CONNECTION - IDENTITY - RESILIENCE

A REGIONAL FRAMEWORK FOR SOUTHERN SAN JUAN COUNTY, UTAH

UtahState University
LANDSCAPE ARCHITECTURE & ENVIRONMENTAL PLANNING

EXTENSION
UtahStateUniversity

LAEP 6100 - REGIONAL PLANNING AND ANALYSIS
SPRING 2019

INTRODUCTION

The City of Bluff is the newest municipality in the state of Utah. Its incorporation was finalized in 2017 after several community gatherings and a final vote which gave the residents jurisdiction of over 38 square miles of land. One of the driving forces for seeking this autonomy was the increasing external pressures from the recent designation of the Bears Ears National Monument. Looking at other communities that are the gateways to national parks and monuments a general consensus has arisen that keeping "Bluff, Bluff" is more than a saying, it is a cry for retaining authenticity in the face of intense national attention and pressure. These pressures have forced the community to ask the question, "What makes Bluff, Bluff?

Bluff sits at the southern end of San Juan County, in southeastern Utah. The area remains mostly rural in its industries, population, and policies. With the Bears Ears National Monument designation development pressure has increased throughout the region The region will face previously unprecedented challenges regarding how best to manage the anticipated growth without losing the character and authenticity that makes the region special.

During the spring of 2019, the Utah State University Landscape Architecture and Environmental Planning Regional Analysis and Planning studio worked with USU Extension and the community leaders of Bluff to provide an assessment of the regional context and provide broad planning and design recommendations.

The class had the privilege of visiting with the residents of Bluff to learn more about their perspectives on the challenges and opportunities facing the community. As a class, the main questions we asked ourselves were:

1. Who is Bluff?

2. Where are they headed?

3. How will they get there?

The information we obtained from the residents was reviewed and each student chose topics of interest to be pursued within the framework of the class. Each topic presented here is based on an initial analysis with subsequent recommendations to address the discoveries from the analysis.

AN ORGANIZING FRAMEWORK

In order to answer the questions "What makes Bluff, Bluff", how does the region affect the community of Bluff, and how is the region affected by the community of Bluff, we developed a framework of three principles to organize the analysis and planning phases. Understanding the importance and relevance of each of these principles and working to enhance them will help Bluff retain what makes is unique in the face of challenges occurring outside the control of the community.

CONNECTIONS

The connections within Bluff are physical as well as social. These connections are manifest in the biophysical connections and physical infrastructure within and surrounding the community. The social connections are the unseen threads that weave the social fabric that makes a vibrant community. Understanding the state of these connections and planning for their enhancement is critical to the viability and livability of the region and the community of Bluff. Connections knit together individual people and elements into a cohesive whole.

IDENTITY

People connect to places with a strong, cohesive identity. Understanding the assets that help create a regional and localized identity is an important step in fostering an identity residents and visitors to the area connect with. Identity is the "special sauce" that makes southern San Juan County, and the community of Bluff special to residents and visitors alike.

RESILIENCE

Many internal and external pressures are affecting or will affect the region and community of Bluff. In response to these challenges, Bluff will need to build the resilience necessary to address these challenges while maintaining what the community values. Resilience will enhance the region's ability to maintain its character regardless of the internal and external pressures or challenges.

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ANALYSIS

The analysis section of the document records the process and results of analyzing the regional resources that influence the area within and surrounding the community of Bluff. The 3 framework principles (Connections, Identity, and Resilience) were used to organize and record the efforts.

CONNECTIONS

People
- Cultural Background
- Demographics

Place
- Dividing San Juan County
- Visual Character
- Land Ownership
- Land Use
- City Structure
- Districts
- Housing
- Seasonal Identity
- Major Employers

IDENTITY

People
- General Characteristics
- Tourism

Place
- Viewshed
- Legibility

RESILIENCE

People
- Amenities
- Housing

Place
- Habitat Analysis
- Habitat Density
- Riparian Vulnerability
- Critical Wildlife Habitat
- Landscape Vulnerability
- Conservation Priority Model
- Development Scenarios

RECOMMENDATIONS

The recommendations section of the document showcases specific design or planning recommendations explored by each student. The goal of each intervention was to envision potential opportunities to enhance the 3 framework principles (Connections, Identity, and Resilience).

CONNECTIONS

People
- A Framework for Collaboration

Place
- Walkability
- School Intersection
- Bluff Market
- The Geography of Education
- River Crossing

IDENTITY

People
- Experiencing Bluff
- Town Concept Plan

Place
- Arrival Design
- Attention Grabbing Moment
- Community Core
- Arts and Cultural Center
- Community Center Park
- Natural Pocket Parks

RESILIENCE

Place
- Uncontrolled Growth
- Bluff Conceptual Plan
- Block Plans
- Solar Energy
- Community Agricultural System
- Bluff Campground

CONCLUSION

REFERENCES

BLUFF

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ANALYSIS
CONNECTION

PEOPLE

INTRODUCTION

The city of Bluff hopes to bring positive changes to the local community and beyond. This section attempts to shed light on the people that have inhabited this landscape and how it has affected their lives and how their lives have in turn affected the land.

The connections between people create a vital tapestry that makes a community vibrant, attractive, and desirable. These connections tie people to people, and people to place. Human connections are facilitated by the physical makeup of a place, but often transcend the physical limitations of a place.

Southern San Juan County is a region where interconnected societies have lived for thousands of years. Currently several different cultures with strong inter-community connections live together in the region. The connections between these groups appear to be lacking, resulting in an overarching unified community that continues to struggle to identify a common vision for the future of the region.

Navajo children perform a traditional dance at a public event, Oct. 03, 2016

...territories defined primarily by function and only rarely by jurisdiction. The places where we work, live, shop, recreate, and socialize constitute a territory that seldom corresponds to a single town or city. Regional planning is concerned less with the exercise of jurisdiction and more with the search for new forms of habitation based on a clear commitment to advancing sustainability...

 Lincoln Institute of Land Policy, 2011

CULTURAL BACKGROUND

The land was first cultivated by Ancestral Pueblo cultures over 2,000 years ago. They built dwellings in the rock formations and grew squash and corn.

Spanish and Anglo immigrants arrived in the early 1800s. The Mormon pioneers arrived in 1880 after a mandate by their prophet Brigham Young to establish trade and peaceful relations with the Natives. Most were farmers with a European heritage. They settled on the East side of Cottonwood Wash.

Land values have skyrocketed as growing tourism promotes investment properties and seasonal commerce. Citizens of Bluff care strongly about how this development takes shape and formalized the Municipality of Bluff in 2018. A city council and planning commission were formed on January 24, 2019. They are interested in maintaining Bluff's rural charm and developing a citizenship that is engaged and present in the community.

Desert Rose Motel and Duke's Cafe   Credit: J. Powell

Pre-1200 AD   Post 1800AD   TODAY

Post 1300 AD   Post 1900 AD

The southern part of Utah (formerly Mexico) was settled by Navajo tribes in the 15th century. After much struggle, they signed a treaty with the U.S. government in 1868. The Navajo Nation, at over 27,000 square miles, is the largest reservation in the country and extends from Arizona into New Mexico and South of the San Juan River in Utah.


By the early 1900s it became clear that farming in the Bluff area was difficult, with frequent droughts and flooding from the San Juan River. Many settlers relocated further North to Monticello and Blanding. The economy went through cycles of boom and bust with oil, uranium, and other minerals exploited in the region. New settlers to the area are attracted by the rural feel and unique landscape. Many have built homes on the West side of Cottonwood Wash.

BLUFF DEMOGRAPHICS

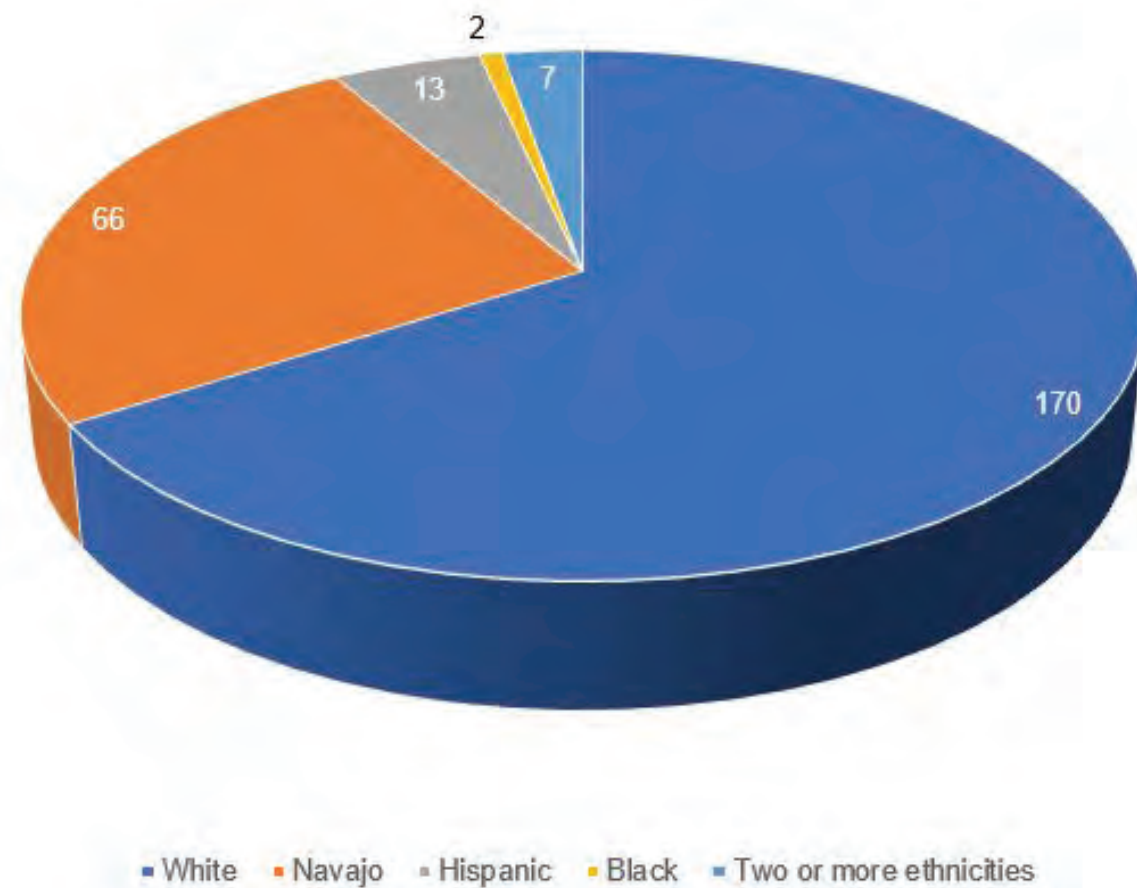## Population Age in Bluff

Age
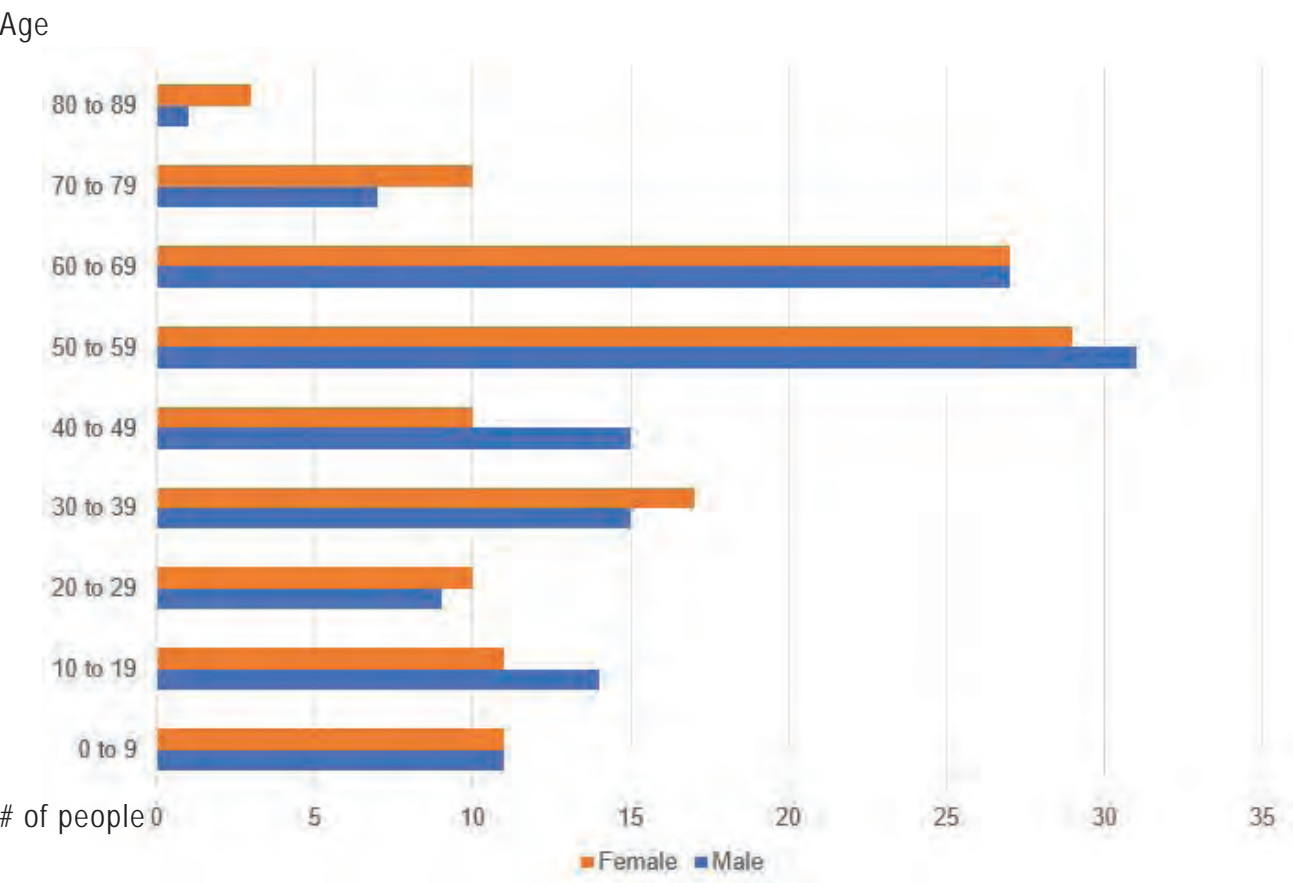
The population pyramid shows Bluff's population, age and gender in 10-year increments. A typical pyramid would start wide and taper upwards. The relatively large population of people age 50-69 highlights the aging population of local residents and the growing interest in Bluff as a retirement community. Demographic data also indicates the challenge in retaining younger people starting their careers. (20-29 segment).
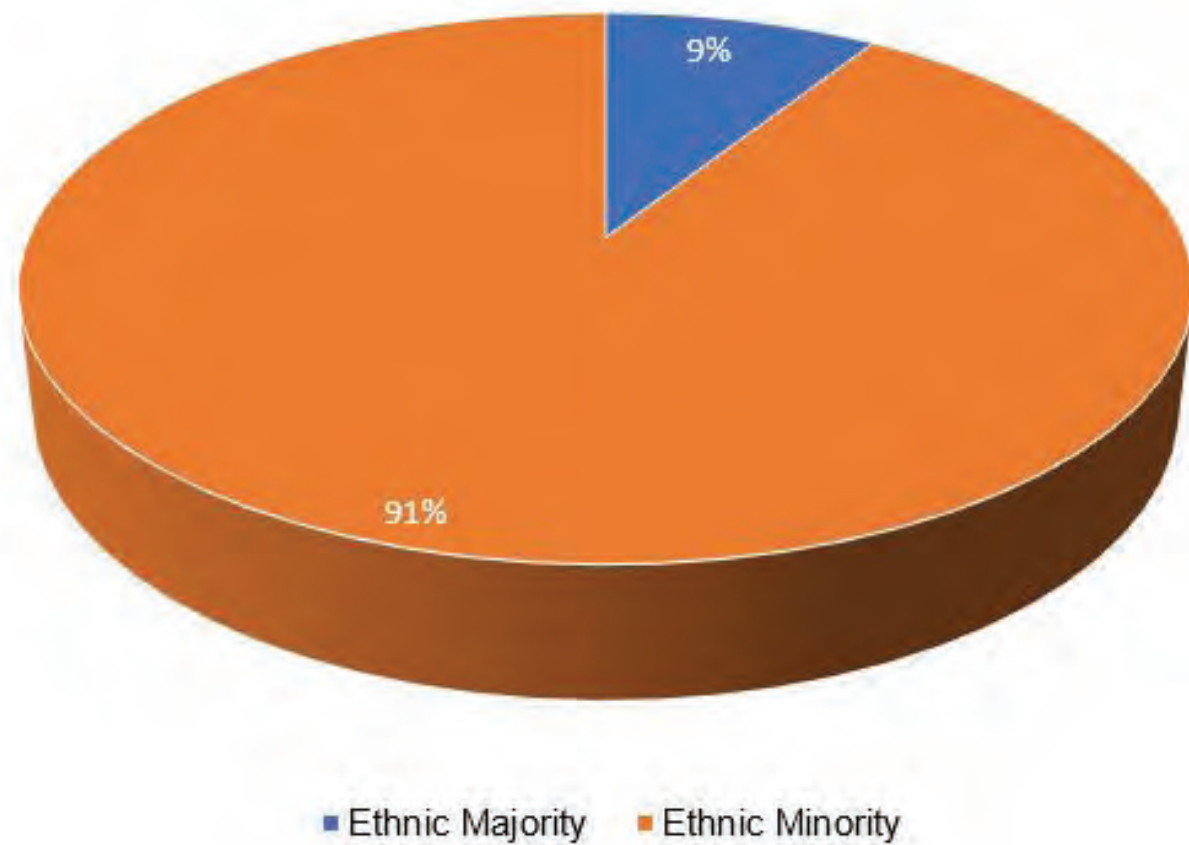
The Region and The Navajo Nation
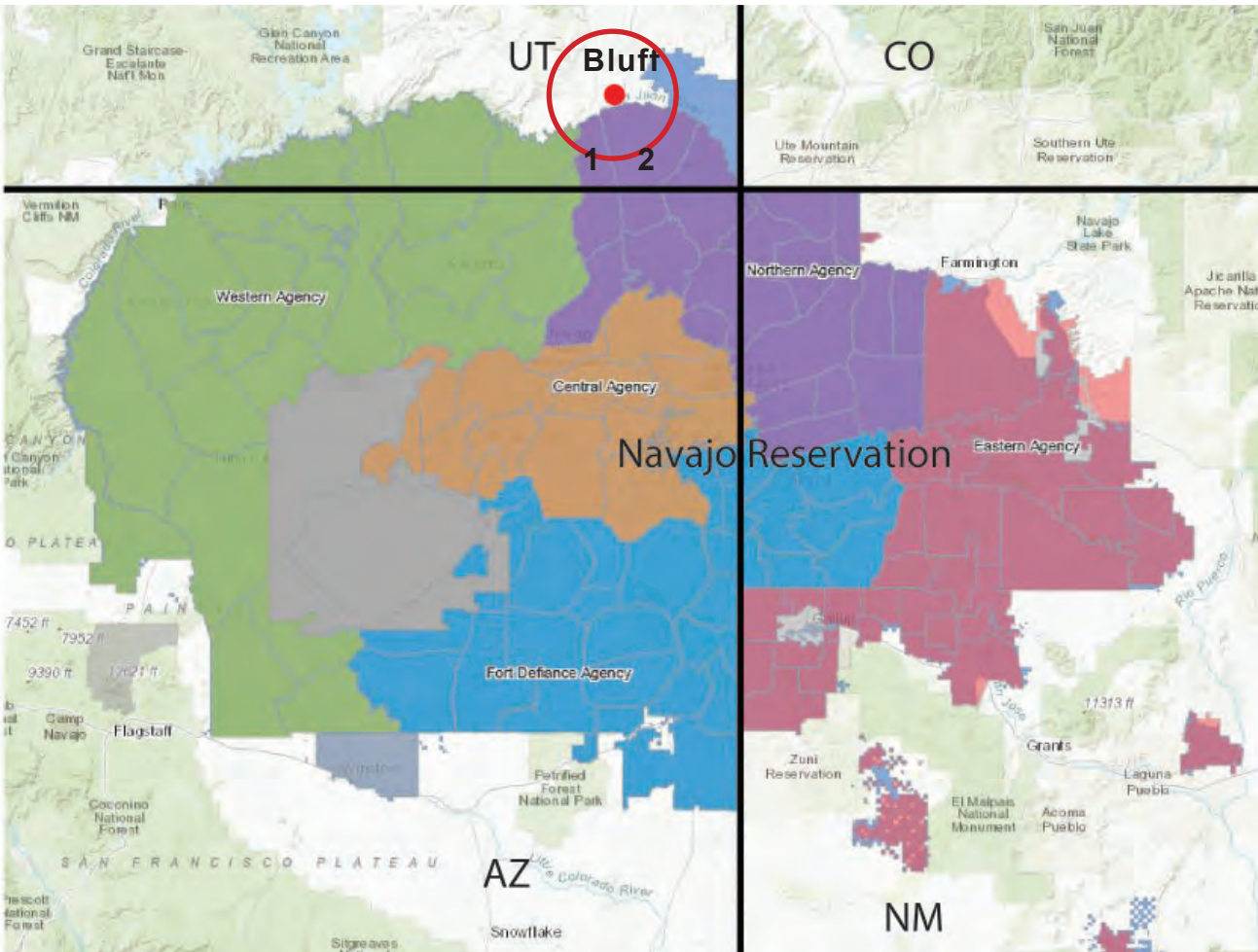
Bluff and the Navajo Reservation are separated by the San Juan River. The Mexican Water (1) and Red Mesa (2) Chapters of the Navajo Nation are located within the boundaries of the State of Utah. The majority of the Navajo Nation is found within Arizona and New Mexico.

Ethnicities in Bluff

2
13
7
66
170

■ White ■ Navajo ■ Hispanic ■ Black ■ Two or more ethnicities

Bluff Elementary Ethnic Groups

9%
91%

■ Ethnic Majority ■ Ethnic Minority

According to the 2010 national census, the population in San Juan County is roughly 50/50 white/Native American. This does not reflect Bluff, where 66% of the population is white and only 26% is Native American. Part of the reason could be the heritage of the Mormon pioneer settlers from 1880. Another is the growing interest in Bluff as a place to own a second home or retire to.

The Elementary school student population is the opposite. The majority (91%) are Native American, and only 9% are white.

PLACE

Like social connections, the regional ecosystems of Southern San Juan County rely upon interconnected systems to remain viable in the harsh desert climate. These natural systems provide networks of resources and opportunities for the flora and fauna of the region. Similarly, humankind has established interconnected systems and networks that supply resources and opportunities for the residents and visitors of the region.
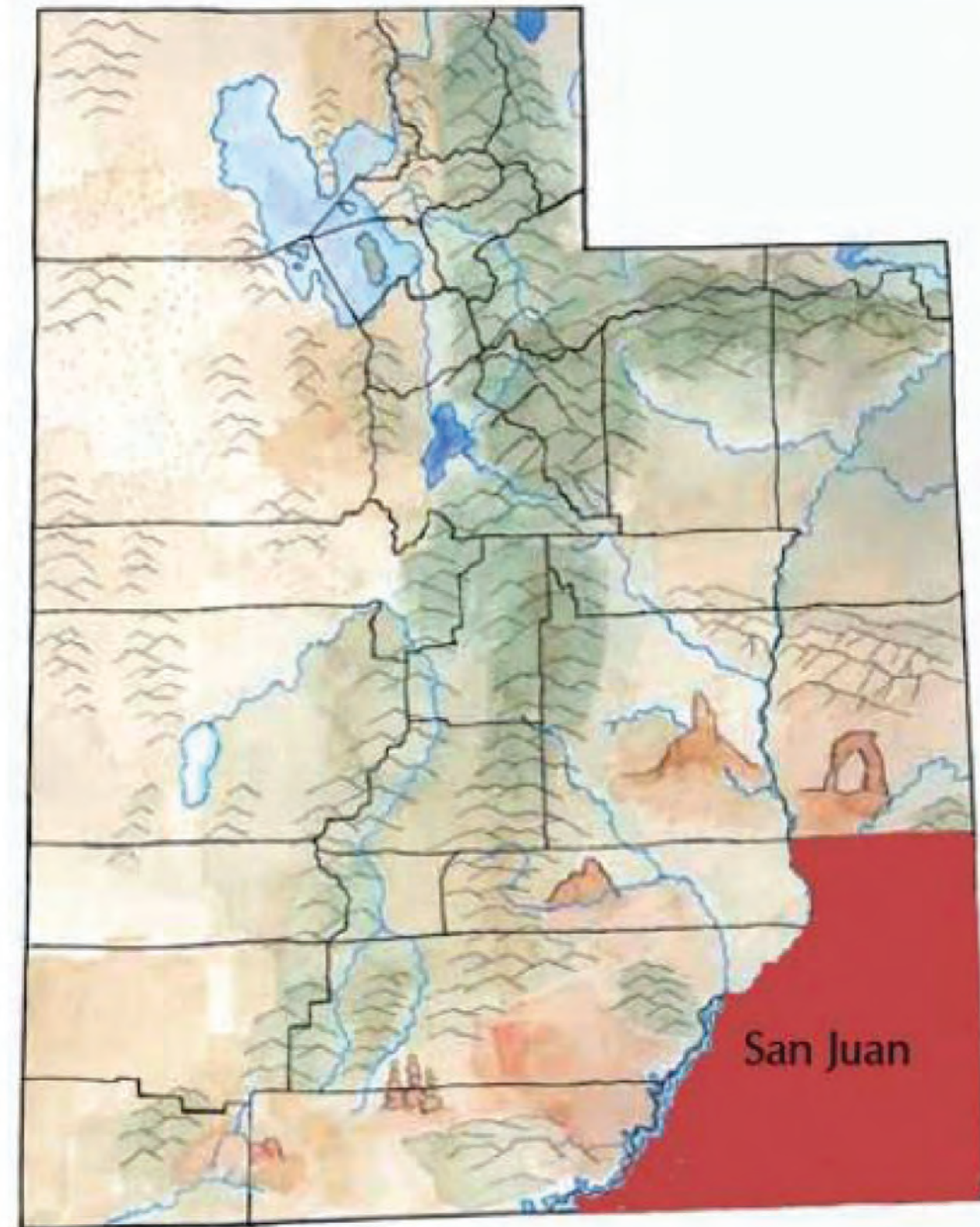
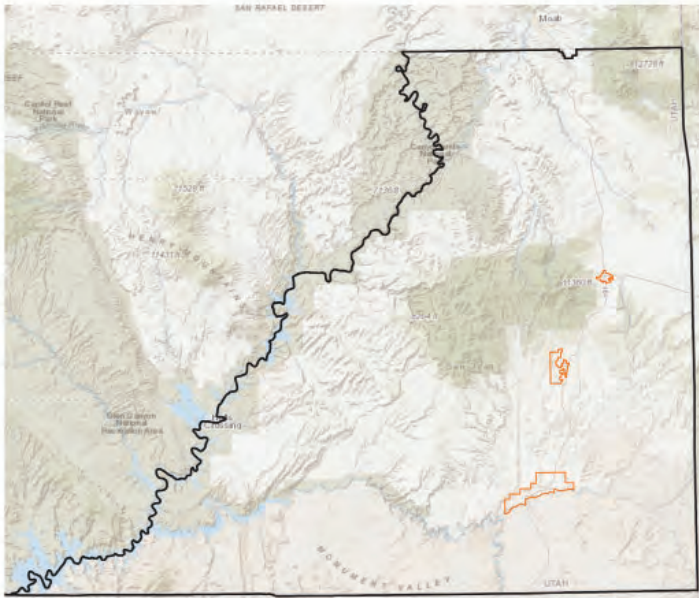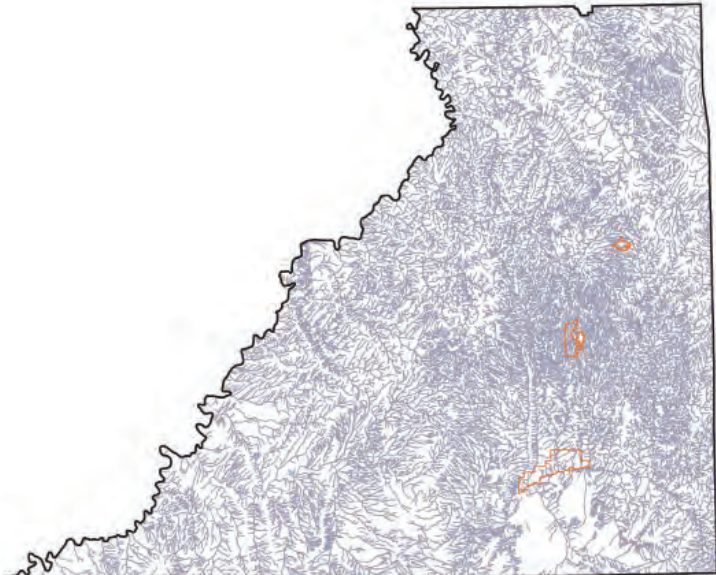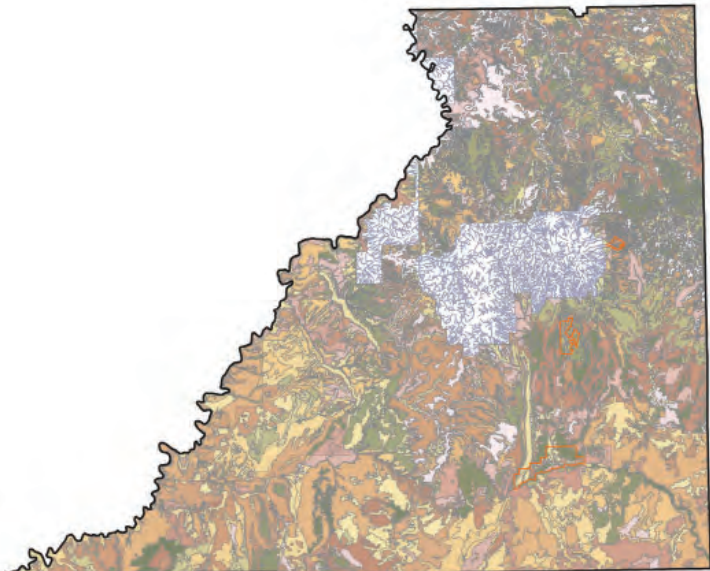Credit: www.ilovehistory.Utah.gov
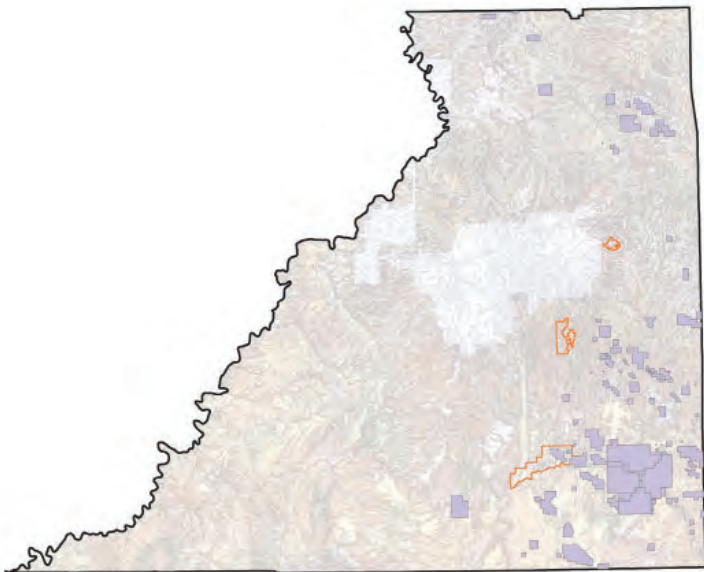
VISUAL CHARACTER
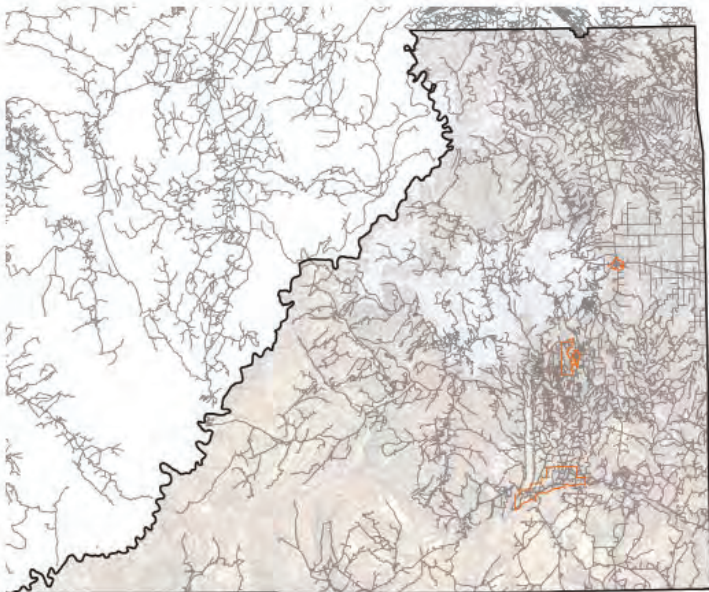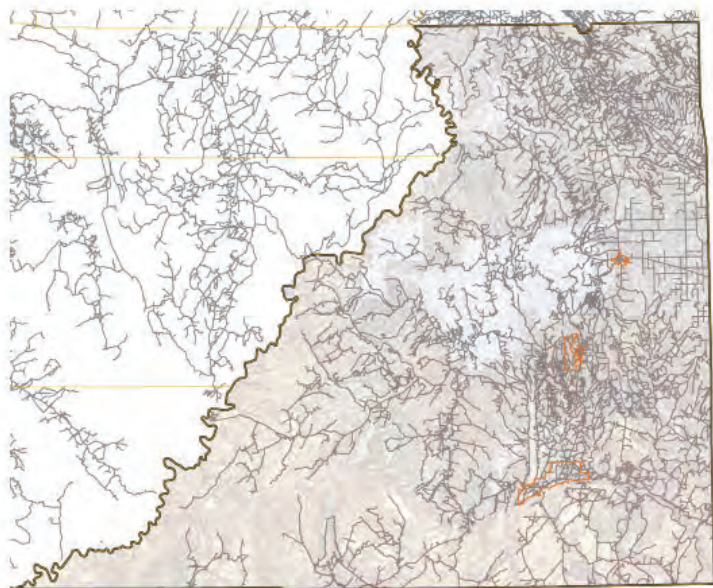
DIVIDING SAN JUAN COUNTY

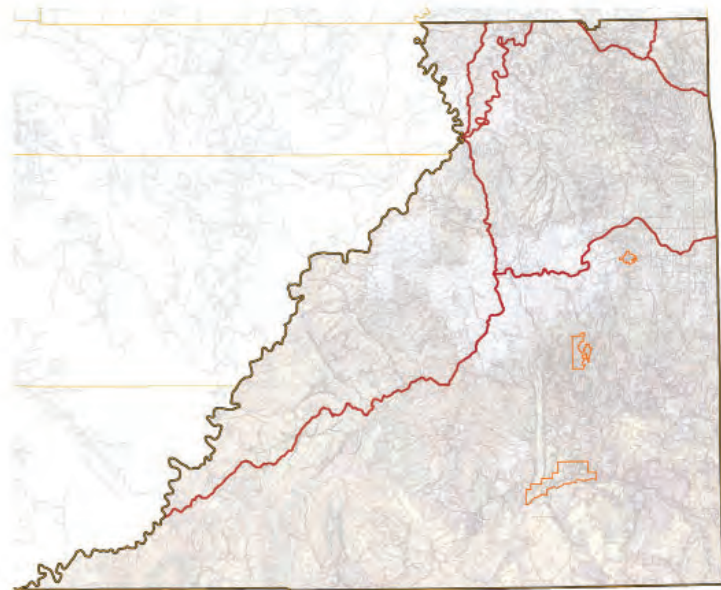Municipalities

Rivers

Soil types

Oil & Gas Deposits

Roads

School Districts

Water Districts

County Properties
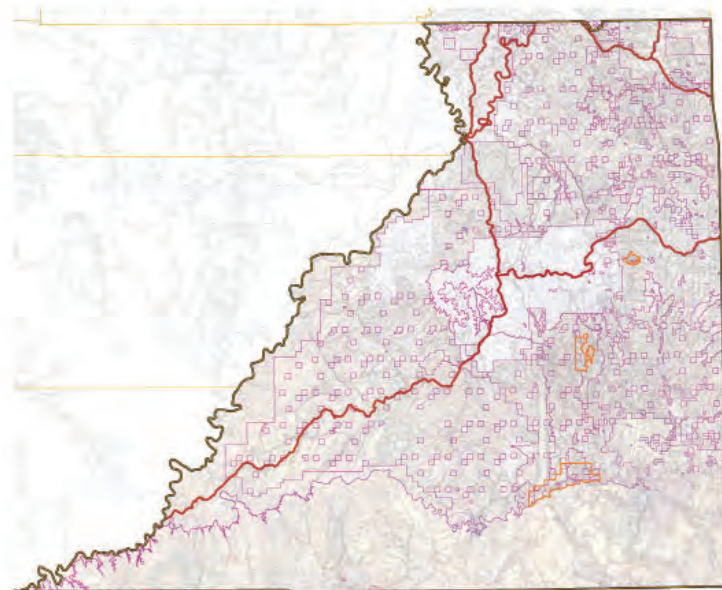
Other Properties
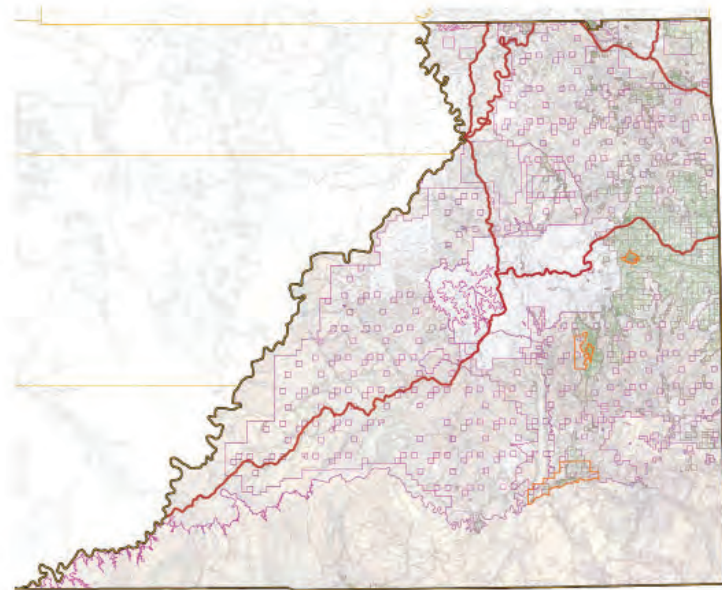
Culinary Water Supplies
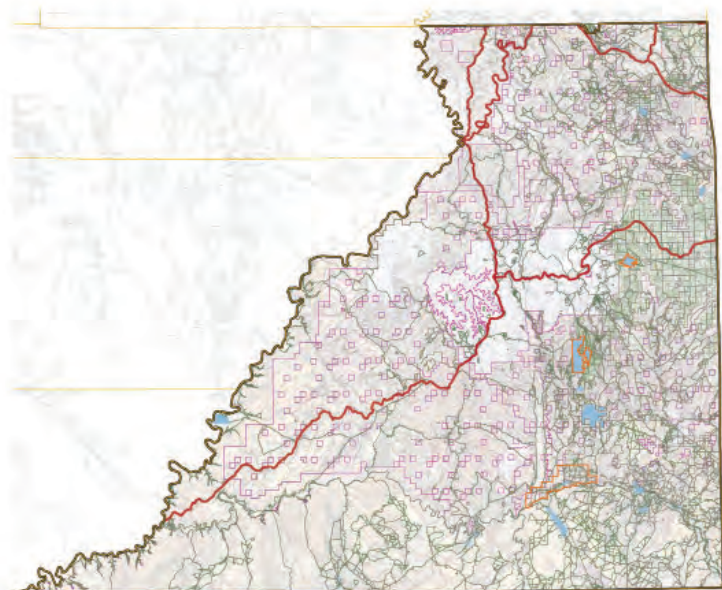
Aqueducts
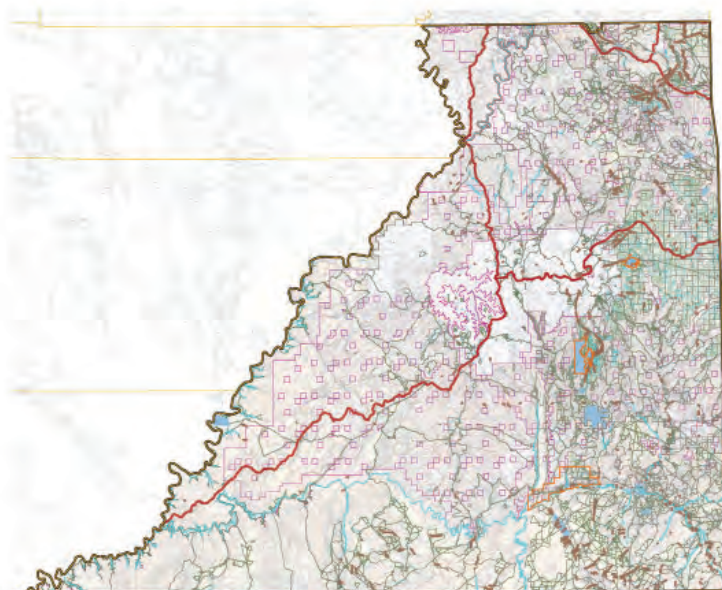
LAND OWNERSHIP

Land ownership is separated into:

State Land

Federal Land

Private Land

Tribal Land

This map shows that Federal Land has the largest regional influence on Bluff, followed by State Land, and finally Private Land. There is no Tribal Land inside the city limits of Bluff, but looking at a broader scale shows the extent and influence Tribal Land has on the region.

TOTAL AREA
38 SQUARE MILES

Federal Land
16 square miles
42%

State Land
15 square miles
39%

Private Land
7% square miles
19%

4% of private land is being used for agriculture

Federal Land

State Land

Private Land

Tribal Land

Miles
0   0.5   1   2   3   4
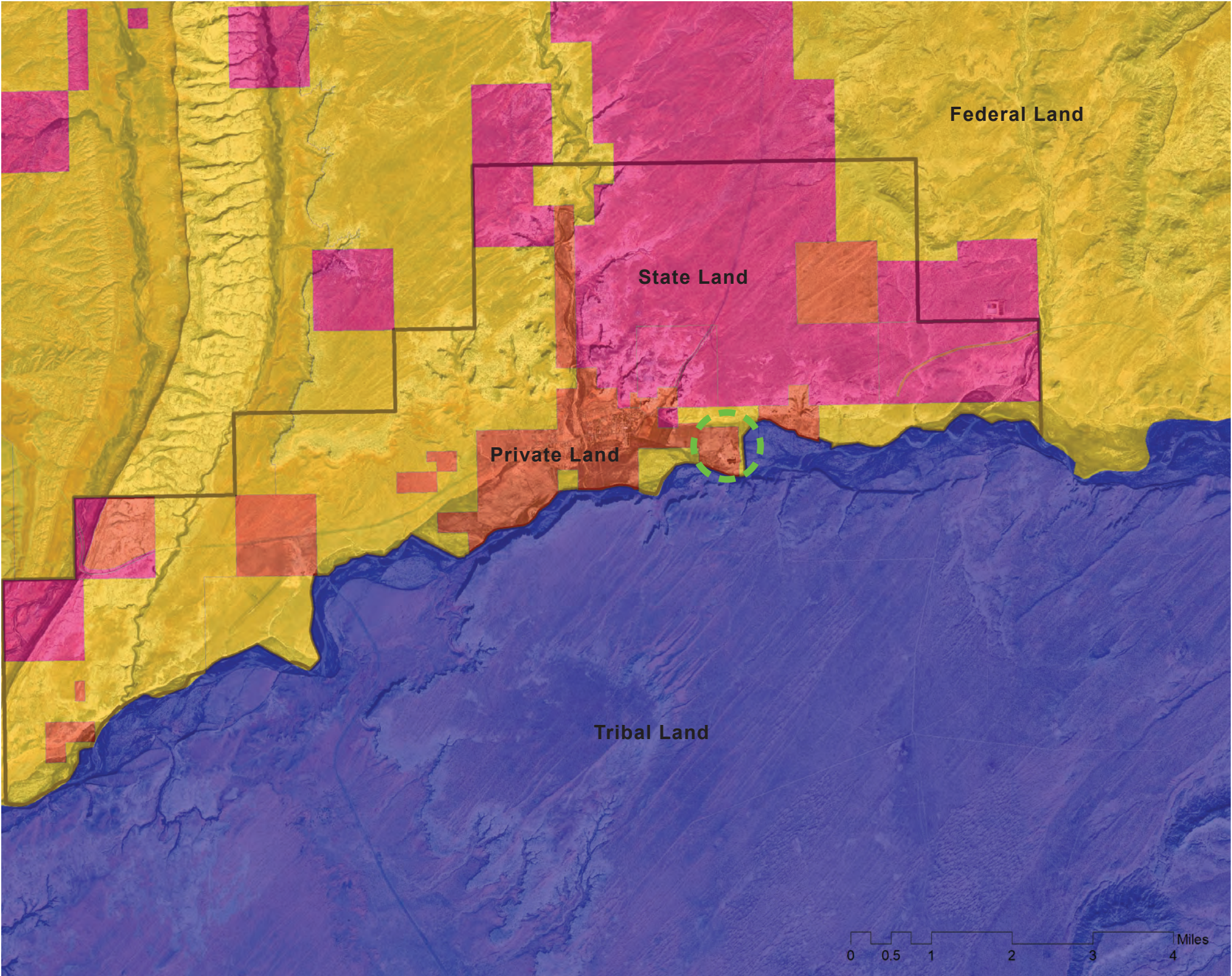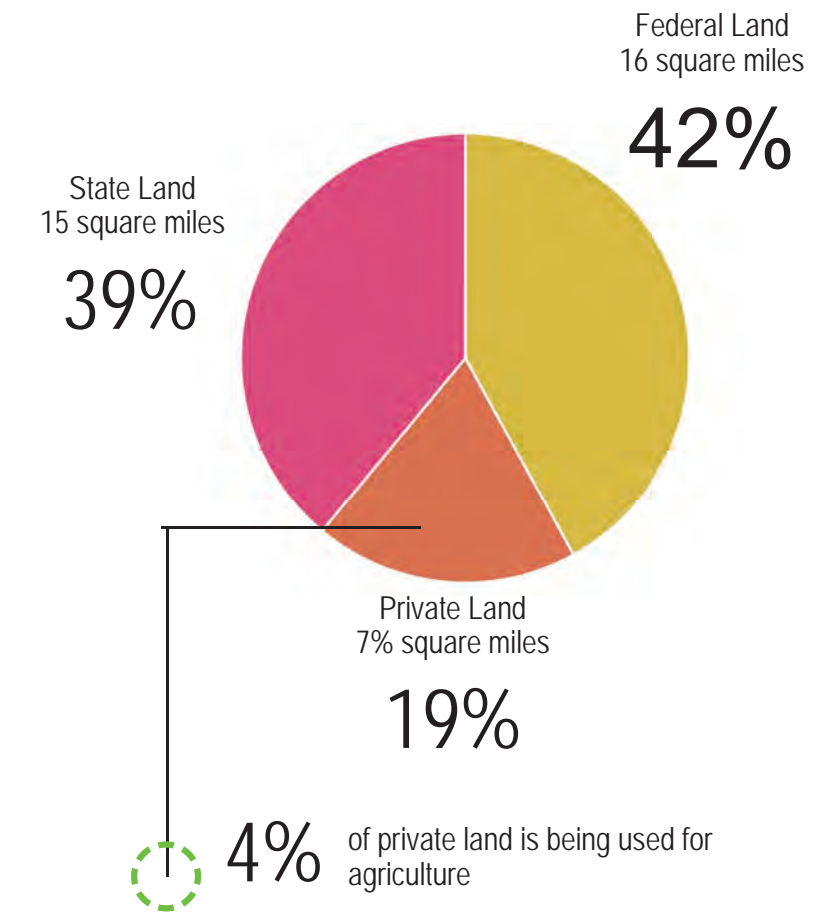
LAND USE

BUILT PARCELS

Out of the 220 built parcels in Bluff, Utah, an analysis of the land use in the city proper shows that the most average structure in Bluff is a relative medium density home built on the east side of town. The community of Bluff has a total of 124 of this type unit.

The second most common structure in Bluff, Utah is a relative low density home, many of which are located on the northern end of town, near the canyons.

The least common structure built in Bluff are relative high density housing [trailers] and public city green space.

2%
DINING
Total Count: 5 Facilities

1%
RELATIVE HIGH DENSITY HOUSING
Total Count: 3 Facilities

2%
EDUCATION
Total Count: 5 Facilities

1%
CITY GREEN SPACE
Total Count: 2 Facilities

4%
LODGING
Total Count: 9 Facilities

6%
COMMUNITY/CIVIC
Total Count: 13 Facilities

11%
COMMERCIAL
Total Count: 25 Facilities

56%
RELATIVE MEDIUM DENSITY HOUSING
Total Count: 124 Facilities

17%
RELATIVE LOW DENSITY HOUSING
Total Count: 37 Facilities

The below map shows a color-coded land use map to the city proper. Each structure is color-coordinated to express a different use for each built man-made structure. The only exception is the green space, which was set aside by the county of San Juan. The green space includes a park and cemetery within the city proper.

■	Commercial
■	Lodging
■	Dining
■	Education
■	Relative Low Density Housing
■	Relative Medium Density Housing
■	Relative High Density Housing
■	Community/Civic
■	Green Space
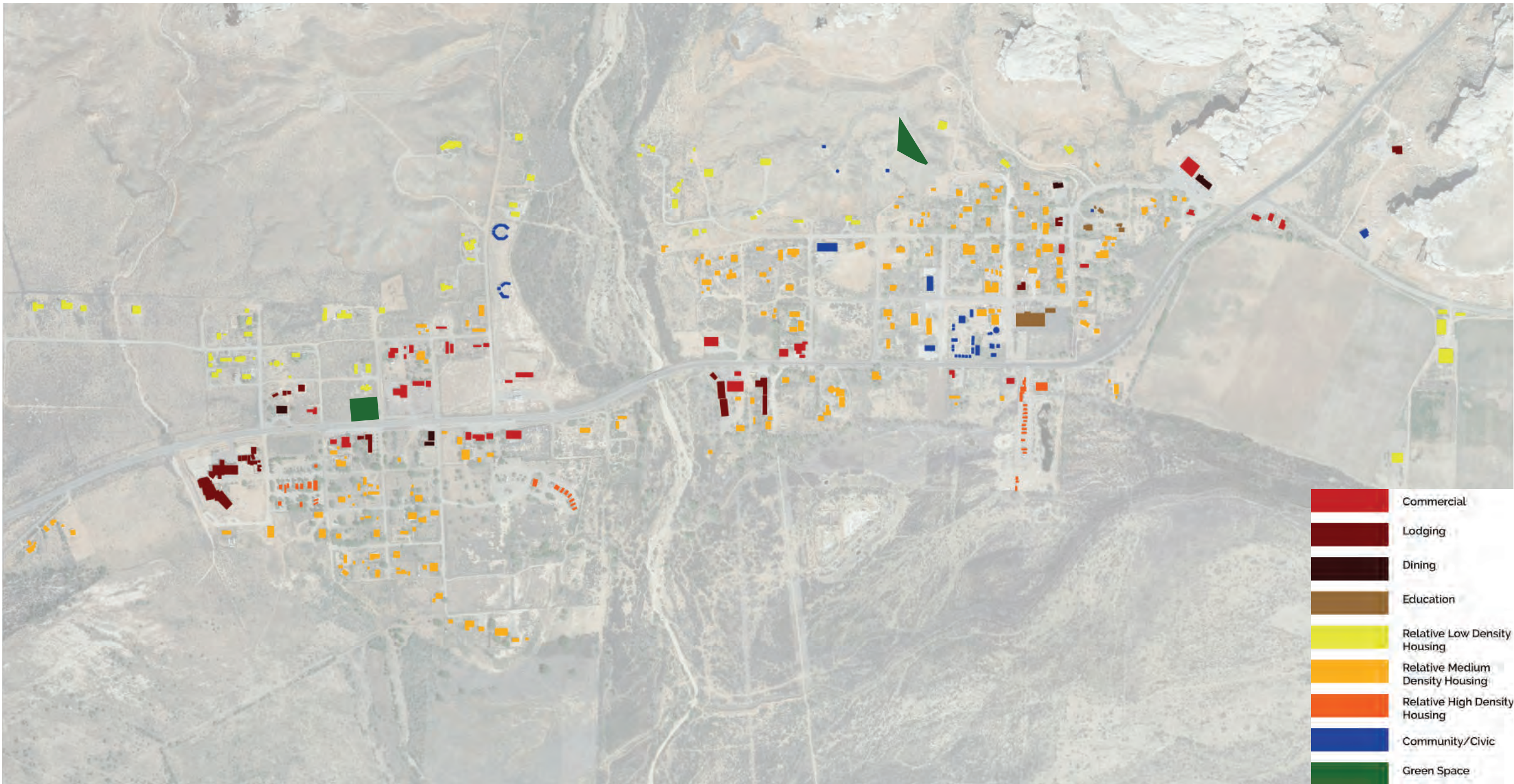
CITY STRUCTURE ANALYSIS
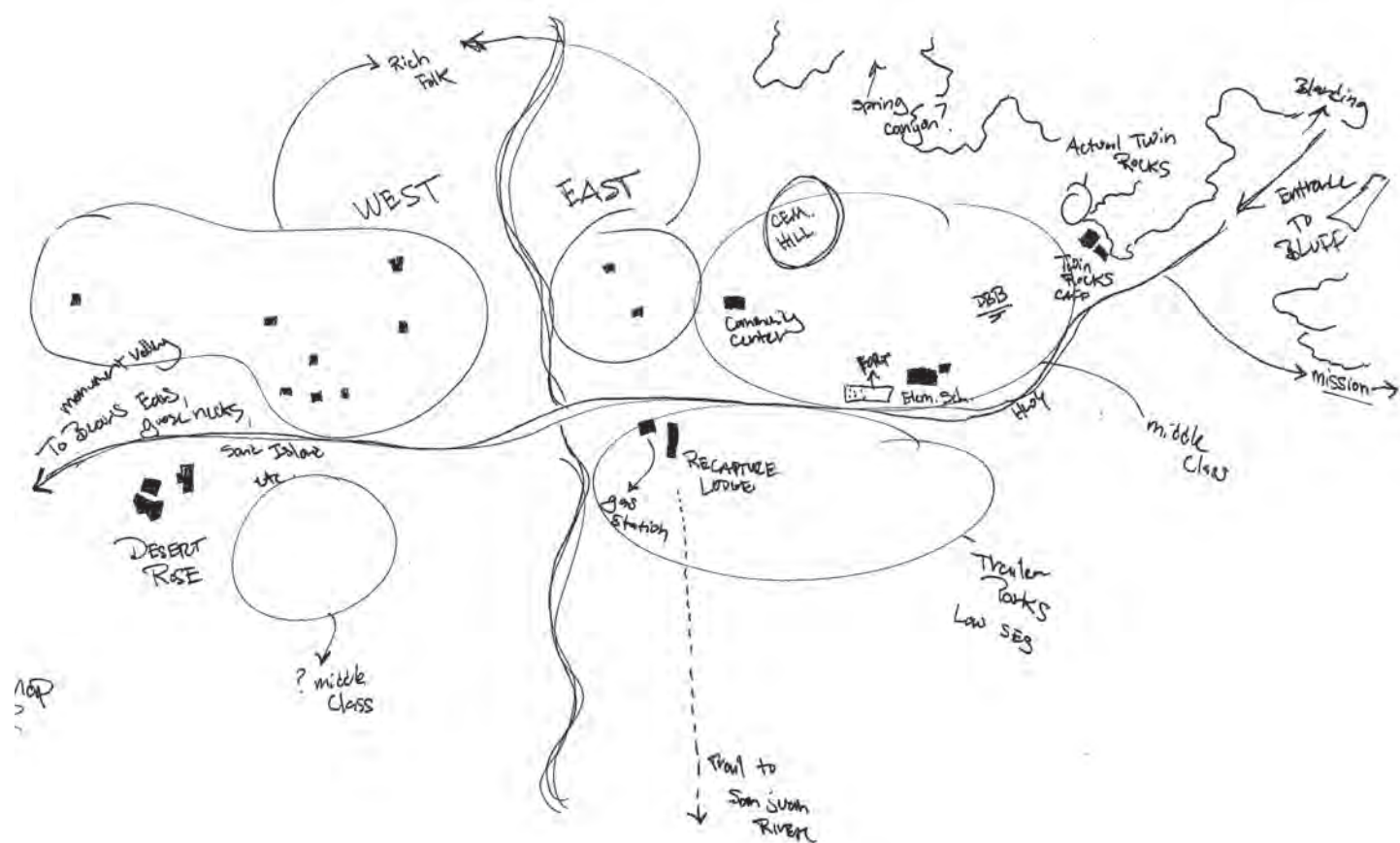
Hot Spots

This sketch provides a conceptual view of how the city of Bluff is experienced and perceived. It identifies areas that either exert a strong perceptual influence over the city. Physical structures like the Twin Rocks are included due to their prominence in the city's overall visual identity.

The city is labeled East and West, for ease of the viewer's orientation. The Cottonwood Creek itself is not a relatively large structure, but it's influence in separating the city is strongly felt.

Movement

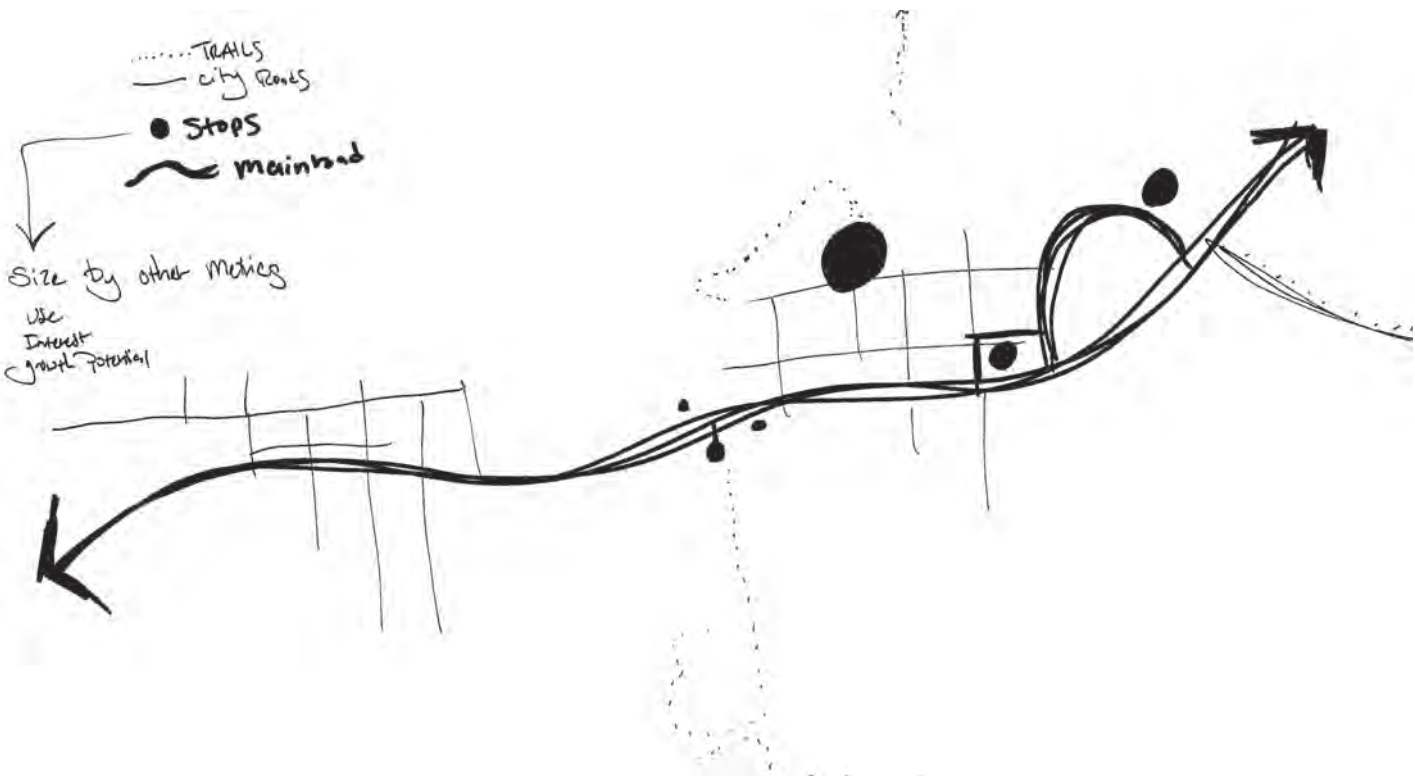US 191 creates a strong east to west axis that establishes the predominant movement corridor through Bluff directs traffic through Bluff's core moving East's core. This movement line strongly leads the user into the city and strongly leads them straight out again. This inherent form does not promote users to stop and spend time but entices a transient relationship with the core of the town.

The second strongest movement line is the road bordering the Twin Rocks Outpost. This loop encourages traffic to enter the city by slowing traffic, welcoming them to town with a spectacular vista and providing a food option at the Twin Rocks Cafe.

City Form

Starting at the North reveals organic curves where rock formations frame the city.

Moving South the eye follows the Cottonwood Creek, separating the grid of the city streets.

Highway 191 strikes a dominate feature cutting through the city, leading visitors in one way and out the other.

Smaller structures break up the grid, particularly as the user heads south, towards the San Juan River.

Looking closer at all the forms in the city shows that Bluff is actually broken up into four quadrants: Northeast, Southeast, Southwest, and Northwest.

The Northern quadrants are bordered by the canyons, the Southern quadrants by the San Juan River. The Cottonwood Creek separates East and West.
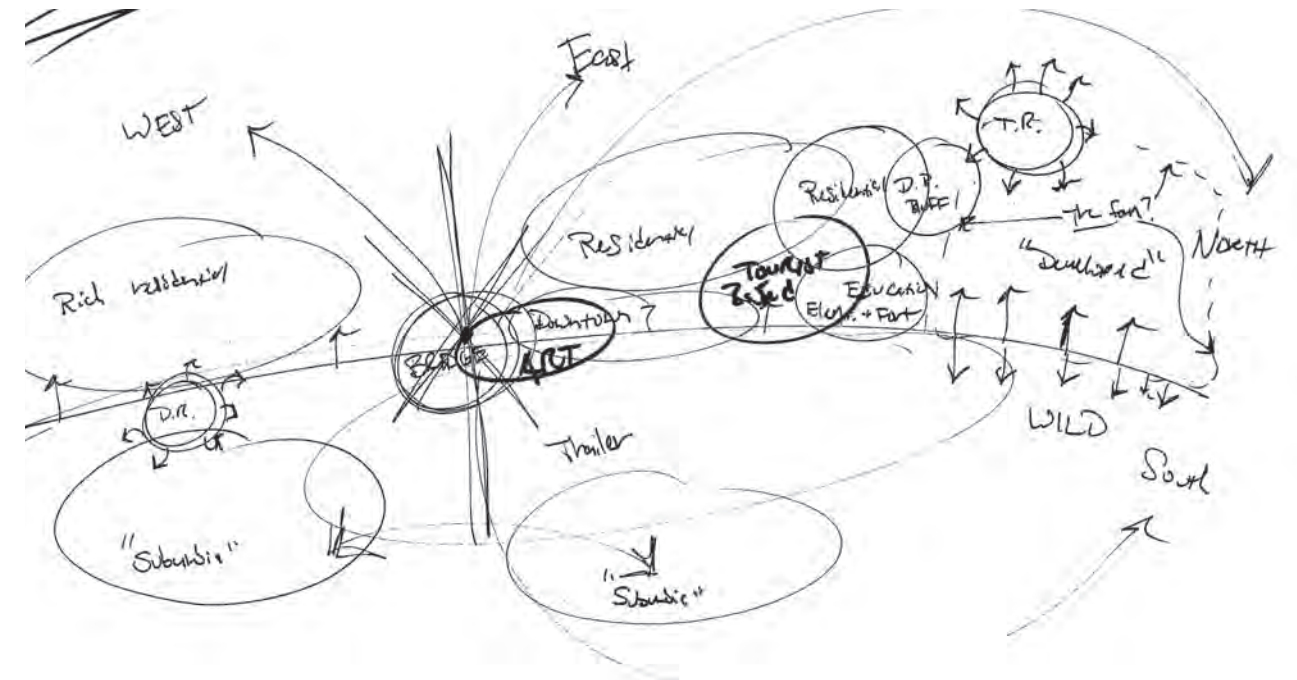
Districts

This map shows the impression of the different districts in Bluff. Relative titles, such as, "Suburbia" give an idea as to the Identity of each District.

This district map shows the influence the bridge has on the rest of the city.

FIGURE GROUND

The city of Bluff, Utah has 220 parcels with built structures on it. Below, is a figure ground study, representing all of the built structures in black.

Black= Built Structures

White= Non-Built Structures

Figure grounds visually express the locations, relative density, and relationship of the city's built infrastructure.

FIGURE GROUND ANALYSIS

Bluff paints the picture of a small city separated into dominant halves to the east and west and less dominant halves to the north and south. The figure ground study shows a lack of any connection between the these city quarters. This shows a fundamental physical split within the city due to the natural biophysical features such as Cottonwood Creek, or structural barrier of US 191.

DISTRICTS

Districts are loose areas that share a common theme. They are identified based on the main facility typology that dominates the area. For example, the north is mainly Relative Low Density Housing Homes, and is thus designated as a Relative Low Density Housing District, even though there are a few civic and green space areas.

Relative Medium Density Housing

Commercial

Relative Low Density Housing

Education

Lodging

Commercial and Lodging

Community /Civic

Relative Medium Density Housing

Relative High Density Housing

Legend:
- Commercial
- Lodging
- Dining
- Education
- Relative Low Density Housing
- Relative Medium Density Housing
- Relative High Density Housing
- Community/Civic
- Green Space

HOUSING ANALYSIS

RELATIVE HIGH DENSITY HOUSING
TOTAL COUNT: 3 FACILITIES

2%

RELATIVE MEDIUM DENSITY HOUSING
TOTAL COUNT: 124 FACILITIES

76%

RELATIVE LOW DENSITY HOUSING
TOTAL COUNT: 37 FACILITIES

22%

RENTERS

Of the 164 housing facilities in Bluff, 4% are listed as Airbnb sites on the Airbnb website. Of that 4%, 6 are medium income housing typologies, and 1 is high income housing.

Several lodging facilities also market through outside, nationwide advertising platforms, giving the average visitor to Bluff 11 options for lodging in a residence in Bluff.

FOR SALE

Real estate continues to be in high demand resulting in a low number of available units for sale in Bluff and the surrounding region.

SECOND HOMES

Second homes are a growing percentage of the housing market within Bluff. Second homes are usually lived in on a seasonal basis or intermittently. This situation creates the structural illusion that a community is full of residents or neighborhood is full of neighbors when in reality the homes are empty. A predominance of second homes within a community erodes the sense of community, the availability of human resources, and limits the number of participants available to participate in all aspects of the democratic process

OFF-SEASON IDENTITY ANALYSIS

The experience of the community of Bluff in the Winter differs from how residents and visitors experience Bluff in the summer. The majority of businesses - including restaurants and lodging facilities are closed during the winter. This makes a visit to Bluff in the winter challenging for visitors. With limited access accommodations such as hotels and restaurants visitors either pass through or have a lesser experience than during the summer. .

30% of hotels are
open in the winter

33% of restaurants are
open in the winter

0% of expeditions are
open in the winter

78% of community
resources are open in
the winter

Legend

○ Seasonal

● Year Round

MAJOR EMPLOYERS

Bluff is part of San Juan County and helps feed the county workforce. San Juan County's major employers of 2017 are listed to the right. This list was provided by the Utah Department of Workforce Services from data collected by the state. The largest employer to the smaller employer are ranked numerically.

The mayor employers were mapped so as to be used in a travel to work network analyses. Several of the employers in the county cover a wide geographical area. The main location(s) of these organizations were mapped and not their geographical area; for example, the main offices for the San Juan School District were located in Blanding even though teachers may work in schools throughout the county. Additionally, some of the employers weren't mapped because of complications in locating them. These were #4 Monument Valley Lodge, #5 United States Government, #7 State of Utah, and #30 San Juan County (this wasn't mapped because #3 had already mapped San Juan County's major offices).

1. San Juan School District
2. Utah Navajo Health System
3. San Juan County
4. Monument Valley Lodge
5. United States Government
6. Utah State University
7. State of Utah
8. San Juan Healthcare Services
9. Four Corners Regional Care Center
10. Blue Mountain Hospital
11. Resolute Natural Resources Company
12. Gouldings Lodge
13. Lisbon Valley Mining Co
14. The Navajo Nation

15. Blanding City
16. Energy Fuels Resources (USA)
17. Blanding Grocery
18. Ute Mountain Ute Tribe
19. Blue Mountain Meats
20. Ticaboo Management
21. City of Monticello
22. Four Corners School of Outdoor Education
23. Naa Tsis Aan Community School
24. Redd Mechanical Inc.
25. Desert Rose Inn
26. San Juan Mental Health Substance Abuse
27. The San Juan Foundation
28. Blue Mountain Foods

29. Lansing Construction
30. San Juan County
31. Rocky Mountain Home Care
32. Canyon Country Chevron
33. Parley Redd Mercantile
34. Maryboy LLC
35. Twin Rocks Cafe and Gift
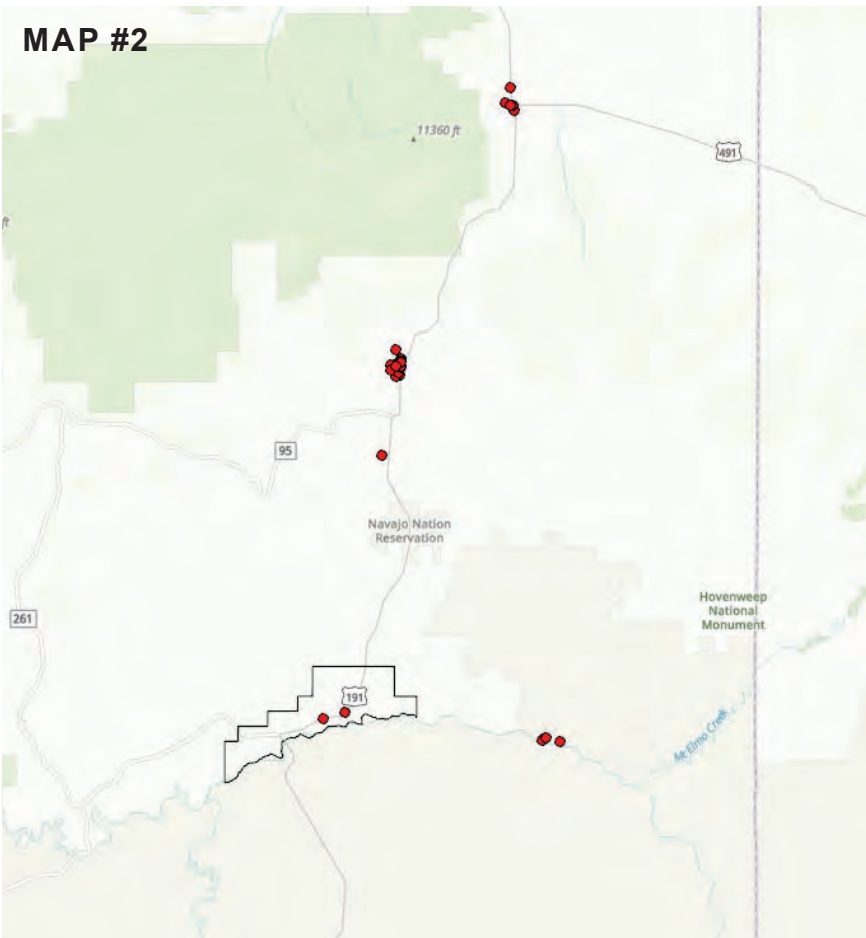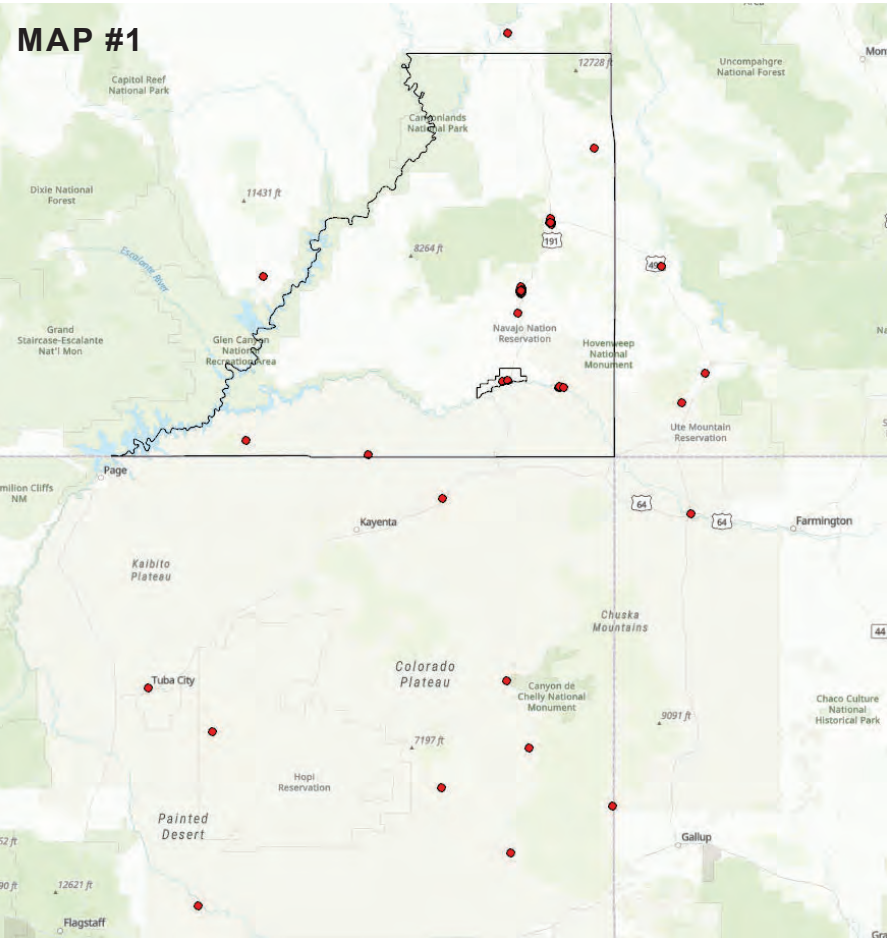36. Cedar Mesa Products
37. Four Corners Health Care Corp
38. Transitions
39. JR Construction and Roustabout Inc
40. Millennium Oilfield Services
41. Tri-Hurst Construction

MAP #1

MAP #2

1. Extent of Major Employers of San Juan County

San Juan County's major employers are in the following industries: education, healthcare, government, accommodations, residential care, mineral extraction/mining, grocery stores, animal processing, construction, gas station/convenience store, hardware stores, machinery maintenance, restaurant, manufacturing, skilled nursing, and vocational rehabilitation services.

Of the major employers of San Juan County about 16% of the mapped employers are outside of the county. These are in the extraction/oil services, local government, and accommodations industries.

Most of the mapped locations south of San Juan County are the local government offices of the Navajo Nation, which ranks 14th or within the top 35th percentile of the major employers. These are considered one entity in calculating the percentage of employers within a given area. Additionally, it is unknown how many from Bluff are contributing to the workforce within these offices.

2. Monticello, Blanding, Bluff

Monticello, Blanding, and Bluff contain 77.55% of the county's major employers.

3

4

5
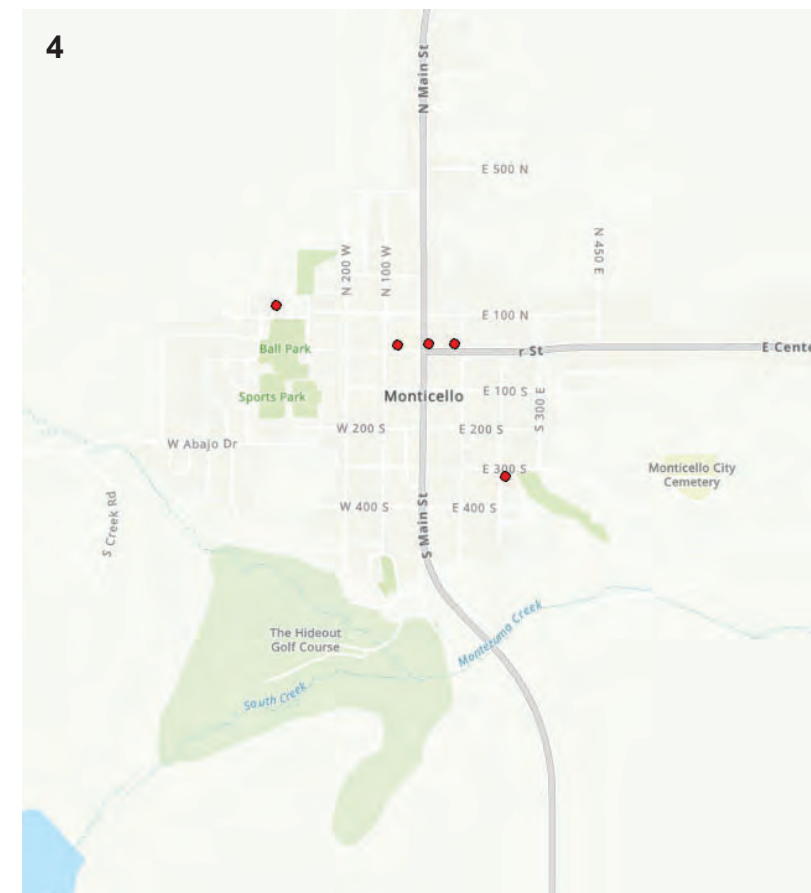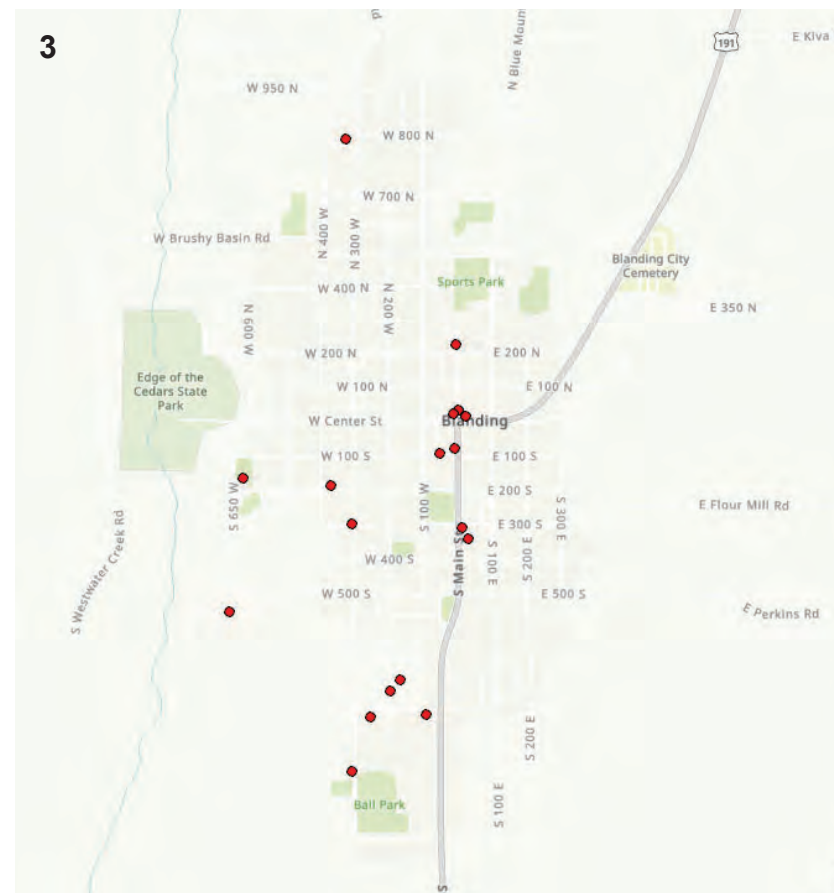
3. Blanding

Blanding has the largest concentration of major employers for the county. Blanding contains about 47% of the major employers. These are in the healthcare, government, residential care, construction, education, grocery and hardware stores, skilled nursing, manufacturing, vocational rehabilitation, and gas station/convenience store industries.

4. Monticello

Monticello contains about 16% of the major employers. These are in the education, healthcare, government, animal processing, and grocery industries.

5. Bluff and Montezuma Creek

Bluff is home to 5% of the county's major employers. These are Twin Rocks Cafe and Gift and the Desert Rose, which are in the restaurant and accommodations industries.

Montezuma Creek contains about 9.5% of the major employers, These are in the construction, healthcare, and machinery maintenance industries.

Overall, Bluff is about within 30 minutes of about 61.5% of San Juan County's major employers.

COMMUTE TIME

Introduction

Possible deterrents for those who are looking to settle in Bluff, and a potential challenge for those who already live in Bluff are the time, distance, and associated cost required to travel for work. The major employers of San Juan County are included in the analyses to explore their geographical relation to the time, distance, and money it would take to travel to them.

The following analyses are called service network analyses. The center of Bluff is provided as the center node and beginning point of the drive. Parameters are then given for either the time or distance that one can travel. Then, the Geographic Information System (GIS) software uses a network analysis that uses the national road system database to calculate how far one can geographically travel with the given parameters.

Commute Time Analysis

This network analysis explores how far one can get within a given time one direction from the center of Bluff. The parameters chosen were 10 minutes, 30 minutes, 60 minutes, and 120 minutes because they are general marks of time.

Conclusions

Shiprock and Farmington New Mexico, Cortez Colorado, Moab Utah, and Chinie Arizona are within the within the 120 minute range. Monticello is within the 60 minute range.

Overall, 47% of San Juan County's major employers require more then 30 minutes to travel from Bluff. 8% of the major employers are more than a 120 minute drive away from Bluff. 18% of the major employers are within the 120 minute range. 21% of the major employers are within the 60 minute range.

Almost half of the employers would take more than and hour out of the day to travel to and from. During our site visit we spoke with members of the community of Bluff that told us that many travel to Cortez for amenities like grocery stores. This takes dedicating more than 2 hours to get there and back to run errands.

Commute Time Analysis
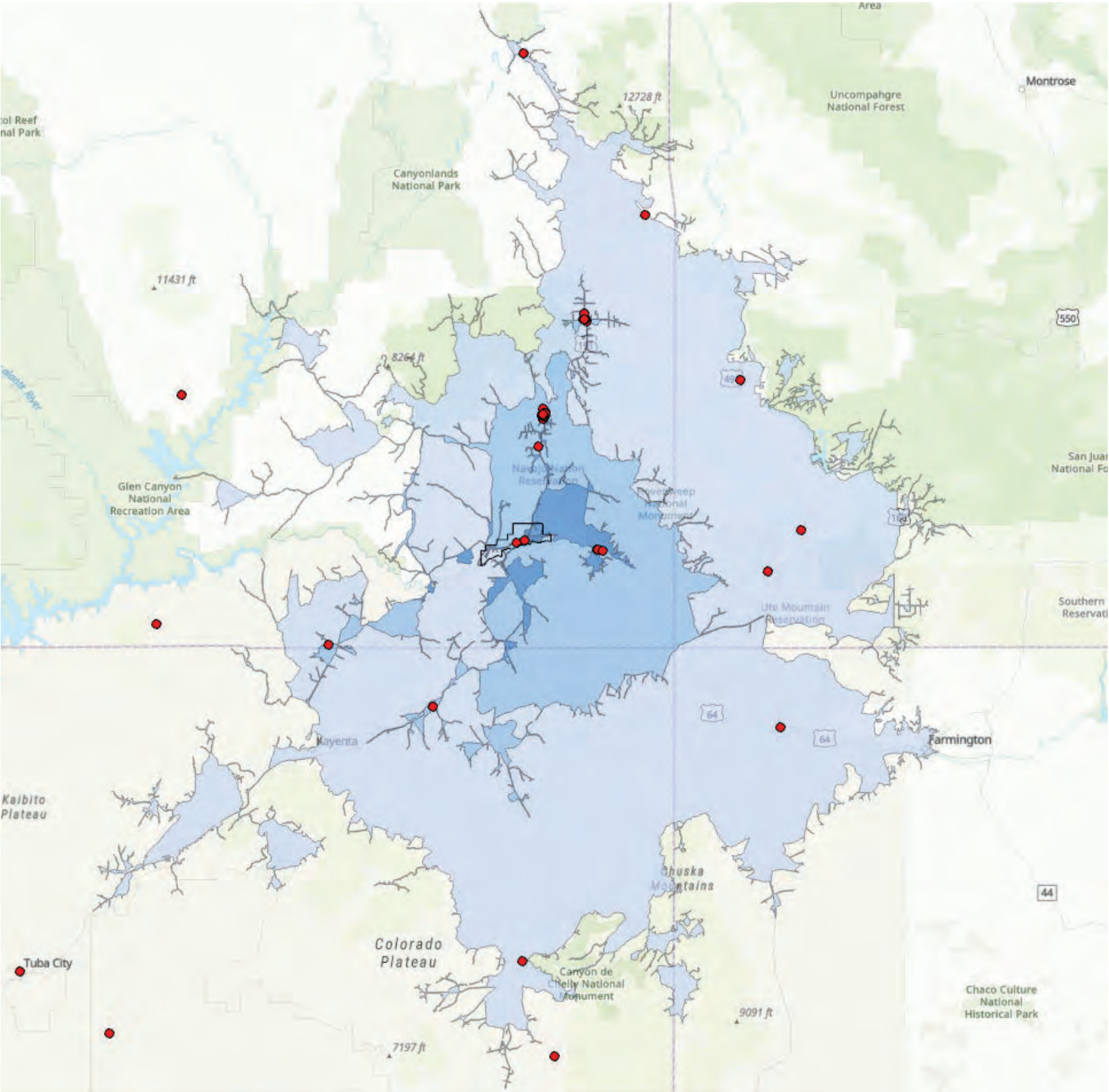
Conclusions

Overall, 63% of San Juan County's major employers are within 60 minutes of Bluff. 58% of the employers are within the 30 minute range. 5% of the major employers are within the 10 minute range.

As can be seen from the figure given for beyond the range of 30 minutes (47%), there is an overlap of employers. This is due some of the major employers having multiple locations mapped.

Those who live in Bluff have a 30 minute or less access time to 63% of the major employers.

Commute Time Analysis - Enlarged

Commute Time Analysis Legend

- 10 Minutes
- 30 Minutes
- 60 Minutes
- 120 Minutes
- Major Employers
- Images not to scale
- N
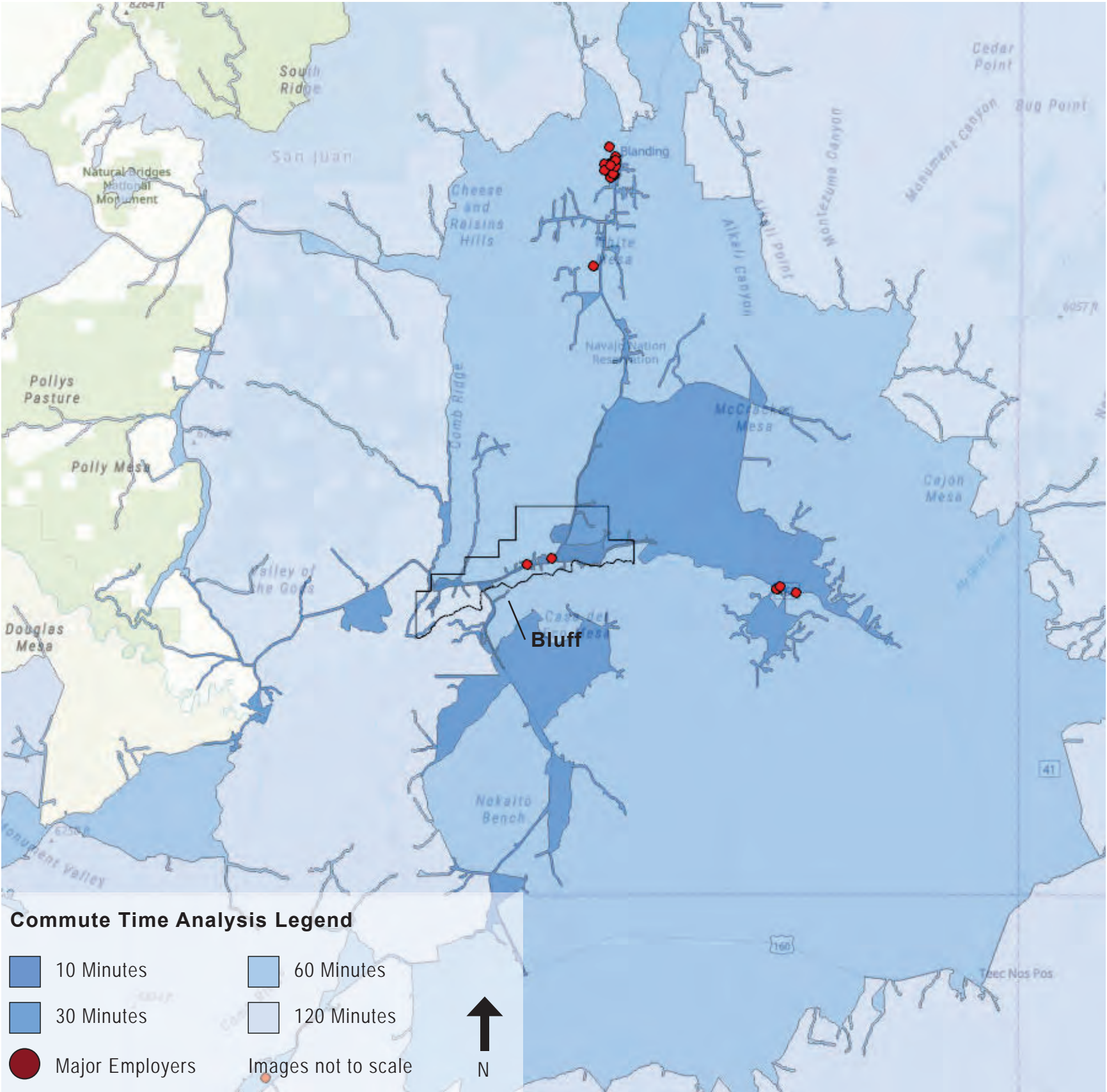
COMMUTE DISTANCE

The following analyses explore the distance that one can travel in relation to how much of their paycheck they would be required to spend.

This first network analysis is based off of the hourly wage of $10. It was calculated for how far one can travel on spending 5%, 10%, 25%, and 50% of their paycheck.

Calculations

To calculate how far one can travel on a given percentage of their paycheck the following steps were taken: 1) Calculate out how much money could be spent on so much % of the paycheck. 2) Converted this to how many gallons can be bought with that much money. The number used for the cost of gas was $2/gallon. 3) Converted the gallons to how many miles can be traveled. 4) Divided by 2 to account for traveling to and from work. 5) Converted the miles to kilometers because ArcPro works in kilometers.

Below is an example of what I did for spending 10% of your paycheck:

$$80 \times .1 = \$8 / 2 = 4 \text{ gallons} \times 22.4 \text{mpg} = 89.6 \text{ miles} / 2 = 44.8 \text{ miles and convert to km} = 82.1 \text{ km}$$
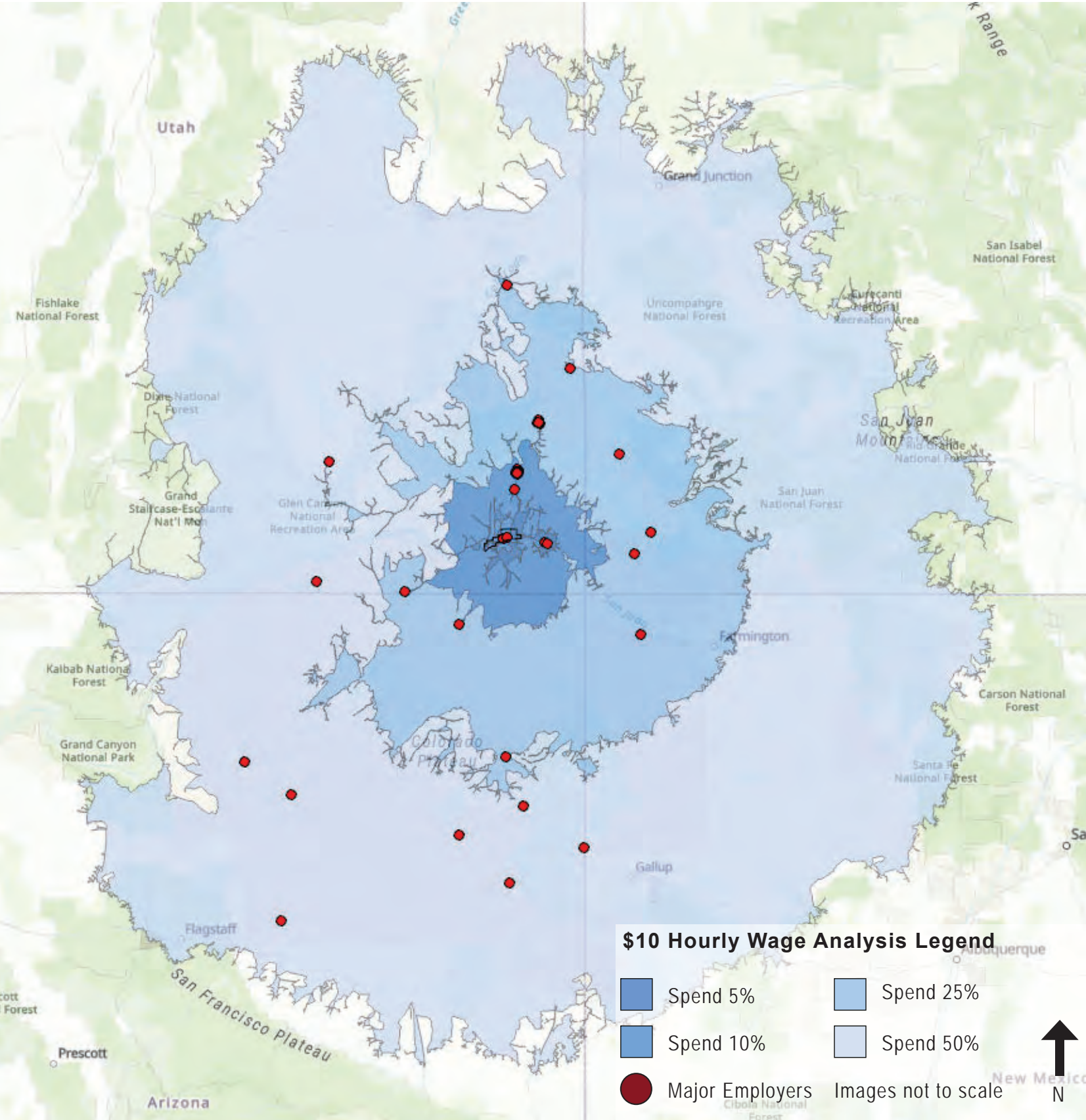
Conclusions

All of the major employers of San Juan Country can be traveled to and from Bluff without spending more than 50% of the paycheck. 7% of the employers are within the 50% spending range. 29.3% of the employers are withing the 25% spending range. 44% of the employers are within the 10% spending range. 17.1% of the employers are within the 5% spending range.

To live in Bluff and work outside of Bluff, to spend 5% or less of the paycheck would mean you'd have to work in Montezuma Creek. To work in Blanding would require spending an estimated 10% of the paycheck on travel. Cortez and Monticello require an estimated 25% of the paycheck to travel to and from work.

Living and working outside of Bluff can require a large percent of the paycheck to be spent on travel, depending on where work is. The reservation in particular requires spending more of the paycheck. This probably affects those who come from the Navajo reservation for work in Bluff because they have to spend so much of their paycheck on travel expenses.

$10 hourly Wage Analysis

$10 Hourly Wage Analysis Legend

Spend 5%   Spend 25%

Spend 10%   Spend 50%

Major Employers   Images not to scale

N

$35 Hourly Wage Analysis

$35 Hourly Wage Analysis Legend

- ■ Spend 2%
- ■ Spend 5%
- ■ Spend 10%
- ■ Spend 15%
- ● Major Employers
- Images not to scale
- N

This second network analysis is based off of the hourly wage of $35. It was calculated for how far one can travel on spending 2%, 5%, 10%, and 15% of their paycheck. Because of the distance the ArcPro can run a network analysis, the same percentages as the $10 analysis were not used

Calculations

I used the same calculation process as the $10 hourly wage but with different parameters.

Below is an example of what I did for spending 10% of your paycheck:

280 x .1 = $28 /2 = 14 gallons x 22.4mpg = 313.6 miles
/2 = 156.8 miles and convert to km = 252.35 km

Conclusions

All of the major employers of San Juan Country, except one, can be traveled to and from Bluff without spending more than 10% of the paycheck. 2% of the employers are within the 15% spending range. 9.8% of the employers are within the 10% spending range. 29.3% of the employers are within the 5% spending range. 61% of the employers are within the 2% spending range.
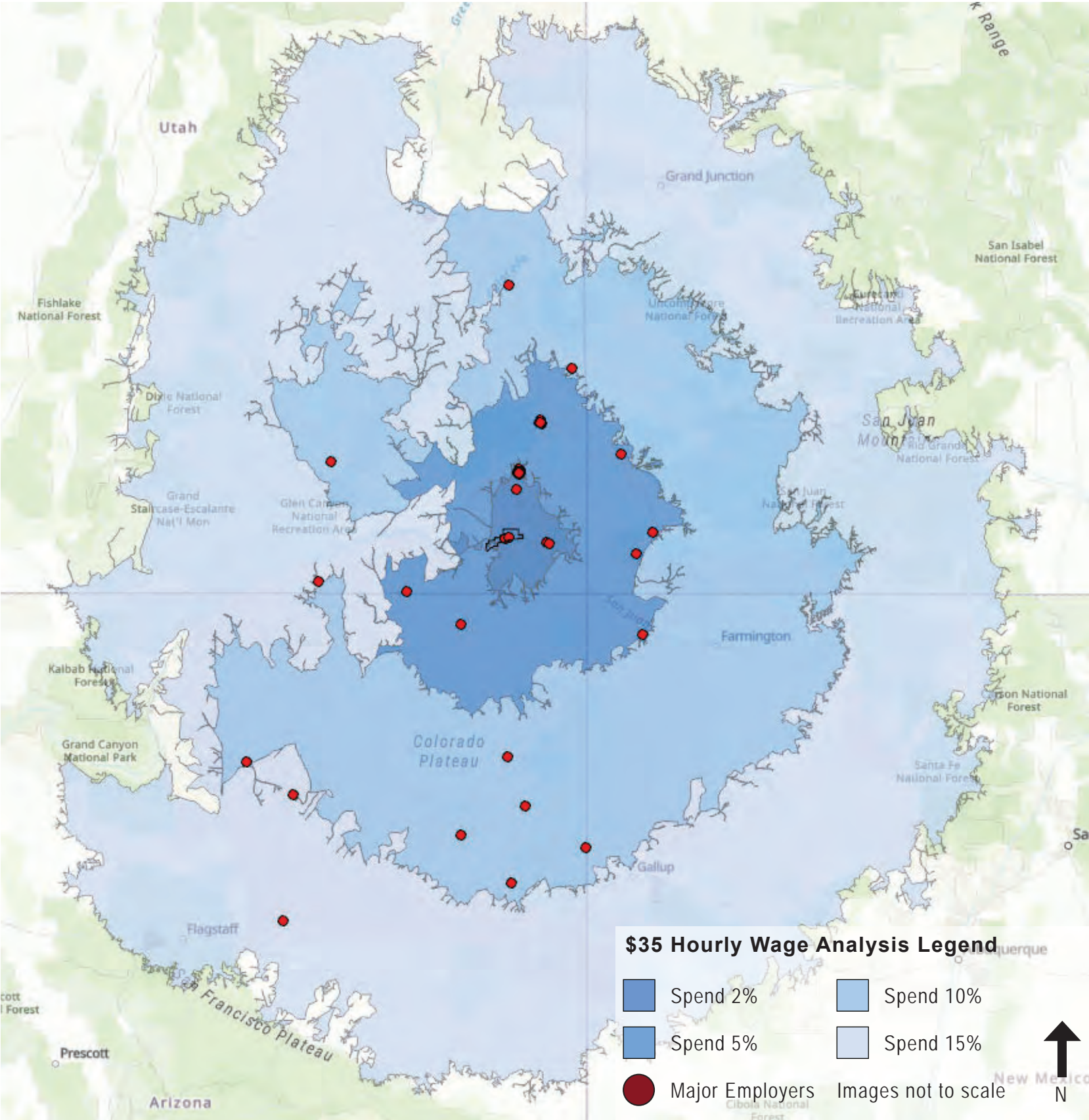
Both Blanding and Montezuma Creek can be travel to and from with spending 2% or less of the paycheck. Blanding and Cortez can be traveled to and from on 5% of the paycheck.

With the higher wage, it's more suitable to live in Bluff and work outside than compared to the $10 wage. Additionally, the Navajo reservation can be traveled to and from using only 5% to 10% of the paycheck. Having a higher paying job makes living in Bluff and working outside or living outside of Bluff and working in Bluff more possible.

DISTANCE AND TIME

The following images combine the time and distance network analyses. The distance analyses make it seem that distance isn't too much of a problem. The major towns around Bluff can be reached without costing too much. The time analyses tell a different story and is more restricting than the distance that one can travel.

The $10 hourly wage in relation to time shows that the time it take to travel 2 hours one direction is within the 25% spending range both directions. If one is required to travel within the 2 hour range, the individual would be spending 25% of their paycheck and use 4 hours of their day for travel. The travel times 10, 30, and 60 minutes would require only spending 10% of the paycheck.

$10 Wage and Time Zoom In
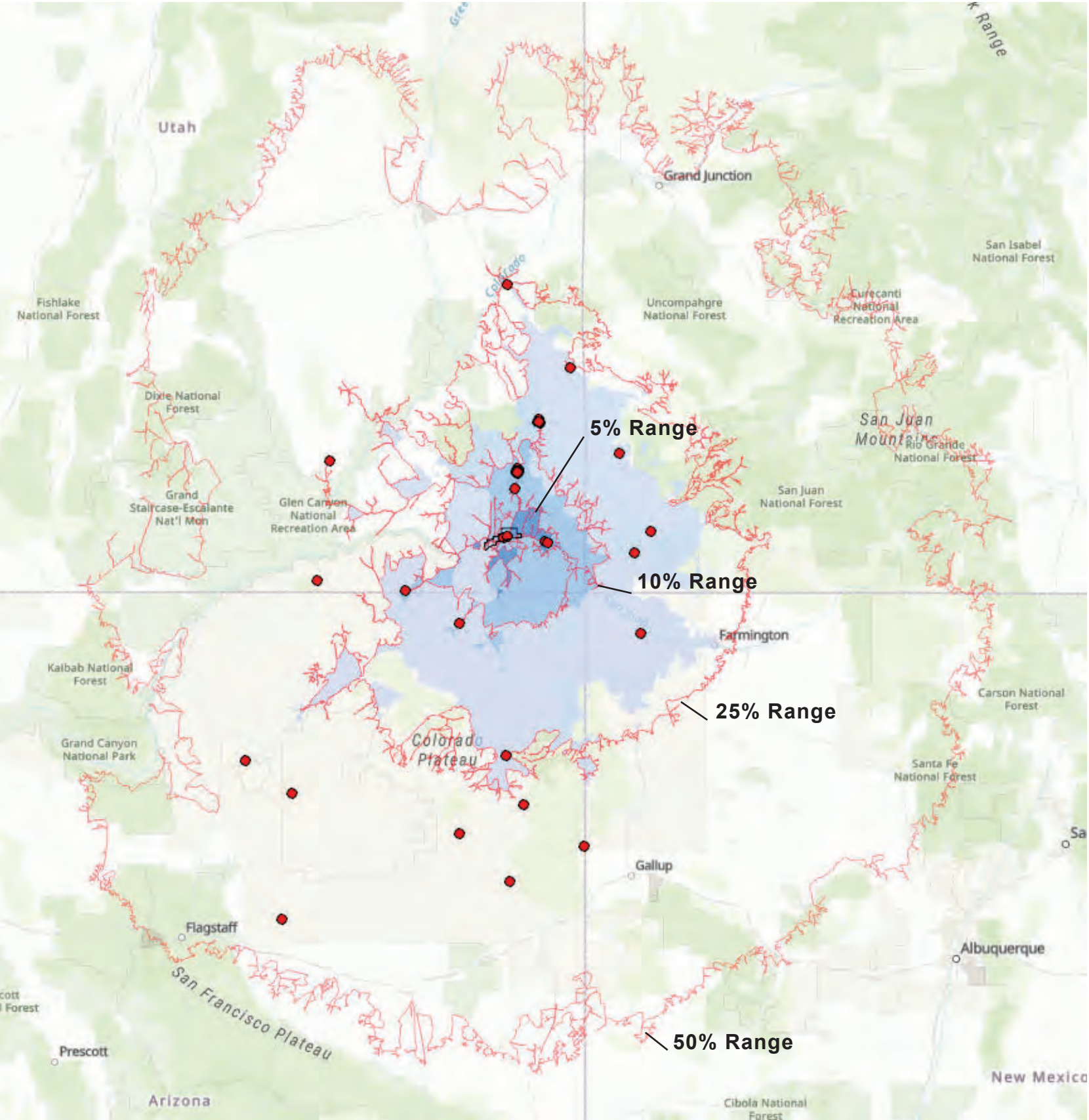

$10 Hourly Wage Analysis in Relation to Time

$10 Wage and Time Legend

▦ 10 Minutes	▦ 60 Minutes
▦ 30 Minutes	▦ 120 Minutes
● Major Employers	Images not to scale
— Distance Edges	

N

$35 Hourly Wage Analysis in Relation to Time
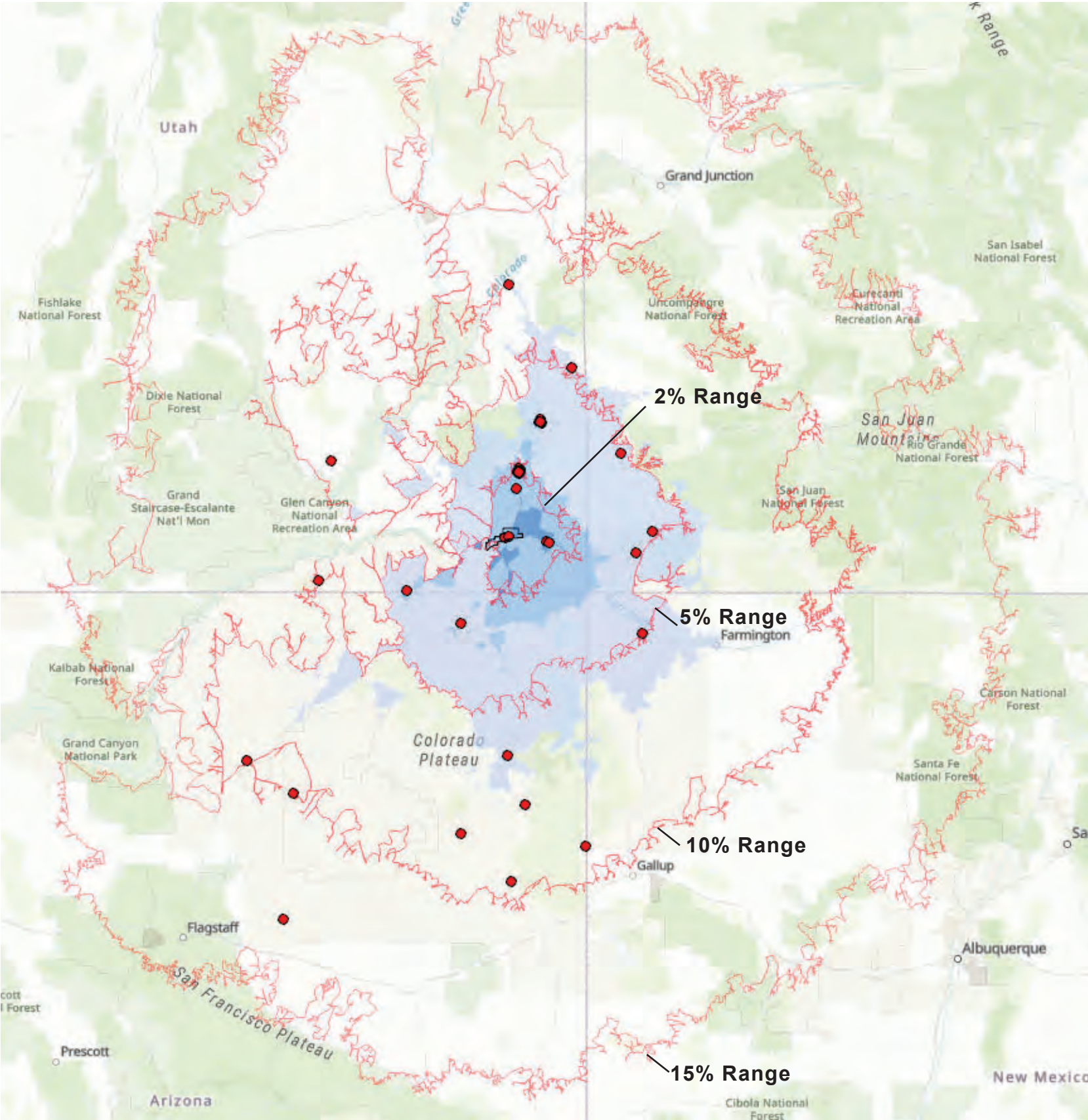
The $35 hourly wage in relation to time shows that the time it take to travel 2 hours one direction is mostly within the 5% spending range both directions. If one is required to travel within the 2 hour range, the individual would be spending 5% of their paycheck and use 4 hours of their day for travel. The travel times 10, 30, and 60 minutes would require only spending 2% of the paycheck.

On a $10 and $35 hourly wage, it is not unreasonable to live in Bluff and have to travel to Montezuma Creek or Blanding for work. It is not unreasonable to live within 10, 30, and 60 minutes of Bluff. It doesn't take too much out of the paycheck, rather time is the commodity.

$35 Wage and Time Zoom In
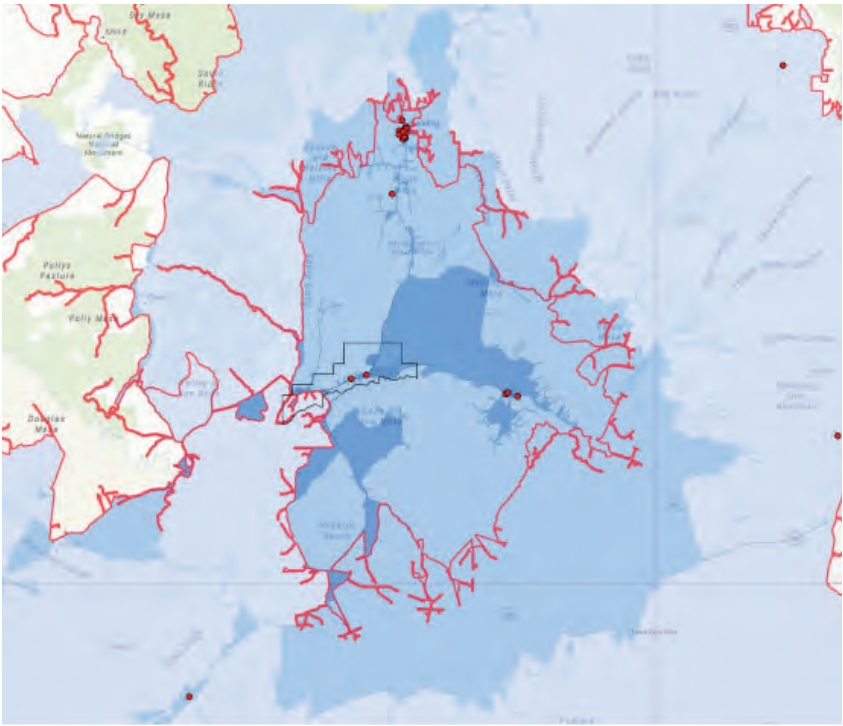
$35 Wage and Time Legend

▇ 10 Minutes		▇ 60 Minutes
▇ 30 Minutes		▇ 120 Minutes
● Major Employers		Images not to scale
— Distance Edges		

N

ANALYSIS
IDENTITY

GENERATIONAL CHARACTERISTICS

Introduction

A reoccurring comment received during the class site visit to Bluff was the desire to attract and maintain younger families and the younger generations. To understand this comment, the following section explores Bluff's generational make-up and the generalized characteristics of each generation. There are reasons why Bluff has the age make-up it does and exploring the characteristics of each generation can give away clues to why Bluff has its unique demographic makeup.

There are five typical generation groups; traditionalists, baby boomers, generation x, generation y, and generation z. Research provides date ranges for each generation but specific dates are argued widely. Typically generational groups are defined by events that happened. For example, the difference between someone who is a gen y or a gen z is whether they remember September 11th as an event or something they learned in history.

Bluff's Generations

Total Population: 258

Median age: 51 (USA median age is 38; Utah median age is 29.2)

Traditionalists: 5% of total population; 13 people

    Female = 7; Male = 6

Baby Boomers: 38.4% of total population; 99 people

    Female = 50; Male = 49

Generation X: 17.8% of total population; 46 people

    Female = 21; Male = 25

Generation Y: 17.4% of total population; 45 people

    Female = 24; Male = 21

    Of Gen Y 40% (18 people) are over 35.

Generation Z: 21.3% of total population; 55 people

    Female = 26; Male = 29

    Of Gen Z 80% (44 people) are under 17, which is 17.1% of the total population.

Of the total population 14.7% (38 people) are between the ages 18 and 34. [6]

TRADITIONALISTS

PRIVATE
SENSE OF OBLIGATION
STABLE
FISCAL RESTRAINT
RELUCTANT TO BUCK THE SYSTEM
CONSISTENCY
KOREAN WAR
GREAT DEPRESSION
PAST-ORIENTED
DISCIPLINED
THOROUGH
AVERSE TO RISK
DETAIL ORIENTED
CONSERVATIVE
RESPECT
HIGHLY DEDICATED
TOP DOWN CHAIN OF COMMAND
SOCIAL ORDER
STRONGLY COMMITTED TOWARD TEAMWORK AND COLLABORATION
WORLD WAR II
LOYAL WORKERS
HOARD STUFF
RESPECT FOR AUTHORITY
UNIFORMITY
FORMALITY
HARD WORKING
SEEK TECH ADVANCEMENTS

BEFORE 1945
AGES 73 AND OVER
SOURCES: 4,5,8

BABY BOOMERS

EQUATED WORK WITH SELF-WORTH
SENSE OF ENTITLEMENT
CONTRIBUTION AND PERSONAL FULFILLMENT
LOYALTY TOWARD THEIR EMPLOYERS
LIBERAL
RAISED TO RESPECT AUTHORITY BUT WITNESSED OTHERWISE
TEAMWORK
VIETNAM WAR
VALUE THE CHAIN OF COMMAND
SPACE TRAVEL
OPTIMISTIC
COULD BE INSULTED BY CONSTANT FEEDBACK
WORKAHOLIC TREND
CIVIL RIGHTS MOVEMENT
VALUE HEALTH, WELLNESS, PERSONAL GROWTH, AND PERSONAL GRATIFICATION
PROCESS ORIENTED
PRES. KENNEDY'S ASSASSINATION
COLLABORATION
GOOD AT RELATIONSHIPS
COLLABORATION
CONFIDENT
TASK COMPLETER
WANT RECOGNITION
ACCEPT DIVERSITY
CONFLICT AVOIDANCE
HARD WORK AND SACRIFICE ARE THE PRICE TO PAY FOR SUCCESS
GROUP DECISION MAKING
PEER INFLUENCED
COLD WAR
SEEK JOB SECURITY
TASK COMPLETER
WORKAHOLIC TREND

1946 TO 1964
AGES 72 TO 54
SOURCES: 4,5,8

GENERATION X

CREATIVE

FALL OF THE BERLIN WALL

Y2K   INCREASED ACTIVISM   SELF-RELIANT

INDEPENDENT   VALUE LEARNING AND SKILL DEVELOPMENT

STRONG TECH SKILLS   ASPIRE TO BALANCE WORK AND LIFE

MONEY ISN'T NECESSARILY MOTIVATING

LIKE TEAMWORK   PRAGMATIC

RESULT FOCUSED

WATERGATE

LOYALTY TO FAMILY AND FRIENDS

INCREASED DIVORCE RATES

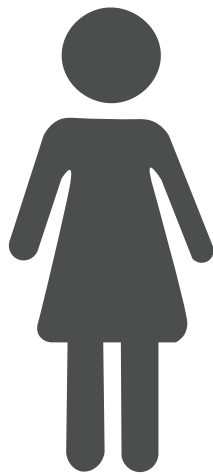NOT OVERLY LOYAL TO EMPLOYERS   QUESTION AUTHORITY

WOMEN'S LIBERATION

PREFER FLEXIBLE SCHEDULES   ENTREPRENEURIAL

AUTONOMOUS   LIKE TO RECEIVE FEEDBACK

RULED BY A SENSE OF ACCOMPLISHMENT
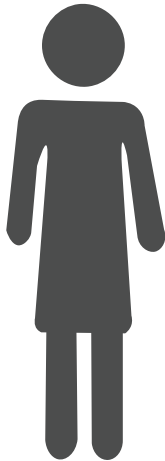AND NOT THE CLOCK

1965 TO 1976
AGES 53 TO 42
SOURCES: 4,5,8

GENERATION Z

PRAGMATIC COMPARED TO MILLENNIALS   FUTURE ORIENTED

SHORT ATTENTION SPANS   BALANCE LIFESTYLE

TECHNOLOGY AND SOCIAL MEDIA   ACCEPTING

THOUGHTFUL   INDEPENDENT LEARNERS

THE WORLD THEY LIVE IN HAS NEVER

DETERMINED   BEEN SAFE   LOYAL

DON'T WANT DEBT   RESPONSIBLE   MULTITASKERS

VALUE PRIVACY   TERRORIST ATTACKS   COMPASSIONATE

ENTREPRENEURIAL

INDEPENDENT   OPEN MINDED

DIGITAL NATIVES   HEALTH CONSCIOUS

CURIOUS   CONSUMERS

LGBTQ RIGHTS MOVEMENT

EDUCATION ORIENTED

VIEW PEERS AS COMPETITIVE   ALTRUISTIC

SUFFER FEELINGS OF UNSETTLEMENT

AND INSECURITY   SMART

MONEY-ORIENTED

PREFER PERSON TO PERSON CONTACT   CONSERVATIVE

1996 TO PRESENT   ADVENTURESOME   RISK ADVERSE
AGES 22 AND YOUNGER
SOURCES: 9,10,   DON'T USE SUBSTANCES AS MUCH

GENERATION Y

INDEPENDENT

SEEK FLEXIBILITY

ENTREPRENEURIAL

OPEN TO CHANGE

EMBRACE DIVERSITY   COMFORT WITH TECH

BALANCED LIFE   DIGITAL MEDIA BOOM

SCHOOL SHOOTINGS

SHARES MANY OF THE
CHARACTERISTICS OF GEN X   GREAT RECESSION

VALUE TEAM WORK   OPTIMISTIC

COLLECTIVE ACTION   CONFIDENT

DEMANDING

MULTITASKERS

9/11 AND OTHER TERRORIST   VALUE TRAINING
ATTACKS

1997 TO 1995
AGES 41 TO 23
SOURCES: 4,5,8

HIGHLY EDUCATED   LESS PROCESS FOCUSED

IMPLICATIONS

Bluff has a smaller population whose median age is high compared the USA and Utah median age. The largest portion of the population are baby boomers. There are few traditionalists and the generation x, y, and z are about the same proportion of the population. For the most part, each generation has a balance of females and males.

Bluff can be impacted by a high median age in many ways; decline in population growth rate, an aging population, and a shrinking labor force. These in turn can influence the economics and community experience. This unique demographic makeup will drive the community goals, values, and overall cultural environment.

During the site visit in Bluff, a frequent comment received was the want to attract younger families and retain the younger generations. The generations share many characteristics, but over time there has been an increase in the quality and balance of life, social connections, and education. To provide for the younger generations, Bluff could provide quality experiences that allow for social and intellectual interactions. Additionally, spaces that invite and celebrate diversity could attract and engage the younger generations. Being just a place to live won't be enough for the younger generations, rather becoming a place to live, play, and experience is the atmosphere that appeal to the younger generations.
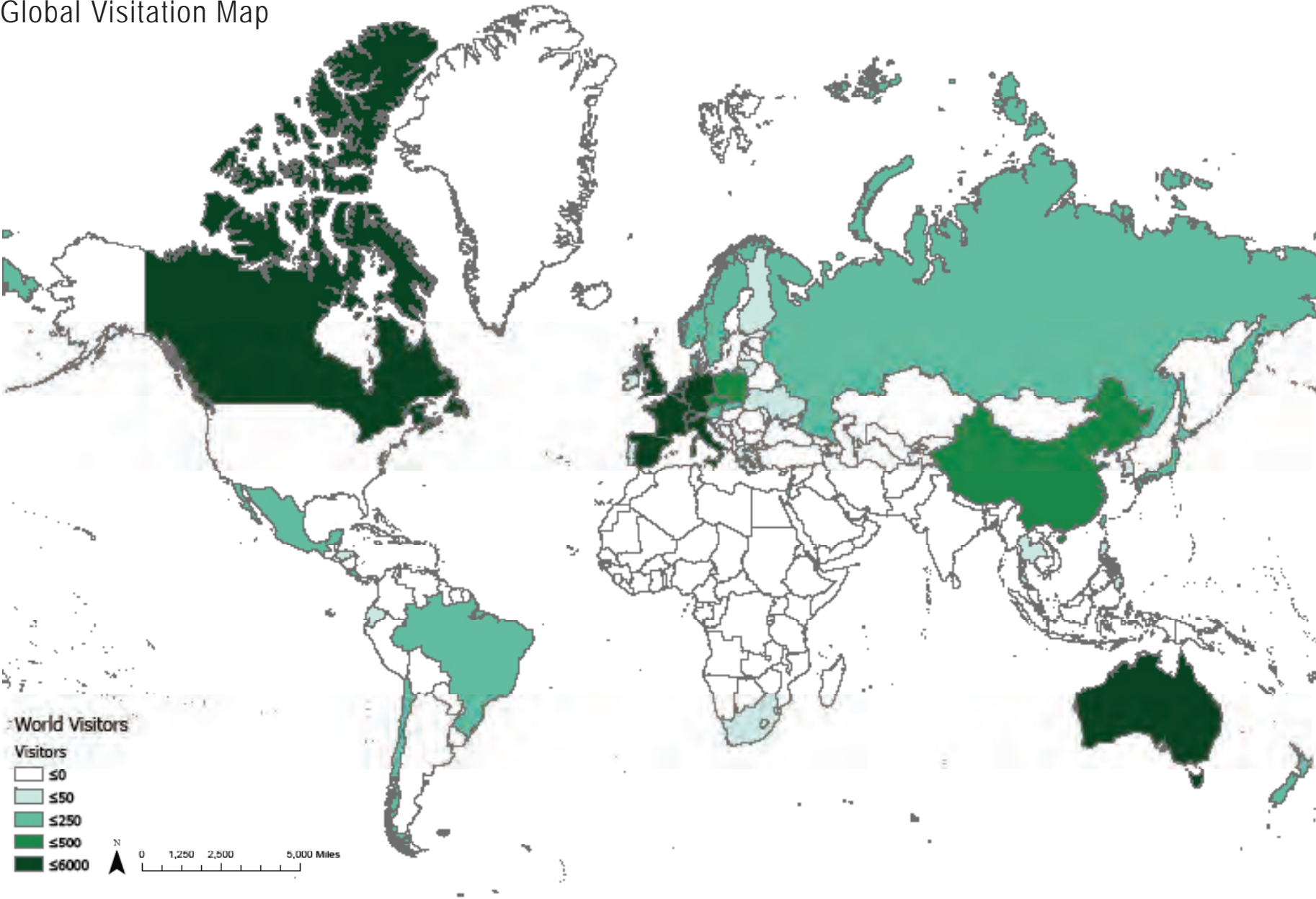
TOURISM: VISITATION

Bluff has seen a steady increase in visitation from the years 2014 to 2018. In the year 2018, 46,431 people were recorded in the visitor log at Fort Bluff, which is located in the heart of the city. This data was used as to create a picture of where people come from to visit Bluff. Tourists travel from all over the world to visit the many outdoor opportunities that are located outside the city, whether that be visiting the nearby National and State Parks, to stargaze under some of the darkest skies in the world or to visit the hundreds of archaeological sites found all around Bluff.

The maps below show from where tourists come to visit Bluff. Within the United States, the states that supply the most visitors are: Utah, California, Colorado and Arizona. The countries that supply the most international tourists are Australia, Canada, France, United Kingdom and Spain. Knowing where your visitors are coming from can help business owners better serve their unique needs.

METHODS

The methods used to gather the data were online searches to collect the boundaries (shapefiles) of the United States and each country in the world. Having already been given an excel file by Bluff Fort employees, the visitation data was used to determine where people were coming from to visit Bluff. Tripadvisor was referenced for comments from 2018 on each of the major businesses and the responses were compiled into an excel spreadsheet under the categories of: date, business name, average rating, location (where they are from), main comments broken down by category (food, cost, hotel, city, other). After gathering these comments, statistical averages were calculated for each business and each country/state. The spreadsheet was then joined with the state and country boundaries into ArcGIS Pro for visualization purposes.

Global Visitation Map

World Visitors

Visitors
- ≤0
- ≤50
- ≤250
- ≤500
- ≤6000

United States Visitation Map

US States
Visitors
- ≤100
- ≤400
- ≤1000
- ≤7282
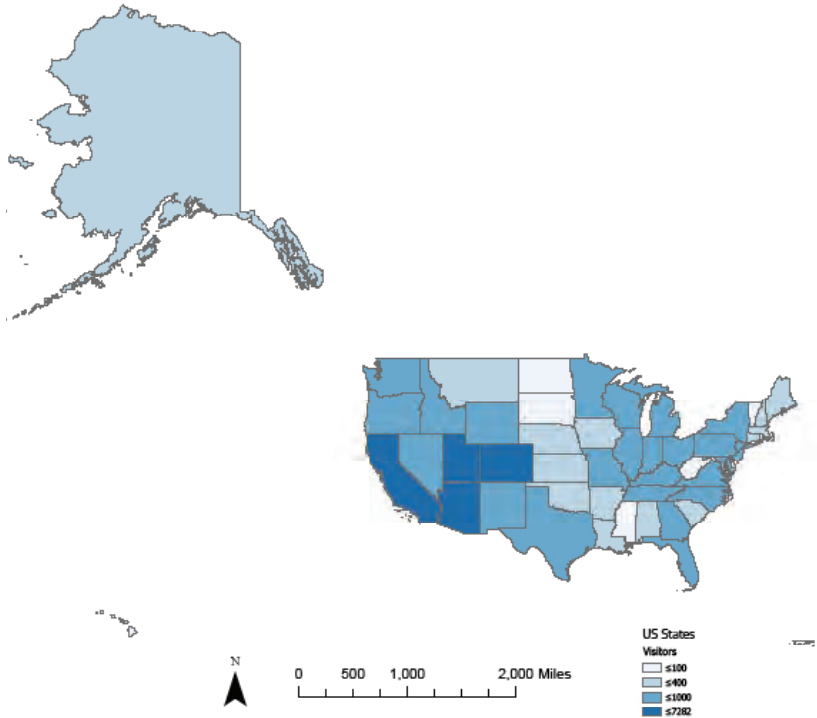
Yearly Visitation Trend

Annual Visitation of Fort Bluff

TOURISM: VISITOR FEEDBACK

The map shown to the right is a weighted average for all 362 of the tourist responses in 2018. They were weighted based on the total percentage of comments made by 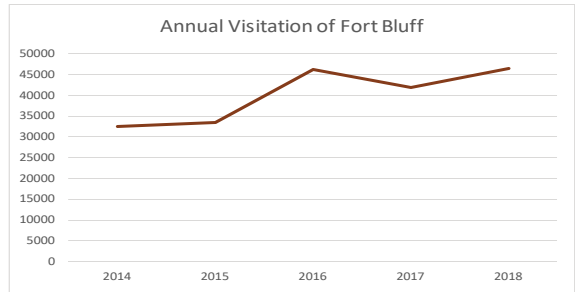the state/country and the average ratings they gave a business in Bluff. The darker colored areas indicate overall positive experiences in Bluff and a large amount of responses. These dark areas would be considered the major suppliers of tourists and potentially return tourists for Bluff.
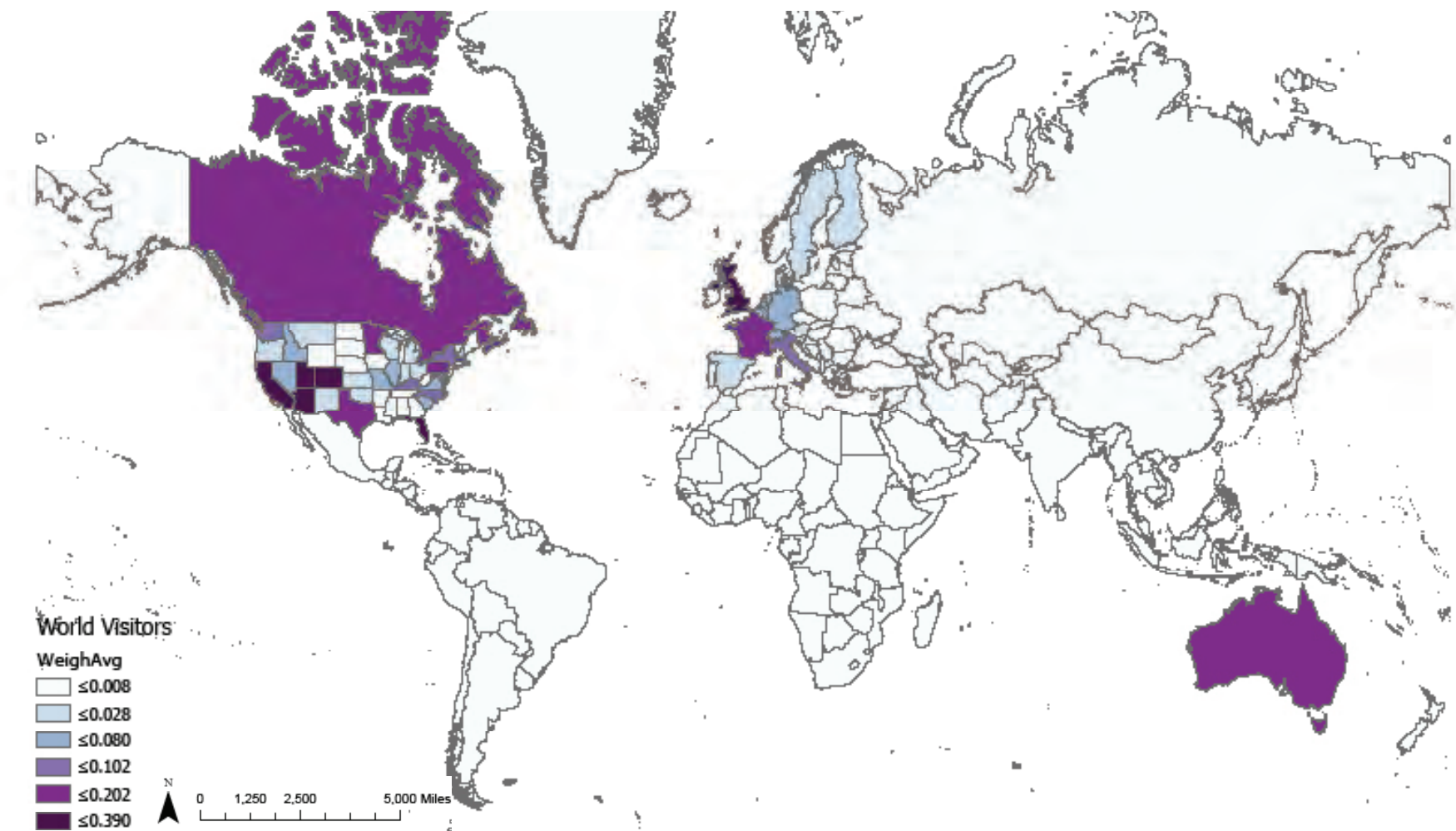
Feedback:

In general, tourists visiting Bluff seem to really enjoy their lodging and dining options within Bluff. There are very few options outside of the city, so providing good service within the city is critical to creating a returning customer base. The majority of bad comments were given during the offseason (December-February), when only Twin Rocks Cafe is open, and were focused on lack of options or service. The tourists really enjoyed the variety of unique local food options and the gracious helpful nature of the locals they visited with.

Key Takeaways:

1. Bluff's tourism economy is driven by both a local and international tourism industry with a few states and countries that provide most of the people: Australia, France, Canada, United Kingdom, California, Utah, Colorado, and Arizona.

2. Potential future opportunities to market in areas that aren't supplying many visitors currently, both nationally and internationally. Examples could be: the entire Midwest US and South American countries.

3. Seasonal offerings greatly effect the ratings and perception of businesses.

4. If Duke's offered alcoholic beverages, it would be the most popular restaurant in Bluff. A majority of both the positive and negative comments mentioned the lack of alcoholic beverages as a major downside to an otherwise great experience.

Weighted Average Feedback Map

World Visitors
WeighAvg
- ≤0.008
- ≤0.028
- ≤0.080
- ≤0.102
- ≤0.202
- ≤0.390

0 1,250 2,500   5,000 Miles

Overall Average Rating by Business

Business	Rating
Desert Rose	4.5
Kokopelli Inn	3.6
Recapture Lodge	4.4
Mokee Motel	4
La Posada Pintada	4.6
Twin Rocks Café	4.3
Duke's	3.9
Cottonwood Steakhouse	4.4
Comb Ridge	4.4
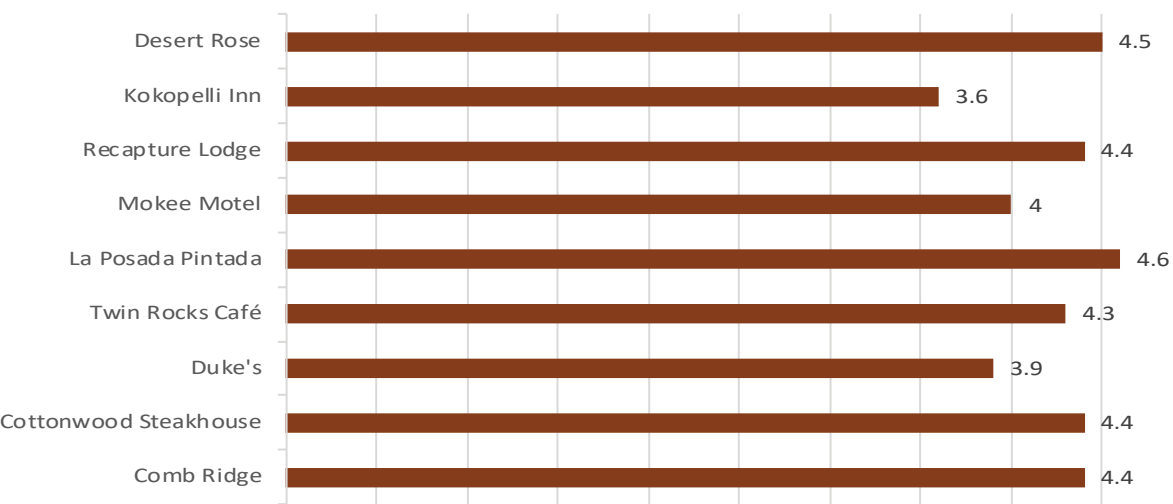
TOURISM: LODGING

Bluff provides its visitors with several lodging options. Most of these hotels are smaller than the typical hotel you would find in a larger city, but they each have a unique character and style that separates themselves from one another. Customers have options all across the city, with a wide variety of price ranges and room sizes to accommodate whatever needs they may have. The Mokee Motel and Kokopelli Inn provide nice and simple lodging for a fair price. The Recapture Lodge and La Posada Pintada warm guests with a home style type feel. The Desert Rose offers guests multiple room types, from your own private cabin to a typical room with a western frontier feel.

Mokee Motel	Kokopelli Inn	Recapture Lodge	La Posada Pintada	Desert Rose

Takeaways

The main comments that resulted in either a positive or negative review.

Positive:

- Nice decor and interior
- Old-fashioned style

Positive:

- Very clean rooms
- Comfortable beds

Positive:

- Very friendly staff
- Easy walk to restaurants
- Nice breakfast

Positive:

- Very unique decor
- Very good homemade breakfast
- Great views

Positive:

- Very nice rooms
- Beautiful construction
- Well-maintained pool

Negative:

- Overpriced for what you get

Negative:

- Small rooms

Negative:

- Easy to hear other customers through walls

Negative:

- Limited seating on outdoor patio

Negative:

- Rooms facing road have no views

TOURISM: RESTAURANTS

Tourists visiting Bluff are also provided with multiple dining options that can accommodate any diet. Comb Ridge has distinguished itself with a wide variety of vegan and vegetarian options, Twin Rocks is right at the entrance of the city and has an ever-changing menu. Cottonwood Steakhouse allows weary travelers to sit down and relax while enjoying a delicious steak and beer. Duke's has a classy feel with an even classier selection of food. All four are very highly rated based on comments within the last year but they also have areas they could each improve on, based on customer feedback from 2018.

Duke's	Cottonwood Steakhouse	Twin Rocks Cafe	Comb Ridge Cafe

Takeaways

The main comments that resulted in either a positive or negative review.

Positive:

- Great food
- Awesome views

Positive:

- Pet-friendly
- Scarf souvenir as you exit
- Nice decor

Positive:

- Navajo taco is very good
- Attached gift shop

Positive:

- Interesting art
- Unique menu

Negative:

- Questions on hours (especially in off-season)
- Does not serve alcohol

Negative:

- Occasionally slow service

Negative:

- Occasionally slow service

Negative:

- Closed during winter

VIEWSHED ANALYSIS

An average weighted visual magnitude analysis was run from points along Main St. This analysis shows a viewshed on a weighted scale that includes visible areas (in yellow), with the more prevalent objects in space weighted heavier (orange to red). Areas weighted heavier include topographical elements that are more apparent, or attention grabbing such as the Bluffs shown below (A). This shows where the most focus is placed visually as residents and visitors travel through Bluff.

A. Bluffs north of town

Analysis - traveling on Main St.
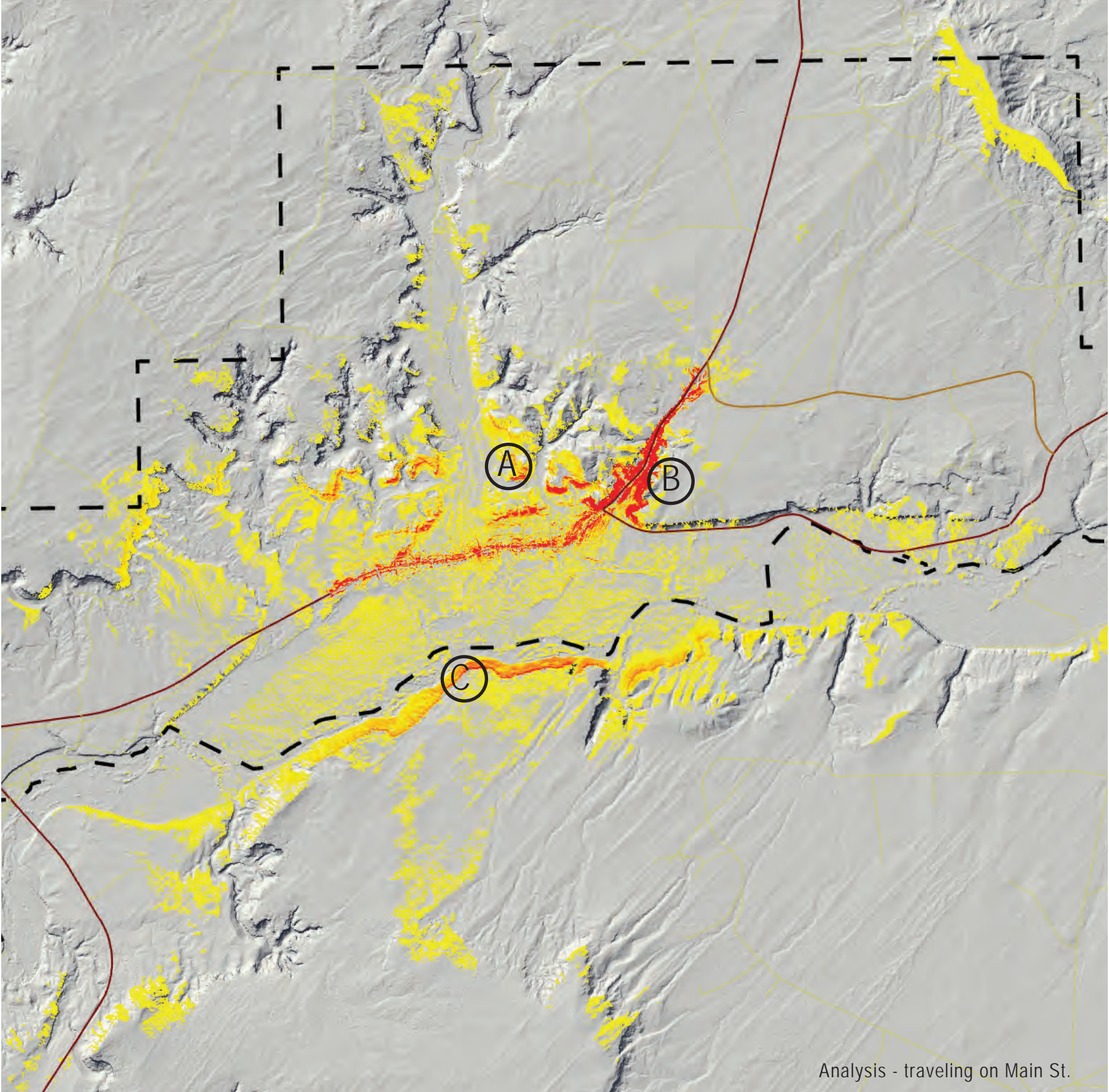
The bluffs to the north (A) and south (C) of town are off the road a significant distance, they catch the attention of someone who is along the road. The bluffs along the south end of town along the San Juan River (C) also are weighted accordingly.

These bluffs catch the eye of the viewer and stand out from the other areas that are in the field of vision because of their prevalence in the landscape and scale they impose. This observation stresses the importance and visibility of these bluffs, and of Main Street. These are the areas that are most visible to people coming through bluff, and will be what people remember about the town.

B. Approach into Bluff

The approach into town comes through a narrow canyon with tall bluffs on each side. This heavily impacts the experience, limiting the view to this narrow area along the highway, and with the imposing bluffs rising above it gives a powerful experience coming into bluff. This is reflected in the analysis, all the area through the entry canyon showing as most prevalent in the viewshed (B).

C. Bluffs south of town

This viewshed analysis can help planners identify the areas that are most visible in town, the namesake of Bluff. If the aesthetic integrity of the area is important then these areas must be preserved and be set aside from development, or at the very least strict design measures must be set in place to guide decisions.

If tall urban structures were placed along Main Street for example, this may change the dynamic of the analysis, and place more emphasis on the urban structures while taking away from the natural landscape.

In that same vein, any construction on the bluffs or even the small rises between the road and bluffs will be extremely visible, and consideration should be given to what type of aesthetics bluff would like to maintain with any new development..

LEGIBILITY MAP

Introduction

One important aspect of a town is its legibility. Legibility means "the ease with which its parts can be recognized and can be organized into a coherent pattern."Legibility affects the feel, experience, and perception of a town. "Indeed, a distinctive and legible environment not only offers security but also heightens the potential depth and intensity of human experience."

Bluff is a place of residence and tourism. Visitors are affected by the legibility of a town. Legibility connects people to a space and creates an experience. Without legibility, Bluff would just be 'just another town' to pass through instead of a destination and a place to stop. For those who reside in Bluff, legibility affects where individuals socialize, how they connect to their community physically and emotionally, and the experiences they have.

To understand legibility, Kevin Lynch developed a system of mapping that identifies the nodes, districts, edges, landmarks, and paths of a town.
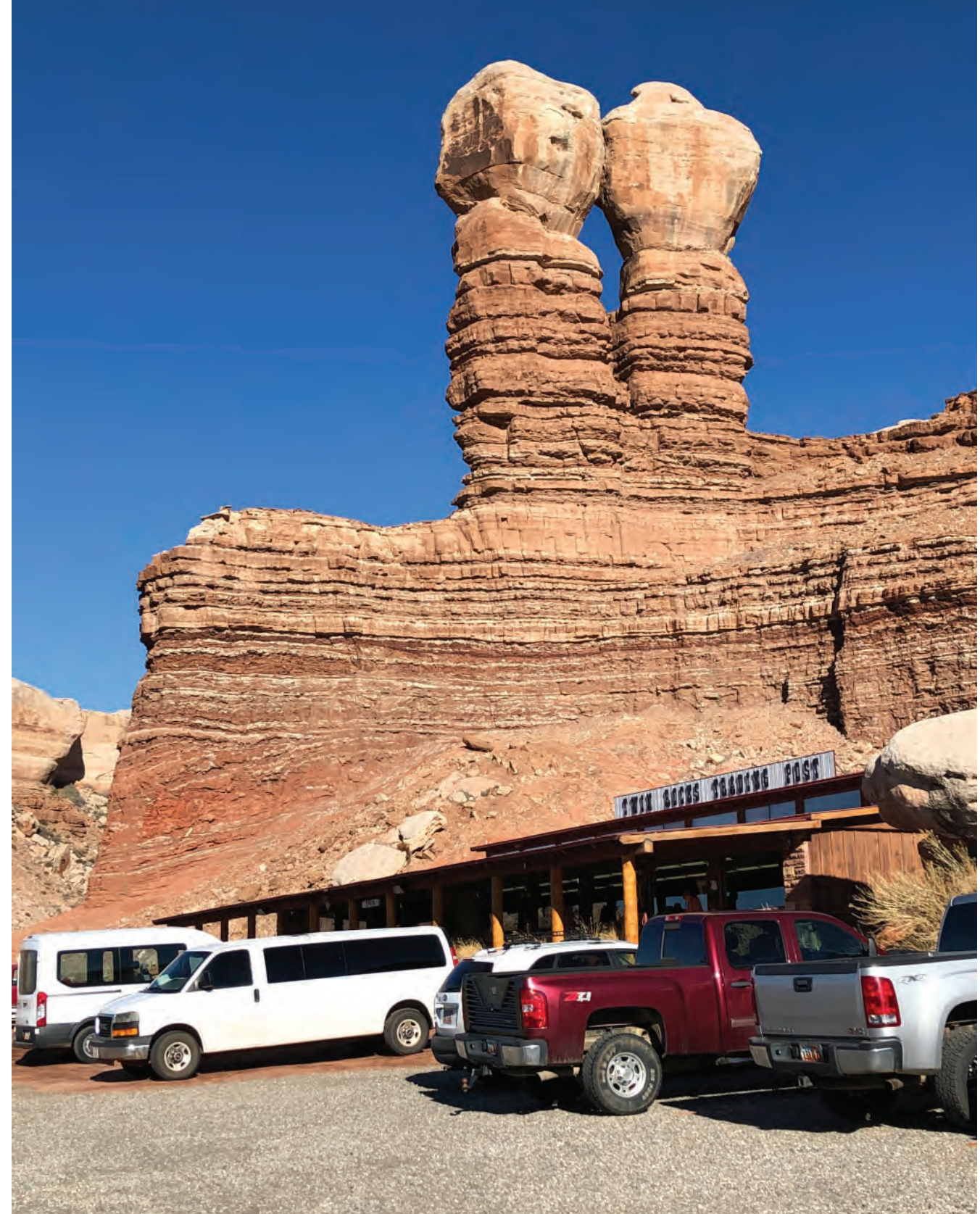
Definitions

Nodes: "Nodes" are points, the strategic spots in a city into which an observer can enter, and which are the intensive foci to and from which he is traveling... Some of these concentration nodes are the focus and epitome of a district, over which their influence radiates and of which they stand as a symbol."

Landmarks: "Landmarks" are another type of point-reference, but in this case the observer does not enter within them, they are external... They are frequently used clues of identity and even of structure, and seem to be increasingly relied upon as a journey becomes more and more familiar."

Districts: "Districts" are the medium-to-large sections of the city, conceived of as having two-dimensional extent, which the observer mentally enters 'inside of' and which are recognizable as having some common, identifiable character."

Edges: "Edges" are the linear elements not used or considered as paths by the observer. They are the boundaries... Such edges may be barriers, more or less penetrable, which close one region off from another."

Paths: "Paths" are the channels along which the observer customarily, occasionally, or potentially moves."

Twin Rocks is a visual landmark, Photo: Lisa Aedo

Lynch Map Legend

- —— Path
- - - - Foot Path: Trail
- —— Physical Edge
- - - - Visual Edge
- ⬭ Node
- ● Landmark

No scale
N
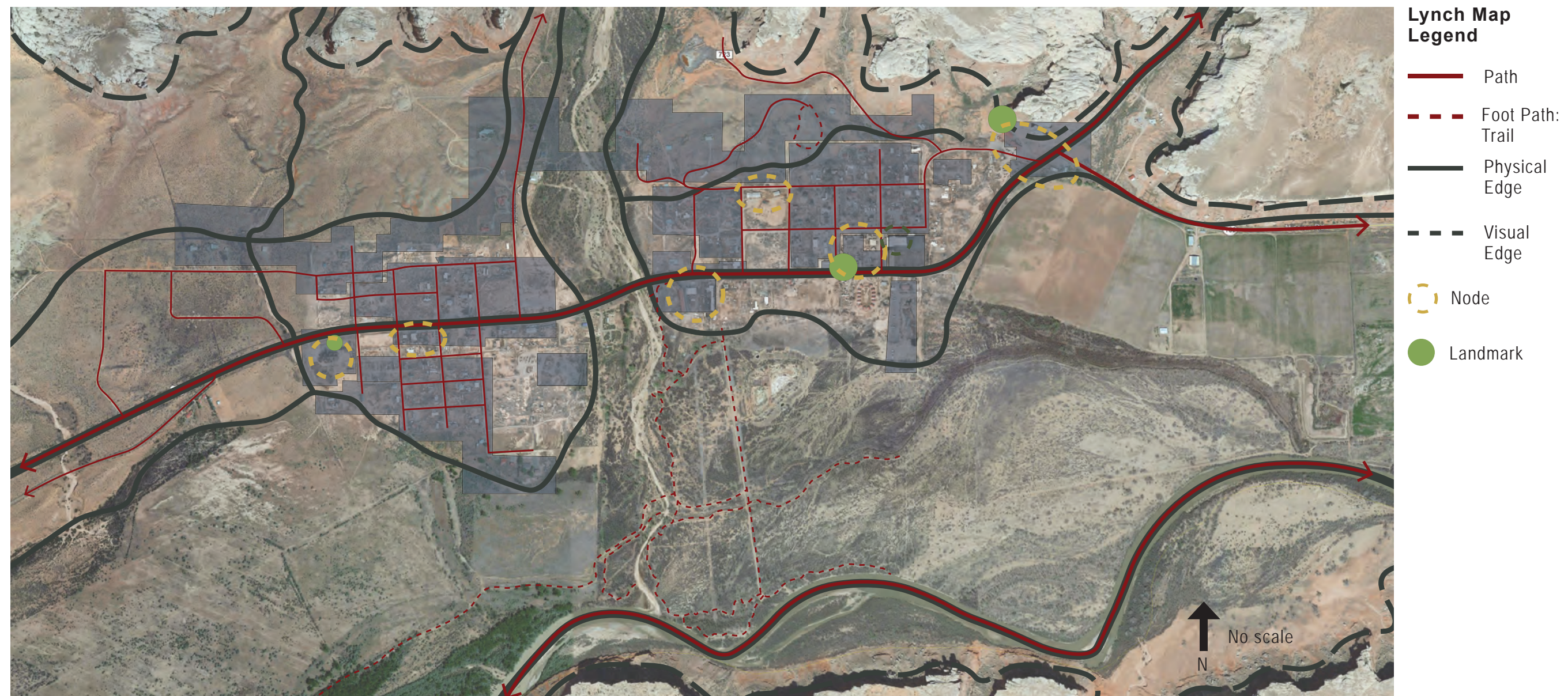
Analysis

There are major physical barriers between the east and west sides of town. The town lacks a unifying identity and doesn't read as one entity due to the perception of these barriers. The main road is the only clear connection to both sides, though there are informal footpaths through the wash. If the footpaths were emphasized, defined, and connected throughout town there would be a stronger relationship between the two sides on a human scale.

Additionally, the trails that connect the town to the San Juan River aren't strong and there is a missed opportunity to strengthen the connection between Bluff and the river.

There are existing nodes and landmarks but they aren't strong or emphasized from the rest of town. Additionally, there aren't strong connections between these nodes. The stronger nodes of town are connected to landmarks and the commercial/community districts. This is the foundation for legibility. Connecting and

strengthening the nodes and emphasizing the landmarks would help Bluff be legible. Bluff needs destinations where the community would want to spend time and visitors would want to stop.

There are no clearly defined edges of town. The town tends to bleed into the surrounding landscape. Additionally, there is no sense of arrival. Instead of coming into Bluff, Bluff just happens to be there. And just as quick, leaving town just happens instead of being an 'event.'

Overall, Bluff needs to improve its legibility by building on its current nodes and districts. To create legibility it will require overcoming the physical barriers between, and throughout town, strengthening the nodes and impacts of the landmarks, and 'choreographing' the experience of town. This will allow Bluff to become and experience instead of a fleeting moment or 'just a place to live, sleep, and exist.'

ANALYSIS
RESILIENCE

AMENITIES ANALYSIS

The initial analysis displays the walkability of amenities within 1/4-1/2 mile distance along existing roads. The analysis indicates that the current population is within walking distance to all existing amenities.

The overlay analysis may also inform infill development areas along the 1/2 mi. buffer zone- to maintain walkability. Outside of this zone would necessitate the development of new amenities.

1/4 MI. WALKABILITY ANALYSIS

1/2 MI. WALKABILITY ANALYSIS

Main Street

Bluff Municipal Boundary
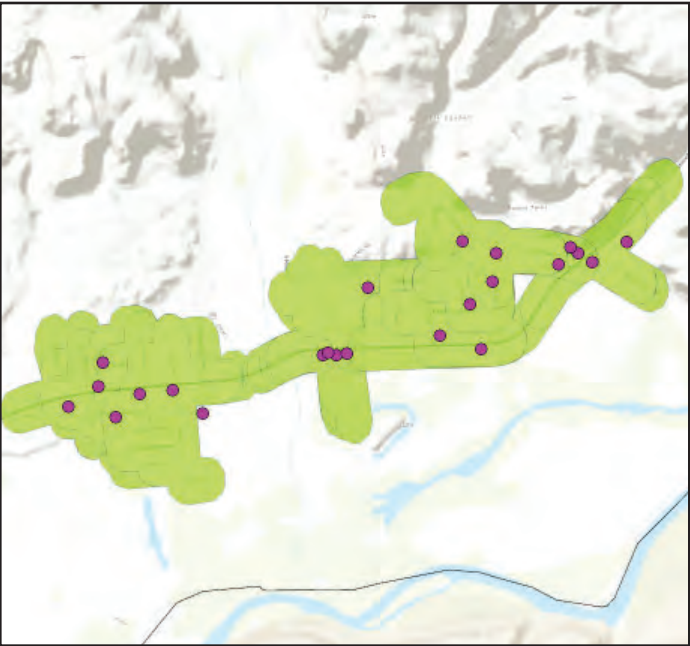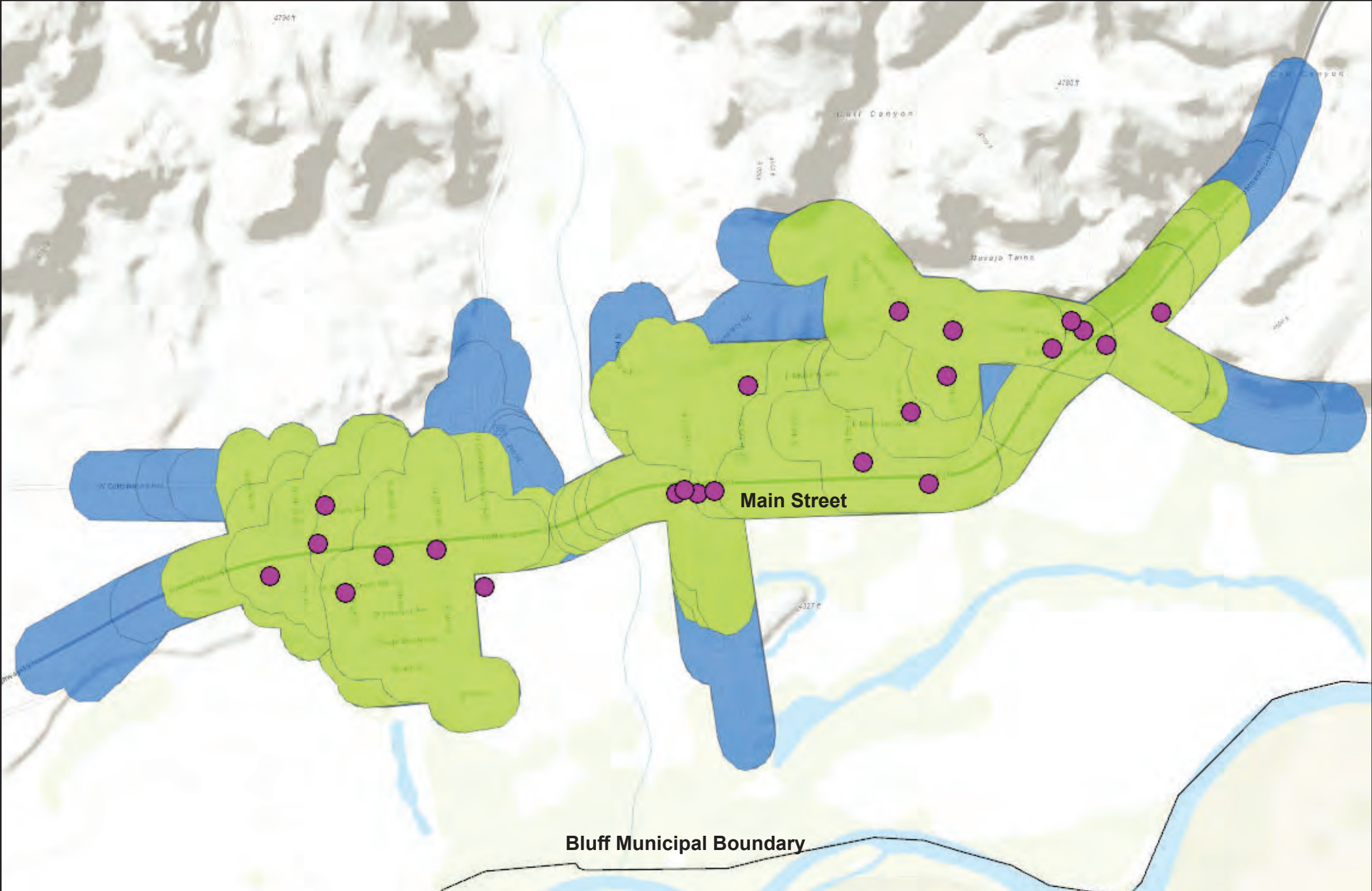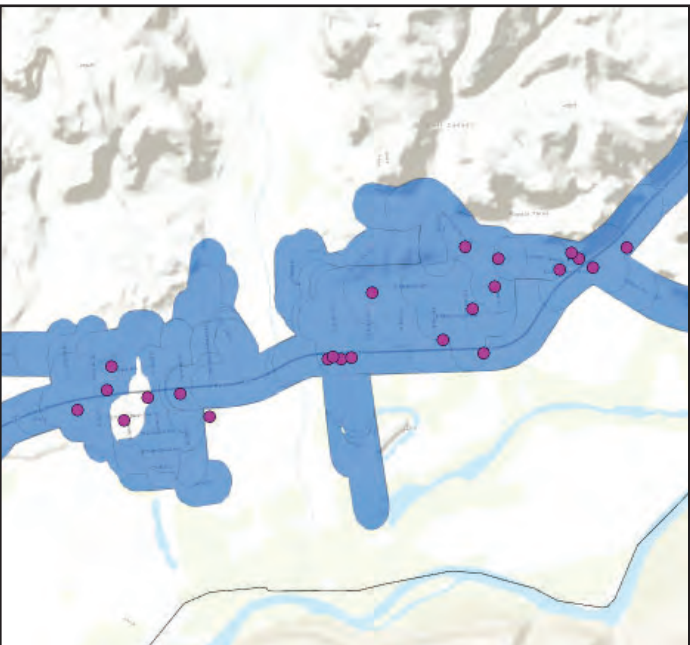
HOW ARE EXISTING AMENITIES AFFECTED BY FUTURE GROWTH?

CURRENT POPULATION

265 persons

The amenities that currently exist are sufficient to support the current population and maintain walkability. However, the population of Bluff fluctuates between seasons. The population is significantly larger in the summer than it is in the winter. This can be accounted for by the influx of tourists- necessitating a larger working population.

Main Street
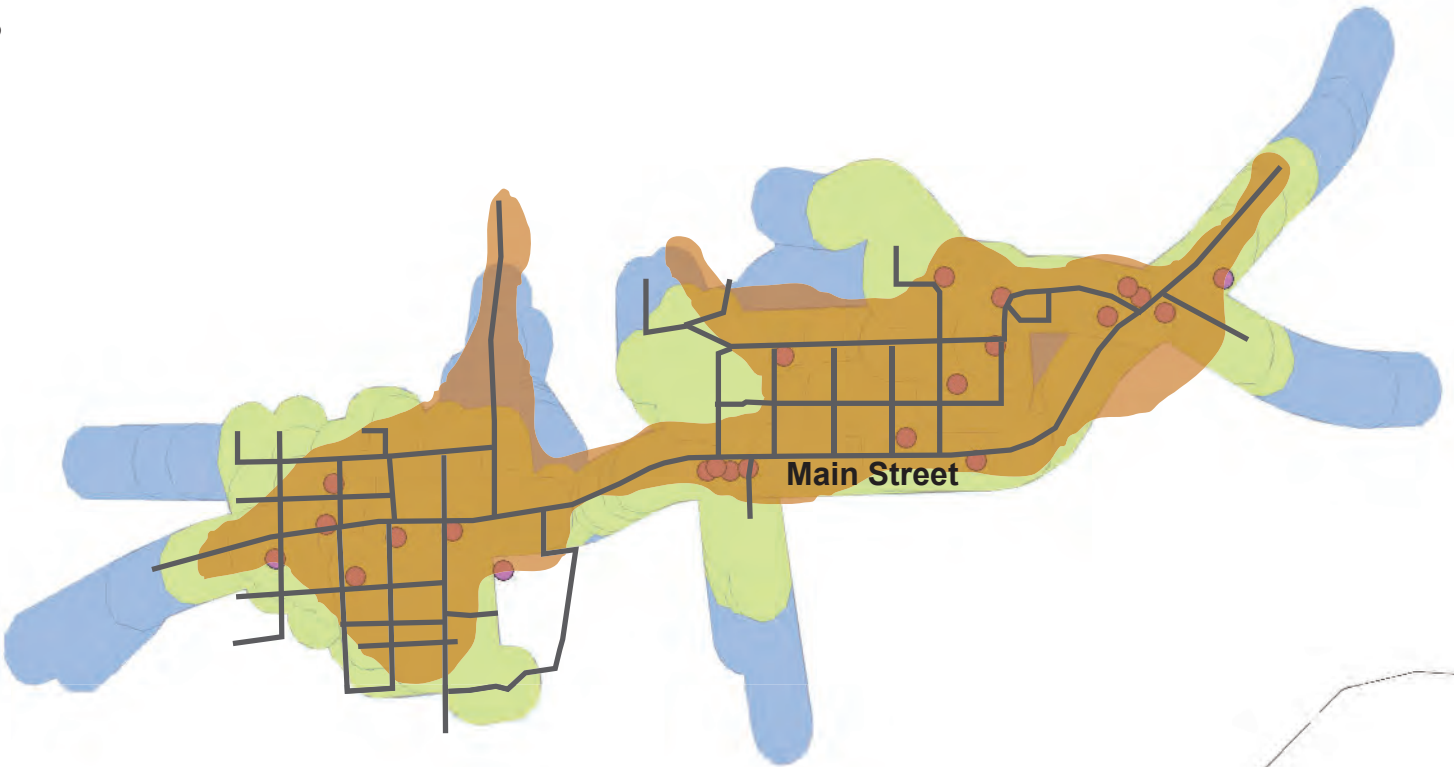
PROJECTED POPULATION (2050)

305 persons +15%

As the population of Bluff grows at a projected rate of 15% over the next 30 years (.5% annually *Incorporation study) the service area of the amenities is no longer sufficient to support the new population. Determining where growth will occur can inform where new services are needed- to maintain a walkable town.

Main Street

- 1/4 mi. walkability along existing roads
- 1/2 mi. walkability along existing roads
- Current Development (NLCD)
- Projected Growth

HOUSING IN BLUFF

Residential Listings in Bluff
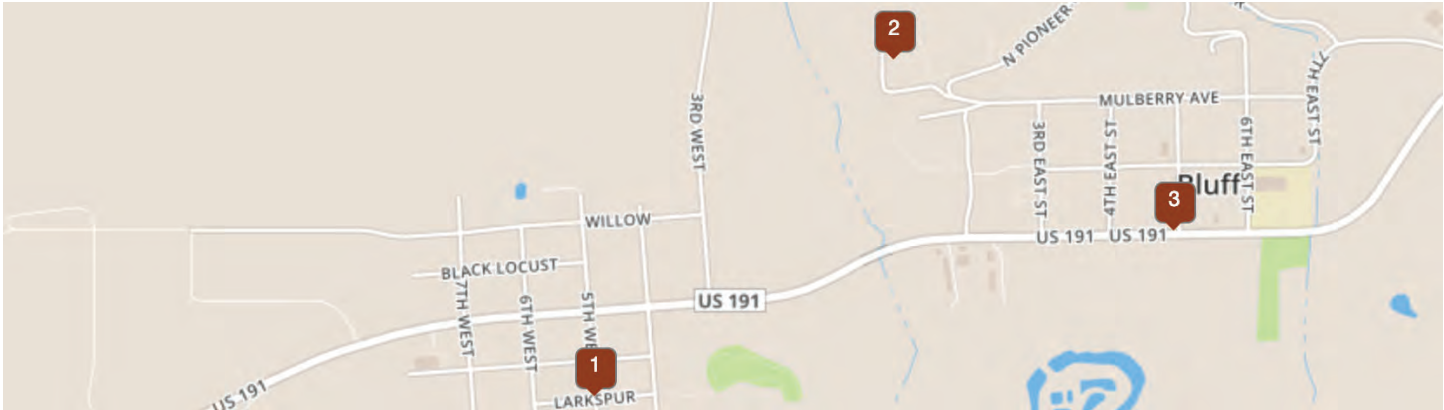
$480,000	$550,000	$645,500
781 W LARKSPUR AVE BLUFF, UT 84512 (1)	**66 RED ROCK RD** BLUFF, UT 84512 (2)	**404 E MAIN** BLUFF, UT 84512 (3)
0 Beds / 0 Baths / 3,000 SqFt (37)	7 Beds / 2|2 Baths / 3,852 SqFt (43)	2 Beds / 1 Baths / 1,515 SqFt (8)

There are three residential MLS listings March, 2019 in Bluff, Utah. These listings establish a median price of $558,500, with a me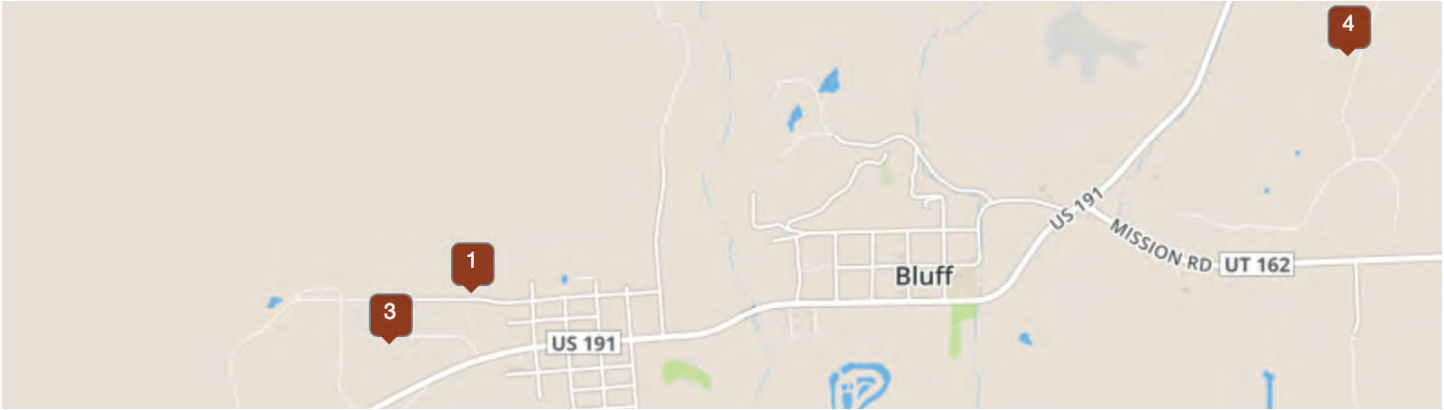dian price per square foot of $200. Just 26 miles away in Blanding, Utah, house prices start at $145,000. There are 11 listing in Blanding with a median cost of $234,000, and a median price per square foot of $119.

With the population declining in Bluff, it may be surprising to see the cost so high, until the recent interest of Bears Ears National Monument is taken into consideration.

In Utah, the median home value is $335,900, while the median price of homes is $357,000 with a median price per square foot at $183. Prices rose 14.4% over the past year, and are projected to rise another 6.7% in the coming year.

In San Juan County, the median home value is $205,400. Home values in the county overall have declined -0.3% in the past year but is predicted to rise in the coming year. The percent of delinquent mortgages in San Juan County is 2.5%, more than double the national average of 1.1%.

Land for Sale in Bluff

$60,000	$57,500	$36,000
12 COPPER CLIFFS PHASE 2 BLUFF, UT 84512 (1) these rocks to the north	**11 COPPER CLIFFS PHASE 2 W** BLUFF, UT 84512 (2) Sleeping Ute Mountain in Colorado to the east	**UNDISCLOSED** BLUFF, UT 84512 (4)
0.76 Lot Acres (9)	0.76 Lot Acres (10)	0.35 Lot Acres (8)

As of March 2019, there are four lots for sale in Bluff. They come in at a median cost of approximately $79,278 per acre. Again, this is substantially higher than Blanding's median lot cost of $10,623 per acre.

COMPARISON OF HOUSING PRICES

U.S. $225,300
UTAH $335,900
SAN JUAN CO. $205,400
BLUFF $558,500
BLANDING $145,000
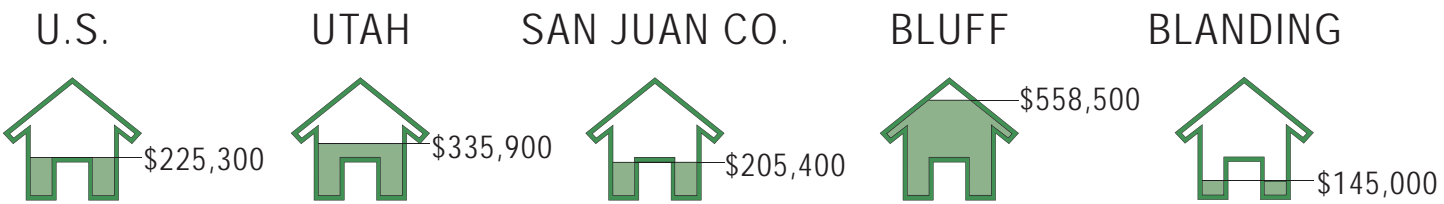
Discussion

Housing and land pricing are much higher in Bluff compared to nearby communities, and even Utah overall. They are lower than Park City's, but higher than St George, which has a median value and price slightly under the Utah average.

It is possible that this price hike is an anomaly, and that the pricing will adjust itself. Historical data was unavailable for this analysis so was not taken into consideration. It is also possible that the interest in Bears Ears National Monument will continue to drive up costs and inflate the prices in the area.

HOME VALUE AND INCOME IN BLUFF

Property Values

A visualization of the market value of properties in Bluff, Utah below, shows that most of the property values in Bluff are relatively low, with a few outliers, mainly businesses with a higher value. A more detailed view to the right shows value per acre. The median per acre property value in Bluff is $21,248.

Market Value Visualized
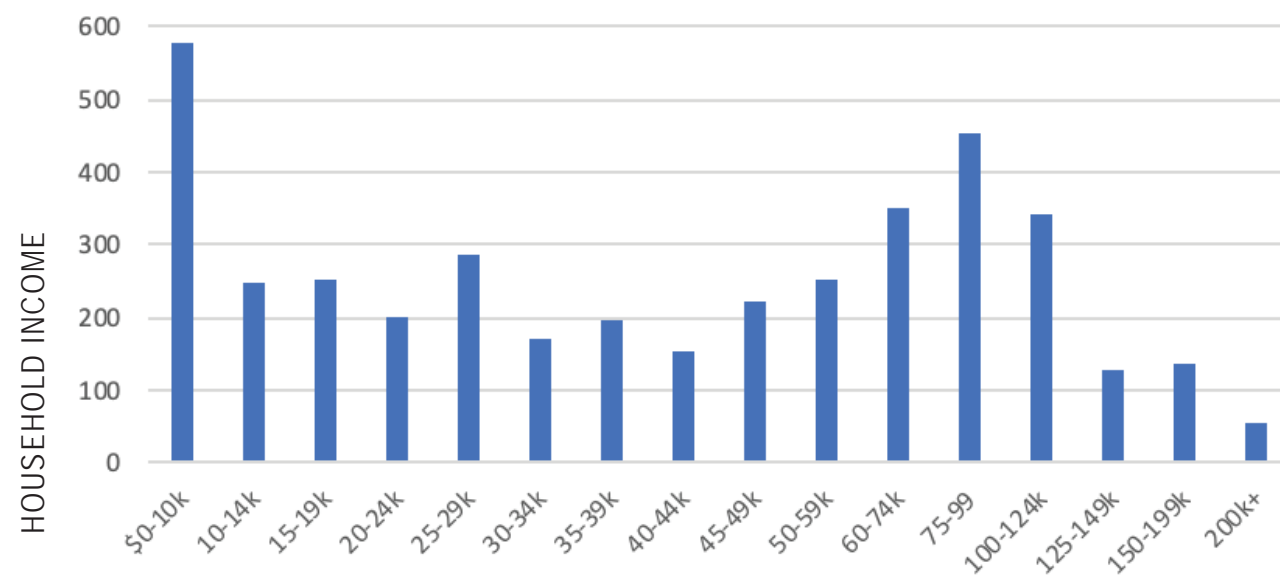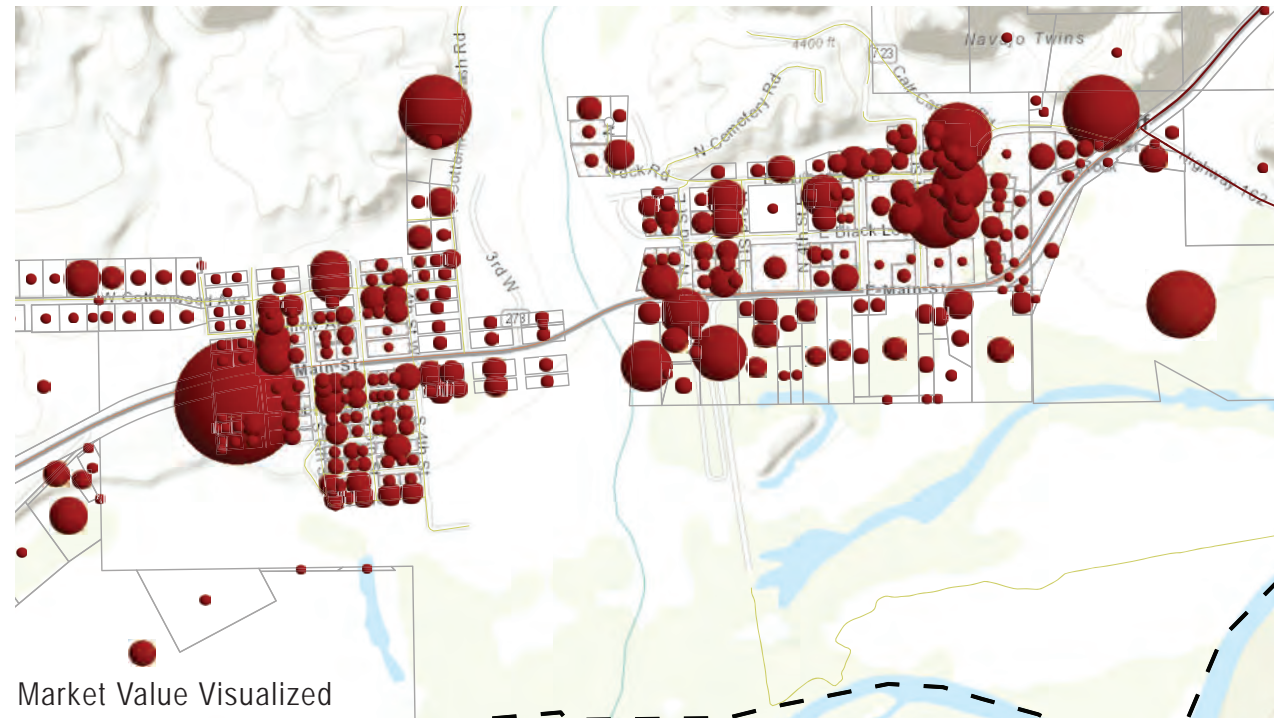
Income for San Juan County

Value Per Acre

Value per acre better shows the distribution of value in Bluff.
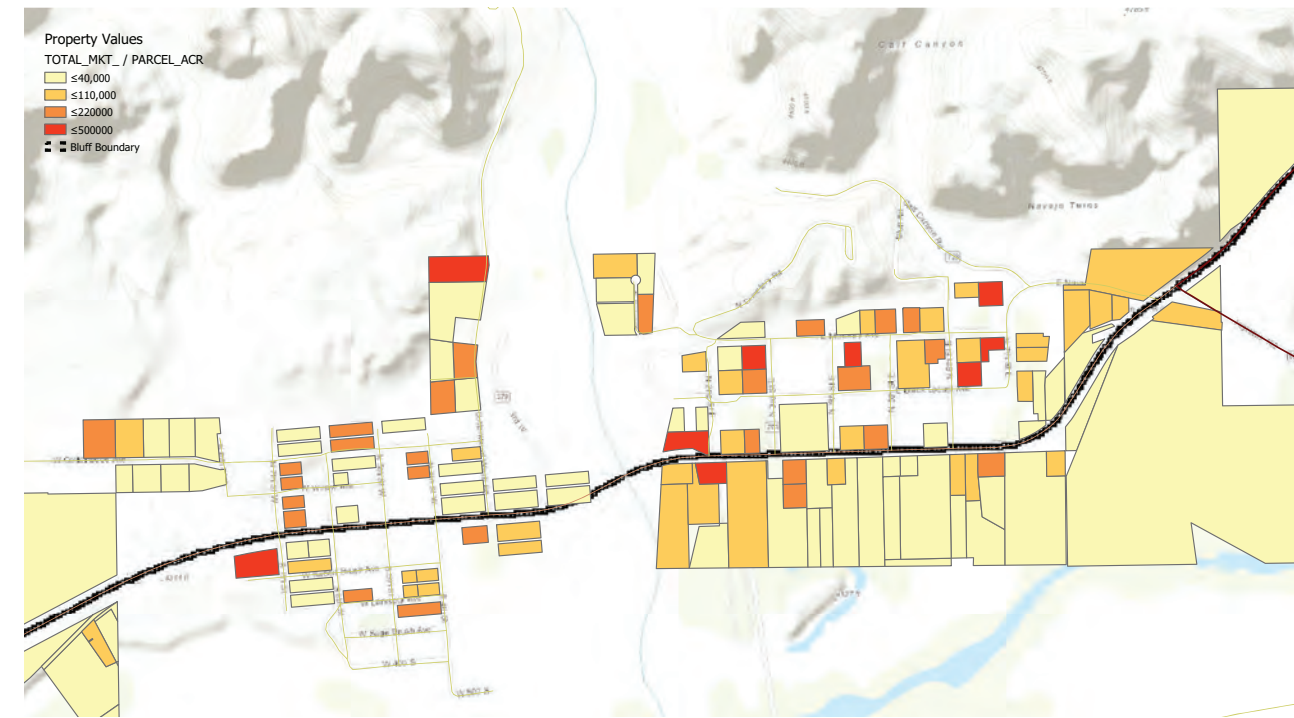
The county income values on the left align fairly well with the values above.

However, bluff is experiencing pricing that doesn't reflect either analysis. Inflation may be to blame because of the media attention from Bears Ears National Monument. Affordable rental units are disappearing in favor of short term vacation rentals like AirBNB. Visitors are willing to pay a higher premium for a shorter stay, making a month to month or annual lease less available. Ownership has historically been more affordable, but that is not always an option, and with prices rising it's even less so.

Occupations that Bluff values like public service, teachers, could easily be priced out, and commuting is not conducive to building a strong community, and may not be feasible..

Providing affordable housing should be a priority for Bluff. Higher density options may be part of providing an answer.

HABITAT ANALYSIS: SPECIES RICHNESS

Species richness is the number of different species present in an ecological community. It is simply the count of species, exclusive of abundance and distribution.

BIODIVERSITY

Species richness directly correlates to biodiversity and the higher the ecosystem richness value, the more stable the ecosystem. Understanding the species present in regional context will illuminate the nature of surrounding systems and allow for more informed decisions.

BLUFF

Bluff exists at the bottom of several sub-watersheds and in the middle of the San Juan River Watershed. Efforts to preserve a healthy regional habitat, and the quality of that habitat will help ensure water quality in the lower watershed. Along with water quality, preserving regional habitat will also preserve landscape character, by maintaining the presence of unique species as well as maintaining the function these species play in the landscape.

Bluff as a community of San Juan County, is surrounded by many species-some indigenous, and some keystone.
        -A keystone species is one that maintains the stability of an ecosystem.

These species add to the regional character that Bluff is a part of. The habitat range of these unique species are depicted in the habitat distribution maps to the right.
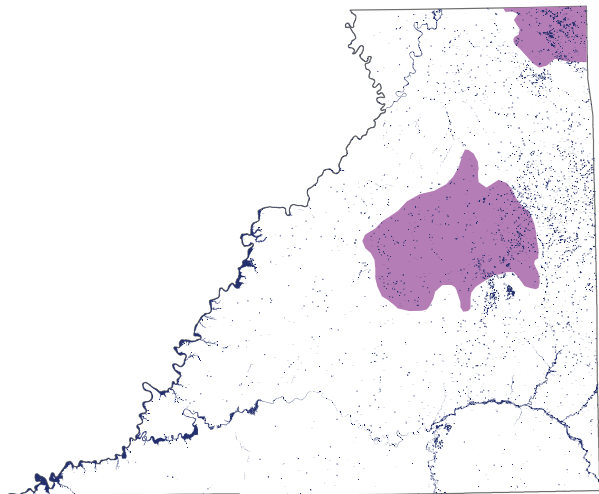
Band-tailed Pigeon
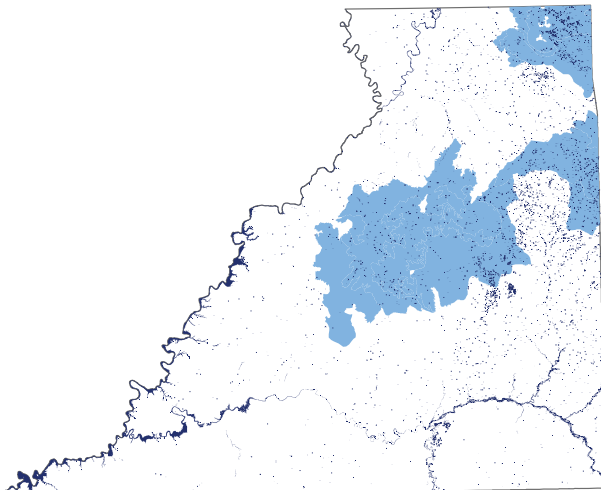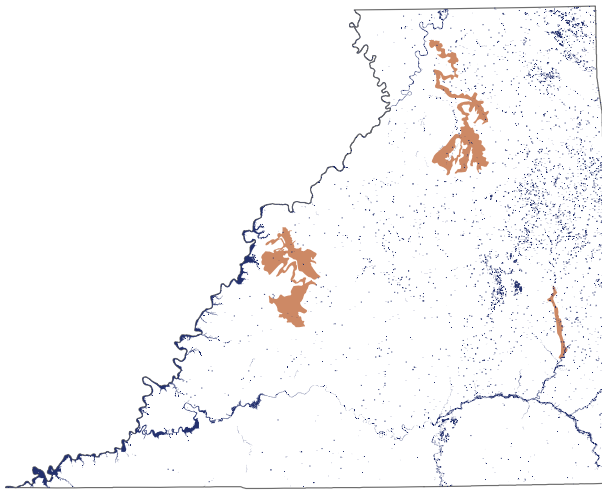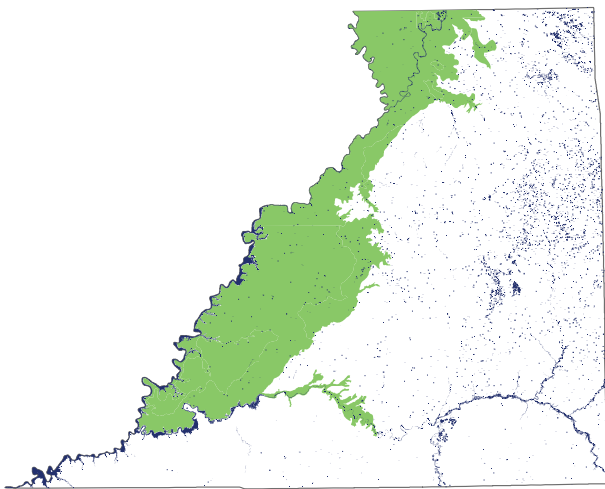
Elk

Chukar

Desert Bighorn Sheep
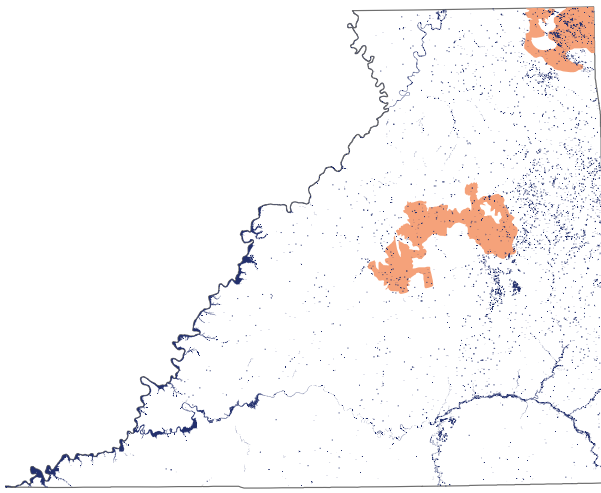
Dusky Grouse
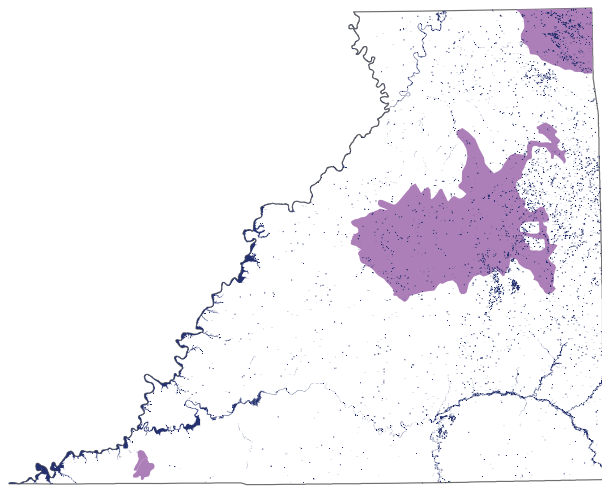
Black Bear
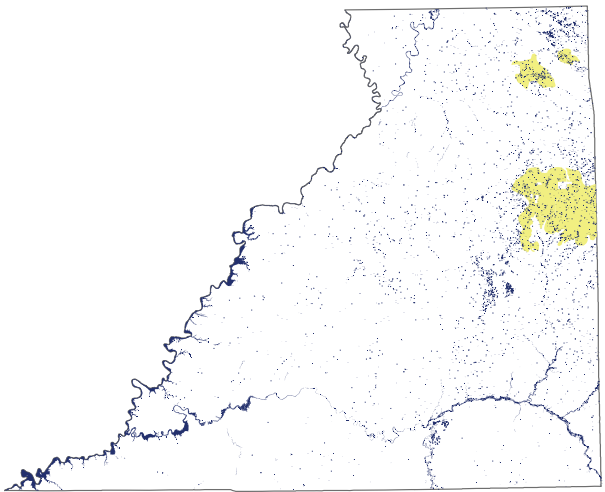
Gunnison Sage Grouse
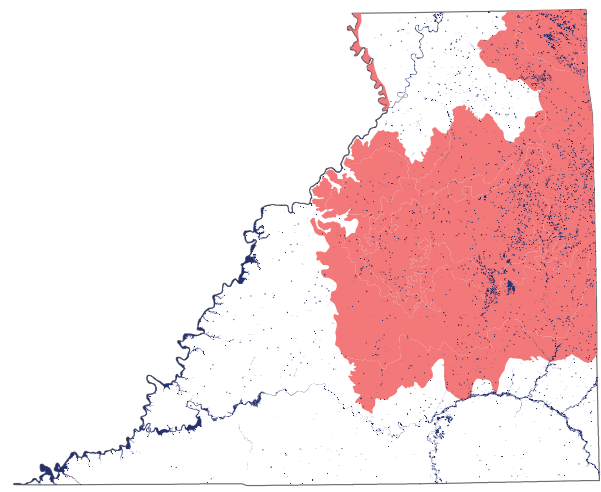
Mule Deer
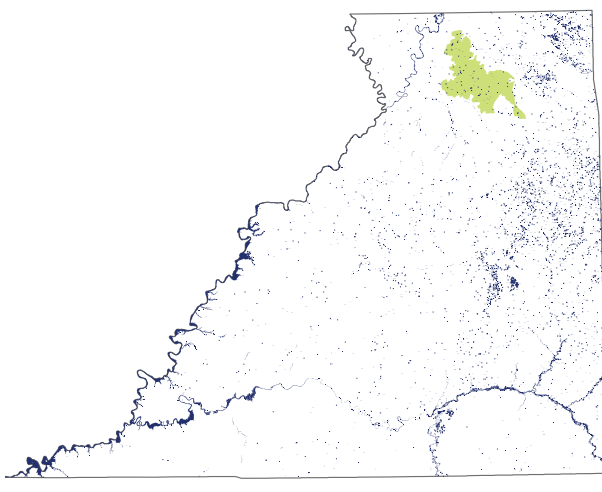
Pronghorn Sheep

HABITAT DENSITY

Species density or Biodiversity is the number of different species coexisting in a region, and is directly related to habitat and ecosystem quality. Ecosystems that are comprised of multiple layers and many individual species are more stable and productive. A species density map locates overlaying species habitat to determine areas of high biodiversity. These highly diverse areas are also high quality habitat, and such habitat should be prioritized when considering land use allocation or development.

When this map is used in conjunction with mapped wetlands and riparian zones a general water quality assessment can be made. Wetland/riparian areas falling within prime habitat are often themselves prime habitat and are key habitat to the species occurring there.

Band-tailed Pigeon

Elk

Chukar

Desert Bighorn Sheep

Dusky Grouse

Black Bear

Gunnison Sage Grouse

Mule Deer

Pronghorn Sheep

0   4+

Habitat density scale- by species number

N

0 5 10   20   30   40   Miles

RIPARIAN VULNERABILITY

DEVELOPMENT
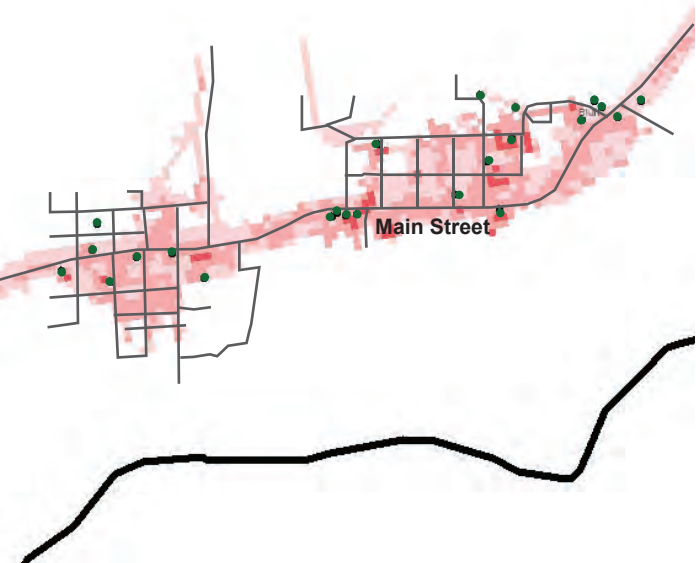
GROWTH
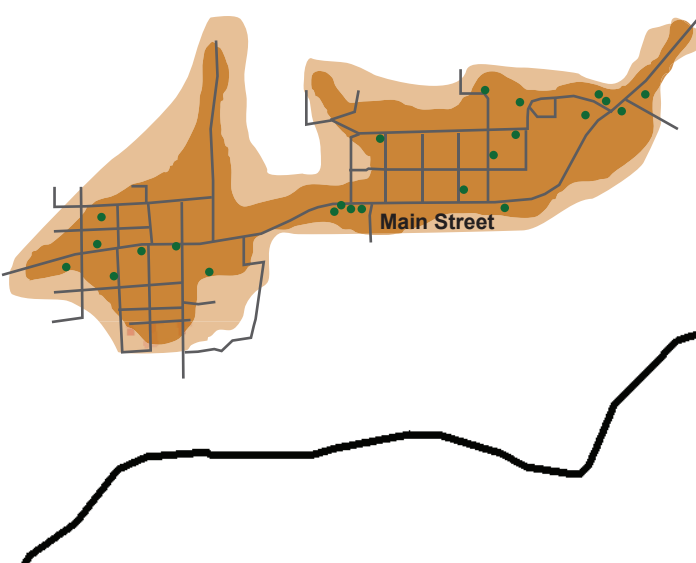
STREAMS

WETLANDS

Growth and development are two factors that impact riparian systems. Development has occurred and is occurring along the floodplain of the San Juan River, as well as along three stream tributaries. As development expands in the future to support the growing population the opportunity to preserve these areas and maintain healthy riparian zones must be taken early to ensure the long term protection of these sensitive areas.

Currently development transverses wetland areas and stream corridors. This development pattern will continue to create ecological issues as growth occurs. These sensitive desert ecologies will be at risk for degradation especially as septic systems continue to be approved and utilized throughout the city.

DEVELOPMENT

Currently, all major commercial development occurs along Main Street- the major road bisecting Bluff- with residential and light commercial along the periphery.
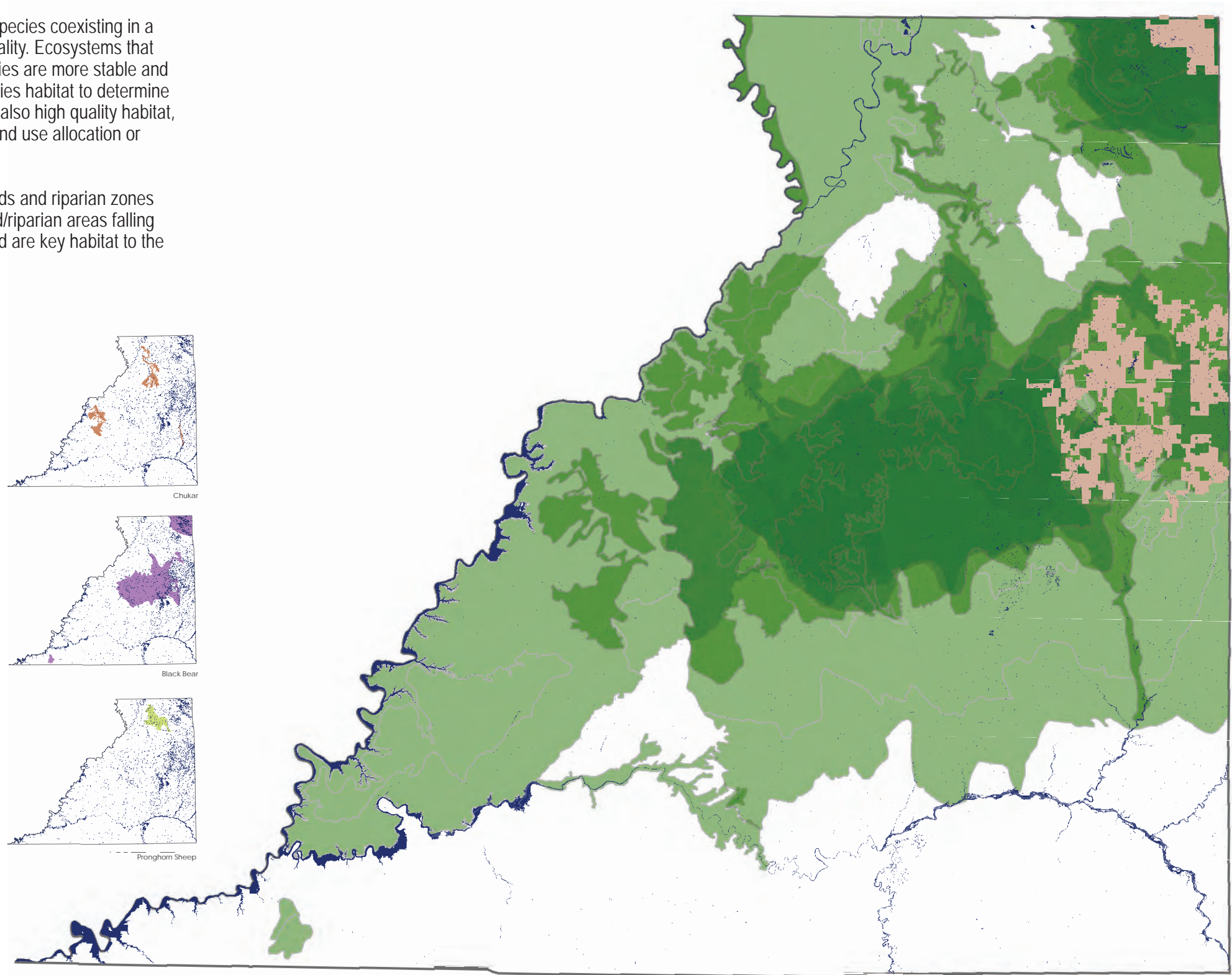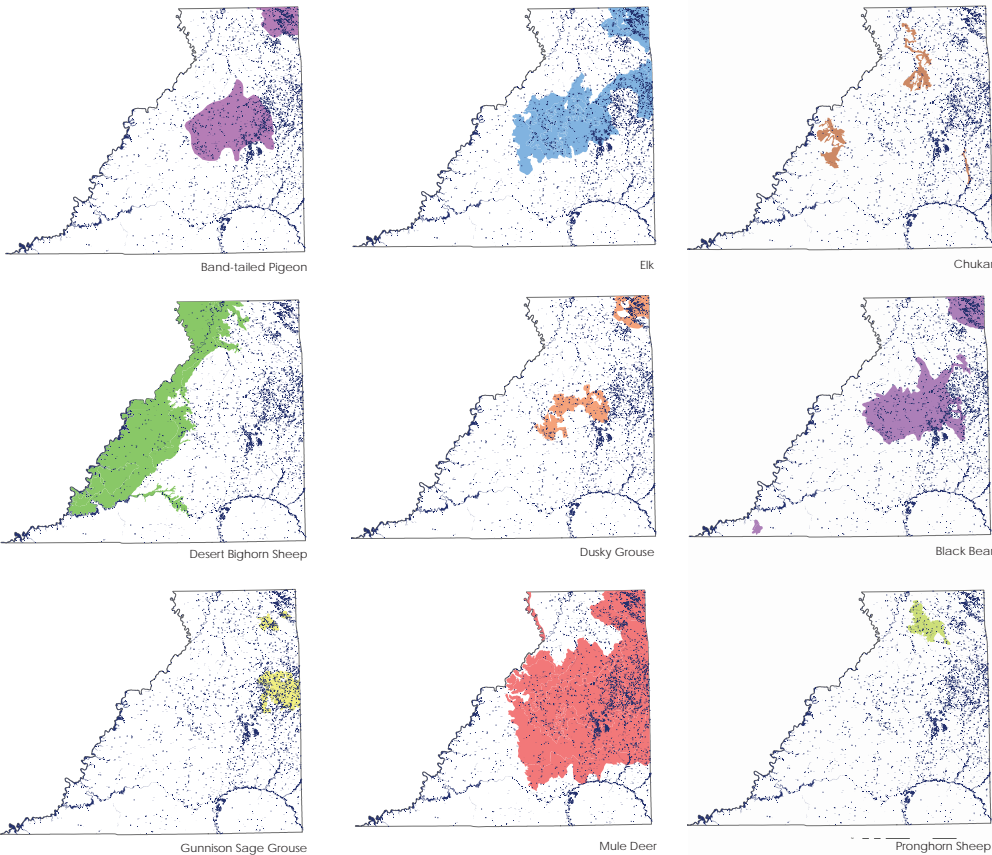
Due to transitional populations and seasonal fluctuations the use of development is as equally flux- moving from the commercial core to the periphery in the winter and back in the summer. Maintaining this pattern will facilitate a town core and thereby bolster the identity of Bluff.

GROWTH

Growth is projected to occur in Bluff, .5% annually. As the population increases the need also increases for amenities, housing, employment, etc.

As growth occurs slowly into the future an opportunity arises to optimize development such that it occurs without infringement upon natural resources.

STREAMS

To promote stream health as well as maintain riparian habitat and buffer zones, the following needs to occur:

- Installation and maintenance of a 30 ft. minimum buffer along all stream corridors
- Exclusion of all new development within the 30ft. buffer
- Restoration efforts along areas of riparian habitat currently infringed upon by development, these efforts may include: the removal of invasive species.

WETLANDS

To maintain a healthy river corridor, as well as promote healthy wetland zones, the following needs to occur:

- Installation and Maintenance of a 30 ft. buffer for minimum water quality around all wetland areas -or-
- Installation and Maintenance of a 90 ft. buffer for maximum water quality and habitat health around all wetland areas
- Restoration efforts along areas of wetland area currently infringed upon by development

Current development in Bluff occurs in close proximity to wetland/riparian areas. In some cases, a indicated by dark purple on the map to the right development is occurring in direct conflict to wetland/riparian areas. This conflict is occurring between wetland habitat and the mandatory fire break zones surrounding development. In these areas it would be necessary to stop development from encroaching any further to maintain wetland health and reduce the risk of wildfire damaging homes.

Main Street

Bluff Municipal Boundary

Main Street

Bluff Municipal Boundary

Main Street

Bluff Municipal Boundary

Main Street

Bluff Municipal Boundary

Bluff
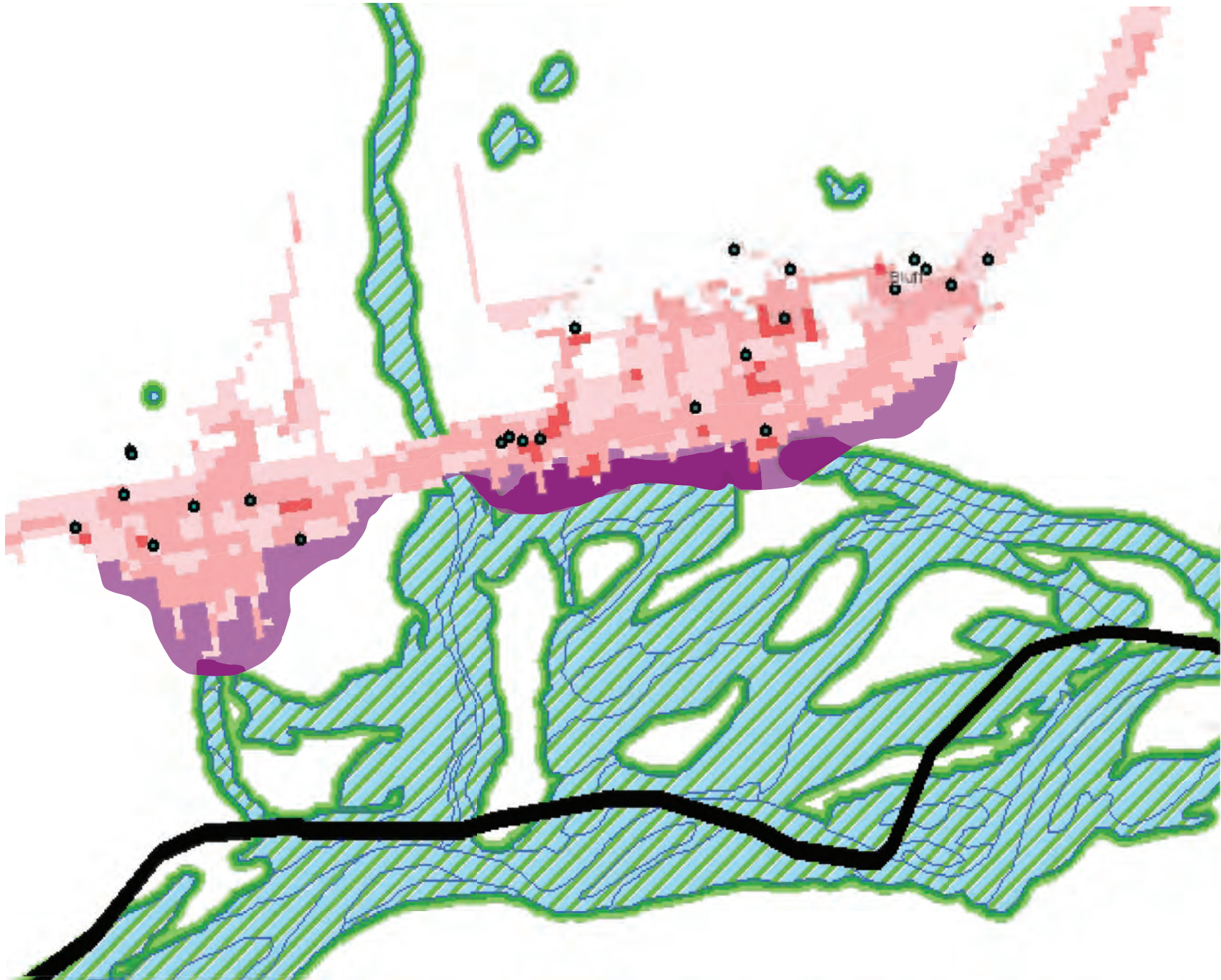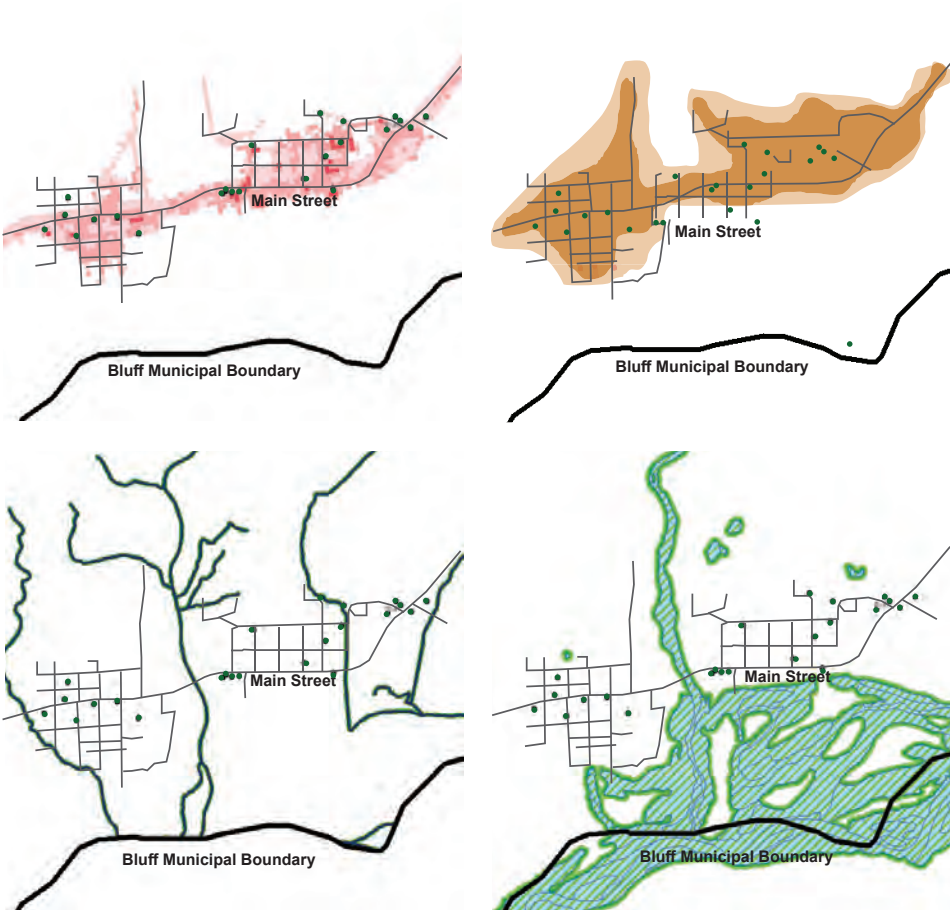
Fire break area

Conflict between Fire break area and Wetland area

CRITICAL WILDLIFE HABITAT

Legend

— Highways

Critical Habitat

Important Habitat

Moderate Habitat

Sources: Esri, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user communi
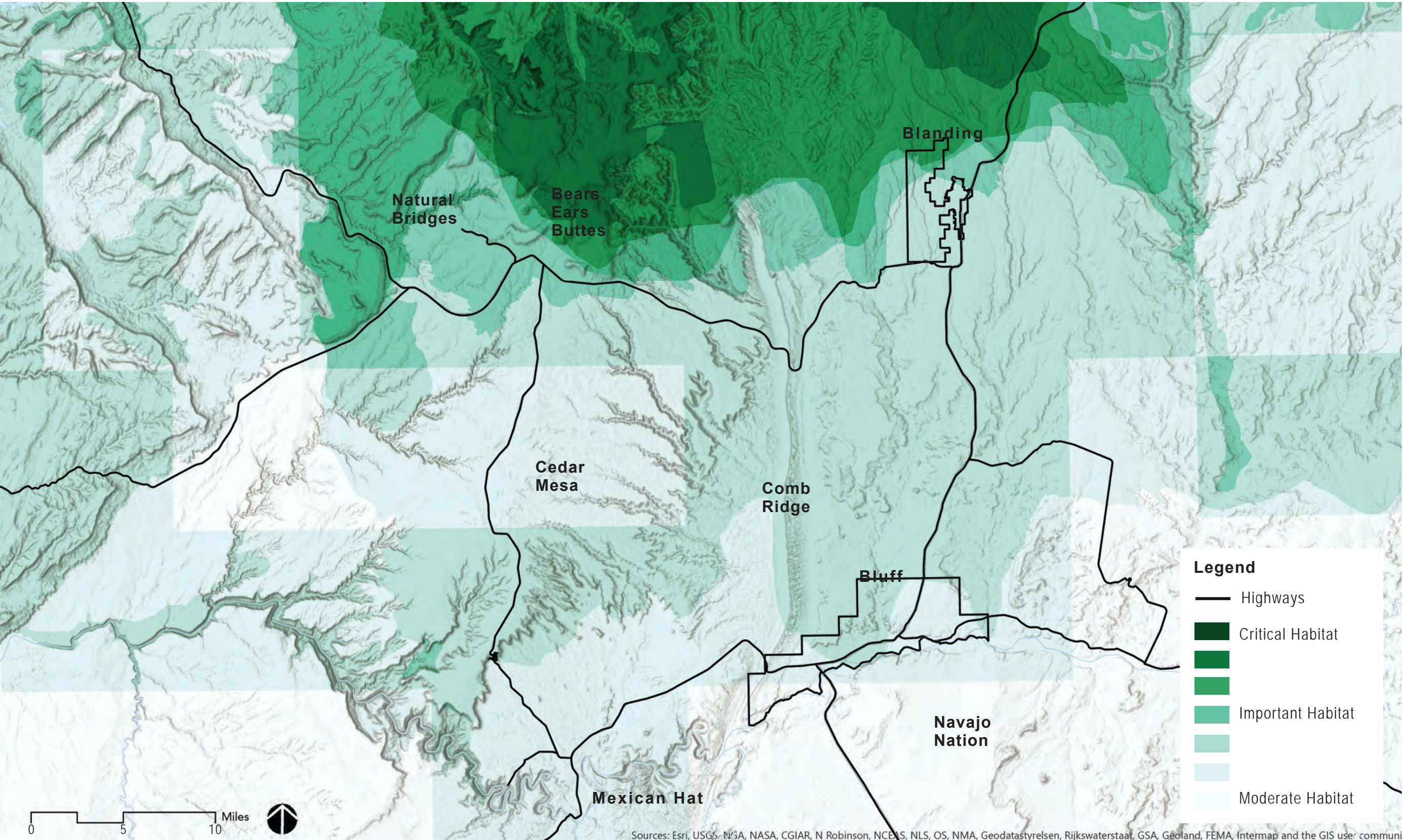
Criteria

- Rocky Mountain Elk

- Gunnison Sage Grouse

- Mule Deer

- Chuckar

- Band Tailed Pigeon

- Black Bear

- Desert Bighorn Sheep

- Dusky Grouse

- Sensitive, Threatened, and Endangered Species
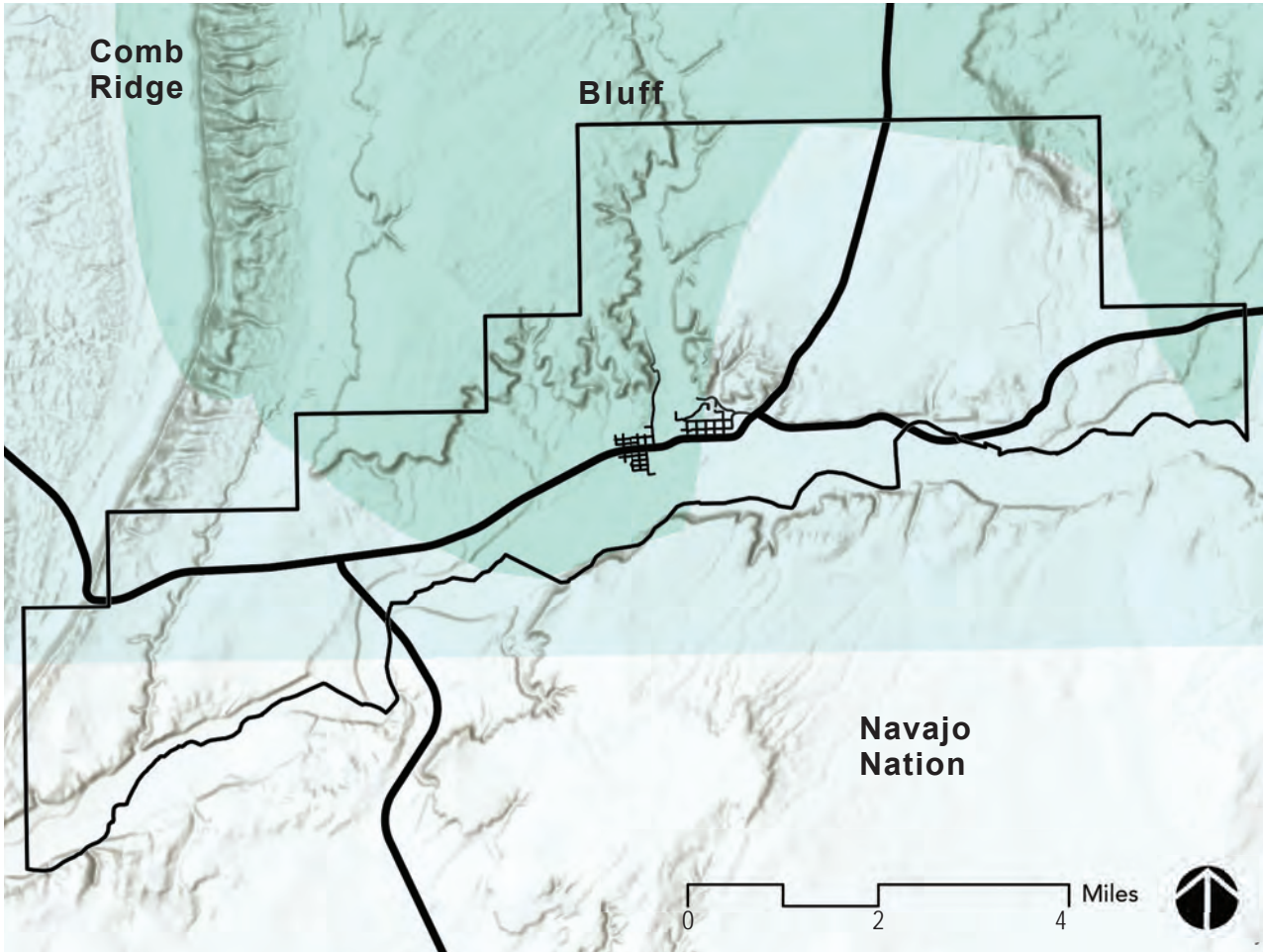
Process

The critical wildlife habitat model consisted of layering the habitat of each indicator species together with the sensitive, threatened, or endangered species quadrants and assigning each the value of 1. These were then spatially added together. The resulting model suggests that the most critical areas of habitat that the majority of indicators species rely on are near the Bears Ears Buttes and north of Blanding. However, this does not mean that other areas are not important in their own way. This data shows that Bluff supports at least one indicator species which is Mule Deer. Bluff also supports one third of the regions sensitive, threatened, or endangered species.

8

Indicator species rely on habitat in the Bears Ears region

30

Sensitive, threatened, or endangered species rely on habitat in the Bears Ears region

11

Sensitive, threatened, or endangered species rely on habitat in Bluff

LANDSCAPE VULNERABILITY

Blanding

Natural
Bridges

Bears
Ears
Buttes

Cedar
Mesa

Comb
Ridge

Bluff

Navajo
Nation

Mexican Hat

Legend
— Highways
High Vulnerability
Medium Vulnerability
Low Vulnerability

Miles
0   5   10

Sources: Esri, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Interman and the GIS use community
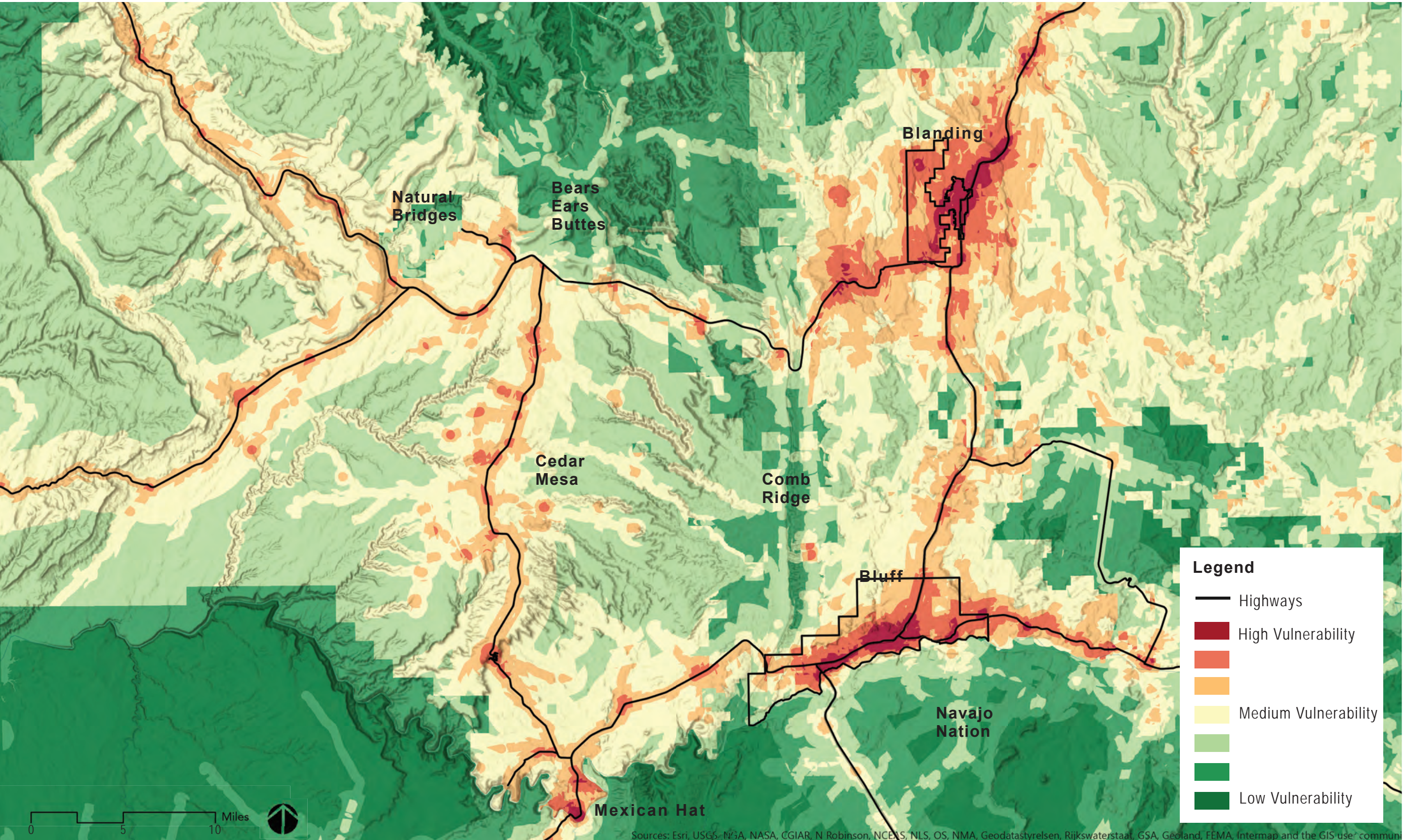
Vulnerability Assessment Criteria

- Land Ownership
- Proximity from Trails
- Proximity from Trail Heads
- Proximity from Developed Areas
- Proximity from Highways
- Proximity from Local Paved Roads
- Proximity from Improved Gravel Roads
- Proximity from Dirt Roads
- Proximity from 4x4 Roads
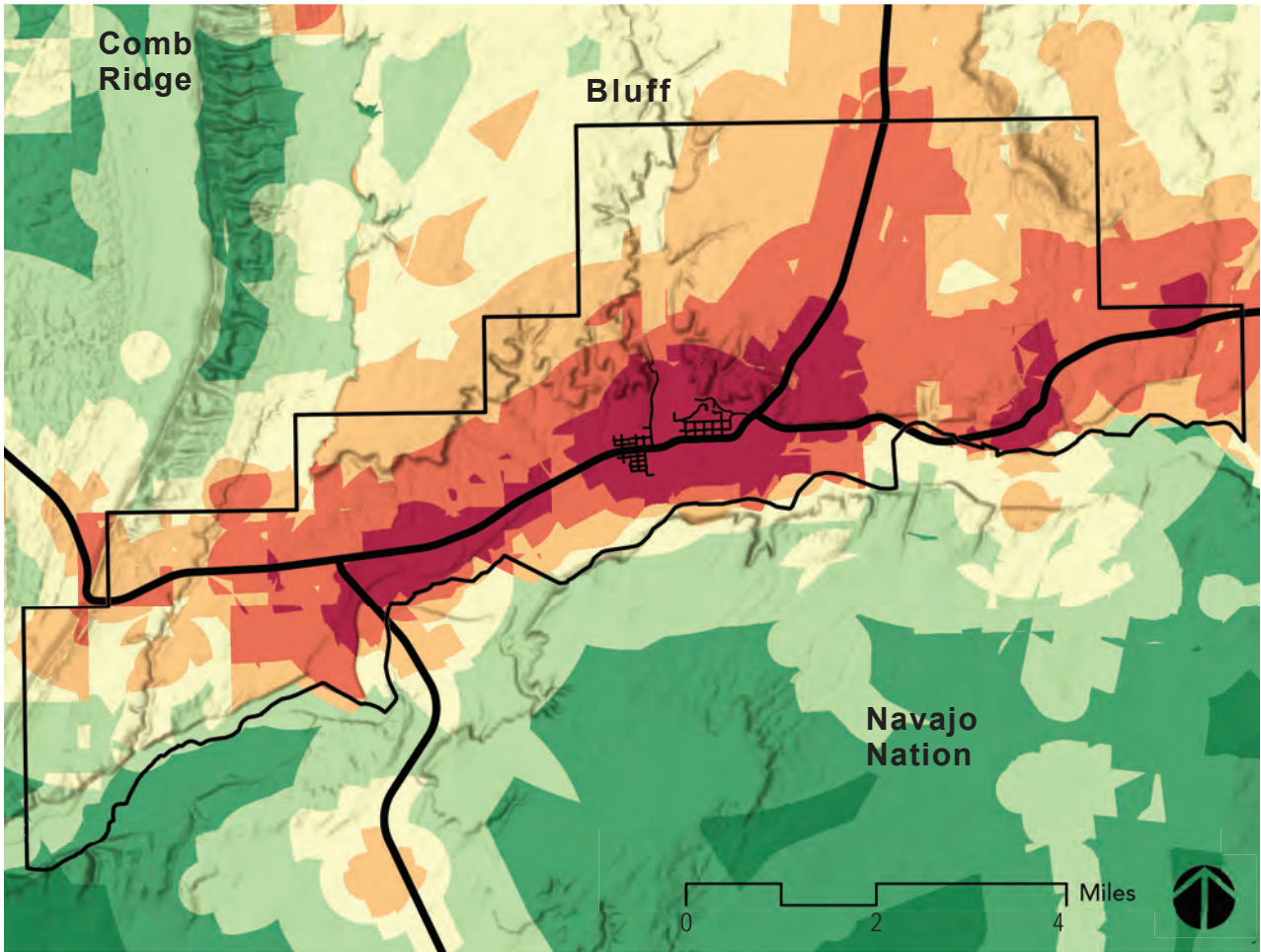
Process

To create the landscape vulnerability and critical wildlife habitat models, GIS data for the criteria listed near each map, and a value system was created. For the landscape vulnerability model, sub-categories of each criteria were assigned values ranging from 1-5. Once each criteria and subcategories were assigned values they were all spatially added together and this resulted in a gradient of values with higher values suggesting a higher level of vulnerability. For example, land ownership was broken down into values of 1-4.

Examples of ownership ratings include tribal and wilderness with a rating of 1; USFS and BLM national monuments with a rating of 2; private lands with a rating of 3; and BLM and SITLA with a rating of 4. Other criteria used a buffer system where values were assigned to the area within various radiuses of the criteria. For example, Highways had a system of 5 buffers with the area within 0.25 mile rated as a 5, while the area within 3 miles rated as a 1. 4x4 roads only had one buffer of areas within 0.25 mile rated as a 1.

290,500

Acres of land in the bears ears region are above medium vulnerability

330

Archaeological site locations in the bears ears region are disclosed online (at least)

37

of the 330 archaeological sites are located in areas of above medium vulnerability

CONSERVATION PRIORITY MODEL

Legend

— Highways

Highest Priority

Medium Priority

Lesser Priority

Natural Bridges

Bears Ears Buttes

Cedar Mesa

Comb Ridge

Bluff

Navajo Nation

Mexican Hat

Miles
0   5   10

Sources: Esri, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS use communi
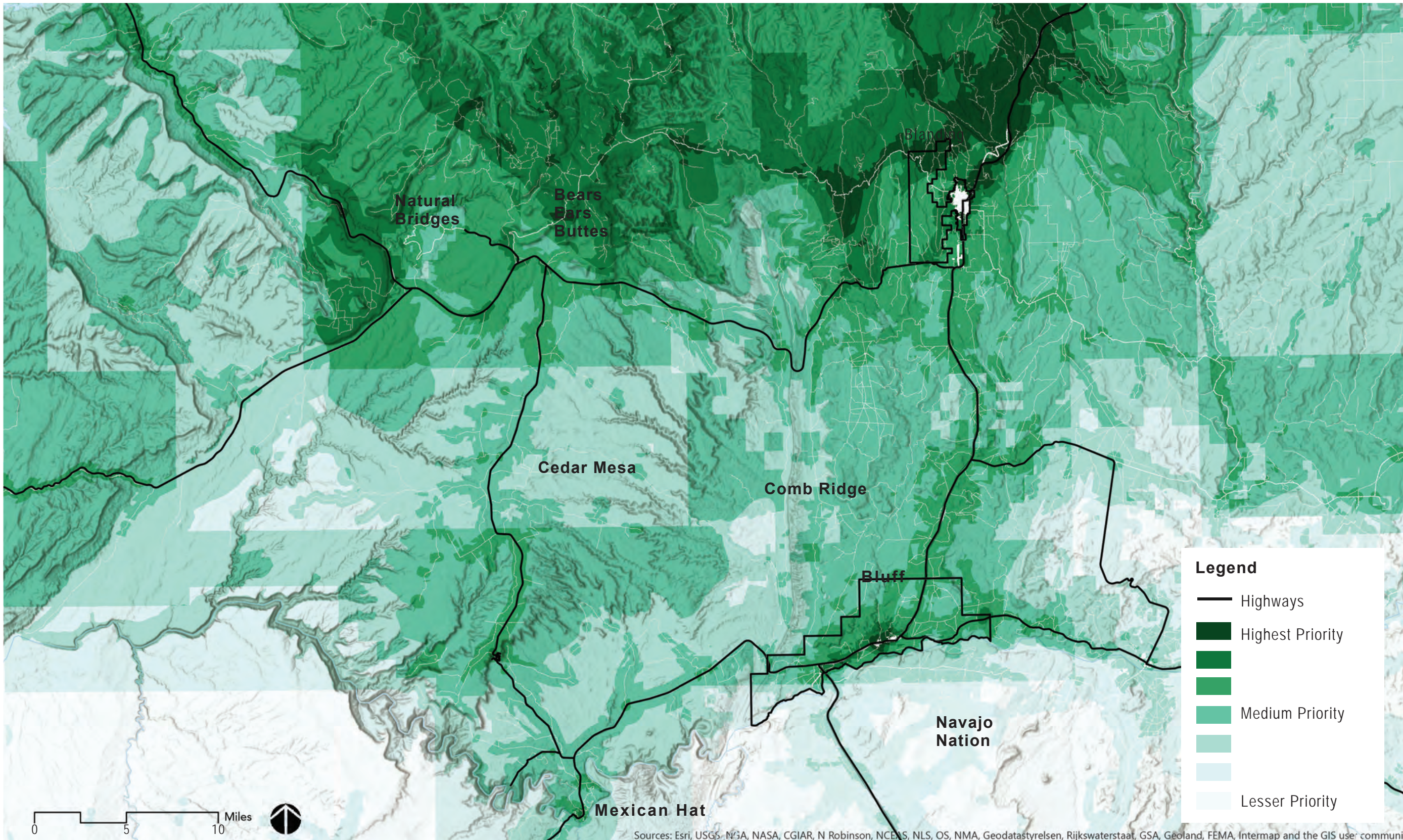
CONCLUSIONS

The landscape vulnerability and critical wildlife habitat models were then spatially added together and all impervious surfaces were eliminated. This created the conservation priority model which suggests the areas where it is most important to encourage preservation based on the possibility of human impacts and the habitat it provides to wildlife. This model shows that the areas of highest priority in Bluff are surrounding the current developed center, near Sand Island, and in the eastern portion of the city.

This study offers several important conclusions. One is that Bluff is an important area for wildlife and hosts one third of the region's sensitive, threatened, or endangered species. This knowledge combined with the findings of the landscape vulnerability model present a strong case for bluff to develop programs and policies that preserve its landscape and educate residents and visitors of its importance.

In order to accomplish this, Bluff should carefully consider which natural and cultural resources inside and outside of the city should be disclosed to the public for responsible tourism and which are better left undisclosed. Such a plan can then be adopted by stores and hotels in the city to ensure a more uniform preservation strategy. As part of this study, cultural site locations were researched and mapped in order to assess overlap with landscape vulnerability. However, the locations are not disclosed in these materials.

Moving forward, Bluff should carefully evaluate how it can maintain and improve the quality of its surrounding landscape while still being open to recreation and tourism. The "Visit With Respect" and "Leave No Trace" approach adopted by Friends of Cedar Mesa is a valuable precedent and could be looked at from a city level. Another idea that Bluff should consider is creating a venue in the city that celebrates the arts and culture of the Bears Ears region through photography, storytelling, dance, music, VR archaeological site visits, and lectures by influential speakers.
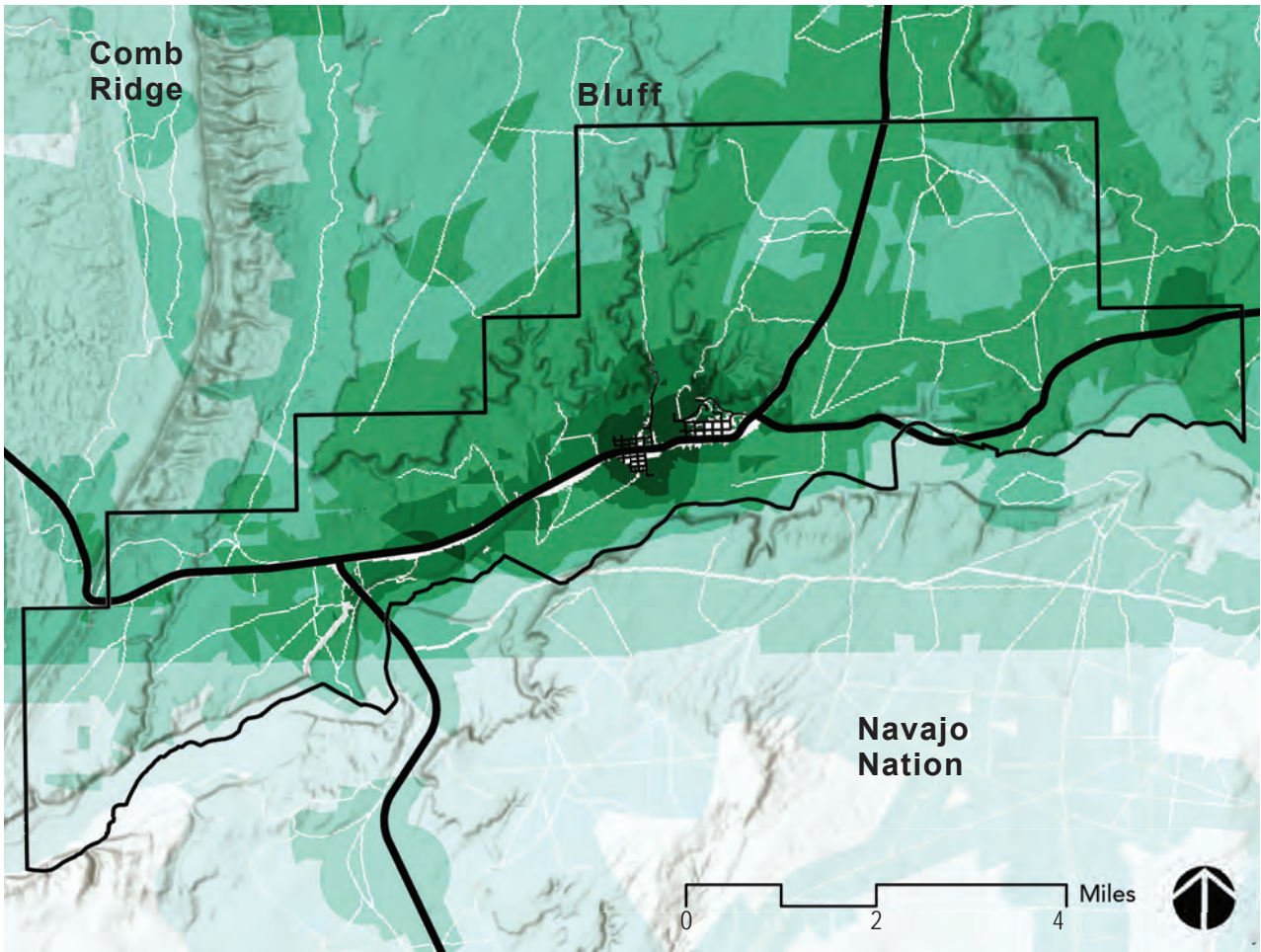
Recommendations

- Wisely choose which archaeological sites to encourage visitation

- Promote conservation and restoration of habitat within bluff

- Encourage responsible use of the landscape through arts and cultural programs (photography, music, history)

DEVELOPMENT SCENARIOS
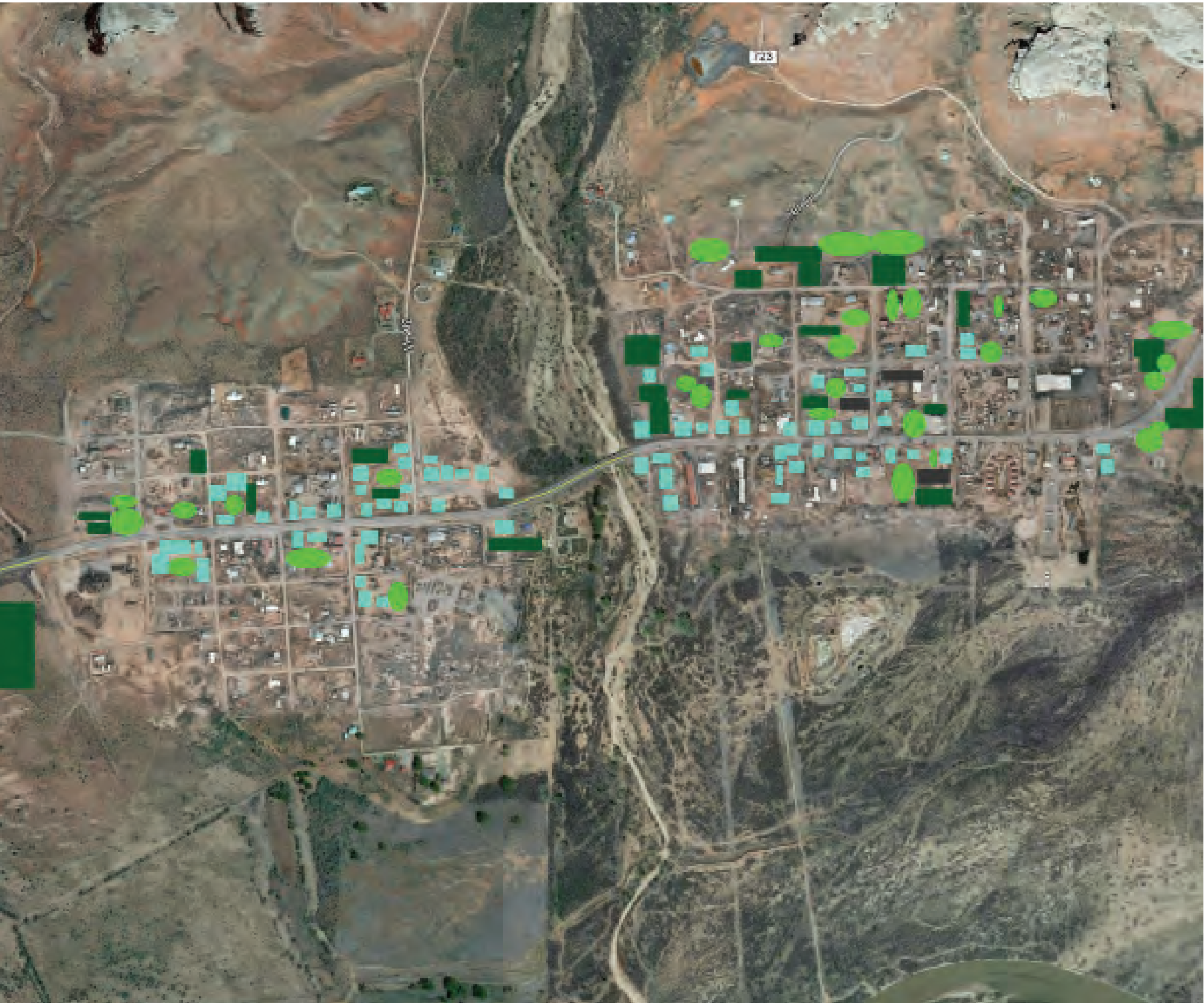
CENTRAL HUBS

This scenario generally follows a commonly prescribed development pattern where new development is concentrated to central areas. In the case with Bluff there are two centers of development; one for each side of town.

Pros:

- Produces strong core
- May use land that is for sale
- Enhances town identity
- Makes a walkable core
- Makes town more readable
- Sections can be seasonal

Cons:

- Can change town feel
- May separate those in the center from the rest
- May only cater to tourists
- Could be difficult and costly to implement
- Might attract chain businesses

Legend:

New Development

New Orchard

Community Garden

SCATTERED CLUSTERS

This scenario was developed to provide something which combines some of the characteristics of the scattered and central hubs development scenarios. The general pattern is that there are clusters of new development which are scattered around the open spaces in town.

Pros:

- Preserves more open space
- May help preserve view sheds
- Development could have less of an impact
- Allows for more green space
- Clusters can be seasonal

Cons:

- Legibility could be reduced
- Can segregate the town
- Lacks a clear center
- Makes it harder to get around

Legend:

- New Development
- New Orchard
- Community Garden
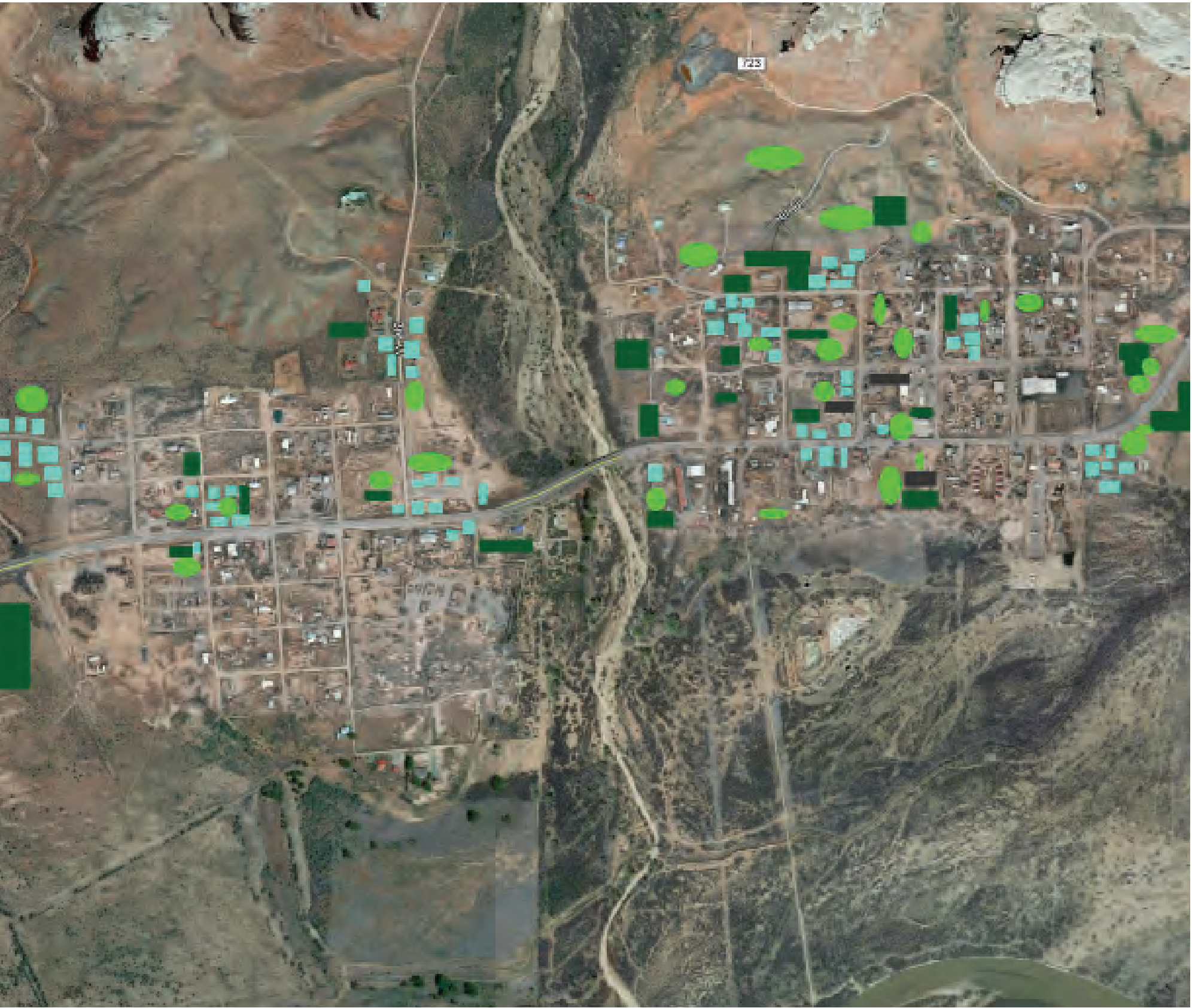
SCATTERED DEVELOPMENT

This development scenario largely represents how Bluff might look if development continues as normal with development being scattered throughout the area within the town boundaries. There is no general pattern to this type of development.

Pros:

- Preserves current aesthetic
- Preserves identity
- Allows for slower growth
- More of a small town feel

Cons:

- Less readable
- May limit necessary growth
- Might not be very functional
- Doesn't encourage walk ability
- May not be good for Businesses
- Might not harmonize with current districts
- Lacks clear boundaries and center
- Cost of infrastructure would be more

Legend:

- New Development
- New Orchard
- Community Garden

"PIONEER"

This scenario was developed to respect the historical development while allowing for accommodations to tourists.

In general, on the East side of town there is around five buildings allowed per block to allow some infill while denser development is allowed on the west side of town. This allows the east side of town to maintain its historic feel while giving room in town for added density.

Pros:

- Has small town feel
- Preserves open space
- Preserves view sheds
- Preserves Identity
- Parts can be walkable
- Could be good for business
- Supports current districts
- Can meet the needs of tourists and citizens
- Encourages community

Cons:

- May require some infrastructure costs
- West side of town gets more of the development
- Might not be desired by some citizens

Legend:

■ New Development

● New Orchard

▬ Community Garden

DEVELOPMENT SCENARIOS COMPARISON

PIONEER STYLE
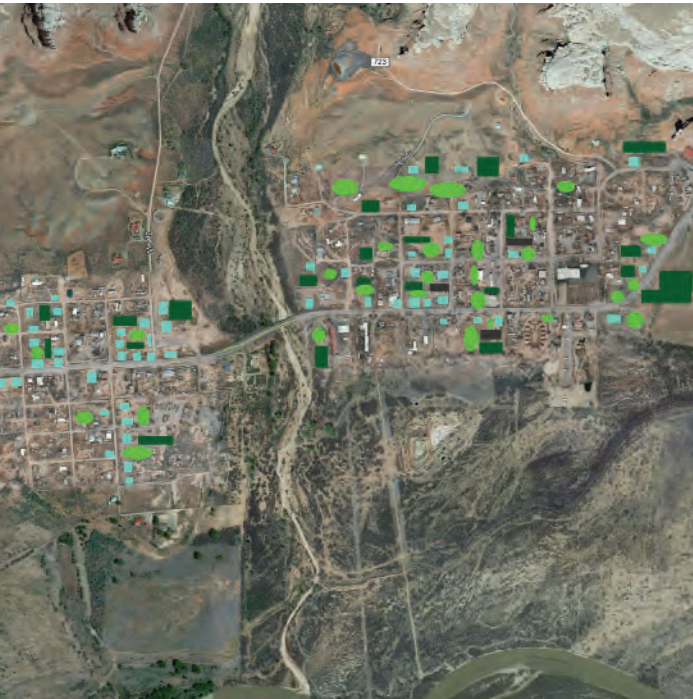
This scenario has several advantages in that it allows a preservation of open space while also allowing for some increase in density while maintaining the authenticity of the town.

SCATTERED

In this scenario there is little control over new development locations, but it would be very easy to administer from a government standpoint.

CENTRAL HUBS

This scenario has its advantages and disadvantages. For advantages there are several including greater town legibility, increased sense of identity and community, and greater walk ability resulting in tourism being contained to two areas of town more or less. In disadvantages it might not be feasible without the creation of a waste treatment system and it could alter the feel of the town more than is acceptable.

SCATTERED CLUSTERS
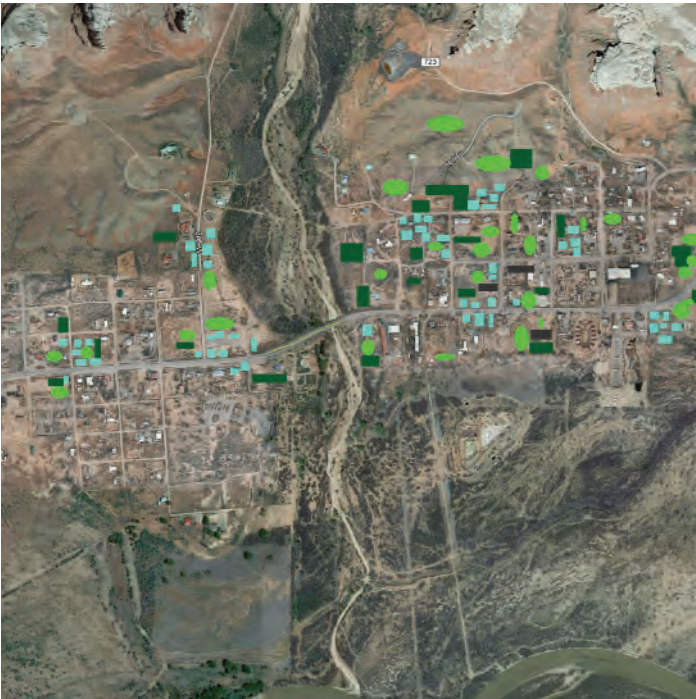
While this scenario also has its advantages and disadvantages, a major concern would be that it would result in the fragmentation of town and reduced legibility. This would make it hard for people to find things and it could decrease the current sense of community.

COMPARISON MATRIX:

	Identity	Connection	Resiliency	Legibility	Walkability	Character
Central Hubs	green	green	green	green	green	red
Scattered Clusters	yellow	green	red	red	red	red
Scattered	yellow	red	red	red	red	green
"Pioneer" Style	green	green	green	green	green	green

Legend:

- ■ Meets goals effectively
- ■ Meets goals moderately
- ■ Does not meet goals

From the comparison matrix we can see that among the different scenarios, central hubs development and "pioneer" style development work best with the goals of Bluff. However, since character is one of the most important aspect to development in Bluff, "Pioneer" style is far superior to central hubs.

Legend:

- ■ New Development
- ● New Orchard
- ■ Community Garden

VISIBILITY ANALYSIS

To verify visual characteristics of each development scenario, each scenario was combined with the view shed analysis to determine which new developments in each scenario would be most noticeable. Those which were in a visible space and were not blocked by an existing building, orchard, or other new development were marked in red to show those as most noticeable.
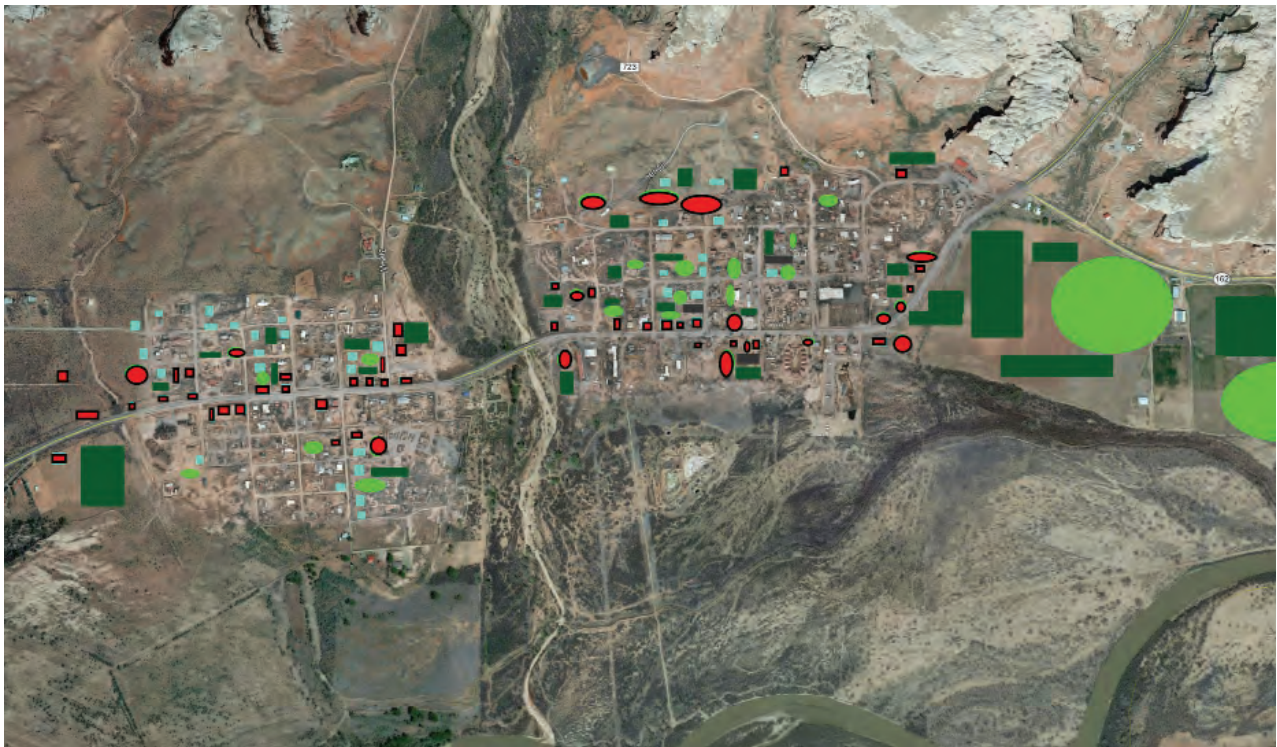
RURAL CHARACTER ANALYSIS

To analyze how rural each development scenario would feel a rating system was created that was based on two metrics. One metric is based on the percentages of visible to total developments. For instance, perhaps in one scenario there are 63% of new structures visible and 46% of new orchards visible. As the system is set up, the percentage of visible structures would count negatively towards the scenarios rating and the percentage of visible orchards would count positively. As a second metric, which would be combined with the first, density of development was explored and rated. Each rating of density was based on the number of structures and orchards with the number of orchards counting negatively towards the density score in a given area. That area was determined to equal the extent of four historic blocks in the east side of town. To fully rate each development scenario's density, a form was made to isolate overlapping areas of each development scenario which was equal to four historic blocks. The number of structures and orchards was then assessed in each area to create the density score. If areas had 10 or less structures, the scenario was given a score of one. If a scenario had 10-15 structures per area it was given a rating of 0.5. If a scenario had more than 15 structures per area it was given a score of zero. These density ratings were then combined with the visibility percentages to produce a final rural character rating for each scenario.

RESULTS

Below are the final resulting scores for each of the development scenarios which figure on a scale of negative one to positive one with positive one being most rural and negative one being least rural.

Pioneer Style- 0.958
Scattered- 0.8877
Central Hubs- -0.16343
Scattered Clusters- 0.5325

Based on this rating system, the best scenario would be the 1. Pioneer Style development scenario followed by 2. Scattered development, then 3. Scattered clusters, then 4. Central hubs in that order.

For some further confirmation and analysis each development scenario was compared to the districts map produced by the team. Questions for each scenario were asked regarding how each one would affect existing districts both negatively and positively. This resulted in showing that central hub and pioneer style development best work with current districts while mostly enforcing the commercial, lodging, civic, and middle density housing districts. In the middle was scattered cluster development as it could help districts previously mentioned while also negatively affecting the lower density housing district. At the bottom was scattered development since it doesn't reinforce current districts and it can alter the character of most districts other than the commercial and lodging districts.

According to these two analyses, the best options for future development patterns would be pioneer style and scattered development with pioneer style development being preferred over scattered development due to its net positive impact on existing districts

RENEWABLE ENERGY CONTEXT

POWER COUNTY WIND PARK NORTH

POWER COUNTY WIND PARK SOUTH

Legend:
- Rocky Mountain Power service area
- Solar projects owned by others providing power to PacifiCorp
- PacifiCorp owned wind projects
- Wind projects owned by others providing power to PacifiCorp

UTAH

SPANISH FORK WIND PARK 2

GRANITE PEAK SOLAR

MILFORD SOLAR 2
SOUTH MILFORD 1

LAHO SOLAR

GREENVILLE SOLAR

BUCKHORN SOLAR

CEDAR VALLEY SOLAR

BERYL SOLAR

UTAH RED HILLS RENEWABLE PARK

FIDDLER'S CANYON 1

FIDDLER'S CANYON 2

FIDDLER'S CANYON 3

MILFORD FLAT SOLAR

LATIGO WIND

UTAH'S RENEWABLE ENERGY TRENDS

- About 14% of Utah's net electricity generation came from renewable sources in 2017. Solar energy generated more electricity than any other renewable resource in the state.

- Electricity generation from all solar facilities accounted for nearly half of the state's renewable generation and was 25 times greater in 2017 than in 2015.

- Utah ranks among the 10 states with the most solar generating capacity, with 1,635 megawatts installed.

- The state requires investor-owned electric utilities and most electric cooperatives to offer net metering, further encouraging electricity generated from solar arrays on consumers' rooftops.

- In 2017, more than one-tenth of all the state's solar generation came from distributed (customer-sited, small-scale) facilities.

UTAH'S ENERGY USE TRENDS

- The average **residential** electricity rate in Utah is 9.93¢/kWh, which ranks 41st in the nation and is 16.41% less than the national average rate of 11.88¢/kWh.

- **Residential** electricity consumption in Utah averages 793 kWh/month, which ranks 34th in the nation and is

- The average monthly **residential** electricity bill in Utah is $79, which ranks 49th in the nation and is 26.17% less than the national average of $107 per month.

- The average **commercial** electricity rate in Utah is 8.06¢/kWh, which ranks 43rd in the nation and is 20.12% less than the national average rate of 10.09¢/kWh

- **Commercial** electricity consumption in Utah averages 7,769 kWh/month, which ranks 6th in the nation and is 24.54% greater than the national average of 6,238 kWh/month.

- The average monthly **commercial** electricity bill in Utah is $626, which ranks 16th in the nation and is 0.48% less than the national average of $629.

Rocky Mountain Power

BLUFF DATA
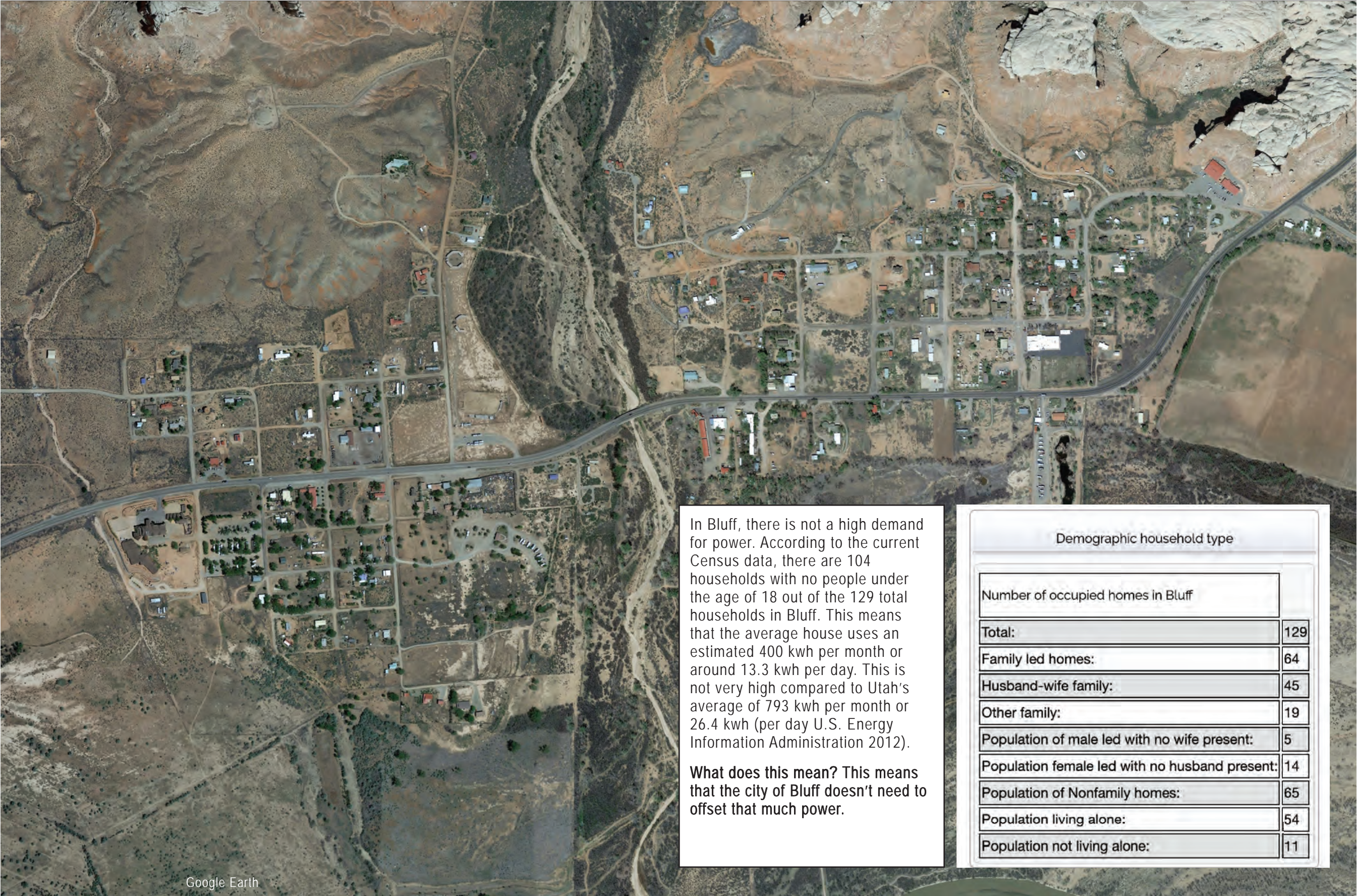
In Bluff, there is not a high demand for power. According to the current Census data, there are 104 households with no people under the age of 18 out of the 129 total households in Bluff. This means that the average house uses an estimated 400 kwh per month or around 13.3 kwh per day. This is not very high compared to Utah's average of 793 kwh per month or 26.4 kwh (per day U.S. Energy Information Administration 2012).

What does this mean? This means that the city of Bluff doesn't need to offset that much power.

Demographic household type	
Number of occupied homes in Bluff	
Total:	129
Family led homes:	64
Husband-wife family:	45
Other family:	19
Population of male led with no wife present:	5
Population female led with no husband present:	14
Population of Nonfamily homes:	65
Population living alone:	54
Population not living alone:	11

Google Earth

SUITABLE CHARACTERISTICS FOR SOLAR

- South and South West orientation

- Ability to connect to the grid

- Locations that are flat and unobstructed by tree

- Compliance with historic district design guidelines

- The sections in green show great potential. They are relatively close to the existing infrastructure, south and southwest facing topography and have plenty of surface that is unobstructed by trees. Residential units that are affected by trees are further researched in the following pages.

- The locations in yellow show moderate potential for installing a solar array to be installed. There is plenty of solar exposure here but may interfere with the visual appeal on the north entrance to Bluff.

- According to the analysis, the North Western Part of the site is less suitable due to its lack of proximity to existing utilities, resulting in costing additional money. The locations on the southern most part of Bluff show that the sensitive wetlands and the river are unsuitable for a solar array to be installed.

VERY SUITABLE

MODERATELY SUITABLE

LESS SUITABLE

VERY SUITABLE

MODERATLEY SUITABLE

LESS SUITABLE

VERY SUITABLE

MODERATELY SUITABLE

LESS SUITABLE
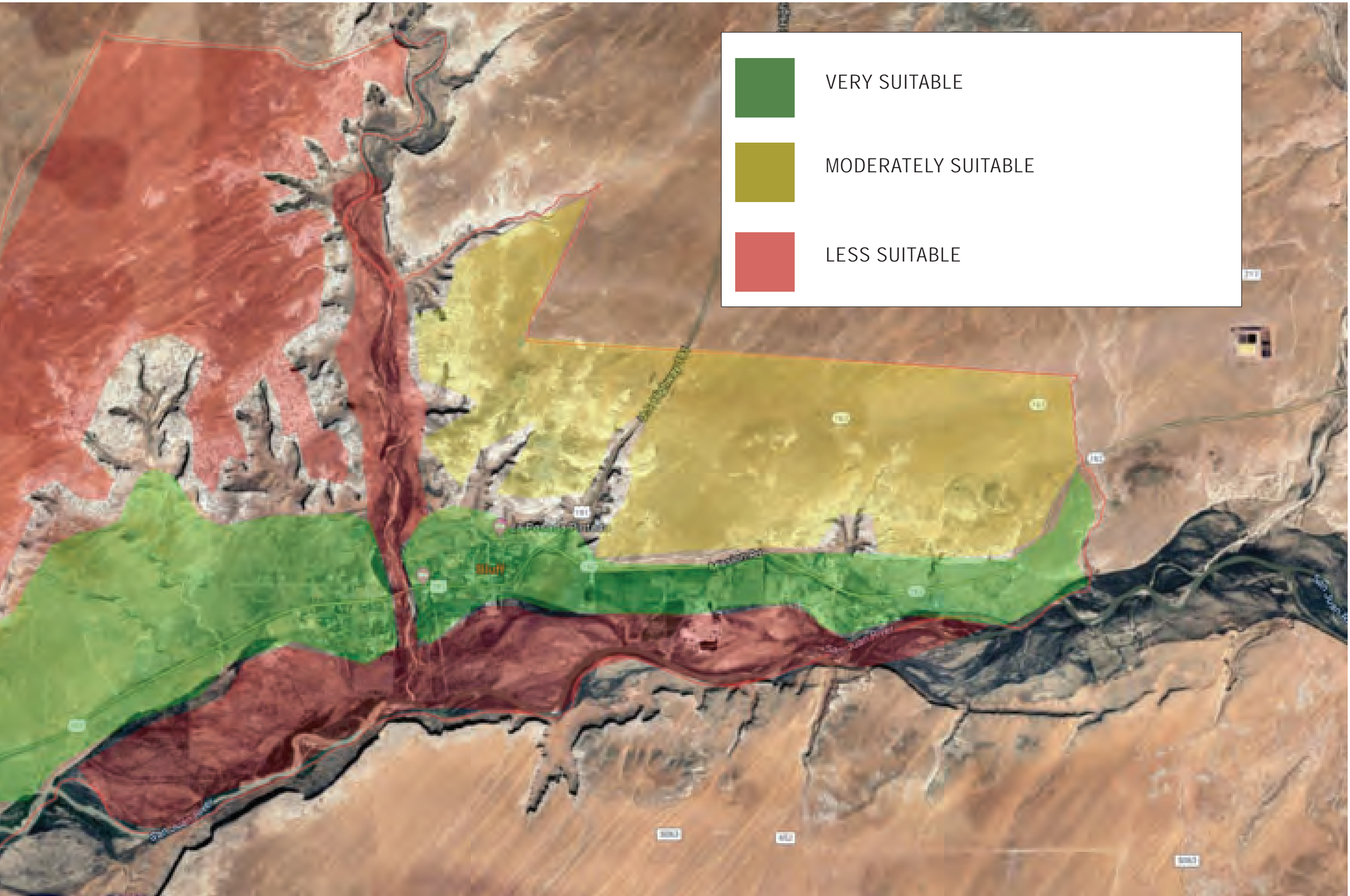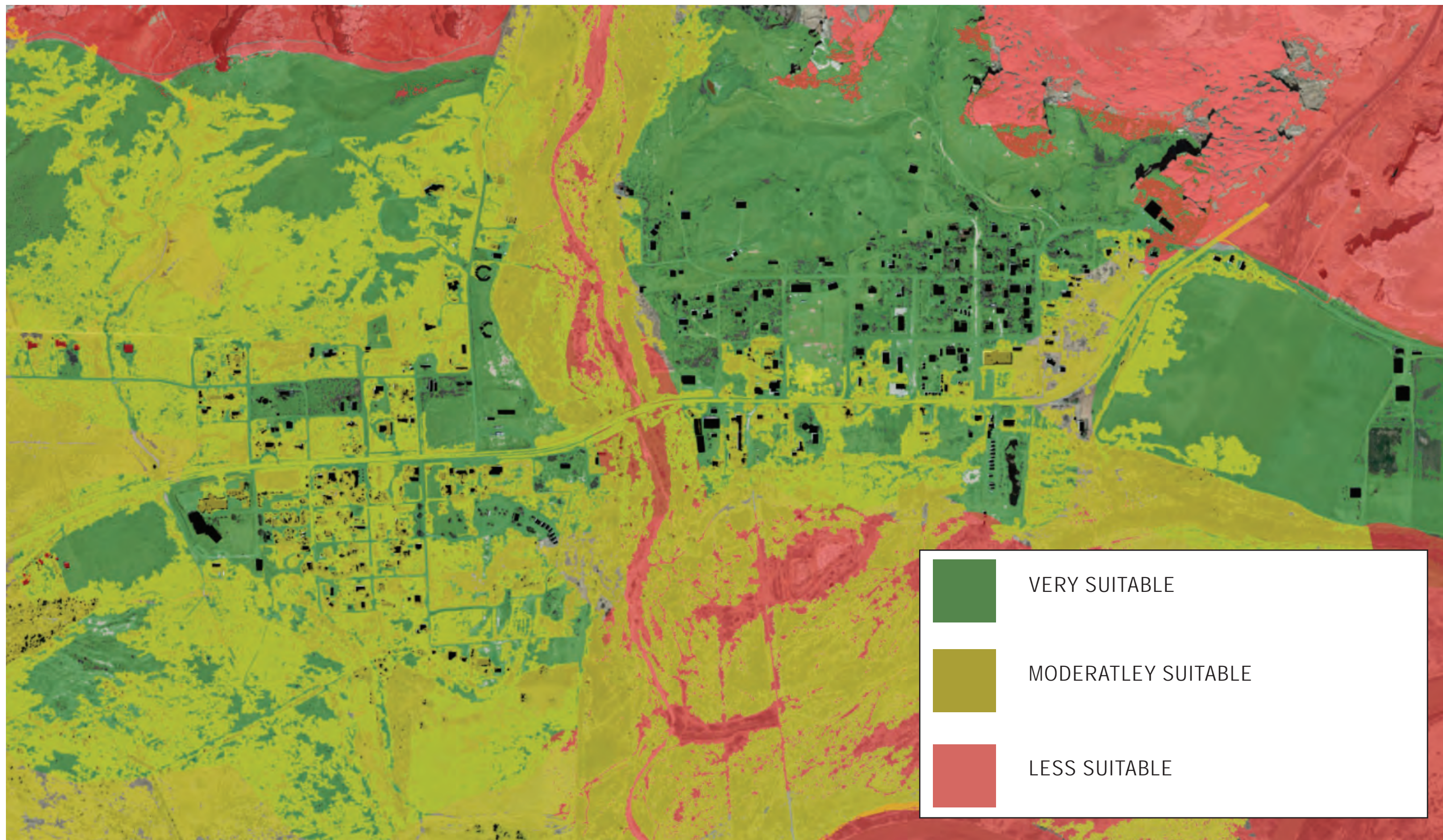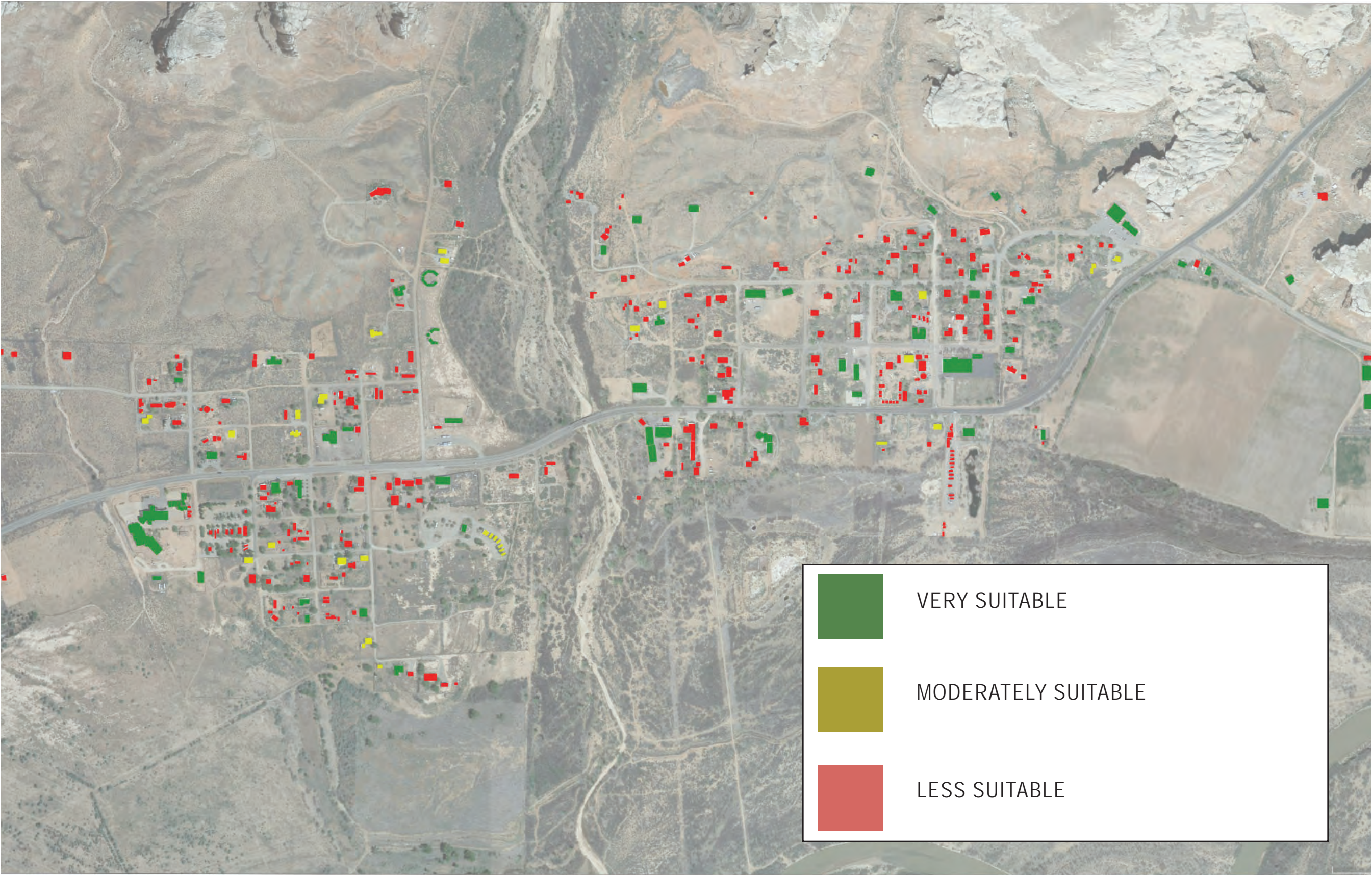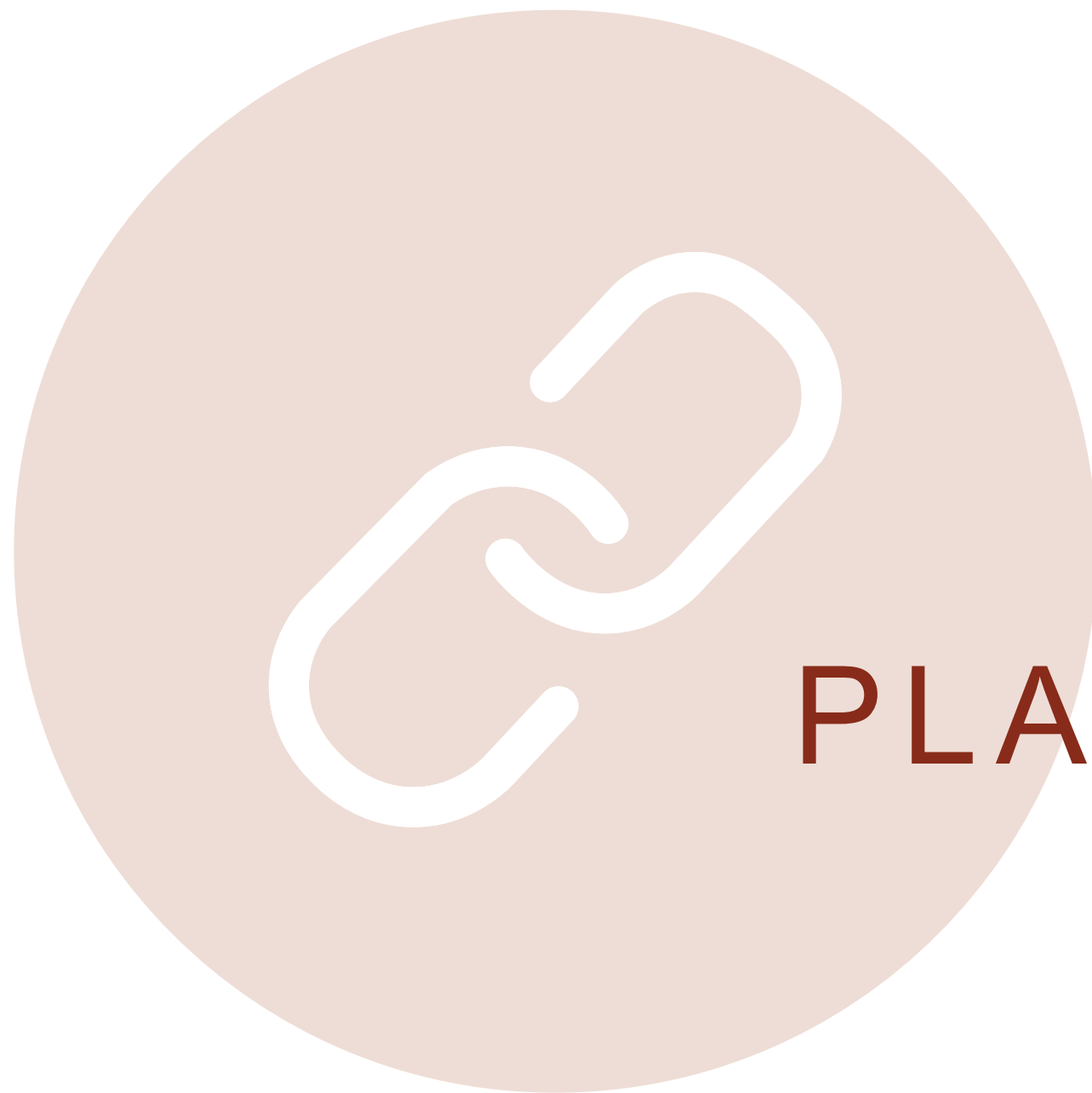
PLANNING & DESIGN
CONNECTION

A FRAMEWORK FOR COMMUNITY COLLABORATION

A healthy, vibrant, and progressive community is built upon more than its infrastructure and amenities. The community of individuals that inhabit, visit, and care about the community create a foundation for a shared vision that establishes the community's unique future. This future grows into an identity, and the identity grows into a recognizable brand of experience for residents and visitors.

When the community of residents, visitor, and those who care about the community lack a shared vision, or perhaps have competing visions for the future of the community, progress can be undermined or in serious situations stagnate. Establishing a common shared vision for a community requires focused effort and cooperation. A common vision can build trust, capacity, and help focus limited community resources to accomplish cooperatively agreed upon community priorities and avoid wasting valuable resources on internal conflicts.

Interviews with community members, community history, regional demographics research, and inquiry into previous community decisions indicate that although fostering an inclusive community is a community priority, four distinct groups persist in the community. Based on observations of these community groups they have differing cultural backgrounds, social connections, ideological frameworks, and goals for the future of the region.

These groups appear to lack a common vision and the result is four groups that are at times competitive rather than collaborative. This creates a situation where limited resources are being diverted to individual group efforts that in some cases do not enhance the greater community whole.

Identifying the possible individual interests of each group and then working to conceptualize where those interests overlap can assist the community in building the needed social bridges between each group and the community as a whole.

Native American Population

Individuals and families that live on the nearby Navajo or White Mesa Reservations.

Pioneer Settlers

Individuals and families that identify with the heritage, ideology, and religious principles of the pioneer settlers of the area.

New Residents

Individuals and families that do not have pioneer heritage and have come to Bluff in the recent past. They are seeking to establish a Bluff that differs from its past.

New Commerce

Individuals, families, and businesses that have come to Bluff to capitalize on the natural amenities of the area.

NATIVE POPULATION

PIONEER SETTLERS

Respect for Nature

Fair agreements

Use of natural resources

Collaboration

Trade

Identity
Resilience
Connection

Natural
preservation

Love for
Nature

Economic
progress

Collaboration with
Native and outside
interests

Profit

Be part of the
community

Place to retire

Opportunities

NEW COMMERCE

NEW RESIDENTS
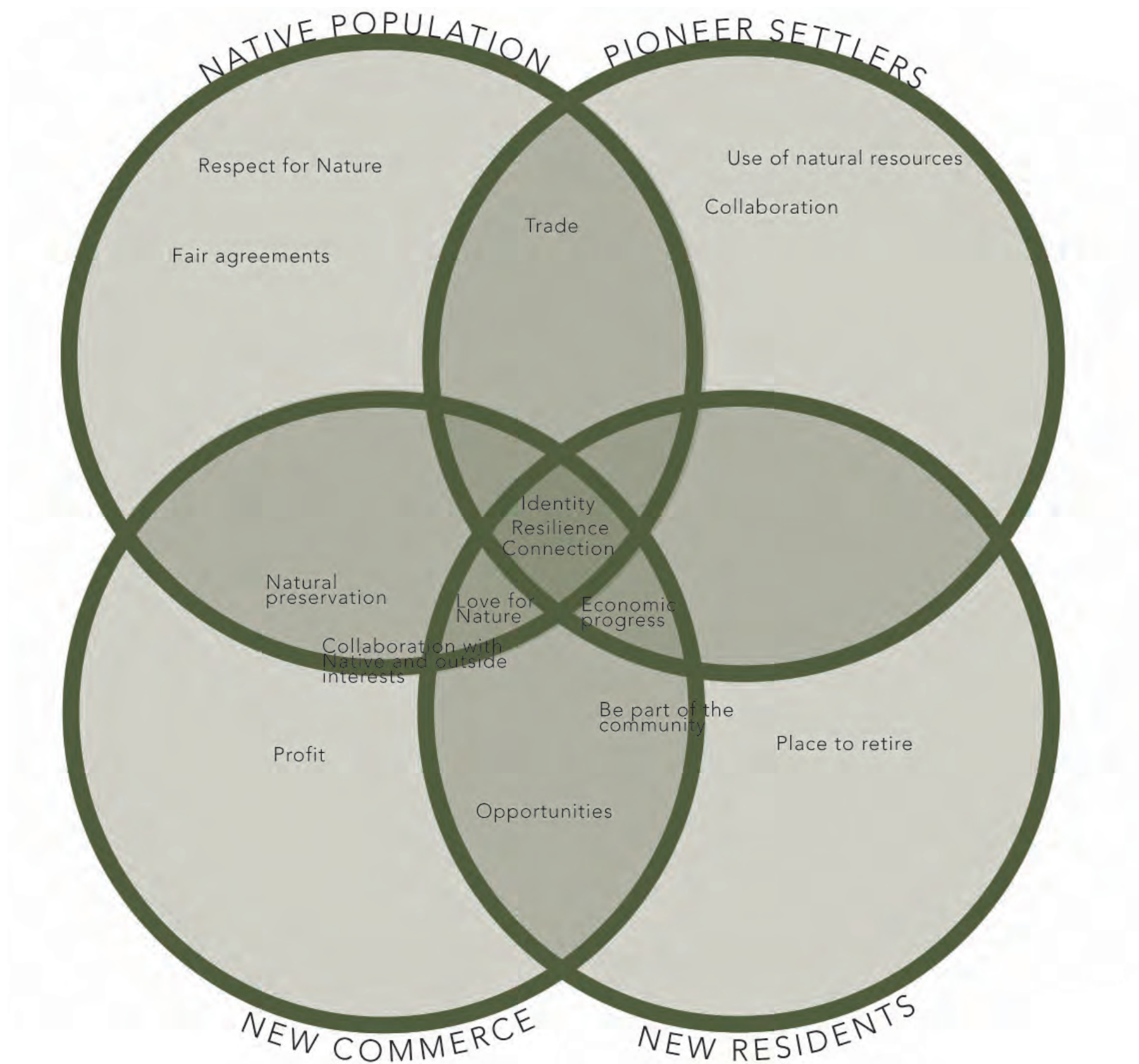
The Venn diagram is useful in discovering areas of common interest. While there may be other circles or groups not represented here, the principle is for each group to identify their interests and goals individually; then share with the other groups to find commonalities. Overlaps happen where two or more groups share a common interest. Assuming all parties are interested in developing the identity, resilience, and connections of Bluff, these are at the center where all groups overlap. The idea is then to start from the center and place additional interests based on where and how they are shared.

"IF WE DO NOT BELIEVE WITHIN
OURSELVES THIS DEEPLY ROOTED
FEELING THAT THERE IS SOMETHING
HIGHER THAN OURSELVES, WE SHALL
NEVER FIND THE STRENGTH TO
EVOLVE INTO SOMETHING HIGHER."
- RUDOLF STEINER

CONNECTING BLUFF: WALKABILITY

WALKABILITY

The use of non-motorized transportation is often critical to sustainability, economic development, and good public health. Walkability is a principle that determines how conducive an environment is to the presence and encouragement of pedestrian traffic. There are a few factors that encourage pedestrian use (aside from underlying infrastructure of sidewalks). These factors include: access to the destinations; whether or not the street is comfortable and legible--often accomplished through canopy protection, and buffers between pedestrians and automobiles-- as well as the presence of other people.

IS BLUFF WALKABLE?
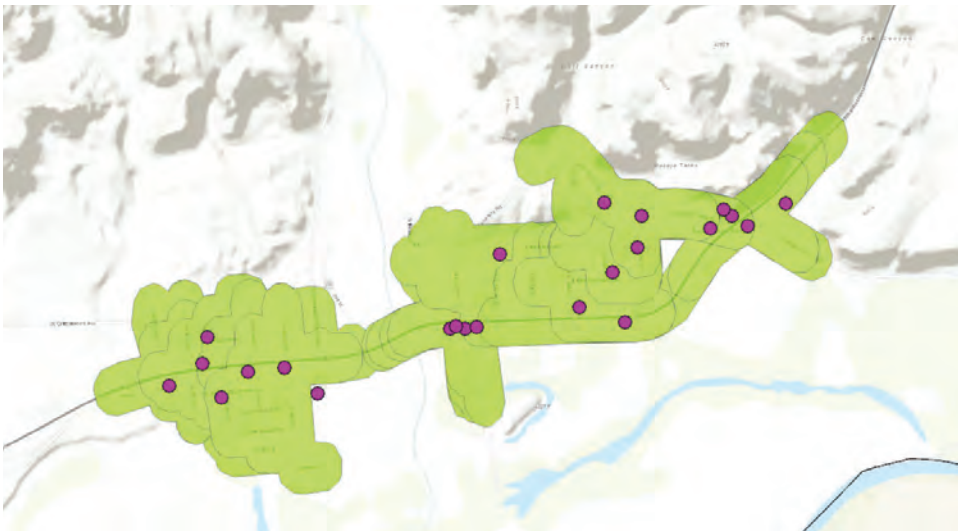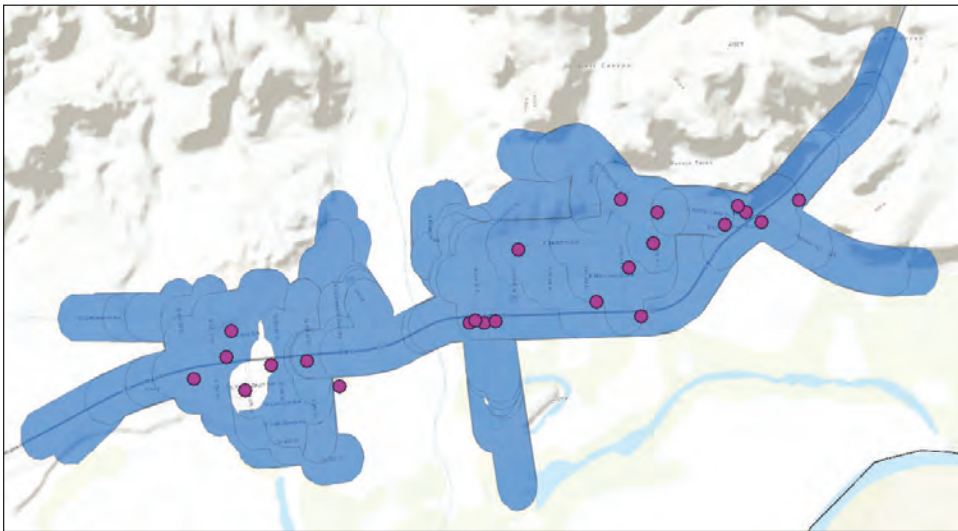
The first step in creating a walkable system is to determine the walkable distance from existing amenities. These amenities included:
- Restaurants
- Hotels/Motels/Inns
- Camping/ RV Parks
- Community spaces, and
- Educational facilities

In this specific case, a network analysis was conducted that illustrated a 1/4- 1/2mi. buffer along current roadways. This analysis is illustrated in the images to the right. When these two analyses are overlaid, it is clear that the current population of bluff falls within the 'walkable' zone (illustrated in the image below). This result then begs the question of "If the city is walkable, why, then, are people not walking?"

1/4 mi. WALKABILITY ANALYSIS

1/2 MI. WALKABILITY ANALYSIS

Main Street

Bluff Municipal Boundary
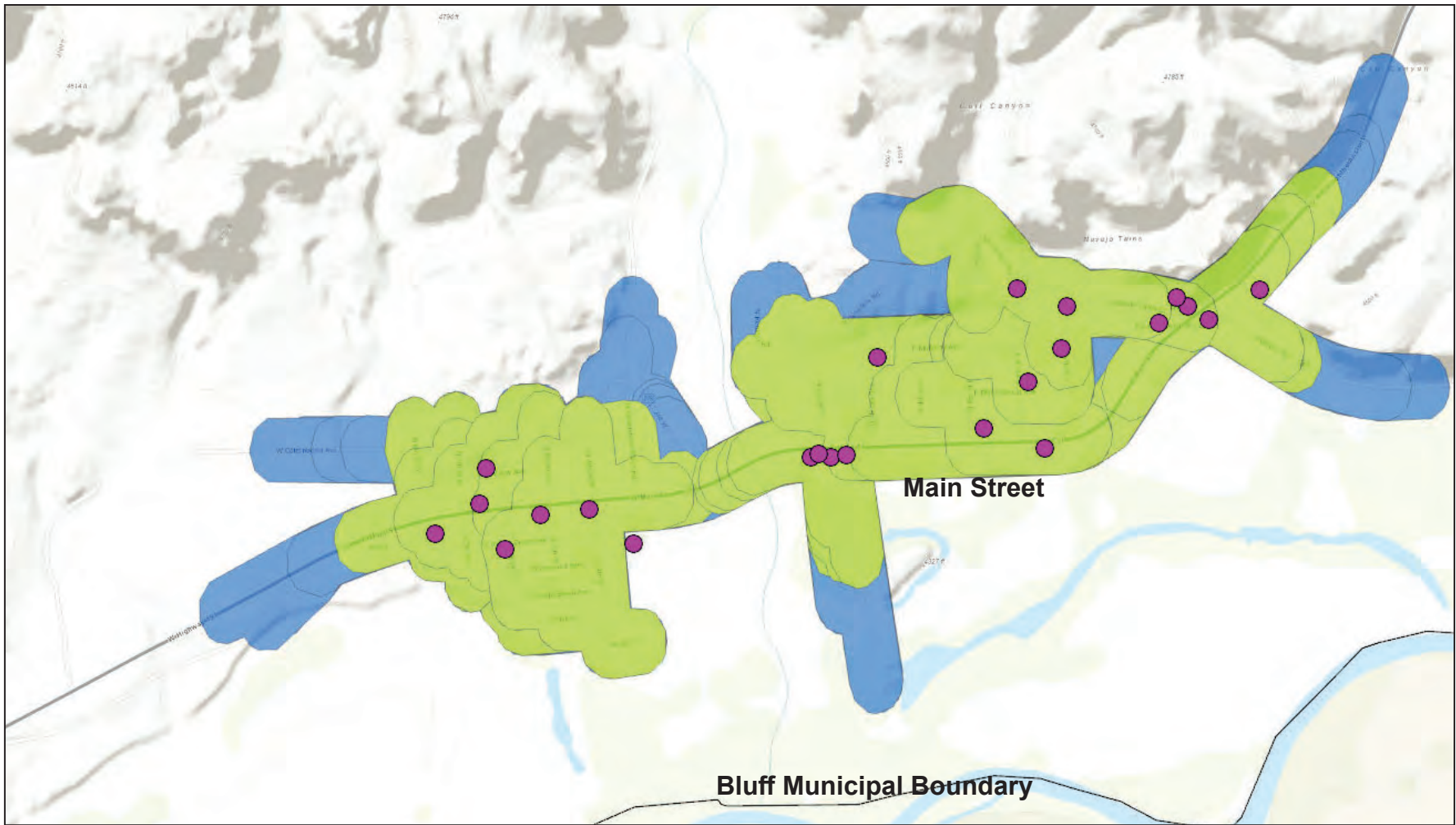
1/4-1/2mi. Walkability Network Analysis

INCREASING WALKABILITY

Walkability is an important factor in creating a resilient Bluff. This principle is defined as the extent by which the built environment is
inclusive to the presence of individuals living, working, shopping, or even just visiting area.
Factors affecting walkability include:

-Street connectivity
-Street frontages
-presence of trees and other vegetation
-multi-modal transportation designations
-Transparency, "eyes on the street"

There are also infrastructure factors that play a role in whether an area is walkable; factors such as: access to public transportation, footpaths, transportation designation- buffers between pedestrian traffic and automobile traffic, pedestrian crossings, and shade.

One of the factors that is preventing Bluff from being 'walkable' is the state of current infrastructure, as represented in the images at the far right. There is a lack of infrastructure conducive to pedestrian transportation. There are no footpaths or designated pathway, no vegetation to create physical or visual buffer, and an uninviting aesthetic. Currently infrastructure is conducive to automobile traffic, and while this is necessary, it is preventing visitors from "experiencing Bluff." As such the walkability analysis was considered and a design intervention was created with recommendation to address this issue.
This intervention seeks to create a 'Main street' along U.S 91 as it bisects the community, and a reconfiguration of transportation uses is illustrated reinforce the intervention recommendations. The Main street,and intersections are reconfigured with the intent to create a perspective that can elucidate ideas that Bluff can expand upon in the future.

The two columns of images to the right illustrate the difference between the current infrastructure, and 'feel' of Bluff, to other successful and walkable Cities in America.

Other Cities

Bluff

Seattle, WA Source: Culture trip

Naperville, IL Source: Placemakers

New York City Source: Archdaily

DESIGN - CONNECTION

Walkability

CREATING A WALKABLE BLUFF

INTRODUCTION

Bluff has a unique character not only from a landscape perspective but also from a social perspective. There is a diverse population with a rich and equally diverse history and culture. This is what makes Bluff, Bluff. However, this character, culture, and history is not apparent to those that visit. Bluff is occurring long the auxiliary residential streets, behind -the-scenes of the main thorough fare and there is no apparent identity along this 'main street' of sorts, as apparent in the images on the previous page. Creating an identity along the main thoroughfare -or- main street will allow visitors to understand "WHAT" and "WHO" Bluff is, and encourage visitors to stay and experience the town.

The diagrams to the left indicates how Bluff can create a visualized identity to create an experience along the main thorough fare to invite visitors to stay and explore.

STEPS

1- CREATE AN IDENTITY AND A 'PRESENCE' ALONG THE 'MAIN STREET.'

2- CONNECT THE PRESENCE OF THE 'MAIN STREET' TO THE AUXILIARY RESIDENTIAL STREETS.

3- CONNECT THE WALKABLE SYSTEM-THE STREET SIDEWALKS AND THE RESIDENTIAL PATHS- TO NATURAL TRAILS.

A third recommendation is not necessarily visualized in this intervention, but expands to future scenarios that Bluff can visualize as the city grows and develops. These steps will create a network of walkable paths through out the entirety of the city and connects the East and West sides, through connecting to natural trails this divide is bridged. By implementing these steps, Bluff can create a system by which visitors and residents can interact and communicate "WHAT" and "WHO" Bluff is.

Auxiliary Paths

Main street

Potential connections

The diagram to the left and corresponding images below depict recommendations to initiate the implementation of a walkable system in Bluff. The recommendations are geared towards creating an inviting atmosphere by which to encourage pedestrian use. These recommendations are also within the parameters of creating a legible town that has a clear and visualized identity. The reconfiguration of the main thorough fare and an example intersection, as depicted in the images below, are a means by which Bluff can portray "WHO" and "WHAT" they are to all who visit.

. These design recommendations incorporate the principles previously mentioned:
    -Footpaths,
    -Transportation designation- buffers between pedestrian
    traffic and automobile traffic,
    -Pedestrian crossings, and
    -Shade.
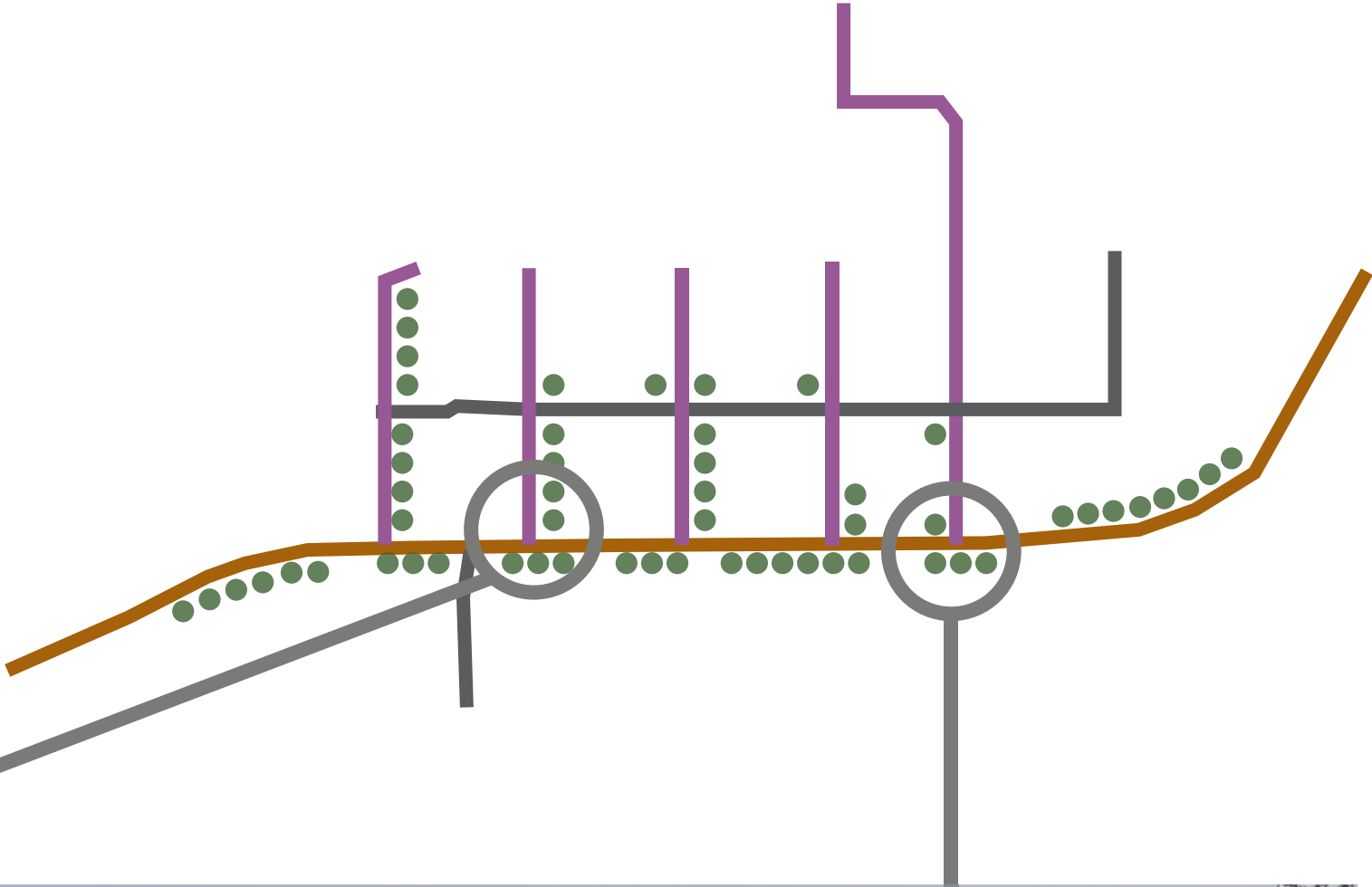
MAIN STREET RECONFIGURATION

The reconfiguration of the main thorough fare does not change the infrastructure of the road, nor does it impede traffic flow. However this depiction above merely bolsters the existing infrastructure through the addition of pedestrian footpaths. These are not traditional 'curb and gutter' sidewalks but rather suggested footpaths that can reflect through materials the identity of the community.
By creating pedestrian designated paths along the main thorough fare and designing spaces that support these footpaths, the environment of the 'Downtown Bluff' changes. The environment moves toward a friendly, and welcoming place for residents and visitors to mingle as they go about their daily activities. A concept that is currently embraced in the character of Bluff. Bringing this character to the street will allow visitors to immediately recognize the many assets that make Bluff what it is, and to encourage their stay and their return.

The addition of vegetative plantings between automobile and pedestrian traffic creates a physical barrier that provides protection and fosters a feeling of safety that is encouraging to pedestrian use. By including these barriers throughout the main through fare and auxiliary streets, this feeling of safety can add another layer to an overall atmosphere of welcoming geared toward pedestrian traffic. Within these vegetative plantings , alternating between trees and water-wise, native plantings the effect can be consistent throughout the town but the alternation can reduce the amount of resources need to maintain the vegetative barrier.

These simple changes over time can start to visualize the identity of buff along the street. This is an important concept as the town grows. It will allow visitors to see Bluff ass a destination rather than a pass through town.

INTERSECTION RECONFIGURATION

To create a walkable system throughout Bluff one f the considerations in creating an environment in which people feel welcome and safe, is pedestrian friendly intersections. These intersections, like the main street reconfiguration previously described, the infrastructure of the road system does not change nor does it impede traffic with physical barriers. Rather reconfiguring the intersections creates visual barriers that encourage automobiles to slow down .

As drivers slow down that can observe their surroundings , this is then a tool by which Bluff can relay their message and potentially capture more visitors.
The intersections themselves create visual barriers through the use of vegetation, and designated crosswalks. By creating areas that portray the assumption that people are nearby, will itself create a self perpetuating cycle and encourage people to use the spaces designed for them.
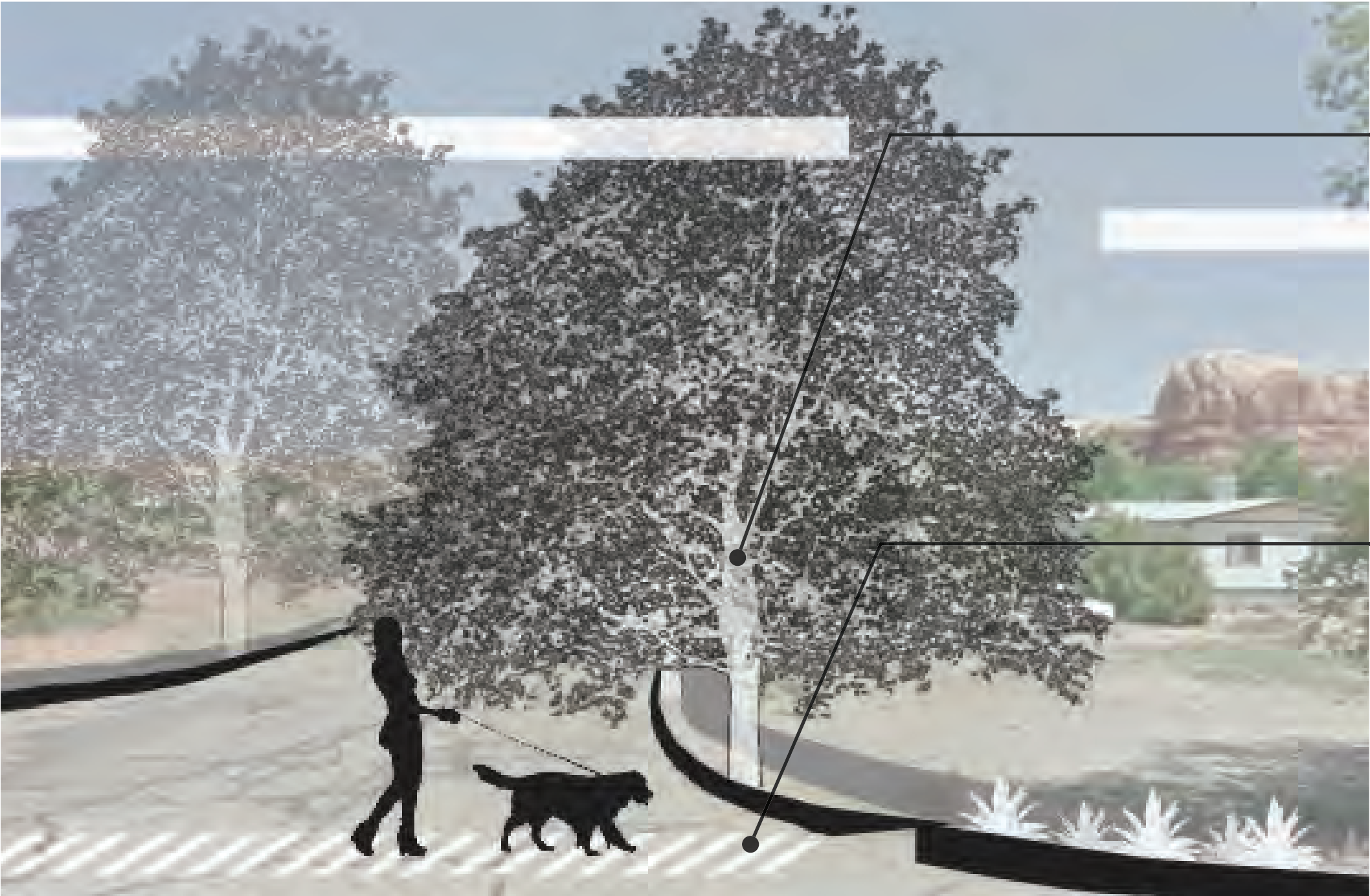
Vegetation

Implementing vegetative buffers around the intersections, creates visual barriers drawing the eyes of drivers. Thereby, in turn, encouraging them to slow down. This also creates a buffer for pedestrians and provides shade. These two factors also play a role in creating spaces that are welcoming and inviting to pedestrian use.

Cross walks

Implementing vegetative buffers around the intersections, creates visual barriers drawing the eyes of drivers. Thereby, in turn, encouraging them to slow down. This also creates a buffer for pedestrians and provides shade. These two factors also play a role in creating spaces that are welcoming and inviting to pedestrian use.

NEW SCHOOL INTERSECTION

With the movement and new location of the school, we propose enhancing the intersection adjacent to the new school to provide pull outs for cars as well as a safe/defined pedestrian crosswalk.

The proposed intersection provides turning lanes for each traffic direction. This is meant to keep traffic flowing and be user friendly.

Proposed School Intersection

EXISTING INTERSECTION

PROPOSED INTERSECTION CONCEPT

LOCAL MARKET POSSIBILITIES

| POTENTIAL LOCATION | PRINCIPLE 1 | PRINCIPLE 2 | PRINCIPLE 3 |
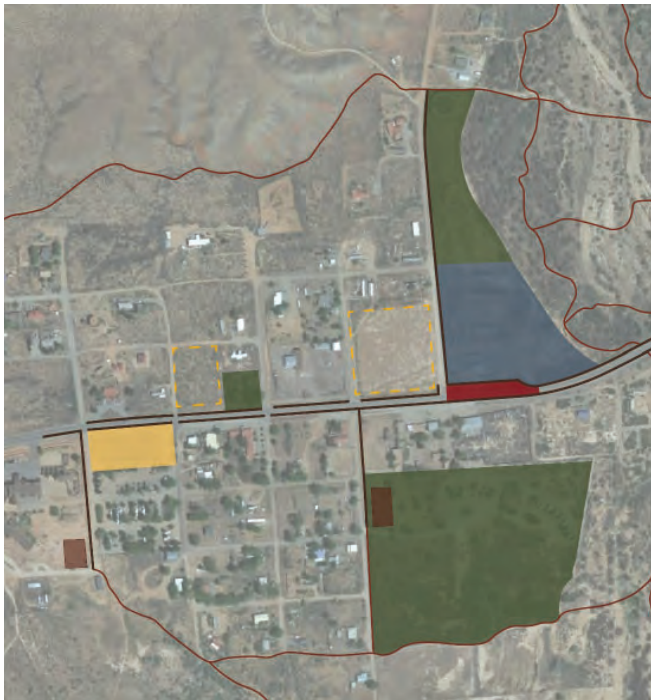
One of the major needs within the city of Bluff is a market that can provide locals and visitors with quality, affordable food. As things currently stand, residents are forced to leave the city in order to grocery shop. Some residents will drive as many as 2 hours in order to get the food that they want. Previous attempts to start a market have not been successful, mainly due to the small population of

Bluff. With future population growth expected, an increased customer base will be living in the city and could potentially support a local market. Planning ahead for this need will be important for those who want a community that you can live in without having to drive hours for essential life items.

SUITABLE LOCATIONS

In order to maximize the visibility of a market, it should be placed near one of the cores of Bluff. Having the storefront directly on the main road would be ideal for the businesses survival.

A location highlighted in yellow is shown above. This is an example of an area that would be ideal for a market based on the following:

· Sits along main road for visibility and ease of access

· Has suitable space for parking and delivery vehicles

· Located near the newest residential development

LOCALLY SOURCED FOOD

Ideally, any market located in Bluff would have its food locally sourced. This ideal is consistent with those of the community members. Potential partnerships with the proposed community gardens or with local farmers could be a method for achieving this goal.

Providing customers, both local and outside, with freshly grown food will make the market more attractive.

LOCALLY OWNED

Having an owner that is living in Bluff would be essential to the markets survival. Residents of Bluff are a tight knit group and would like to avoid any large retailers/stores from invading their unique city.

Local owners, in theory, would also be better at adapting to the communities wants and needs. Most of the other businesses within the city are locally owned, so continuing with that trend would be ideal.

UNIQUE TO BLUFF

Bluff has a unique character and feel to it. Ensuring that this identity is carried on with future developmental projects will be a major point of emphasis by the city. Any market looking to open in Bluff should be prepared to match their storefront to the design styles of the surrounding businesses and homes.

The community is full of artists and creativity. Many interesting ideas could be pulled from these people who have been living in the area for many years.

HOW 90% OF ELEMENTARY STUDENTS GET TO SCHOOL

The school buses that serve Bluff Elementary travel between 29 (Route 23) and 39 miles (Route 16) to get to school. Half of the travel is on unpaved roads which can become treacherous in mud season. The longest route (16) takes 1 hour and 25 minutes to complete. Research indicates that **commutes that last more than 15 minutes can cause stress and fatigue in elementary school children**. Short of adding one-room school houses on the reservation, the best way to address this problem is to find ways to shorten the commute time.

DISTANCE FROM BLUFF

SCHOOL CHILDREN'S DISTANCE FROM BLUFF ELEMENTARY

5
24
66

- Children in Bluff
- Children outside Bluff within 12 mile radius
- Children outside 12 mile radius
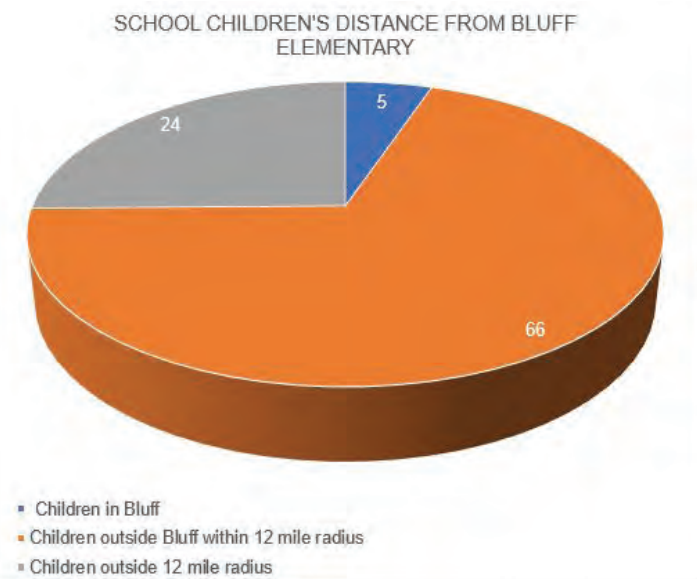
The School buses that bring students to Bluff Elementary.

BLUFF BUS ROUTES

Bluff Elementary
16 arrives 7:40am
23 arrives 7:58am

Busroute 16
1st pickup:
6:15am

11 road miles

Busroute 23
1st pickup:
6:47am

Busroute 16
7:07am

12 Mile Radius
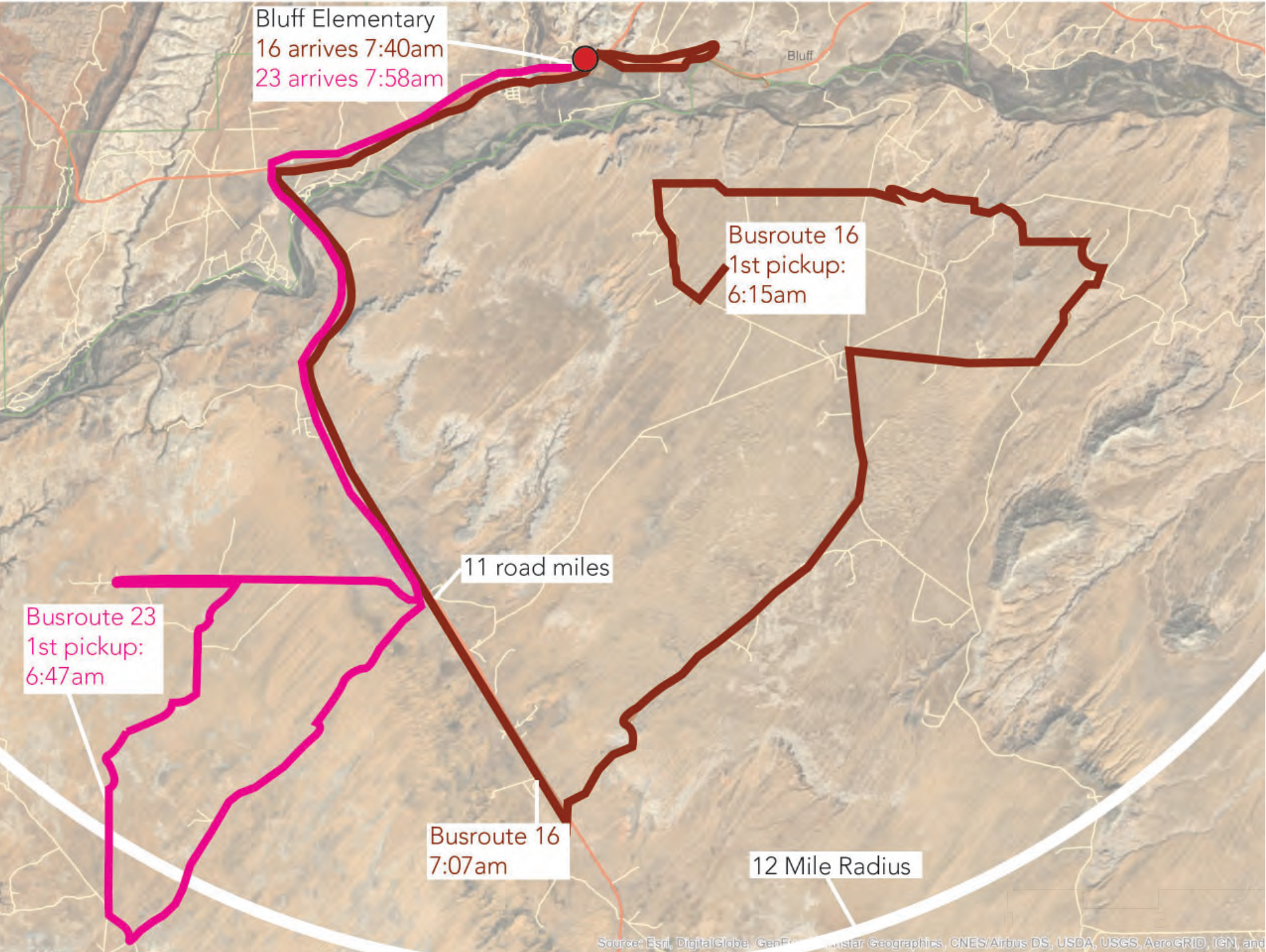
Current school bus routes within Navajo land. (Information from SJSD and ArcGIS base map.)

POSSIBLE SOLUTIONS

The longest segment of route 16 could be shortened by going across the river East of Bluff. Historically, there was a footbridge that enabled access and continuity between two roads that end at the river, but it gave out during a flood in 2006.

The green route covers 19 miles total and could cut as much as 30 minutes. Some adjustments would need to be made for Bus route 16.

In addition to the footbridge, there are other alternatives for crossing the river, including a gondola, ferry or a sturdy land bridge, however the footbridge has several advantages:

1. Price

2. Low to no operating cost

3. Does not require an operator

Bridge connects 2 existing roads where the old bridge used to be.

Map showing a possible way to shorten the longest segment to route 16.

Old Swinging Bridge, Bluff, UT

RIVER CROSSING SITE

Footbridge site showing roads and turn-around areas. The new span would be higher and between 550-600 ft in length.

The rationale for re-connecting two shores is based on cost evaluations, time-savings and operability. Whether this is of interest to the different groups in Bluff is another question. A footbridge can connect more than schoolchildren to a shorter way home. St. Christopher's Episcopal Community could again provide outreach to the residents across the rive; the bridge could become an attraction in itself. It can help bridge the chasm that separates North and South and help a young community find a path to improved and strengthened identity, resilience and connections.

FOOTBRIDGE PRECEDENTS

Hardware connecting bridge to terrain

Highline 179

Hanging footbridge at Zermatt, Switzerland

River Crossing

PLANNING & DESIGN

IDENTITY

EXPERIENCING BLUFF

In response to a couple of the analyses, many of the design interventions were located within town and explored the identity, connections, and resilience of the community. A focus of these design interventions was to build upon the foundation and enhance the legibility of the town. This will provide the community and visitors experiences to connect to the town and with each other.

The design process began by looking at the experience along the main thoroughfare of Bluff. We identified 'moments' where something was happening currently or were it would be beneficial to have something happening. This led to a proposed 'choreography' for the main street as it passes through Bluff.

Based on this proposed 'choreography' different areas within Bluff were identified for further design interventions, provided further in this document.

1 ARRIVALS

Part of legibility and identity is knowing where and when you are within a town. Bluff currently bleeds into the surrounding landscape and doesn't have a clear moment of arrival, though there are existing features in place that are a foundation for creating the 'moment' of arrival. If these features were emphasized there would be a clear experience of coming and knowing that you have entered Bluff.

2 NATURAL - RURAL EXPERIENCE

Part of the beauty of Bluff's character is the rural feel. To enrich this feel and bring it into the experience along the main road. This proposed section of town could be a natural, maintained area that makes it clear that people are still in Bluff even though there aren't houses or businesses along this portion of the road. This can be an opportunity to incorporate the trail system as well as provide education opportunities of the natural environment.

3 ATTENTION GRABBER MOMENT

Coming around the corner of the road allows for a unique opportunity to 'pull' people into Bluff as well as enhance the identity of the community. This could be accomplished by continuing the natural rural feel through a natural pocket park with an art sculpture that captures the character of Bluff.

4 HISTORIC DISTRICT

One of the proposed cores in this design intervention is within the main blocks of the historic area of town. The design along the main road will help guide individuals and inform them where they are and what there is in Bluff. It will also encourage walking and biking along the road. The community core within the historic district will be an area for the community and visitors to come together to learn, engage in the arts, and fall in love with Bluff and the surrounding environment.
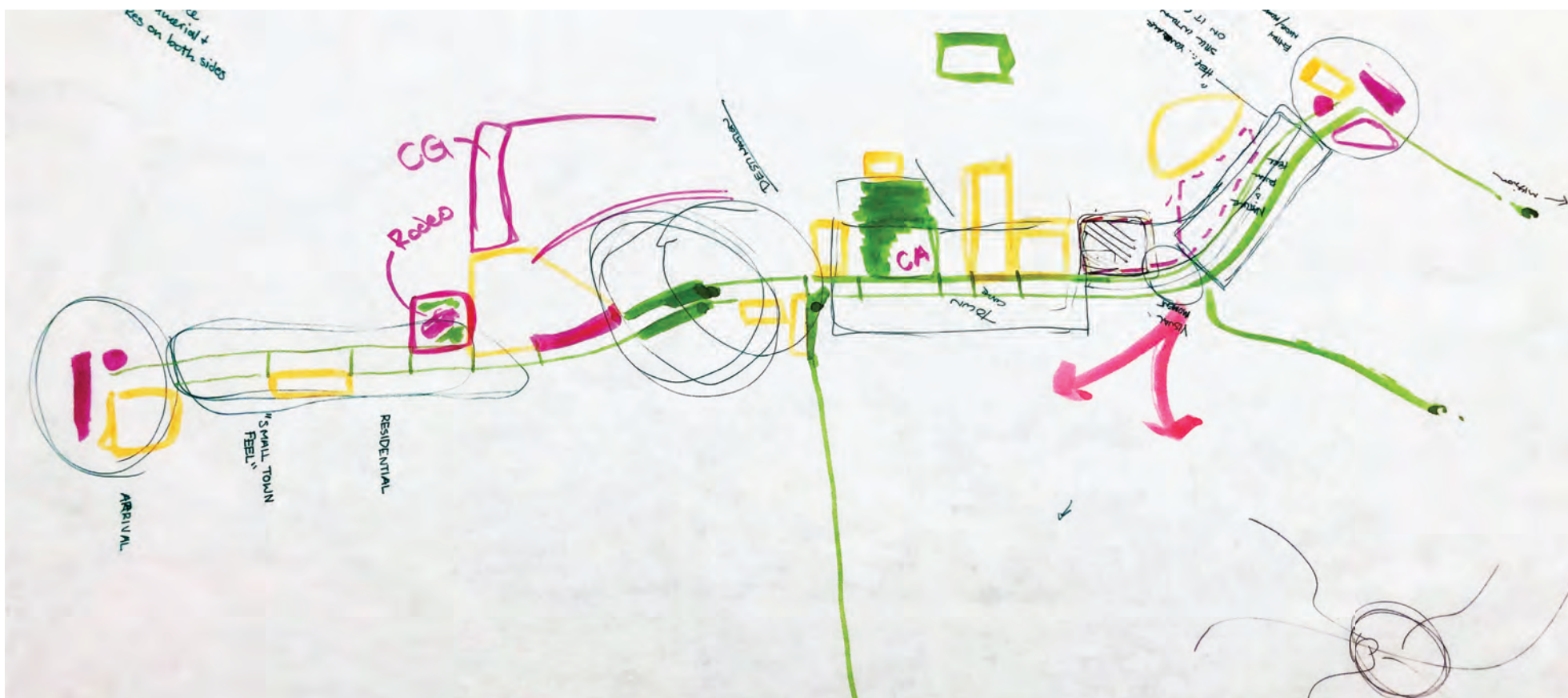
5 NATURAL CONNECTION

This area is currently the only formal connection between the east and west sides of town. This design intervention proposes more connections and strengthening the current connection. This area should be a continuation of the town feeling instead of being a break in the experience.

6 WEST DISTRICT

The west district currently doesn't feel or look like the east side of Bluff. It doesn't need to look like the other side but to make the whole town feel like one, this design intervention proposes ways to bring the two sides into a whole. The west district has the other proposed core of town to build upon what currently exists there as well as enhance the experience on that side of town.

TOWN CONCEPT PLAN

DESIGN ELEMENTS

The town concept plan was developed from the 'choreography' of the experience of town. This design concept identifies locations for the proposed design interventions as well as how they would be connected.

The following design elements are spatially located to create the proposed experiential choreography of Bluff.

1   ARRIVAL DESIGN

2   NATURAL POCKET PARKS

3   ART ATTENTION GRABBER

4   TEMPORARY ARTS AND CULTURE CENTER

5   COMMUNITY CORE

6   SCHOOL INTERSECTION

7   NEW ELEMENTARY SCHOOL

This is the site of the new elementary school. This is not a proposed design intervention of this design concept.

8   COMMUNITY AGRICULTURE SYSTEM

9   BLUFF CAMPGROUND

10 AFFORDABLE HOUSING

11 BLUFF MARKET

12 TRANSFER STATION

These are proposed locations for the transfer station. The transfer station was considered during the design process but wasn't taken further by developing a design for it. It is still included in this concept design because we did consider and discuss where it could be located.

13 WALKABILITY - SIDEWALKS

14 WALKABILITY - TRAILS

ARRIVAL

Bluff Park, existing trees

Markers, stone or cairns, to continue the character of Bluff throughout Main Street

Native plantings along Main Street

Existing buildings, (Mokee Motel, etc.)

Existing sign

New native plantings give the existing sign a backdrop and screen distractions

Matching cairn is mirrored on the road to create a gateway into Bluff

Existing vegetation

BLUFF
UTAH
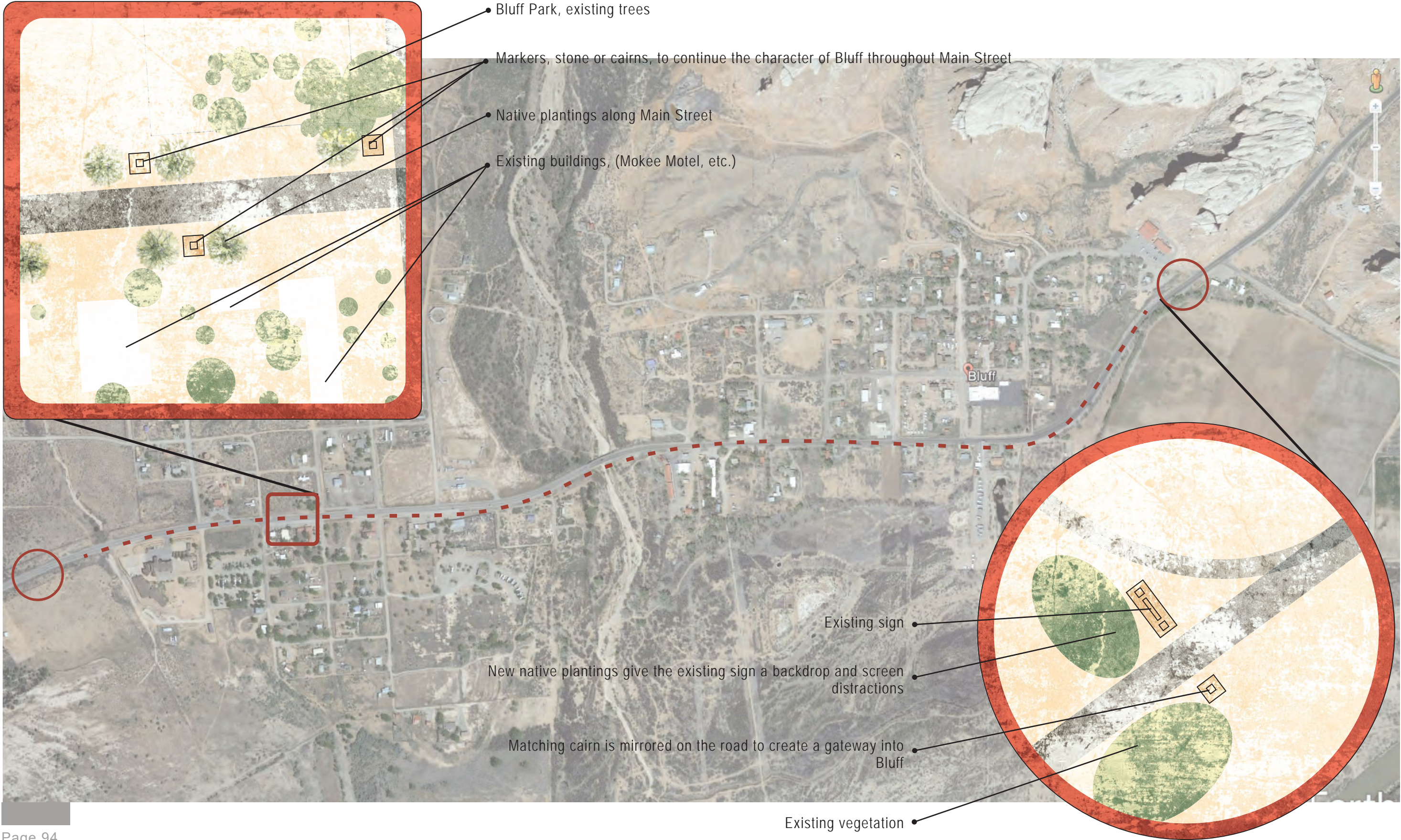
ARRIVAL - APPROACH PRECEDENTS

WEST YELLOWSTONE, MONTANA

Coming into town the trees give way and you are greeted with log and timber structures.

This theme continues throughout town, encompassing homes and businesses, even McDonald's is built in a timber theme.

MIDWAY, UTAH

Approaching Midway, a park greets you with a Swiss themed pergola. The town sign amplifies this theme.

The architecture gives you a feeling of heritage, and ties the town together. People flock to experience the magic of Swiss Days.

KANAB, UTAH

Kanab's stone signs mark the entrance to the town, and pioneer styled homes are built from local materials.

Sandstone pillars line Main Street, giving a clear understanding of where you are and the identity of Kanab.

ARRIVAL - IMPLEMENTATION

BLUFF, UTAH

Bluff's signs set the theme of the town, but they don't stand out well. Note the clutter behind the sign in the left picture above making it hard to see from the road.

Pioneer era homes have strong character. Carrying this sandstone theme onto Main Street would strengthen Bluff's identity.

BLUFFS IDENTITY

Precedents can help illustrate how communities have implemented elements well, and give examples of how to implement ideas. This is done through architecture, materials, streetscapes, form based code, etc.

By implementing some of these ideas Bluff can strengthen its identity and create a stronger bond to the landscape.

- Regular markers along Main Street. This brings repetition and a rhythm to the streetscape that creates an identity and guides people along.

- Strengthen the arrival by building a gateway that mirrors the current signage, and planting for screening and backgrounds.

- Implement materials that tie into the landscape and early architecture styles. This is done by guiding streetscape and building styles. It re-enforces Bluff as a town that belongs, and harmonizes with the history and the surrounding landscape.

ATTENTION GRABBER MOMENT

Part of the character of Bluff is the artistic culture. To enhance this and bring this character to the main thoroughfare of Bluff, an art installation is proposed to capture the attention of those traveling within and through Bluff. Additionally, this will support and help define the identity of the community.

The sculpture is proposed to be within the natural pocket park. Additionally, it is adjacent to the proposed temporary Arts and Culture Center (refer to the Arts and Culture Center design intervention). The following images are examples of what kind of sculpture that could go here.

In deciding what sculpture to install, a design competition could be done to encourage local artists to invest in the community as well as help create the identity of Bluff.

COMMUNITY CORE

To help with Bluff's legibility, a central location is needed for community and tourist activities. The purpose of the following proposed design is to create a space for people to come together and socialize, learn, and experience Bluff and the surround environment. It's a space to tie the community together and allow tourists to experience the diversity and highlights of Bluff.

The proposed space for this community core is a Arts and Culture Center and a park linking the proposed center to the existing community center.

Going into the design process we wanted to make sure that the interface between the community and tourists was defined but also integrated. Bluff should feel like one town and not have a separate tourist and community section. The park design is meant to allow for the community and tourists to come together and mingle.

Additionally, the following concerns revealed by the analysis were addressed: conservation through education and awareness, seasonal operation of Bluff, and attracting more diverse age groups.

Community Center

Proposed Community Core

Existing Elementary School

COMMUNITY CORE - PRECEDENTS

NK'MIP DESERT CULTURAL CENTER

The Nk'mip Desert Cultural Centre in Osoyoos, British Columbia is an award-winning interpretive center owned by the Osoyoos Indian Band. It features many educational opportunities and exhibitions to learn about the regional Native American culture and art. Its architecture blends with its surroundings and the center creates meaningful tourism in Osoyoos.

BRINTON MUSEUM

The Brinton Museum in Big horn, Wyoming is located on a historic ranch and features four galleries of art collections and Native American relics. It's architecture blends seamlessly with its surroundings and includes the tallest rammed earth wall in North America. It regularly hosts regional and local art shows featuring the work of both professional artists and students.

BANFF CENTRE

The Banff Centre for Arts and Creativity in Banff, Alberta is a creative campus that offers non-degree educational programs. It regularly hosts events such as performances, classes, workshops, and a film festival. It has become an icon for various disciplines of the arts and brings year-round activation to Banff.

INDIAN PUEBLO CULTURAL CENTER

The Indian Pueblo cultural center in Albuquerque, New Mexico is owned and operated by the 19 Indian Pueblos of New Mexico and is dedicated to the preservation and continuation of their culture, art, and history. It features a museum and many events and educational programs to educate visitors of native traditions.

BLUFF ARTS AND CULTURAL CENTER

CREATING A COMMUNITY CORE

To help with Bluff's legibility, a center of town is needed for a location for central community and tourist activities. This purpose of the following proposed design is to create a space for people to come together and socialize, learn, and experience Bluff. It's a space to tie the community together and allow tourists to experience the diversity and highlights of Bluff. The proposed space for this community core is a Arts and Culture Center and a park linking the proposed center to the existing community center.

For the short-term, the Arts and Cultural Center could be located in the old elementary school, while a long-term plan could include a designed space near the community center and a connecting park.

DESIGN PROCESS

Going into the design process we wanted to make sure that the interface between the community and tourists was defined but also integrated. Bluff should feel like one town and not have a separate tourist and community section. The park design is meant to allow for the community and tourists to come together and mingle.

Additionally, the following concerns revealed by the analysis were addressed: conservation through education and awareness, seasonal operation of Bluff, and attracting more diverse age groups.

The idea behind the design of the park was to reflect the San Juan river and Cottonwood Wash. Both of these have and continue to have an impact of Bluff. It is both life giving and a barrier for the city. This design celebrates the river while tying Bluff together. The activities within the park were designed to celebrate the diversity that is a part of Bluff and create gathering space, educational opportunities.

PHASING
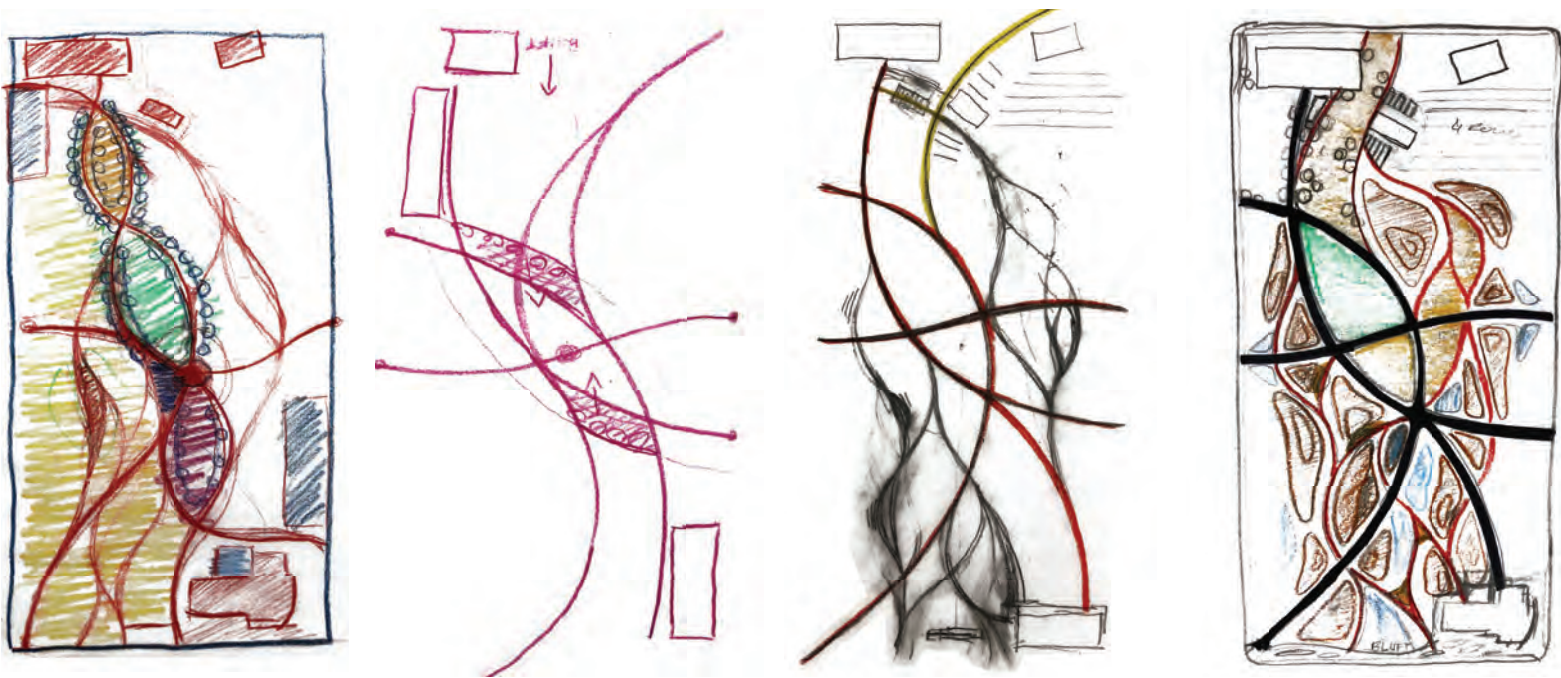
COMMUNITY CORE - EVENTS AND PROGRAMS

MUSIC PERFORMANCES

NATIVE AMERICAN TRADITIONS

WORKSHOPS

LECTURES SERIES

PURPOSE

- Educate residents and visitors through various forms of art
- Enhance the identity of Bluff
- Create meaningful tourism and year-round activity
- Contribute to more economic opportunities for artists, business owners, and other residents
- Create opportunities for diverse age groups to live in Bluff

PROGRAM

- Photography/Art Exhibitions
- Music/Dance Performances
- Virtual Archaeological Site Educational Tours
- "Visit with Respect" and "Leave no Trace" Training
- Lectures series featuring artists, climbers, archaeologists, etc.
- Workshops
- Film Festival
- Educational Courses

COMMUNITY CORE - PARTNERSHIPS

CREATIVE PROFESSIONALS

Many different professionals and creative minds have ties to the Bears Ears region. This presents an opportunity to involve them with the Arts and Cultural Center in Bluff through exhibitions, lectures, and workshops specific to their disciplines. This would provide world-class educational experiences while also creating revenue for Bluff. Examples of creative professionals that could be approached about involvement are Renan Ozturk, who is a National Geographic photographer, artist, and climber; Stephen Alvarez, who is a National Geographic photographer and founder of The Ancient Art Archive; and Aron Huey, who is a National Geographic photographer who does a lot of work with documenting archaeological sites with photogrammetry techniques and presenting them to audiences in virtual reality.

Other relevant professionals include climbers, geologists, archaeologists, biologists, and story tellers who could all share stories and experiences through lectures, workshops, and in the field demonstrations.

The Arts and Cultural center also provides opportunities for partnerships within Bluff such as between Friends of Cedar Mesa and Fort Bluff. These two groups have traditionally not worked together, but this idea could bring both together the venue could host events from both organizations and be a place where the whole community can gather.

argonautphoto

51,325 views · Liked by drewandkylie and lindbergt91
argonautphoto Watch for the handprints on the ceiling! This is a virtual model (made up of thousands of photographs stitched together into a virtual object) of Ancestral Pueblo granaries on Cedar Mesa, in what was formerly #bearsearsnationalmonument in Utah. This looks like video but it's actually #photogrammetry. This project to create scientifically accurate models for conservation and education was created with my partner @devlin_gandy and made possible by a grant from @insidenatgeo. These experiences can be shifted to provide ways for elders to visit Ancestral sites, for kids in urban areas to learn about
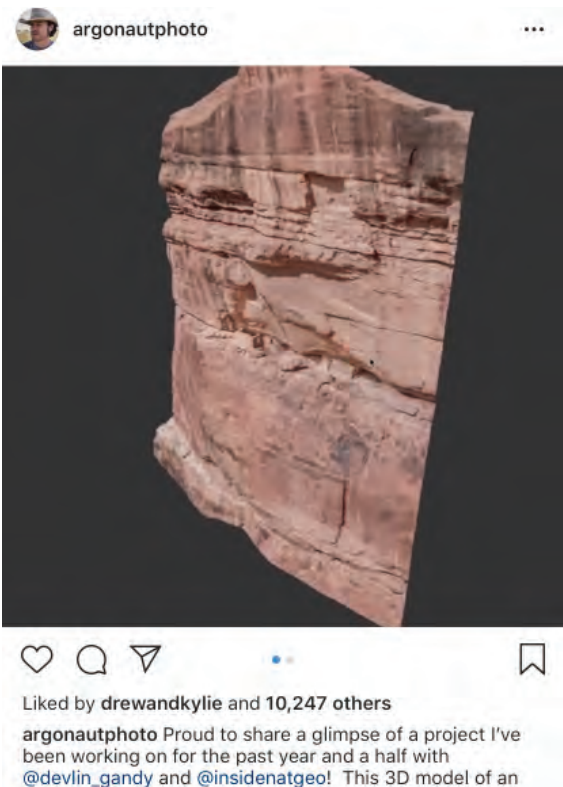
salvarezphoto

Liked by ancientartarchive and 4,995 others
salvarezphoto A procession of human like figures stream above large deer engraved on a canyon wall in the Bears Ears National Monument. I had climbed up to this beautiful petroglyph panel to shoot a time lapse as the milky way rose behind it, but as dawn broke this morning I realized this might be the better photograph. I'm in the west working on an @insidenatgeo and @ancientartarchive project to look at rock art in Western National Monuments. #BearsEars #visitwithrespect

renan_ozturk
Bears Ears National Monument

ancientartarchive

Liked by drewandkylie and 2,734 others
ancientartarchive Standing watch day and night theses Basketmaker engravings have looked over the San Juan River in Southern Utah for centuries. They are larger than life and this panel wraps around a commanding cliff face. There are hundreds if not thousands of engravings. The Basketmakers (1500 BCE-750 CE) flourished in the Southwest for over a thousand years. The culture spans the introduction of corn from Mesoamerica and the adoption of the bow and arrow. The most striking remnant of those

argonautphoto

Liked by drewandkylie and 10,247 others
argonautphoto Proud to share a glimpse of a project I've been working on for the past year and a half with @devlin_gandy and @insidenatgeo! This 3D model of an

renan_ozturk
Bears Ears National Monument

Liked by drewandkylie and 17,375 others
renan_ozturk I never used to call this place I cherished "Bears Ears." This has been a recent phenomena since the designation, and subsequent 85% reduction, of the most beautiful National Monument I've ever called home. But the change in name is meaningful, inclusive of its American

COMMUNITY CENTER PARK

THE HEART OF BLUFF

- Create a strong community core
- Tie Bluff to the surrounding environment, cultural history, and the arts
- Provide a central gathering space for festivals and other activities
- Have areas for art/sculptures for festivals
- Provide a farmers market space
- Integration of existing community center and community kitchen
- Create a meaningful relationship between the community center, the Arts and Culture Center, and the community kitchen
- Recreation and passive play environments
- Native vegetation and character
- Multipurpose flex spaces
- Outdoor classrooms and workshop spaces

1. Community Center

2. Community Kitchen

3. Community/Farmer Market Space

4. Orchard/Vegetable Garden

5. Central Lawn

6. Storm Water Retention

7. Decomposed Granite Paths

8. Concrete Paths

9. Arts And Culture Center

10. Bluff Entrance Signage

11. Outdoor Exhibition Space

12. Historical Use Garden

13. Workshop Spaces

14. Art Sculpture Area

15. Native Garden

16. Edible Garden

17. Natural Playground

Image Not to Scale

N
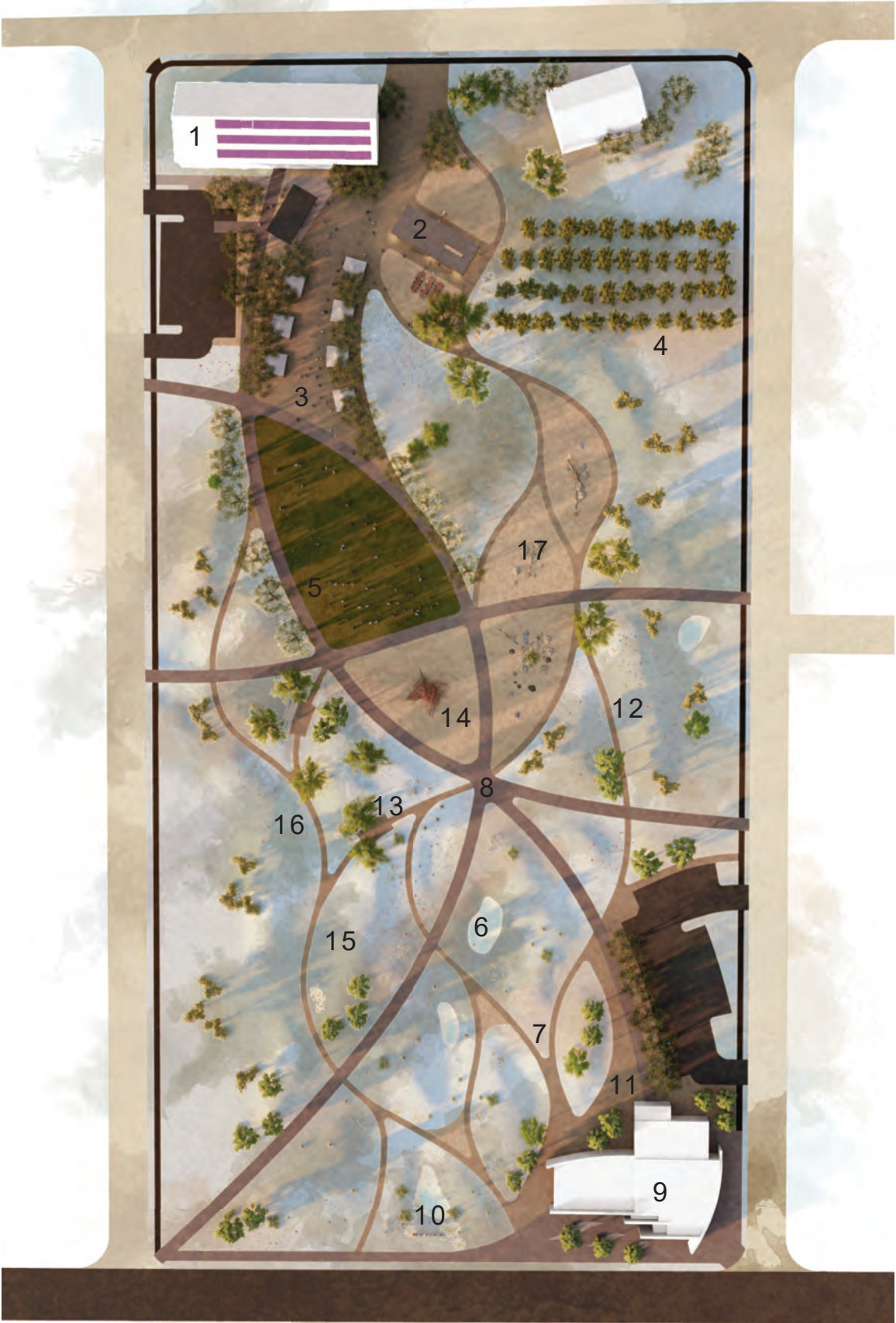
COMMUNITY BENEFITS

An Arts and Cultural Center in Bluff would provide a wealth of opportunities and positive impacts for growth. It would be a way to create meaningful tourism that encourages education and conservation of the areas natural and historical features. It would also provide year round activation for the City of Bluff and could host a variety of exhibitions, lectures, and events focused on various forms of art and culture. An Arts and Cultural center could also help diversify the age groups of Bluff's permanent residents and attract youth.

FUNDING AND NEXT STEPS

Steps that Bluff can take to start small can be to create a temporary Arts and Cultural Center in the elementary school when it relocates. Based on the center's success, a more permanent and long-term location might be considered after several years. Funding options for a permanent Arts and Cultural Center might include grants, outdoor industry companies that have shown dedication to the Bears Ears area, 3rd party companies or non-profits, and potential city tax programs where tourists pay a small fee for services they purchase in Bluff that would directly fund the Arts and Cultural Center.

NATURAL POCKET PARKS

Part of the character of Bluff is the rural feel and the natural environment around it. To enhance this and bring this character to the main thoroughfare of Bluff, natural pocket parks are proposed in a couple of locations.

These are spaces within the town that the community and visitors can connect to the natural environment. These can be like the following images with trails through and connected to them.
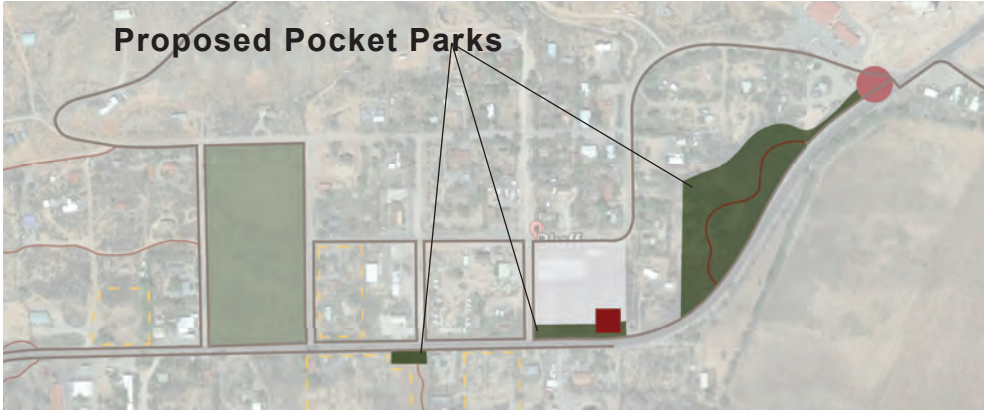
DEMONSTRATION GARDENS AMWUA

Proposed Pocket Parks

PLANNING & DESIGN

RESILIENCE

RESILIENT BLUFF

INTRODUCTION

As communities grow and develop, it becomes important to create a clear vision and identity for the community. This ensures that the character of a place is not lost amongst development. Communities that can grow and evolve with change and maintain not only their character, and identity, but also their context within the surrounding natural systems, are classifies as 'Resilient Communities.' Bluff, as a recently incorporated municipality, has a unique character and social structure, and while Bluff is not growing rapidly it is in a state that is, and the external pressures related to this growth will increase long term. How Bluff responds and adapts to thee external pressures will determine the success of the Town
long-term.
There are 10 principles common to resilient communities, these are:

1.   Understand vulnerabilities
2.   Strengthen job and housing opportunities
3.   Promote equity
4.   Leverage community assets
5.   Redefine how and where to build
6.   Build the business case
7.   Accurately price the cost of inaction
8.   Design with natural systems
9.   Maximize co-benefits; and
10.   Harness innovation and technology

These are principles that do not themselves create self-sustaining communities, but are often resultant characteristics of such communities. While few principles are not immediately adaptable to Bluff, the majority of these principles are; but together they create a road-map for creating a resilient Bluff.

Currently there is a lot of open space which can be found throughout Bluff, especially on the newer, west side of town. Much of this open space holds a lot of potential for the town while being a major part of the aesthetic quality of the place. Also, there are many historic aspects to Bluff. Both of these aspects, open space and history, were instrumental in the final design intervention.

FARM PROPERTY ON WEST SIDE OF BLUFF

OPEN SPACE ON WEST SIDE OF BLUFF

THE PROBLEM OF UNCONTROLLED GROWTH

Currently, because there is so much open space and a lack of development controls, Bluff is open to the interest of large scale developers and the associated businesses. This would mean that Bluff's beautiful landscape could easily be filled with cookie cutter tract homes, vacation homes and big box businesses. This kind of development has the potential to destroy the character and community feel of town.

Below is a overhead view of what Bluff might look like if uncontrolled growth occurred. As you can see, a lot of the open space is gone and there is space for two big box businesses in town. Either way, this kind of development does not serve the interests of residents and visitors of Bluff and erodes the authenticity and character of the place.

Below illustrates what Bluff could look like under uncontrolled growth from the main road. In this particular case, we are looking at the large piece of property on the west side of town which used to be a farm. In this future scenario, the property has become the town's largest subdivision which is very popular with secondary home owners.

BLUFF WITH UNCONTROLLED GROWTH INCLUDING COOKIE CUTTER HOMES AND BIG BOX BUSINESSES.

UNCONTROLLED GROWTH FROM THE STREET.

CONCEPTUAL PLAN

A CONCEPTUAL PLAN FOR A FUTURE BLUFF

To the right is a conceptual plan for what Bluff could look like. It includes a variety of areas including:

- Civic/Commercial Centers

- Residential/commercial/mixed-use areas

- Nature conservation areas

- And an area for homesteading properties

Most importantly, this plan delineates the boundaries for any major development which will happen in Bluff. This allows town to have less of an impact on the surrounding landscape. Plus, it encourages infill in pre-existing available space that exists in town. Overall, a plan similar to this would better serve the citizens and visitors of Bluff.

LEGEND:

Homestead Properties

Civic/Commercial Centers

Residential/Commercial/Mixed-use Areas

Conservation Areas

—— New Roads
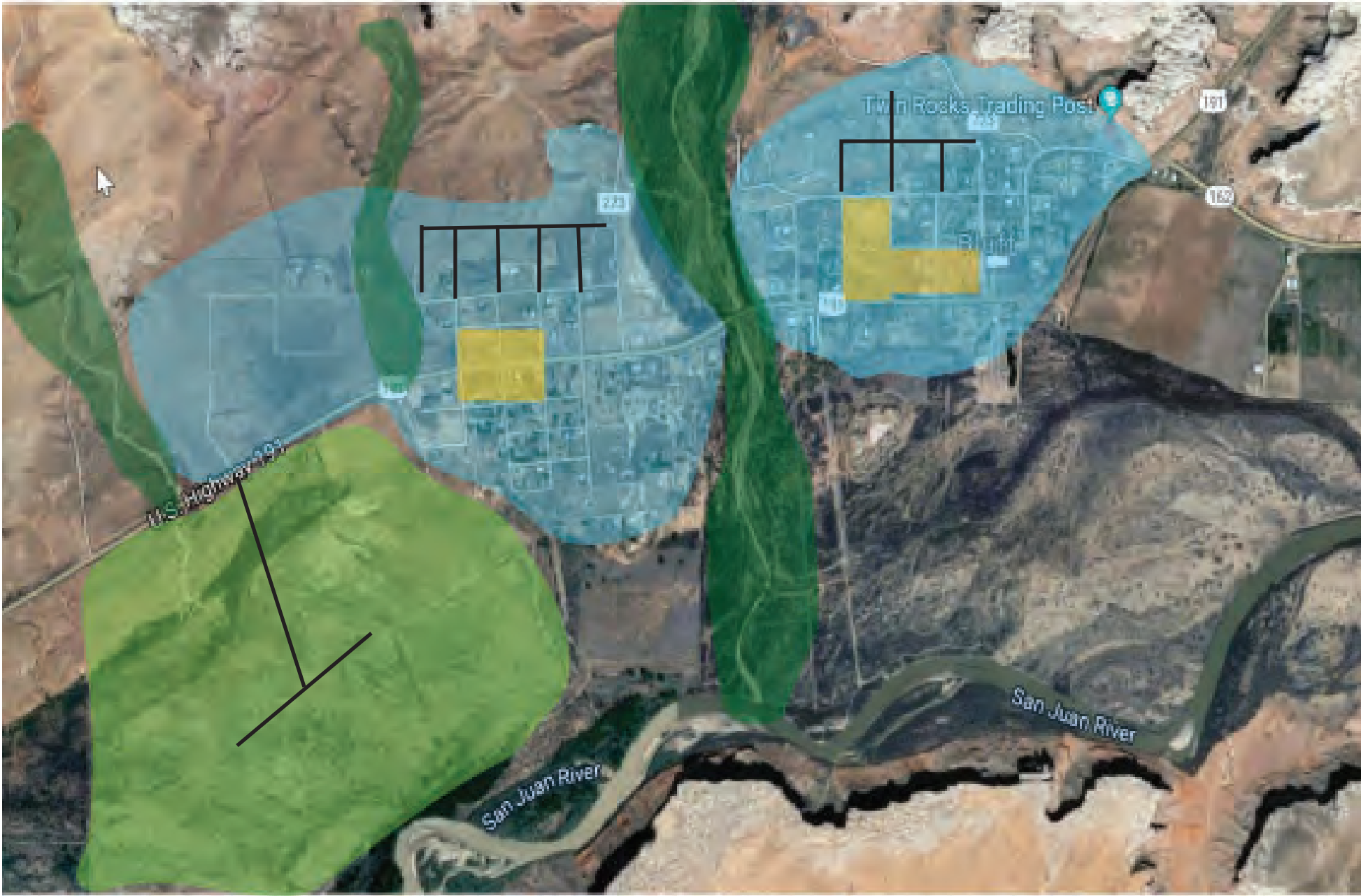
BLUFF AS IT COULD BE

Here you can see what a possible future version of Bluff would look like if the conceptual plan was followed. In this Bluff, growth has been limited to an acceptable amount. There has been some new houses built throughout town, but they blend in to what has been there for generations. The Subdivision on the west has turned out differently than expected with civic spaces and some small businesses. To list elements off, the neighborhoods of Bluff would ideally have:

• Civic space, street walking appeal, accessory dwelling units, "gifts to the street", lovable edible gardens, places to eat, bed and breakfasts, cottages, and mixed use units.

These elements allow the town and the neighborhoods to thrive together and be resilient. For example, mixed use units, accessory dwelling units, and cottages can provide affordable housing to young families and summer workers. They, along with bed and breakfasts could provide lodging for tourists. Plus, having small businesses like bed and breakfasts and places to eat could provide employment opportunities for town residents. On the next pages we will look at how these elements would be applied specifically to town blocks and the homestead properties.

Legend:

Homes

Small Businesses

Civic Space

Privately Owned Open Space

PATTERNS FOR BLOCKS IN BLUFF

EAST SIDE BLOCK

WEST SIDE BLOCK

What's on these blocks?

Existing building

New building

Cottage

Vegetable garden

Block open space/ pocket park

Accessory dwelling unit

Orchard

Ornamental garden

Bed and breakfast

Boardwalk

HISTORIC PATTERNS

Above are two patterns for what blocks in Bluff could look like. They incorporate all of the elements that were discussed on the last page as well as elements which were in the development analysis. This means that along with the elements for the neighborhoods of Bluff, there are orchards and vegetable gardens scattered around each block. The East Block can serve as a pattern for those blocks with a lot of existing buildings, like those on the East side of town. And the West side block can serve as a pattern for new blocks, or those with only a few buildings, like many of those on the west side of town. In general though, each block has 8 main buildings at most with fewer being preferable. And buildings are arranged to preserve views to the bluffs surrounding town.

These patterns are in no way prescriptive. What matters is that the general pattern is followed to preserve the feel of town. This allows the flexibility for each block to develop in an organic manner, while still giving a direction for block development.

WHAT A BLOCK IN BLUFF WOULD LOOK LIKE

HOMESTEADS FOR OPEN SPACE

DEVELOPMENT THAT PRESERVES OPEN SPACES

The case of a possible future development occurring on the property that used to be a farm on the west side of town presented a challenge. There is already a precedent for development in the subdivision across the street, but such development is not in the best interest of the town. So how could there be some development without losing the feel of open space?

The solution which best dealt with this challenge came to be the development of homestead properties in the area. On the bottom right of this page is a plan illustration for what this development could look like. The property is split up into large lots which could be used for small hobby farms and homesteads. A key part of this development design is that zoning would only allow homes to be built in small clusters. This way open space is preserved by being privately owned. Another zoning law that could be considered is only allowing fences if a property owner was going to keep live stock on their property.

While helping to preserve open space, a development of homestead properties could greatly add to the area. For one homesteading is a lifestyle which is attracting a number of younger families. And, if they can work from their homestead, being able to homestead in a small town could be a huge draw for some. The properties could also greatly add to the local community agriculture and food by providing excess yields to the community. For example if a resident in the homesteads was keeping small dairy animals such as goats and sheep they could provide extra milk and other dairy products to a local cheese maker or restaurant. Another thing that could happen could be that the homestead properties become a major contributer to local farmers markets by offering excess produce grown on their homesteads. All in all, it seems like having a bunch of homestead style properties in town could be a win win situation.

Legend:

New property lines

Roads

Homes

To the left is an illustration of what the homestead properties would look like from the highway. As you can see there is very little impact on the view from the road. All you might be able to see is some more trees, some clusters of houses, and a few sheep. There is a new road, but it's made of dirt to lower the cost of road construction and preserve the rural feel of the property.

PRECEDENTS FOR THE FUTURE

PRIVATE GARDENS — Private ornamental gardens would use a variety of native and exotic plants which are well adapted to local conditions. The main struggle would be finding plants that can handle city water, unless plans are made to use more river water. There are a large number of such plants available through Online nurseries and seed catalogs.
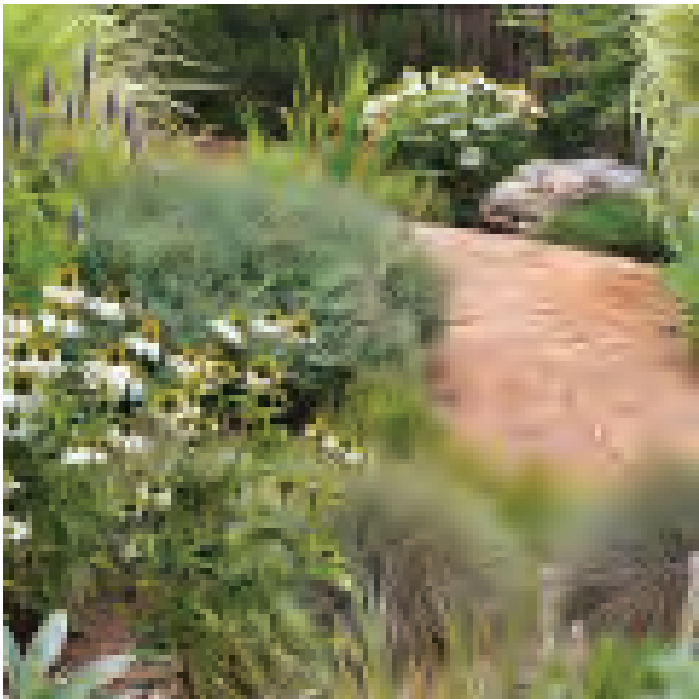
AGRICULTURE — Local agriculture has an opportunity to be quite varied. It could include a whole host of fruits and vegetables along with crops that native populations would have grown in the area. However, this agriculture would be focused on supplying the local community and restaurants with fresh produce.

BUSINESSES & MULTI-USE

Businesses, multi use units, and multi family housing could be designed to reflect local architecture such as the historic Victorian homes found in town or the pueblo style architecture which is common to the region.

HOMES

Homes could follow the same influences as other architecture in town. Smaller homes and cottages could be made to resemble the historic style of Victorian homes as well as cabins. As long as there is an example existing in town or the county it should be welcomed.

PLANT LIST

Here is the beginnings of a plant list* which can be used to create an authentic plant pallete for Bluff. This list can be referred to as a starting point for residents, designers, and city planners to help with the work to be done in Bluff.

Trees:

Desert Willow

Northern Catalpa

Smoke Tree

Crape Myrtles

Chaparral Arizona Cypress

Native Junipers

Mexican Redbud

Beach Plum (Prunus maritima)

Leslie Roy Mesquite

Arnold Common Juniper

Bristlecone Pine

Chinese Pistachio (Pistacia chinensis)

Desert museum Palo Verde

Golden desert ash

Vine maple

Golden rain tree

Chinese Elm

Mimosa

Shrubs:

Dwarf strawberry tree

Himalayan Sweet Box

Allgold broom

Scotch broom

Flowering quince

Butterfly bush

Pyracantha

Mormon tea

Nearly Wild Rose (Rosa x 'nearly wild')

Showy jasmine (Jasminum floridum)

St. Johns wort

Spotted white rock rose

Shrub roses

Desert snow mock orange

Sand Cherry (Prunus besseyi)

Flowers:

Lavender

Daylilies

Black-eyed Susan

Yarrow

Stonecrop

Coneflowers

Russian Sage

Coreopsis

Rosa Rugosa

Gaura

Blanket Flower

Blackfoot daisy

Evening primrose

Red hot poker

Mexican hat

Orange peel jessamine

Red valerian

Penstemon

Apache plume

Hyssops

Beardtongue

Desert Mallow

Pussytoes

Sticky Jerusalem Sage

Lavender Cotton

Goldenrod

Hummingbird mint

Salvias

Verbena

Phlox

Joe-pye-weed

Milkweed

Bee balm

Hummingbird trumpet

Silver ironweed

Crane's bills

Wild snapdragon

Sulfur buckwheat

Millennium allium

Wild four o'clock

Catmint

Grasses:

Blue Fescue

Maiden grass

Switch grasses

Grama grass

Mexican feather grass

Little bluestem

Beargrass

Prairie dropseed

Ground Covers:

Creeping junipers

Kinnikinnick

Fragrant sumac

Hens and chicks

Sedum

Euphorbia

Ice plant

Sedges

Other Ornamentals:

Yuccas

Rosemary

Thyme

Tarragon

Sage

Oregano

Horehound

Honeysuckles

Agave utahensis

Harvard's century plant

Golden flowered century plant

Lace aloe

Common sotol

succulents

Agricultural Crops:

Fruiting Figs (Ficus Carica)

Pomegranates

Chinese Dates (Ziziphus jujube)

Prickly Pears

Kaki Persimmon (Diospyros kaki)

Asian Pears (Pyrus pyrifolia)

Grapes

Goji berries

Mulberries

Tomatoes

Jerusalem Artichoke

Goumi Berries

Amaranth

Sunflower seeds

Gourds

Heirloom variety beans

Squashes

Muskmelons

Watermelons

Hopi Corn and Other indigenous corn varieties

Chili Peppers

Pumpkins

Okra

Peaches

Apricots

Plums

Apples

Nectarines

Cherries

Pears

Quince

Pecans

Almonds

Walnuts

BLUFF INTO THE FUTURE

There are at three key things Bluff City should do going into the future. One is to set up zoning laws and codes to help dictate the form of Bluff. Second, there is also the need to plan for what future development will look like. Lastly, there needs to be something small that can be done to get things started. Maybe this could be a block in town working together to plant some orchards, help each other start vegetable gardens, and begin to plant some ornamental plants. Or maybe it could be having the community get together to help a resident fix up their lot. Whatever it is, make it small enough that it can actually be done. Once that one thing is done, find another thing to do and so on. This should help get the ball rolling to create a wonderful future for Bluff.

*Plant list is based off of available information and historical precedent. Local conditions, soils, and water sources should be considered before making plant decisions. ie. If a plant can't handle city water planting may need to be limited unless river water can be used.

SOLAR POWER - LAND INSTALLATION PRECEDENCE

PAVANT SOLAR

The 62.35 MW Pavant Solar project, located in Millard County, Utah, was developed and constructed by juwi. PacificCorp will purchase all of the electricity from the facility for 20 years pursuant to a power purchase agreement. The solar project is owned by Dominion and consists of 201,120 photo-voltaic modules on an approximately 419-acre site.

L&D LANDFILL SOLAR

The 12.93 MW (DC) L&D Landfill Solar project achieved commercial operation in December 2015. The project is located in Mt. Holly, New Jersey, and was constructed by JSI Construction Group; the Engineering, Procurement, and Construction (EPC) contractor. The L&D Landfill is built on an existing Waste Management owned landfill that decommissioned in the 1980's. Construction included the use of pour-in-place ballasts, fixed tilt racking, and thousands of PV panels. Public Service Electric & Gas (PSE&G) will own and operate the facility, which generates enough power for approximately 2,000 average size homes in New Jersey.

SOUTH VALLEY

The 12.5 MW South Valley Solar project achieved substantial completion in December 2015. The project is located near Albuquerque, New Mexico, and was constructed by JSI Construction Group, the Engineering, Procurement, and Construction (EPC) contractor. The South Valley Solar facility is built near residential homes in southwestern Albuquerque. Construction included the use of the juwi tracker and thousands of PV panels. Public Service Company of New Mexico (PNM) will own and operate the facility, which generates enough power for approximately 3,675 average size homes in New Mexico.

BISON SOLAR

The 30 Megawatt (MW) Bison Solar Project achieved substantial completion in October 2016. The Project is located in north Wellington, Colorado, and was constructed by JSI Construction Group, the Engineering, Procurement, and Construction (EPC) Contractor. The Bison Solar facility is built adjacent to the Platte River Power Authority – Rawhide Energy Station; a 200 plus MW coal facility. Bison Solar LLC owns the facility and will be operated by the JSI O&M Group. The Bison Solar Project includes more than 117,000 panels, and generate power for approximately 5,000 average size residential homes in Colorado.

MUNICIPAL INSTALLATION PRECEDENCE

SUMMIT COUNTY JUSTICE BUILDING

Consisting of 688 solar panels, the project cost $425,000 less a rebate from Rocky Mountain Power's Utah Solar Incentive Program totaling $54,000. The cost savings are anticipated to be approximately $24,000 annually on buildings that run 24 hours a day 365 days a year. "We expect to save $600,000 of the building's electricity costs over the next 25 years," said County Manager Tom Fisher. "Furthermore, the system will prevent 254 metric tons of carbon dioxide equivalent emissions from entering the atmosphere," he added. It is the County's largest solar installation and the third of its kind, with other operating solar photo-voltaic installations on the Health Department and the USU extension services building.

PARK CITY TOWN HALL

In 2011, Park City conducted a feasibility study on the solar potential of 34 city-owned sites. A major factor considered in the feasibility study was snow-loading, as a number of the buildings were designed prior to the implementation of Park City's current elevation-specific snow load requirements and their roofs would not be able to meet the additional load requirements of the solar panels. The study made recommendations for solar installations on 14 sites – including both the Police Building and Transit Center which will be getting solar arrays in 2012.

Park City installed 80 solar panels on its City Hall building in 2010. These panels provide enough electricity for three average Utah homes and produce the energy equivalent of burning 23,000 pounds of coal each year.

SALT LAKE CITY FIRE STATION

SALT LAKE CITY — Seven Salt Lake City buildings, including five fire stations, have newly-installed solar panels thanks to a $500,000 city investment, Mayor Jackie Biskupski announced Thursday, Sept. 14, 2017.

The new installations double the total number of Salt Lake City's municipal facilities with solar energy to 14 and are part of the city's goal to reach 100 percent renewable energy for community electricity supply by 2032.

DESIGN - RESILIENCE

Precedence

SOLAR FUNDING OPTIONS FOR BLUFF

THE OPTIONS

The City of Bluff has an opportunity to generate revenue and clean energy on its underutilized property via one of the three following options, or a combination thereof:

1. The City could seek to place a solar installation project on the Classification of Instructional Programs (CIP) list. This alternative is not ideal for the City because of the inability to capture the 30% federal tax credit and the sheer capital outlay required for a solar project. The City would also have to designate significant staff time or hire consultants to help facilitate the project.

2. The City could solicit grant funding. This option raises many questions including the amount of staff time required, specific regulatory and reporting requirements, and the unlikelihood that the grant would cover the entire cost of the array, leaving the City or a third party responsible for the remaining balance

3. The City could seek a 3rd party financing model, whereby the City would lease space to a solar developer who will fund, construct, operate, and maintain the system for a designated number of years. This option is viable because it does not require an upfront monetary investment for the City, but rather the City would receive a payment for leasing property for the development of clean, renewable energy.
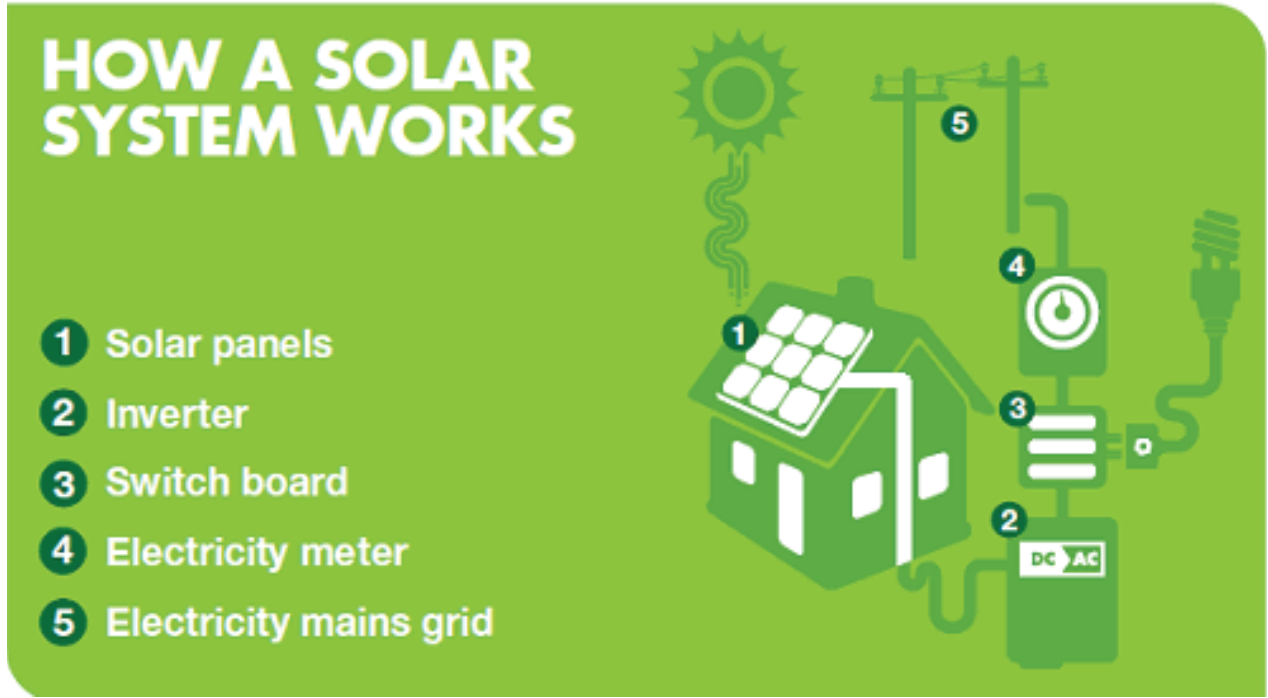
The third party financing model is an emerging tool for municipalities and utilities because it makes financial sense. Private entities are eligible for all tax credits and incentives. The City would lease space to a solar developer, backed by investors. The third Party would fund, construct, operate, and maintain the solar system. All of the energy generated would be purchased by an entity and transmitted into the electric grid. That entity would pay the City of Bluff for all power generated. The City would then serve as a pass through between the entity and the third party owner of the solar photo-voltaic system, but would also earn a specified amount of revenue for the lease of the land.

There are several benefits to the City and the greater community for this type of arrangement. Mainly, the City would be putting unused land into production and establish a new revenue stream. The community would be made more aware of clean and renewable energy technologies and these projects may even spark property owners to consider solar for their own buildings.

How Does the Third Party Financing Model Work?

• Third Party would be eligible for all tax credits & incentives

• City would issue an RFQ or RFI to determine solar developer

• City would serve as pass through between the entity &Third Party

• Third Party would compensate City for use of land

• Minimal outlay of city funds/minimal responsibility

• Catapult underutilized property into production

• Innovative Leadership Opportunity;

This model has worked for many municipalities across the country. They are commonly referred to as Power Purchase Agreements (PPA) and typically occur In states that require their electricity providers to produce a certain amount of renewable energy. Utah allows PPAs, and a maximum of 2 mw which is relatively large considering Bluff doesn't need much power to function.

HOW A SOLAR SYSTEM WORKS

1 Solar panels
2 Inverter
3 Switch board
4 Electricity meter
5 Electricity mains grid

EVALUATING MUNICIPAL SITES

KEY CRITERIA FOR EVALUATING MUNICIPAL SITES

- Maximum of 2 mega watts

- Adequate space for large systems in order to attract 3rd party;

- Ability to connect to grid;

- Making certain an acceptable level of security is available;

- Consideration of future plans for the proposed property;

- Compliance with historic district design guidelines;

The financial case must be made in order for the City to fund, construct, operate, and maintain its own solar arrays. Currently, the return on investment is not there for the City to self-fund solar projects.

However, the third party finance model makes it possible for the City to participate, earn a revenue stream, and advance renewable energy technology with minimal staff time and financial resources. This arrangement allows the City to put unused land resources into production.

The City of Bluff owns enough property and has an opportunity to generate revenue and produce clean and renewable energy from its resources. The red parcels indicate City ownership.

In order for a parcel to be deemed suitable for solar, several factors must be considered including: solar availability, lot size, roof size, ability to connect to the grid, zoning requirements, historic district design guidelines, security, safety, the size of the installation, future plans for the property, and the return on investment.

EAST OF WASH BLUFF

Bluff Community Center
Potential 2.8 acres

Bluff Elementary School
Potential .5 acres

0   660

BLUFF COMMUNITY CENTER

2.8 Acres

- The City's Community Center site is a favorable site. The 2.5 acre parcel is sparsely developed and could serve as a suitable site. Solar serves as a very low-impact and potentially profitable opportunity for unused portions of the site. Yet, considerations for solar should be veiled by expansion plans of existing operations. The site gets over 250 days of direct sun and could accommodate an array of around 3/4 mega watts.

BLUFF ELEMENTARY SCHOOL

.5 Acres

- The Elementary School Rooftop could accommodate a medium-sized array, about 50 kW, without detracting from the historic structure. The building is south facing, the roof is secure, and this would further solidify the City's commitment to preservation and sustainability.

EVALUATING MUNICIPAL SITES

Figure on left shows a 5 acre site that would hold a 2 megawatt solar array and would power 2,000 homes

Figure below shows a 25 acre site that could generate 10 megawatts and power 10,000 homes

This report is the beginning of a long-term strategy to consider solar arrays for existing and future municipal property. The environmental and social benefits are self evident, but the economic return is only advantageous when part of a 3rd party power purchase agreement since municipalities cannot capture all of the available incentives. The work of past PPA's, such as the Pavant Solar farm in Millard C should serve as a model for Bluff.

COMMUNITY AGRICULTURE SYSTEM

WHAT IS A COMMUNITY AGRICULTURE SYSTEM?

A Community Agriculture System is a system of agricultural resources working together to provide sustainable, convenient, and locally sourced produce for an entire community economy.

The section explores Bluff's potential role in a community supported agriculture system. This system includes physical features such as a community garden, fisheries, and a community supported agriculture system.(CSA) Events include harvest festivals, farmer's markets, and a basket delivery service, among others, to help aid in the economy of Bluff while providing a sustainable food source for the community.

This proposed Community Agriculture System (CAS)contributes to Bluff's emerging resilience, identity, and connectivity of the community. The CAS contributes to resilience by creating a sustainable system of agriculture and education that has the potential to propel Bluff forward as an independent community. The CAS aids in Bluff's identity by creating unique experiences for both citizens and tourists that is consistent with the potential identity Bluff is developing.

The CAS can be an important part of connecting the community by creating a positive self-image for the community, while supporting each other and working together to survive.

WHAT MAKES UP A COMMUNITY AGRICULTURE SYSTEM?

This Community Agriculture System proposed for Bluff will include both physical and event components.

Physical components include:

A Community Garden

A Fishery

Community Supported Agriculture

Event components include:

Farmer's Markets

Harvest Festivals

Art Exhibitions

Educational Programs

Basket Delivery Service
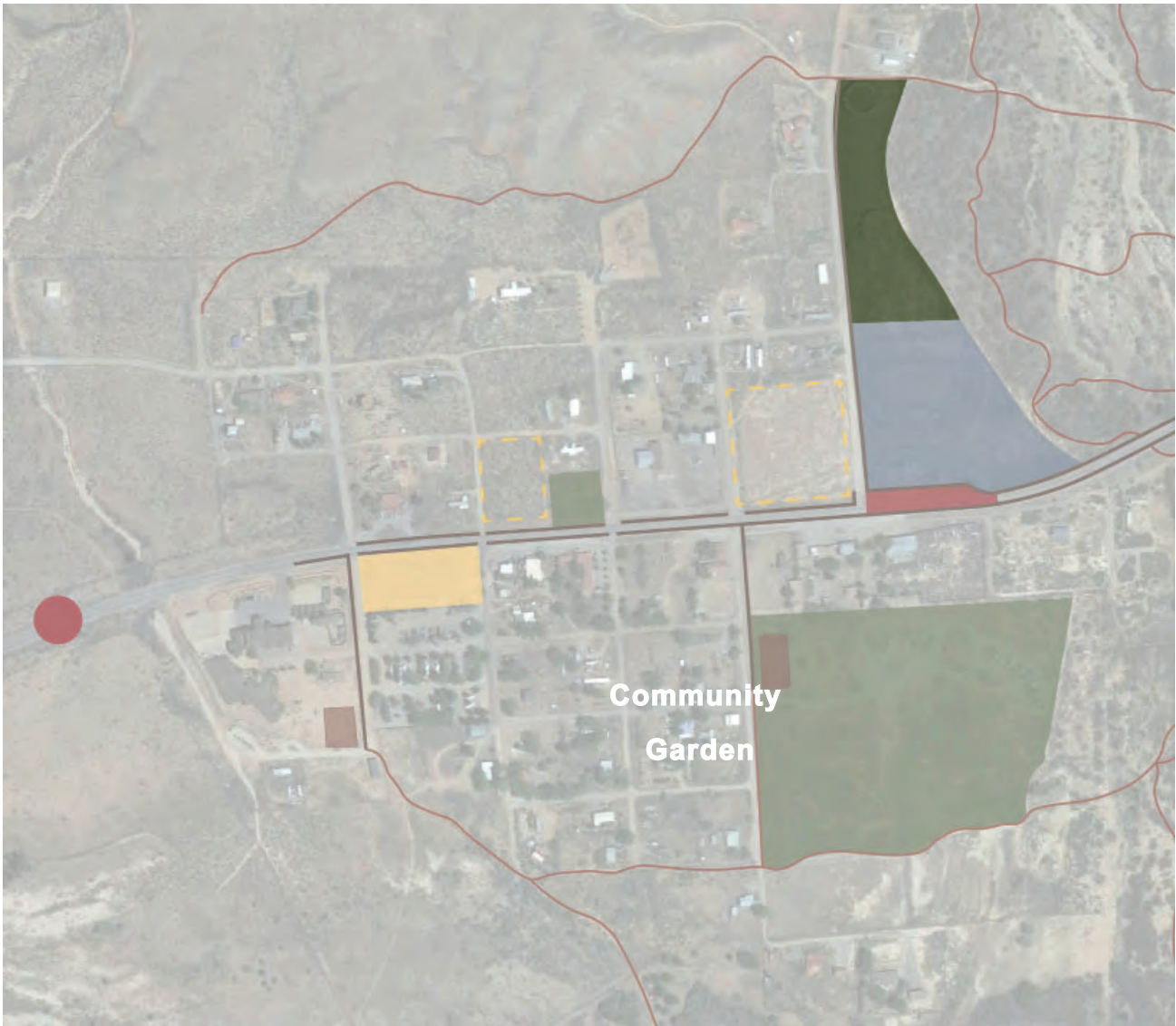
CONTEXT MAP

To the right shows the eastern portion of Bluff. The first element of the Community Agriculture System will be located in the northern sector of Bluff near Cottonwood Creek.

COMMUNITY SUPPORTED AGRICULTURE

Creating a sustainable food system benefits Bluff by providing an in-town option for produce. This prevents community members and tourists from the necessity of leaving the city in order to find food.

Another benefit of a community supported agriculture system is the ability to grow food that was traditionally grown in the region by the Ancestral Pueblos. This provides an educational opportunity for children, citizens, and tourists to connect with the native peoples in the region and benefit both economies.

Community Supported Agriculture or CSA, allows community members to buy food directly from farmers. Traditionally, a community member will buy a "share" which allows them to become a farm member. In return for the purchased share, members receive produce or other farm products regularly throughout the growing season. Anyone in the community can be an active member of CSA by growing produce in their backyards, at the proposed community garden, or traditionally on local farm land.

Businesses in the community can also support CSA by purchasing shares and then receiving their produce by local farms rather than outsourcing to big businesses out of town. Establishment and support of a CSA is a strong move towards creating a sustainable small town experience.

CSA BASKET PROGRAM

The CSA program can be implemented in Bluff through a basket program, where authentic woven baskets could be purchased from the reservation and filled with produce from community members who are a part of the CSA program. These baskets can then be sold to community members and tourists.

Incentives will be provided to community members for growing their own crops and contributing to the CSA program. This supports the economy by providing tourists with an authentic experience unique to Bluff's identity and provides a secondary dining option for tourists coming to Bluff while aiding Bluff's economy and the nearby reservation.

PHASING

Phasing of the Community Agriculture System can be achieved through prioritizing community needs and implementation costs. For example, planting orchard trees and putting together wooden planter boxes will be the cheapest option with the most economic payoff through CSA and the Basket Program.

More expensive features include the fishery and greenhouses, which both can be erected through the collection of fees and donation to the community garden as well as through fund raising events like the harvest festival and farmer's market - both of which can bring a profit to the local community economy and by bringing tourists into Bluff.

BLUFF COMMUNITY GARDEN

SITE SELECTION

In looking for an appropriate site for the proposed Bluff community garden several sites were analyzed based on: 1- proximity to the road 2- location in the overall transition through the city 3- privacy 4-proximity to the school, and 5-view-sheds. Based on this criterion several sites could potentially be turned in to beautiful and functioning community gardens. One site in particular was selected as a conceptual template for what a community garden could offer Bluff.

To the lower left is aerial imagery of the site selected for the conceptual site plan. The site is next to the future site of the new school building, thus providing an educational connection with the community. This site is slightly removed from Highway 191, allowing for ease of vehicle connection while maintaining a quiet and semi-secluded feel. Aiding in that seclusion is the site's proximity to Cottonwood Creek, providing a beautiful vista looking towards the creek and surrounding bluffs.

PROS OF A SMALL TOWN COMMUNITY GARDEN

Bluff is a brand new city in San Juan County with a small, but strong, community. A community garden can provide many benefits to any town, especially a small town.

Community gardens have been connected with an increase sense of social and spiritual connectedness within a small town, as well as increased physical fitness, increased consumption of fruits and vegetables, and an increased sense of community pride. Gardening has also been found to reduce stress. (www.natefacs.org). Bluff can potentially profit from these benefits specifically by bringing together the different social faction in Bluff through working together to create the different aspects of the community garden and in supporting the community.

Community Gardens also aid small towns by providing educational programs for children and adults through hands on experimental learning, they work as a food supplement, and provide cost efficient food alternatives for community members. Specifically in Bluff, the garden is proposed to sit directly adjacent to the new elementary school. This could provide an excellent opportunity for the children of Bluff, Utah.

Community Gardens also aids the economy through tourist sales and by creating a venue for festivals and markets, an important aspect in Bluff's Economy. A final added bonus is adding a visual beautification enjoyed through walking trails and city recreation.

POTENTIAL COMMUNITY GARDEN SITES

DRONE IMAGERY OF THE SELECTED SITE

Play (k)

COMMUNITY GARDEN MASTER PLAN

The proposed community garden will include an educational area in close proximity to the new school. This will allow students to easily access the greenhouses and planter boxes. Programs like these help aid in practical knowledge about where food comes from and how to grow your own food.

The Community Garden will offer both paid/private planter boxes and orchard trees for the community members of Bluff as well as a public grazing section of planter boxes and orchard trees. Theses could be cared for by employees of the garden paid through funds raised by membership fees and private box fees. Tools will also be bought with these fees.

Vehicular access is provided on the northern end of the garden to allow access to the open space area reserved for festivals and farmer's markets as well as access to the fisheries down the slope running lengthwise along the Eastern end of the garden, north of the orchard.

An ADA accessible herb garden is also proposed to the north of the site next to an adult educational greenhouse.

Parking

Children Education Area

Herb Garden

Event Area

Planter Boxes

COMMUNITY GARDEN ELEMENTS

EVENT AREA

## CHILDREN EDUCATIONAL AREA

HERB GARDEN

ADA accessible ramps allow all members of the community to enter and enjoy the garden. This images to the left shows a concept for a traditional herb garden and greenhouse surrounded by a seating wall and native plants.

Trails suitable for walking, running, bike riding, and stroller pushing are proposed throughout the community garden to allow for comfortable movement between spaces.

East facing slopes are optimal for an assortment of orchard trees.

Both private/paid planter boxes and community grazing boxes will be provided. Permanent community members can benefit from long-term crops while the tourism economy can benefit from one-time trips through the garden.

EVENT AREA

TRAIL THROUGH THE ORCHARD
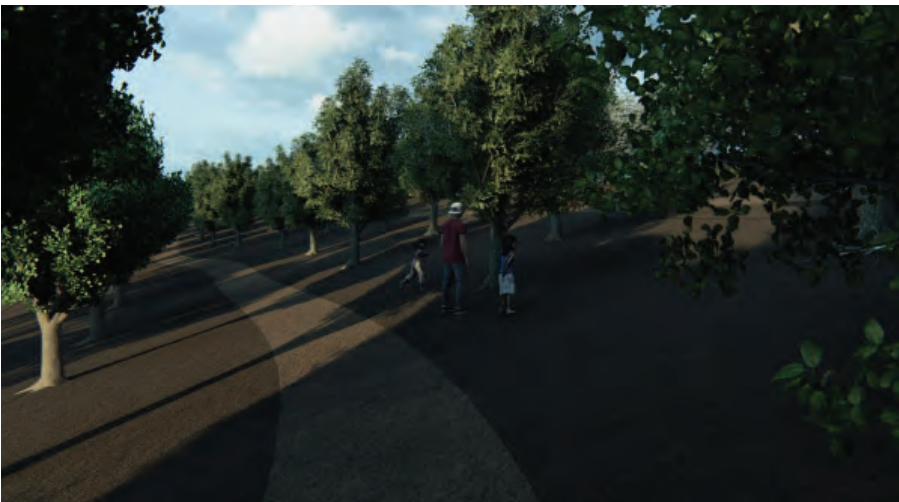
COMMUNITY PLANTER BOXES

FISHERY

Also included in the proposed Community Agriculture System is a Fishery- a place where fish are hatched, raised, sold, and eaten. The fishery will be located inside the community garden, to the North of the orchard on the slope. The fishery will contain 3 pools for each of the phases of the fish's life.
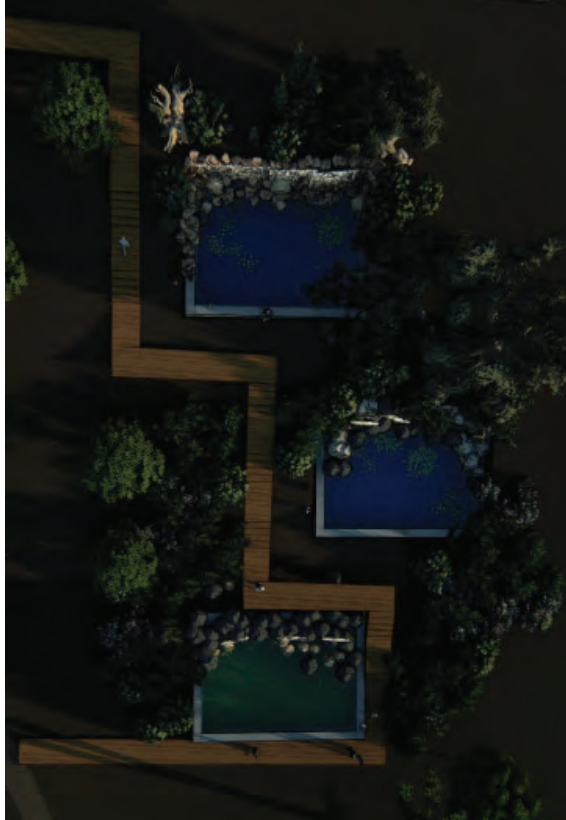
Community benefits of the fishery include:

A public boardwalk

Locally sourced fish

Educational experiences

Job opportunities for community members

Connection to the community garden

Viewshed Enhancement

Increased city recreation areas

LOOKING TOWARDS THE COMMUNITY GARDEN

LOOKING EASTWARD

PLAN VIEW OF THE FISHERY

DESIGN - RESILIENCE

Community Garden

BLUFF CAMPGROUND

Bluff already attracts the unique, outdoorsy tourist but currently their only options for staying within the city are to stay at a hotel or RV park. A campground could provide an additional layer of recreational opportunity within the city of Bluff and increase the overall visitor capacity with minimal intervention to the natural landscape.

Pictured to the right are examples of other desert-style campgrounds that served as precedents for this proposal. Designing with Bluff's character and identity in mind, native trees and shrubs are used to create a barrier between campgrounds that fits in with the surrounding landscape.

The map pictured below shows a potential site highlighted in dark green that was selected as an ideal campground location based on the following criteria:

- Close proximity to RV Park
- Near the edge of town with good views of surrounding geological features
- Walkable to other amenities
- Potential for trail connections across wash

DESIGN IDEA

The campground idea was derived from the tourism analysis. The hope is that it will not take away from the current lodging businesses, but would instead support them by increasing activity within Bluff. The campground would also act as an extension of the 4 campsites offered by the RV park directly to the North. Providing a more defined and legible campground that is separated from the RV park will make camping in Bluff more appealing.

FUTURE PLANNING

As the Western half of Bluff continues to develop with mostly residential buildings, providing additional attractions to this side of the city will be critical to achieving a balance between the historic and new cores of town. Ideas such as parks, campgrounds, markets and other green space can provide connections between the two sides and continue to shape the identity of the city of Bluff.

CAMPGROUND ELEMENTS

The proposed campground includes the following features:

- 28 large campground sites
- 4 Restrooms located in 2 separate buildings
- 1 new trail connection to cross the wash
- 2 volleyball courts
- Increased vegetation on site

OBJECTIVES

This campground would provide the city of Bluff with an additional tourist attraction, as well as a new trail connection between the West side of the city and the East side.

Having a campground located in the city and operated by a resident or the community would create another business opportunity to further support the economy.

Legend
1. Managerial Office
2. One-way Road
3. Restrooms
4. Volleyball Courts
5. Parking Area
6. Trail Connection

CONCLUSION

The findings and recommendations that came out of our analysis from interviews and follow-up conversations are a small step in Bluff's initial trajectory. Some of them can be implemented quickly and without much investment beyond coordination and establishing guidelines for growth. Others are long-term visioning ideas that require support and organization far past the municipal boundaries. It is our hope that this document will contribute positively to the ongoing conversation to define a successful, harmonious future for Bluff and the surrounding region.

LAEP 6100 - Regional Analysis and Planning - Spring 2019

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