

Public, private, and non-profit organizations, as well as taxpayers use parcel data in a range of ways such as disputing boundary lines, making disaster recovery plans, assessing property for equitable taxation, marketing products to targeted populations, routing school buses, and buying and selling land. The uses are varied and can range from a state agency planning a large infrastructure initiative to a private company reselling enhanced parcel data to the real estate community. Although each use is different, all rely on the core parcel data collected at the municipal level. Table 3 shows the range of parcel data uses identified in the study.

Table 3. Parcel Data Uses Identified in the Study	
Addressing	Notification and Outreach
Billing	Permitting/Enforcement
Boundary Setting	Planning
Buying and Selling Land	Public Health Monitoring
Design and Engineering	Real Property Taxation
Districting	Routing
Emergency Response	Siting
Marketing	Zoning

Every organization uses parcel data to perform a particular function and although not every function requires the same set of attributes; the intended use determines the attributes needed. For instance, an emergency response organization must have accurate and up-to-date occupancy and structure information in order to know the number of individuals living on a property and the location and placement of a building, but it may not need to know who owns the parcel or the details of the tax history. Conversely, an environmental protection organization may need detailed location and physical geography data for a specific region but may not need each parcel identification number or the sales data tied to the parcel.

This wide variation of uses across organizations underscores the core and fundamental nature of parcel data and explains why it has such high value for so many different stakeholders. The following stories highlight the broad range of parcel data uses across public, private, and non-profit organizations.

- **Assigning billing records.** Successful public utility services depend on consistent delivery of service, effective management of daily operations, and the collection of revenue. The mission of a public water system is to provide clean, safe, water to customers. To achieve this goal, management must know the location of every customer's water hook-up and who is responsible for payment. By using parcel identification data, parcel location data, ownership information, and occupancy and use data, the organization registers billing information according to customer usage. In addition, the meter system is scanned for theft of services. One representative said, "I never really thought about it, but our 'whole system' is built around parcel data."
- **Buying and selling state-owned land.** State-owned land plays a role in many government functions ranging from environmental protection to transportation planning. Successful land management requires knowing where the agency owns property and the characteristics of that property. One state agency owns and manages approximately 260,000 acres of land and has over 6,000 deeds associated with those parcels, thus buying and selling land is an important function. When the agency staff are determining whether to buy or sell a parcel, they look at a variety of factors including parcel identification, location, and ownership information.
- **Buying and selling private land.** Private land sales occur daily. Some sales are single transactions between two parties, while other sales are more complex and involve multiple individuals and organizations. The most important characteristic of a land sale is to know who owns the property rights to a parcel. Part of the mission of one business is to purchase tax liens at auctions, which will be profitable real estate transactions for the organization and therefore, add to the company's economic viability. Tax lien auctions are local auctions for real estate sales, caused by delinquent taxes. The organization uses parcel identification data, parcel location data, ownership data, structure and improvement data, as well as taxation data to determine what properties (or tax liens) they will bid on at auctions and at what price.

- **Planning to acquire and protect open space.** Economic development and smart growth are important in today's competitive environment. A regional non-profit's mission is to work towards revitalizing different regions within New York State. They worked with a town, which commissioned the project, to determine which lands the town should purchase as part of its open space preservation initiative. The town was experiencing huge demand for residential development, outpacing the growth in nearby areas. By using a combination of parcel identification, location, ownership, occupancy and use data, as well as taxation, physical geography and infrastructure data, several scenarios were constructed which identified potential open space areas. An initial bond offering of \$15-20 million outlining an acquisition plan of these areas was put to the voters who approved it for implementation.
- **Prioritizing environmental initiatives.** Environmental restoration of old industrial sites, brown fields, or wetlands has been a major economic focus for local governments. One project was jointly conducted by a state agency, county government, and a nonprofit organization to help identify, document, and prioritize restoration projects within the county. In this project, content experts from local, state, and the private sectors came together to develop criteria for prioritization while data about each location within the county was obtained showing parcel identification, location, physical geography, occupancy and use, and surrounding infrastructure. Using GIS capabilities, the criteria were integrated with the parcel data to show the highest priority restoration locations. One project participant said "The coordination and analysis efforts were invaluable to this project and it could not have been done without detailed parcel data and the knowledge of the experts being brought together in one powerful system."
- **Directing emergency response.** Public safety is a cornerstone of community development and sustainability. A reliable and well-run 911 call and command center is a goal for many communities. Dispatchers at the 911 center use parcel data for almost every incident. Dispatchers have several different computer applications on their terminals. One is a phone number and addressing system, another houses a GIS application. The dispatchers use many different attribute categories including identification, location, and ownership information to make decisions about emergency routing and can even instruct personnel on exactly how to enter the property safely. Dispatchers also use occupancy and parcel use attributes to determine how many people live in a unit or how the parcel is being used at the time of an incident. Structural and improvement data tells them whether the incident involves a one or a two-story house for example, or who they have to notify to turn off utility services like gas or water. This system gives emergency response teams better information and has shortened response times.
- **Planning crisis scenarios.** Crisis management is becoming more important to state and local governments. Governments are trying to execute emergency management scenarios and exercises, such as health related incidents and natural disasters. Their goal is to be prepared for the unexpected. One town uses parcel data and GIS capabilities to plan the coordination and management of different hypothetical crisis events. Through the use of emergency management scenario exercises, the fire chief can predict the implications of disasters such as brush fires or gas tank rollovers. He can use an application at his desk that incorporates various categories of information including parcel identification, parcel location, ownership, occupancy and use, physical geography, and infrastructure data to see how a crisis could play out. With the resulting information, the chief can determine where fire engines should be placed or how quickly different departments must respond to prevent gas from leaking into a nearby stream. A much more sophisticated system at the state level allows crisis teams to play out massive crisis scenarios involving large regions and data from scores of organizations.
- **Notification and outreach.** Outreach to individuals is fundamental to transparent and accountable governments and organizations. For example, people who reside near roadways are notified by state and local transportation and highway departments about spraying for pesticides. The main goal of spraying is to reduce overgrowth and promote roadway visibility, while maintaining the safety and health of citizens and the environment. State law requires that property owners within certain distances of potential herbicide spraying be notified of the pending spraying. Officials use parcel identification, ownership, occupancy, as well as location data, to inform residents of the spraying activities in a precise and timely manner.
- Outreach to property owners and occupants is also done for social and community purposes. One community group regularly asks its local assessor's office for mailing labels for all senior citizens in the town so they can

do mailings about bus trips, courses, and events of interest to seniors.

- **Transportation routing.** State and local roadways and sub-divisions change frequently over the course of a year. New roads are constructed and older ones are changed. These changes affect different sectors ranging from the trucking industry to homeowners. Parcel identification, location, and ownership information is needed to handle different demands associated with transportation management for both internal and external operations. These operations include routing of oversized truckloads to avoid low bridges and limited access highways, creating and updating bus routes for school districts, directing emergency vehicles to the scene of an event, and creating priority routes for snowplows during bad weather. Some utilities use parcel data to coordinate their maintenance fleets using infrastructure data, structures and improvements, and parcel location data.
- **Real property assessment and taxation.** Parcel data is the foundation for real property tax administration, which requires specific data established by law. Assessors are required to collect and use this data to establish a fair assessment for every property. By using parcel identification, ownership, structure and use, physical geography, and taxation data, assessors are able to make accurate assessments of individual parcels. The county real property offices use parcel data to create county tax maps and county-wide assessment rolls, and the State Office of Real Property Services uses parcel data to create the final tax assessment roll as well as equalization rates.
- **Infrastructure management.** All kinds of public infrastructure benefit from the use of parcel data. For example, infrastructure, parcel identification, location, occupancy and use data, as well as structures and improvements data are all used to determine where fire hydrants should be located. A non-profit research organization worked with a regional consortium to figure out which municipalities owned fiber optic capabilities and where the lines were located. Parcel location, identification, ownership, occupancy and use data, in addition to infrastructure data was used to determine rights of ways and who should be contacted for permission to look at the land. A county health department initiated a special project to determine weak areas in their water supply infrastructure. Using infrastructure data, parcel location, occupancy and use, and physical geography data, the agency was able to identify areas where potential contamination of the water source could occur.
- **Facilities siting.** There is an old saying in real estate that nothing matters but "location, location, and location." Towns and cities are capitalizing on better location information to plan for smart growth or increase their ability to attract businesses and jobs. One town noted that five years ago a company wanted to relocate to their region but needed very specific requirements. The company needed to know what fifty-acre parcels were for sale near access to a major highway. Using GIS capabilities and parcel identification, parcel ownership, infrastructure, and physical geography data, the town provided options for the company and won the business. In the process, the town secured several hundred new jobs for its residents.
- In another instance, a town was faced with designating an adult business zone. The town planning department used parcel identification and location data, planning and zoning codes, and GIS capabilities to run scenarios of possible zones for these businesses. They identified a list of potential places that were appropriate distances from churches, schools, and residential areas to zone for adult businesses. One of these proposed places was accepted and passed by the town board and the designated area was subsequently adopted into the town law.
- **Parcel data enhancement and distribution.** When a potential buyer or seller walks through the front door of a realty office, the realtor needs up to date information about property within their selling area. One data re-seller caters to this need by gathering parcel data from several municipalities and counties, enhancing it for easy use, and providing the data in a variety of formats (online and on CD) to anyone who is willing to buy it. Realtors are their biggest customer, ready to take advantage of the value added by someone else collecting and integrating the data then providing services such as report and query mechanisms as well as the ability to generate mailing labels.