Code Violation Decision Tool
New Orleans, LA

Station #5

The Bottom Line	New Orleans has done major work to reduce the number of properties with code violations and improve quality of life in neighborhoods. It used data science to create a decision tool, which helped city staff expedite the removal of unoccupied structures with major deterioration from neighborhoods through either strategic demolition or sale of the property. The decision to either demolish or sell a property is a highly political and visible one, and the tool helped to add rigor and transparency to the decision-making process. It also resulted in staff eliminating a backlog of 1,400 properties requiring a decision in just 3 months. This type of analytical tool could apply to any process where staff are required to make a large volume of similar decisions.
Problem	The City had made tremendous improvements addressing code violations, but a backlog emerged in the process to decide whether vacant properties should be demolished or sold.
Leadership	Everyone from the Mayor, to the City Council, to the public who attended BlightStat (a concerted effort to make progress on reducing blighted properties in the city using performance management techniques) meetings recognized a need to address this "choke point." New Orleans' Deputy Chief Administrative Officer drove the project forward, giving analytics staff a mandate to find innovative solutions.
Staffing	The project was staffed by a three-person team, with an executive sponsor, a project lead, and a project analyst. The team was supported by a data science partner.
Data	The Market Value Analysis tool from The Reinvestment Fund GIS Layers including historic districts Building conditions determined by code enforcement managers
Technology	R (programming language for statistical analysis) LAMA (permitting & code enforcement software package)
Methodology	The team engaged data scientists from a partner organization to create the decision prediction model. The team assessed several prediction models to understand which was the best predictor of decisions historically made by program staff (the prediction model is available to the public on GitHub). It is important to note that the team worked with code enforcement stakeholders early to scope the problem and understand how analytics could help improve their processes.
Results	As a result of efforts to streamline this process by providing a decision support tool, staff eliminated a backlog of more than 1,400 cases requiring a decision within 3 months. The City continues to look for innovative solutions

to streamline the entire code violation abatement process, but this one point of the process has been significantly improved through this analytics project and tools.

Replication

The Reinvestment Fund's Market Value Analysis, an assessment of real estate conditions at the neighborhood and block level, was an important building block for this effort. Other than this tool, most data used should be readily available to other cities. The City noted that this was a great learning experience, and that external analytical support helped validate the findings, but that this type of analysis could likely be done in-house in the future, particularly now that there are staff with experience using data science techniques. Another important point for replication is that the tool is embedded within the code department's existing software platform, which staff use on a regular basis for a wide variety of permitting and enforcement activities. This helped to ensure that staff were comfortable using the tool and that it integrated well into existing processes.

Learn More

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