

# North Dakota State University

## Graduate School

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**Title**

HOW CAN DECLINING RURAL COMMUNITIES IN NORTH DAKOTA BE SAVED? A  
CRITICAL INVESTIGATION

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**MASTER OF ARCHITECTURE**

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HOW CAN DECLINING RURAL COMMUNITIES IN NORTH DAKOTA BE SAVED? A

CRITICAL INVESTIGATION

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## **ABSTRACT**

Rural North Dakota has become somewhat of an abandoned land. There are dozens of small communities, with major service gaps and unsustainable populations. With the death of each rural town, the state loses pieces of its history, as unique cultures and buildings decay alongside the highways.

The population decline in rural communities across the country can be attributed to a variety of factors, with perhaps the most imposing issue being a lack of opportunity. Small towns struggle to maintain vitality with limited educational, professional, and recreational opportunities. While small-town life offers many benefits, many residents leave for urban amenities. The primary scope of this project will focus on the reintroduction of these opportunities into a rural town as a strategy to retain and attract residents.

Core subjects addressed include downtown development, community and cultural amenities, childcare services and facilities, single and multi-family housing, and educational opportunities and facilities.

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## LIST OF ABBREVIATIONS

ND.....	North Dakota
USDA.....	United States Department of Agriculture
LLC.....	Limited Liability Company
NDSU.....	North Dakota State University
RLND.....	Rural Leadership North Dakota

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# 1. INTRODUCTION

While rural communities have been the backbone of American agriculture, energy, and manufacturing, they've experienced more economic decline than their urban counterparts. With aging populations and the outmigration of their young workforce, these areas are struggling to maintain economic health. Historically agricultural and resource-dependent, rural communities have been forced to evolve as sprawling urban development has changed the form and function of many small towns (White, 2022). Between 2010 and 2020, the 2020 Census revealed that rural populations also declined, making it the first decade-long rural population loss in history (Johnson, 2022). Rural America's population decline can be attributed to a variety of factors, with perhaps the most imposing issue being a lack of opportunity. Small towns struggle to maintain vitality with limited educational, professional, and recreational opportunities (White, 2022). While small-town life offers many benefits, many Americans leave for urban amenities. As these areas experience both economic and population decline, a critical investigation must be done into the identity of these communities, their declining factors, and the validity of reviving them.

## 1.1. Problem Statement

"If you've seen one rural town, you've seen one rural town" (Schwartz, 2012). This quote from the National Association of Development Organizations illustrates how rural communities can be especially unique, despite similarities in size. The validity of reviving small rural communities should be assessed on an individual basis as they each have varying histories, resources, and demographics. These factors can influence how successful revitalization projects could be in an array of differing rural communities. This investigation will outline how rural revitalization is able to address some of the barriers currently existing between rural and urban

communities. Rural revitalization, in North Dakota specifically, will be explored as a tool to strengthen the communities that support the success of the state. North Dakota's rural communities require an integrated strategy that can be implemented across the state for any townships pursuing revitalization.

### **1.1.1. Research Questions**

How can small rural communities be revitalized? These towns need to attract businesses and residents while reinvesting in their community development. Is it worth the effort? To understand the scope of rural revitalization, it is important to first identify the economic viability of rural areas, the quality of life in small towns, and the environmental impact of reviving rural communities.

Lack of economic viability is a popular argument against rural revitalization. Investigating the potential for new industries in rural communities may prove to be an effective way to introduce new life into dying small towns. Rural areas are often remote and have small populations, which can make it difficult to attract businesses and create jobs, but perhaps these communities would benefit from creative enterprises rather than relying nearly exclusively on manufacturing and agricultural operations. Rural revitalization may also be viewed as an inequitable disbursement of resources. Reviving rural communities would take resources away from urban areas, where the majority of people live. How can rural revitalization be advantageous to a myriad of people?

Small towns often have a strong sense of community and a lower cost of living than urban areas. As urban areas continue to become more expensive to sustain, small towns could offer a more accessible living environment. Rural areas are often more environmentally friendly than cities. They have less pollution and more open spaces than urban areas. With

underdeveloped existing infrastructure, rural communities have the potential to develop their towns with sustainable practices and policies for the future.

How can the built environment of small rural communities be adapted for modern needs and uses? As urbanism possessed the nation in the 20<sup>th</sup> century, established traditional main streets were lost to developers. Rural American towns often remained traditional main street communities, without any need or funding for office buildings or parking garages. The universal charm of main street as a public realm has resurfaced, after many urban areas have lost their relationship with locally owned businesses and historic buildings (Jaffe, 2018). As many rural communities have maintained these qualities, their downtown environments should be regarded as important assets for revitalization. Restoring historic downtowns with preservation and adaptive reuse techniques would improve economic and social vitality in the community. Repurposing existing structures should be prioritized to maintain the identity of small towns, but also because sustainably, it's less disruptive to the environment.

Revitalizing rural communities requires a comprehensive and integrated approach that addresses economic, social, and environmental issues. The best approach to rural revitalization will vary with the needs of individual communities. Employing personalized strategies, along with strengthening existing physical and economic infrastructure, will be critical to ensure lasting developmental success.

### **1.1.2. Proposed Outcomes**

From this research, a set of clear strategies to implement while pursuing rural revitalization will be produced. Socioeconomic policies will be important to improve the health of rural communities, while also identifying how the built environment can be manipulated to

save declining small rural towns. This research will also explore the integration of sustainable design practices during the revitalization process.

After identifying a single declining rural community of focus in North Dakota, expected deliverables will include site maps, conceptual building renovations, suggested reuse projects, and new buildings to integrate into the community, along with policy recommendations. Particular interest will be paid to exploring the addition of new amenities and service buildings, and their effect on the accessibility gap facing rural North Dakota. Adaptive reuse projects will be prioritized to maximize the efficiency of existing healthy buildings, while preserving architectural history in the rural community.

Addressing these problems with research and design solutions could offer insight into the future of rural communities in the state, but also all over the world. As previously stated, many of the challenges facing North Dakota's rural communities also affect rural areas nationally and globally. This research will be universally beneficial to rural communities with revitalization aspirations.

## **1.2. Objective**

Rural North Dakota lacks a separate state agency, but the United States Department of Agriculture (USDA) has invested funding and research into the state. The USDA Rural Development Program invested \$4.2 billion in North Dakota between 2008 and 2016 (USDA Rural Development, 2017). While some improvements have been made to diversify rural economies, how much impact can be observed? North Dakota's rural communities need a more tailored and intentional approach to revive and sustain them into the future. Small towns have the potential to blend all the history of their pasts with sustainable design practices and modern amenities, resulting in functional and beautiful built environments tucked into rural landscapes.

North Dakota loses pieces of its history with every small town that dies, but this research aims to identify strategies to breathe new life into those communities.

### **1.2.1. Aim of Research**

Rural North Dakota has become somewhat of an abandoned land. There are dozens of small communities, with major service gaps and unsustainable populations. With the death of each rural town, the state loses pieces of its history, as unique cultures, and buildings decay alongside the highways. Witnessing these townships fall into despair, going unused with years of embodied energy wasted, has partly inspired this investigation. Why didn't these towns survive? Are all of North Dakota's small rural communities destined to meet the same fate?

Exploring the possibility of reviving historically declining rural towns would not only breathe new life into the state, but also respond to modern challenges. Urban areas have become exponentially more expensive to live in than their less densely populated counterparts. Although rural areas are diverse and unique, the gap between prosperous urban and distressed rural areas continues to widen (Economic Innovation Group, 2017). As rent and mortgage prices reach new highs, costs of goods and services are also driven up. Wages are not being equitably increased with these changes, so this model of living is quickly becoming unsustainable. Inversely, rural communities continue to deteriorate as their young populations leave, bringing economic activity and viable workforces with them. The nation has also been experiencing a housing crisis on and off for the better part of the last decade, with supply shortages and inaccessible prices (Betancourt et al., 2022).

Revitalizing rural communities could be a potential solution addressing these issues. This research aims to identify a program for successful rural revitalization in North Dakota.

Socioeconomic policies and facility updates and additions will inform best practices for the prosperity of rural towns looking to attract residents, businesses, and opportunities.

### **1.2.2. Significance of Research**

Rural revitalization projects are significant for a variety of reasons, with a myriad of beneficiaries. It's critical for governments to recognize the importance of developing rural communities to foster equitable, sustainable, and prosperous futures for everyone. By improving the living standards and economic opportunities in rural areas, rural revitalization can help to reduce the migration of people to urban areas. This can help to alleviate overcrowding and pollution in cities, reducing the gap between rural and urban areas and improving the quality of life for both urban and rural residents.

Economic and social development of rural communities can help to reduce poverty and inequality among rural residents and enhance community vitality. Rural revitalization can also promote environmental sustainability by supporting sustainable agriculture practices, protecting natural resources, and integrating renewable energy sources. This can help to mitigate the effects of climate change and preserve the environment for future generations.

Finally, rural revitalization is essential to the preservation of culture and history in North Dakota. Historic buildings and landmarks located across the state in rural areas cannot develop connections to the future if they are permanently lost to the past. Rural communities have the opportunity to embrace the historic architecture that often remains in their built environment, whereas urban cities have lost many of these connections.

## **2. BACKGROUND**

North Dakota is characterized by the sprawling Great Plains, providing opportune land for various agricultural and manufacturing markets. With the establishment of the Northern



Pacific Railway, North Dakota experienced a major population boom between 1879 and 1886, with over 100,000 new residents (*Summary of North Dakota History – American Settlement*). A second major increase in population occurred between 1905 and 1920 with the arrival of over 455,000 immigrants, mainly from Norwegian and German origin. Many of these new residents were homesteaders, but some established well-organized and highly successful bonanza farms. As the industrial revolution gained traction, many of these small towns became abandoned with the eventual decline of rail travel (Burns, 2023).

These factors led to the initial establishment and eventual decline of some of North Dakota's rural towns. Further research into modern challenges facing other small communities will inform the program for rural revitalization in North Dakota.

## **2.1. Literature Review**

During the selection process of literature to review, research topics were chosen as they relate directly to rural communities, the revitalization efforts made in rural communities, and the incorporation of sustainable design practices into revitalization efforts. To propose a potential method of revitalization, it is important to understand the causes of declining rural communities while considering sustainable development practices for the future. These pieces of literature are not specific to the rural communities of North Dakota, however, much of the research can be applied to rural communities everywhere. Information is included as it can directly benefit rural revitalization efforts in the state and elsewhere, as most of these small communities face the same challenges.

### **2.1.1. Rural Community Decline and Revitalization: An Annotated Bibliography**

Published in 1988, this annotated bibliography by Brenda L. Ekstrom, and F. Larry Leistritz addresses the community economic decline of rural towns and the economic

revitalization topics applied to them. While this piece of literature is dated, much of the information remains applicable to the rural communities of today. Many of the same challenges from 30 years ago still affect declining rural communities, especially in North Dakota.

Rural areas dependent on resource-based industries such as agriculture, mining, and forestry have been hurting since the 1980's. After a period of population and economic growth in the 1970s, rural communities began to see growth rates substantially lower than surrounding metropolitan areas. "Despite acknowledging that economic decline and stagnation is a major problem in many rural areas and that substantial development efforts will be required to reverse these patterns, major questions remain concerning the complex interrelations that are central to the process of economic development." The annotated bibliography goes on to emphasize four major focuses of rural economic revitalization that are most important and still relevant today.

Firstly, greater attention must be paid to retaining and expanding existing firms, rather than just attracting new businesses. The authors stress the importance of quality over quantity in rural communities. Heightened interest in attracting and supporting entrepreneurship among residents was also noted to support economic growth. The research found growing recognition that some communities would be able to strengthen their economies by providing more social services to their individual and surrounding communities. Currently, rural communities lack access to many facilities providing things like healthcare, so it's interesting to see this was already identified as an area for improvement more than 30 years ago. The final identification was the importance of recognizing changing processes. During the late 1980s, state and local governments were assuming more active stances as federal roles were diminishing. The authors noted how rural civic engagement would be necessary to maintain the health of rural communities.

One significant finding from this literature review is that overgeneralizations concerning rural communities should not be made. “National and even regional averages can conceal great disparities in economic structure, population characteristics, resource endowments, and economic development potential.” The appropriateness of certain changes and policies will vary with each individual declining rural community.

This source has provided valuable insights into the potential scope of rural revitalization projects. Understanding the causes of the initial decline facing rural communities in the 1980s is helpful to consider along with modern issues.

### **2.1.2. Thriving Communities, Thriving State: Recommendations for Thriving Rural Communities**

As a Policy Choices Initiative project of the Indiana University Public Policy Institute, *Thriving Communities, Thriving State* explores state and local policies that can help Indiana communities fulfill their critical roles. The publication is informed by a representative group of community leaders and other stakeholders, focusing on how to attract businesses, new business investments, and workers to the area. By examining issues on a localized scale affecting changing demographic and economic communities, this research is published as it’s specific to rural and small towns. A Rural and Small-Town Commission analyzed issues important to 58 rural counties and small communities throughout the state of Indiana. The report provides insight specifically on how to maintain and grow rural populations. While the information in the project is responsive to Indiana’s rural areas, the findings are easily applicable to other rural communities, including those in North Dakota.

The report acknowledges that while small towns have charm and economic potential, they face significant challenges. Demographically, rural areas are composed of older

populations. The 65+ populations grow in these areas, while every other age group declines. Rural communities have been losing their younger populations. The out-migration of rural youth is creating gaps in the economy of these communities. Young people are often responsible for maintenance and growth of infrastructure and economic development, but with these populations missing, small towns are suffering. Causes of out-migration are often young citizens pursuing postsecondary education or employment opportunities. “Indiana’s rural counties specifically, have experienced disproportionate population loss as rural-educated youth enter college and then do not return to the community after college.”

The Indiana University Public Policy Institute suggests investment in infrastructure, human capital development, entrepreneurship, and leadership development as focus areas to address declining population issues. Improving these subjects will build the foundations of communities and drive them towards future growth. According to the commission, entrepreneurship will create jobs and retain young residents. Increased access to quality education will also be critical to rural workforce development. Quality of life and the quality of place in small towns can only grow as access to modern infrastructure and amenities evolves. Applying these same principles to the rural communities of North Dakota could develop these areas into townships that not only support themselves, but also attract new opportunities and growth.

### **2.1.3. The Natural Step for Communities: How Cities and Towns can Change to Sustainable Practices**

In their guide, *The Natural Step for Communities*, Sarah James and Torbjorn Lahti share international examples of a science-based sustainability initiative. The approach is based largely on existing laws of nature. In order to be sustainable over the long term, laws and policies

developed by humans must cooperate with, mimic, or be consistent with laws of nature. While the effects of sustainable practices are desirable, the process of incorporating these practices can often be challenging. The book describes policies and practices that should be developed working towards sustainability goals while also meeting the needs of the community. Upon review of this literary work, some of the practices that could significantly assist rural revitalization efforts have been identified.

Decrease community contribution to fossil fuel dependence and to wasteful use of scarce metals and minerals. While most rural communities, in North Dakota especially, won't be able to entirely eliminate their use of fossil fuels, developments to lessen overall use can be made. Focus on developing public transit and pedestrian-oriented travel during warmer months can minimize individual vehicular travel. In small towns, walkability should be prioritized since many of these communities are already localized. Harnessing renewable energy as a supplemental source of energy could also minimize reliance on fossil fuels.

Eliminate community contribution to encroachment upon nature. Rural communities are in part so special because of their connection to the land surrounding them. Preserving the integrity of the open plains in North Dakota will continue to be important. During revitalization efforts, redevelopment of existing sites and buildings shall be prioritized before building new ones. Building "from inside out" development and infrastructure policies shall be incorporated while preserving open spaces, forestry, or wildlife habitats.

Finally, it will also be important to meet human needs fairly and efficiently. Affordable housing should be accessible to a variety of diverse residents. Locally based businesses and food production will help the community sustain itself along with participatory community planning and decision-making.

#### **2.1.4. Working Together: A Guide to Collaboration in Rural Revitalization**

This publication done by the North Carolina State Extension, a cooperative based at North Carolina's two land-grant institutions, highlights small-town society as an asset that must be considered while working toward rural revitalization. Rural communities are unique in their varied demographics, histories, resources, and geographies. "If you've seen one rural town, you've seen one rural town" (Schwartz, 2012). It is important to include a variety of representatives from social, economic, and environmental perspectives while planning and implementing rural development initiatives. Involving small-town community members and leaders inspires the beneficiaries of these initiatives. Collaboration between local residents and external organizations can help to identify and achieve desired community improvements.

The publication explores the structure of successful collaboration, to establish a productive and enduring process of rural revitalization. Coming together, staying together, and growing together are the most important factors in a collaborative revitalization effort. Shared concerns and expectations can establish common ground between residents and developers. Rural communities are powerful places because the sense of community is often very strong (McGehee, Kline, and Knollenberg, 2014). Community support of the revitalization process can heavily influence the success of the project. The possibility for new and innovative opportunities increases when relationships are formed and maintained through demonstrated trust and commitment (Wondolleck & Yaffee, 2000).

With these facets of collaboration employed, the disparity between urban and rural communities can be addressed through a shared vision. "Rural communities should feel optimistic in these endeavors. Given the strong sense of place and deep-rooted social networks, rural communities are uniquely equipped to capitalize on the benefits of collaboration."

## **2.2. Project Type**

This is a community revitalization project, focused specifically on the validity of reviving rural communities across the state of North Dakota. Revitalization strategies were researched as they may apply to a rural community in ND, but a comprehensive revitalization program for the state has not previously been established. Strategies for revitalization are investigated throughout the literature reviews in Section 2.1, and later established for the project in the proposed program in Section 3.7.

## **2.3. Project Issues**

This thesis project aims to address the issue of outmigration of rural populations into urban areas. As explored in Section 3.6.1, a significant challenge facing rural communities is aging populations. While this project cannot solve that issue, it aims to attract and retain young residents to a declining rural community to lessen the effects of the aging workforce upon the facilities and infrastructure in the area.

Rural populations often leave for urban amenities (White, 2022). By introducing opportunities for educational and professional development, along with recreational amenities, this project investigates the potential of reviving declining rural communities in North Dakota.

### **3. METHODOLOGY**

Investigations into rural communities and past revitalization efforts informed the final set of proposed strategies and facilities. Qualitative research methods were also utilized to investigate how declining rural communities can be saved. Implementations from precedent studies and literature reviews were evaluated as they've been successful in past rural revitalization projects, and in relation to the needs of rural North Dakota. Identifying accessibility and service gaps in North Dakota's rural communities was critical for project feasibility and potential success.

#### **3.1. Approach**

Research regarding rural communities and the challenges they face is important. To get a deep understanding of their identities and how they interact with their surrounding and built environments, historical research will be conducted. This information will primarily help define what makes towns rural, what has contributed to their decline, and how they can be saved.

##### **3.1.1. Rural Community Research**

Improving the quality of life in rural communities is a strong revitalization strategy. Enhancing the physical infrastructure, such as housing, transportation, and public facilities would directly benefit the community. Rural communities can also invest in the renovation of historic buildings for local businesses, the construction of affordable housing, and the development of public transportation systems (Green & Haines, 2016). Investing in these existing assets of small rural communities will not only help to stimulate their economies but also help to preserve their historical value.

One major challenge facing rural communities is the loss of population. Approaching this issue by providing more amenities to the community would help to attract new residents and



businesses. Establishing community centers, libraries, and health centers would improve the social services in these areas. Promoting tourism and recreation in the surrounding rural landscapes or through cultural festivals, unique to the history of individual small towns, would also attract visitors and stimulate the economy. While it may not be a part of rural identity, embracing technology can also help rural communities connect with each other, access services, and attract new businesses.

Rural areas are often home to important natural resources. Governments can protect the environment by enforcing environmental regulations, investing in renewable energy, and promoting sustainable practice. Adopting practices such as energy efficiency, waste reduction, biodiversity programs, and wildlife protection measures can all be helpful to the revitalization process (Magis, 2010).

### **3.1.2. Past Rural Revitalization Projects Research and Evaluation**

Research will continue to broaden as investigations into the successes and failures of past revitalization efforts implemented in rural communities are conducted. Precedent studies on rural revitalization projects will inform best practices, and potential challenges that may not be applicable to non-rural communities. Institutions across the nation have published helpful resources related to this topic. The findings from these studies may be applied to North Dakotan communities depending on a variety of factors such as geographical location, similarities in economic status, etc.

### **3.1.3. Case Studies of Rural Communities in North Dakota**

The next step will be to conduct case studies of declining rural communities in North Dakota. The state is home to many small towns and each of them is unique in their identities and needs. Performing case studies on a range of 3-5 North Dakotan rural communities will help to identify

common characteristics along with gaps in services. Particular interest will be attributed to the interventions that could be made to the built environment in an effort to address these gaps.

#### **3.1.4. Human Subject Research**

The research question will also be investigated through human subject research. Surveying members of North Dakotan rural communities will provide responses directly from citizens involved in these declining rural communities. Responses will be collected from people with positions typically related to community revitalization. These target subjects will have a developed understanding of community needs and any actions previously taken. Questions will be prepared regarding the maintenance of small-town identity, and the improvement of rural built environments. What makes residents of rural communities want to stay or leave? Some communities are lacking more than others, so these differences must be considered while producing a set of strategies to save them from irreversible decline.

#### **3.1.5. Analysis of Research**

Analyzing the findings of the research will be the next step in methodology. It will be important to understand the factors affecting declining rural communities in order to propose solutions. Investigations will be made to understand the causes of population loss, instead of simply attributing the decline of rural towns to the broad issue of declining population retention.

#### **3.1.6. Identification of Strategies to Implement**

Based on the research findings and analysis, a set of strategies to implement during rural revitalization projects will be proposed that will improve the success of the process. Consideration will be given to strategies used in previous revitalization projects while introducing new ideas specific to the region. North Dakota's rural communities face their own set of challenges, so strategies should be specifically tailored to their needs. The final set of

strategies will consist of potential economic, social, and civic suggestions, along with a focus on interventions to the built environment. The goal of these implementations will be to improve the quality of life for current residents while attracting new residents to the community.

### **3.1.7. Study of Strategy Implementation**

Once the set of proposed strategies are identified, the ways in which the implementations will best be carried out will be studied. The past rural revitalization case studies will inform this analysis, along with considerations of individual towns in the state. Follow-up questions could also be sent to specific survey respondents inquiring about how they might like the revitalization process to be carried out. This step in the methodology will ensure the detailed plan of action clearly defines the steps and activities required to execute the strategy effectively.

### **3.1.8. Review and Summary**

As a final step in methodology, the findings of the conducted research and the proposed set of strategies will be reviewed. It will be important to summarize the information so it can be best understood and received. This step will also be a suitable place to outline potential gaps in the research, or future related research related to the project. Qualitative research methods will primarily be used to investigate the research question of how declining rural communities can be saved.

## **3.2. Project Location: North Dakota**

The large scale location of the project is North Dakota. All research was completed to facilitate a successful revitalization proposal in this state, specifically, though many of the strategies explored would be applicable to rural areas in other regions. In 2021, an estimated 42.7% of North Dakota's total population were rural residents (*Rural population in North*

Dakota). With such a high percentage of the total state population being considered rural, this research is majorly impactful to vitality of North Dakota.

### 3.3. Project Location: Velva, ND

To choose a project location, a set of criteria were established to best influence the success of a revitalization project in North Dakota. The criteria factors were influenced by the research conducted in this report, primarily established in response to case studies and the Rural Revitalization in North Dakota Survey results. Each of the locations were in North Dakota. Location A was Richardton, Location B, was Garrison, Location C was Velva, Location D was Mayville, and Location E was Rugby. As shown in Figure 01 below, Location C: Velva, ND met each of the criteria listed. Velva is centrally located in North Dakota, which also contributed to its candidacy as chosen rural town for the proposed rural revitalization project.

CRITERIA	NEGOTIABLE		A	B	C	D	E
	YES	NO					
Rural Town in North Dakota (population approx. 2000)	X		✓		✓	✓	✓
Opportunities for Tourism		X	✓	✓	✓		✓
Close Proximity a Post-Secondary Education Facility		X			✓	✓	✓
Close Proximity a Healthcare Facility	X		✓		✓	✓	
Historic Buildings in the Downtown District	X		✓		✓		✓
Availability of Housing to Accomodate Some Growth		X		✓	✓		✓
Low Environmental and Cultural Impact		X	✓	✓	✓	✓	✓
Existing Infrastructure to be Updated as Needed	X		✓	✓	✓	✓	✓

Figure 01: Site Evaluation Criteria

Velva's community and its surrounding towns make it an ideal location to implement the revitalization design program outlined in the research report. With Minot, ND only 21 miles away, Velva residents have access to both rural small-town lifestyles, and the healthcare and infrastructure amenities nearby in Minot.

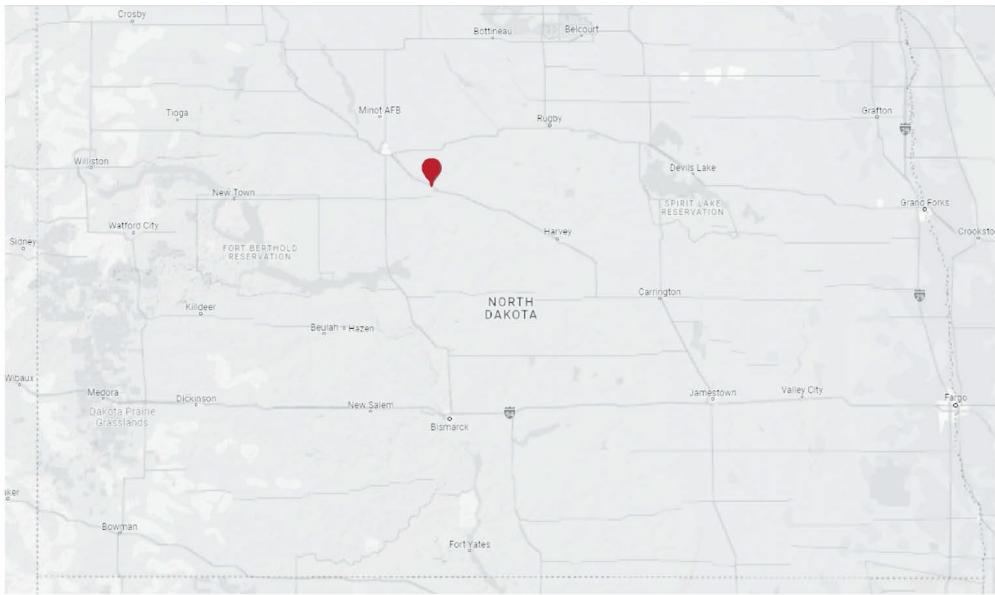


Figure 02: Velva Location on State Map

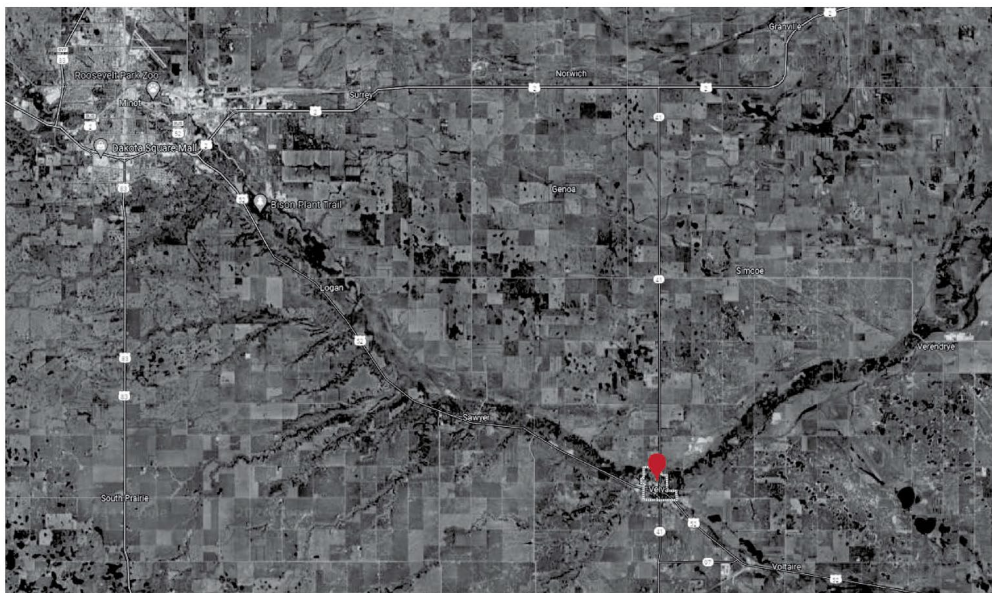


Figure 03: Velva, ND Location Relating to Minot, ND

Velva was founded in 1897 and currently has a population of 1,067 people. The town currently has:

- a school with a student body of 480, offering K-12th grade in a recently expanded facility
- an ambulance service and a fire department
- 3 churches of Lutheran, Methodist, and Catholic denomination
- a 50-bed nursing home with a 16 unit assisted living wing
- an active senior citizen center
- a public library (in the school)
- 3 dining establishments
- a clinic, chiropractic, and dental offices
- a bank and credit union
- a gas station and mechanic shop
- a swimming pool and park
- a 9-hole golf course
- a 12-unit motel

### **3.4. Specific Sites: Important Districts for Revitalization**

Spatial Ideation for “The Star City”, as Velva is advertised, will include an abstract for the community as a whole, along with a more thorough analysis of the downtown district, and its organization. Downtown development is a major subject of focus for this project as it will include elements from various core revitalization strategies.

Historically, Velva’s mainstreet was lined with traditional commercial storefronts. One goal of this project is to reclaim the charm of Velva’s historic downtown with proposed

restoration and respectful infill projects. The physical conditions of the downtown should be updated for improved safety, comfort, and aesthetics as necessary. Appropriate traffic stops, additional street lighting, and clear signage for wayfinding can make downtowns safer and more secure for residents to enjoy. Downtown development projects will preserve the existing character of buildings by implementing guidelines for consistent and attractive storefronts and streetscapes.



Figure 04: Historic Mainstreet in Velva, ND 1917

Considerations were made regarding the town overall, focusing on the appropriate districts as locations for interventions to Velva’s built environment. After identifying the core focus areas for the project, the map of Velva was produced highlighting edges of the town, landmarks, districts, and nodes (Figure 05) as design elements explored in *The Image of the City*, by Kevin Lynch.

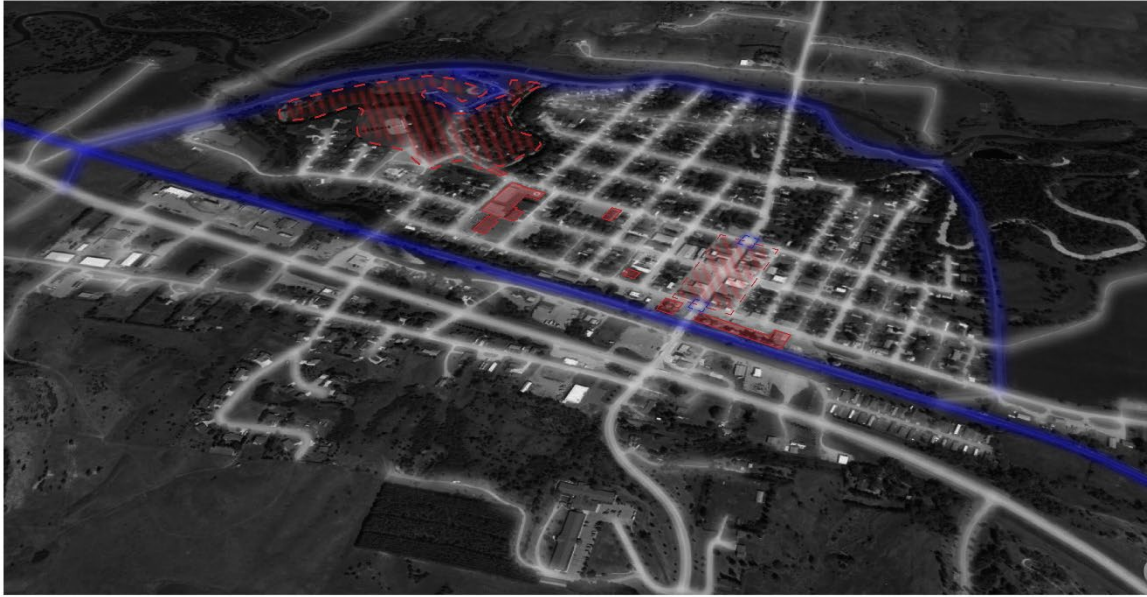


Figure 05: The Image of the City of Velva, ND

Investigations into the current status of the town's conditions were performed, specifically on buildings relating to the core focus areas of the project. In Figure 06, each icon shows the current state of affairs in Velva and represents an area of focus for the revitalization project or a town landmark. The uppermost image shows a portion of Velva's downtown district. These facades have been maintained, while others have not.

The next image to the left is the public school. This building hosts every grade level and has recently been updated and expanded. The public library is currently a part of the high school's library, which will be addressed in the project. The next image to the right is the grocery store. Its front windows appear to be boarded even though it's still operational. This building requires some aesthetic updates.

Below and to the left, is Velva's clinic. It appears residential in nature and could benefit from some additional space and designs implementing improved accessibility.



The bottom left image is the Berry Hotel, a historic landmark, and one of the only hospitality-centered enterprises in the city. Though not operational, it's currently undergoing extensive restoration. The revitalization project supports restoring this structure to its former glory.

The final bottom right image shows the industrial enterprises located adjacent to the downtown district. The historic Velva Farmer's Union grain tower and railroad system are an important landmark in the town and could potentially influence aesthetic design choices in the project.

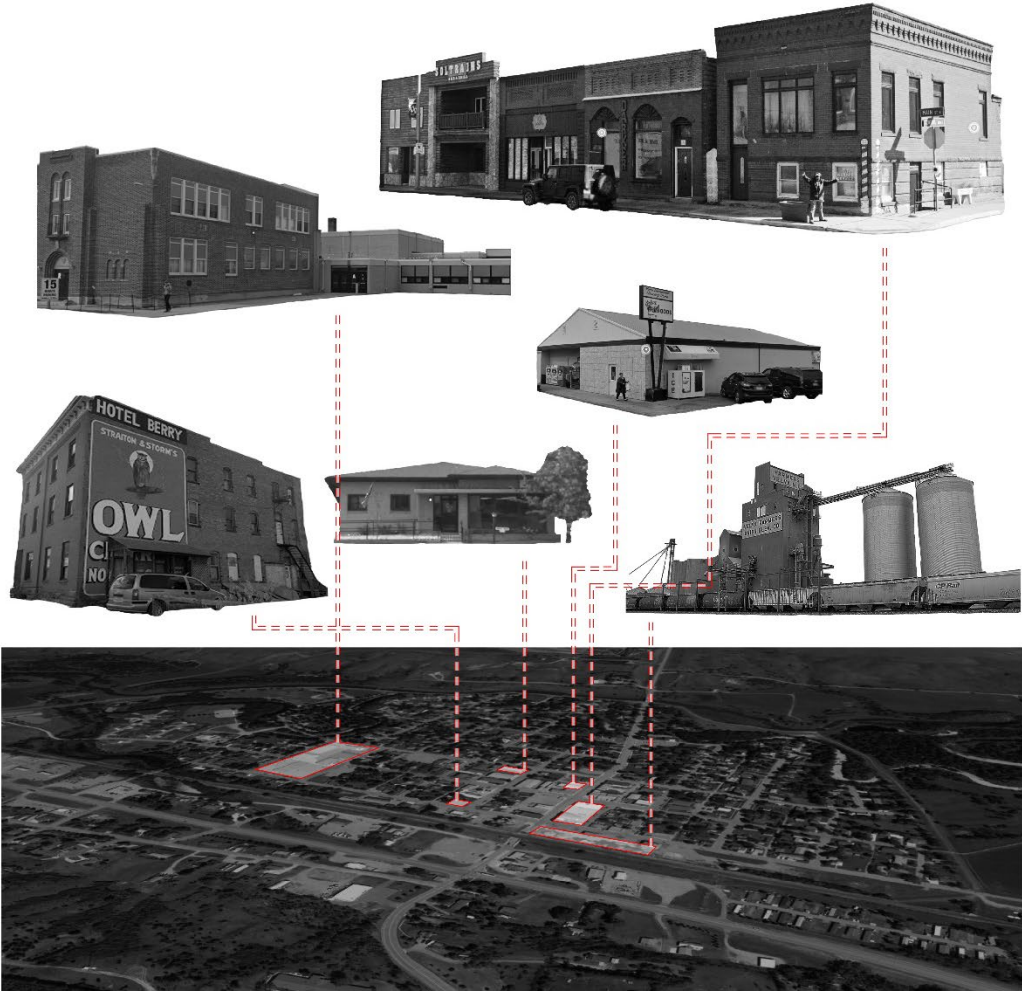


Figure 06: Icons of Velva, ND Spatial Map

### **3.5. Precedent Studies**

The following precedent studies were conducted to investigate the strategies previously used in rural revitalization projects across the nation. These communities were selected based on similarities to North Dakota's rural communities in location, demographic information, and strategic use of surrounding resources. North Dakota's small rural communities face a variety of challenges, as a result precedent studies were selected as their revitalization strategies may be applicable to local townships. A variety of strategies are evaluated, ranging from economic development and technological pursuits to downtown restoration. Informing the project program, these precedent studies will establish feasible guidelines for revitalizing North Dakota's rural communities.

#### **3.5.1. Ord, Nebraska**

While facing dramatic population decline, the town of Ord built local capacity to pursue its four pillars of community economic development: youth outreach, leadership development, and entrepreneurship. In 2000 Ord had a population of 2,300, with a median household income of \$27,300 (Lambe, 2008). The small rural town in central Nebraska is surrounded by hundreds of miles of rich agricultural land. The community was noticing a dwindling population as census data from 2000 indicated a 10 percent population loss for the preceding decade (Lambe, 2008). Loss of youth and vitality was influencing the health of Ord. As a small town built on agriculture, Ord's success was also heavily dependent on Valley County's farm economy.

To save their dying community, the City of Ord and Valley County took action in 2001. Focusing on improving the retention of young population demographics and diversifying their economic investments, Ord was able to see tremendous small town development. Working with the Chamber of Commerce, these entities committed to share the costs and revenues of

community and economic development. Ord's community leaders became active in creating programs in entrepreneurship and business development to link generations together, hoping to build the community's long-term economic vitality. As farm economy shifted, farmers in Valley County had become willing investors in new approaches to community and economic development, hoping for a diverse range of investments to pay off (Lambe, 2008). In 2005 a random sample survey of Ord businesses revealed that economic development efforts had resulted in more than \$4 million in new investment, 25,000 square feet of expansion, and the creation of 24 jobs (City of Ord, Nebraska, n.d.). Since 2000, these community revitalization strategies along with the establishment of a \$75 million dry mill ethanol plant, created roughly 100 new businesses and 350 new jobs (City of Ord, Nebraska, n.d.).

Ord's focus on entrepreneurship and business development while diversifying their economy resulted in higher population retention and millions of dollars reinvested in the community. The town was able staff an economic development office that markets the area to outsiders, works with existing small businesses and entrepreneurs, and attracts new industries into the town (Lambe, 2008). Ord's success highlights the importance of community involvement, establishing programs to increase young population retention, while attracting new residents and businesses. Linking generations of community members together proved to build the town's long-term vitality. Incorporating this approach into the project would be advantageous, as North Dakota's rural communities also struggle to maintain vitality.

### **3.5.2. Mitchell, South Dakota**

As the first community in South Dakota to heavily invest in broadband infrastructure, Mitchell has maintained its traditional small-town identity while diversifying its technology-based economy. The town has become a growing technological center in rural South Dakota

while the U.S. Census Bureau (n.d.(b)) estimated Mitchell's population to be 15,727 with a median household income of \$46,661 in 2022. New challenges in the agricultural economy, the outmigration of young community members, and interest in global economic participation inspired the City of Mitchell to strategize its growth in telecommunications and information technology.

Mitchell's educational institutions and local businesses were the primary advocates for enhancing the town's existing infrastructure. Mitchell Technical Institute invested in a center for students to access and learn about advanced technologies, receiving federal funds to enhance the infrastructure, which spurred private network carriers to install networking infrastructure across the community (Belson, 2020). Tech-based companies grew within Mitchell, with companies like Innovation Systems, LLC and Vantage Point growing and connecting with local institutions to match business needs with the education and training of young residents. For example, another local educational institution, Dakota Wesleyan University, collaborates with Innovative Systems, LLC to provide internships and project opportunities to students learning about software, mobile-platforms, and information technology (Greenblatt, 2020). These initiatives create potential for education-to-local-work channels for young residents to be trained and educated, then find work staying within the community.

South Dakota does not have state income tax to share with local governments, so Mitchell's technological revitalization relied on partnerships and collaborations between different community institutions, businesses, and agencies. Along with improving human capital, the city itself has a couple of economic development funding tools to support business growth and revitalize parts of their downtown. Mitchell Downtown Business Improvement District helps

downtown businesses physically improve the streetscape, and Mitchell Main Street Revolving Loan Fund targets loans to improve historic buildings (City of Mitchell, South Dakota, n.d.).

Mitchell's economic development strategy began with networking infrastructure investments from private and educational institutions and has evolved into a highly collaborative effort across sectors. Mitchell has witnessed a diversification of its economy from heavy agriculture and manufacturing to growing employment in tech-based industries, engineering, and medicine (Belson, 2020). The town's successful integration of tech-based enterprises has generated more income for Mitchell's residents, and more reinvestment into the town. Mitchell's establishment of a Downtown Business Improvement District and a Main Street Revolving Loan Fund has dramatically improved streetscapes and improved historic buildings, maintaining the integrity of the town's architectural history. Introducing a new way to generate revenue for the town directly benefited Mitchell's downtown environment. Mitchell is now able to attract new residents, offering authentic small-town living with plenty of professional opportunity.

### **3.5.3. Rugby, North Dakota**

Rugby's rural location on the northern plains established the town with an agriculturally dependent economy. While most of Rugby's workforce is involved in agriculture, the town also has a significant government sector as the county seat of Peirce County. Historically, Rugby's economy struggled to grow as the agricultural and government service sectors were not generating new jobs (Lambe, 2008). Rugby's Director of Jobs Development Authority, Gary Satern aimed to enhance the opportunities for the town's workforce stating, "We had to invest in our people first."

Partnering with the Center for Technology and Business (CTB), which is a statewide technical assistance provider, Satern worked to administer a low-cost computer training program

to Rugby's workforce. Rather than sending teachers throughout the state, CTB was able to select and train local residents, who were then free to administer and manage the program to other community members. Between its beginning in 1999 and 2005, more than 400 residents, about one-third of Rugby's population had completed the program.

Workforce investment can be a catalyst for improving a town's economic prospects. Rugby's revitalization strategy focused primarily on producing technologically proficient members of the workforce. By improving the skills of their workers, Rugby increased their value and pursued a strategy that was able to attract and retain better-paying businesses.

Rugby's success enhancing the job skills of its citizenry has allowed the unemployed and underemployed labor force in this rural outpost to link into the local economy (Lambe, 2008). The educated labor force positioned Rugby as an attractive site for new businesses. A broadband network model pool cue manufacturer and a similarly operated company, Varety, established occupancies in Rugby. With their new skills, Rugby citizens were also able to save a local auto body shop from permanently closing after solving major problems with its computer system.

Rugby's commitment to an educated and appropriately trained workforce resulted in increased economic opportunities for the town. By bridging the gap between their rural community and external companies through tech-based strategies, Rugby attracted new businesses without sacrificing any of their resources. This rural community in North Dakota has established themselves with a well-trained workforce, capitalizing on the same potential as Mitchell, SD attracting new residents and revenue to the area. This intervention positions Rugby as a strong potential site for my project, with existing tech and professional infrastructure in place.

#### **3.5.4. Nelsonville, Ohio**

In the foothills of Southeastern Ohio, Nelsonville is surrounded by thousands of acres of national and state forests that attract millions of tourists annually. Hocking College, a local two-year college on the outskirts of town, and Ohio University which is 12 miles away have significant influence on the civic, social, and economic infrastructure of Nelsonville. Efforts were made in the 1970's to preserve some of the town's historic buildings when Hocking College purchased several downtown square buildings, but by 2001 much of Nelsonville was crumbling. Most storefronts were boarded up with a downtown occupancy rate of only 25 percent (Advisory Council on historic preservation, n.d.). Two buildings out of the entire downtown square were open for business, with most of the historic storefronts used for student housing rentals.

Nelsonville's revitalization strategy was developed organically, as the Foothills School for American Crafts moved into a downtown storefront in 2000. By leveraging this local asset and embracing a creative economy, Nelsonville aimed to attract artists to the town by subsidizing their rent for downtown spaces. New artistic residents were able to breathe life back into Nelsonville's downtown square, rehabilitating the historic buildings in exchange for low rent costs. Not only was the built environment visibly improved, but local commerce was also boosted.

Nelsonville's successful revitalization can be attributed to a small group of residents actively working to jump-start development. The arts community created economic activity, helped to maintain historic buildings, and have recreated Nelsonville's regional reputation. The presence of art studios and creative energy attracted local and regional investment into the community, generating new businesses and high tourism levels. Nelsonville's economy has

shifted from an industrial enterprise to a creative agency, as downtown occupancy rates increased from 25 percent to 85 percents in four years (Lambe, 2008). The Nelsonville Public Square was also added to the National Register of Historic Places and designated as a Preserve America Community in December 2008 (Advisory Council on historic preservation, n.d.).

By embracing the adjacent art community, Nelsonville's downtown was completely transformed. The town is now able to attract tourists and new residents, with a vibrant and attractive built environment. The creative energy in Nelsonville is unique, as most rural communities don't possess these same characteristics or have the young community members responsible for Nelsonville's newly generated activity. Studying Nelsonville's success has influenced the site selection process of the project. It would be advantageous to designate a site that is near an educational institution or similar system that would encourage young interaction with the area. This precedent study also shows how preserving historic buildings can benefit a community. Federal funding can be accessed for buildings and sites on the National Register of Historic Places, so investigating this opportunity will also be important.

### **3.5.5. Precedent Study Analysis**

By investigating the varying implementations used across rural communities in the United States, core strategies that have been most successful in past rural revitalization projects have been identified. A variety of strategies ranging from economic development to technological pursuits, to downtown development, with focuses on civic engagement and social health were implemented. Each of these strategies address issues relating to North Dakota's rural communities, as they've all struggled to maintain vitality with age.

Ord's revitalization strategy highlights the importance of community involvement, with programs to improve young population retention, while attracting new residents and businesses.



By linking generations of community members with the project program, North Dakota's rural communities could improve professional relationships and retention of residents. Mitchell, South Dakota established themselves as a tech-hub in the region, while maintaining their small-town identity by training residents in telecommunications and information technology. Benefiting from their new economic development, Mitchell reinvested in its downtown, enhancing the marketable skills of its residents and the built environment of the town. The project program for North Dakota's rural community should implement this practice as well. Improving factors affecting quality of life for the residents will benefit the community and its vitality.

Investigating Rugby's strategy revealed how bridging the gap between their rural community and external companies through tech-based strategies, Rugby attracted new businesses without sacrificing any of their resources. The project program could include workforce investment as a catalyst for improving economic prospects, or perhaps the project site should be dependent on existing infrastructure for improved likelihood of success. Exploring the possibility of historic restoration into the revitalization project will also be helpful. Nelsonville's success illustrates how a community can attract tourists and new residents, with a vibrant and attractive built environment. The arts community in Nelsonville makes the town unique, perhaps integrating creative agencies into North Dakota's rural communities could also improve the attractiveness of the project site.

### **3.6. Rural Community Revitalization Survey**

The purpose of this research is to determine the various factors that affect community revitalization in North Dakota's small rural towns. The target population for the survey were people involved in leadership and civic engagement roles in rural communities across the state. Targeting this specific group allowed the research to be much more pointed, because the participants already possessed necessary background knowledge and experience. Sending the survey to NDSU's Rural Leadership North Dakota listserv along with a listserv of NDSU's Extension Leadership and Civic Engagement agents and specialists ensured a well-informed and personally interested set of participants for data collection.

The Rural Leadership North Dakota (RLND) Program is a leadership development program offered through NDSU Extension. The program is designed for men and women who are dedicated to strengthening the agriculture community, their community, and the state of North Dakota for the future (*Rural leadership North Dakota*). The members of this program offer valuable insight into the needs and goals of rural communities across the state. A total of 174 people from RLND and NDSU's Extension Leadership and Civic Engagement Program were invited to complete the survey. Past and current members of RLND were included in the target population, providing a range of responses from varying towns and age groups.

#### **3.6.1. Survey Analysis**

Considering the cultivated set of participants, the survey prompted responses on a 5-point Likert scale regarding community identity, amenities, and safety. Opportunities for open-ended responses, specifically about revitalization implementations, were also provided. With these responses, the research identifies subject areas that are adequate, and subject areas that require intervention across several rural communities in North Dakota.

Responses are organized as a collection of data applicable to the state, rather than individual towns to represent the needs of North Dakota's rural communities as a singular entity. Compounding the information protects the research from participant bias and ineffective response percentages. The survey had a 24.7 response percentage, with 44 participants. While this percentage is somewhat low, the target population is specialized, so responses were of higher quality than a mass population survey would have provided. The survey responses depicted in the multi-colored bar graphs are organized by responses 'Strongly Disagree' at the top in pink, moving down to 'Somewhat Disagree' in purple, 'Neither Agree Nor Disagree' in blue, 'Somewhat Agree' in green, and finally 'Strongly Agree' at the bottom in orange.

Five core focus subjects can be identified from the survey data. Revitalization projects in rural North Dakota should prioritize developing; housing, downtown environments, education opportunities and facilities, childcare services and facilities, and community and cultural amenities. By addressing gaps in these core focus subjects, small towns across the state would not only benefit from improved physical conditions, but also the consequential opportunities generated.

Attracting new residents will be challenging with limited housing opportunities. Improving rural housing accommodations will be necessary for a successful revitalization effort. According to the survey data, housing options in rural North Dakota seem to be varying in condition with 41.03% of participants somewhat agreeing that housing is in good condition, and the next highest percentage reporting that 28.21% somewhat disagreed with housing in their communities being in good condition. Figure 07 shows the distribution of responses regarding housing conditions and accessibility for varying incomes and ages in rural communities.

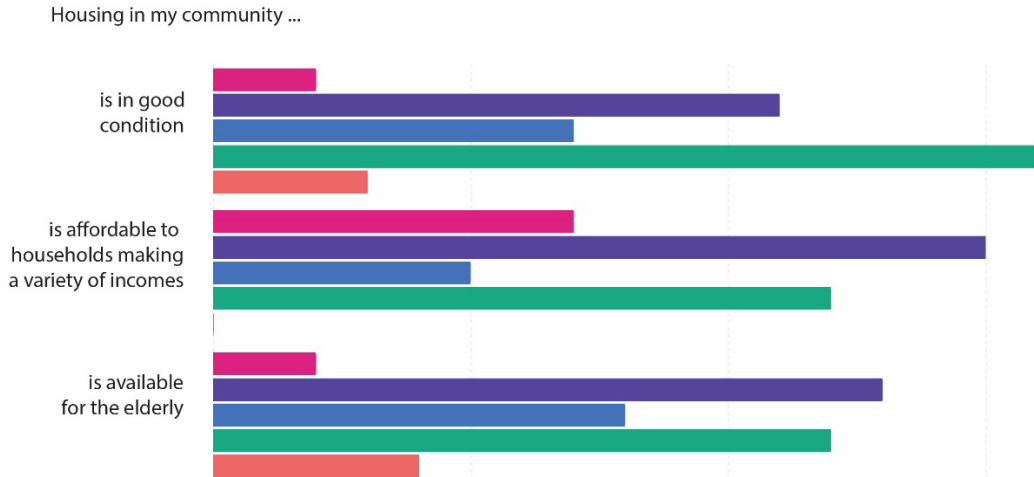


Figure 07: Revitalization Survey Responses Regarding Housing

When asked about adequate accommodations provided by their communities, responses identified single-family and multi-family housing as areas for improvement. Although housing for elderly residents seemed to be an area of concern in Question 8, elderly care facilities were reported to be adequate in Question 20. Figure 08 illustrates the adequacy of a variety of accommodations in North Dakota’s rural communities.

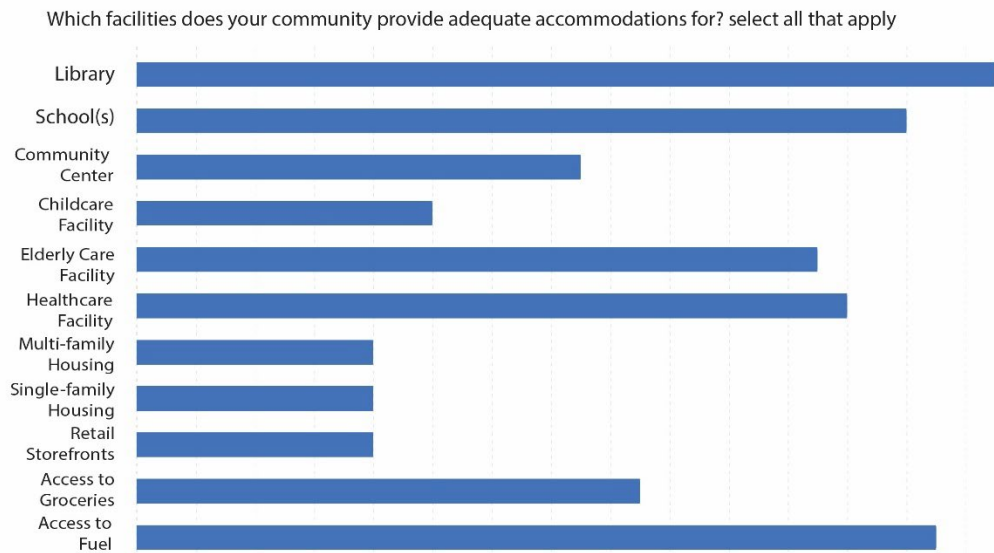


Figure 08: Revitalization Survey Responses Regarding Accommodations

In response to Question 23: ‘Are there are any implementations your community would prefer during a rural revitalization process?’, responses “more single-family housing”, “need additional housing, safe walking paths”, and “housing and mainstreet development” were all individually submitted.

Downtown development has proven to be an effective strategy for rural revitalization in past communities, as shown in the Nelsonville precedent study. Rural North Dakotan towns would also benefit from reinvestment into their traditional main streets. In response to the prompt, ‘My community has an engaging downtown environment’, 43.59% of participants somewhat disagreed with the statement, while an additional 10.26% reported strong disagreement. Figure 09 below illustrates the organization of responses.

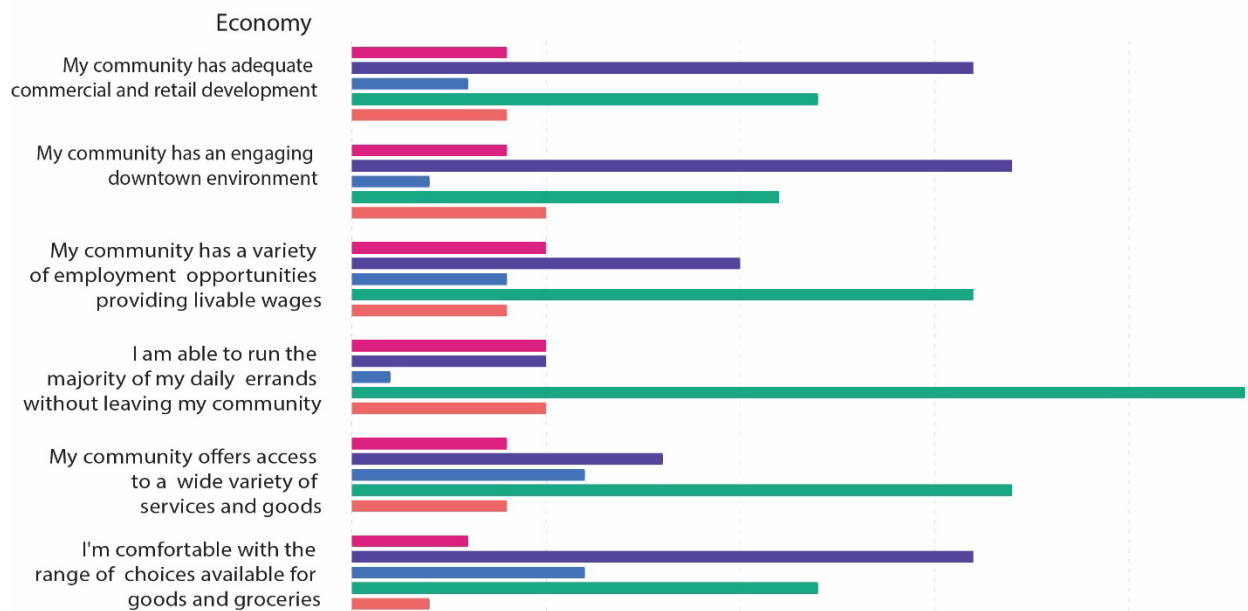


Figure 09: Revitalization Survey Responses Regarding Economy

Engaging downtowns are especially important to rural communities because they can facilitate impressive amounts of economic activity. As shown in Figure 09, more than half of participants disagreed with the adequacy of commercial and retail development. Data from this

chart also illustrates that rural residents desire an increased range of choices for goods and services. Revitalizing poorly used downtown storefronts could generate opportunities for new businesses, providing additional choices to residents.

Improvements to educational opportunities and facilities should also be explored in rural revitalization projects for the state. Overall, rural data reports that 47.37% of survey participants strongly agreed that their community provides adequate opportunities and services for K-12 education, with an additional 42.11% somewhat agreeing, shown in Figure 10. While this data is positive, additional feedback citing “adequate education facilities” and “k-12 education quality” as issues, were also submitted answering Question 15: ‘What are some core challenges your community faces?’. In response to Question 22: ‘Are there are any implementations you’ve seen work poorly in the past?’, one participant reported “We haven’t found the right way to convince folks the importance of updating educational facilities.” Another participant stated, “School board is dysfunctional, and teachers are fleeing”, to the same prompt. How can the quality of these educational entities and their facilities be valued to inspire investment and better maintenance?

Figure 10 shows the general lack of access to post-secondary education (38.46% strongly disagreeing and 12.82% somewhat disagreeing on adequacy of provided services), job-specific education and training (18.42% strongly disagreeing and 34.21% somewhat disagreeing on adequacy of provided services), and vocational education and training (23.08% strongly disagreeing and 30.77% somewhat disagreeing on adequacy of provided services). Rural communities would benefit from these additional post-secondary services as their students and workforce could become better educated and more qualified. In response to Question 23: ‘Are there are any implementations your community would prefer during a rural revitalization

process?', one participant responded, "Enticing young people to return to the community after education, whether it is tech/trade skills or professional jobs". Small towns continue to face major outmigration of their young population, but if these residents weren't forced to leave for access to educational opportunities, rural communities could better retain young-adult citizenry.



Figure 10: Revitalization Survey Responses Regarding Opportunities and Services

A major accessibility gap in rural North Dakota is childcare. As shown previously in Figure 10, only 5.13% of survey respondents agreed that their community provided adequate accommodations for childcare facilities. Figure 10 also identifies a childcare facility as one of the most popular potential additions to the community, tied for most popular response with single family housing. Rural data reports that 17.95% of survey participants strongly disagreed that their community provides adequate opportunities and services for adequate childcare options, with an additional 35.90% somewhat disagreeing, shown previously in Figure 10. Addressing this service gap in rural revitalization projects will be important as some young

families may not be able to maintain residence in rural communities without adequate childcare accommodations, contributing to the outmigration of young populations.

Rural small towns would also benefit from the addition of cultural and community amenities. Urban areas entice residents with exciting conveniences and luxuries, but they are also overcrowded and expensive. North Dakota’s rural communities could compete with their urban counterparts by improving cultural and community comforts without sacrificing their small-town identities. Lack of cultural amenities was the second most identified core challenge facing North Dakota’s rural communities (second only to aging population), shown in Figure 11. In response to Question 18: ‘What are some of the most important characteristics of your community to maintain?’, ‘History and Tradition’ was selected by 54.54% of survey respondents, shown in Figure 11 below. Perhaps a cultural center or alternative multiuse facility could be proposed exhibiting local heritage, while integrating additional elements for educational opportunities as “ethnic integration” was submitted as an ‘other’ response to Question 15 regarding core challenges facing rural communities.

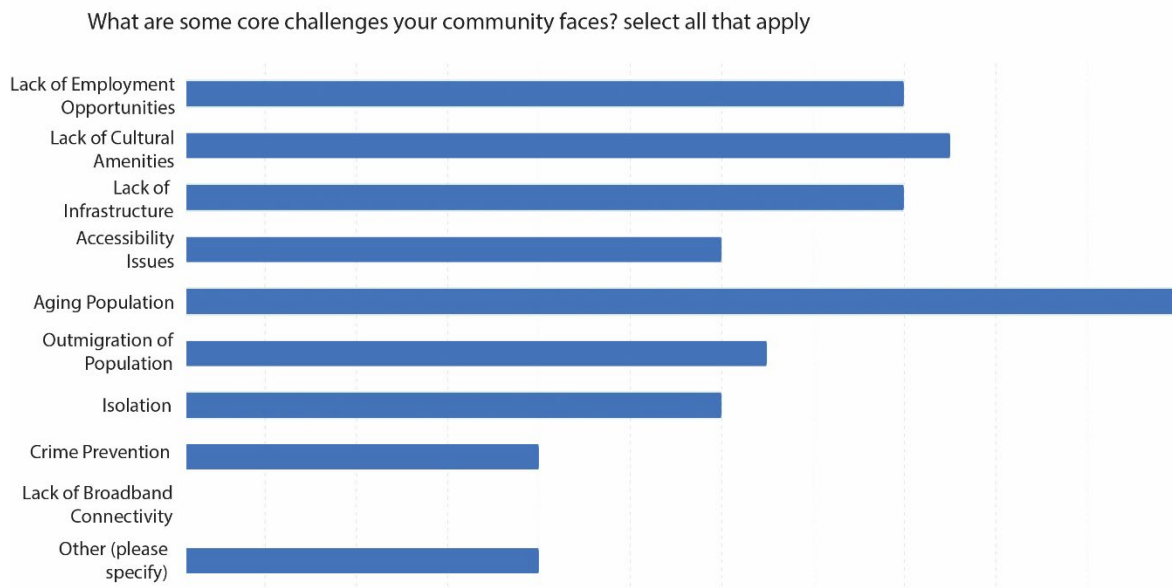


Figure 11: Revitalization Survey Responses Regarding Core Challenges



A strong sense of community is one of the most important characteristics of rural small towns and should be maintained and enhanced during revitalization. As shown in Figure 11 above, ‘Safety and Security’ and ‘Community Gatherings’ were the two most frequently selected answers regarding important community characteristics. These qualities are extremely valuable but while identifying adequate community accommodations in Question 20, ‘Community Center’ only selected 7.69%. The addition of a community center was also identified as one of the most beneficial potential additions to rural communities. The establishment of a community gathering place will be important especially during revitalization, to facilitate civic engagement and ensure fair accommodations for future use.

Accessible healthcare was expected to be an evident service gap in rural North Dakota; however, survey data reflected otherwise. North Dakota’s rural community leaders reported adequate accommodations for healthcare services and facilities with 35.9% somewhat agreeing that their healthcare needs and services are met, and an additional 30.77% strongly agreeing shown in Figure 10. Considering this data, interventions to healthcare facilities will not be included in the project program for rural revitalization in the broad scope of North Dakota. Further research into the needs of individual communities should be investigated and accommodated as necessary.

Lack of leadership was also identified as an issue, with one survey participant stating, “The challenging part about community-focused projects [is] finding the right person to champion them. There [are] a handful of people dedicated and knowledgeable enough to carry out positive changes in communities and they are already stretched too thin and lack the capacity to add additional projects to their list. We need more passionate, dedicated community members who are willing to drive progress. As a small community, we do not have the financial resources

or the capacity to take on new projects.” How can towns across rural North Dakota attract attention from financial partners to invest in rural revitalization?

The ND Department of Commerce has advocated for these communities in the past, with the Bank of North Dakota and the Flex PACE program referenced in some survey responses, but as funding tapers for projects, momentum is lost. Rural revitalization strategies must develop socioeconomic policies designed to encourage community involvement and lasting investments in revitalization projects.

### **3.7. Revitalization Program**

The intention of this program is to identify strategies for implementation while revitalizing North Dakota’s rural communities. Small towns face distinct challenges stemming from outmigration and lack of opportunity, as shown in precedent studies and the Rural Revitalization Survey specific to North Dakota, but they also possess unique opportunities for developing their economies and built environments. Application of insight from precedent studies, literature reviews, and data collected from surveying members of rural North Dakota’s leadership, has informed a typical program for revitalization projects in rural North Dakota. Successful schemes will require a comprehensive program addressing socioeconomic policies and facility programs, designed to attract new residents and businesses while enhancing conditions for existing entities.

#### **3.7.1. Socioeconomic Policies**

Economic development can provide strategies that rural, small towns can use to grow their economies, enhance their communities, and create viable opportunities for residents and businesses (White, 2022). As explored in the literature review of *Rural Community Decline and Revitalization: An Annotated Bibliography* by Brenda L. Ekstrom and F. Larry Leistritz,

attention must be paid to retaining and expanding existing firms, rather than just attracting new businesses. Incentivizing development of local businesses will benefit the community by encouraging collaboration between residents. Regional collaboration of enterprises from neighboring communities could also help to address shared service gaps and opportunities. Policies should be established to **support local entrepreneurs and small business** through training, mentoring, and access to capital. Establishing professional relationships between young population members and local business owners encourages overall population retention as shown in the case study of Ord, NE.

Education and workforce development programs should also be implemented in rural revitalization projects. **Skills training programs that align with the needs of local industries** should be explored, as they've been proven to improve workforce marketability in rural towns such as Mitchell, SD, and Rugby, ND. Access to higher education would also improve the retention of younger demographics. Introducing a satellite campus stemming from a nearby institution could be a feasible solution to the general lack of higher education access in remote small towns.

**Infrastructure investment** will also support rural revitalization with transportation upgrades, enhanced utilities, and ensured broadband access. Transportation infrastructure should be well maintained and improved, when necessary, to improve connectivity and accessibility to important community sites. Upgrades to existing water, sewage, and energy infrastructure could be explored to support community needs and attract residents and businesses. Natural resource management should also be explored. Rural communities have the opportunity to **integrate sustainable practices** into their communities during the revitalization process. Renewable energy initiatives could be developed to support renewable energy projects in the area, along

with conservation initiatives for sustainable land use practices and efforts. Protecting natural resources and biodiversity in North Dakota's rural environment is important for agricultural health. These initiatives, and the exploration of others, could support local agriculture in rural environments.

**Community development initiatives** should be made to enhance the quality of life for rural residents. Community centers, libraries, and recreational facilities would support the vitality of the town and help to attract new residents. Community engagement is important to maintain during rural revitalization, so it will be critical to support local governance. Data from the Rural Revitalization Survey showed that ineffective leadership was a core challenge impeding the success of past revitalization projects in rural areas across North Dakota. Training and resources should be provided to community leaders and organizations to enhance their capacity to drive local initiatives through capacity building programs. Improvements to facilities could also encourage participation in decision-making processes.

### **3.7.2. Facility Programs**

In direct response to data collected in the Rural Revitalization Survey, a program for facility updates and additions will be vital to implement while making interventions to the built environment of rural communities across the state. Downtown development can improve the physical conditions of the community, while being used as a tool to facilitate economic growth. Gaps in educational building quality and childcare services were widely consistent. Accessibility to both single and multi-family housing is a core challenge that should be addressed with rural revitalization efforts, along with establishing facilities to provide cultural and community amenities for residents.

The historic integrity of small rural communities should be maintained by utilizing existing structures while revitalizing downtown districts. Several rural communities in North Dakota have buildings listed on the National Register of Historic Places, protecting these structures for future generations to enjoy. The preservation of significant historic buildings should be prioritized over new construction projects, especially during downtown development. As discussed by Eric Jaffe in the *Medium* article, ‘Quantifying the death of the classic American Main Street’, mainstreet’s are social hubs that are integrated into everyday lifestyles. They’re unique as a public realm because of the interactions they serve with business spaces, rather than parks or plazas for recreational use. The historic charm of aged buildings helps to establish clear downtown realms, while preserving traditional ties to the history of the town. Restoring existing storefronts, and adding new retail storefronts, when necessary, while incorporating residential units into upper levels of these buildings will help to increase population density and facilitate healthy downtown engagement.

Updates to existing infrastructure such as improvements to pedestrian and vehicular traffic paths would also improve the vitality of rural downtowns. Accessible design features should be incorporated to ensure enjoyable downtown experiences for people of all abilities. The **downtown development** stage of rural revitalization would be an opportune time to involve local artists and creative enterprises in projects, as evaluated in the Nelsonville precedent study. The physical conditions of the downtown should be updated for improved safety, comfort, and aesthetics as necessary. Appropriate traffic stops, additional street lighting, and clear signage for wayfinding can make downtowns safer and more secure for residents to enjoy. Providing street furniture such as benches or amenities like clean public restrooms can enhance the comfort and convenience of downtowns. Downtown development projects should preserve the existing

character of buildings by implementing guidelines for consistent and attractive storefronts and streetscapes.

Plans to **update existing facilities for K-12 schools** should be established, exploring potential expansions or re-use possibilities. Connections to outside community colleges or vocational/trade schools would also be advantageous to young people in the area and employers seeking appropriate training for workforce development. The **integration of a satellite campus** branching from a nearby institution should be explored for these opportunities. Adaptive reuse of an existing structure near a functioning school would be an ideal location for a satellite campus. Students enrolled in high school could explore career paths and perhaps even complete dual-credit courses through the integration of a community college or vocational training program. Repurposing an existing building would save costs, allowing for more money in the budget for establishing these programs. A satellite campus location could also be explored near the town's downtown district, stimulating economic activity between students and businesses.

Childcare was a major service gap identified by data collected from the Rural Revitalization Survey. The revitalization program should address this need by proposing a **new childcare facility** for the community. New construction for this project would be appropriate to best meet safety and accessibility requirements. An addition to a potentially existing preschool could also be explored. A childcare facility site should be evaluated for hazards in the surrounding environment, zoning and licensing regulations, proximity to amenities and emergency services, and future development plans. By carefully considering these criteria, a site can be chosen that not only meets regulatory requirements but also provides a safe, accessible, and enriching environment.

The program for this facility should address design considerations regarding age-appropriate spaces, classroom layout, and outdoor play areas. Distinctions must be made for different age groups accounting for developmental needs and safety requirements. Plans should facilitate flexible classroom layouts to accommodate various activities with access to outdoor play areas that are secure and age appropriate. Design should also address health and safety concerns providing dedicated spaces for hygiene-related activities with easy-to-clean finishes throughout while meeting all safety regulations. Further programming could be developed regarding natural elements such as plants and sunlight integration, along with sensory or parent engagement spaces.

**Accommodations for both single and multi-family housing** are insufficient in North Dakota's rural communities. Investigating the quality of existing residential units should be the first step towards strengthening access to housing in these towns. Are housing conditions the problem, or is the quantity of homes available the core challenge? Research gathered from this investigation will inform the program for addressing single-family housing in rural North Dakota. Multi-family housing should be explored strategically in these areas, as apartment complexes are not typically characteristic of rural small towns. Constructing new townhomes and condos could offer affordable renting and buying opportunities for residents looking to explore multi-family units. Housing developments should be designed in response to existing residential neighborhoods while implementing future growth plans. Considerations must be made regarding scale and materials, respecting the character of the community and its rural landscape. Measures should also be established to protect agricultural land from encroachment, by providing buffer zones and easements during rural housing development.

Finally, **cultural and community amenities** should be established in North Dakota's rural towns. A community center would provide physical space for gatherings, as community engagement is a defining characteristic of rural small towns. This building could be a potential adaptive reuse opportunity, or a new construction project depending on the conditions of available spaces. The site should be easily accessible to the public, preferably located near the downtown square or otherwise centrally located within the public realm of the community. A program for this space should reflect the importance of cultural heritage and community engagement. Designing exhibition spaces for the community such as heritage displays or cultural education spaces would showcase the history of the town, encouraging resident and tourist activity. Community meeting rooms must be an important feature of the facility's program, along with a multipurpose space for potential presentations or performances. The needs of individual communities will influence this program, responding to specific requests for potential office spaces, wellness centers, or technology hubs.

### **3.7.3. Characteristics of an Ideal Community**

An ideal community is a place where people can thrive, both as individuals and as members of a community. It is a place that is well-planned, offers a high quality of life, and is sustainable into the future. An ideal town cultivates a strong sense of community, fostering connections and interactions among its residents. An ideal community also prioritizes livability, ensuring its residents enjoy a high quality of life. It offers access to essential amenities within reasonable distance, providing a sense of convenience. The town boasts green spaces, parks, and recreational facilities for outdoor activities and relaxation.

An ideal town fosters economic vitality, providing its residents with ample employment opportunities and a diverse range of businesses. It attracts businesses from various sectors,



creating a thriving economy that benefits the community. The community would nurture a vibrant arts scene, supporting local artists, musicians, and performers. By providing spaces for creative expression, the town would showcase the community's unique cultural identity. It celebrates cultural diversity, embracing the unique traditions, customs, and perspectives of its residents. The ideal community promotes intercultural understanding and respect, creating a welcoming environment for all residents. Residents with a variety of abilities and incomes are accommodated because the town prioritizes affordability and accessibility, ensuring that its residents can afford housing, healthcare, education, and other essential services. It provides accessible transportation options and ensures that public spaces are inclusive and welcoming.

An ideal town invests in quality education, ensuring its residents have access to excellent schools and educational opportunities. It encourages lifelong learning and fosters a culture of intellectual curiosity. An ideal community embraces sustainability, minimizing its environmental impact and promoting a harmonious relationship between human activities and the natural world. It prioritizes renewable energy sources, encourages waste reduction and recycling, and preserves its natural resources. The community operates with efficient and responsible governance, ensuring transparency and accountability in decision-making. It prioritizes the needs and interests of its residents, creating a sense of ownership and engagement. To ensure lasting vitality, an ideal community adopts a future-oriented approach to planning, anticipating and addressing emerging challenges and opportunities. It embraces innovation and technological advancements while preserving its historical and cultural heritage.

The proposed program for rural revitalization in North Dakota responds to the needs of rural residents in the state, while inadvertently aligning with the characteristics of an ideal community. Strong connections between the proposed program for rural revitalization and

characteristics of an ideal community are evident, especially in policy guidelines. By encompassing these elements in the program, a revitalization project could develop a thriving rural space that offers enhanced economic opportunities, vibrant quality of life, a strong sense of belonging, and a harmonious relationship with the environment. By integrating the identified qualities of an ideal community, in response to rural needs, this approach will not only revitalize rural communities but also contribute to a more balanced and sustainable future for our societies.

## **4. RESULTS AND CONCLUSIONS**

This research identifies strategies to implement for successful rural revitalization in North Dakota. Key focus areas include reinvestment into the declining communities, creating opportunities for growth, while utilizing intentional design practices in rural revitalization. The findings and identified best practices will be applied to the potential of rural built environments. Connecting these communities to integrated and intentional design will ease them into life with modern amenities and opportunities while respecting their small-town identities. With a clear set of strategies to implement, rural revitalization could be a valuable way to provide accessible and affordable places to live without sacrificing the amenities and opportunities currently exclusive to urban areas.

### **4.1. Final Project Description**

This design solution addresses core challenges facing rural ND, with facility programs to retain and attract residents. By responding to the identified core focus areas, rural communities could provide accessible and affordable places to live without sacrificing the amenities and opportunities currently exclusive to urban areas. Connecting these communities to integrated and intentional design will ease them into life with better developed amenities and opportunities while respecting their small-town identities. Velva serves as an example of how a potential rural revitalization project in North Dakota could be approached, but many of these interventions would be universally successful across the state. The design solution addresses facility interventions for each of the five core focus areas identified through the Rural Revitalization in North Dakota Survey. The focus subjects included downtown development, community and cultural amenities, childcare services and facilities, single and multi-family housing, and educational opportunities and facilities.

## **4.2. Application of the Rural Revitalization Program in North Dakota**

The objective of this project was to produce a comprehensive program addressing facility programs, designed to attract new residents and businesses while enhancing conditions for existing entities, and apply it to an existing rural community in North Dakota. The primary scope of this project focuses on the reintroduction of educational, professional, and recreational opportunities into a rural town. This project investigates the application of the proposed Rural Revitalization program in the town of Velva, North Dakota.

The project objectives are met successfully by developing and applying the program designed in response to Rural Revitalization in North Dakota Survey, researching Velva's identity and identifying core focus areas for intervention, then finally integrating urban amenities and opportunities into rural communities as a strategy to retain and attract residents. The core focus areas identified in the program are prioritized in the outlined revitalization effort.

## **4.3. Project Design and Documentation**

After evaluating the existing conditions of Velva, against the identified focus areas for the project, facility programs were developed to respond to the highlighted issues.

### **4.3.1. Community and Cultural Amenities**

Velva requires a community center, as proposed in the revitalization program. The site is located adjacent to the downtown district, at the end of Main St for optimized user interaction. Placing the community center at the edge of the downtown district also makes it easily accessible with an adjoining parking lot. The community center would be a multi-functional way to provide Velva with all the amenities it currently lacks, while reinvigorating the community. Functional spaces are included in the community center in response to identified gaps in the town. Spaces

are organized based on user groups, accessibility, shared spaces, circulation, noise, safety and security, and square footage.



Figure 12: North Entrance of the Community Center

Opportunities for community gatherings and civic engagement were identified as important characteristics for rural communities to maintain in the Rural Revitalization in North Dakota Survey. Velva’s proposed community center features many amenities, specifically for these purposes. The multi-purpose space adjacent to the north entrance, pictured above, would be an ideal location for gatherings and events, with the parking lot located directly adjacent to the entrance. The material palette remains modest to reflect its rural location with industrial influence on exterior steel elements from existing grain towers located at the south end of Main St. The visible cross element is a nod to the local school, The Velva Aggies, whose logo is an intersecting letter “V” and “A”.



Figure 13: East Elevation of the Community Center

Other amenities provided by the new community center include a gym, indoor basketball court with a second-level walking track, full-service locker rooms, a café, several outdoor spaces for gather, upper-level city offices, and a gallery space for local displays. A childcare facility was also included in the community center with separate, secure entry for parents and children as described in Section 4.3.2.

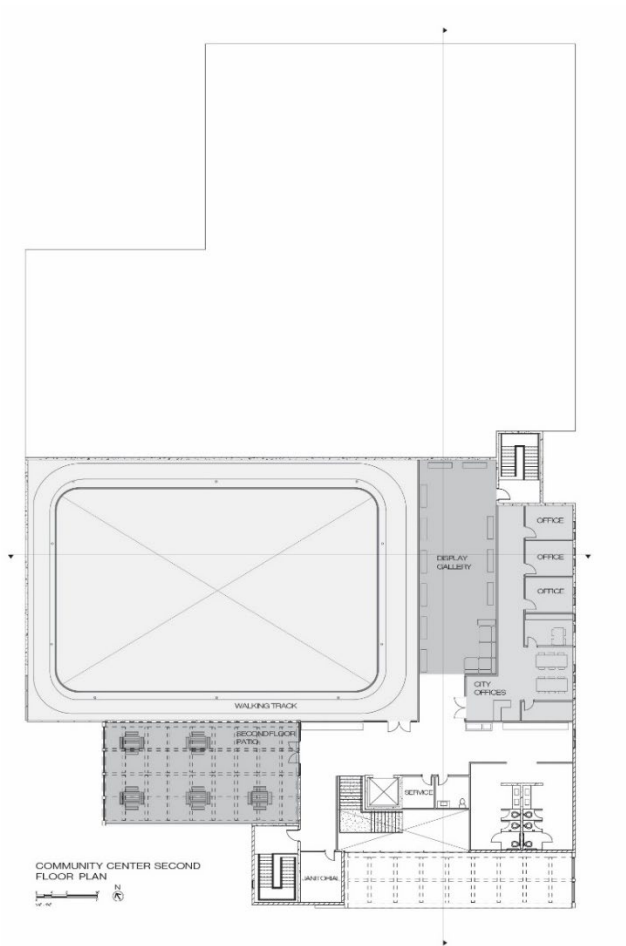


Figure 14: Community Center Second Floor Plan

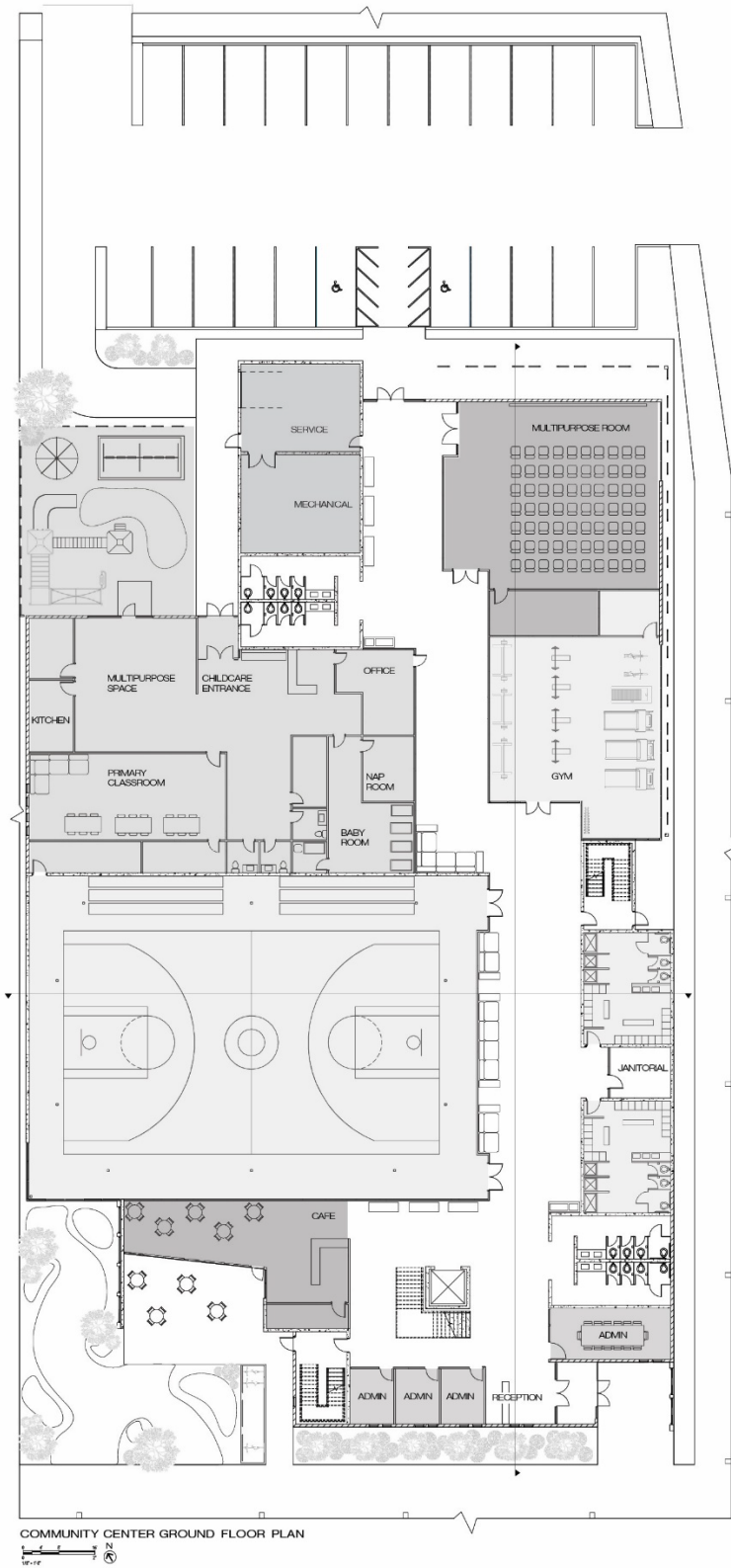


Figure 15: Community Center Ground Floor Plan

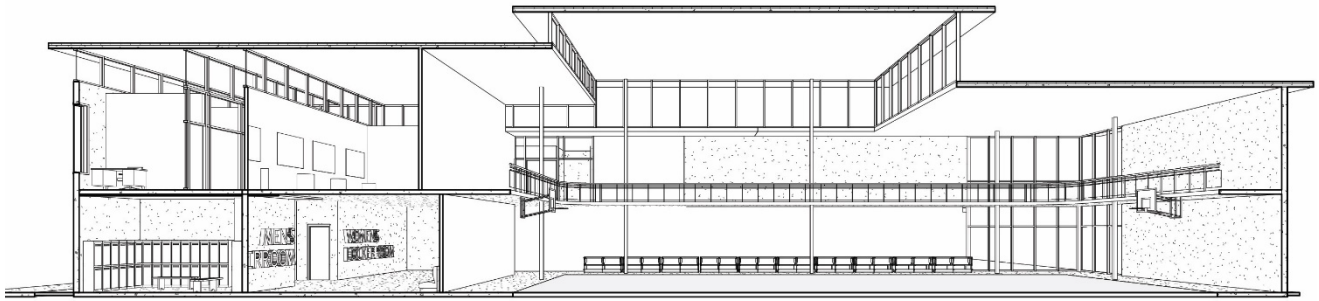


Figure 16: Transverse Section of Community Center

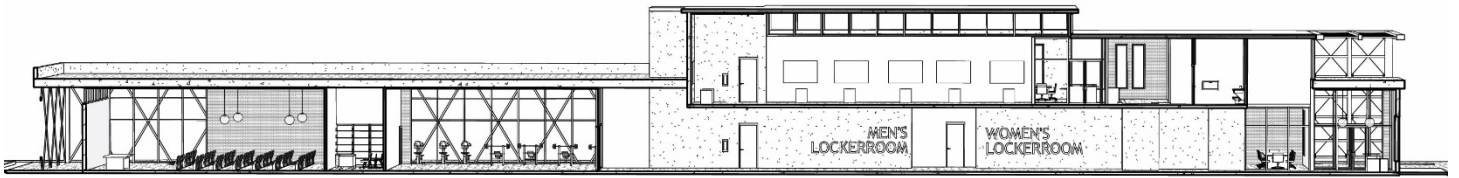


Figure 17: Longitudinal Section of Community Center



Figure 18: South Elevation of Community Center



### 4.3.2. Childcare Services and Facilities

As a major service gap identified in rural ND, childcare in Velva is currently limited to in-home childcare providers. A childcare center was included in the community center, featuring private access points and a secure adjacent playground to provide accessible care for parents and children in the community. Young families won't be able to establish themselves in Velva without adequate childcare services, so integrating a childcare center into the community center was an essential part of the program as Velva only has one childcare provider, currently operating out of a small residential home.

The spaces are organized for efficiency of use amongst the age groups, and safety. Considerations were made regarding sound, specifically near the nap space and the multi-purpose space. These areas were placed on opposite edges of the facility, so children are free to interact in the large open area, without disturbing sleeping babies.



Figure 19: Childcare Center View Towards Playground

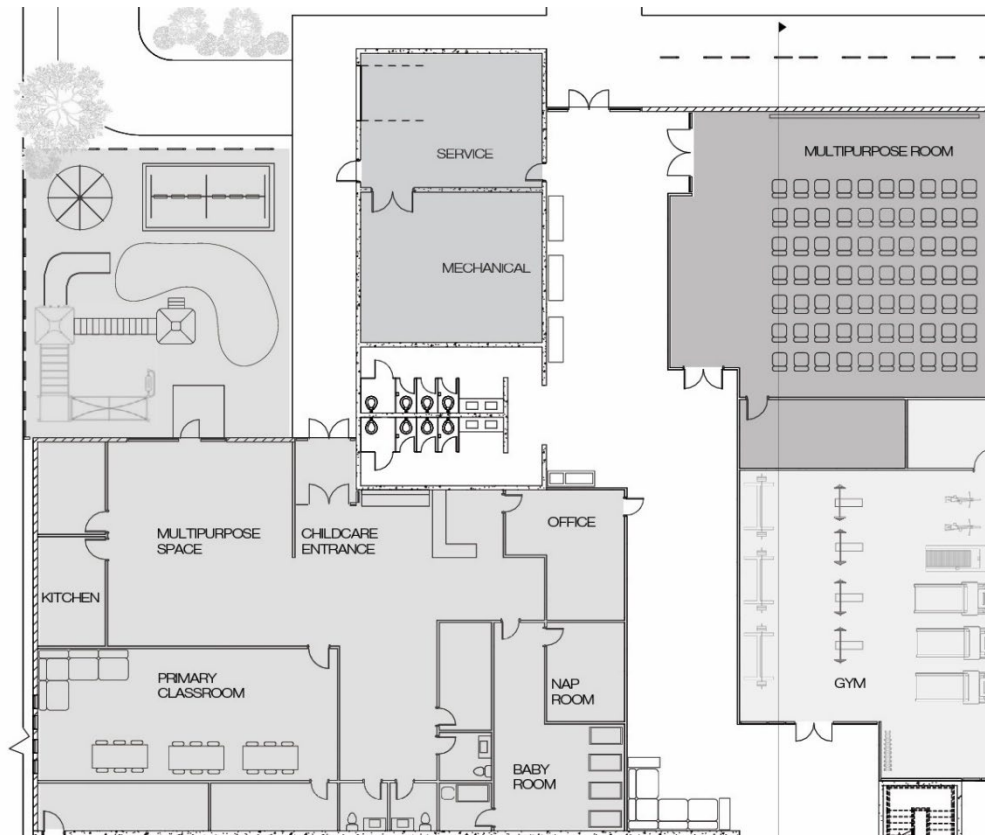


Figure 20: Childcare Center Floorplan



Figure 21: North Elevation of Community Center Featuring Childcare Center Entrance

### **4.3.3. Downtown Development**

Historically, Velva's mainstreet was lined with traditional commercial storefronts. One goal of this project is to reclaim the charm of Velva's historic downtown with proposed restoration and respectful infill projects. Interventions to Main Street can help better frame Velva's built environment. The integrity of Velva's Downtown District could be restored, by replacing some of the current conditions with buildings responding to service gaps, that also adhere to the typical storefront design established with respect to Velva's historic identity. The remaining historical buildings should be protected from unnecessary modifications. Multi-story buildings are to be reintroduced for historical integrity, but also to offer housing opportunities downtown in upper-level units, as explored in the program.

While designing potential infill projects for Velva's Main Street, a proportional scheme that could be applied (and modified when appropriate) for facade design was established. The scheme was taken directly from the remaining MUUS BLOCK building built in 1901. It's important for these buildings to blend with the remaining historic architecture so there is a harmonious relationship between old and new elements.

The scheme features a tertiary hierarchy and organization of facade elements such as windows and doors. Most of the infill buildings have also been designed to have one or two residential upper levels to address the lack of multi-family housing in Velva.

In Figure 22 the buildings in dark gray highlight intentionally filled services gaps, with the remaining buildings ambiguous in function.

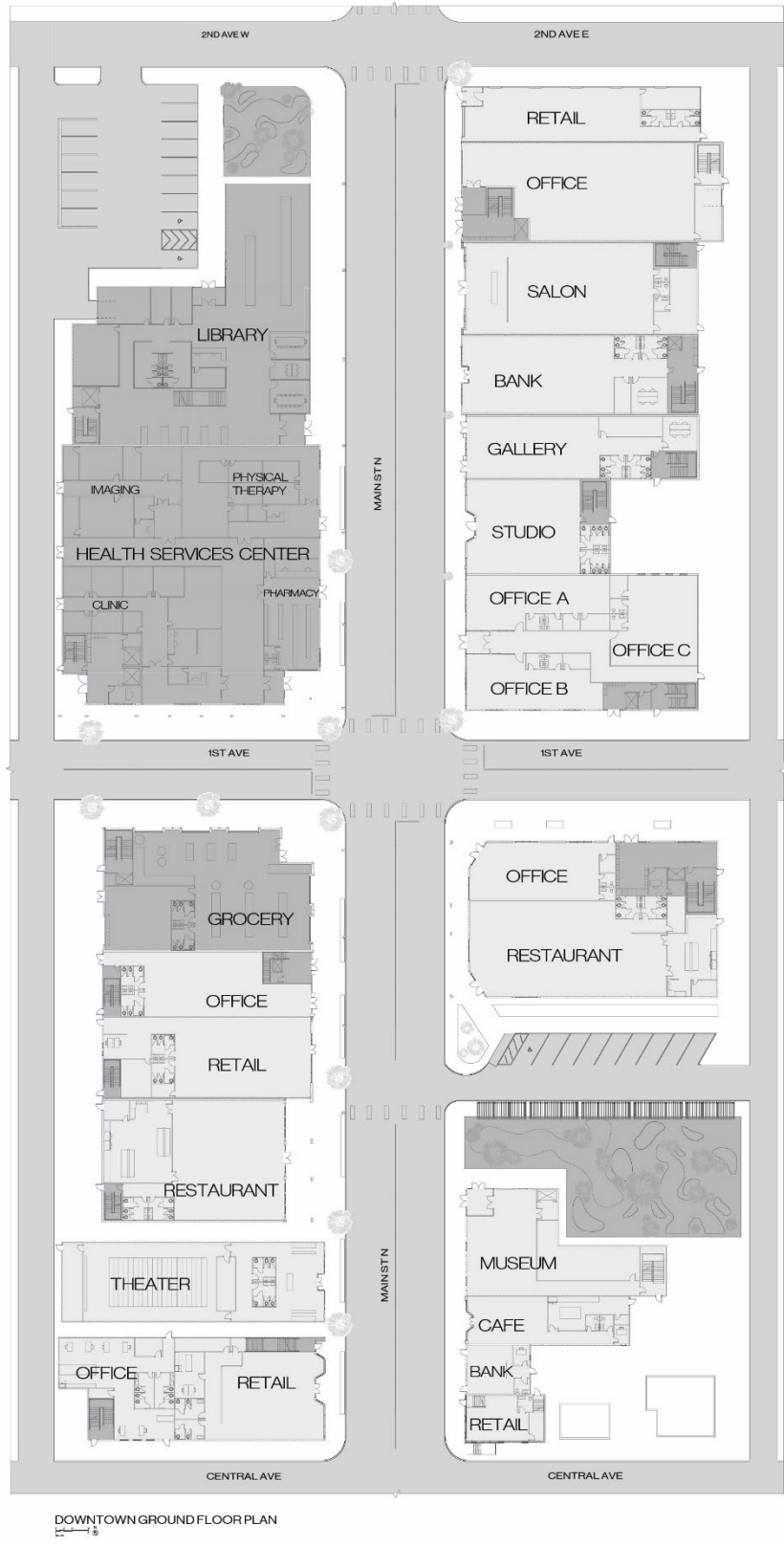
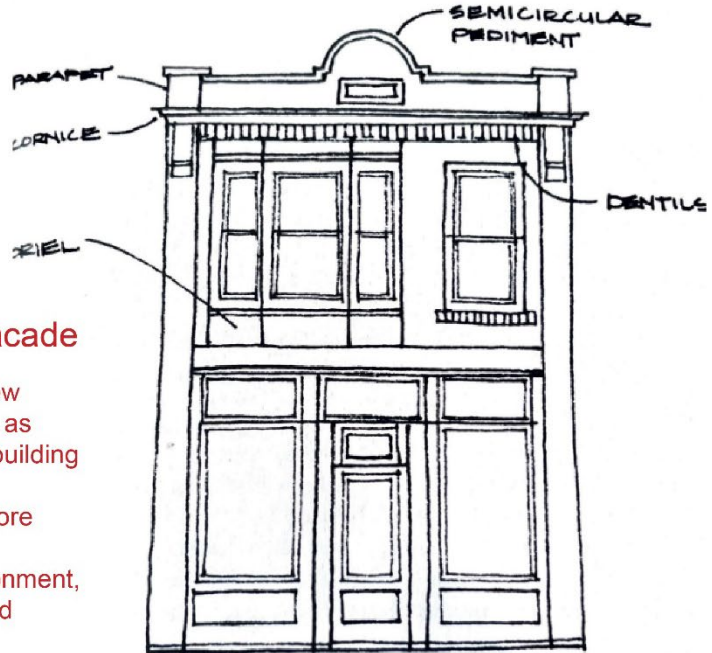
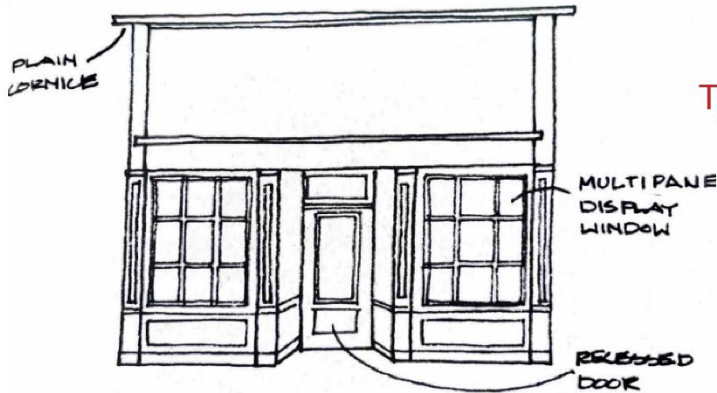


Figure 22: Downtown Velva Floorplan



### Typical Storefront Facade

- currently present in few downtown structures, as many of the existing building lack upper levels
- plan to reintroduce more prominently into the downtown built environment, with varying styles and organized uses



### Typical Storefront Level

- currently present in some downtown structures
- plan to reintroduce more prominently into the downtown built environment



### Portion of Downtown Velva - Main St Entrance

Figure 23: Downtown Façade Organization





Figure 24: Downtown View A



Figure 25: Downtown View B



Figure 26: Downtown View C



Figure 27: Downtown View D



#### **4.3.4. Single and Multi-family Housing**

Velva severely lacks any opportunities for residents looking to pursue multi-family housing. Currently, Velva boasts a healthy number of single-family homes. For this investigation, priority is assigned to the multi-family housing void in the area, although an influx of new residents would eventually require developments in both single and multi-family housing opportunities.

Some original historic buildings remain standing in Velva, serving as a reference of how the downtown district was once organized. The 1903 MUUS Block building on Main St features a storefront level along with an upper residential level of apartment units. This remaining historic building serves as the precedent for new projects on Main St, designed to accommodate housing in upper-level multi-family residential units. Entrances to the upper-level residential units are depicted in dark gray as an intentionally filled service gap on the Downtown Floorplan in Figure 22.

#### **4.3.5. Educational Opportunities and Facilities**

Educational opportunities and facilities in Velva are in good condition. Velva's original public school was updated and has recently received a significant addition. The building currently functions as a K-12 educational facility and a public library. As a minor intervention to the school, this project features a new library located along Main St, allowing Velva Public Schools to absorb the space currently used for the library. The relocation of the Public Library redistributes traffic away from the residential area the school is located in and optimizes security for the facility.



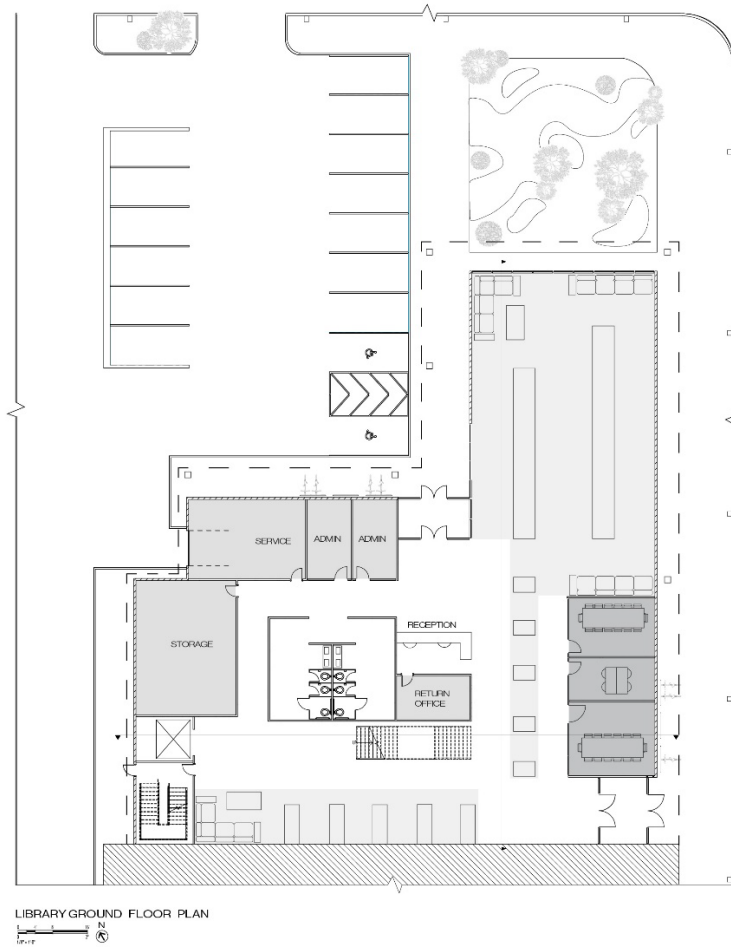


Figure 28: Library Ground Floor Plan



Figure 29: Exterior View of Library

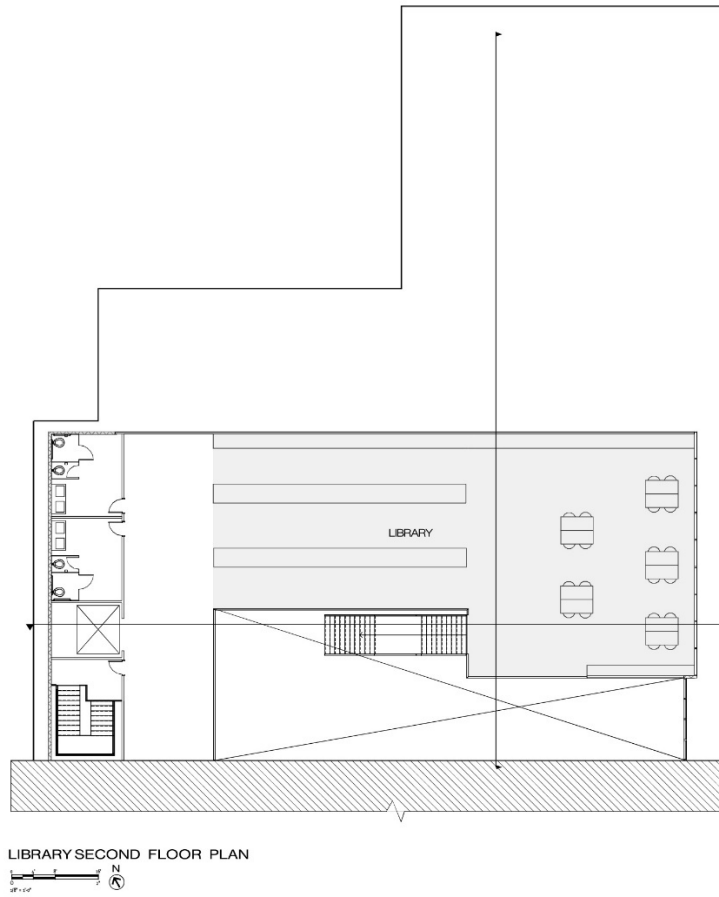


Figure 30: Library Second Floor Plan



Figure 31: Interior View of Library

#### **4.4. Conclusions**

Concluding this investigation, some topics for potential further study include interventions to the surrounding landscapes, potentially incorporating the agricultural significance of rural North Dakota into the project. Sustainable agriculture practices could have also been researched and applied to that aspect of the project.

Regarding the design solution specific to Velva, ND, further developments could have been made in the housing section of the project. Applying the industrial aesthetic to some of the downtown projects, especially in the upper-level residential units, could have produced some exciting lofts for potential renters.

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