Addressing Flood Mitigation Impacts on Marginalized Neighborhoods

Lincoln, Nebraska

QUICK FACTS

Population ¹
Flood-Related Disaster ²
% of City Properties at Risk ³
Avg. Cost of Flood Insurance Per Household ⁴ \$1,258
FEMA Community Rating System Score (2019) ⁵ 5





CHALLENGES

Lincoln's city leadership recognized that urban flooding could devastate diverse inner-city neighborhoods, but some residents in these neighborhoods didn't trust the government to facilitate a fair solution.

YEARS WITH DAMAGING FLOODS, 1976-2019

Size proportional to National Flood Insurance payments.



LESSONS LEARNED

Flooding often disproportionately impacts marginalized populations.

Lincoln city leaders recognized their project would impact neighborhoods that were more racially diverse than other parts of the city. They took a proactive approach to listening to community members and responding to needs, such as helping to support a community center.

Mitigation projects require investments in community-building.

Building trust with residents is always important for mitigation projects, but it is especially important when engaging historically neglected and/or vulnerable communities. City leaders in Lincoln hired a consultant team to conduct extensive outreach to build trust and develop solutions that reflected local priorities.

Projects are stronger when they contribute to larger community goals.

Lincoln's flood mitigation was part of a larger community revitalization plan that addressed transportation problems and increased recreational opportunities while decreasing flood risk. Mitigation projects that are incorporated into larger community and economic development goals will attract more community support and funding.

OVERVIEW

Lincoln stands out for implementing a mitigation project that incorporated flood control into a broader community redevelopment plan. While many communities begin mitigation projects after a flood occurs, Lincoln's project was not a direct response to a major flood. Rather, the city's leadership team proactively identified flood risk from Antelope Creek, which runs through Lincoln's historic urban core. Hundreds of homes and businesses were in the 100-year floodplain and thus vulnerable if the creek flooded.

In addition to flood risk, Lincoln's inner-city neighborhoods also suffered from poor transportation infrastructure, blight, and disinvestment. Lincoln developed a comprehensive solution – the Antelope Valley Project – to revitalize the community through the development of an urban greenbelt. The project involved re-routing major roadways, building new parks and trails, and decreasing flood risk by removing properties from the floodplain and restoring a major waterway.

Funding Highlights: Antelope Valley Project*					
Local	State	Federal	Private		
City of Lincoln: \$52.5 million	NE Department of Roads: \$60.6 million	U.S. Army Corps of Engineers:	University of NE – Lincoln provided right		
Natural Resource District: \$17 million		\$28 million	of way as in-kind donation and \$0.9		
Railway Transporta- tion Safety District: \$13.7 million			mmon		

* This project had hundreds of funding sources. Only a few highlights are included in this table.

DESIGNING A COMPREHENSIVE SOLUTION: THE ANTELOPE VALLEY PROJECT

City officials, in collaboration with the University of Nebraska-Lincoln and the Lower Platte South Natural Resources District (LPSNRD), formed the Joint Antelope Valley Authority to develop and lead the Antelope Valley Project. The project addressed the neighborhoods' major transportation, community development, and flood risk challenges.

The project was extensive. The Authority acquired properties using buyouts and transformed parts of the floodplain into a park with an amphitheater and bike trails. As a result of mitigation efforts, the 100-year floodplain was reduced and no longer contains any private properties, protecting residents and businesses from future floods.

Seven bridges were constructed, all of which are on the edges of neighborhoods rather than dividing them. A weir—a small dam built across a river to regulate its height and flow—was constructed to manage water volumes. When water levels are low, the water passes through the new waterway. During flood events, water also runs through a conduit from the weir. For larger events, such as the 2014 and 2015 floods Lincoln experienced after the project was completed, water overtops the weir and, by design, passes through the new waterway and through the expanded park system.

The project also allowed the University of Nebraska - Lincoln to expand, including the Nebraska Innovation Campus and a combination parking structure and student housing. New housing developments have been built, including some by NeighborWorks Lincoln, a nonprofit organization pursuing community revitalization and facilitating home ownership.



What's a 100- or 500-year floodplain?

Floodplains are mapped by FEMA and often labeled as "100-year" or "500year." Unfortunately, these terms are less intuitive than their names suggest. When a floodplain is labeled "100-year" it means that the area has a 1% chance of flooding each year. All things being equal, one would expect to experience a flood once every 100 years. However, a 100-year flood could occur in any given year, and – although the risk is low – 100-year floods can and do occur in back-to-back years.

Similarly, a 500-year floodplain has a .2% chance of flooding annually, meaning that, statistically, one would expect to experience such a flood once every 500 years. Again, this does not mean that a community will not experience multiple 500-year floods in a 5- or 10-year timeframe. It simply means the odds of that occurring are low. Importantly, parts of the United States are still unmapped by FEMA and none of FEMA's mapped areas have future environmental changes incorporated into the risk projections.

The project cost \$246 million.⁶ Of that total, 46% went to transportation, 13% went to community revitalization, and 41% went to flood control.

IMPLEMENTING PROJECTS IN RACIALLY DIVERSE NEIGHBORHOODS: INVESTING IN TRUST-BUILDING

Notably, the neighborhoods that were impacted by the Antelope Valley Project were more racially diverse than the rest of Lincoln as a whole. While African Americans and Asians each represent just 3.8% of the city's population, the neighborhoods impacted by the project (North Bottoms, Clinton, Malone, Hawley, Woods Park, and Near South) are 9% African American and 10.5% Asian.⁷



Community members celebrate the creation of three plaques that document the history and struggles of African Americans in Lincoln's Malone neighborhood.

This community had historically been neglected. Years before the Antelope Valley Project was conceived, city officials attempted to site a major road through the middle of an inner-city neighborhood, generating hostility and anger. As a result, trust in city government among some residents was low.

The Joint Antelope Valley Authority was committed to avoiding a similar situation and took a proactive approach to generating community support for the project. The Authority hired a consultant team to hold community meetings and collect public input. While the consultant team was expensive (more than \$1

million for the project), the communication they fostered was critical to building trust between the city and residents impacted by the project. The consultant team conducted more than 1,000 meetings with residents, ranging from one-on-one meetings to large community events. These meetings helped prove to the community that the Authority was serious about listening to them and making changes to reflect their priorities.

Community input shaped the project. For example, updated transportation routes were sited on the edges of neighborhoods rather than through them, which diverted traffic and noise to the outskirts. Further, in response to community concerns that the buyout program would harm neighborhood identity and destroy their shared history, the Authority created a housing preservation and infill program to assist residents who would like to move their household as part of the buyout process. Typically, houses that are acquired to reduce flood risk are demolished. The preservation and infill program provided assistance for residents to avoid demolition. The historically significant homes that could not be moved were memorialized with plaques.

The Joint Antelope Valley Authority also instituted a Citizens' Committee to review project design and suggest improvements. This citizens' committee included architects, developers, landscape designers, trails advocates, and community activists. The committee provided suggestions about aesthetics and maintaining local legacies and neighborhood character. This gave a wide variety of residents more ownership in the project.

The Authority also surveyed residents about their priorities. Residents emphasized neighborhood vitality, which the project designers implemented by creating or bolstering local community centers, expanding recreation opportunities and trails, making small but important safety and aesthetic improvements to the neighborhoods, and increasing and improving housing stock.



Lincoln's flood mitigation projects were part of a larger community redevelopment project, which included Union Plaza Park.

Using mitigation projects to increase quality of life: Union Plaza Park

The Antelope Valley Project contributed to broader community goals by creating a greenbelt with new parks, trails, and recreational facilities. Union Plaza Park was part of this effort. The six-acre urban park includes a meandering waterway with play areas and fountains, a 200-person amphitheater, public art, and paved trails. Not only did this give the Antelope Valley Project more bang for the buck, it also allowed a broader coalition of stakeholders to support and get involved with the project.

Projects that meet multiple community goals are more appealing to decision makers and funders. When designing projects, project teams should brainstorm secondary benefits that could be included: increased recreational opportunities such as new bike trails and/or pedestrian paths, improving water quality, preserving or creating green spaces, and other quality of life improvements. Include these benefits in the economic pitch for a project and highlight them repeatedly during community meetings. Although community outreach and engagement are always important for cities pursuing flood mitigation, they are even more important in historically marginalized communities. Committing to and investing in community engagement, even before a project has been fully developed, will lead to better ideas and long-term community support.

LEARN MORE ABOUT LINCOLN'S FLOOD MITIGATION EFFORTS

City of Lincoln's overview of Antelope Valley Project https://www.lincoln.ne.gov/city/ltu/projects/antelope/

Lower Platte South Conservation District https://www.lpsnrd.org/projects/completed-projects/antelope-valley-project

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THIS REPORT IS PART OF A SERIES

This case study is part of a series entitled *Building for the Future: Five Midwestern Communities Reduce Flood Risk.*

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Lincoln's ongoing flood mitigation projects

The Antelope Valley Project is only one project within Lincoln's broader strategy of decreasing their flooding risk. Most of the city's flood mitigation efforts have focused on implementing land use regulations to restrict development. These regulatory changes were largely the result of intensive development pressures. Prior to the regulations, developers were allowed to shorten or even remove channels from sites, which created erosion problems and intensified flooding. New regulations prohibited these types of changes and protected the city's parks and waterways. Although the regulations prompted initial pushback from developers and some members of the public, city officials hosted community meetings to explain why stringent protections were crucial for Lincoln's safety and future.

In addition to regulation changes, the city has acquired and removed approximately 1,000 properties from the floodplain and plans to remove an additional 500 properties. The city has also built detention basins in the floodplain to decrease the intensity of runoff flows during heavy rain events.