Territorial Planning of Schools and Education Policy in Rio de Janeiro
Leandro Gomes Souza
Instituto Pereira Passos – Rio de Janeiro City Hall
The Strategic Plan for the City of Rio de Janeiro estimates that 35% of the enrollment in municipal public schools must be in full-time education by 2016.

This goal implies in building new schools and reforming/expanding the existing ones.

Aiming towards this goal, the Municipal Department for Education and the Pereira Passos Institute started to work together to define where and how many schools need to be built to successfully reach this objective.
Contextualization

- The Municipal Department of Education, based on studies and international experiences, aiming on the improvement in the quality and management of education in Rio de Janeiro, is engaged in the full-time education policy. The municipality, which is responsible for the basic education, expects to attend over 650,000 students by 2016. With the goal to reach 35% of the enrollment in municipal schools in full-time education until this year, and considering the actual offer of enrollments in full-time education, the municipality needs to generate an offer of 99,000 new enrollments to meet its goal.
Assuming the optimization of human resources (teacher's time, for example) and learning, studies and projections defined the ideal quantity of students per classroom, and classrooms by unit, according to the following division:

- **First segment**: “Early childhood education” and “Preschool” (age: 0 to 5 years) – 25 students/classroom; 14 classroom/unit;

- **Second segment**: “Literacy”, 1st to 3th grade (age: 6 to 8 years) – 30 students/classroom; 12 classroom/unit;

- **Third segment**: “Primary”, 4th to 6th grade (age: 9 to 11 years) – 30 students/classroom; 12 classroom/unit;

- **Fourth segment**: “Secondary”, 7th to 9th grade (age: 12 to 14 years) – 35 students/classroom; 24 classroom/unit.
• Where and how many schools must be built to implement the full-time education in municipal schools of Rio de Janeiro?
Solution

• Organizing several geographical and alphanumerical databases about the theme education;

• Developing a methodology for estimating the demand for schools in each area of the city;

• Developing Web GIS apps in ArcGIS Server for maintenance of the databases;

• Spatial analysis for designing solution in each area of the city, using ArcGIS Desktop and Server.
Methodology

- Delimitation of microareas for Municipal Department of Education planning;
- Calculate demand for enrollment in each microarea;
- Assessment of existing school unities infrastructure (number of classrooms);
- Determination of deficit (number of enrollments needed – number of classrooms);
- Calculation of the need for reforming/expanding existing unities and building new schools;
- Identification of terrains for the construction of new unities;
- Ranking of priorities among the microareas.
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SME Turno Único

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Usuário: 02497311  Senha: **********
Results

- The implementation of full-time education has an intrinsic territorial dimension, based in the location of existing and future schools to be built and the place of residence of the students to be served. Based on this logic, the city was divided in education areas;

- A great amount of geographical and alphanumerical school information was produced, georeferenced and analyzed, to the definition of the solution in each education area;

- The development of a web application based in ArcGIS Server made possible the stage of field survey and approval of the terrains to build new schools.
Conclusion

• This work implicated in a massive organization of information from several departments, with the establishment of a workflow that guarantees the sharing of information among departments.

• The integration between departments and the sharing of geographical information is essential for efficient public policies and municipal management.
Thank you !