Big Data IN THE Field Service INDUSTRY

— by GEORGE MEHOK —

Transforming property preservation data into valuable business information.

When you come right down to it, property preservation companies are in the risk-mitigation business. Our primary job is to help reduce the financial and reputational risks that vacant, defaulted and foreclosed properties pose to our mortgage servicing clients and communities across the country. ¶ The month of January 2014 certainly raised our awareness around two major challenges for the mortgage industry from a property preservation perspective: reducing the negative effects of severe weather on vacant and abandoned properties, and ensuring vendor compliance with expanding regulatory requirements. ¶ During January, severe cold weather gripped much of the Midwest and Northeast, greatly increasing the risk of potentially costly freeze-related damage to millions of vacant and abandoned properties across the country. ¶ On Jan. 10, the new Consumer Financial Protection Bureau (CFPB) rules took effect—the latest of a crush of federal, state and municipal regulatory

requirements imposed on the mortgage industry in the wake of the housing crisis.

Unrelated as these issues may seem—protecting properties against severe weather damage and compliance with regulatory requirements—they share a common resource to help mitigate their associated risks: data and the technology to turn that data into valuable information to make more effective business decisions.

"Big data" has become the big buzzword in the business world, especially as Facebook™, Twitter®, Yahoo and any number of social media and online companies peg staggering market values to their ability to capture and sell vast amounts of data about their users. Nearly every major consulting firm is promoting its ability to help companies harness the power of big data to drive market share and revenues.

The mortgage industry certainly relies on data to support loan origination and track the quality and performance of loans. It utilizes data to evaluate and mitigate risk and monitor compliance with regulatory requirements, including tracking the performance of vendors and agents representing them in every facet of the mortgage process.

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At the same time, *The Wall Street Journal*'s *CIO Journal* reported in October 2013 on a survey conducted by Boston-based Bain & Co. Inc. that found only 4 percent of business leaders at large companies believed data analytics helped them make better business decisions or improve financial performance within their organizations. This study included companies in the financial services industry.

The fact is, not all data is useful. It can be trash or treasure, depending on an organization's ability to effectively capture, store, categorize, mine, analyze and use it.

As the largest property preservation company in the United States, Safeguard Properties gathers millions of data points into its system every day from internal and external sources that can help us and our clients make informed decisions about millions of vacant, defaulted and foreclosed properties across the country.

In addition to using data for decision-making about properties, we use it to develop analytics to monitor our operational performance and continuously improve the quality and timeliness of services we deliver to our clients. We also use business intelligence data to maximize the efficiency of our vendor network, ensuring that we recruit the right types and quantities of vendors needed for each geographic region, and that we allocate work based on the best performance.

The use of analytics at Safeguard has helped to transform the decision-making process by supporting it with fact-based, data-driven analysis. The process of turning that data into useful business intelligence begins by asking the question, "What do we need to know?" and then using data and technology to produce sound information to answer it.

A practical example of how business intelligence is transforming Safeguard's decision-making process is its use in determining Safeguard and vendor performance. Safeguard processes millions of orders monthly. These orders are then analyzed by sophisticated business intelligence software to produce detailed scorecards used to grade our on-time and quality performance for each inspection and maintenance order type. The scorecards assist Safeguard in creating corrective actions to its business processes and contractor work order allocation. This analysis is a critical ingredient to managing a complex vendor network.

Disaster preparedness

This winter, it's the frigid temperatures. In the spring, it may be floods. Whether it's the risk of hurricanes, tornadoes, wildfires, tropical storms or high winds, mortgage servicers need information to make decisions pre-disaster to protect properties from damage. Post-disaster, they need information to assess damages and deploy resources to repair properties and begin outreach to potentially at-risk borrowers.

For example, ahead of a severe weather prediction, mortgage companies need to know how many vacant properties may be at risk for damages based on the condition of the property, its proximity to the weather-affected area and other factors. Depending on the size and scope of the expected weather event, they may authorize preventive services on properties at risk to protect them from harm.

Post-disaster, mortgage companies need a quick assessment of damages, both at vacant properties and at properties on which they hold mortgages, because the chances of default increase when properties sustain severe damages and homeowners decide to leave. This information allows servicers to prioritize repairs and maintenance on vacant homes and contact borrowers to assist with damage assessments, insurance claims and repairs with homes at greater risk for default and abandonment.

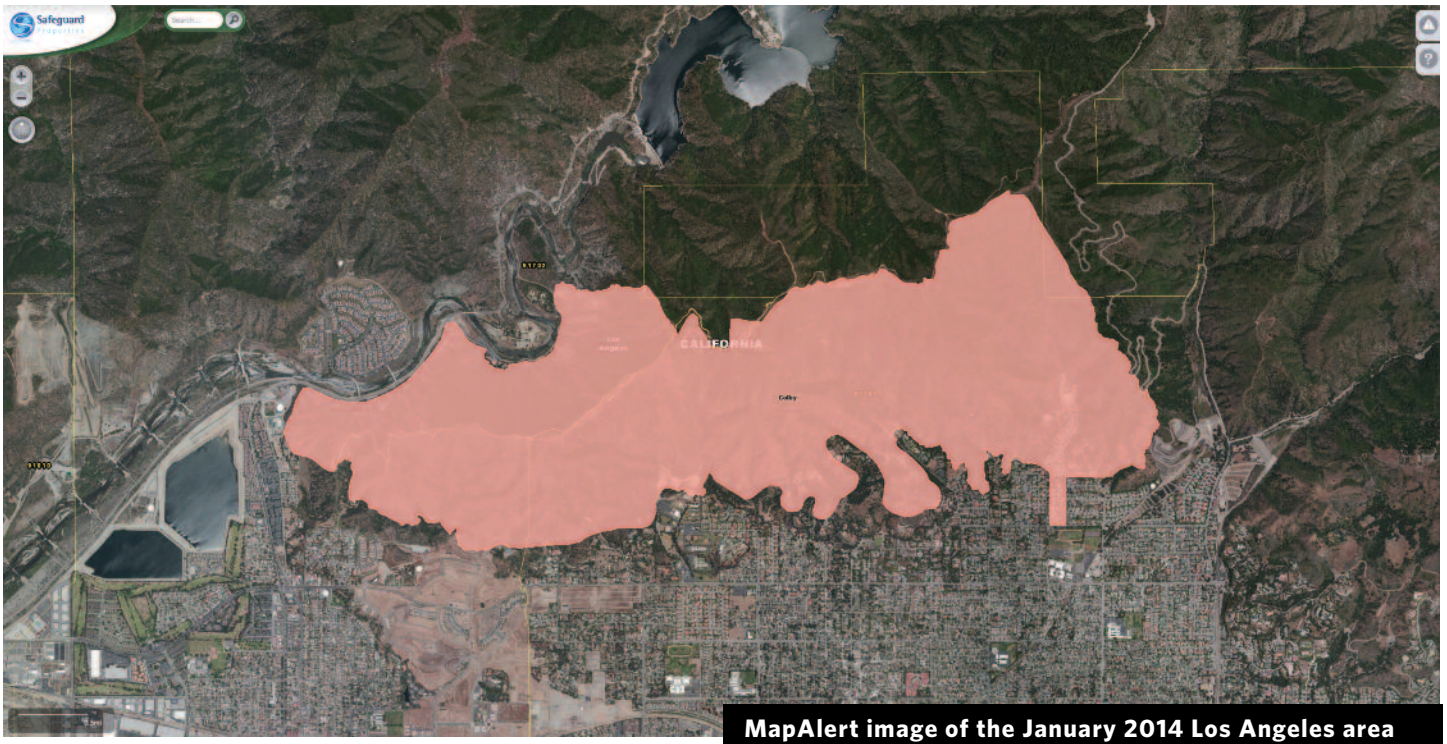
To perform these pre- and post-disaster assessments, Safeguard developed a proprietary MapAlert™ technology to analyze data from a number of internal and external data sources.

The system pulls from Safeguard's dense data set of more than 15 million active properties in our system, both pre-sale and post-sale, all of which are geocoded with longitude and latitude coordinates, enabling properties to be identified on a source map and evaluated as needed. Most importantly, the system is automatically and regularly updated with data collected from millions of field inspections every month.

Additionally, the system contains more than 1.6 billion updated photos associated with those properties—an average of 100 per property—to provide more specific information about each property and its condition.

MapAlert also utilizes data sources to identify the potential path of the event. Sources include the National Weather Service, Federal Emergency Management Agency (FEMA), U.S. Geological Survey, National Hurricane Center, National Oceanographic and Atmospheric Administration (NOAA) and Geospatial Multi-Agency Coordinating Group (GeoMAC).

And finally, it utilizes various geographic information mapping sources, with capacity to plot the locations of every residential



MapAlert image of the January 2014 Los Angeles area Colby fire impact zone

property in the country—estimated by the U.S. Census Bureau to be 115 million households—that events can potentially impact.

When weather or natural events arise, MapAlert overlays the projected path on a property locator map, updating and changing the areas at risk as weather updates evolve. This provides clients with a visual representation that quickly tells a story about their potential property portfolio risk.

In early December 2013, a winter storm hit Oklahoma, with four counties in the southern half of the state bearing the brunt of the storm. Heavy precipitation, with a mix of ice and snow, freezing temperatures, fallen trees and widespread power outages led the president to declare Oklahoma a disaster area. Based on the information pulled from client and Safeguard data, MapAlert was able to determine which occupied and vacant client properties were within the affected area. MapAlert also allowed clients to decide the appropriate next steps needed to secure the affected properties.

MapAlert isn't limited to only weather-related events. It helps clients identify properties that may be affected by other incidents. For example, in January 2014, the Colby fires burned more than 2,100 acres of land just north of Los Angeles. MapAlert gave Safeguard and its clients the ability to see which properties were in close proximity to the fire, as well as to triage properties for potential follow-up orders after the event. Although the Colby fire remained contained to an area of low population, had it spread just a half-mile south, a large number of homes in the Los Angeles area could have been affected.

By using MapAlert, Safeguard's clients were able to make better-informed business decisions at the property level.

At each property in the path of a disaster, the system can identify the type of structure, its loan type and condition. It can identify which services have been performed at a property, whether the property has been winterized, whether it is boarded or has shutters available to protect windows, whether it has utility services, the presence of large trees, whether the property is located near a body of water, and other factors that may indicate an increased risk for damages.

After a major incident has passed, the system can focus on specific property locations to provide a view of actual damages. This is very important because physical access to affected areas may be limited due to road obstructions or flooding, delaying the ability to perform damage assessments.

The system also is accessible directly by mortgage clients, allowing them to input their own loan information to determine, for example, the numbers and locations of current loans they hold within an identified area. If needed, they can gear up efforts in targeted areas to offer assistance ranging from education about filing insurance claims and selecting reputable repair contractors to outreach and initiation of loan modifications and financial counseling services.

MapAlert is just one example of how the property preservation industry can turn millions of data points into analytics to support more effective decision-making.

Supporting compliance

Mortgage servicers also rely on data from their property preservation companies to ensure that services performed on their behalf comply with thousands of municipal, state and federal laws, regulations and ordinances related to the default and foreclosure process and the care and maintenance of vacant and abandoned properties.

Similarly, property preservation companies use data to demonstrate compliance with government regulations, client requirements and the guidelines of government-sponsored investors.

Every time inspectors and maintenance contractors perform a work order, they add new data about the type, quality and

frequency of services, as well as the characteristics and condition of each property and its surrounding neighborhood.

Call centers receive reports about property damages, squatters, vandalism, illegal activity, neighbor complaints and all types of issues that arise at vacant properties. Operations teams collect data about the performance of each employee, inspector and contractor, and scorecards are maintained on the quality, timeliness, costs and outcomes of each action taken.

Often, the irony of collecting vast amounts of data is that the more we have, the less we use—unless we find compelling ways to capture essential information and represent it quickly in visual format.

Collecting the data auditors need is one thing; presenting it in a palatable format is another. Mapping software to visually display information is abundant. The right technical experts, with industry expertise and the skills to use that software to assemble information, translate it and visually display it are invaluable.

For example, the CFPB requires mortgage servicers—and by extension their vendor partners—to more carefully monitor consumer complaints and track their resolution. Taking that requirement one step further, business analysts can visually chart those complaints and identify patterns: Are complaints concentrated in certain areas, or associated with specific vendors or services?

The findings allow us to take proactive measures to address the root causes and reduce the frequency of complaints instead of simply logging and resolving them.

Maintaining compliance with more than 1,500 different municipal vacant property registration (VPR) requirements on behalf of mortgage servicers is another example. Safeguard already maintains a matrix of municipalities known to require the registration of vacant properties. The challenge is to identify additional cities so that we reduce the potential for fines against mortgage servicers for failure to comply.

Mining information in vendor work orders, we can identify new locations where a vendor reports that he or she registered a property, conduct follow-up to obtain that municipality's full VPR requirements and add that city to the matrix that we share not only internally, but with the entire industry.

In general, every action that a property preservation company takes—not only to ensure the accuracy, timeliness and quality of its work, but to document it fully and consistently—supports the compliance requirements of mortgage servicing clients. The development and adoption of mobile technologies for inspectors and contractors demonstrates this.

Mobile systems, such as Safeguard's INSPI Mobile® application for inspectors and Vendor Web Mobile for contractors, guide vendors through the entire work order process with the use of "smart scripts" and drop-down boxes. These functions ensure that vendors perform an order completely and accurately, and also capture updated data about each property in a consistent format that analysts can mine more effectively for a multitude of purposes.

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The system also prompts vendors through an embedded camera feature in the application to provide photo documentation to accompany each work order, including photo captioning to describe each image taken.

Every day, more than 2 million photos are submitted into the Safeguard system through mobile applications, along with many more millions of data points.

We use the information to demonstrate that vendors are following the procedures required by our clients to identify, secure and maintain vacant and abandoned properties, and that our mortgage servicing clients can in turn use to demonstrate their own compliance with industry and regulatory requirements.

The data that inspectors input into our systems through their mobile devices become part of the information warehouse that we use to produce scorecards to track our own operational performance, as well as the performance of each of our vendors. We also use it to provide analytics that track our performance against client service-level agreements.

Using data to track trends

Today, more than 98 percent of all property inspections are managed through Safeguard's mobile application, compared with 5 percent three years ago. By combining reliable current data with rich stores of historical data, Safeguard's business analysts can identify trends and patterns that allow us to adapt and evolve our services and network capacity to meet market and client needs.

For example, we analyze data to monitor patterns in property status, how long a defaulted property remains in our system for inspections, the frequency with which properties are identified as vacant and abandoned, or the length of time a foreclosed property remains unsold and requires ongoing maintenance services. That information helps Safeguard to recruit and deploy its vendor network more effectively.

The geo-mapping of each property in our system, which feeds location information for our MapAlert technology, also provides important latitude and longitude data as part of our mobile system to help confirm that vendors are performing services at the correct property, reducing the risk of error.

Whether it is to demonstrate compliance, improve performance, allocate and deploy resources, prepare for and respond to natural disasters or reduce errors, data and the technology to turn it into valuable business intelligence are critical in helping to reduce the financial and reputational risks the mortgage industry faces relative to its portfolios of defaulted and foreclosed properties.

Property preservation companies hold a treasure trove of data in their systems, and the effective use of technology is the key to unlocking it. **MB**

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