

Finding Resilience in Unexpected Places: Why Design Still Matters in Shrinking Rural Communities

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Most small and rural communities in the United States are shrinking. This population loss is often accompanied by economic and social upheaval—job losses, out migration of young people, school closures, reductions in local services, and deteriorating physical infrastructure. Because design firms cluster in metropolitan areas and most rural commissions are for private clients, architects are largely absent from these places. The AIA Framework for Design Excellence calls for the professional community to enable more sustainable, resilient, and inclusive environments, yet rural places pose a challenge because they remain a strikingly underserved market for architectural services. How can this vision for Design Excellence extend its reach into places where new construction is rare, and architects are not present to learn from and develop relationships with potential clients?

This paper presents an overview of an interdisciplinary research project at Iowa State University funded by a \$1.5 million grant from the National Science Foundation. The research begins with this question: why do people in some rural towns perceive their quality of life to be increasing even when the population continues to shrink? Using twenty years of survey data about quality of life, the team identified small rural communities in Iowa where the typical association of population loss with community decline did not appear to hold true. Through interviews, site visits, spatial analysis, and data analysis using machine learning and other methods, the team is working to better understand what influences people's perceptions of quality of life. Understanding more about these unexpectedly resilient communities requires conversations and building trust in places where few outsiders ever visit. Examples of projects in towns working with the research team include adaptive reuse of closed schools and other abandoned properties; improved recreational spaces and parks; and repurposing underused commercial properties.

INTRODUCTION

Most small and rural communities in the United States are shrinking. In 2010, the U.S. Census showed that less than 20% of the population lived in rural places even though 95% of the country's land is designated as outside a metropolitan area. The 2020 U.S. Census showed that 53% of all US counties lost population from 2010 to 2020, while 81% of metropolitan areas gained population.¹ Although not all 2020 U.S. Census data is available yet, there is no doubt that the trend of Americans choosing to live in suburban and urban areas is accelerating and rural areas will continue to see population loss. The loss is both in terms of the absolute number of people and in the decreasing percentage of the total U.S. population that lives in rural places. In Iowa, for example, 68 of 99 counties lost population between 2010 and 2020. Iowa's only growing counties were near metropolitan areas, such as the state capital Des Moines, where some adjacent suburbs saw population increases of more than 70% in just ten years.² This metropolitan expansion and related macroeconomic changes driven by globalization and government policies have caused economic and social upheaval in rural communities—job losses, out migration of young people, school closures, reductions in local services, and deteriorating physical infrastructure.

Although not a topic that receives much attention, architects are mostly absent from these rural places. Design firms cluster in metropolitan areas and most rural commissions are for wealthy private clients. As articulated in the AIA Framework for Design Excellence, the professional community of architects strives to enable more sustainable, resilient, and inclusive environments. Yet rural places and small towns pose a challenge to such efforts and remain a strikingly underserved market for architectural services in much of the United States. How can this vision for Design Excellence extend its reach into places where new construction is rare, and architects are not present to learn from and develop relationships with potential clients?

THE RURAL SHRINK SMART INITIATIVE

This paper offers one response by presenting the work of the *Rural Shrink Smart Initiative*, an interdisciplinary research effort



Figure 1. Research team visiting with the Director of the Mt. Ayr Public Library, Mt. Ayr, IA. October 2021. Photo by K. Zarecor.

led by Kimberly Zarecor, Professor of Architecture at Iowa State University, that opens new pathways to begin building these relationships.³ A team including statisticians, sociologists, planners, and designers from Iowa State University and the University of Nebraska, Lincoln as well as professional staff from the Iowa League of Cities are developing this project with a \$1.5 million grant from the Smart & Connected Communities program at the National Science Foundation.⁴ The research team approaches the question of how to help small and shrinking rural communities by proposing that they should adapt to population loss rather than fight against it. This way of thinking and what some communities have experienced over time as the successful mitigation of the negative effects of population loss on quality of life is defined in the project as rural smart shrinkage.

Among the goals of the project is to learn more about the mindsets of people living in shrinking rural places in the Midwest and why they choose to stay. Rural communities have been experiencing changes associated with depopulation since at least the 1980s farm crisis, yet concern is increasing among researchers

and the public that the on-going failure to address underlying structural questions about the future of rural places is hitting a crisis point. Rural voting patterns in recent elections and diverging opinions between people in many cities and small towns on racial and environmental justice issues, especially in largely white rural communities that are typical of the Upper Midwest, are indications of what appears from the outside to be a growing cultural divide. Few researchers (or design professionals) have found ways to engage productively with these processes or to do more than document and observe widespread social and economic decline.

The Rural Shrink Smart Initiative has a different starting point. The work begins with a desire to learn from current residents of small rural places about what makes them feel satisfied with their quality of life. The project always leaves open the possibility that some communities will remain vibrant even as they continue to lose population. Identifying the origins of positive quality-of-life perceptions becomes a novel way of understanding community resilience in the research since such perceptions

make it more likely that a community can slow depopulation and even find population equilibrium over time. The team has been meeting over the last year with community members and local leaders in city halls, libraries, community centers, and restaurants for extended conversations. (Fig. 1) Taking the time to visit is a first step in respecting that they are the experts about life in their communities. The project is explicitly trying to move the conversation about the future of rural communities away from growth-focused economic development models. Data show that investing scarce resources in trying to revive economic activity and reverse population loss is unlikely to be successful in most small and shrinking rural places, so these communities need new and different ideas.

The team uses diverse analytical tools to understand more about what makes these ‘shrink-smart’ communities different from their peer communities. Starting with a pilot study in 2017-2019, and during the new phase of research that began in 2020, team members have done one-on-one interviews and group meetings with community members, made site visits, mapped community networks, and collected, analyzed, and visualized data using machine learning and other data science methods to better understand what influences people’s perceptions of quality of life in small and rural places. The team’s approach builds on social science research about how subjective attitudes, feelings, and levels of satisfaction with community assets contribute more to a person’s perception of quality of life than objective measures, such as median income, home prices, or poverty rates. Psychologist Joseph Sirgy’s personal utility model, for example, argues that perceptions of quality of life derive from multiple dimensions of subjective experiences with aspects of everyday life such as community services, local government, and job opportunities, and that these subjective measures matter more than secondary data indicators when assessing overall quality of life in a particular place.⁵

WHY DESIGN?

The designers and social scientists on the team—from architecture, the visual arts, planning, industrial design, and rural sociology—speculated while developing the project concepts and methods that design matters in this context, and designers would have something to contribute to the research. Successful design work requires synthesis of disparate bodies of knowledge, strong skills in teamwork, and direct and meaningful engagement with people. As expected, these capacities have translated well to facilitating conversations and building trusting relationships in rural places where few outsiders ever ask residents what makes their community special to them.

For architects and architectural educators, the relevance of this research is in identifying alternate forms of community resiliency that open unexpected opportunities for architectural responses and co-design processes. The small rural towns working with the research team have completed or are planning projects such as the adaptive reuse of closed schools and other abandoned

properties for community spaces and apartments, improved recreational spaces and parks, and the rehabilitation of underused commercial properties to house new businesses. In some communities, demolition of unmaintained properties is required to preserve the remaining physical infrastructure, but no strategy for what comes next is in place and no built environment professionals assist with this process. A challenge that the research poses to the profession is how to find and then work with communities that need guidance when new construction is not necessarily a possibility or even an appropriate response, or when a new project may be years in the future. For now, there are few financial models that can support architectural services in these contexts and shrinking rural places have not attracted advocates looking to innovate or work with these untapped communities except for unique, site-specific efforts such as Rural Studio in Alabama.

RESEARCH FRAMEWORK

The research project starts with this fundamental question: why do people in some rural towns perceive their quality of life to be increasing even when the population continues to shrink? The expectation among outsiders is that population loss is a sign of overall community decline, but this research shows that actions can be taken to address quality of life even if depopulation continues.⁶ To find communities to study, the team analyzed twenty years of survey data about rural quality of life in 99 communities from the Iowa Small Town Poll (ISTP). This is about 10% of the total number of towns in Iowa and one town from each of the state’s 99 counties. ISTP data has been collected in this same group of communities (with surveys mailed to 150 randomly selected households within the town’s zip code) every ten years since 1994 with funding from the United States Department of Agriculture (USDA) and Iowa State University.⁷ Research team member David J. Peters, a rural sociologist, coordinates the Iowa Small Towns Project which runs the ISTP. He started by analyzing ISTP data to identify a group of rural communities where the typical association of population loss with community decline did not appear to hold true.

To do this, he created a composite index for each of the 99 towns along seven quality-of-life dimensions: local jobs, medical services, public schools, housing, local government services, child care services, and senior services. A quadrant analysis of the resulting scores was done to observe how the communities performed relative to each other in change in quality-of-life perceptions and change in population from 1994 to 2014. (Fig. 2) As described in a 2018 article in the *Journal of Rural Studies*, the quadrants represent four different possible patterns with each dot in a bottom quadrant representing a shrinking place and the dots in the top two quadrants showing a growing town.⁸ To the left of the center line are towns where perceptions of quality of life were more negative in 2014 than 1994, and to the right are those with positive change in quality-of-life perceptions in the same period. The group of communities of special interest to the research team are in the ‘smart shrinking’ quadrant or almost at

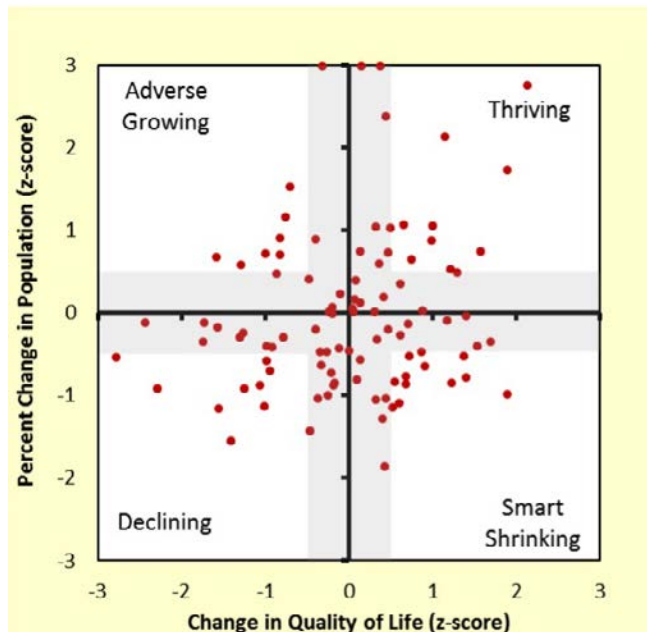


Figure 2. Plot of standardized change in population (1990 and 2010) and quality of life (1994 and 2014) for the ISTP small towns. Author: David J. Peters (as published in *Journal of Rural Studies*, 2018).

the center line in the declining group. The grey bars represent the towns that were statistically close to average (1 standard deviation around the mean). In the pilot study, the team chose to do most of its interviews in communities that showed the strongest association with the smart shrinking criteria (in the white zone of the quadrant) as well as two declining towns for comparison. In the current work, there are two communities that were close to the center line but showing signs of decline in the quadrant analysis. As part of the research, the team will be testing if the introduction of rural shrink smart concepts among a motivated group of community leaders and volunteers can produce some positive change in the ISTP data collected in 2024 when the next poll will occur. In other words, the team will be assessing if a community that appeared to be heading toward decline can move in the direction of smart shrinkage over a short period of time, even as population loss is likely continuing.

Based on the analysis, the team choose seven communities to contact. The first communication is usually to a city staff member (most often the city clerk or city administrator) to invite them to work with the team. For this project, six of seven possible towns agreed to participate (Bancroft, Corning, Elma, Everly, Mt. Ayr, Sac City). The city staff then reached out to civic leaders, members of city councils, business owners, and other city staff to join a small group of 4-6 people who are the primary contacts for the first phase of the research. In making this selection, consideration was given to the distance from the university to the community (all selected towns are within a 3-hour drive of the Iowa State campus to allow travel to and from the community in a single day). In 1994, when the ISTP communities were selected,



Figure 3. July 4th celebrations in Bancroft, IA, July 2021. Photo: K. Zarecor.

small towns were defined as municipalities with between 500 and 10,000 people in the 1990 U.S. Census not adjacent to a metropolitan city (more than 50 miles from a city with 50,000 or more people). In the current project, the six participating communities have populations from just above 500 to around 2,000 people; all lost population between 2010 and 2020 based on the most recent census data (and all are smaller now than in 1990 when they were selected to represent their county in the ISTP).

When meeting with people in the communities, the research team solicits information about specific activities and initiatives that contribute to building social capital and positive perceptions of quality of life. Many of these efforts are about creating strong community ties, a sense of identity for the place, and feelings of belonging among residents. (Fig. 3) Their identification of specific actions, taken collectively by town residents, provides concrete examples for the research team to understand what is unique and different about the towns when compared to its peers, i.e. other communities that appear similar based on size, income, job availability, etc., but with different quality-of-life index scores in the ISTP analysis. Their collection of stories and community events will become part of the educational resources that the team is developing to disseminate within the period of the current grant



Figure 4. Shops and small businesses along Main Street in Sac City, IA, May 2021. Photos: K. Troendle.

(2020-2023). In 2022, residents from the participating communities will be helping the team to identify the most meaningful examples and test and edit some of educational resources together. For example, team member Jennifer Drinkwater, a faculty member in Art and Visual Culture and community arts extension specialist with Iowa State Extension & Outreach, will be teaching an interdisciplinary design studio in Spring 2022 in which a group of fourteen students from six different departments in the College of Design will be working with two of the communities (Bancroft and Elma) on how art and design can be strategies for developing community identity and social capital. The results of the studio, which will be run again in Spring 2023 with a new group of communities, will inform the ways in which methods to foster community arts and community-engaged design are embedded in the rural shrink smart resources.

DESIGN IN RURAL TOWNS

This final section shows some examples of design projects that have been done in the small towns where the team is working. Some projects that the team has encountered are medical clinics, restaurants, coffee shops, small businesses, library renovations, and adaptive reuse projects. Many communities have empty school buildings, for example. Some are choosing to tear them down, others created community centers in the buildings, and two are looking (unsuccessfully so far) for developers to partner with them to build apartments inside. Most of the towns have updated recreational spaces and well-tended parks with new playground equipment. One community used a combination of city funds and private donations to build a new swimming pool complex that is helping to keep young families in town. Some towns have seen new businesses open recently in their commercial districts including a chef-owned restaurant, coffee and gift shops, high-end local food stores, a bourbon distillery, and a clothing store. (Fig. 4) These business owners have bought and renovated storefronts, often utilizing rural development and main street improvement grants to subsidize the costs. While some owners may work with interior designers, much of the work is done by the owners working with local contractors.

An example of a successful project is the Community Complex in Elma, Iowa (pop. 540). Elma made the difficult decision to demolish the oldest part of its former brick school building and retain a newer metal-clad section, which has fewer architectural qualities, but was in better condition. (Fig. 5) The town has already raised almost \$1 million toward the \$1.2 million total cost from private donations, public fundraising events, and grants. Construction is underway. Once complete, the complex will house the public library and the city clerk's office in the space of the former gymnasium (both are moving to the new space from other buildings) as well as an expanded daycare center on the same floor. Local school buses will stop in front of the building each day, allowing older kids to stay at the library after school and for the daycare to use the library easily. Elma worked with SA Architects (formerly Skott and Anderson Architects) from Mason City, about 60 miles away, to plan the renovation. The same firm designed the original

daycare center in the school and a small standalone medical clinic that opened on a lot nearby in 2021. This is a notable example of a community developing a trusting relationship with an architecture firm that helped to them to realize their goals of attracting and keeping critical services within the community.



Figure 5. Entrance to the Elma Early Childhood Center (before expansion), Elma, IA, Feb. 2021. Photo: K. Zarecor

CONCLUSION

Like many small communities, these shrink-smart towns face precarious futures because quality-of-life efforts, which are often passion projects among a group of committed residents, cannot address some of the underlying problems in rural towns in an increasingly urban and suburban world. One of the important findings of the project so far is that even communities doing impressive work to build social capital and collectively address community challenges are continuing to experience population loss or in the best cases they are stable for now, but not growing. This has multiple factors including smaller families than in previous generations, young people leaving for college and not returning, and the farm economy supporting a much smaller local labor force. In many places, this population change will be slow, occurring over decades, and many communities can remain vibrant for the foreseeable future if they begin to adapt to a smaller population as their new status quo. Seen in this way, the change and the responses required become design questions. This research poses the question of where built environment professionals fit into these processes. How can designers help communities to reimagine themselves for a future in which there will be fewer people choosing to live in rural places, and what design interventions can preserve quality of life even when no growth is anticipated?

ENDNOTES

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