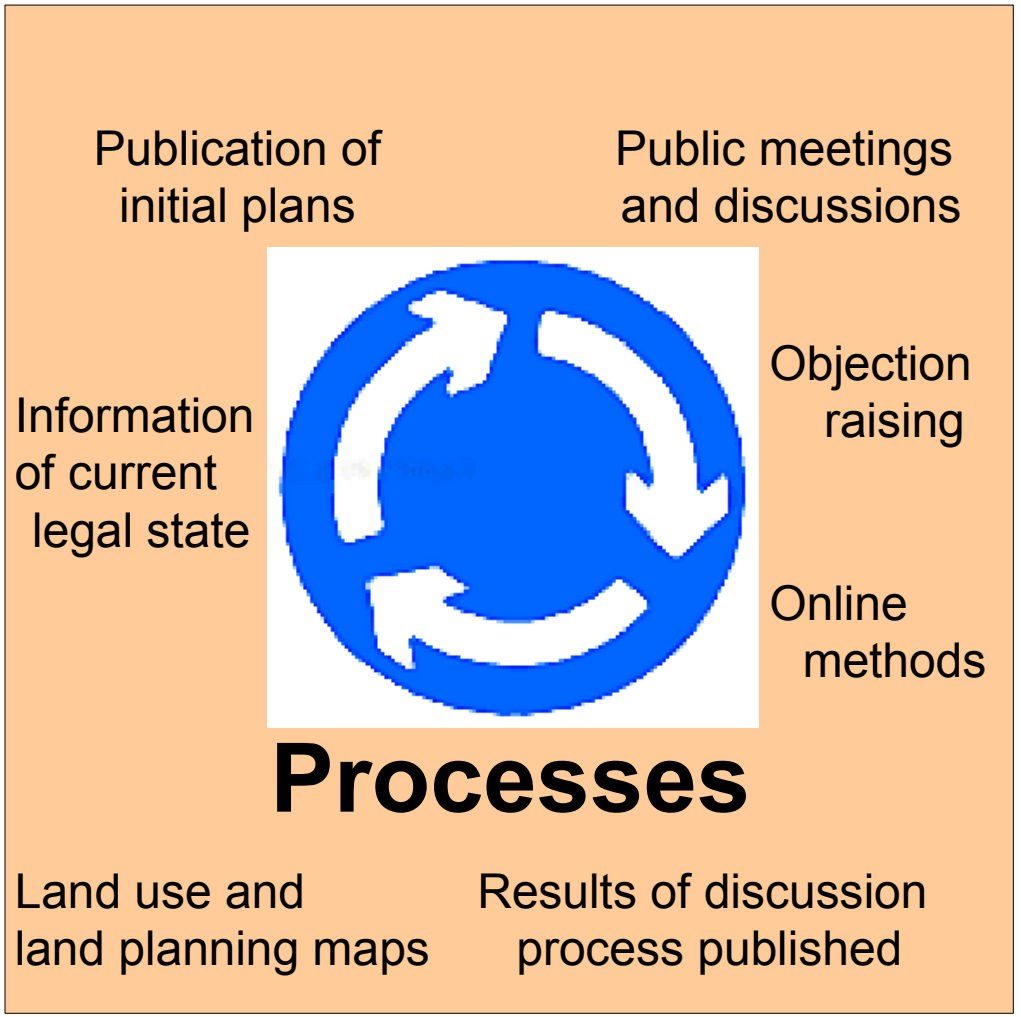
- How to acquire information?
  - Systematic way by planning authority
  - Volunteered Geoinformation – citizens serve as local experts (Goodchild 2008)

    → requires processes to exchange information between planning authority and citizens

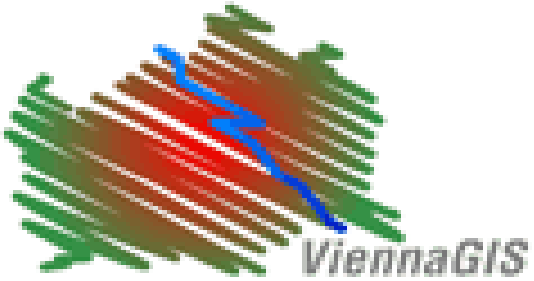
    → planning authority has to process information received by citizens properly

Data and Processes for Spatial Planning





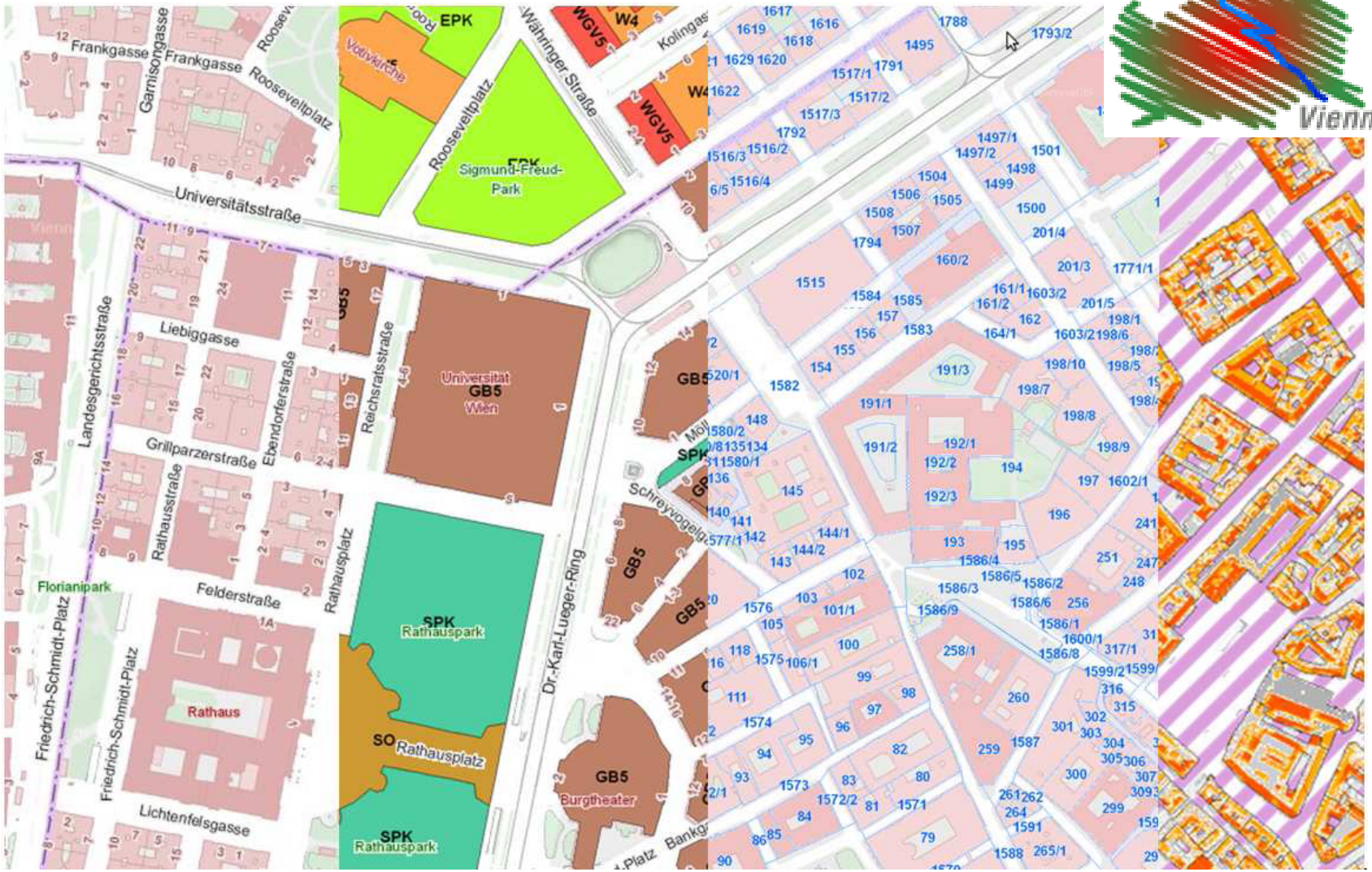
Comparison of Three Cities: **Vienna**



- City of Vienna started GIS in late 1980's – ViennaGIS
- GIS allows to establish the link between spatial data and user generated data
- Since 1995 ViennaGIS is available over the Internet for public use including the following data:

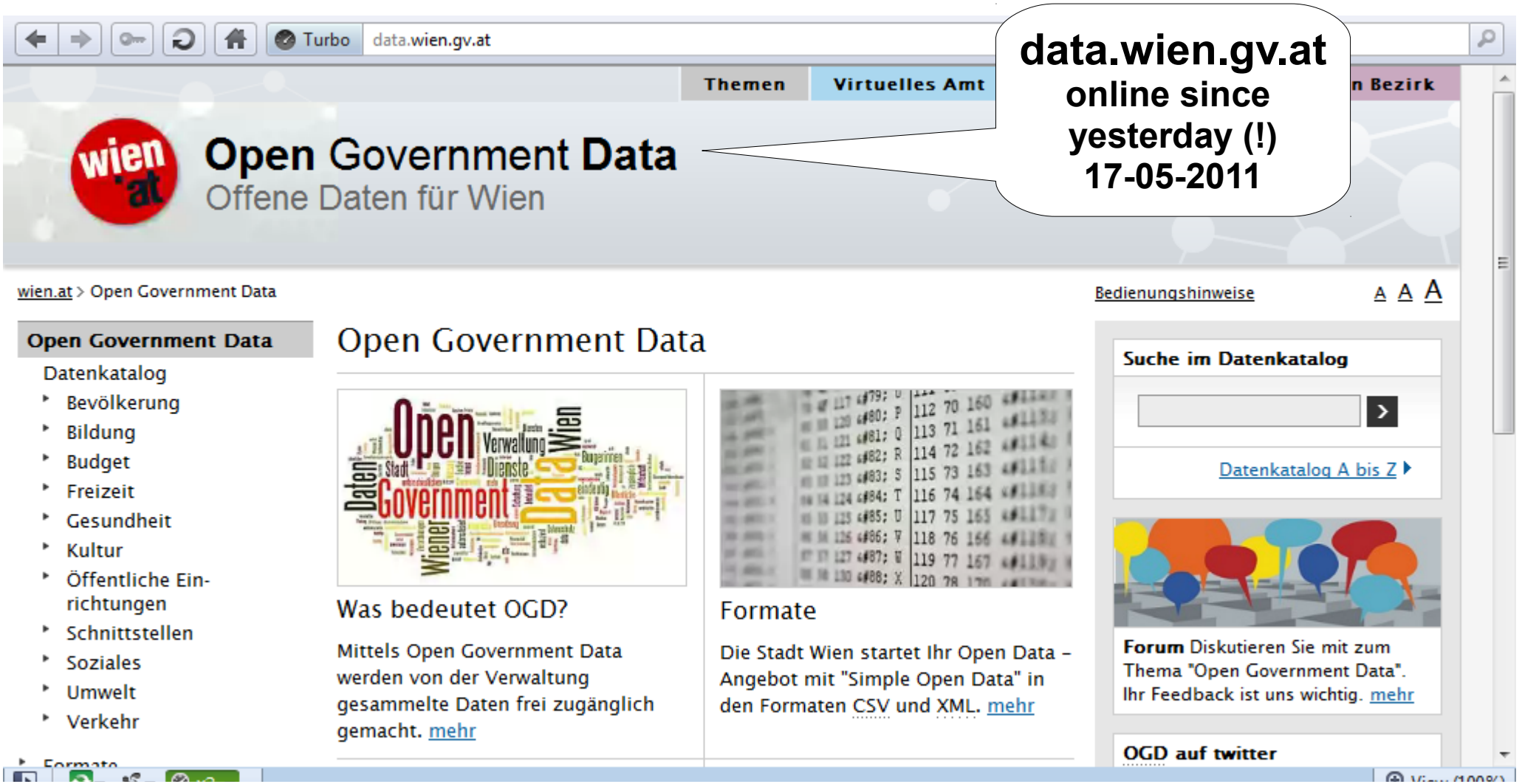
- Intended land use plan
- Prohibitions on building
- Protected zones
- Zones of world heritage
- Projects of city development
- Networks of public transport, streets, bicycle routes
- Natural protection zones
- Service installations (e.g. schools, kindergartens)

Comparison of Three Cities: **Vienna**



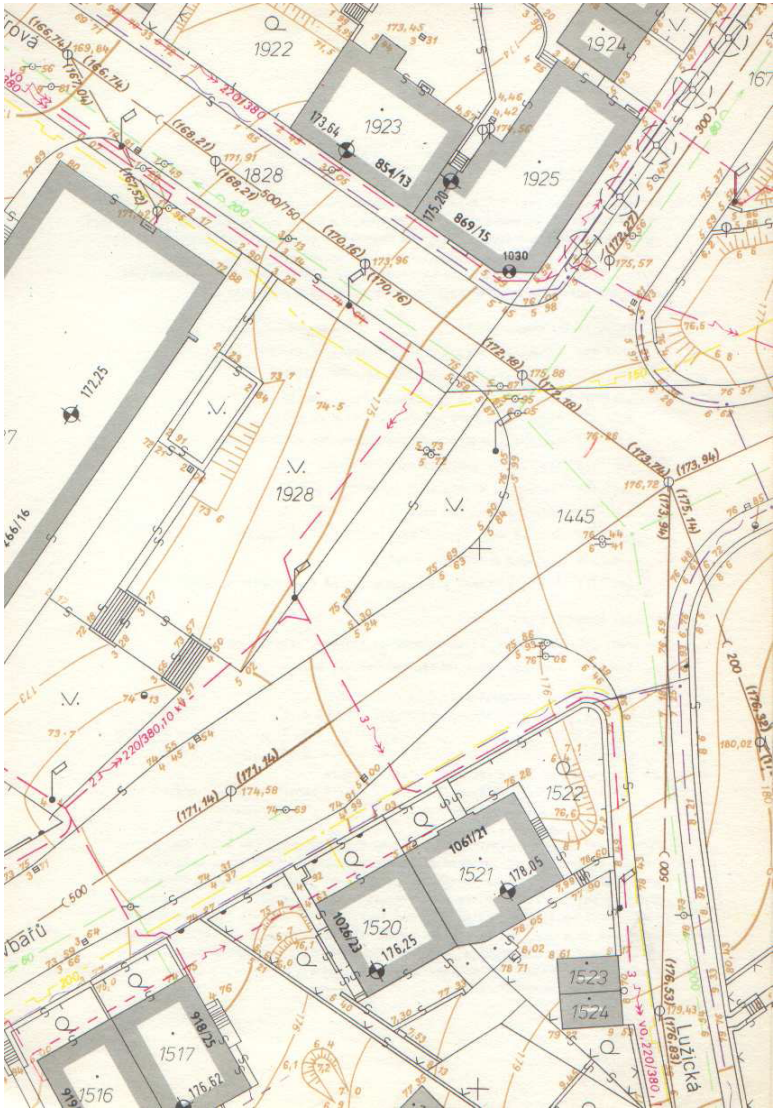
Vienna base map | Land use plan | Cadastral map | Solar panel potential

Comparison of Three Cities: Vienna



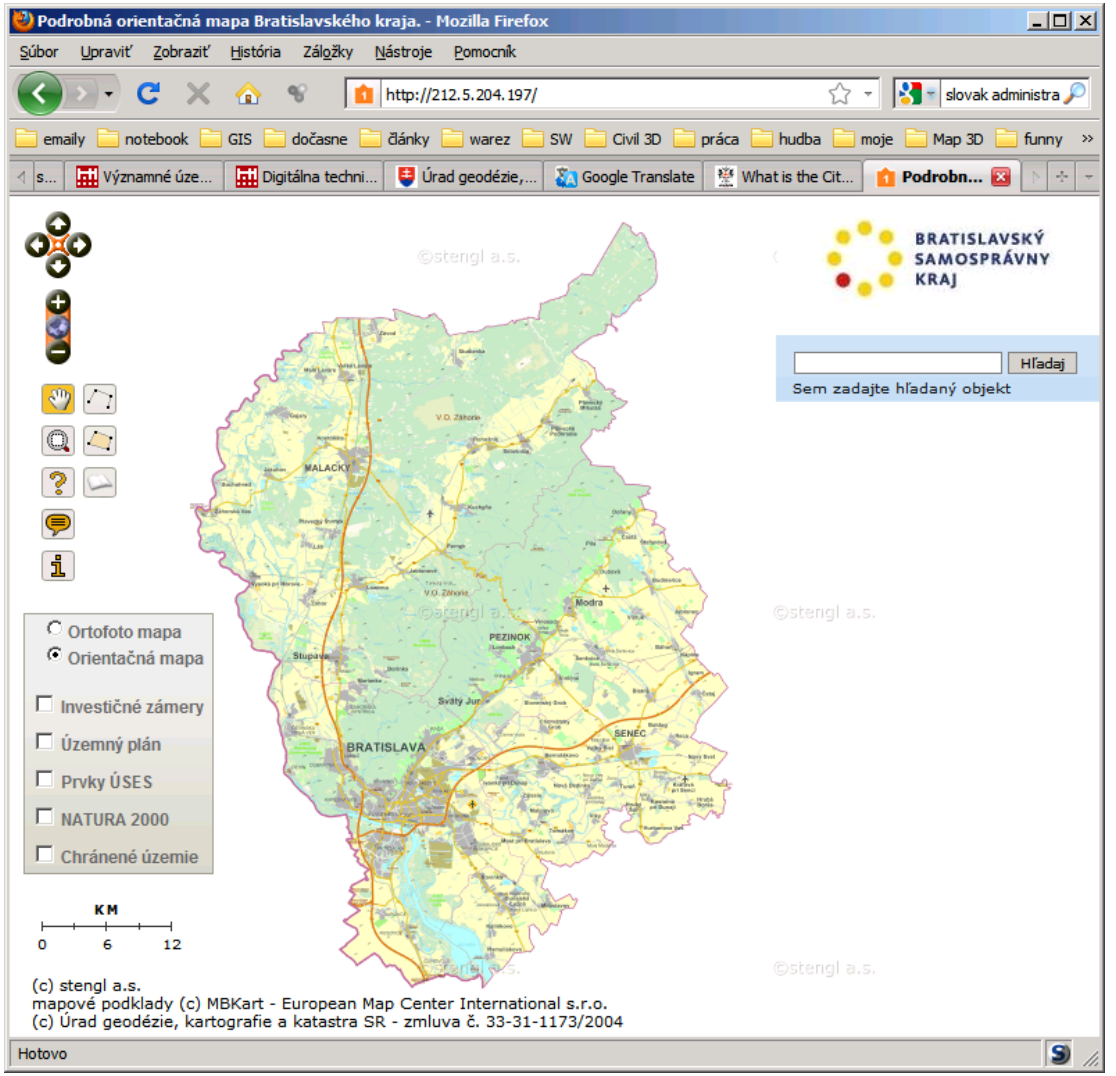
Comparison of Three Cities: **Bratislava**

- City of Bratislava maintains a *digital technical map*, containing:
  - Buildings (above and below the surface)
  - Relief
  - Technical infrastructure
- Published in analogue and digital format (digital map sheets, CD's)
  - Spatial information portal is currently being developed



Comparison of Three Cities: **Bratislava**

- Data on land use:
  - Published as PDF
  - Geoportal of administrative region – http://212.5.204.197/



→ Does not satisfy the needs of users (scale, content)

→ Creates barriers in public participation in spatial planning

Comparison of Three Cities: **Teheran**

- Data for spatial planning are collected by several institutions:
  - National cartographic center:
    - Parcels, land use and land cover, streets
    - Updated every 5-10 years
    - Scale 1:12000

Not public **available**!

  - Teheran Geographical Information Center – data for the city of Teheran
    - Street networks and traffic
    - Public transport
    - Underground facilities and supply lines
    - Protected and historical zones
    - Service installations (schools, hospitals, fire stations)

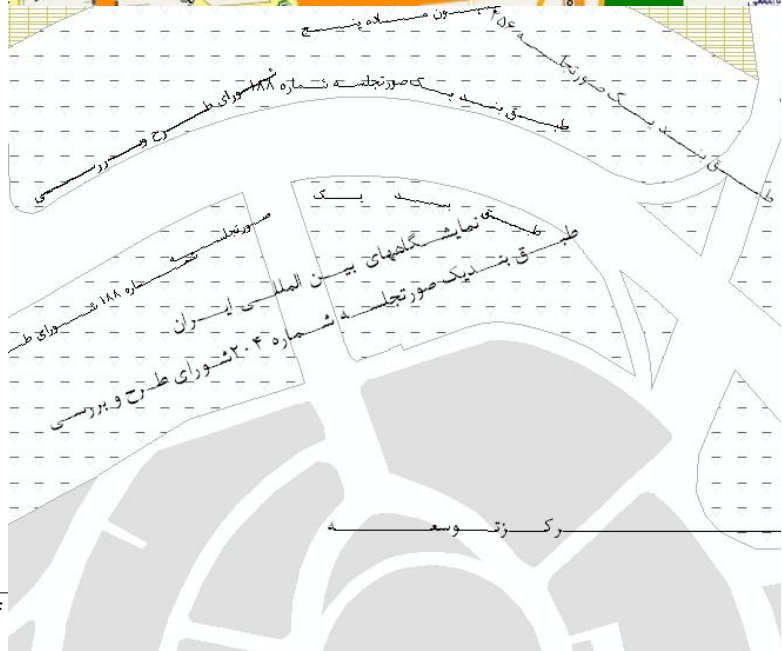
Public **available**!

Comparison of Three Cities: **Teheran**

- Teheran Geographical Information Center
  - Manages reconstruction of deprecated areas
  - Manages natural hazard protection

→ Master plan exists that is public available (spatial planning)

  - Faults
  - Buildings
  - Streets
  - Underground facilities



Conclusion

- Comparison of cities having reached different phases in the transition from analogue to digital spatial planning
  - Vienna:
    - started digital base map approx. 30 years ago
  - Bratislava:
    - Started later due to democratization and split from Czech Republic
  - Teheran:
    - Data are not completely digitized – opportunity to learn from other cities and avoid mistakes
- Data for digital spatial planning are recognized as valuable for each city
- Transition is time consuming and leads to undesirable situations as processes are re-engineered

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