Application for the 2017 URISA ESIG Award: Single Process System: 
City of New Bern, NC: Finding New Homes for vacant Lots and Abandoned Properties

A: System


2. Letter from Executive Administrator – see Appendix A - letter from: Mark Stephens, City Manager – City of New Bern (page 14).

3. Summary of System Accomplishment and why it is Exemplary:

Every community has them – those vacant or long since abandoned properties obtained through an array of reasons. Many through foreclosures or donations while others through abandonment, death of a family member, or distant property owners who no longer see the value or have the ability to maintain them. Now they are the responsibility of the City and or County they reside in. Not only are they no longer a tax revenue, or an asset to a community, more often than not, they are a cost, and sometimes a significant one. These costs can be both monetary and as negative externalities on a neighborhood, many of which can ill afford such impacts. Monetary cost can range from mowing over grown lots to razing uninhabitable buildings at a significant cost. Many sites are eyesores and a detriment to poorer areas that desire to see growth and home ownership rather than vacant lots or abandoned buildings which are usually a place for transients and other undesired activities.

Perhaps one of the best aspects of a Geographic Information System or GIS is its ability to help us see things that are often over looked. Using our GIS as a part of HUD study an exemplary tool and web site was born that I would like to submit on behalf of the City of New Bern for 2017 URISA ESIG Award. This site brought to light these properties and helped find new homes or homeowners on long forgotten properties, helping to bring growth and development to long forgotten areas of the City.

4. User Testimonials. (See Appendix B - 3 responses) (Pages 15-16)
**B: Jurisdiction**

1. **Name:** City of New Bern, North Carolina

2. **Population Served:** 30,101 – US Census Bureau July 1, 2016 estimate

3. **Total Annual Budget:** FY 2016-17 = $127,165,841 – Finance Director, Joseph Sabatelli

4. **Chief Officials:**
   
   Dana E. Outlaw – Mayor
   
   P.O. Box 1129 - New Bern, NC 28563 - 252-649-4137 (cell)

   Mark Stephens – City Manager
   
   P.O. Box 1129 - New Bern, NC 28563 - 252-639-2700 (office)

5. **Contact Person**

   Alice C. Wilson, AICP, GISP – GIS Coordinator
   
   303 First St - New Bern, NC 28562
   
   252-639-7588 (voice); 252-636-2146 (fax)

   Email: gis@newbern-nc.org

**C: System Design**

1. **What motivated the system Development?**

   What is a community to do for such a constant and common issue? An issue generally ignored or never given a second look. Cities are not in the real estate business, but rather desire to encourage economic development by private entities and see growth and prosperity in all sectors of their jurisdiction and for all demographics. The City of New Bern with its roughly 30,000 population pondered this very question, especially when the problem of many vacant and abandoned properties became known in 2015 during a HUD study for a Choice Neighborhood Initiative (CNI) grant. The initial study for the grant required lots of GIS data as well as conducting a residential and neighborhood study. Using the City’s GIS, staff mapped vacant properties, or properties with vacant and/or abandoned/dilapidated buildings. In addition, the residential surveys showed a top
complaint of citizens in the study area was vacant lots and abandoned buildings especially since many of these sites were adjacent to public housing, schools, and parks. The question then was posed, if GIS found this problem what could GIS do to help fix it.

2. *What specific service or services was the system intended to improve?*

A closer look at the CNI study area shined a light on a situation the City perhaps was not prepared to see – we were one of the biggest sources of the biggest issue for the area.

*Quoted from the plan’s finding* – “The study area’s detailed land use survey details one of its biggest challenges – over abundant vacant properties especially in the residential areas. Unoccupied houses and empty lots fragment the community and project an image of general neglect. Vacant lots along commercial corridors splinter a formerly healthy commercial district into a sparse assortment of shops separated by blank spaces”.

A closer look using the GIS to map these properties and ownership – showed a vast majority of vacant or abandoned properties were publicly owned, a majority of which were the City of New Bern’s. So what to do?
A prime example in the study area was the “Five Points” area. In the 1930’s it was a prominent location in the City. Today, as Downtown has prospered and highways move city traffic elsewhere the area has suffered and a prime example of the issues reported in the CNI survey.

Today the picture below shows quite a different scene with vacant lots and limited traffic.

3. *What, if any, unexpected benefits did you achieve?*

A further look showed not only did the City and other public agencies own many vacant properties, a city-wide query showed that the City had well over 200 similar properties (90 in the CNI alone) scattered throughout the city. Meetings with other departments showed that we spent on average $120,000 per year to maintain these properties including grass cutting, debris and pest removal as well as demolition of dilapidated and unsafe buildings. It also showed that these properties had a tax value of over $2.4 million dollars that were not being collected due to their exempt status. However, clearly the biggest impact for the City and its citizens, especially in the CNI...
area was the impact they had on the neighborhoods which couldn’t move forward with revitalizing these properties since they were publicly owned.

A top priority had to be finding a way to replace vacant lots with new development and returning vibrant areas that were now desolate and broken apart. From a long range or strategic perspective, what could the City do to promote use of these properties while helping to provide affordable housing and promote economic development and keeping a sense of place in these neighborhoods at a time when most budgets were being reduced? A Quote from elected officials perhaps was the catalyst for this specific project – “GIS found this mess – how can GIS help fix it” Alderman Odham. A task staff were asked to solve not only in the CNI area – but citywide. We figured we had a good story to tell.

4. **What system design problems were encountered?**

With social media and smart phones becoming such a huge factor in how we communicate, staff decided to look into displaying the properties online using the story maps that ESRI was promoting. Staff had looked at using this application on other projects but had backed away thinking it required significant programming and time, which we were not ready to tackle with our limited staff.

Another issue encountered, the story map set up required that a photo was available online using a web link to access. It was discovered that Flickr could be beneficial and allowed for resizing of the photos. In addition, the initial setup was bland and not very inviting. Staff decided to add hyperlinks to the county’s tax information and Google’s Street View. There were multiple html code tutorial online and through trial and error, staff was able to piece all the components together.

5. **What differentiates this system from other similar systems?**

With limited staff and time – we thought we would follow the same path as all other communities do and look for grants and work with various agencies like HUD and CDBG (Community Development Block Grant) as a start.

GIS staff however wanted to find an in-house and inventive or visionary way to promote development and accomplish long term goals and continue to look at the big picture. It was clear then as it is today that this is and will continue to be an ongoing situation as more properties transfer from private ownership to public ownership and again making it available on smart phones or online in general – available 24/7.
Story Maps seemed to be a good start. It provided the ability to see the big picture of vacant lots on an interactive map, which showed areas ripe for in-fill projects and redevelopment while also allowing for descriptive text, hyperlinks and photos to be attached. It required the City initially to look at what properties we owned in total and how or if they could be utilized by staff for such things as storage, staging, utilities and training rather than purchasing more properties which would become exempt as well. We also looked at better utilizing current space and combining efforts and locations. Again, we realized this was a problem that every community faced – we wanted to be unique in how we fixed it and make in a win-win situation for the city and its citizens today and tomorrow.

**D: Implementation:**

1. *What phases did you go through in developing the system?*

   Our first step was to create an interactive list and map of all city owned unused properties. In other words, City Hall was not on the list. GIS staff met with all department heads and reviewed over 450 properties to determine if it had a current or future use. This condensed the list of properties to just over 200, some of which were unbuildable or had limitations based on flooding issues or lack of available infrastructure.

   With limited experience in programming or web site design, it was determined that ESRI’s “tour” story map application would provide the tools needed to create an online map along with the ability to attach photos, descriptive text related to each property and fairly easy to use or figure out with trial and error. The app did have some limitations such as 99 sites or features, so sites deemed ready to build on or ready to be utilize were added first. There were also limits of map icons to a single point and four colors, so general land use colors were used for mapping locations and an outline of each property added as a base layer of data to the map itself. The base text seemed rather bland and uninviting, so some html code was added based on an “enhancing ArcGIS online” blog link examples. This allowed for bolding text, changing text color and adding hyperlinks to the sites. Recently, a link to a PDF flyer for each site was added so potential buyers could download and save information on any site they were interested in or could share rather than calling and asking for maps saving printing and staff time.

   Loading photos posed an initial problem, but photos of each site were taken and made available online using Flickr – which also allowed for on the fly geocoding of the sites. ArcGIS Online now allows for photos and other similar items to be stored and accessed through a url link. Links to the forms to purchase and other pertinent information was also added for ease of making bids for each property again to eliminate calls to staff and availability anytime. Since the site was such a new concept, the City attorney reviewed the
site and requested that disclaimer information be added as well as the UNC School of Government was consulted, which saw no issues with the site and thought it a wonderful idea – noting the “buyer beware” rules should protect the City from most liability.

2. **Were there any modifications to the original system design? Why? What?**

Once the site became public, requests were numerous and some lessons learned. For the first time in the City’s 305-year history the upset bid process was and is being used – which requires legal notices, advertising and calling for public hearings as well as working with the County if the property is jointly owned.

- Some offers were too low – actual bids of $1 occurred on a few properties so a minimum bid was adopted and set to 25% of tax value.
- Buyers beware – a few wanted to renovate dilapidate buildings with limited effort, so recommendations are made on any property with a building which requires a meeting with Inspections first.
- Some property was also pulled by City staff for future need after looking at connection possibilities. In addition, City projects have come from seeing available properties such as a connection to a City park to a poorer neighborhood and some pocket parks built in the CNI area.
- The City was approached and embraced partnerships with Habitat for Humanities and local church and veteran groups so reaching out for partnerships was important.

**E: Organizational Impact:**

1. **What user community does the system serve and how?**

Generally, the site’s goal was to encourage development and use of unused property, especially by lower end developers and builders who normally built limited numbers of homes per year and usually for lower-income buyers. It also looked to encourage development by first time homeowners looking for an affordable option in purchasing land to build on. It has been used by Habitat to construct new homes – the City donated 8 lots and 3 already have new homes and homeowners. In addition, a local church and veterans group created community gardens for use by handicapped veterans and for growing and selling and giving vegetables to the surrounding neighborhood – providing fresh produce in a general food desert area.
2. **What are the ultimate decisions/operations/services being affected? If appropriate, provide a few examples including, but not limited to screen input/output forms, paper products, or other descriptive graphics.**

The site promotes the recommendations that are found in many adopted and approved plans, including the CNI. It revealed to the City numerous unused and under used assets that it had available. 17 permits for new homes with an average value of $82,000 have been issued on once tax exempt vacant lots that were eyesores and created dysfunctional and unsafe areas throughout the City and the CNI area.

$1.1 million dollars’ worth of tax revenue can now be collected and used versus the cost of maintenance of vacant properties. In addition, new growth in neighborhood ownership and pride. It allows City staff to know where we own property for maintenance and for projects both short term and long term to look at land swaps and encourage sustainable development and economic projects. One such site is the now abandoned City warehouse site, which through a partnership with Craven Community College will soon provide a place for job training – walkable by residents in the Public Housing Areas and the CNI.
3. **What are the quantitative and qualitative impacts of the system?**

To date, the site has over 7,000 views with over 36 properties sold in the past year (7 currently in the process). Another 8 were donated to Habitat for Humanities and 2 leased for $1 for community gardens.

Sold properties have a current tax value of $967,800 which brings to the City roughly $5,122 annually and which will continue to grow, as properties are re-evaluated and new homes and businesses built versus the previous collection of $0. (current available property on the web site has a tax value of over $1 million which equals an annual tax revenue of nearly $5,600). Cost to maintain the properties was over $120,000 annually including the cost of demolition. Transfer to new owners eliminates that cost completely and allows for the recouping of cost already incurred. Sold properties have netted just over $94,000 towards those costs once advertising fees and shared money with the County was dispersed.

Having infilled properties and connections, new homeownership, new parks and connections to current facilities, access to fresh produce, jobs and training in underserved neighborhoods – priceless.

4. **What effect has the system had on productivity?**

Having a current online map showing where unused City properties are located allows for identifying connections, partnerships, land swaps and donations for development throughout the City not just in the CNI. It shows elected officials and City staff issues related to vacant properties and the problems they cause for neighborhoods and communities – the disconnected and forgotten sentiment they create. The benefits can already be seen in utilizing the same as new homes are built and adjacent properties and neighborhoods take new pride in maintaining their property and seek out grants for streetscape and façade improvements. The positive responses from the general public and City staff has been a real plus as staff looks for ways to enhance the site from numerous suggestions and requests while attempting to keep it updated as property is sold and new sites added. As mentioned at the start, public owned property is and will be a constant issue that New Bern and every other community faces. Using the power of GIS to help rectify that issue and make it a win-win for the City and its citizens.

5. **What, if any, other impacts has the system had?**

It has helped to promote economic development in areas of the City long forgotten. It has also invigorated a sense of place in these areas and encouraged City staff and citizens to look at the bigger picture for the area – a more comprehensive view to work towards
sustainable projects that will keep growth, and empowerment in these areas. It has also opened up ideas and projects on property that has long been vacant and ignored to creating parks and currently working on a new training center to help train and find employment for those in the CNI – many who are without cars or ways to travel and get needed skills to find work.

Some completed projects:

201 Norwood St. – Abandoned 3 unit apartment – being renovated for affordable housing.

2501 New Bern Ave. From an overgrown weeded lot with rats and snakes to a single family home and landscaped yard.

854 Howard St. One of many vacant lots to a new home for a 1st time homeowner.
6. *How did the system change the way business is conducted with and/or service delivered to clients? Give specific examples comparing the old way with the new.*

The initial project of the Choice Neighborhood Initiative (CNI) study revealed many issues for a part of the City that has long been forgotten. The fact the City and County were responsible for some of the issues related to gaps and vacant or abandoned properties was a real eye opener for staff and elected officials. Local governments are not in the real estate business but tasked with guiding sustainable economic development and growth. This site provided tools that help this area and the City and County be better owners and better utilize assets once just ignored.

Once the site was released and successful, other similar sites were proposed to help promote development in the City and show case development. Two new sites were created and others proposed to create a way to promote good works throughout the City and help the City be proactive to development and take advantage of current assets. It also helped move us more into the social media or online world to be able to take advantage of all that offers and making us more transparent and providing more information. That sparked new ways of sharing things related to growth and development within the City.

**New Sites:**

- 2015 and 2016 Interactive Building Permits: [http://arcg.is/1QxgEgO](http://arcg.is/1QxgEgO) and [http://bit.ly/2qkqz9e](http://bit.ly/2qkqz9e)
- Economic Development: [http://arcg.is/1WcYtUO](http://arcg.is/1WcYtUO)

**F: System Resources:**

1. *What are the system’s primary hardware components? Give a brief list or description of the hardware configuration supporting the system.*

In 2015, the City moved all citywide GIS data into an SQL SDE geodatabase system. This resides on a virtual server running Windows 2012 R2. In addition, the City publishes GIS map services – including the boundary layer for these properties on a similar Windows Server (GISAPP) also running ArcMap and ArcCatalog and managed using SQL server manager. The maps and applications managing this site were created and maintained through the City’s ArcGIS Online account and using ESRI story map web app.
2. **What are the system’s primary software components? Describe the primary software and, if a commercial package, any customizations required for the system.**

The primary software used was ESRI’s ArcMap and ArcCatalog software. The base map data including property line boundaries were published using ArcCatalog then consumed in the City’s ArcGIS Online account using a published map server services. In addition, photos used for the site are stored and accessed using Flickr, a free AOL photo sharing web site but are in the process of being transferred to the same ArcGIS Online account which now as the ability to access, and create URL links for each photo and limiting access and size.

3. **What data does the system work with? List and briefly describe the database(s).**

The base map is using a parcel layer dataset pulling from the SQL server geodatabase and published as a live map service through the GISDB Spatial Database Engine (SDE). The online pieces access jpeg and PDF files for both the photos and flyers for downloading. In addition, HTML code was used to create text description and embed hyperlinks to the photos, and other web sites related to each property. **Below is a link to the site for review.**

4. **What staff resources were required to implement the system? (i.e., report approximate staff and consultant time as FTE’s)**

In the original setup, it took staff approximately 40 hours to setup the base template to create a web app or story map displaying the properties the City wanted to make available. It took an additional three meetings with all department heads to go through roughly 250 properties to create a list of properties to sell or donate. Each meeting lasted roughly 1 - 2 hours and included 5-8 City staff. Staff then took photos and created descriptive text for each site – which required initially approximately 230 hours of one FTE. Later an additional 40 hours of on FTE was used to create flyers for the site and set up hyperlinks. Currently one FTE spends approximately 8-12 hours a month updating the site including new photos and text entry for new property and removing sold properties.

5. **Comment on anything unusual about the resources used to develop your system, such as data, software, personnel and financing.**

Many plans were adopted to try to help this area of New Bern that had become a haven for many vacant and abandoned properties as many just packed up and moved away from a once vital part of the City. Those plans like other similar plans are adopted, placed on a shelf and given little consideration after a while. Being a small town with limited staff and limited funds it was vital that staff look outside the box at ways to encourage new home ownership and economic development within the CNI area and citywide. Staff looked at what other communities were doing and decided to try something new and tell a story – not just to our staff, but also to the citizens and others we hoped to encourage to come back and make the CNI area vibrant again. We believe this site is a catalyst to doing just that and a tool that any other community can take advantage of with limited staff and no additional costs. We have gotten a tremendous amount of positive feedback related to the site from the local newspaper to national recognition.

![Local Newspaper Article once the site was introduced to the Board of Aldermen.](image)

May 20, 2017
URISA ESIG Award Committee
701 Lee Street, Suite 680
Des Plaines, IL 60016

Dear Committee Member:

It is my great pleasure to support the submittal of the completed application for consideration of the 2017 ESIG Award for a GIS single process system.

As City Manager for the City of New Bern, I have witnessed firsthand how GIS has impacted all functions of the City and use the tools it provides on a daily basis. When the Choice Neighborhood Initiative (CNI) report first showed that the City and County owned many of the vacant properties that were affecting the area, it was with great enthusiasm that we used GIS to help facilitate a way to help fix the problem and be a leader in solving this problem that most if not all communities face.

Though we are a small, historic city of just over 30,000, GIS is a vital function of all departments within the City and a go-to tool in most everything we do citywide. The available City property sight has been embraced by many and has received nothing but positive comments since its initial launch. I have been contacted numerous times by other communities wanting guidance on how they can create the same for their town or county. As technology progresses at lightning speeds, we believe that citizens will continue to expect local governments to be innovative on how they respond to different situations, especially those that are location or spatially based. This can only be accomplished through the use of GIS.

Thank you for your consideration of our application for the 2017 ESIG Award.

Sincerely,

Mark Stephens
City Manager
APPENDIX B: Testimonials

“I became the IT Director for the City of New Bern, at the end of the Plan phase of the City’s Enterprise GIS process in 2015 and have worked with the GIS Coordinator to implement the key pieces. As the City of New Bern IT Manager I get a first-hand look at how our GIS integrates with a rapidly growing number of software systems across the City, and the positive impacts of that integration on our daily operations. There is almost no segment of the City’s municipal government operations that is not enhanced in some way by GIS integration. New applications for GIS technology are being introduced within the City all the time. The ability to integrate GIS data into such a wide range of software applications allows us to provide a level of service to our citizens that is simply not possible with other technologies. Using GIS to solve the issue of vacant properties will affect the City greatly and another great example of how it can be used to better our City as a whole. I can say without question that the overall impact of GIS far exceeds that of any other single technology that I have personally been involved in over the course of my career.”

Tony Gatlin – IT Manager
City of New Bern
252-639-2782 (Office)
252-670-3889 (Cell)
GatlinT@newbern-nc.org

“Spatial GIS queries integrated with our CIS accounts has increased functionality and productivity in our utility billing. On numerous times, I have relied on GIS to do quick queries on water and electric usage for reports that I need to run. This was true as a part of the CNI study. Having the GIS helped me to verify unused accounts and clean our utility accounts so they worked much faster and better to maintain. There were also issues with rates and time consuming to verify all the information our Coordinator has setup a system to read the data now I can do in a few minutes what use to take several days. With this new site – GIS plays a huge role in helping to encourage growth in the poorer section of town and to setup new accounts in these areas, growth not just development but our utilities and infrastructure.”

Linda Monnier – System Analyst: Finance/Data Processing
City of New Bern
252-639-2790
MonnierL@newbern-nc.org
“When I first saw the property for sale site I was excited and wondered why it hadn’t been thought of before. I have lived in New Bern all my life and own a restaurant and fresh seafood store. I also own a few rental properties but would like to do more but generally the prices for real estate are more than I can afford to invest most times. To date I have purchased two properties from the site and have plans to do much more as it gets updated often. Not only is it a good investment opportunity for me – I also put people to work to renovate the properties, it makes the properties an asset and I can do good for this area and New Bern that I love. I love the site and can hardly believe that I can buy a nice residential property in New Bern for $1,000. It is a win and win situation for sure. I also am rehabbing an abandoned apartment building around the corner from our homeless shelter RCS that I purchased from the site. This will provide affordable temporary apts. for those moving out of the shelter so they can get back on their feet and the building was in such bad shape, once it is completed, it will be a lovely addition to the area. I have also purchased a small 3-unit apt. near the public housing. It was a real eye sore, but we have renovated it and hope to have it available for affordable housing in this area. It benefits me as an investment plus I can invest in this area that really needs it and I hope others will join me in doing so.”

Ed McGovern, Owner
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