NCSHA 2016 Annual Awards Entry Form

(Complete one form for each entry)

Deadline: Wednesday, June 15, 2016

Visit ncsha.org/awards to view the Annual Awards Call for Entries.

Instructions: Type entry information into the form and save it as a PDF. Do not write on or scan the form. If you have any questions contact awards@ncsha.org or 202-624-7710.

Fill out the entry name *exactly* as you want it listed in the program.

Entry Name: CHFA Property Preservation - Collaboration with Analytics

HFA: Colorado

Submission Contact: (Must be HFA Staff Member) Megan Goss **Email:** mgoss@chfainfo.com

Please provide a 15-word (maximum) description of your nomination to appear on the NCSHA website.

CHFA develops online affordable housing database, aggregating five organization's data for statewide preservation strategy.

Use this header on the upper right corner of each page:

HFA: Colorado

Entry Name: Property Preservation

Select the appropriate subcategory of your entry and indicate if you are providing visual aids.

Communications	Homeownership	Legislative Advocacy	Management Innovation
○ Annual Report	○ Empowering New Buyers	○ Federal Advocacy	○ Financial
○ Creative Media	○ Encouraging New Production	○ State Advocacy	○ Human Resources
○ Promotional Materials and Newsletters	○ Home Improvement and Rehabilitation		○ Operations
			◉ Technology
Rental Housing	**Special Needs Housing**	**Special Achievement**	Are you providing visual aids?
○ Encouraging New Production	○ Combating Homelessness	○ Special Achievement	◉ Yes
○ Multifamily Management	○ Housing for Persons with Special Needs		○ No
○ Preservation and Rehabilitation			

2016 NCSHA Award Nomination

HFA: Colorado Housing and Finance Authority
Category: Management Innovation - Technology
Entry Name: CHFA Property Preservation – Collaboration with Analytics

The availability of affordable multifamily units in Colorado is diminishing at a rate faster than they can be created. The opportunity for financial gain presents temptation for multifamily properties to opt out of affordability contracts and rent their units at a market rates.

When CHFA discussed the issue with other partners in the state, it was apparent that partnerships and collaboration would be vital to the success of any preservation program developed. CHFA and our partners determined that the first step should be the creation of a comprehensive online database of all subsidized properties in the state. Once a database was created and the breadth and scope of the problem identified, a preservation strategy could be developed.

Respond to a challenging situation

CHFA began the preservation database development process by engaging partners with the largest portfolios of restricted developments in the state, including the City and County of Denver, the Department of Local Affairs Division of Housing, and the HUD regional office. These partners, led by CHFA, created a steering committee to develop a framework for the creation of the database that would include information to identify and assess at-risk properties. The agreed-upon framework included data points, format, and a detailed process for updating information on a quarterly basis.

Innovation of methodology for merging data from various sources

With four partners providing four different data files, it was evident that we needed a unique way to combine the data. Within the overall solution, we utilized a data warehouse automation tool, WhereScape, which provided a quicker approach to creating and refining the data mart as well as an easy way to merge data directly from Excel spreadsheets with CHFA's multifamily database. With WhereScape, CHFA built an automated job that updates the data daily.

CHFA created a mapping table to merge the data. This tool allowed for two very similar addresses referencing the same property to be mapped to the same unique property identifier without requiring the multiple partners to maintain synchronized data within their proprietary systems. The mapping table also provided the ability to assign geographic coordinates to each property that not every partner was able to provide from their source systems.

After refining the list of properties to a unique set, CHFA was able to add attributes about each property that provided context as to their true need. For example, associating a property by the owner's financial needs, the location, the size of the property, and the beneficiaries served helps provide an identity for each property. These attributes help the partners prioritize a need and urgency for preserving a specific property. The preservation database currently has information about nearly 1,200 properties and more than 82,000 units.

Improving upon an intermittent step

Once CHFA had identified a unique set of properties, the intermittent step of exporting the dataset to a spreadsheet seemed inadequate. For example, filtering, sorting, and graphing data will highlight a set of properties that fall within a certain criteria. However, once the filters are changed and the data re-sorted, the context of the data quickly changes. A spreadsheet distribution could result in people referencing outdated information.

Another concern for the group was the need to protect the data. Emailing a spreadsheet provides a means of data sharing. Knowing an expiration date of a property's contract could incentivize a competing property developer to offer an affordable property a deal just prior to expiration. While a password could be applied to a spreadsheet to protect the data and keep the contents secured, once the spreadsheet is emailed and the password applied to view the contents, the data could then be disseminated at will.

It soon became apparent that the overall solution would need to include reports within an accessible, secured environment that provides controlled read-only ad hoc analytics. A restricted set of designated users from both within and outside of CHFA's network would need to access the solution.

A solution that meets all of our needs

A server license of Tableau software provided the ultimate solution. Within the solution, we could create analytic dashboards pointed at our data mart, restrict access based on user credentials, and allow users to visualize the data based on the most current version of the shared data.

The Tableau server license allowed for unlimited access from credentialed users from both within and outside of CHFA's network. External partners were added to a group within a pre-existing external Active Directory. This group was then provided limited access to the preservation reports only. Specific exceptions were applied to CHFA's firewall to allow for traffic originating from each partner.

An added benefit to Tableau is the interactive filtering and drilling down into a subset of data selected within a common filter. For example, end users can filter for properties with an expiration date within a certain timeframe, or by a certain expiration type, like HUD Section 8. Interactive multiple views of the data (i.e., charts, maps) are easily aggregated according to geographic area or type of need, so users can further filter and explore the data, allowing them to drill down to an individual project level.

Achieve measurable improvements in agency operations

Combining the database designed to merge data from various sources with Tableau's controlled ad-hoc analytics tool, CHFA is able to provide a single solution for its partners. Partners may compare the needs of properties within their portfolios with those across Colorado that are competing for a limited set of financial resources.

Benefits outweigh costs

CHFA had recently invested in Wherescape and Tableau to utilize internally as enterprise-wide business intelligence tools. The incremental cost to use the tools for the preservation solution was negligible. CHFA had one business intelligence developer to build the solution, which saved the other agencies the work of

having to create their own solution. The work occurred over a six-month period and was a part-time effort for CHFA's BI developer.

The new tools allowed CHFA to deploy the initial database and dashboard views within six months of the decision to move ahead with the project, and ongoing updates are automated. This collaboration and consolidation of data, matched with the pooling of financial resources, gives CHFA and their preservation partners an unprecedented ability to identify and then preserve the affordability of multifamily properties across the state.

Effective use of resources

Using a mapping table enabled the partners to not have to change data within their underlying data sources, while still having access to customizable reports. In addition, Tableau Server is an off-the-shelf product that requires very little end-user training, so start-up was very efficient.

The use of Tableau to read from the centralized, consolidated data source provides a platform to make better decisions about which properties to preserve with limited financial resources. The platform also provides for future enhancements to add metrics for prioritizing needs and adding notes about communications.

Replication

This solution is very replicable. An HFA would need partners in their state to be willing to share data and have the ability to create a data mart, provide access to the data and provide a way for data to be updated on a regular basis.

Achieve strategic objectives

This combined, visualized data now accessible to CHFA and our partners is key to ensuring existing affordable properties stay affordable. It is the first, critical step of CHFA's statewide preservation effort, which is a key strategic objective in CHFA's new five-year strategic plan. This should help CHFA work towards our new vision that everyone in Colorado will have the opportunity for housing stability and economic prosperity.

Exhibit A:

Dashboard view of affordable units expiring by restriction type and population served

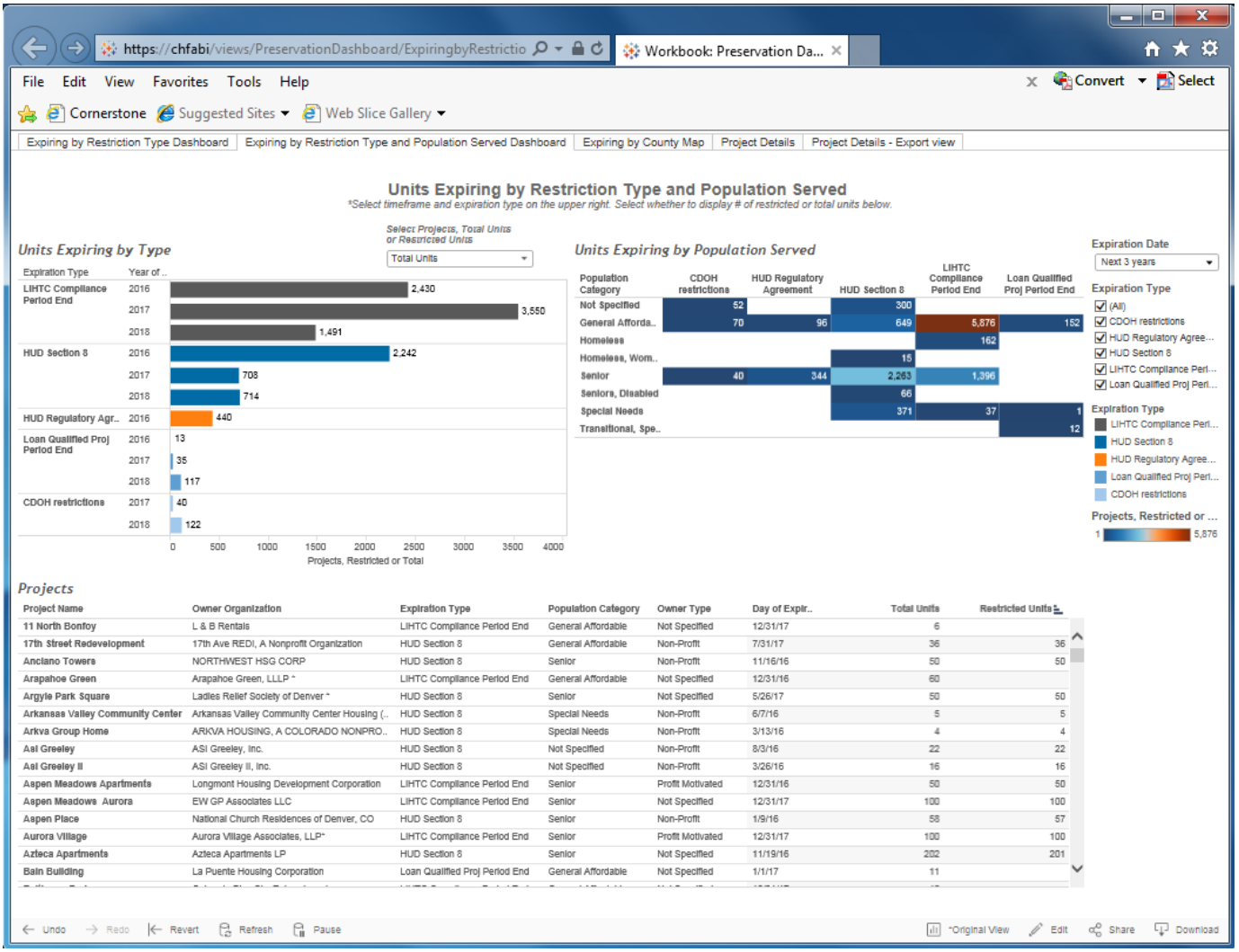

Exhibit B:

Dashboard view of affordable units expiring by restriction type and population served - drill down