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Land Referencing: a New Perspective within the Geography Discipline

Land referencing is a process dealing with the identification of all stakeholders holding an interest within a specific piece of land. By definition, the process depends on the number of the stakeholders, the extent of the study area, the context of the area (rural, urban or mixed) and the purpose of the referencing (temporary and/or permanent land acquisition, land access, etc.). Land referencing could be either the direct result (e.g. registration of land for the purpose of National Cadastre) or a pre-process engaged mainly to large scale infrastructures (e.g. the High Speed 2 rail in England). This study aims to analyse the land referencing process and investigate the potential connections to severe branches of the geography discipline. The results indicate that location analysis, GIS specialization and strategic programming are the main geographical branches attached to land referencing.

Keywords: Land Referencing, Professional Geographers, LIS

Introduction

It is an undeniable fact that geography has spawned a wide spectrum of scientific interests. In its simplest form, geographers have one foot on physical geography and the other on social sciences. At the same time, the space content varies significantly, ranging from local to global and therefore expanding even further the interests of the discipline. Based on the above, it is not uncommon for geographers to be confused and misled when it comes to set boundaries on their own research/profession field; *should geographers carry this task out?... But is it geography?...* (Browning, 1974). According to Pattison (1964) there are four main themes (traditions) that help define whether an issue concerns geography or not: *Spatial tradition, Area Studies tradition, Man-land tradition, and Earth Science tradition*. At this point it should be stated that geography is an evolutionary science characterized by revolutionary trends and ideas that define distinctive *geographical areas*. However, even though geographical research has been matured in many ways, these four traditions are still the basis of the discipline (Robinson, 1976).

Land and property management, associated to all four Pattison's traditions (as stated above), possesses a strong position within the geography discipline. Moreover, over the past few years, the rapid evolution of GIS, has further revolutionized procedures and processes, and introduced best practices allowing effective and efficient capturing, analysis and management of land related data. This study aims to highlight land referencing, a projectised *geographical branch* of land management, as a new perspective within the geography discipline.

The land referencing process

Land referencing could be simply defined as the process applied in order to identify all interests associated to a specific piece of land. For example, in its simplest form, the piece of land could be a house outside of the city of Birmingham associated with just one interest; the owner Mr. Wilson. However, both the extent of the land to be referenced and the number of the stakeholders engaged with this land define the complexity of the process. Moreover, it should be noted that a land referencing process is applied to a dynamic environment, since the interests associated to the land change through time. In other words, a long land referencing process period usually requires re-referencing in order to provide the most up to date data.

Going back to Mr. Wilson's house, the land referencing process identified one more interest attached to the land that belongs to Mrs Wilson (Mr. Wilson's wife) who is a joint tenant. Furthermore, it appears that Bank X is the third stakeholder due to a mortgage derived by a loan that the couple took out some years ago in order to buy the house. Finally, the last 3 years, the couple is renting out its property to Ms. Smith, being the current occupier. To sum up, the house has 4 stakeholders: Mr. and Mrs. Wilson (freehold owners), Bank X (mortgagee) and Ms. Smith (current tenant). Now, consider that the house described above, is just a tiny part of a total area of 250 km² lying between London and Birmingham that needs to be referenced for the High Speed 2 rail mega-project. It is obvious that land referencing is an extremely complex process that requires structured methodologies and defined skills and knowledge in order to provide efficient and accurate outputs.

The result of the land referencing process is a list of owners, occupiers and in general those with an interest in a specific piece of land. The referred list must represent the most up to date deliverables. This list is known in the United Kingdom as Book of Reference (BoR). All stakeholders are attached to each and every land parcel (the smallest geographical entity of the referencing land) that are engaged with. The creation of the BoR requires analysis and management of large data series obtained either from Land Registry Office and/or field surveys. Therefore, the development of a Land Information System (LIS) is the most important part for providing successful deliverables. Generally, LIS provide a foundation for a broad range of thematic environmental applications, within a given spatial framework (local, regional, or global) (Hallett et al., 2017). With regards to land referencing, the LIS can be break down to five successive stages: planning, definition, development, handover, benefits realisation (*Figure 1*).

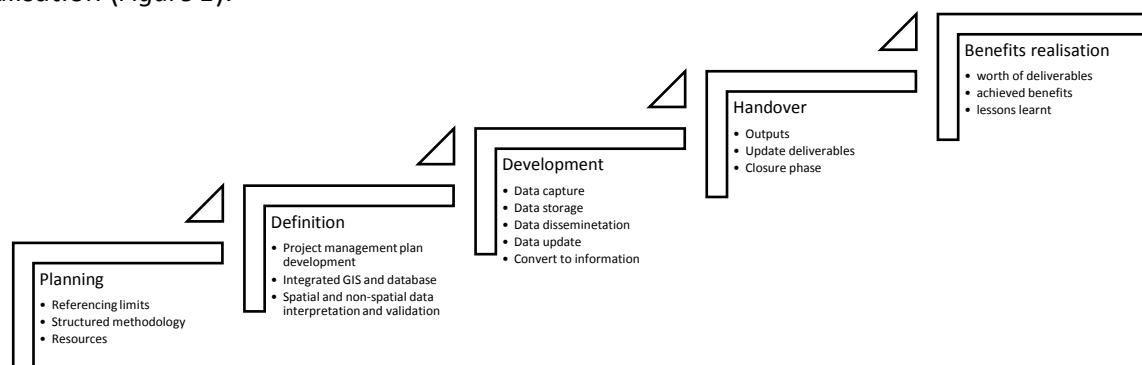


Figure 1. The successive steps of an effective LIS for land referencing purposes.

Planning is the first step of the LIS where the business case of the project is outlined. Therefore, within the defined spatial extent (referencing limits), a structured methodology is decided and an estimation of the resources takes place. Within the identification stage, a detailed management plan is created including all potential risks, requirements and stakeholders. Additionally, an integrated GIS and database system is developed that ensures consistency and best practices throughout the project. During the development step, the data captured are entered into the LIS and they are converted to information. At this point, the quality of the data is reviewed using automatic/semi-automatic techniques. The handover includes the delivering of the outputs to the user and the LIS enters into closure phase. At this stage it should be decided which data should be archived and be available for retrieving. Lastly, the benefits realisation step provides a mechanism to understand future operational expenditure needs.

In general, land referencing is a preliminary process followed by land acquisition for the purposes of a specific project (e.g. the construction of a highway). Each and every piece of land is assessed regarding its requirements: possession (temporary or permanent, taken as a whole or a part of it) or access for investigations (surveys). Once the BoR is created, all stakeholders should be formally informed about the requirement of their land: the Land Referencers serve the appropriate Notices as the final act of the process. However, there are cases where land referencing is an autonomous project. Such a case is the implementation of the Greek National Cadastre that is currently in progress.

Conclusions

So, is land referencing a new perspective within the geography discipline? In order to provide a coherent respond we should firstly place land referencing context within the fundamental queries in geography research, set by Gilbert White and Clyde Browning: *But is it geography?, Is it significant?, and Are you competent to deal with?* (Browning, 1974).

To begin with, land referencing is dealing with all core themes of the geographical science as introduced by Pattison (1964). In particular, land referencing provides data associated to a distinctive geographical entity (Spatial tradition), is related to a specific region that is defined by the project (Area Studies tradition), investigates in depth the potential interests of the stakeholders in the specified land (Man-land tradition), assesses both elements and processes of the physical environment for land management purposes (Earth Science tradition). Therefore, *yes, land referencing is geography*. Secondly, land referencing is the preliminary process for mega infrastructure projects such as railways, highways, sewerage networks, etc. The implementation of such projects changes significantly the human and physical environment both locally and regionally. In addition, the impacts derived of such infrastructures are not limited to a short period of time. Therefore, it is crucial for the continuing viability of the projects that no conflicts regarding the acquired land will arise during and/or after the construction. *So, yes, land referencing is significant*. Lastly, regardless the scale of the project, the essential skills for people dealing with the land referencing could be summarized as follows: understanding of the interaction between human and physical environment, GIS knowledge/specialization (type and level depending on the role), and the

ability for planning based on geographical entities that evolve both in space and time. Therefore, *yes, geographers are competent to deal with.*

Taking everything into account, geographers appear to be the most suitable professionals to carry out land referencing projects. The wide spectrum of scientific interests that defines Geography may act as the *revolutionary vehicle* in defining innovative ways for effective and efficient land referencing.

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