

# UW Profiles in Wyoming Resilience Research Project Report

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**Objective of the Project.** This project gathers under-represented community voices through pictures and narratives they provide, which can be used to better inform state and local policy. We sought to understand better how Wyomingites perceive barriers and opportunities to success in education, employment, and community resilience in comparison to our neighboring states. The purpose is to empower Wyoming communities to help each other using geographic information systems (GIS) technology to provide dynamic access to qualitative data, on a persistent platform, in a format useful to constituents, statewide policymakers, Wyoming communities, businesses, and researchers, while identifying ways to work collaboratively to overcome adversity. We employ Photovoice – a research methodology designed to capture people’s perspectives of their lives through photography and narrative.<sup>1</sup> By capturing Wyomingites’ experiences, in their voices, we add rich context and texture to economic and behavioral data, which can support Wyoming Innovation Partnership goals, inform Wyoming economic development priorities, and empower effective public policy.

**Background and Methodology.** The Wallop Civic Engagement Program recruited project participants by 1) utilizing community partners to reach a stratified sample made up of stakeholders identified across regions and professions and volunteer participants from across the state and 2) by employing a third-party participant recruitment service to recruit responses from Wyoming and surrounding states. Participants were asked to upload digital images with descriptions of life in their community – following prompts on opportunities or barriers to education, employment, and community resilience. Data analysis was achieved with a team of research assistants using a qualitative analytics software suite. These activities have been possible through the financial support from the School of Politics, Public Affairs & International Studies and the Wallop Civic Engagement Program.

Wyoming DataHub support has allowed the Wallop Civic Engagement Program to partner with WyGIS to develop an integrated cyberinfrastructure to facilitate data capture, storage, sharing, and visualization. We have developed an ASP.NET C# web API, which provides an interface to the backend SQL Server relational database using the Umbraco content management system. The API endpoints support reading, writing, and validating user-uploaded information from multiple user interfaces. We built the map visualization upon the ESRI Experience Builder (EEB) platform in which we have embedded the customized map into our Umbraco website. The cyberinfrastructure leverages existing University resources, including the Advanced Research Computing Center (ARCC) and WyGIS. The conceptual framework for this project includes data storage and retrieval methodology dynamic enough to support other Wyoming DataHub needs, including the support for qualitative research output, storage, analysis, and sharing. The project serves as a case study to model how Wyoming DataHub can support the integration of qualitative data with other existing public-facing data.

**Results and Themes Revealed in the Data.** In total, more than 1,100 images were submitted for the project. Participants submitted images and narratives focusing on opportunities over barriers, by a ratio

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<sup>1</sup> Foster-Fishman, P., Mortensen, J., Berkowitz, S., Nowell, B., & Lichty, L. (2013) *Photovoice: Using Images to tell Communities’ Stories – Participant Handbook*. The System exChange. Michigan State University. [www.thesystemexchange.org](http://www.thesystemexchange.org).

of roughly 3:1. Beyond that general positive outlook, the data also revealed that participants saw much overlap across topics. Discussing the three topics in turn, education, employment, and resilience, reveals deeper stories about the health of our communities. (See samples, Appendix, pp.3-5)

Education Themes – Many participants shared pictures of educational opportunities focusing on two central areas: 1) high-quality infrastructure is vital for education across the state and 2) skills training and professional development opportunities are crucial to the success of future generations. Examples ranged from competitive robotics teams at Powell High School, to land surveyor training at UW, to cultural programming at the Buffalo Bill Center of the West in Cody. Throughout the education-related submissions, participants noted the need for physical facilities to deliver quality education, but also the crucial role of technology and skills-based training. Those submissions highlighted the value of training in trades such as construction, but also training in robotics, programming, and the like. Nevertheless, in the context of Education themes, the financial stress that higher education brings, along with winter conditions that exhaust and discourage students were perceived as barriers to education across the state.

Employment Themes – For employment, two central themes emerged: 1) thriving local downtown districts produce job opportunities and 2) many people struggle to reach full employment due to limited opportunities within the state. Concurrent to Resilience themes (below), many participants described how local economies and specifically downtown economic endeavors were drivers of employment opportunities with notable examples from economies as diverse as Dubois, Laramie, and Torrington. While many submissions discussed how low-skilled jobs abound, *underemployment* was frequently discussed across all topics, with many participants sharing the difficulty in getting a job in the industry related to their training, after graduation. *Housing* emerged as an Employment theme as both an opportunity and a barrier to Employment. Participants discussed the lack of housing as an opportunity for those employed in housing construction and related fields, but also as a barrier to employment for those in other fields interested in working in Wyoming but unable to afford local housing.

Resilience Themes – Participants who shared examples of Resilience in their communities shared examples that were at once more diverse and less tangible than those described above. Central themes here centered upon 1) opportunities afforded communities who creatively repurposed local resources and 2) participants' connections to their natural environment as indicative of their ability to adapt and overcome adversity. Significant examples of opportunities include both the reimagining of a derelict rail yard in Evanston to become a thriving community events center and the pursuit of wind energy production while maintaining a commitment to more efficient use of legacy energy resources in the Powder River Basin. Also, many participants shared their experiences of finding resilience in their connection with natural Wyoming, both summertime hospitable and wintertime challenging, across our state. Even in this context, participants were overwhelmingly positive in their submissions, noting more opportunities than barriers to resilience.

**Future Research Plans.** Phase 1 project findings are posted to a purpose-designed interactive website, where both public and policymakers can use these data to better understand each other by learning of their neighbors' barriers and opportunities – *as seen through their eyes and told in their own words*. This interactive website map went live in October 2022 (see <https://surveys.wygisc.org/ResilienceMap/>). Phase 2 of the research project is underway with the scheduling of community forums around the state to share preliminary results (above) and to dive deeper into the story of each community by using previous submissions to spur conversation. Each forum is coordinated with key stakeholders and community partners and aligned with our research goals and state efforts to inform program development and policy (as of October 1, 2022, conversations had been conducted in Riverton, Cody, Sheridan, and Torrington with more to be scheduled across 2023). With additional funding, Phase 3 of the project will focus on conducting additional community-focused photovoice projects to develop more specific community profiles; with results shared in the existing interactive website map.

# Education



Image 1

This is a picture of Powell high schools first all girls robotic team. It depicts both opportunity since robotics is a huge/growing area for 21st century students and barrier as the program is not funded the way sports programs are. Students have to raise/pay money for the team to travel and compete. That means low income students are essential barred.



Image 2

Laramie WY. Student assistance in directing technical lab. Opportunity - personal and professional growth



# Employment



Image 1:

This is downtown Dubois, WY. These little stores are the backbone of the community and that is really all there is. It's a huge barrier but it's a way of life for this community.



Image 2:

This picture was taken in Cheyenne Wyoming. In this picture I had surprised a co-worker of mine while painting houses in the summer time. This picture highlights the opportunity of labor jobs in communities. Not a lot of people realize there are good paying and sustainable jobs in the construction field. When I talk to people my age who are looking for work they often search in food or retail areas but seldom in trade work. Not only does trade work provide good pay, but it also teaches skills and techniques that can be applied elsewhere and taught to others.



# Community Resilience



Image 1

This picture was taken at the railroad complex in Evanston. This picture displays rusted wheels from trains and in the back you can see part of the former Union Pacific roundhouse. This image depicts opportunity to community resilience. Evanston has been through many different booms and busts including a railroad boom and bust. But through all the busts



Image 2

Guernsey Lake State Park

Just a beautiful sunset at the Guernsey Lake.

I think it depicts opportunities to community resilience because summers in Guernsey are like no other & we get a lot of visitors that are staying at the Guernsey State Park. Guernsey Lake brings our community together by going out and enjoying each other's company. Jumping off cliffs, going boating, swimming, meeting new people, etc.