Chapter 3. Flood Recovery in Breckenridge, MN

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Resilience goes beyond bouncing back from a disaster; resilience is bouncing back to an even better community. Resilience describes the flood recovery story of Breckenridge, MN and its sister city, Wahpeton, ND, both located on the flood-prone Red River. This case study explores the impact of the flood of April-May 1997 on Breckenridge and the surrounding area and its long-term, 20-year recovery. The case study uses the Community Capitals Framework (Flora, Flora, and Gasteyer 2016) to explore how the community's assets were leveraged to successfully recover from the 1997 flood.

The 1997 flood is but one of several floods Breckenridge experienced since the town was founded in 1857, although that flood likely had the most profound impact on the town's self-identity and development. Other recent, significant floods occurred in 1969, 1979, 1989, 2006, 2007, 2009, 2010, and 2011 when the Red River crested above 15 feet. What made the 1997 flood unique was the rapidity and severity of the food and the scope of recovery that affected nearly every aspect of the town, its people, and its institutions. Although significant floods have occurred since 1997, extensive recovery and mitigation measures have been taken to lessen flood effect. Given the impact of subsequent flood events, it is appropriate to describe the multiple and cumulative post-1997 recoveries in that each event tested the city's mitigation and response capabilities. Additionally, the interconnectedness between Breckenridge and Wahpeton and their respective counties and states (Wilkin County, MN and Richland County, ND) make this case study particularly important.

Case Study Research Methods

The study of flood recovery in Breckenridge was a team effort with researchers from several institutions (see authors and affiliations above) and used a variety of research methods. Data collection took place between April and November 2016.

Breckenridge Advisory Committee. An advisory group was formed comprised of over a dozen residents, elected officials, and community leaders from Breckenridge (the Breckenridge Advisory Committee) prior to starting the case study. These individuals were selected based on their knowledge of the community and the flood recovery efforts. A list of potential Committee members was drafted and the individuals were contacted by phone, email, and/or in person to describe the project and solicit their participation. Members of the Committee met as a group

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initially to explain the purpose of the project, the expectations of the Committee members, the Community Capitals Framework (CCF), and the anticipated outcomes of the project. Because the Committee was intended to be as inclusive as possible, the members were asked to invite others who may be interested in joining the group.

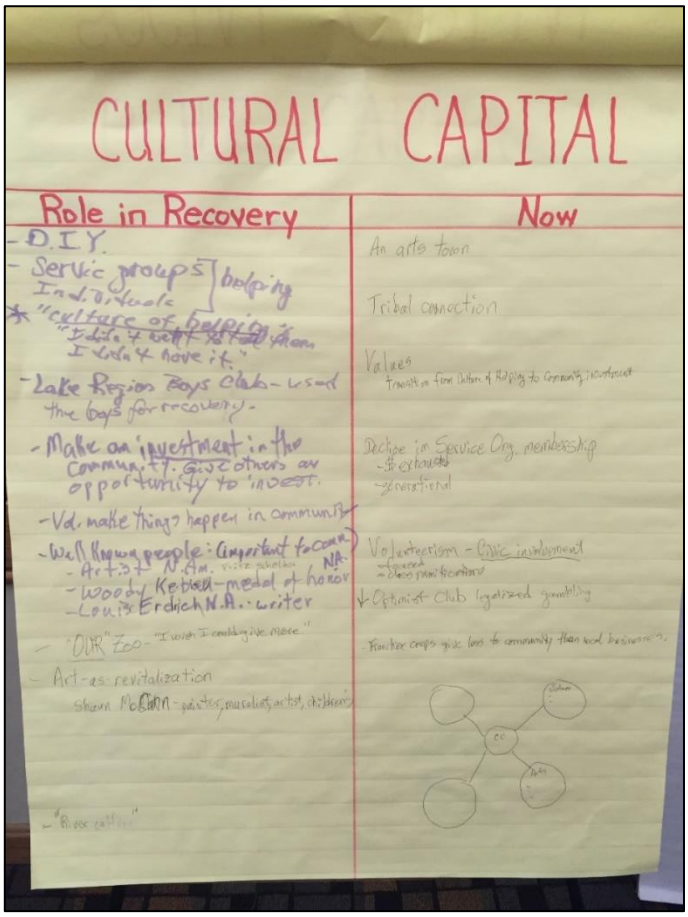
Mixed Methods Data Collection. Data were collected using the mixed methods approach (Creswell and Plano Clark, 2011). This data collection and analysis method allows the researchers to make use of multiple quantitative and qualitative approaches, maintaining the integrity of each approach. The results of each approach is triangulated to verify the veracity of all findings and to provide richness and depth in the study's conclusions. The data used in this case study came from interviews, focus groups, secondary data sources, documents, and photographs.

Interviews. Interviews were conducted with residents, elected officials, and leaders from the community. In some cases, the interviewees provided tours of their property or showed scrapbooks and mementos of their flood experiences (Photograph 1). Most interviews lasted between 30 and 60 minutes. The interviews were audio recorded and transcribed. Initially, three questions, and CCF-related probes, were asked: (1) What was the community like prior to the 1997 flood?; (2) What was the impact of the 1997 flood?; and (3) What long-term recovery efforts took place?

Photograph 1. An interviewee's scrapbook of flood pictures, Breckenridge, MN, 2016. (Source: Ashley Mueller, 2016)

As interviewing progressed, the research team found that the interviewees had a particularly strong desire to describe their personal experiences of the flood and its immediate aftermath. As a result, the last two questions were changed to: (2) Since the 1997 flood, how would you describe the community today?; (3) What steps were taken to bring the community from the 1997 flood to where it is today?

Focus groups. The first focus group session was conducted with members of the Committee. The session was held in the meeting room of a local restaurant. Five Committee members attended 90-minute session. Three questions were asked: (1) What was the community like prior to the 1997 flood?; (2) What was the impact of the 1997 flood?; and (3) What long-term recovery efforts took place? Notes were recorded on newsprint taped on the walls (Photograph 2).



Photograph 2. Newsprint notes taken during a focus group, Breckenridge, MN, 2016. (Source: Gary A. Goreham, 2016)

Secondary data. Secondary data were collected from several sources including the U.S. Census Bureau, U.S. Geological Survey, U.S. Army Corps of Engineers, National Weather Service, and the North Central River Forecast Center. Additional data were collected from the

High Plains Regional Climate Center, Wilkin County Emergency Management office, and the Federal Emergency Management Agency.

Documentary data. We subscribed to the local newspaper, the *Daily News*, to find current community information. Additionally, we reviewed archived copies of the *Daily News* between March 1997 and July 2007 to create a flood recovery timeline and to ascertain how various community capitals were affected by the 1997 flood.

Photographic data. Photographs of the 1997 flood and its subsequent recovery were obtained from the *Daily News* and the Wilkin County Museum. Additionally, photographs were taken that depict the current status of the community. Comparisons were made of the current and historic photographs.

Data analysis. "Asset maps" were prepared to list and depict the resources in Breckenridge prior to the 1997 flood (Emery, Fey, and Flora 2006). These resources were categorized using the Community Capitals Framework (CCF) comprised of built, cultural, financial, human, natural, political, and social capital. These resources had the potential to be leveraged by the community to assist in the community's flood recovery efforts. Once leveraged, these resources or assets become a form of capital, which can again in turn, be leveraged or invested.

To examine the impacts of leveraging the community's various assets, "ripple effects maps" were prepared (eXtension 2017). These graphics display chains of events categorized using the CCF and illustrate the structural relations among the various entities in the community. The results of both the asset maps and the ripple effects maps highlight the events, participants, and resources employed in the flood recovery effort.

Breckenridge pre-1997 Flood

Prior to the 1997 flood, Breckenridge was an active community with a variety of both assets and vulnerabilities. These assets and vulnerabilities are briefly described below and summarized on Figure 2.

Human capital. As a "twin city," Breckenridge is located on the Minnesota-side of the Red River across from Wahpeton, ND. Although each city is autonomous from the other, they shared several key institutions, business and industrial relations, and government functions. The population of Breckenridge peaked in 1960 with a population of 4,335. But by 1990, the population had steadily fallen to 3,708 and to 3,559 by 2000. By contrast, the population of Wahpeton peaked in 1980 at 9,064 before declining to 8,751 in 1990 and to 8,586 in 2000.

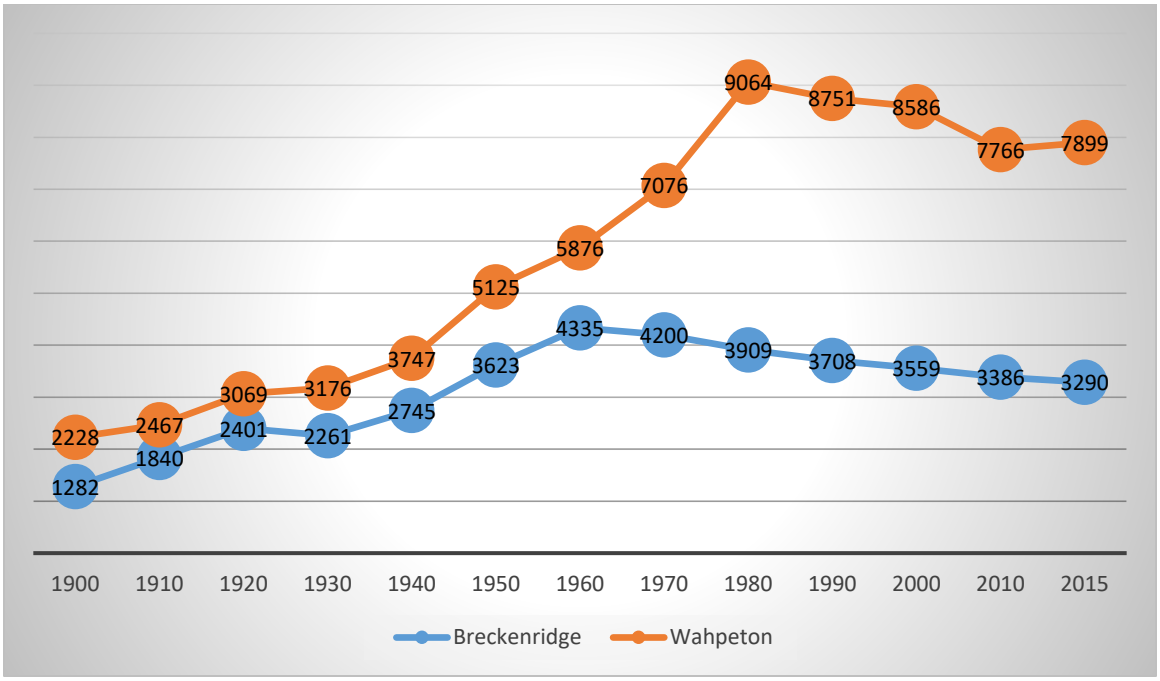


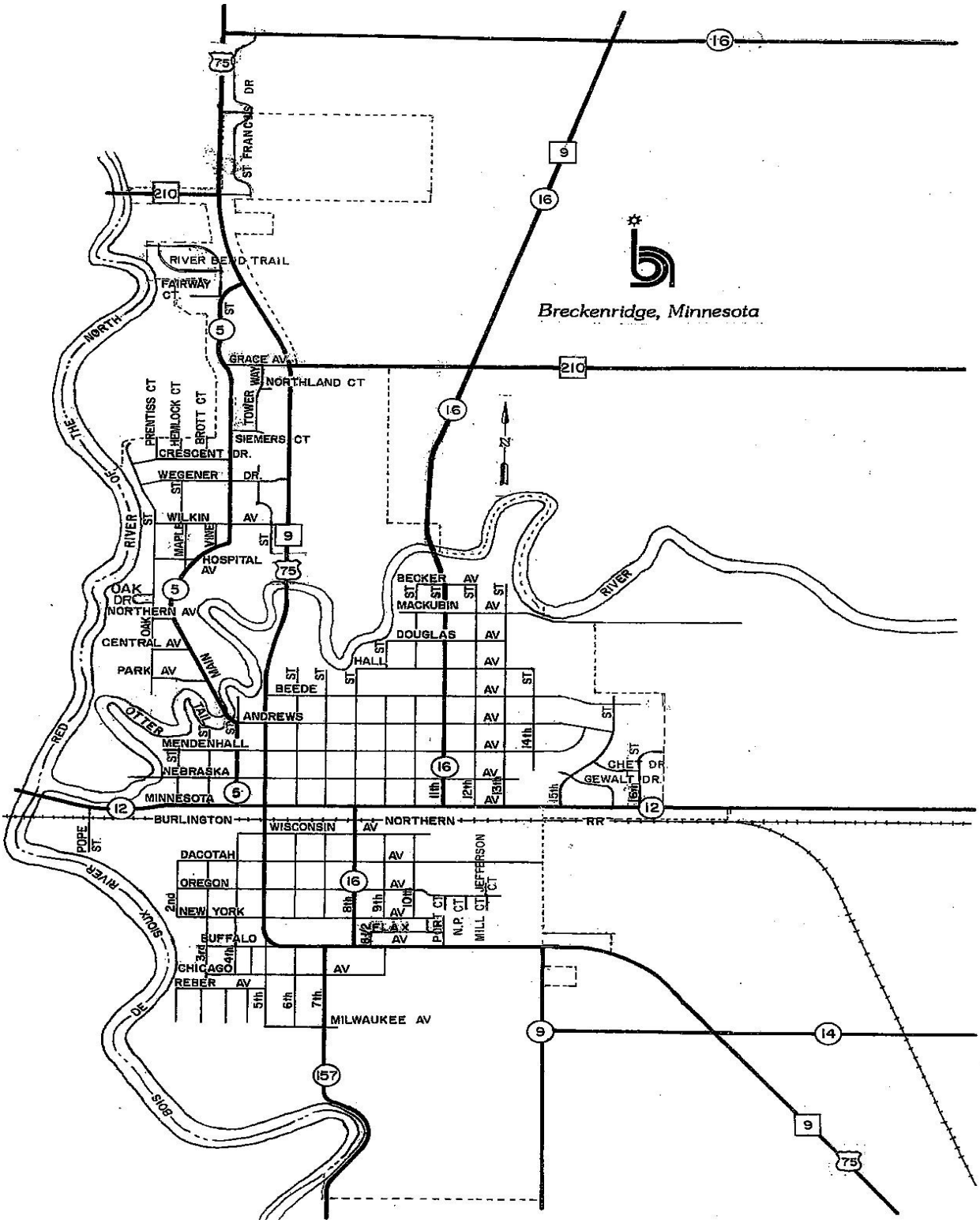
Figure 1. Populations of Breckenridge, MN and Wahpeton, ND, 1900-2015. (Source: U.S. Census Bureau)

Natural capital. The community, with a total area of 2.46 square miles, was established on the lakebed of ancient Lake Agassiz. The topography of the region is noticeably flat with drainage into the river and tributary system. The city is located at the confluence of the Bois de Sioux River (forms the western border on the southern half of the city) and the Otter Tail River (flows from the east and bisects the city) which join to form the headwaters of the north-flowing Red River (forms the western border on the northern half of the city) (Map 1).

With the deep, fertile clay-loam prairie soil left by the receding Lake Agassiz, agriculture has been the region's key industry. Residents capitalized on these natural assets to establish parks, tree-lined residential areas, the Chahinkapa Zoo in Wahpeton, a golf course, and agriculture-related businesses and industry. The rivers have been resources to the community's economy and culture, but were also the source of flooding vulnerability.

Cultural capital. Breckenridge was platted in 1857 as an agricultural community. The St. Paul and Pacific Railroad arrived in 1871 bringing immigrants largely from Germany, Norway, Sweden, Ireland, and other European countries (Breckenridge, 2016). About two-fifths of the residents were Mainline Protestant, one-fifth were Catholic, one-tenth were Evangelical Protestant, and one-quarter were not affiliated (Grammich, Hadaway, Houseal, Jones, Krindatch, Stanley, and Taylor 2012).

The community maintained a rural character with a rich history and ethnic pride. The three rivers added to the residents' cultural understanding since they established identity and their sense of place.



Map 1. Breckenridge, MN, 2017.
(Source: City Clerk, Breckenridge, MN, 2017)

Political capital. Breckenridge had a mayor-council form of government. The city government's offices and council chambers were in its own City Hall in downtown Breckenridge.

The community was the county seat for Wilkin County, Minnesota, which hosted the county court house and other county government functions such as the Auditor, Register of Deeds, Minnesota Extension Service, and Human and Social Services.

Social capital. Breckenridge was home to several institutions important to the city and the region, including a hospital, eight churches of various denominations, a nursing home, a public elementary and high school, a Catholic parochial school, the Wilkin County Courthouse, a public library, the Wilkin County Fairgrounds, and the Wilkin County Museum. Residents in the Wahpeton-Breckenridge area participated in a variety of civic and service organizations, such as Eagles and Rotary, and veterans' organizations, such as the American Legion

Financial capital. Breckenridge was home to business establishments, including several banks and savings institutions. Additionally, Breckenridge residents patronized the businesses and services in their sister city, Wahpeton, ND. The average household 1990 income in Breckenridge was $21,398 (U.S. Census Bureau). The individual and family poverty rates in 1990 was 10.9% and 7.9%, respectively (U.S. Census Bureau). The Wahpeton and Breckenridge communities each had a Chamber of Commerce, however the towns had a joint United Way.

Built capital. Breckenridge had 1,619 housing units in 1990, with 1,477 occupied units and 142 vacant units (U.S. Census Bureau). Of the occupied units, 1,025 were owner-occupied and 452 were renter-occupied, an owner-to-renter ratio of 2.3/1.0.

Roads included US Highway 75 (Minnesota Highway 9) that ran north-and-south through the community. Other roads included Wilkin County Roads 5, 9, 12, 16 that intersected in the city and Minnesota Highway 210 immediately to the north of the city. Characteristic features of Breckenridge were the sets of Burlington Northern Railroad tracks that ran east-and-west through the city (Map 1).

Institutional built capital included public and parochial schools, eight churches, multiple business buildings, city government buildings and facilities, and the Wilkin County Courthouse and related facilities. Public utilities included water and sewer. The city operated a municipal electric utility and purchased power from a regional electric cooperative. Natural gas was provided by a regional gas company. Garbage contractors provided garbage pickup services.

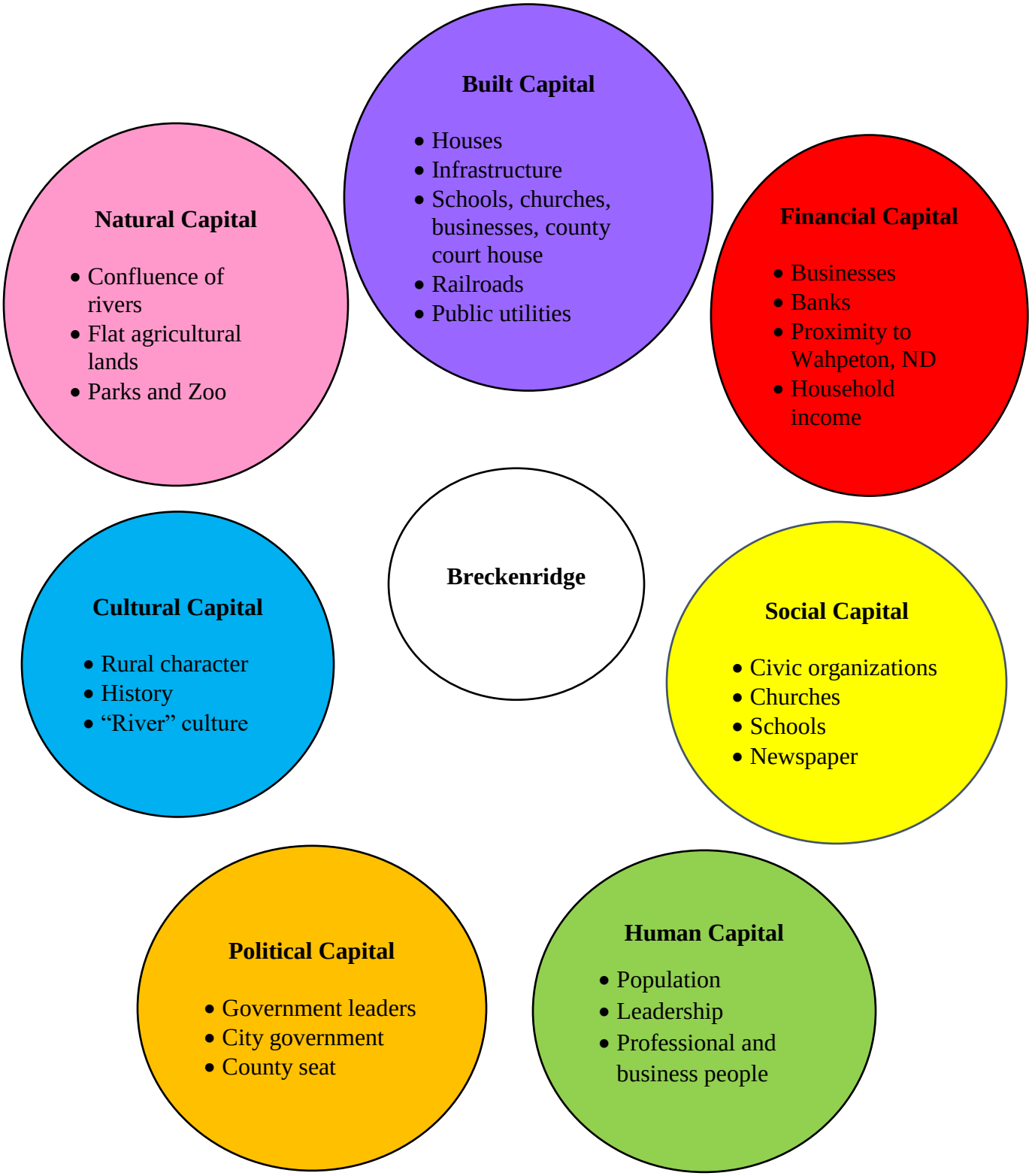


Figure 2. Asset Map of Breckenridge, MN Prior to the 1997 Flood.
(Source: Gary A. Goreham, 2017)

1997 Flood and Its Impacts

The Red River of the North is formed by the confluence of the Otter Tail and Bois de Sioux Rivers at the twin cities of Wahpeton, ND and Breckenridge, MN. It flows northward and eventually drains into Lake Winnipeg. Flooding is frequent in the Red River Basin with the stream gauge near Wahpeton, ND (Figure 3) measuring river levels that surpassed flood stage 34 times over the 71-year period from 1942 to 2013 (Figure 4). The spring flood of 1997, when the river crested at 19.42 feet, was the largest flood on record for Wahpeton-Breckenridge. Since then, major flooding occurred 10 times with the spring flood of 2009 marking the third highest river crest (17.50 feet) for the communities.

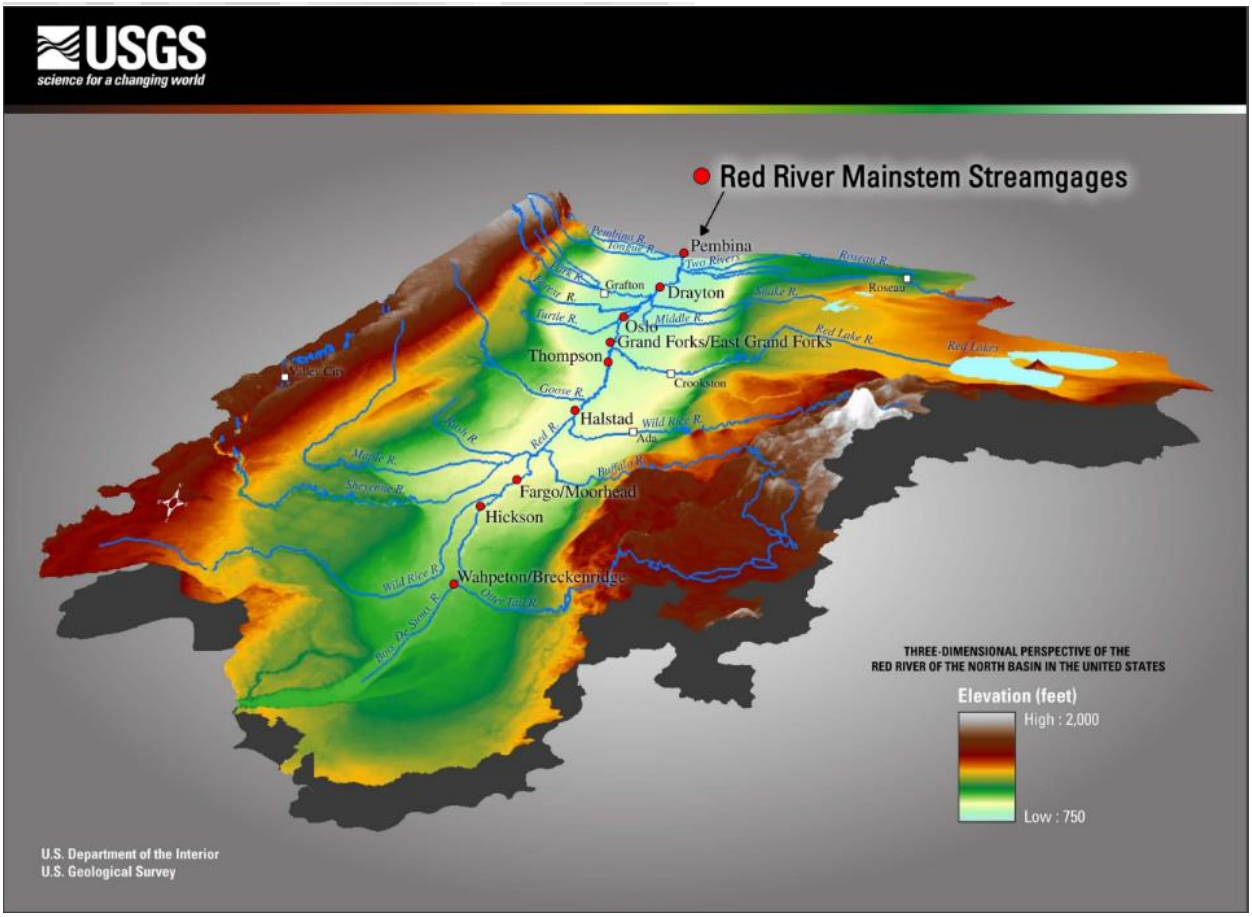


Figure 3. Red River Mainstem Streamgauges.
(Source: US Geological Service, 2007)

Contributing Factors

The basin's frequent flooding arises from a combination of the region's topography and climate. The meandering Red River slowly carries its water to the north through a broad valley, enabling flood waters to spread out over large areas. A decrease in gradient downstream, to just 1.5 inches per mile, inhibits flow, creating a tendency for water to pool during flooding (USGS

2007). The climate of the region serves as the final critical factor. On average, the region receives over 3 feet of snow between October and May (Figure 4) and the river freezes over.

In spring, temperatures rose above freezing in the southern (upstream) part of the basin, while the northern (downstream) part is still frozen. Snowmelt drains into the river's upper reaches and flows northward toward the still frozen river channel, where ice dams impede the river's flow and causing flooding.

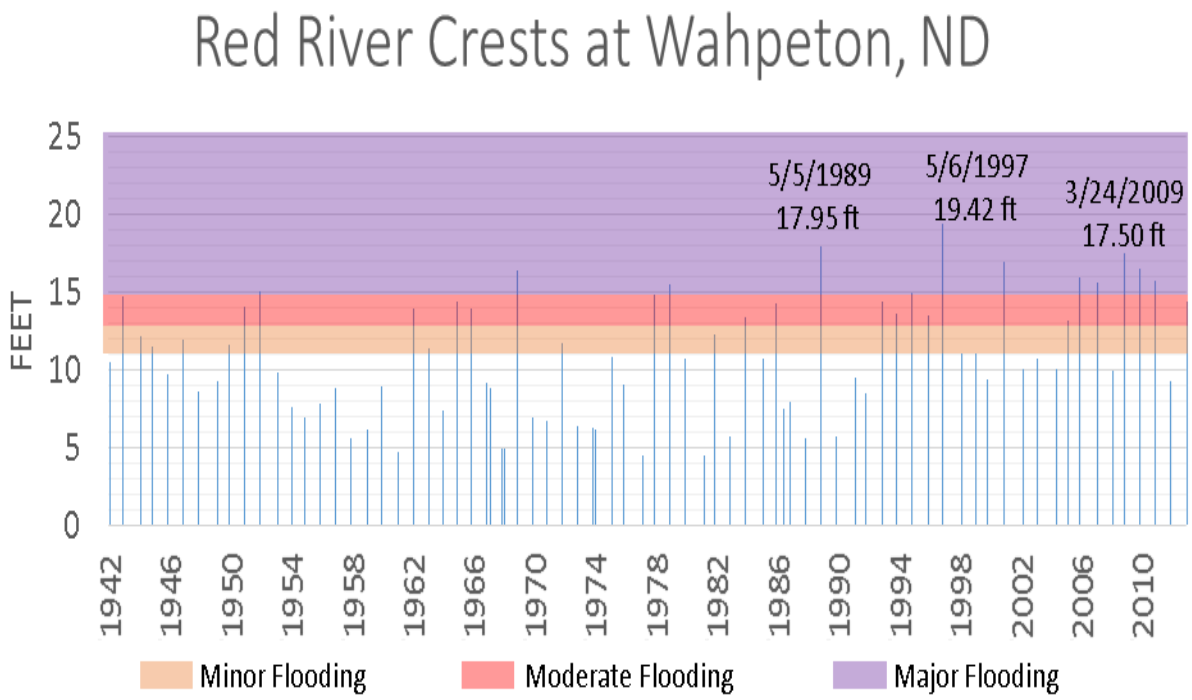


Figure 4: River crests recorded at the streamflow gauge near Wahpeton, ND, 1942-2010. USGS streamflow data near Wahpeton, ND plotted with local flood stage data obtained from the NOAA National Weather Service in Grand Forks. Labeled graph points correspond to the top three crests over the period 1942-2013.
(Source: NWS, 2015)

Increased spring flooding in the Red River Basin is primarily driven by heavy snow years in which the spring thaw is delayed and confined to the southern part of the basin. Other important factors include antecedent soil moisture, temperatures during snowmelt, the magnitude and time of spring rainfall, the river's base flow, and river ice conditions (Bell & Halpert, 1998). Some of these conditions can be known weeks to months in advance enabling flood outlooks to be issued one to two months prior to the expected peak flooding.

In 1997, nearly all the conditions aligned, setting the stage for a record flood event. Above normal rainfall during October and early November saturated soils. Following the wet fall, the Red River Basin experienced substantial snowfall (Figure 5). About 64 inches of snow, nearly 240% of normal, fell in Breckenridge during the 1996-1997 winter (HPRCC 2016), while

other parts of the basin received up to 117 inches (USGS 2009). An influx of polar air in early March delayed the onset of snowmelt. Mid-March brought warming in the southern part of the basin. Temperatures in the north remained below freezing causing the persistence of river ice conditions and impeding the river's flow.

A blizzard in early April brought more than 20 inches of snow to parts of the basin, dramatically altering the hydrologic situation by increasing the meltwater destined to flow in the river. Flooding established twentieth century records at most locations surpassing previous records from 1 – 5.55 feet (NWS 2015) and costing 3.5 billion dollars in property damage with over $30 million being attributed to the city of Breckenridge. No direct deaths were attributed to the flood.

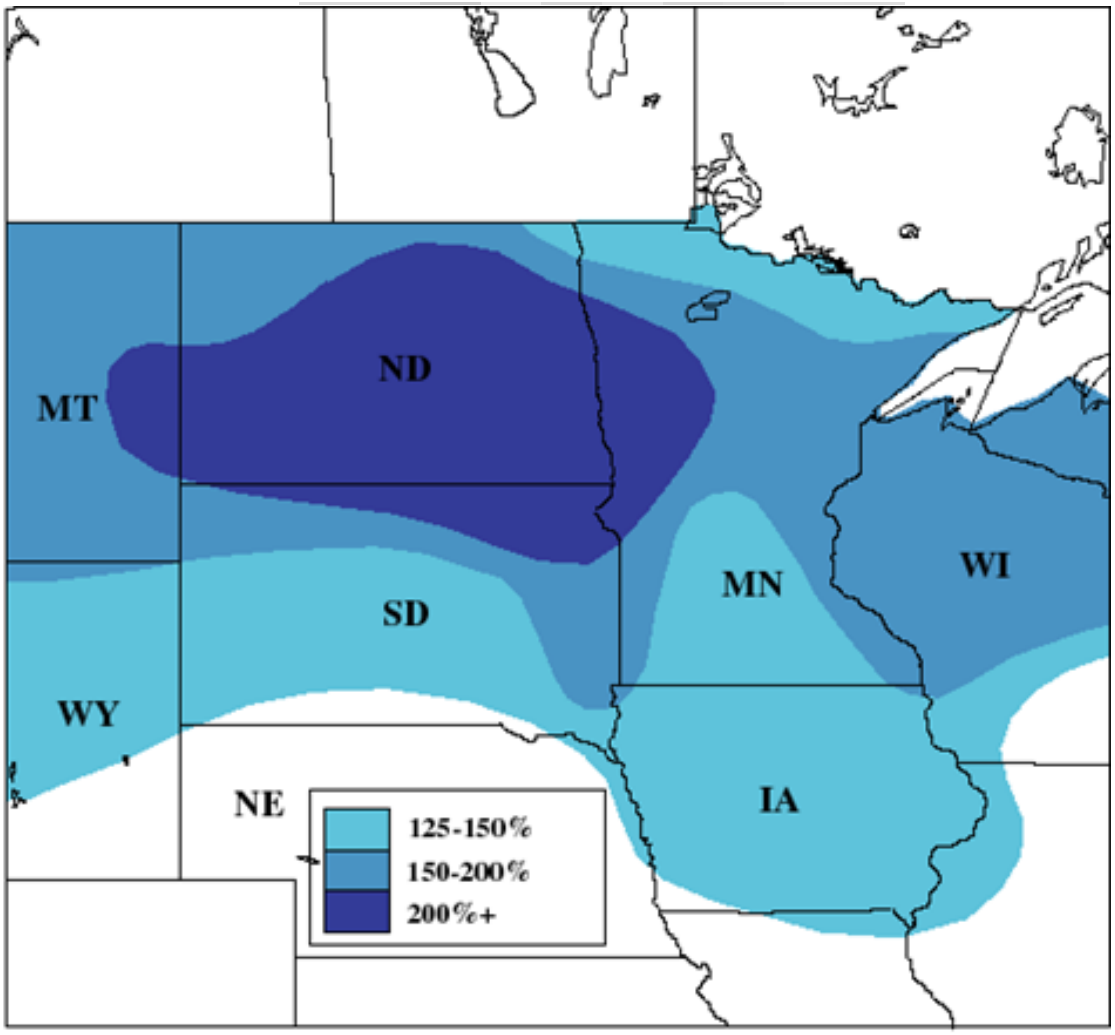


FIG. 34. Percent of normal accumulated snowfall during 1 September 1996–12 April 1997, compared to the 1961–90 base period means.

Figure 5. Percent of normal accumulated snowfall during 1 September 1996 – 12 April 1997, compared to the 1961-90 base period means.
(Source: Bell and Halpert, 1998)

Early Warning and Preparations

Discussions of the potential for severe flooding began in late January (Figure 6) at interagency meetings between the U.S. Army Corps of Engineers (USACE), the National Weather Service (NWS), the United States Geological Survey (USGS), and the Federal Emergency Management Agency (FEMA). NWS began to warn of the flood potential through community visits, television and radio interviews, and town hall meetings (Shelby, 2003). By early February, federal officials began to initiate flood mitigation activities and FEMA began an emergency enrollment plan for communities along the Red River. By mid-February, the NWS issued a flood outlook, nearly a month earlier than usual, indicating the potential for severe flooding (Pielke 1999).

On February 26-27, North Central River Forecast Center (NCRFC) held an interagency flood coordination meeting. A numerical outlook released by the NWS on February 28, 1997, indicated potential to exceed twentieth century records. This outlook predicted a flood crest for Wahpeton-Breckenridge of 17 feet assuming average melt and no additional precipitation and 18.5 feet, assuming average melt and precipitation (NWS 2011). Using these outlooks as justification, the USACE obtained $8 million in early flood-fighting monies (NWS 2011).

By March 7, the USACE had opened an emergency operations center (Bauer, 2007) and federal, state, and local officials had begun flood preparations by mid-march (North Dakota Emergency Services, n.d.). By the end of the month, the USACE initiated 22 advance measure contracts to help communities along the Red River prepare for the flood. The USACE was able to complete advance flood measures in Wahpeton on March 31st (Bauer, 2007) before the river surpassed the 10-foot flood stage at Wahpeton-Breckenridge (North Dakota Emergency Services n.d.).

A blizzard on April 4-5 dumped more than 20 inches of snow across the region, knocking out electricity and halting flood fighting efforts. By the 6th, the river at Wahpeton-Breckenridge crested at an all-time high of 19.42 feet. Flood waters inundated the northern part of Breckenridge after the north level was breached (Bauer 2007; NWS 2008; North Dakota Emergency Services n.d.).

Just 10 days later, the river crested a second time at 19.25 feet and overland flooding would inundate south Breckenridge. The river remained above flood stage until May 14th, nearly six weeks.

Figure 6. Timeline of the 1997 flood at Wahpeton-Breckenridge.
(Sources: Bauer, 2007; National Weather Service, 1998;
North Dakota Emergency Services, n.d.; Shelby, 2003)

Flood Recovery

The ripple effects maps (Figures 7-12) illustrate Rs' descriptions of the events that took place during the recovery process. The events were coded post hoc using the community capitals framework.

Government Officials and the Media. Government officials, such as the mayor, city council members, county commission members, and city and county employees, were instrumental in flood response and recovery from the early stages of the flood through the long-term impacts (see Figure 6). Their expertise illustrated human capital, but because of their involvements were based on their governmental positions, we classified their work as political capital. These officials, particularly the mayor, established relationships with state and federal legislators (political capital) to obtain aid and grants (financial capital).

According to the U.S. Army Corps of Engineers (2016), an estimated $45.02 million ($29.22 million in federal funds and $15.80 million in non-federal funds) were used for long-term (built capital) projects (Photograph 4). These projects included levees and flood walls (Photograph 5), roads and infrastructure, and pumps and water plant upgrades. These funds also were used for a diversion of the Otter Tail River (built capital and natural capital) (Photographs 6). Funds from agencies, such as the Federal Emergency Management A, for a new city hall and home refurbishing. Additionally, new housing developments resulted during the recovery. The Breckenridge City Mayor stated:

> "The flood was the most demanding thing I've ever seen, but our city is stronger than ever. The city has been rehabilitated. A city our size has a hard time funding infrastructure, but the dollars came in. A $23-million diking project became $45 million. Of that $45 million, the city only had to pay $2 million."

Regional contractors were hired for much of the flood mitigation construction. These companies impressed the Breckenridge officials and residents with their altruism. Several interviewees commented on one of the companies in particular:

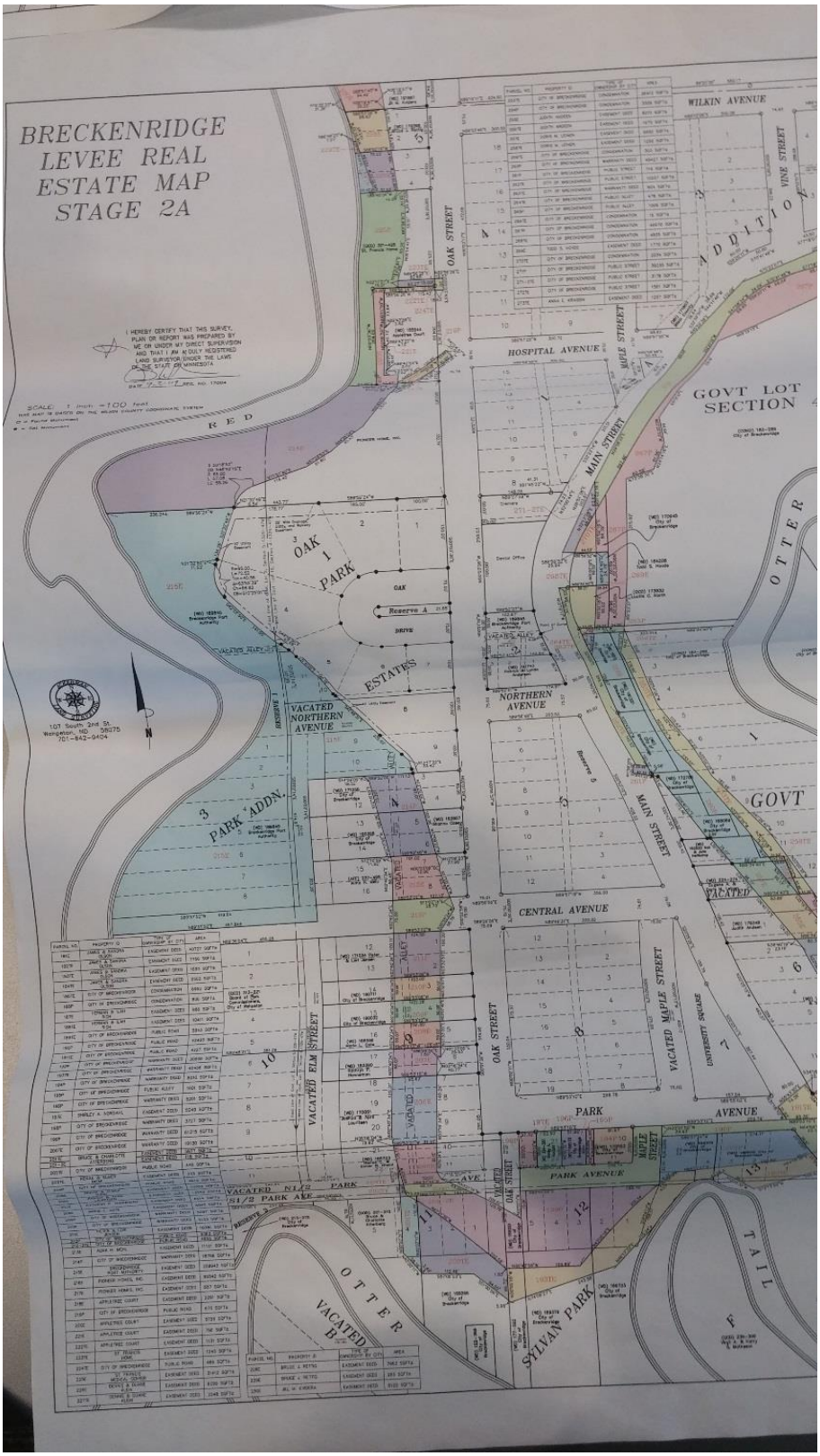
> "Wanzek Construction could not get paid immediately for constructing flood protection, but they worked anyway. They put in $1 million of their won money. They were paid about a year-and-a-half later."

The government officials and the local media, particularly the *Daily News*, used the collaborative relationships that had been established with their sister city, Wahpeton, to craft mutual aid agreements and establish joint law enforcement efforts. The *Daily News* served both to announce events and as a repository of flood recovery information.

The city officials and emergent local leaders were instrumental in creating the Project Breckenridge organization (social capital) that conducted landscape and aesthetics projects (natural capital). These officials helped to form the Wilkin County Sherriff's pose, which was active in search-and-rescue efforts, service at the Wilkin County fair, and various police related

responsibilities. The government officials worked with the Wilkin County Disaster Services director to update the city and county all-hazards emergency management comprehensive plans.

The flood mitigation facilities served to protect the city from subsequent flooding and for the city to expand its residential areas (e.g., the Northland Subdivision, Heritage Estates, Gewalt Addition, and Oak Park Estates).



Photograph 4. Planning Map for Breckenridge Levee System, 2016.
(Source: Gary A. Goreham, 2016)

Photograph 5. Flood levee system south of Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

Photograph 6. Flood diversion channel north of Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

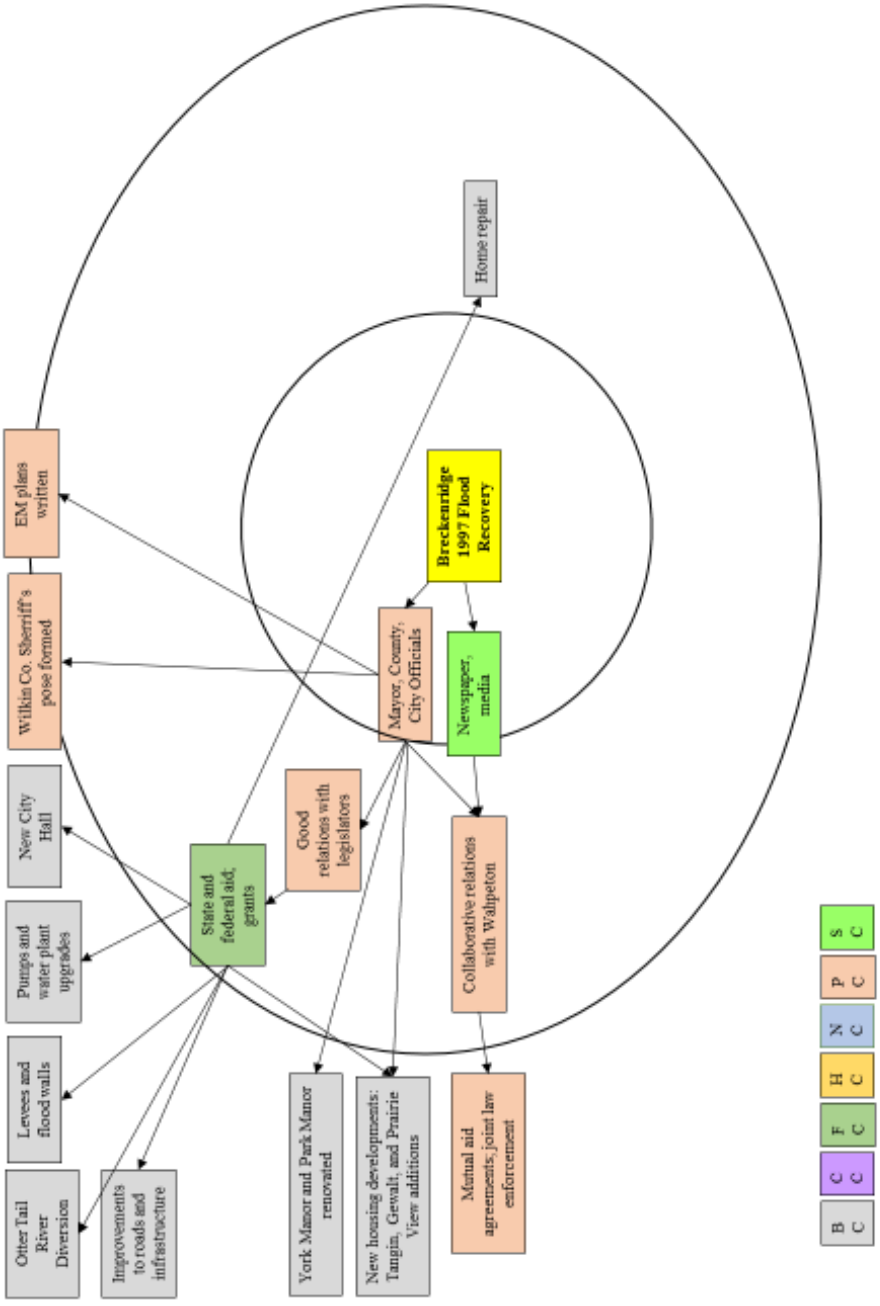


Figure 7. Ripple Effects Map: City Officials and the Media.
(Source: Gary A. Goreham, 2017)

County Emergency Management Officials. The Wilkin County Disaster Services director and staff (both political and human capital) coordinated with aid organizations such as the American Red Cross and the Salvation Army (social capital) during the immediate flood response to provide relief for the residents and businesses. The county Disaster Services office was instrumental in forming community emergency response teams (CERT). For the longer term, the County Disaster Services coordinated with city officials to write city and county emergency management plans (political capital) (Figure 8).

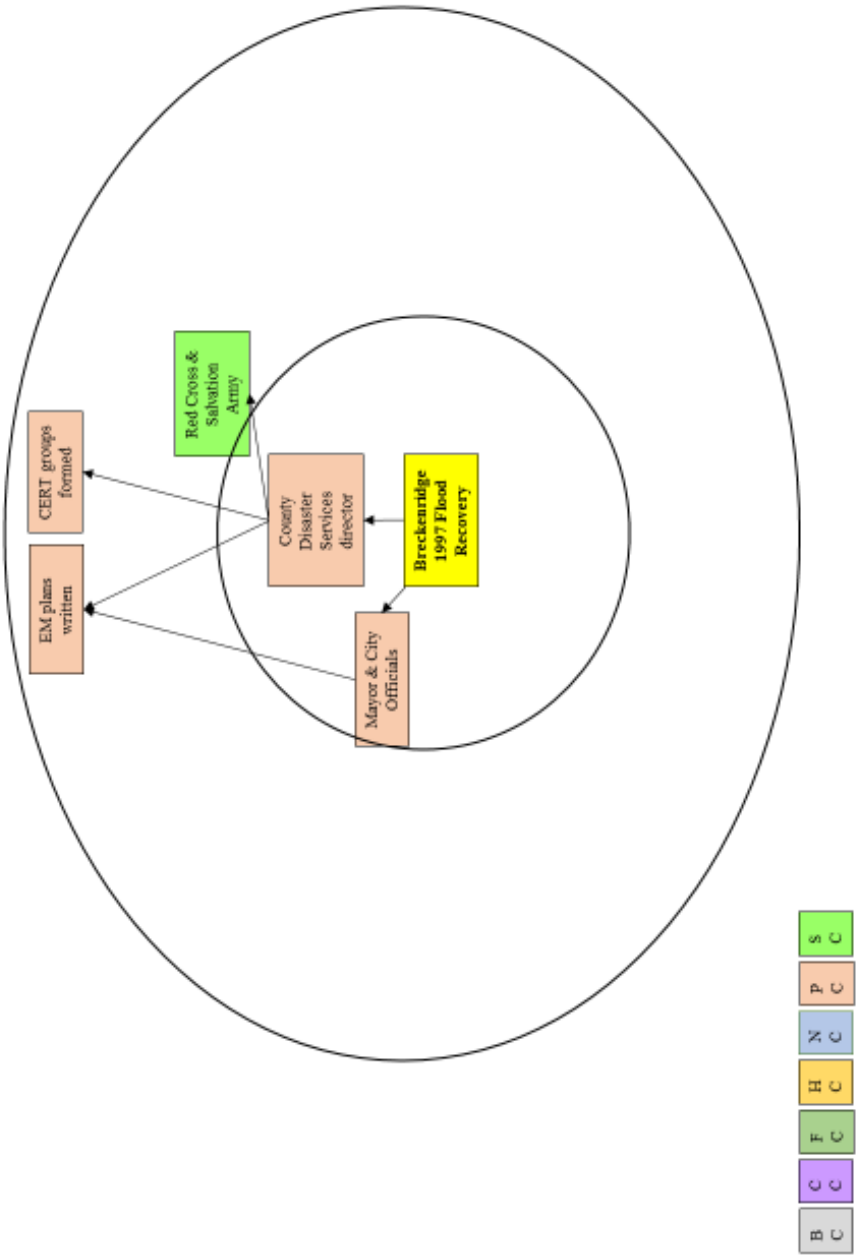


Figure 8. Ripple Effects Map: County Disaster Services Director.
(Source: Gary A. Goreham, 2017)

Organizations, Leaders, and Volunteers. Officials from the local churches leveraged their facilities (built capital) and coordinated with school officials (social capital) to relocate classes to the various churches for the remainder of the academic year. This effort provided time to remodel the public elementary school (built capital). The local church officials also coordinated with professionals at the Wilkin County Courthouse to temporarily relocate their services in the churches (social capital) while the courthouse was renovated (built capital) (Figure 9). Civic organizations (e.g., Rotary) formed assistance committees and youth groups participated in community service.

Local leaders emerged and joined with civic and service organization volunteers to form the Lend-a-Helping-Hand organization (social capital). This organization provided grants (financial capital) to residents for immediate, emergency home repair (built capital). Private individuals, civic clubs, churches, and businesses contributed nearly $1.8 million (financial capital) over a three-year period after the flood, which served as an "unmet needs fund." A local pastor and co-founder of Lend-a-Helping-Hand described how and why the organization began:

> "I chaired the committee. It was named, 'Helping Hands.' I called a meeting of all the area church pastors. They were already on the Emergency Management Team for the city and the county. Breckenridge got over $160,000 from a corporation. The city did not know how to distribute these dollars. An unmet needs committee should be formed. The other agencies said they could not distribute the money. The pastors met with representatives from community agencies and asked what mechanisms should be put in place. It took three years to complete.
>
> We decided the unmet needs committee must distribute the funds in an accountable way. We haired coordinators to take applications. about 1,800 flood-related requests were made from assistance from Richland and Wilkin counties. The coordinators set up a process to determine needs and distribute the dollars. We had to decide who to fund first. Dollars were given to every eligible person and some money was given based on need. People received a significant mix of money from several sources: the government; other churches (some denominations gave money to their members; other resources like insurance. Most people had no flood insurance. They needed to have sewer backup covered and insurance covered some of this.
>
> 'Helping Hands' was the name of our unmet needs committee. No denomination had authority over these dollars. We set up a checking account. We had to balance privacy with accountability and transparency. The United Methodist Church took responsibility for this. There was no 501(c)3 formed."

Home repair resulted in cleaner residential areas and fewer dilapidated buildings. A local official stated:

> "There were many 'slum lords' in south Breckenridge. The flood got rid of many of these houses and apartments. They were, poor, old houses that the fold destroyed. This was positive for Breckenridge. It was a depressing area before the flood. The flood revitalized Breckenridge as a sleepy, dying town."

Improvements were made in infrastructure, buildings, and homes, however property owners needed to take out loans, albeit at favorable interest rates, for these improvements. A local pastor noted:

> "The community became poorer because of the borrowing for recovery. But, the buildings were significantly updated in quality. They were brought up to electrical and plumbing code. There was new construction, refurbishing construction, new appliances, and new furnaces."

The Breckenridge City Mayor commented on the role of organizations and leaders during the flood recovery:

> "Recovery is all about people and organizations working as a team. Communication is key. They held meetings to inform the public before, during, and after the flood. Sometimes it was hard to get the public there. City staff, other organizations, and other people were working together. People helped people. Some of them weren't even talking with each other before the flood."

A pastor commented on the roles played by churches and the city's various civic groups (social capital):

> "Overall, the flood recovery drew the community together. Those who hadn't worked together got the opportunity to do so. Leadership an networking skills increased."

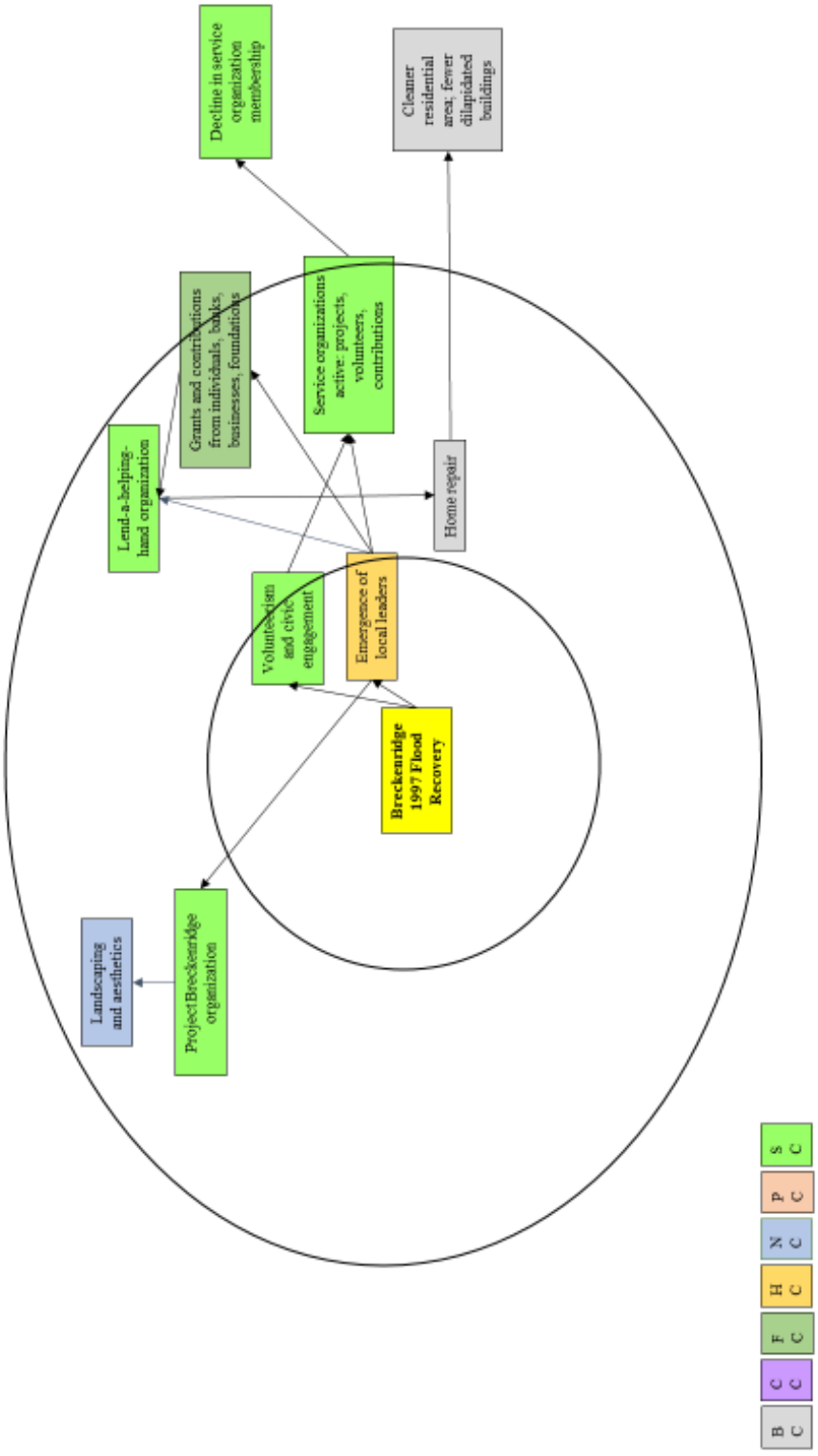


Figure 9. Ripple Effects Map: Organizations, Leaders, and Volunteers.
(Source: Gary A. Goreham, 2017)

The River and "River Culture." Riverfront properties and city parks were cleaned; some parks were expanded; and the Chahinkapa Zoo in Wahpeton was renovated (natural capital). The result was more clean, aesthetically pleasing green space in the city (natural capital). A "river culture" continued as a basis for how residents understood their community. The "river culture" is evident by naming facilities (Photograph 7), displays of river history, recreation, and amenities (Photograph 8), and monuments (Photograph 9). A pastor offered a theological description of the "river culture."

> "From a theological and pastoral perspective, the river is a blessing. It is a source of life and for crops to feed the world. At the same time, it is NOT at our command. We are at the mercy of the river. There is the sheer power of the flood. It is a source of chaos, like Genesis 1:1-2 – 'tohu va-vohu,' 'formless and void.'
>
> Although the river divides Wahpeton and Breckenridge, we are also connected by the river. The river divides our two states: North Dakota and Minnesota. We are an agricultural community because of the river. By our soil, seed, and sweat, people eat. We are called to agri-CULTURE.
>
> Our people are connected to the river in one way or another all our lives. Even in death, we are connected to the river. The cemetery south of Breckenridge exemplifies that; it is the 'Riverside Cemetery.'"

A transition took place during the recovery from a culture of helping neighbors to a culture of community investment (cultural capital). Residents listed tradition, endurance, and family as key community values. One resident described how these values related to volunteerism:

> "Many people are related to each other. I come from a very large family and we are related to many people. The culture has helped with volunteerism… Since we are related, it makes it quick and easy to respond."

Photograph 7. Riverside Cemetery south of Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

Photograph 8. Red River Park Display of River History, Recreation, and Amenities, Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

Photograph 9. Monument to the Red River, Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

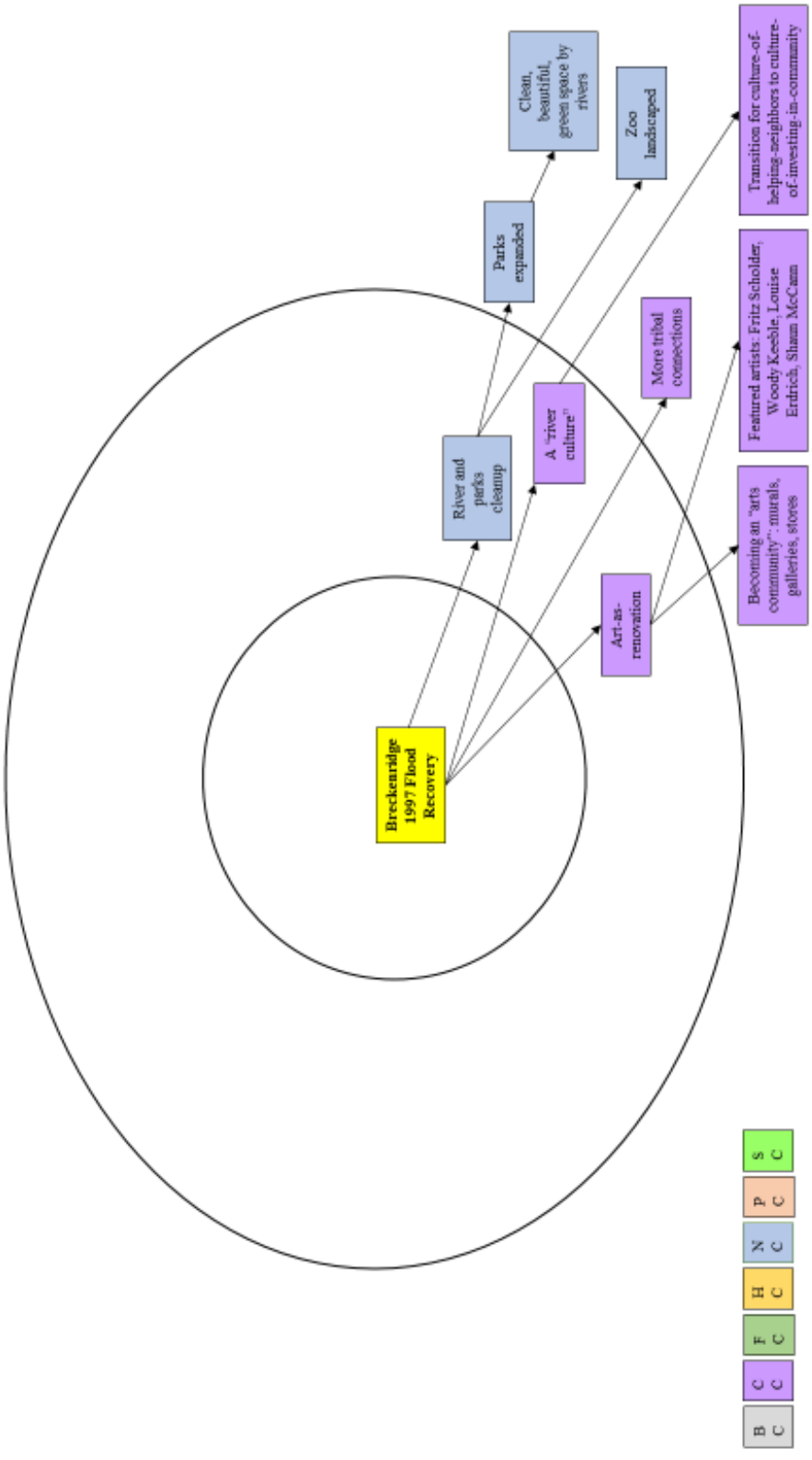


Figure 9. Ripple Effects Map: The River and "River Culture."
(Source: Gary A. Goreham, 2017)

Facilities and Institutions. Damage to the St. Francis Hospital and adjacent nursing home resulting in the demolition of these buildings (built capital) and the relocation of these facilities to a less flood-prone part of Breckenridge (Figure 10).

The flood waters filled the basement of the Wilkin County Courthouse forcing the evacuation of the Human and Social Services Department (Photograph 10). Staff from that department were temporarily relocated to a local church during the courthouse's renovation.

Many of the damaged homes and apartment buildings were repaired or replaced, resulting in a cleaner, more aesthetic residential area with fewer dilapidated buildings (built capital).

Photograph 10. Wilkin County Courthouse, Breckenridge, 2016.
(Source: Gary A. Goreham, 2016)

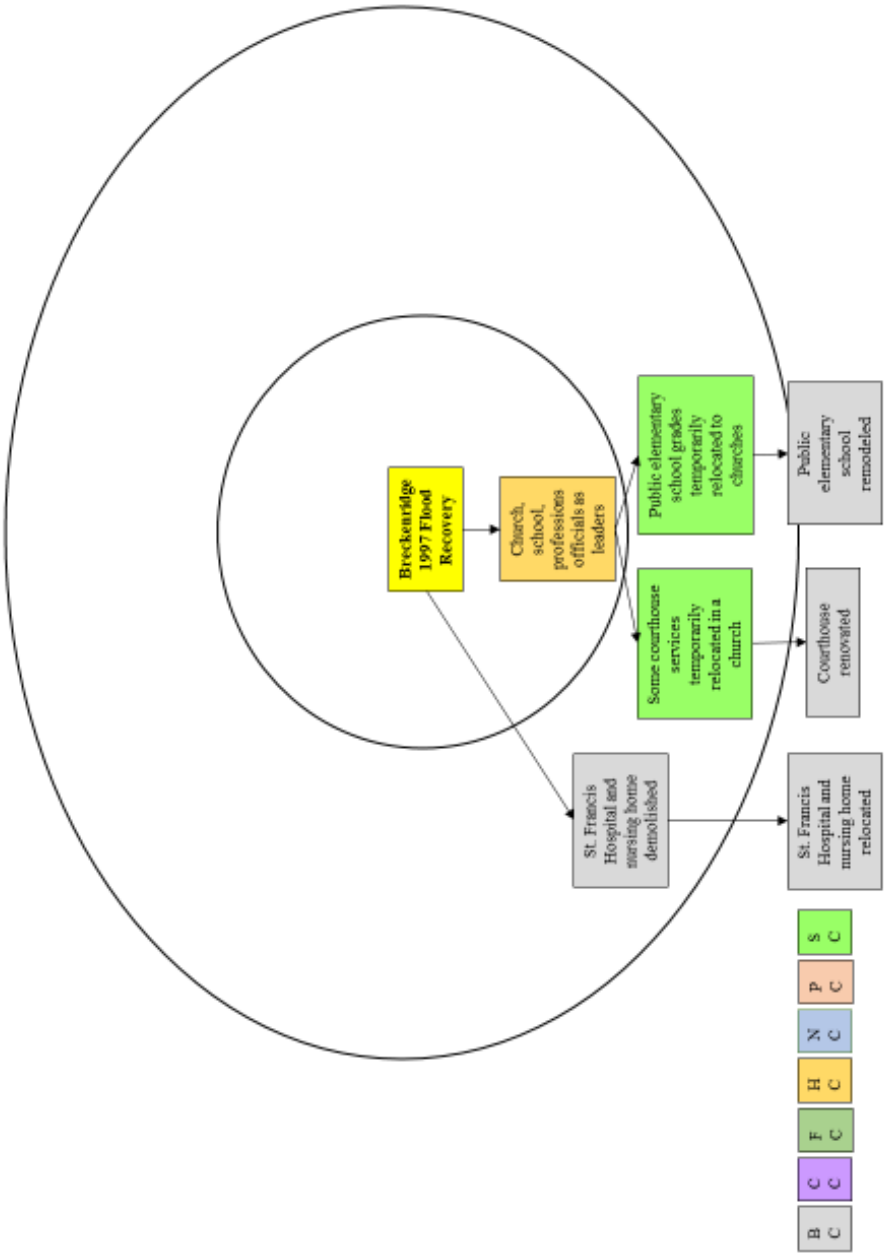


Figure 10. Ripple Effects Map: Facilities and Institutions.
(Source: Gary A. Goreham, 2017)

Local Businesses. Some establishments survived the flood and remain in business (financial capital) (Figure 11). They were instrumental in jointly forming a United Way and Chamber of Commerce with their sister city, Wahpeton (social capital). However, other establishments were unable to survive the flood and either closed or relocated to other communities (financial capital). In some cases, parking lots were built where these buildings had been (built capital). The result was a decline in the business tax base (financial capital) and a loss of population (human capital).

The Breckenridge Port Authority replaced the Breckenridge Industrial Development Corporation in the mid-1980s. The Breckenridge Port Authority received and managed funds from the state of Minnesota for a revolving fund to assist businesses. The money was used for 2%-interest, 10-15 year loans. These funds helped in the flood recovery, but were not started as a result of the flood. A member of the Breckenridge Port Authority stated:

> "In 1997, $1.3 million was given to Breckenridge to encourage businesses to re-open. It is a revolving loan the Port Authority manages the funds. When the money was given to them by the Minnesota Investment Fund, they could 'use it or lose it.'"

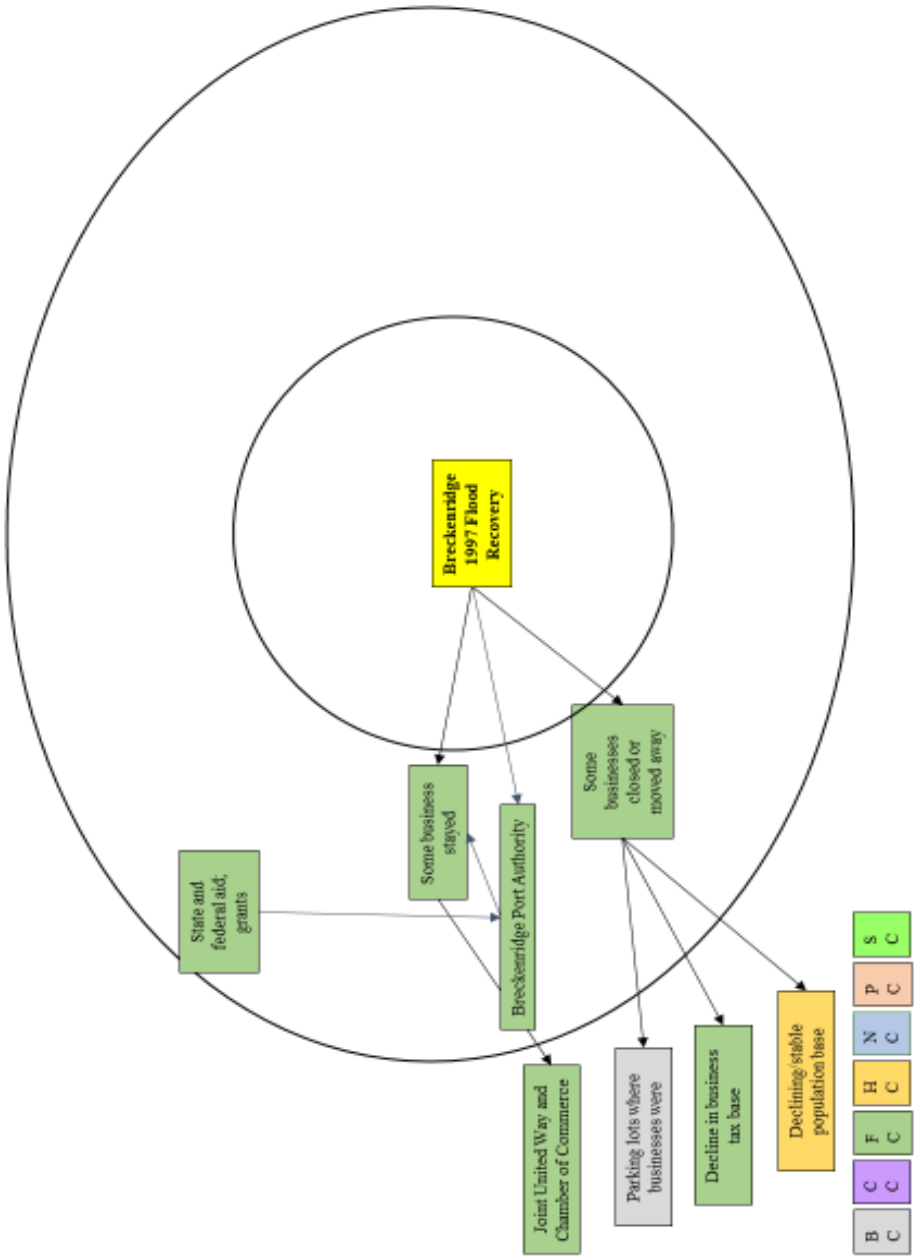


Figure 11. Ripple Effects Map: Local Businesses.
(Source: Gary A. Goreham, 2017)

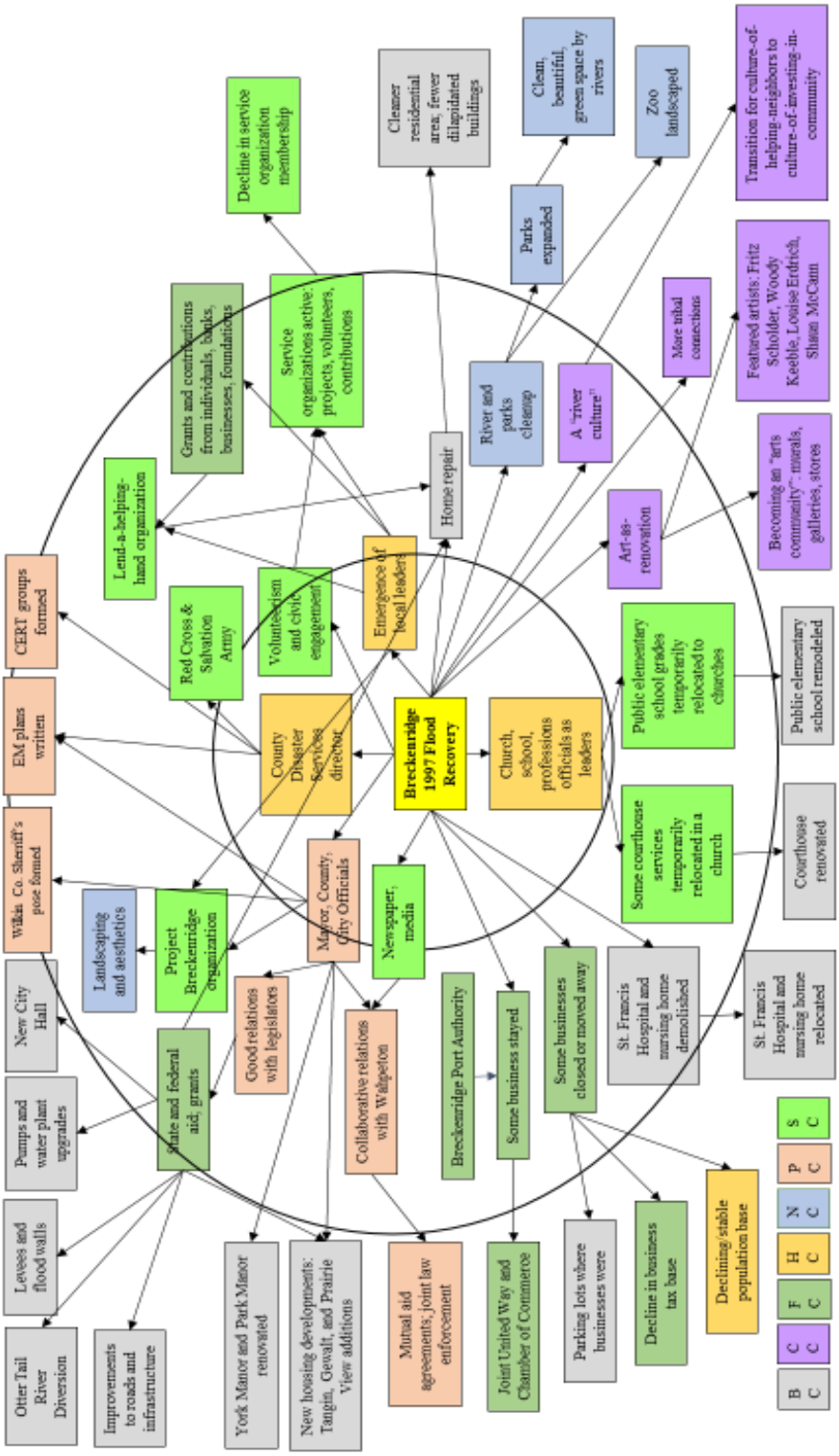


Figure 12. Ripple Effects Map of the 1997 Flood Recovery.
(Source: Gary A. Goreham, 2017)

Table 1 summarizes the events that interviewees noted during the recovery process (Figure 12). Although the categorization of these events into community capitals and the precise numbers of the capitals is clearly a matter of interpretation, a couple of observations may be made from this summary. First, the role of leadership (human capital) is critical during the early phases of the recovery process. Second, relative number of ripple effects grew substantially with each successive phase of the recovery process as one event resulted in a multiplicity of additional events. That is, leveraging a capital at one phase resulted in multiple effects at subsequent phases. Third, although the presence of each of the capitals was evident at nearly every phase, some of the capitals were particularly notable at certain phases. For example, human capital was critical in the initial phase; social and financial capital were strongly leveraged during the intermediate phase; and built and natural capital were results in the long-term phase.

Table 1. Number of Effects Topics, by Recovery Period.

	Initial-term Recovery Period (Circle 1)	**Intermediate-term Recovery Period (Circle 2)**	**Long-term Recovery Period (Circle 3)**	**TOTAL**
Build Capital		2	8	10
Cultural Capital		2	2	4
Financial Capital		4	2	6
Human Capital	2		1	5
Natural Capital		2	3	5
Political Capital	2	4	1	5
Social Capital	1	6	1	8
TOTAL	5	20	18	

(Source: Gary A. Goreham, 2017)

Breckenridge Today

The Community Capitals Framework was used to examine the current state of Breckenridge's assets (Figure 13). Regarding Human Capital, the population dropped from 3,708 in 1990 to 3,559 in 2000 and to the 2015 population of 3,290. Despite the population loss during the time of the 1997 flood, it is difficult to conclude that the decline resulted from the flood; the decline has been consistent at each decennial census since a high of 4,335 in 1960 (Figure 1). Most notably is the level of governmental, business-professional, church, and civic leadership in the community.

Built Capital is a community strength. Flood mitigation facilities (e.g., dikes, a diversion ditch, pumps) are in place and, despite high water in 2006, 2007, 2009, 2010, and 2011, have prevented significant flood damage. These facilities have allowed the city to properly maintain other infrastructure (e.g., roads, sidewalks, and utilities), homes, business buildings, and institutional facilities (e.g., schools and hospitals).

Breckenridge had 1,635 housing units in 2010, with 1,445 occupied units and 190 vacant units. The occupancy rate in 2010 was 88.4%, a slight decline from 91.2% in 1990 and 90.9% in 2000 (U.S. Census Bureau). Of the occupied units in 2010, 1,002 were owner-occupied and 443

were renter-occupied, an owner-to-renter ratio of 2.3/1.0. The city's infrastructure (bridges, sidewalks, and paved roads) are well maintained.

Natural Capital resources are ever-present: rivers (the Bois de Sioux, Ottertail, and Red Rivers), agricultural lands, and parks. Significant improvements have been made to the community's parks, green spaces, and golf courses. The Chahinkapa Zoo in Wahpeton is an asset to the entire region.

Regarding Financial Capital, there are four banks (Bank of the West, Bremer Bank, Bell State Bank and Trust, ad Riverwood Bank) and multiple business establishments in the community. Many of the businesses in the two-city community attract customers from both Breckenridge and Wahpeton. The average household 2000 income in Breckenridge was $37,054, up from $21,398 in 1990 (or $28,192 in 2000 real dollars) (U.S. Census Bureau). The individual poverty rate in 2000 was 9.0%, down from 10.9% in 1990 (U.S. Census Bureau). The Wahpeton and Breckenridge communities each had a Chamber of Commerce, however the towns had a joint United Way.

The community's Cultural Capital notable resources include its strong values of community, self-help, and tradition. It's "river culture" is ever-present. The wider community's racial and ethnic diversity is a resource with Native American, Hispanic, and other residents.

Political and Governmental Capital is evident with the Breckenridge city and Wilkin County facilities and staff. Additionally, city and county governments maintain strong extra-local connections with state and federal governments.

Among the strongest of Breckenridge's resources is its Social Capital. These resources include eight churches and the many functions, services, and ministries they provide to the community and its residents. Civic organizations include an active Rotary Club, Chamber of Commerce, and veterans' organizations. The community's public and parochial Catholic schools offer opportunities to draw together the community through their various educational and extracurricular programs. The *Wahpeton Daily News* serves Wahpeton, Breckenridge, and the surrounding area and informs residents about community events.

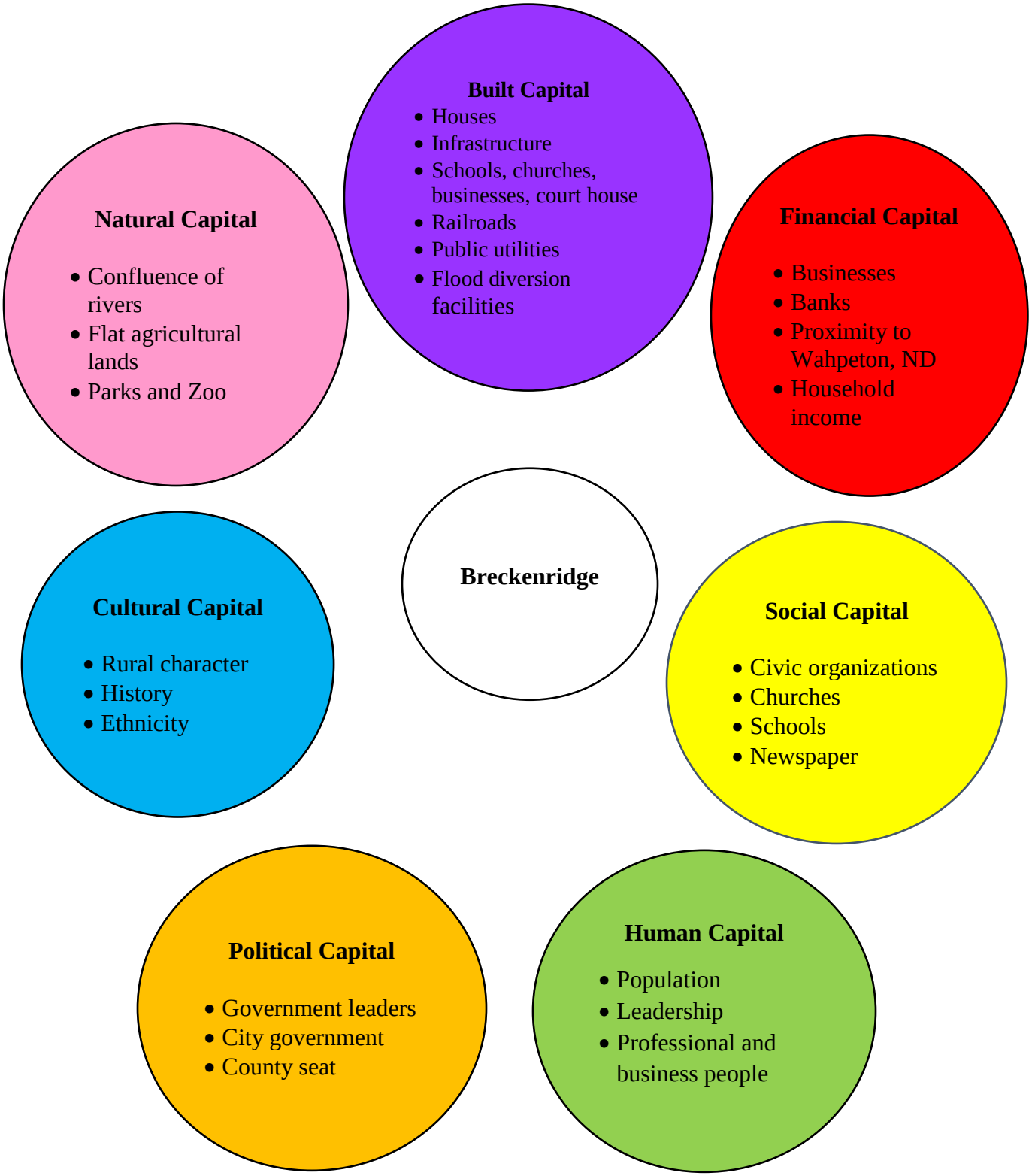


Figure 13. Current Asset Map of Breckenridge, MN.
(Source: Gary A. Goreham, 2017)

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