 **REPUBLIC OF SERBIA**
REPUBLIC GEODETIC AUTHORITY

REAL ESTATE APPRAISAL AND IMPLICATIONS TO THE REAL ESTATE CADASTRE IN THE REPUBLIC OF SERBIA

FIG Working Week
6 -10 May 2012
Rome, Italy



Stojanka Brankovic
Nenad Tesla



REAL ESTATE CADASTRE



Real estate cadastre is basic, public register of real estate and property rights

Real estate registered in REC include:

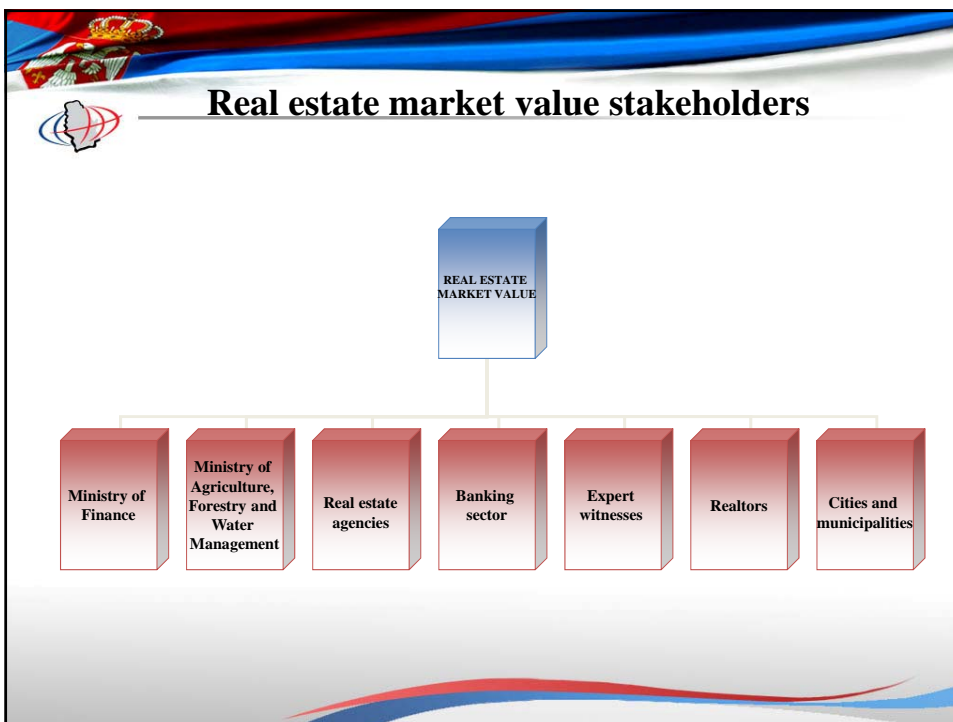
- Land (cadastral parcels of agricultural, forest, construction and other land);
- Constructions above and below the ground;
- Building separate parts, which constitute a construction unit (apartment, offices, garage and other)

Constructions include: all sorts of buildings, production facilities, buildings for culture, sports and leisure, shelters and other constructions


REAL ESTATE CADASTRE

Establishing real estate cadastre provides:

- Security of ownership and property rights
- Possibility to register mortgage (mortgage loans)
- Efficient privatization
- **Real estate appraisal**
- Functional spatial management




Competence of the Republic Geodetic Authority





- Based on the research conducted and successfully implemented pilot projects, in 2009, the Republic Geodetic Authority includes a new chapter on real estate appraisal in the Law on state survey and cadastre.
- Scope of work of the Republic Geodetic Authority includes real estate appraisal and registration.
- Real estate appraisal involves determination of market value for the real estate registered in the Real Estate Cadastre.
- Real estate market value, as prescribed by this law, is the value determined using the procedures and methods of real estate mass appraisal.

Real estate mass appraisal



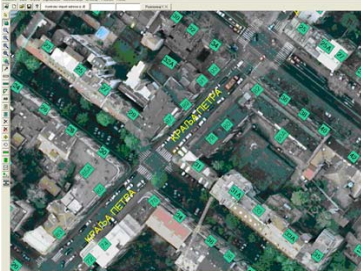

- Real estate mass appraisal is the procedure providing data on real estate market value, for all properties in a country
- This is the basis for calculating property taxes and for other purposes that require real estate market value



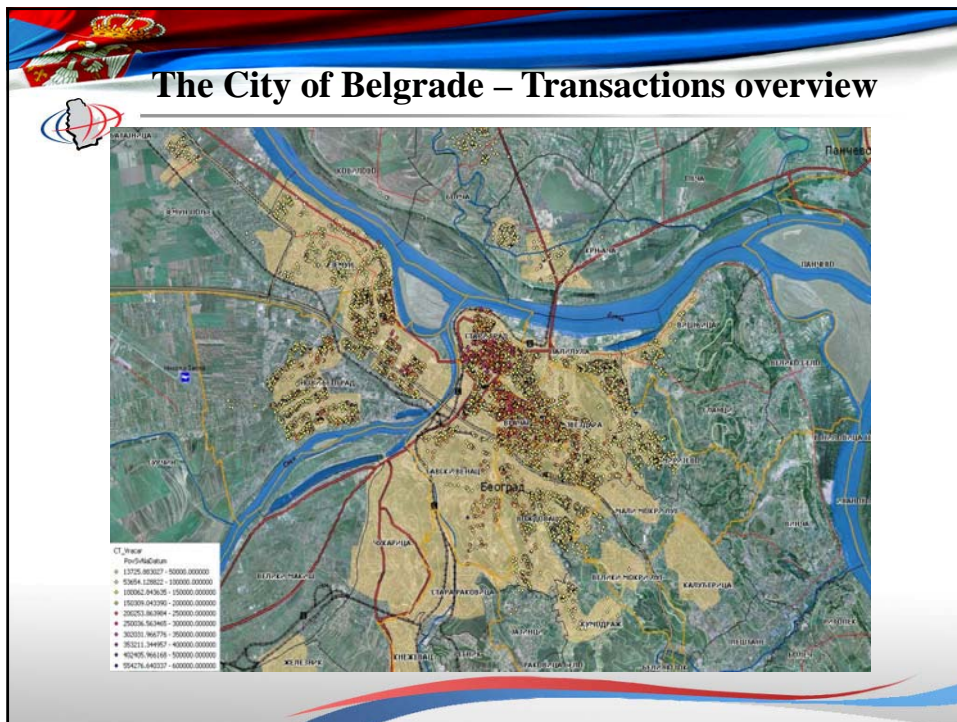
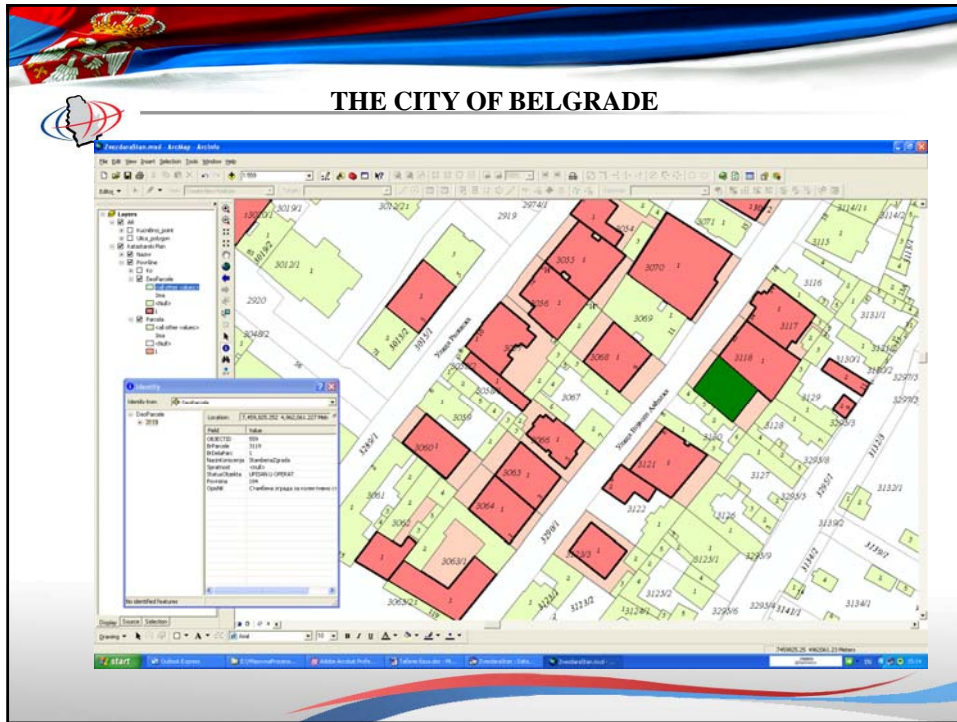
MODELLING REAL ESTATE GROUPS

GROUP	SUB-GROUP
HOUSING REAL ESTATE	House
	Apartment
	Garage
BUSINESS REAL ESTATE	Business buildings
	Business areas (shop, office)
INDUSTRIAL REAL ESTATE	Manufacturing facilities
LAND	Construction land
	Arable agricultural land
	Forest land
	Other land (infertile, ...)
SPECIAL PURPOSE REAL ESTATE	Buildings for agricultural purposes
	Real estate for mineral resources utilization
	Real estate for electric power production
	Gas stations
	Other

THE CITY OF BELGRADE

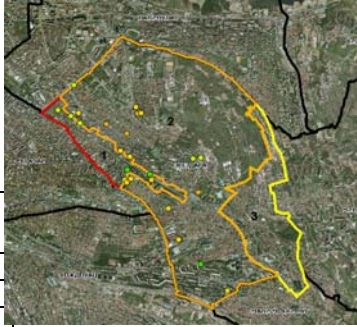
Real estate	Annual number of transactions			Total transactions
	2007	2008	2009	
Apartments	41240	49197	36890	127327
Houses	38802	46303	38931	124036
Garages	4609	6072	4328	15009



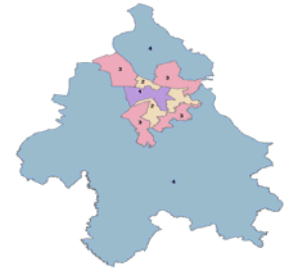
Real estate mass appraisal

Real estate mass appraisal procedures:

- Market zones
- Value levels
- Value zones
- Typical real estate
- Relational tables
- Mathematical model
- Model testing



Level number	Adjusted apartment price RSD/m ² .
1	50 000 - 65 000
2	65 000 - 85 000
3	85 000 - 110000
4	110 000 - 135 000
5	135 000 - 160 000
6	160 000 - 190 000
7	190 000 - 230 000
8	230 000 - 280 000
9	280 000 - 340 000
10	340 000 - 400 000

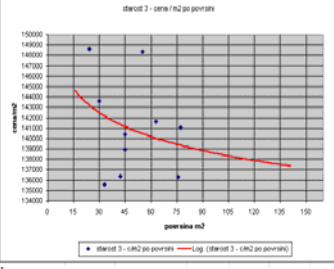


Real estate mass appraisal

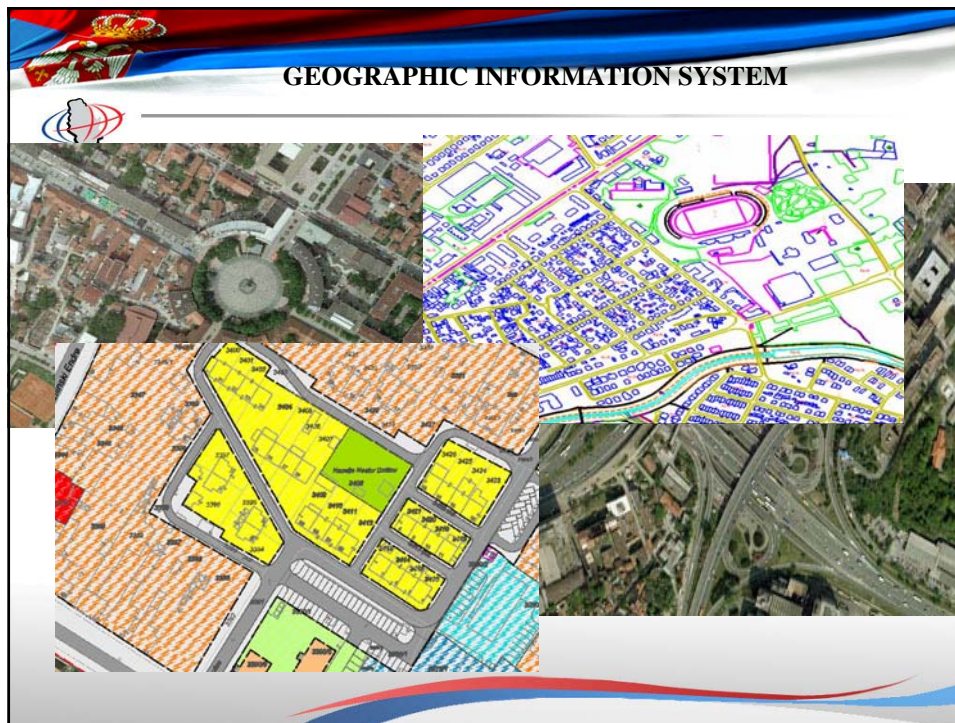
Model variables:

V	- Apartment value
Vz	- Zone value = value level
Frt	- Area and age factor from relational table
Fs	- Apartment floor factor

$$V = Vz \times Frt \times Fs$$



stanovi/površina	vr. nivo 5 203	stara 14+3	rednja 2	nova 1
15-30m ²	br transak 1 srednja vr 148957.49 koeficijent 1.03	144416.75	147370.69	1.02
30-45m ²	br transak 3 srednja vr 130499.72 koeficijent 0.94	147021.62	145611.20	0.99
45-60m ²	br transak 3 srednja vr 142558.96 koeficijent 0.99	143981.50	145604.42	1.02
60-90m ²	br transak 3 srednja vr 139662.13 koeficijent 0.95	147100.11	145026.04	0.99
90-150m ²	br transak 1 srednja vr 130201.00 koeficijent 0.93	148666.69	148924.67	1.00



CONCLUSIONS

Republic Geodetic Authority aims towards:

- Functional solution for real estate mass appraisal for taxation purposes and cooperation with tax organs
- Transparent sales price register, offering data on real estate market, available for the appraisal purposes
- Establishing methodology and framework for real estate mass appraisal
- Development and reform of legal framework supporting efficient real estate mass appraisal, based on market information
- Establishing institutional cooperation among state organs.

