Designing and Selecting a Blight Management System
National Resource Network - 311 for Cities

In August 2014, a city reached out to the National Resource Network's 311 for Cities with a question about developing an online, publically-accessible portal to track and visualize property condition information and, ultimately, eliminate blight. The Network connected city officials with an expert from the Center for Community Progress; the following is a brief summary of an hour-long conference call discussing the city's challenges and several strategies for them to consider when developing a system to meet their needs.

Background Information Collected:

The city recently produced a blight elimination framework with goal of removing blight in the next five years. One of the things the framework proposes is the creation of a problem property portal to coordinate activities and investments to help achieve this goal. The city has outlined a lot of functionality that the portal *could* have and is looking for advice on what the portal *should* do. The portal *could*:

- Be online
- Be publically-accessible
- Report parcel-based property condition information
- Visualize parcel-data with the ability to filter, display, and aggregate different characteristics
- Integrate and automatically update based on other departments' datasets (Land Bank, Register of Deeds, Economic Development, Police, Fire, etc.)
- Provide parcel-based user reporting of updated survey information and blight complaints
- Have automated department delegation of user complaints
- Update and track user complaint cases
- Coordinate and update parcel-based volunteer work

Analysis and Recommendations

Have other cities successfully implemented a system such as this?

A number of cities have implemented components this desired system, including Detroit, New Orleans, Baltimore, and Cleveland.

Detroit's Motor City Mapping tool (developers include Loveland, Data Driven Detroit, and the Detroit Blight Removal Task Force) was recently released to the public. This tool allows the public to view property condition, images, and limited ownership information for every parcel in the city and aggregate parcel information by a number of different geographies such as neighborhood. Additionally, as a unique feature to this system, the public can also upload photos and updated condition information to the system via a process called "blexting".

The Motor City Mapping system is still under development. The first phase of work included the survey of all parcels in the city of Detroit and the initial build of the online platform. Detroit just completed Phase II (the public dashboard and integration with the Detroit Land Bank Authority); Phase III will integrate more department use and data, incorporating most, but not all, of the potential requirements outlined in the background information provided by the city above.

New Orleans' BlightStatus system (developed by Civic Insight) is a publically available website that visualizes parcel data on a map and allows a user to find the status of a blighted parcel. This system does an excellent job at reporting the history and current status of City actions on a blighted parcel in a user-friendly interface. As a department takes any action on a property, the status on BlightStatus is updated in real-time. The system also allows the City to evaluate its progress toward its blight elimination goals.

Baltimore's CHIP system is managed by the Baltimore Housing Authority Code Enforcement Department. When someone reports a problem via 311, it's reported to Code Enforcement; CHIP is the internal system used to manage the process to take the complaint through to action. The system was designed to increase the Department's efficiency, transparency and improve outcomes; as such, there are a number of stop measures in place that ensure higher data integrity. For example, you cannot issue two vacant building notices on the same property. Additionally, the system uses automation for a number of processes, such as mailings. While CHIP is largely an internal process management system, there is a public interface where a resident can search for an address or by neighborhood, see the status of current violations in real-time, download the violation notice, and view pictures of the violation.

In Cleveland, Ohio, practitioners utilize NEOCANDO, a platform which was generated by Case Western University. This is another public database that allows users to download all sorts of data related to health, blight, etc. Through the NEOCANDO Neighborhood Stabilization Tool, a user can view a number of different blight indicators, such as delinquency, violations, and condemnations, in addition to land bank ownership and active dispositions. NEOCANDO is the data backbone for the Property Profile System ("PPS") developed by the Cuyahoga County Land Bank Authority. Like Baltimore's system, PPS is used for internal process management. It enables significantly greater efficiency when dealing with properties through a variety of mechanisms such as, automated bids and property showings. Additionally, PPS has a public interface that displays property sales information and images.

What are best practices that cities should keep in mind when developing this kind of system?
There are several best practices to think about in the early stages of developing a tool like this:

- Stakeholders need strong, passionate, high-level leadership to get this kind of project going. Departments need to have open data policies for this to work really well, and many of them don't. Some departments are reluctant to share data because the integrity of the data may be very poor, or the data may be a source of revenue for them and sharing it is viewed as threat to their income. Many cities have found greater success by engaging these departments early on to cultivate partnerships. This often results in broad advocacy (not just endorsement) for the new system across the government.
- Don't build a great technology around a bad or broken internal system. Before investing time and money into technology, review your internal processes to identify and implement improvements.
- Think about how staff members are going to be interfacing with the system. Engage the staff that will be doing the first-line data entry in its development so it will meet their needs and to ensure that they feel ownership and buy in for the new system. Avoid having duplicate entry systems. If a city is using two different types of software to address its needs (e.g. one to share

information externally and one to manage a process internally), make sure that the software systems are integrated through bulk or automatic transfers of data.

- In an ideal world, a city would have one data portal that residents access when they're looking for information. There are fundamental integration issues that usually make this difficult, but it's key to survey what already exists in the city and then pare down the new service based on what needs are already being met and which needs are outstanding that can be addressed.
- Almost every city that's built a system has done it in phases. Focus on priority areas and do the top priorities well, so that residents, staff, and funders have confidence in the project. This also allows for the needs of the city to change throughout the process, instead of locking the city into one structure at the beginning.
- The city has to be crystal clear at the outset of development about who owns the system and data, in addition to who will manage the development and maintenance of the system. Sometimes cities get caught because their first phase developed organically by meeting small internal needs; then, as the project grew, this became more of an issue.

Are there "off the shelf" products that cities should consider?

Some cities have reported that it can be time-consuming and costly to adapt existing "off the shelf systems" to meet their specific needs. Recently however, a couple of cities that developed their own platform are now offering their product as a new "off the shelf" solution. Civic Insight is actively offering their product that was developed for New Orleans and Loveland will be offering their product developed for Detroit in the near future.

Whatever system a city goes with, there are several key questions to keep in mind when making a selection and designing, implementing, and maintaining a system that meets the city's needs.

- Goal: Ultimately what should your user be able to accomplish by using this portal? Is it specifically aimed at blighted properties or is it intended to deliver information about all parcels in the city? Who is your targeted primary user? Who are your secondary users?
- Phases: The system will be built to display current survey information, integrate and display data from multiple data sources, receive user survey updates, receive user complaints, report on the status of a property, and coordinate volunteer work. Assuming that time and cost are both constraints to complete the creation of a system that addresses all of these needs, which of those functions should happen first? Which is most essential to accomplish your goal? What will the timeline look like for a full build out?
- Integration: Data from a variety of sources could be integrated to this portal. Which are absolutely essential to achieve your goal?
- Funding: Who will lead the fundraising work and where will that money land? Will you need multi-year funding for this work?
- Ownership and maintenance: Who will manage the development of the system? Who will maintain the system?
- Data accessibility: Will a user be able to see all data for all parcels with in the city? Will a user be able to download data? Are there any security concerns with releasing data? Will there be different levels of access to the information (e.g. internal department versus member of the

public)? Will you require a user to enter any information to gain access to the site (e.g. name, address, email)?

- Updating: How often will the base survey information be updated? Will you accept user-generated updates? Will there be a validation process for user-generated updates? How often will you update other departments' datasets? Do some need to be updated more frequently than others?
- Process mapping for complaints: What will happen once a complaint comes into the system? Who will delegate the complaints to the appropriate department? Can those departments handle the increased volume of complaints? What will the response rate be for the initial complaint through to closing the complaint? How will updates occur once a complaint is delegated? How does the updating function as a property passes from department to department (e.g. Buildings to Law)? If a complaint is not sent via the system but is reported via phone, in person, or by a City staff member, how is that information updated in the system? What will happen if a complaint cannot be addressed?
- Internal implementation: Will staff members require general computer training? Who will deliver system training for internal and external users?
- External implementation: Who will publicize the site? Who will train the public on how to use the site? Who will answer ongoing questions about how to use and access the site?

How much is such a system likely to cost? Are there public funding sources available?

Building a system from scratch could cost somewhere between $250,000 to upwards of $2 million, depending on the degree of complexity and internal process management functionality. There are also ongoing maintenance costs that need to be budgeted for. In addition to routine system maintenance, Cities should keep in mind that they will need to expend resources to review and validate the crowd-sourced data that the system collects to ensure that citizens have the ability to trigger the investigation of a claim, but do not have the ability to automatically change the base data in the system as this will be used as the basis for the City's process for issuing violations.

There are very few public funds available for projects like this. Local foundations with an interest in data sharing, civic engagement, or blight elimination might consider funding an initiative like this, but it's not clear to what level. Additionally, some cities have leveraged external partnerships with universities, private companies and nonprofits to add capacity and funding to their data system initiatives.