

## **MANAGEMENT OF ADDRESSES AND ROAD: DIFFICULTIES FOR THE GENERATION AND INTEGRATION OF AGEOREFERENCED SYSTEM.**

***Luis Copano Ortiz***

*Instituto de Estadística y Cartografía de Andalucía*

*luis.copano@geografosdeandalucia.org*

In the current technological society the spatial databases have acquired a greater relevance in the capacity to offer institutions, companies and even people, to geolocate points of interest or make territorial analysis more or less complex. This "democratization" of geospatial information, that about the citizen to a huge volume of data: spatial databases, plans, maps, photographs and other documents referenced, with a great level of detail in a quick and easy way, shooting with the irruption of the Google Earth application that the company Google Inc. launched in mid-2005.

It is estimated that around 90% of the existing data in corporate databases are susceptible to be georeferenced while the reality we face is that for the existing potential, the dissemination of the technology of Geographic Information Systems (GIS) there is room for improvement in the administration and very little in private companies outside the geospatial sector (Anguix, A. , 2005). A large part of the records stored in databases have an alphanumeric field that informs about the direction, therefore the georeferencing of the same only you need a system of information on addresses, which allow the relationship between the elements of each database and, in this way, is to provide the geographical dimension through coordinates.

To that need, the debate on a unique model of addresses is revitalized with the approval, by the European Parliament and the Council, of the Inspire Directive (2007), "whose main objective is to establish general rules with a view to establishing an infrastructure for spatial information in the European Community", being incorporated into the Spanish legal system through the Law 14/2010, of July 5, on the infrastructure and the geographic information services in Spain.

To ensure that the spatial data infrastructures are compatible and interoperable, Inspire requires that common Implementing Rules (IR) are adopted in a number of specific areas (Metadata, Data Specifications, Network Services, Data and Service Sharing and Monitoring and Reporting). The technical implementation of these standards is done through the technical guides or guidelines, technical documents based on international standards and norms.

The technical guide on addresses is the reference document for the achievement of interoperability on addresses at the European level, being intimately related to all theme of geographical names, transport networks and administrative units. In addition, for each one of these themes, the Board of Directors of the Geographic

Information Infrastructure of Spain has established a Technical Working Group (TWG) specific whose mission is the implementation of each item in accordance with the Regulation (EU) N° 1089/2010 of interoperability of the sets and data services on the part of the Spanish Public Administrations and help their bodies and agencies to ensure compliance.

This TWG coordinated by the National Institute of Statistics, and involving the General Directorate of Cadastre, the National Geographic Institute, the State Society Post and Telegraph Office, the Spanish Federation of Municipalities and Provinces and Autonomous Communities such as Andalusia, Galicia, La Rioja and Navarre, has been taken as a reference the document "Model of address of the General Administration of the State v2" which establishes a unique model and integrated standardized address and georeferenced with the basic objective of arriving to be used by all organization of the State in any activity related to the theme of addresses.

In the development of the present article shows that it is necessary to descend a step that will enable us to move from the theoretical aspects (model and catalog of features) to the practical (capture of information), so that the composition of a document or manual of good practices in the area of address and road would be recommended. When we descend to the practical level and there is a need to capture a geographic object to store it in the spatial database, there are many questions to which the technicians in this field have to face and give a solution as accurate as possible, despite not having a sufficiently informative documentation to draw upon. The daily experience in the management of addresses and road should serve to provide possible improvements that could be deployed, bearing in mind that the insertion of changes in the model should not entail substantial changes and, therefore, can be absorbed by the specific applications created from the common data model. On the contrary, if the improvements to change substantially the model, it would be necessary to analyze the advantages and disadvantages of their implementation and reject them in case of be more harmful than beneficial.

In this way, this article hopes to clarify some of the controversial issues related to the capture of the information on addresses and road, as can be the need to collect all the physical roads existing in the territory, both urban and rustic, public and private, with specific designation or unnamed, etc. ; provide a series of recommendations in relation to the correct name of the roads; normalize the typologies of road allowed to avoid the presence of types that are not related to a geographical object of linear type; or to define properly the features of approximation postal and property, highlighting their differences.

The main conclusion is that the generation and integration of a system of georeferenced addresses and road will allow you to reduce costs in the management of the information; but not only that, like that, in the framework of the project EURADIN,

it has been quantified in 60,000 million euros annually the added value derived from the availability of an integrated system of addresses in Europe (Valentín, A. , 2011), which has resulted in a greater interest on the part of the administrations to achieve integration and complete referencing the same, especially taking into account the current economic crisis and the existence of a growing social demand, mainly from economic sectors such as e-commerce, geomarketing, or parcel services and distribution of goods.

The main challenge faced by the public administration for the generation of an integrated system of addresses and roads is not in the development of a data model agreed upon by the various organization, but in its implementation, as it will require a regulatory framework to fall under the various administrative activities and it is determined that organization possess competencies in the management of the data; a communication plan to channel all the information and suggestions for improvement; financial resources, technological and human resources needed to the proper management and political will to carry them out.

The commissioning of this system you will need a communication plan that allows us to channel all the necessary information, as well as responding to questions, complaints and suggestions, between the coordinator of the system and the various administrations involved, including the citizenship (both individual and social actors) and allowing a circular process of communication, that is to say, that is not limited to the external communication (outward in a single direction). From the moment that the competencies in the management of addresses and roads are split between different administrations, it is essential that the cooperation between administrations work properly because it will depend on the success or failure of all project.

The efficiency of this system is such that, although will require a substantial endowment of resources, both financial, technological and human, the added value that will generate will be an important short-term savings benefiting society as a whole, both to the Public Administrations as to the companies and professionals that will have a relevant information for the development of territorial studies, economic, demographic, environmental, etc.