

Purpose of the study

Land parcels are the foundation for many aspects of public and community life. This report presents the findings of a reconnaissance study of information about land parcels in New York State. Broadly conceived, this information includes data about parcels that describe their nature, location, use, and association with physical and political geography. The purpose of the study, sponsored by the New York State Office of Real Property Services, was to provide information to help shape strategies for broader understanding and more effective use of parcel data in New York State. Accordingly, it identifies stakeholders and their interests as well as the needs and issues associated with the uses of parcel data in the public, private, and nonprofit sectors.

A reconnaissance study approaches a complex topic with the goal of understanding its fundamental characteristics or dimensions. It is not exhaustive or definitive in detail, but attempts to paint a broadly representative picture in wide brush strokes. The data for this study was gathered primarily through 35 interviews with people in local and state government, private companies, and non profit organizations located throughout New York State. We also made use of published report and web research. We believe the picture we paint in this report is accurate and captures the basic story of parcel data and its uses in these broad terms. However, we also know there are many specific variations on this story and we also describe some of them to illustrate the variety of practices now in use in New York State.

In keeping with the goal of fundamental understanding, we have not adopted the special terminology that is often used by the individuals we interviewed, terminology which reflects specific professional practices and legal requirements. Instead, to make this report useful to more general audience, we have tried to substitute plain language descriptions for these specific terms. Thus, for example, where a government tax professional might use the word "cadastre," we use "real property tax map" where a geographic information system specialist might use "polygon," we use "parcel boundaries." In this way, we hope to make the findings more useful to a wider range of readers.

In this report, we describe the many attributes of parcel data, discuss its value to a variety of stakeholders, present typical data flows across organizational boundaries, and illustrate a wide range of uses. We then present the main issues and challenges associated with parcel data, and conclude with a set of principles for guiding future investments in this essential data resource.

Parcel data in historical context

Parcel information pertains to the smallest unit or lowest common denominator of land ownership. Parcels in land-oriented systems are roughly analogous to cells in an organism; they represent the basic building blocks of larger units and systems.

In general, the land recording function which collects parcel data is undertaken exclusively by government. The concepts and uses for land recording systems can be traced back to the early Roman Empire and are often associated with property tax and property rights systems. The recording of deeds, for example, is one of the oldest and most important record-keeping functions of government.

Each country has some standard for land recording and most land records originate and are maintained at the local level of government. In the United States, a land record depends on documentation (such as a deed), which is evidence of land ownership and ownership transfers. Each state varies in its laws, in the way land is recorded, and also in the terminology used. In 1980, a National Academy of Sciences study estimated that the US has more than "3000 land-title-record systems organized on a county basis and about 500 organized on a city or town basis" (National Academy of Sciences, 1980).

According the Federal Geographic Data Committee (FGDC, 1980), continuing technological changes, coupled with trends in selling and developing land, have opened up new ways of looking at land recording systems. For the past thirty years, local governments have made a variety of efforts to computerize their land recording systems. The extent of computerization ranges from the basic use of word-processing programs to sophisticated web-enabled database applications across multiple departments. A general trend has been to use basic land-recording systems and geographic information systems, as well as other types of database systems to accomplish the goals of local governments (National Research Council, 1983). Nevertheless, in many localities all or nearly all information is collected manually.

In New York, as in most other places, parcel identification, description, and ownership information is collected as a function of real property laws and tax administration. Under New York's Real Property Law, a state agency, the

Office of Real Property Services (ORPS) establishes broad guidelines and qualifications for assessors who appraise and record land. However, these activities are mostly carried out under the jurisdiction of county and municipal governments, which each have their own rules and practices. Typically, deeds are recorded by county clerks as the official record of land ownership and ownership transfer. Assessors employed by cities or towns conduct real property appraisals for parcels located in their jurisdictions to establish their value for purposes of taxation. In addition, ORPS staff conduct direct appraisal of certain types of parcels such as forests. The information about individual parcels is specified in state guidelines and rules and organized into municipal assessment rolls used to prepare local property and school tax bills. Certain information is also transmitted to county real property tax service officials who prepare county-wide assessment rolls and tax maps, again following state guidelines. The final county tax rolls are submitted annually to ORPS. County clerks also provide ORPS with information on real property sales throughout the year. When all assessment rolls are received, ORPS uses this information to set equalization rates intended to fairly distribute local property tax burden across municipalities; counties and municipalities use these rates to calculate tax bills for property owners.

The information that originates with these real property recording and tax functions has great utility for many other uses from school bus routing, to emergency response, to the siting of new businesses, to the protection of green space. These uses and issues related to parcel data are discussed throughout this report.