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RurALL

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Authors:
Simon Fernezelyi, Csaba Jelinek
Periféria Policy and Research Center

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List of Abbreviations

Three-letter country codes (ISO 3166-1 alpha-3)

AUT – Austria

BGR – Bulgaria

BIH – Bosnia and Herzegovina

CZE – Czech Republic

HUN – Hungary

SVK – Slovakia

MNE – Montenegro

ROU – Romania

HRV – Croatia

SRB – Serbia

SVN – Slovenia

Introduction

The main aim of this report is to compare and contrast data gained through a mapping exercise carried out in all 11 pilot areas of the project. The thematic focus is both on the socio-demographic characteristics of the pilot areas and on the specific technical, architectural and urbanistic details of mapped deteriorating buildings. The report will help address the specific challenges of depopulating areas in the Danube Region and beyond through providing detailed data on the connection between the deterioration of the built environment and socio-demographic characteristics, and on the extent to which negative processes could be tamed by adaptive reuse techniques in different local settings.

The preparation of this report was commissioned by MOBA Housing SCE from Periféria Policy and Research Center in the framework of the RurALL Danube Region Interreg project (Project id: DRP0200382). The logic of the report follows the structure mutually agreed upon by MOBA Housing SCE and Periféria Center, which was presented for the whole consortium at the project meeting in Bystrice on 1 April 2025 and was agreed upon by the project partners.

The structure of the report is as follows. A short introduction and a brief overview of the methodology applied during the analysis is followed by the first thematic chapter consisting of 11 case studies from the 11 pilot areas. Each case study section follows the same structure: the areas' socio-demographic characteristics and main demographic trends; the main data on mapped deteriorating buildings; the potential use of the mapped buildings. Each case study section ends with a short summary highlighting the most significant peculiarities of the given cases. The second thematic chapter presents a comparative analysis of the 11 case studies. This chapter follows a similar structure to the case study sections: socio-demographic trends, the characteristics of the mapped buildings and their potential use. The chapter concludes with a short causal analysis, which introduces the main determinants of why a building was selected as "most suitable" for adaptive reuse. Finally, the last chapter contains policy recommendations based on the data analysis.

Some of the main findings of the report are the following:

- There are significant differences among the pilot areas in terms of their socio-demographic characteristics and the features of deteriorating buildings mapped, which indicates that a "one-size-fits-all" solution is not feasible.
- The pilot areas show a clear pattern where some regions experience population rejuvenation with low aging and housing vacancy, while others face moderate to high aging accompanied by lower population density and more unoccupied homes.
- Employment disparities are usually stark, with Western Balkan regions facing significantly higher unemployment than Central European pilot areas, reflecting deeper structural economic differences among the pilot areas.
- Publicly owned buildings generally demonstrate greater suitability for revitalization, especially when it comes to delivering positive community and environmental impacts.

Thus interventions targeting these publicly owned buildings should, as a rule of thumb, be prioritized.

- The overall revitalization potential is usually high in the case of buildings categorized as having economic, environmental, and community benefits in the case of adaptive reuse.
    - In addition, buildings that are empty or suitable for immediate reuse also tend to rank higher in the dimension of overall revitalization potential, indicating a preference for projects that can be implemented with fewer obstacles or delays.
    - In contrast, legal and regulatory barriers as well as buildings requiring demolition are associated with lower revitalization potential.
- The condition of a building has a clear impact on its revitalization potential.
    - Buildings needing only minor or medium repairs consistently score higher in suitability for immediate use and economic viability.
    - Interestingly, however, in terms of overall priority, no clear pattern emerges

Methodology

From a data perspective, the report builds on three important sources. First, the consortium partners carried out a mapping exercise before April 2025, through which they collected data about deteriorating buildings and their main characteristics. It is important to note that the mapped buildings do not cover all existing deteriorating dwellings in a given area in most cases. The activity leaders and partners agreed that approximately 40 buildings per area would be mapped as a recommended target, however, as described later, the exact numbers vary significantly. Second, we created a tool for socio-demographic data collection in March 2025, which was filled out by the consortium partners in April-May 2025. Third, in some cases, we did additional desk research to collect national level socio-demographic data, in order to compare the data on pilot areas. In these latter instances, we have always provided the specific sources in footnotes. The analysis is based on the most up-to-date data available at the time of writing. However, due to the evolving nature of the mapping process, a small number of mapped buildings, three in Prijedor (BIH) and one in Despotovac (SRB), are not reflected in the current version.

Data from both the mapping exercise and the socio-demographic data collection tool underwent thorough processing. The dataset on deteriorating buildings was carefully cleaned to address errors and inconsistencies, and where possible, attributes were categorized or quantified to facilitate analysis. A particularly important aspect of this dataset is the revitalization scores assigned subjectively by consortium partners. These scores, given independently on a scale from one to seven, cover five dimensions: suitability for immediate use, potential for economic viability, potential for positive community impact, potential for positive environmental impact, and overall priority for revitalization. These scores are retained in their original form without modification. The socio-demographic data for the pilot areas also required cleaning and standardization to ensure comparability across regions and over time. The aging index is calculated as the number of people aged 65 and over per under age 15, indicating the relative proportion of older to younger population. The employment and unemployment rates are calculated as the percentage of the working-age population (typically ages 15–64) that is currently employed or unemployed respectively.

Two analyses are conducted based on the available sociodemographic data. Firstly, a linear trend model is used to capture the relationship between population and time. This involves fitting a linear regression where the population is treated as a function of the year. The model provides a best-fit line that captures the general direction and rate of change in the population over time, based on observed historical data. In the case of Hungary, the dataset required additional adjustments due to an administrative change in 2013. Secondly, another linear trend model is developed to analyze the historical changes in the number of unoccupied residential units. This model is based on available census data and aimed to identify long-term patterns in housing vacancy. Using the fitted trend, projections are made to estimate the number of unoccupied units 10 and 20 years beyond the most recent year with available data, providing insight into potential future developments.

The data on mapped deteriorating buildings also provides a foundation for further analysis. Pilot-wide averages are calculated for various characteristics of these buildings. It is important to note that the percentages reported do not always sum to 100 percent due to the presence of missing data in certain variables. A special category of buildings labeled 'most suitable' for revitalization was created by us. Buildings are classified into this category if all five revitalization scores given by the project partners during the mapping exercise exceed the threshold value of four (on a 1-7 scale), indicating a high overall potential for successful revitalization. The overall infrastructure coverage for each building is computed as the average coverage across six infrastructure components: electricity, water, sewerage, gas, heating, and access to public transport.

Over the course of the comparative analysis, a correlation analysis is conducted to assess the relationships between the revitalization potential and different characteristics of the deteriorating buildings. Pearson's correlation coefficient is used to measure the strength and direction of association between the target variable representing revitalization potential and a selected set of building-related and contextual variables. The statistical significance of each correlation is evaluated at the 0.05 level.

Case Studies

This chapter presents eleven case studies of rural areas across Central and Eastern Europe. All the cases are pilot sites from the RurALL project. Each case study begins with an overview of the region's key demographic indicators, including population size and density, employment patterns, and age structure. The case studies then examine a number of mapped deteriorating buildings in the area, including analysis of building types, physical condition, ownership, infrastructure access, and regulatory context. Finally, each case study evaluates the revitalization potential of the identified buildings, including considerations of possible reuse scenarios, regulatory constraints, economic feasibility, and their potential social and environmental benefits.

The case studies span a diverse geographic and administrative range, covering municipalities and districts in Austria, Bulgaria, Bosnia and Herzegovina, the Czech Republic, Croatia, Hungary, Montenegro, Romania, Serbia, Slovakia, and Slovenia. These pilot areas vary widely in size and administrative classification (NUTS levels), as well as in socio-demographic characteristics. For example, population density ranges from just 14.5 inhabitants per square kilometer in the mountainous Gorski Kotar region of Croatia to 130.2 inhabitants per square kilometer in the more densely populated Municipality of Beltinci, Slovenia.

Despite these differences, all areas share a common concern: the presence of underused and deteriorating buildings. The number of mapped deteriorating properties varies significantly, from as few as 24 to as many as 134 buildings per area.

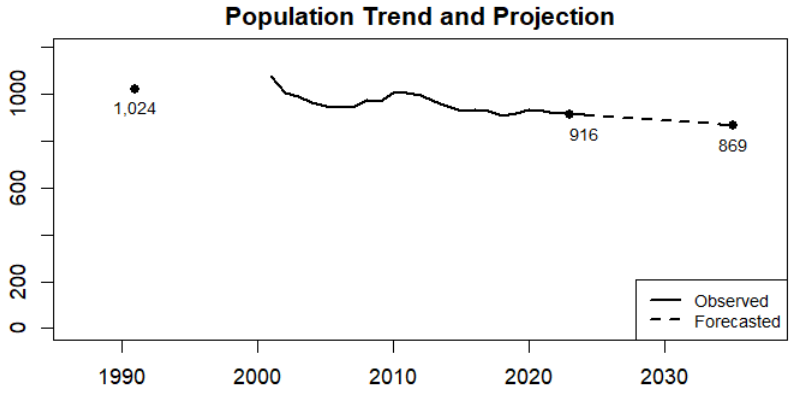
By applying the same analytical framework across all eleven areas, this chapter highlights patterns of challenges and opportunities in rural regions of Europe. The findings provide a foundation for identifying strategic priorities for local development and policy intervention, which will be addressed in later chapters.

Municipality of Eberau, Austria

Socio-demographic characteristics

The Municipality of Eberau (LAU-2) in Burgenland, Austria covers an area of 30.75 square kilometers, consisting of five settlements, centered around the town of Eberau.

Its population currently stands at 916 and has shown a somewhat fluctuating but overall declining trend. Since 1991, the population has decreased by roughly 10 percent (108 people). The population density of the area is 29.8 people per square kilometer, less than the third of the national value of 109.2 people per square kilometer. While the population of Austria is overall on a rise, our projection indicates that by 2035, the population of Eberau will further decrease to 869[1].

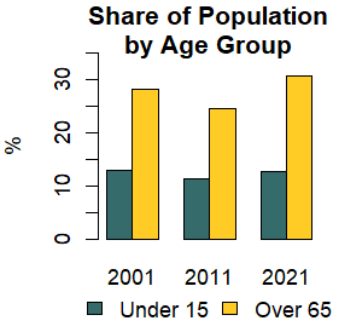


The 73.0% employment rate of Eberau is on par with the national employment rate of 74.1%, while the unemployment rate stands at 3.6%, which is slightly below the national unemployment rate of 5.2%[2].

The demographic profile of Eberau indicates a long-standing trend of population aging. As of 2021, 12.7% of the population were under the age of 15, while 30.7% were over 65. The region's aging index was at 241.5, a figure substantially higher than the national value of 134.7[3].

In 2021, the majority of the population – 83.5% – resided in self-owned dwellings.

From a socio-demographic perspective, Eberau is marked by a slowly declining and notably aging population, alongside a particularly low population density compared to national levels.



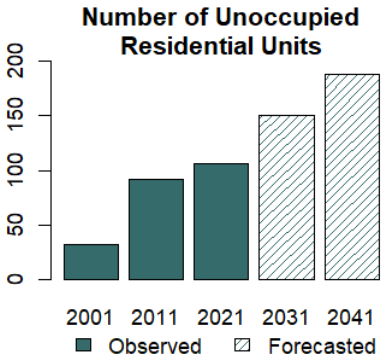
[1] STATISTICS AUSTRIA. (2025). Population statistics
[2] STATISTICS AUSTRIA. (2025). Labour Force Survey 2024
[3] STATISTICS AUSTRIA. (2024). Census Austria 2021. Page 27

Mapped buildings

A total of 45 deteriorating buildings were identified and mapped in the municipality of Eberau. The properties spread across four settlements, with a higher concentration in the settlements Kulm and Winten (17 each), and with fewer properties in Eberau or Gaas.

Projection of unoccupied residential units

The number of unoccupied residential units in Eberau has increased significantly over the past two decades. From just 32 units in 2001, the number rose to 106 by 2021 – more than tripling in 20 years. If current trends continue, our projection suggests the number could reach 188 by 2041.



Condition of the mapped buildings

- 24.4% require major repairs
- 24.4% require medium-level repairs
- 22.2% require minor repairs

The proportion of buildings needing only minor repairs of 22.2% is similar to the average of all pilot areas, while the condition of a significant proportion of the mapped buildings is unknown.

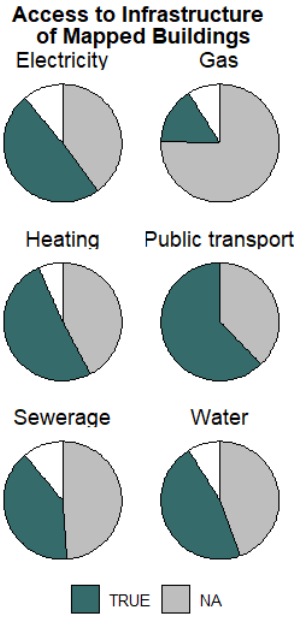
76% of the buildings are assessed as suitable for renovation, while none of the buildings are considered to be in a condition that necessitates demolition.

Ownership and Occupancy

All of the mapped properties are in private ownership and are empty, making Eberau the only pilot area in which none of the buildings are in public ownership.

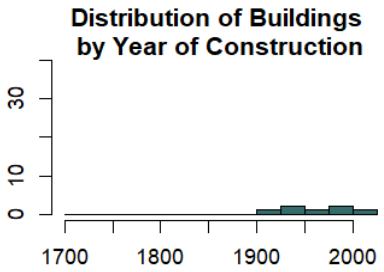
Infrastructure

Much of the information about the buildings' infrastructure is unknown. Based on the available data, it appears that the properties are generally well equipped with essential infrastructure. All of the properties have a good connection to public transportation, and most have access to water, sewage, heating, and electricity. Access to piped gas is less common.



Technical details

The construction year of most of the buildings are unknown. The rest of the buildings were all constructed over the course of the past hundred years, with some concentration in the 1930s and the 1990s.



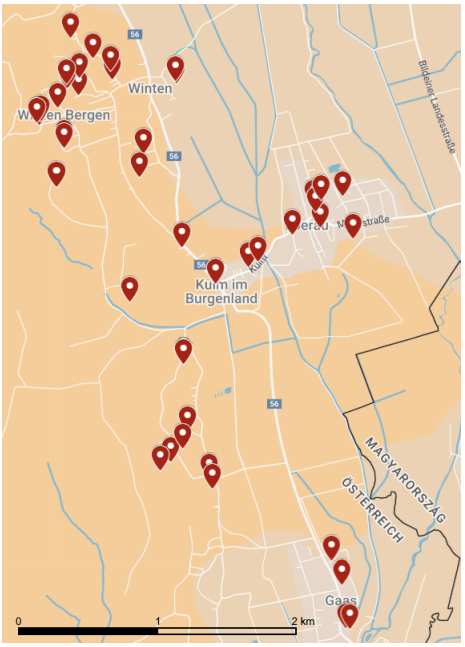
Most of the properties are one-story buildings, though some have a second floor, and one building has three floors.

Most buildings are constructed from brick, often combined with stone, wood, or clay. A few include materials like concrete or straw brick, while some have unknown composition.

The buildings in Eberau have a smaller net area compared to other pilot areas, averaging 372 square meters. Most range between 40 and 250 square meters, but a few exceptionally large buildings skew the overall average.

Surrounding Neighborhoods

The mapped buildings in Eberau are typically located in rural, low-density neighborhoods characterized by proximity to open fields, woods, and scattered residential or agricultural structures. While many are situated on the outskirts or in the countryside, others are centrally located near village amenities such as schools, municipal offices, restaurants, fire brigades, and holiday rentals like the local *kellerstöckl*, reflecting a mix of isolation and accessibility across the area.



Spatial Planning Regulations

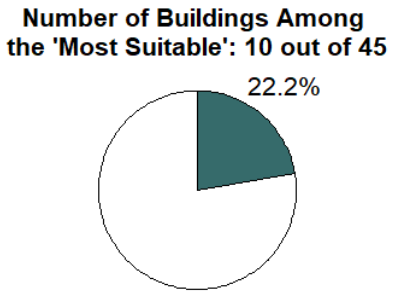
The buildings are primarily located in zones designated as village area (BD), residential area (BW), and mixed building area (BM), with a few in business area (BB) and agricultural green space. Several are situated in Kellerstöckl cellar zones or wine production zones, and a few are affected by restrictions such as green belts or no-building zones.

Potential use

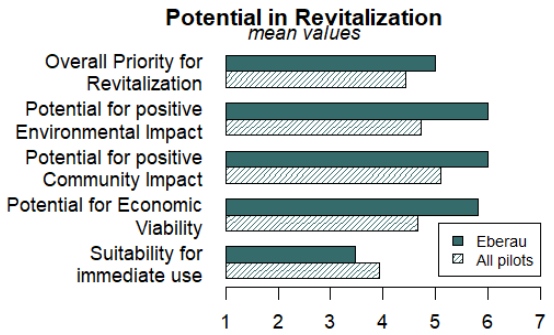
The buildings in Eberau show a diverse range of potential revitalization options, from residential and commercial uses to tourism-related functions. Several properties are considered suitable for shared office spaces, workshops, or community hubs. Some buildings are suitable to be transformed into kindergartens, cafés, or even wedding venues. A few properties offer opportunities for innovative uses like indoor go-kart tracks or secure parking for caravans and farm vehicles.

Most buildings are not under cultural heritage protection, though many located in Kellerstöckl zones are subject to specific regulatory frameworks. Environmental protection applies to a significant number of properties, particularly those near natural or agricultural areas.

Buildings in Eberau scored above the average of all pilot areas when observing nearly all dimensions of revitalization potential. They show particularly high potential for economic viability, positive community impact, and environmental benefit. While the suitability for immediate use is somewhat lower, their overall priority for revitalization is slightly higher than the average, suggesting that Eberau's sites are strong candidates for future investment and development. Consequently, 10 out of the total 45 buildings are among the 'most suitable' for revitalization.



Overall, the combination of versatile use options and positive evaluation scores suggests that Eberau holds significant potential for successful building revitalization that can benefit the community economically, socially, and environmentally, though regulatory restrictions may present some challenges.



Case Summary - Municipality of Eberau, Austria

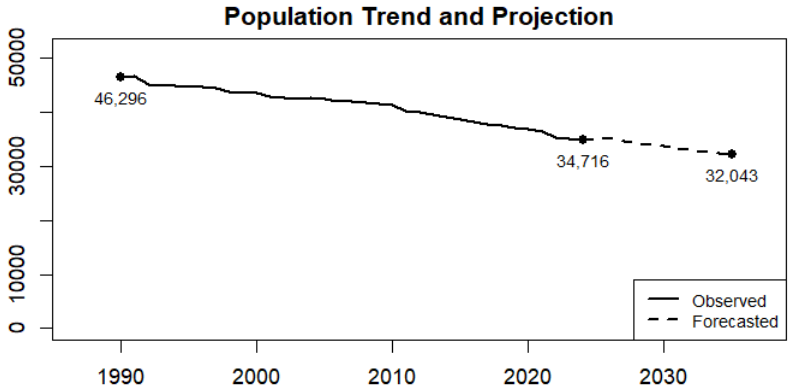
- Eberau faces ongoing population decline and demographic aging, with a low population density well below the national average.
- The number of unoccupied residential units has more than tripled from 2001 to 2021 and is projected to continue rising significantly.
- The majority of the mapped deteriorating buildings are suitable for renovation, with none requiring demolition.
- All mapped buildings are privately owned and currently unoccupied, unique among the pilot areas.
- The buildings scored above average in economic, social, and environmental revitalization dimensions, with 10 properties ranked among the 'most suitable' for revitalization.
- The buildings offer diverse reuse potential (residential, commercial, community, tourism), but zoning and regulatory restrictions may limit implementation.

Municipality of Sandanski, Bulgaria

Socio-demographic characteristics

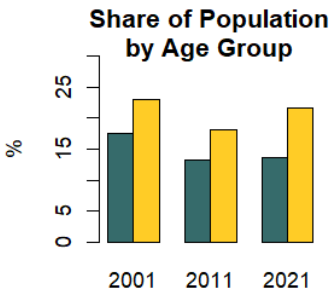
The Municipality of Sandanski (LAU-1) in Bulgaria covers an area of 1002 square kilometers, consisting of 54 settlements including two towns and 52 villages.

Its population currently stands at 34,716 and has shown a steadily declining trend. Since 1990, the population has decreased by 25.0%, which is on par with the national average of 26.4%. The population density of the area is 34.6 people per square kilometer, nearly half of the national value of 58.7 people per square kilometer[4]. Similarly to the national trends in Bulgaria, our projection indicates that by 2035, the population of Sandanski will further decline to 32,043.



The employment rate in Sandanski stands at 41.0%, drastically lower than the national employment rate of 70.7% while the unemployment rate only reaches 3.6% which is a bit below the national average of 4.4%[5].

The age distribution reveals an increasingly aging population. As of 2021, 13.7% of residents are under 15, while 21.7% are over 65. The region's aging index reached 158.4, a value that barely exceeded 130 in 2001. The aging index stands out in the national context as the Bulgarian average stands at 151.3.



From a socio-demographic perspective, Sandanski is characterized by a steadily declining and aging population, low employment despite low unemployment, and a significantly lower population density than the national average.

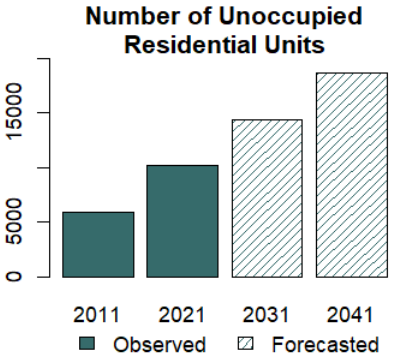
[4] NSI Bulgaria. (2022). Census of Population and Housing in Republic of Bulgaria in 2021
[5] EURES. (2024). Labour Market Information: Bulgaria

Mapped buildings

A total of 58 deteriorating buildings were identified and mapped in the municipality of Sandanski, across roughly 30 settlements. Most of these are concentrated in the central part of the municipality, particularly in the town of Sandanski. Unfortunately some information of the mapped buildings are missing, therefore we cannot give a comprehensive assessment on certain aspects of the properties.

Projection of unoccupied residential units

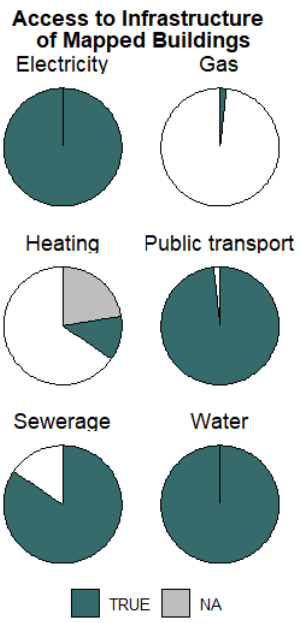
The number of unoccupied residential units in Sandanski has risen sharply over the past decade. In 2011, there were 5,936 such units, and by 2021 this number had surged to 10,165 – an increase of over 70% in just ten years. Our projection indicates that this upward trend will continue, with the number expected to reach 18,623 by 2041. If realized, this would represent more than a threefold increase over the 2011 figure.



Condition of the mapped buildings

- 31.0% require major repairs
- 36.2% require medium-level repairs
- 5.2% require minor repairs

The proportion of buildings needing only minor repairs in Sandanski is significantly lower than the average of all pilot areas (19.2%). Six of the 58 total buildings are considered to be in a condition that necessitates demolition, while the remaining properties are assessed as suitable for renovation.



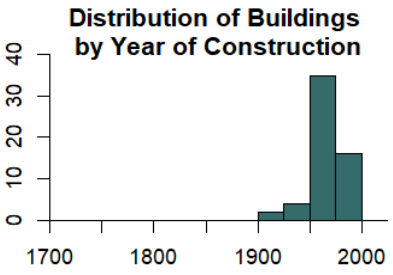
Ownership and Occupancy

46 of the 58 properties are in public ownership, which is double the average of all pilot areas. Current usage of the majority of the buildings are unknown, but nearly half of them (27) are empty.

Infrastructure

The properties are modestly equipped with basic infrastructure. All have access to running water, electricity, and public transport. However, only 12% have heating, and gas connections are rare.

Technical details



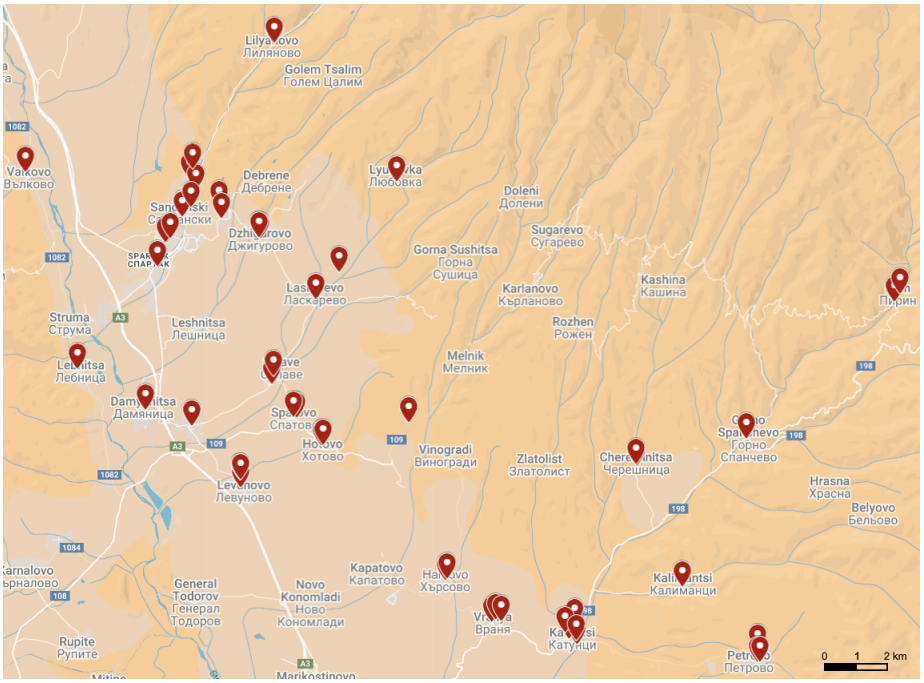
All mapped buildings in Sandanski were built during the course of the 20th century and the majority of them were built in the 1950s and 1960s. This represents a relatively new set of buildings when compared to the rest of the pilot areas.

Most of the mapped buildings have one or two floors, with two-storey structures being the most common. A few buildings have three or four floors, and some include basements.

Most of the buildings are massive structures made primarily of wood, bricks, and concrete. A few also include steel or stone, but traditional materials dominate throughout.

The net area of the buildings are similar to the other pilot areas, with an average size of 315 square meters. The majority of net area of the buildings are between 140 and 370 square meters.

Location of mapped buildings



Potential use

Unfortunately no data was provided about the potential use of the mapped buildings in this case.

Case Summary - Municipality of Sandanski, Bulgaria

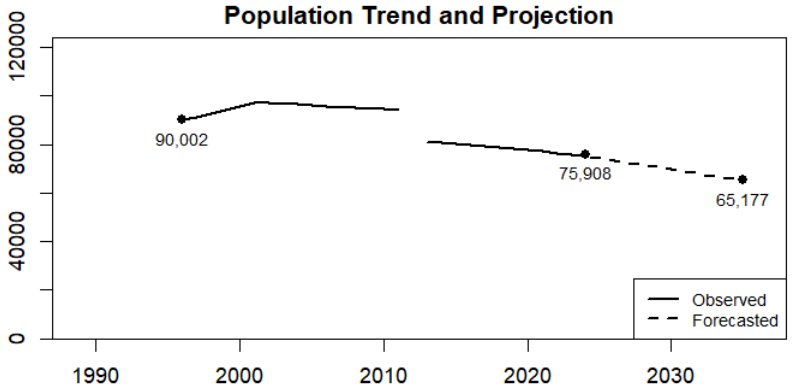
- The Municipality of Sandanski is experiencing population decline and aging, with low employment and low population density.
- A sharp rise in unoccupied residential units has been observed, with projections indicating continued growth in vacancies.
- 58 deteriorating buildings were mapped, most requiring medium to major repairs; nearly half are empty and in public ownership.
- Unfortunately, no data was provided about the potential use of the mapped buildings.

Municipality of Prijedor, Bosnia and Herzegovina

Socio-demographic characteristics

The Municipality of Prijedor in Bosnia and Herzegovina covers an area of 834 square kilometers, consisting of 71 settlements centered around the city of Prijedor.

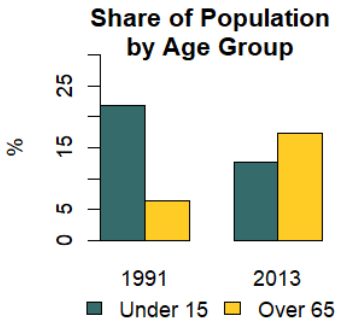
Its population currently stands at 75,908 and has shown a declining trend. Despite a small population increase in the second half of the 1990s, since 2003 the population has decreased by over twenty thousand people (21.9%). However, the break in the data suggests a territorial or methodological change in the early 2010s that accounts for some of the population decrease. The population density of the area is 91.0 people per square kilometer, far above the national average of 62 people per square kilometer. In line with the ongoing population decline in Bosnia and Herzegovina[6], our projection estimates that Prijedor's population will drop to 65,177 by 2035.



The last census data available in Bosnia and Herzegovina is from 2013, which limits our understanding of the demographic situation of Prijedor today. In 2013 the employment rate was standing at 41.8%, while the unemployment rate was at 31.7%, somewhat higher than the national unemployment rate of 27.5%. However, unemployment rates have decreased nation-wide since the last census reaching 12.5% in 2023[7].

The age distribution reveals the trend of population aging. As of 2013, 12.6% of residents were under 15, while 17.4% were over 65. The region's aging index reached 138.6, compared to the national average of 110.4. Notably, the national trend continues to shift towards an increasingly aging population with the national aging index hitting 163.7 in 2023[8].

From a socio-demographic perspective, Prijedor is marked by a long-term population decline, relatively high population density, and a steadily aging population.



[6] BHAS. (2025). Natural population change and marriages in 2024
[7] Macrotrends. (2025). Bosnia Unemployment Rate 1991-2025
[8] World Bank. (2014). World Development Indicators

Mapped buildings

A total of 52 deteriorating buildings were identified and mapped across the Municipality of Prijedor, distributed among roughly 20 settlements throughout the region.

Projection of unoccupied residential units

Forecasting the number of unoccupied residential units in Prijedor is not feasible due to limited data availability. However, the single data point from 2013 indicates a notably high vacancy rate: out of the 38,112 residential units recorded that year, 9,275 were unoccupied.

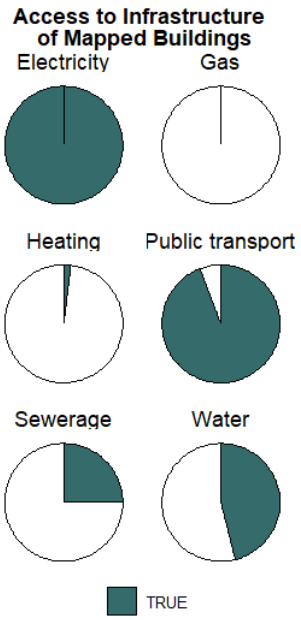
Condition of the mapped buildings

- 26.9% require major repairs
- 23.1% require medium-level repairs
- 50.0% require minor repairs

This proportion of repair requirements is fairly positive. Importantly, a high share of buildings warrants only minor repairs when compared to other pilot areas. Additionally, 32 out of the 52 buildings are considered to be in a condition that necessitates renovation, while the rest of the buildings (20 out of 52) are already renovated, an exceptional case among all pilot areas.

Ownership and Occupancy

The vast majority (47 out of 52) of the mapped buildings are in public ownership, a proportion that is more than double of the average of all pilot areas and the highest amongst them. However, almost all of the properties are currently occupied, with only one being empty.

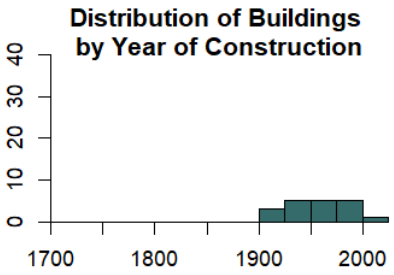


Infrastructure

The properties have a moderate level of essential infrastructure. All buildings are connected to electricity, and most are well-served by public transport. However, fewer than half have running water, only a quarter are linked to the sewerage system. Additionally, heating is uncommon, and none of the mapped buildings have access to piped gas.

Technical details

The mapped buildings were built predominantly over the course of the 20th century, with the majority built after 1950, representing a relatively young housing stock when compared to other pilot areas.



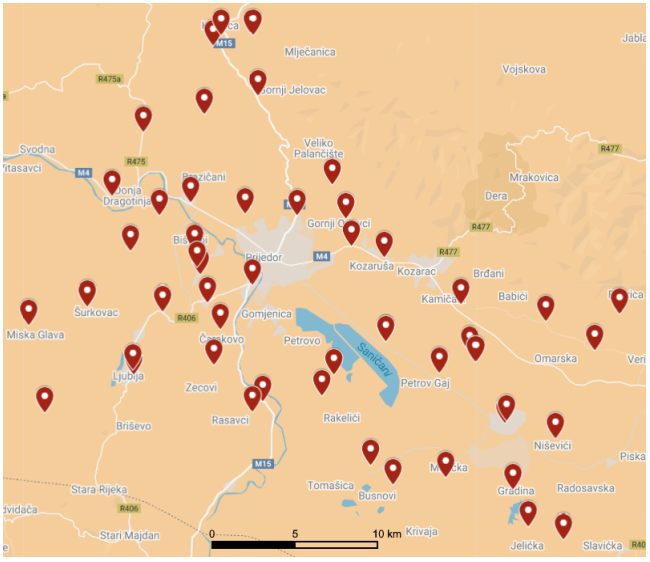
The vast majority of buildings (over 70%) have 2 floors, while a smaller portion are single-storey structures, and only a few have 3 floors, indicating predominantly low-rise development with limited vertical expansion.

The buildings are primarily constructed using a mix of concrete, stone, and wood, with many also featuring steel and brick elements. Concrete is used in nearly all buildings, while wood is also very common, suggesting a widespread use of mixed-material construction.

The net area of the buildings are similar to the typical figures of the other pilot areas, with an average size of 403.5 square meters. The majority of the buildings are between 150 and 550 square meters with the largest property having a net area of over 1000 square meters.

Surrounding Neighborhoods

The surrounding neighborhoods are mainly residential with well-developed road infrastructure. Common features include playgrounds, elementary schools, churches, mosques, and auxiliary buildings. Many areas are bordered by forests, rivers, or agricultural land. Some neighborhoods also have a local stadium, police station, or railway access, reflecting a mix of rural and semi-urban characteristics.



Spatial Planning Regulations

Most properties are located in zones designated as community or educational facilities, where expanding floor area is generally not permitted. A few exceptions include areas zoned for mixed use or private purposes, where expansion is possible.

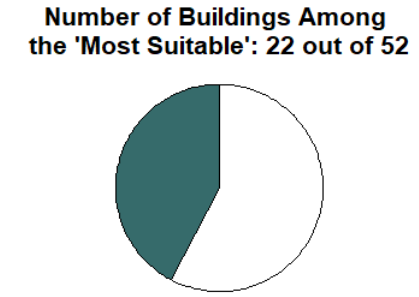
Potential use

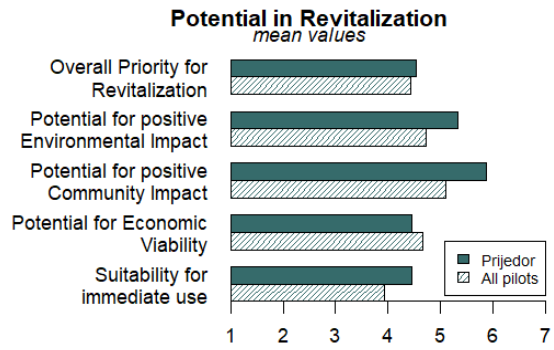
The mapped buildings in Prijedor present a promising opportunity for revitalization, with many properties in good or functional condition and several already serving community roles.

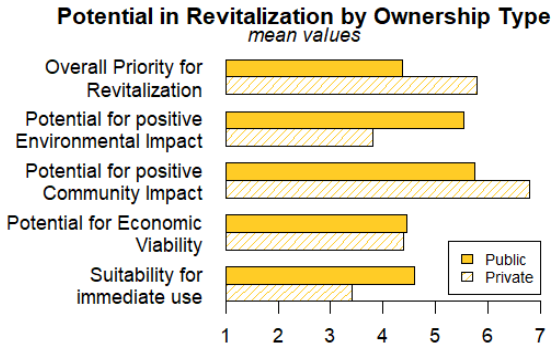
Most of the buildings have strong potential for reuse, with many in good or functional condition requiring little or no investment, while others – though currently unused or in disrepair – could be revitalized with additional funding. Several buildings already serve partial community functions, such as hosting local councils, schools, or memorial rooms, and others could easily be adapted for similar public uses like kindergartens or community centers, particularly in areas with high demand for such services. In regions like Knežica, there is also significant potential for commercial and tourism-oriented reuse, including wine tasting venues, culinary workshops, artisanal shops, or event and exhibition spaces that promote local heritage and engage both residents and visitors. None of the buildings have cultural heritage protection, nor are they located in areas at risk of flooding or subject to environmental restrictions, allowing for flexible repurposing in line with local needs and development goals.

Prijedor shows relatively strong revitalization potential compared to the other pilot areas, with an overall priority score slightly above the average. Notably, it stands out for its significantly higher scores in both potential environmental and community impact, each exceeding the average nearly by a full point. On the other hand, its economic viability score falls slightly below the average. Out of the 52 buildings 22 fall into the 'most suitable' category, with particularly high revitalization potentials. When comparing the five privately owned properties to the 47 public ones, no clear trend emerges: private properties scored higher in overall revitalization priority and community impact, while public buildings performed better in terms of environmental potential and readiness for immediate use.

Overall, Prijedor's mapped buildings – thanks to their relatively young age, solid structural condition, and regulatory flexibility – offer considerable potential for revitalization that could significantly benefit the local community.







Case Summary - Municipality of Prijedor, Bosnia and Herzegovina

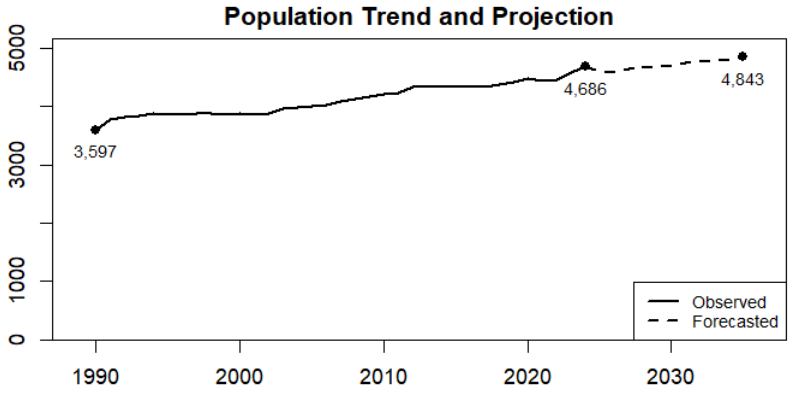
- The area faces long-term population decline and aging.
- The mapped buildings are in good or functional shape, with many needing only minor repairs and some being renovated
- Most buildings are publicly owned.
- Many buildings already serve public functions or can be easily adapted for community purposes, with no major legal or environmental barriers.
- Basic infrastructures like water, sewage, and heating are often lacking.
- Prijedor stands out for its environmental and community impact potential, though its economic viability is slightly weaker.
- Nearly half of the buildings are among the 'most suitable' for revitalization.

Municipality of Bystřice, Czech Republic

Socio-demographic characteristics

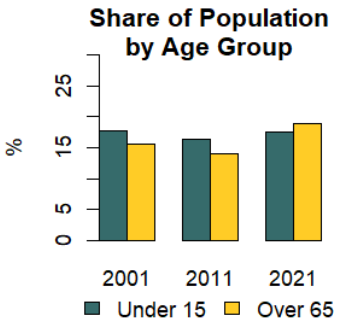
The Municipality of Bystřice (LAU-2) in the Czech Republic covers an area of 63.4 square kilometers, consisting of 26 settlements surrounding the town of Bystřice.

It had a population of 4,686 in 2024, and has shown a steadily growing trend. Since 1990, the population has increased by 1,089 (30.3%). The population density of the area is 73.8 people per square kilometer, nearly half of the national value of 138.3 people per square kilometer[9]. Similarly to the national trend of the Czech Republic, our projection indicates that by 2035, the population of Bystřice will further increase to 4,843.



The employment rate in Bystřice is 83.1%, a figure which is slightly higher than the national employment rate of 79.1%[10]. Unemployment data in the municipality is not available.

The municipality of Bystřice has transitioned from a balanced age structure to one dominated by older residents. As of 2021, 17.6% of residents were under 15, while 18.9% over 65. The region's aging index reached 107.8, which represents a relatively even age structure compared to the national average of 127.0[11].



From a socio-demographic perspective, Bystřice is characterized by a growing, relatively balanced but increasingly aging population in a low-density, semi-rural setting.

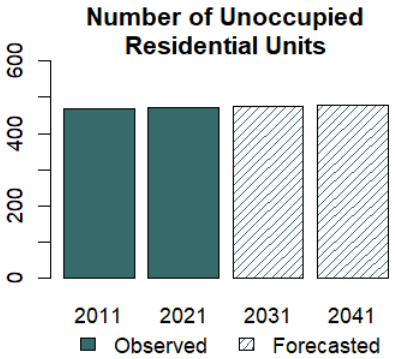
[9] Czech Statistical Office. (2025). Population - Basic data
[10] Czech Statistical Office. (2021). Labour force status
[11] Czech Statistical Office. (2021). Population by age group, sex and regions

Mapped buildings

A total of 24 deteriorating buildings were mapped in the municipality of Bystřice, across 11 settlements. Most of these are concentrated in the central part of the municipality, particularly in the town of Bystřice.

Projection of unoccupied residential units

The number of unoccupied residential units in Bystrice has remained relatively stable over the past decade. In 2011, there were 468 such units, and by 2021 the number had only slightly increased to 471 – an increase of less than 1%. Projections suggest this gradual trend will continue, with the number expected to reach 477 by 2041. Overall, this would represent a modest increase of just 9 units over a 30-year period.



Condition of the mapped buildings

- 66.7% require major repairs
- 33.3% require medium-level repairs
- 0% require minor repairs

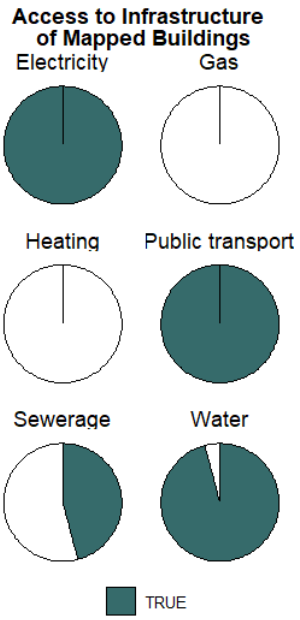
The building stock is in notably worse condition than in the other pilot areas. The share of buildings requiring major repairs is nearly double the rate observed in all pilot areas (35.9%). Additionally, 9 out of the 24 buildings are considered irreparable and marked for demolition, while the remaining 15 are deemed suitable for renovation.

Ownership and Occupancy

Nearly half (11 out of 24) of the mapped buildings are in public ownership, which is slightly higher than the average of all pilot areas. The majority (13 out of 24) of the buildings are empty, the rest are occupied.

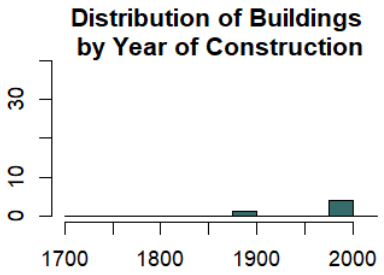
Infrastructure

The properties are equipped with key infrastructure. All buildings have access to electricity and public transport, and the majority are also connected to running water. Around half of the properties are linked to the sewerage system. However, none of the buildings are fitted with heating or have a gas connection.



Technical details

The construction year of most of the buildings are unknown. The ones where the construction year is available were built either around 1900 or in the 1990s.



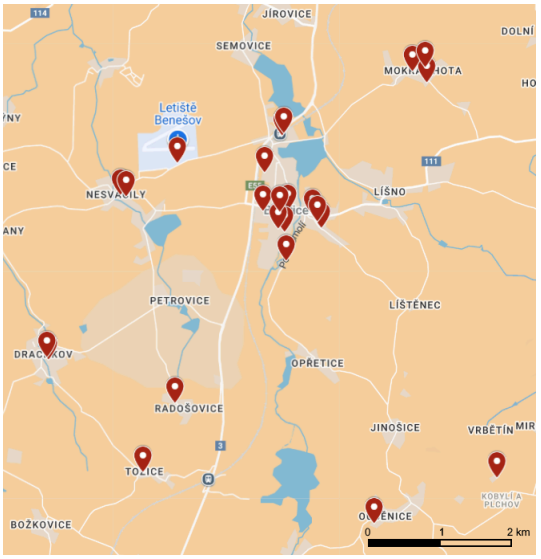
The majority of the properties have one or two floors, with 15 out of 24 buildings having only a single floor. There are also several properties with two floors, and only a single property has three floors, indicating that the majority of the buildings are relatively low-rise.

Most of the buildings are constructed with brick, with several featuring a mix of materials. A few properties are made of wood.

The buildings in Bystřice vary significantly in size, with the smallest having a net area of 76 and the largest reaching 1915 square meters. On average, the buildings have a net area of 381 square meters, a bit below the average of all pilot areas. Notably, the net area is unknown for several buildings in the municipality.

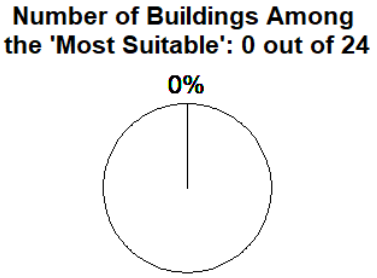
Surrounding Neighborhoods

The buildings are located in various neighborhoods, ranging from town centers to outskirts. Many are situated in built-up areas near key amenities such as bus stops, town halls, shops, and schools. Some properties are found near recreational areas, including sports fields, playgrounds, and ponds. A few buildings are positioned on the outskirts of villages or close to important routes, making them accessible for both residential and potential commercial use. There are also properties located near community centers, churches, and cemeteries, with several being easily accessible from main roads or train lines.



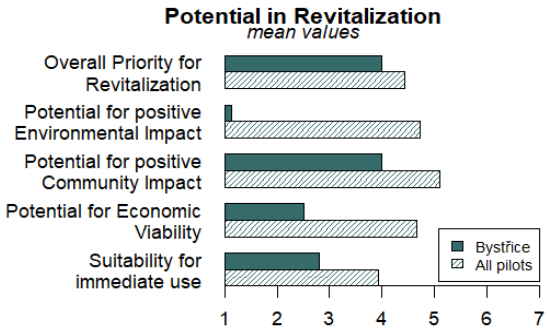
Potential use

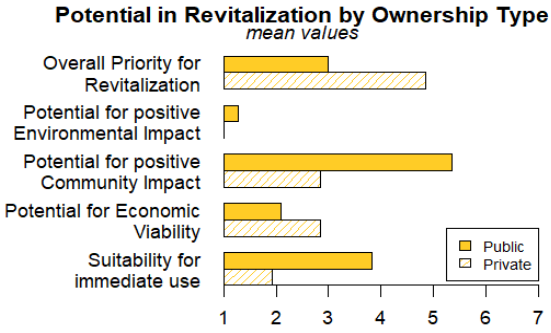
The buildings in Bystřice offer potential for revitalization with a range of proposed uses including coworking spaces, community centres, museums, youth facilities, and sports infrastructure. While only a few buildings are suitable for immediate use, many offer significant long-term potential, particularly for creating affordable housing, community spaces, and small-scale economic activities. In several cases, steps toward redevelopment have already been taken, such as facade renovations, roof replacements, detailed structural assessments, and the preparation of project documentation. Some buildings are already being used informally by local volunteers, while others are being actively considered for acquisition by the municipality. Importantly, none of the properties are protected as cultural heritage sites or located in areas prone to flooding or environmental restrictions. This lack of regulatory constraints provides added flexibility for redevelopment and makes it easier to adapt the buildings to serve evolving local needs.



The buildings in Bystřice generally score lower than the overall averages across the pilot areas in most revitalization dimensions. While their potential for generating a positive community impact is relatively strong, they are rated significantly lower in terms of environmental impact, immediate usability, and economic viability. Despite these challenges, the overall priority for revitalization in Bystřice remains relatively high. In Bystřice, public buildings show greater potential for community use and immediate repurposing, while private buildings score slightly higher on economic viability. Despite their lower community and environmental scores, private buildings are given higher overall priority for revitalization. With these low scores, none of the 42 mapped buildings are considered to be in the 'most suitable' category.

Altogether, the findings suggest that many of Bystřice's deteriorating buildings could be transformed into vibrant community spaces. While an immediate use is not feasible among these buildings, their location and relative lack of legal or environmental barriers offer a promising foundation for meaningful long-term revitalization.





Case Summary - Municipality of Bystřice, Czech Republic

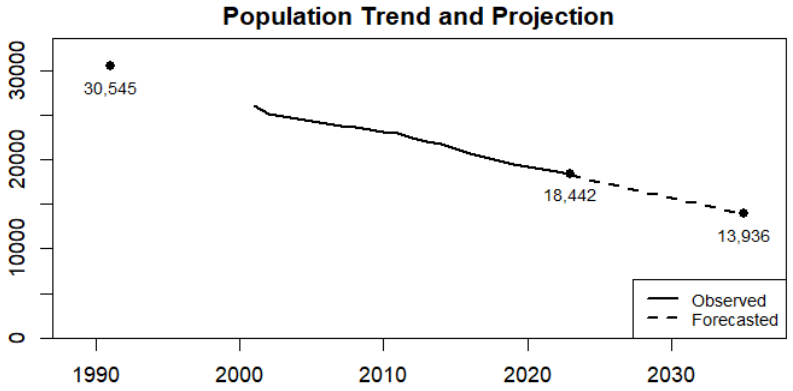
- Bystřice's population is steadily growing, though the community is aging.
- Most mapped buildings are in poor condition, with two-thirds requiring major repairs and some marked for demolition.
- Nearly half of the buildings are publicly owned, and more than half are currently vacant.
- Basic infrastructure such as electricity, water, and public transport is available, but none of the buildings have heating or gas connections.
- Many buildings offer potential for future community use, including coworking spaces, youth facilities, and cultural infrastructure; some are already being informally used or prepared for renovation.
- While the buildings score low in terms of immediate usability and environmental impact, their locations and legal flexibility offer strong potential for long-term revitalization.

Region of Gorski Kotar, Croatia

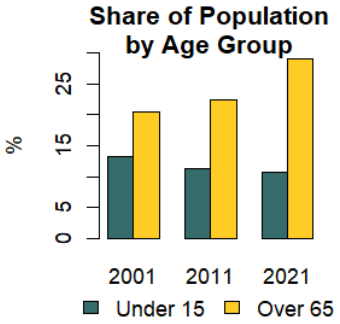
Socio-demographic characteristics

The Region of Gorski Kotar (which defines a territorial scale between NUTS3 and LAU levels) in Croatia covers an area of 1273.1 square kilometers, consisting of 9 municipalities.

Its population currently stands at 18,442 and has shown a rapid decreasing trend. Since 1991, the population has decreased by 12,103 people (-39.6%). The population density of this mountainous region is 14.5 people per square kilometer, a fraction of the national average of 68.2 people per square kilometer[12]. While the population of Croatia is slowly declining, our projection indicates that the population of Gorski Kotar will further rapidly decrease, falling below 14,000 by 2035.



The employment rate in Gorski Kotar is 65.7% which is slightly lower than the national employment rate of 68.7% while the unemployment rate stands at 3.5% which is on par with the national unemployment rate of 3.6%[13].



The age distribution in Gorski Kotar reveals an increasingly aging population. As of 2021, 10.7% of residents were under 15, while over 29.1% were over 65. The region's aging index reached 270.8 in 2021, compared to the national average of 157.4.

Housing tenure in Gorski Kotar is overwhelmingly dominated by owner-occupiers, with the proportion steadily increasing from 92.49% in 2001 to 95.89% in 2021. In contrast, the share of market rental housing has remained minimal. This reflects a strong tradition of homeownership in the region and a limited role for the rental market.

From a socio-demographic perspective Gorski Kotar stands out with a rapidly falling, low density and drastically aging population.

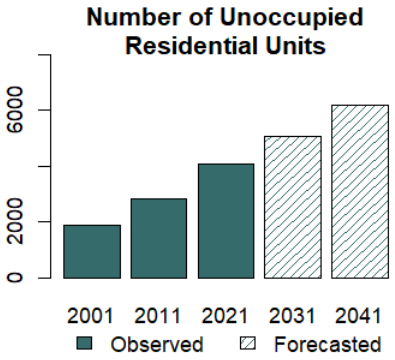
[12] Croatian Bureau of Statistics. (2024). Population Estimate of the Republic of Croatia.
[13] Croatian Bureau of Statistics. (2024). Labour Force in the Republic of Croatia - Population by Age and Sex by Settlements

Mapped buildings

A total of 134 deteriorating buildings were identified and mapped in the region of Gorski Kotar. They are scattered all across the region in 25 settlements, with higher concentration in the villages of Hrib, Lič and Fužine and the town of Razloge.

Projection of unoccupied residential units

The number of unoccupied residential units in Gorski Kotar has grown steadily over the past two decades. In 2001, there were 1,903 such units, increasing to 4,067 in 2021 – more than doubling in 20 years. Our projection indicates that this upward trend will persist, with the number expected to rise to 6,175 by 2041.



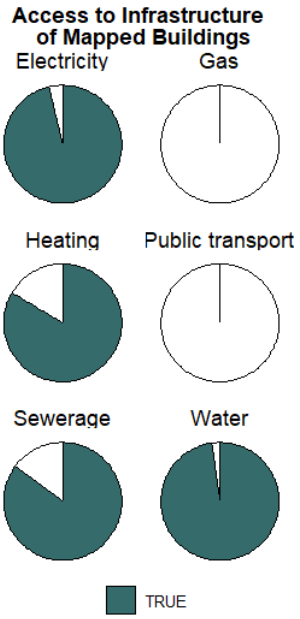
Condition of the mapped buildings

- 52.2% require major repairs
- 44.0% require medium-level repairs
- 2.2% require minor repairs

The proportion of buildings needing major repairs is higher than the average of all pilot areas (35.6%). Additionally, 17.2% of the buildings are considered to be in a condition that necessitates demolition, while the remaining 82.8% are assessed as suitable for renovation which is similar to the average of all pilot areas.

Ownership and Occupancy

31.3% of the mapped buildings are in public ownership, which is slightly lower than the average of all pilot areas. More than three-quarters of the buildings stand empty.



Infrastructure

The properties are generally well equipped with essential infrastructure. Almost all buildings have access to electricity and running water, and most are also connected to heating and the sewerage system. However, all properties have poor access to public transport, and none are connected to piped gas.

Technical details

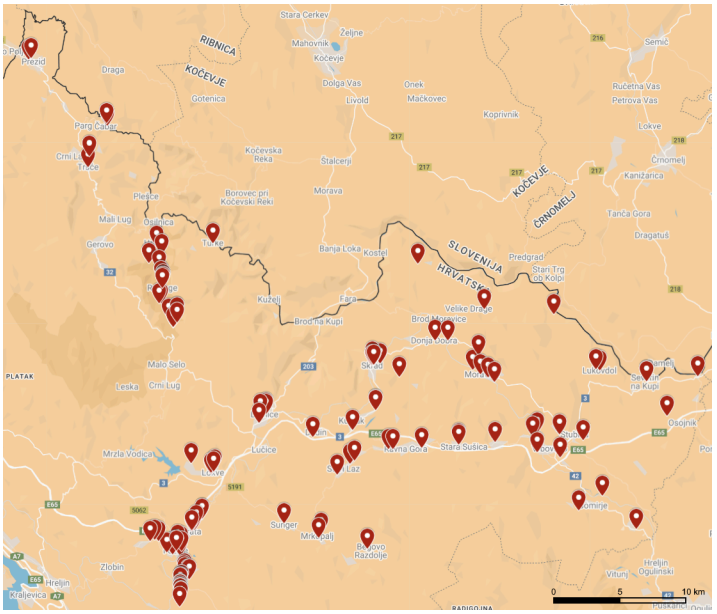
Most mapped buildings in Gorski Kotar are low-rise, with 52 having one floor and 48 having two. Only a small number exceed this height: 18 have three floors, 15 have four, and just one building has five floors.

The buildings are constructed from a wide range of materials, often in combination. Wood and stone are the most commonly used, frequently appearing together or with brick and concrete. Purely wooden structures account for 14 buildings, while 15 buildings combine stone and wood. Brick and concrete also feature prominently, either alone or in mixed-material constructions. This variety reflects traditional building practices in the region, as well as later adaptations using modern materials like concrete and steel.

Buildings in the region have a larger average net area (518.1 square meters) compared to the overall average across all pilot areas. However, the median size is somewhat smaller, indicating that while most buildings are relatively modest, and a few very large ones – five properties are over 4000 square meters – significantly raise the average.

The age of the buildings are unknown.

Surrounding Neighborhoods



The properties are situated in a variety of rural, semi-urban, and industrial contexts throughout the region, reflecting a mix of historical, natural, and built environments. Many are located in isolated hamlets or forested areas, offering scenic views of mountains, meadows, or river basins such as the Kupa. Some are embedded in the historical cores of settlements, blending with preserved rural or urban architecture, while others stand out due to their size or industrial setting. Proximity to landmarks like local churches, cemeteries, lakes, and main roads – such as the old and new Rijeka-Zagreb motorways – frequently define the visual and functional character of their surroundings. A number of sites also suffer from visual degradation due to abandonment, brownfields, or incongruent modern structures, contrasting with the otherwise picturesque landscapes.

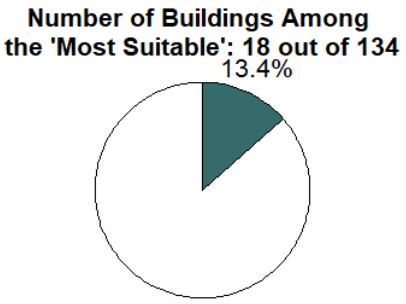
Spatial Planning Regulations

Most properties are located in areas primarily intended for residential use, with some zones also allowing a mix of housing and other activities. There are a few buildings in zones dedicated to commercial, industrial, or public purposes.

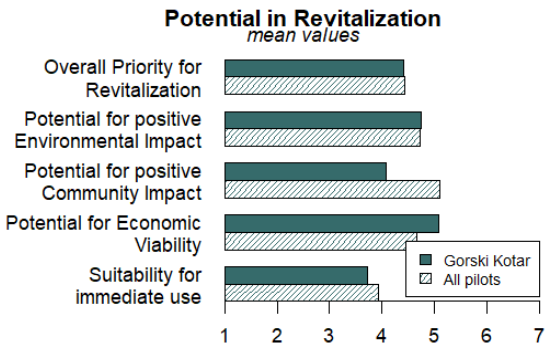
Potential use

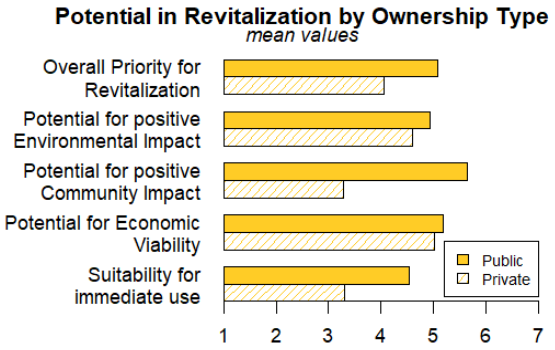
The revitalization potential of the existing housing stock in this region is substantial, offering numerous opportunities for adaptive reuse that can stimulate local economic growth, enhance community well-being, and promote sustainability. A significant number of properties are being considered for residential and rental uses, indicating a strong demand for housing and rental opportunities. There is also considerable interest in transforming some properties into commercial spaces, including shops, offices, and hubs for innovation and entrepreneurship. For instance, converting historic buildings into multifunctional spaces – such as administrative offices in one part and production facilities in another – would not only preserve heritage but also create diverse job opportunities. Similarly, former agricultural buildings could be transformed into rehabilitation centers, providing both accommodation and workshop spaces for individuals in recovery. Moreover, remote buildings could be reimagined as spaces for elderly care or innovation hubs, aligning with the region's economic strengths, particularly in wood technologies. While some buildings are situated in flood-prone areas, only a small portion of the buildings are under cultural or environmental protection.

The properties in Gorski Kotar received average scores for their general revitalization potential. Economically, they appear more viable than the average across all pilot areas, yet their projected positive impact on the community falls below the overall average. A notable finding is the significantly higher revitalization potential of publicly owned buildings compared to private ones. Public buildings stand out particularly in terms of their potential community benefits, scoring nearly twice as high as their private counterparts.



In summary, while revitalization opportunities exist across the housing stock, strategic focus on publicly owned properties would likely yield the greatest returns – both economically and socially. These assets represent the most promising foundation for impactful, community-centered redevelopment.





Case Summary - Region of Gorski Kotar, Croatia

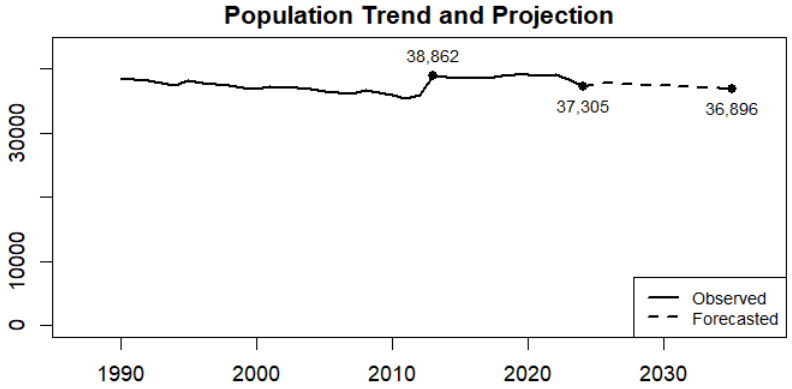
- Gorski Kotar's population experiences a severe demographic decline, with a nearly 40% shrink since 1990.
- The region has a drastically aging population, with a very high aging index of 270.8, far above the national average.
- A growing number of unoccupied residential units signals continued depopulation and underutilization of housing stock.
- The mapped deteriorating buildings are in bad structural conditions, with three-quarters requiring medium or major repairs, and a high rate of buildings in need of demolition.
- Essential infrastructure like water, electricity, and heating is mostly available, but access to public transport is poor and none of the buildings are connected to piped gas.
- Many properties have potential for adaptive reuse, including conversion into residential, rental, or commercial spaces such as offices, innovation hubs, or rehabilitation centers.
- Publicly owned buildings show significantly higher revitalization potential, particularly for community-oriented functions, and represent the most promising targets for impactful redevelopment.

District of Sárvár, Hungary

Socio-demographic characteristics

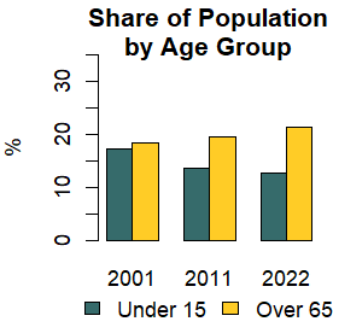
The District of Sárvár (LAU-1) in Hungary covers an area of 685 square kilometers, consisting of 40 settlements and the towns of Sárvár and Répcelak.

Its population currently stands at 37,305 and has shown a slowly declining trend. Even though a long term comparison is not possible due to administrative changes in 2013 redrawing the district borders, generally a slow but steady decline describes the past three decades. Since 2013, the population has shrunk by 1557 people (-4%). The population density of the area is 54.4 people per square kilometer, nearly half of the national value of 103.2 people per square kilometer[14]. Similarly to the national trend of Hungary, our projection indicates that by 2035, the population of Sárvár will further slowly decline to 36,896.



The employment rate of Sárvár stands at 75.9%, on par with the national employment rate of 75.7% while the unemployment rate is at 2.1%, falling below the national unemployment rate of 3.8%.

The age distribution in Sárvár reveals a tendency of an increasing population aging. As of 2022, 12.8% of residents were under 15, while 21.4% were over 65. The region's aging index reached 167.6, compared to the national average of 142.1.



The vast majority of the population, 93.4% lives in self-owned housing, while only 5.8% reside in rental accommodations, whether privately or publicly owned.

From a socio-demographic perspective, Sárvár District is experiencing a slow population decline, significant aging, and strong employment levels.

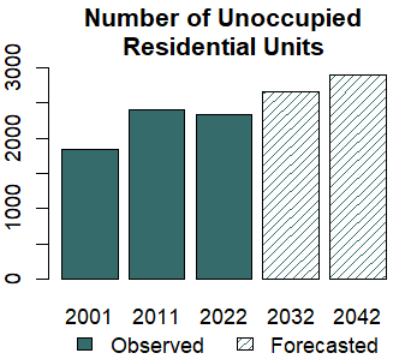
[14] KSH, (2024). Népszámlálás 2022

Mapped buildings

A total of 29 deteriorating buildings were identified and mapped in the district of Sárvár, across three settlements. Most of these are concentrated in the town of Sárvár, while a few are located in the neighboring settlements of Porpác and Bögöt.

Projection of unoccupied residential units

The number of unoccupied residential units in the Sárvár district has been on the rise over the past two decades, despite some fluctuations. Since 2001, the number grew by 491 units, representing a 26.7% increase. Based on our projection, this trend is expected to continue, with the number of unoccupied units reaching 2,894 by 2042 – a further increase of 24.1%.



Condition of the mapped buildings

- 0% require major repairs
- 100% require medium-level repairs
- 0% require minor repairs

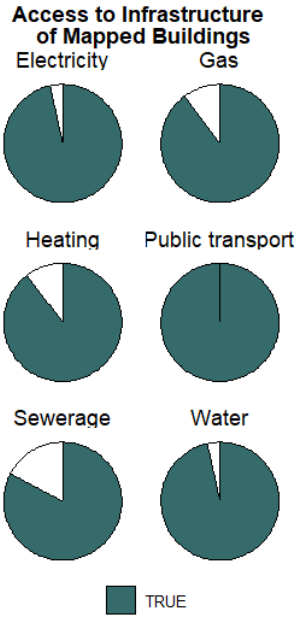
In the district of Sárvár all of the mapped buildings are classified as requiring medium-level repairs. Additionally, all 29 buildings are assessed as suitable for renovation with none considered to be in a condition that necessitates demolition.

Ownership and Occupancy

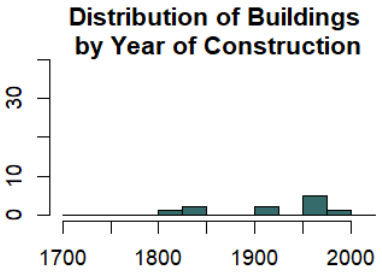
12 out of 29 of the mapped buildings (41.4%) are in public ownership, which is slightly higher than the average of all pilot areas. More than half of the buildings (15 out of 29) are empty.

Infrastructure

Overall, the properties are very well equipped with essential infrastructure. All buildings are connected to the public transport network, ensuring accessibility. The majority also have access to running water, electricity, heating, and piped gas, making them suitable for residential use. The least common infrastructure feature is a connection to the sewerage system; however, this affects only 5 out of the total 29 properties.



Technical details



The majority of the mapped buildings are single-story structures, with 16 out of 29 properties having only one floor. In contrast, 4 buildings have two floors, while 6 buildings are three-story structures. Overall, low-rise buildings dominate the area's built environment.

The construction year of most properties is unknown. Among those with known dates, the buildings were constructed over a wide time span – some as early as the early 1800s, while a higher proportion was built in the second half of the 20th century.

The majority of buildings (24 out of 29) are constructed from brick. A few buildings feature mixed construction, and two are categorized as using other, less common materials. Overall, brick is clearly the dominant building material in the area.

The net area of the buildings are typically larger in comparison with the other pilot areas, with an average size of 632 square meters. The majority of net area of the buildings are between 200 and 350 square meters.

Surrounding Neighborhoods

The mapped properties are located in a variety of neighbourhoods, ranging from central, well-equipped areas to more peripheral or disadvantaged zones. Several buildings are situated in the town centre of Sárvár, often in heritage areas or close to key amenities such as schools, shops, and public transport. Others are in suburban or residential areas, some of which are quieter but less developed, with limited infrastructure. A few properties lie in flood-prone zones near the Rába River or in former industrial or low-income areas. Additionally, some buildings are located in village centres representing the rural area of the district of Sárvár.

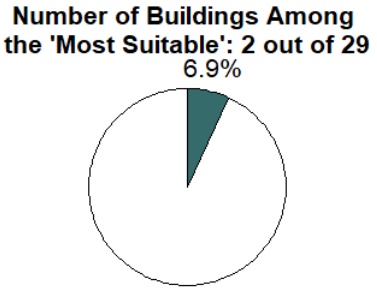
Spatial Planning Regulations

All mapped properties are located in zones defined by the municipal or state spatial plan, including residential, institutional, mixed-use, and special-purpose areas. The majority fall within various residential categories – such as rural, suburban, small-town, or metropolitan zones – while others are situated in institutional or mixed-use areas. Notably, none of the properties have permission to expand their floor area under current regulations.

Potential use

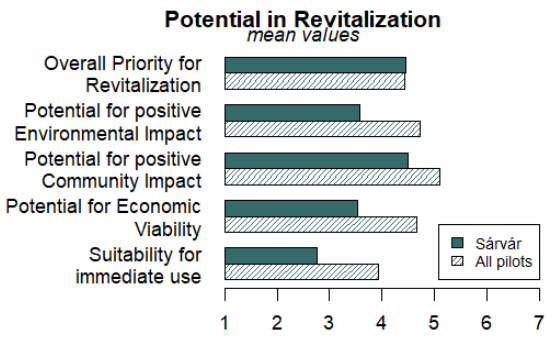
The mapped deteriorating buildings in the district of Sárvár properties possess diverse untapped potentials, while some facing regulatory constraints.

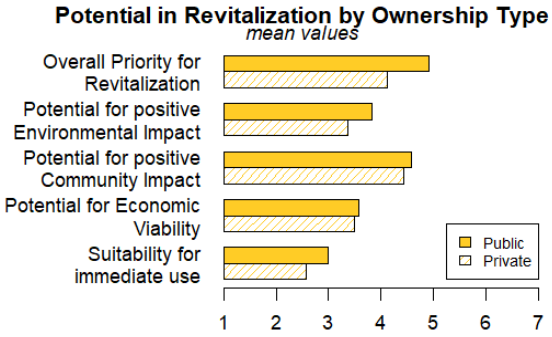
Several properties are under cultural heritage protection, which may limit alterations and require special permits for renovation, potentially increasing costs and complexity, however environmental protection and flood risk are noted in only a few cases. The buildings have strong potential to be revitalized for public and community-oriented purposes, such as cultural centers, museums, or interactive exhibition spaces that showcase local and national heritage. Several sites are especially well-suited for hosting civil organizations or community initiatives, including incubator houses and youth-focused spaces. There is also an opportunity to create multifunctional venues for open-air events, concerts, or gastro-cultural experiences, which could attract both locals and tourists. Some properties near the river or at central locations could be developed into restaurants, cafés, or leisure and sports areas. Others may be transformed into accommodation or mixed-use spaces combining commercial and community services.



Compared to the average of all pilot areas, the buildings in this area generally score lower in most categories, particularly in immediate usability and economic viability. However, the potential for positive community remains relatively strong, suggesting that revitalization efforts could yield meaningful social and ecological benefits. Notably, however, the overall priority for revitalization is slightly above average. Publicly owned buildings in Sárvár consistently score higher than privately owned ones across all evaluated categories. The most notable difference is in overall priority for revitalization, where public buildings outperform private ones by a significant margin. This suggests that public properties may offer more immediate and impactful opportunities for redevelopment efforts.

In summary, the buildings in Sárvár, especially the publicly owned ones, hold considerable potential for adaptive reuse. They are particularly suitable in enhancing community life, making them strong candidates for targeted revitalization programs.





Case Summary - District of Sárvár, Hungary

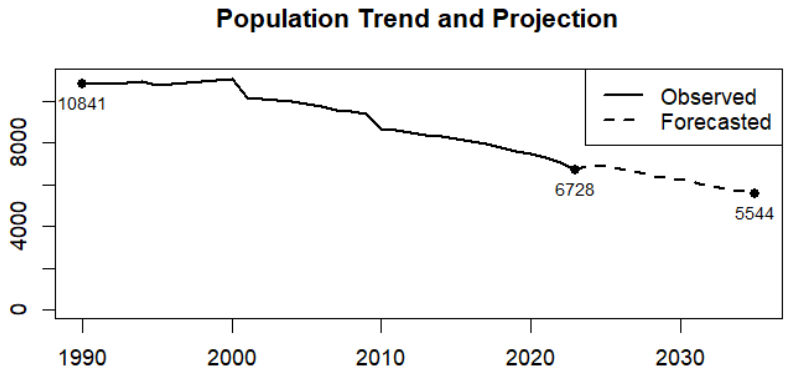
- The population of Sárvár is slightly shrinking and aging, following national trends but with a higher share of elderly residents.
- The employment rate is solid with a notably low unemployment rate, outperforming the national average.
- Housing vacancy is rising, and is projected to continue increasing over the next decades.
- All deteriorating buildings are repairable, with no need for demolition.
- Nearly half of mapped buildings are publicly owned, which presents a strategic advantage for community-focused redevelopment.
- Good Infrastructure: All properties are accessible by public transport and have core utilities (water, electricity, heating, gas).
- Many buildings, especially public ones, are suitable for cultural, community, or mixed-use functions, making them solid candidates for revitalization initiatives.

Municipality of Mojkovac, Montenegro

Socio-demographic characteristics

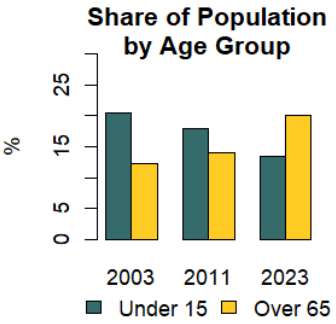
The Municipality of Mojkovac (LAU-1) in Montenegro covers an area of 367 square kilometers, consisting of 15 settlements.

Its population currently stands at 6,728 and has shown a significant declining trend. Since 1990, the population has decreased by 37.9%, a drop of 4,113 people. The population density of the area is 18.3 people per square kilometer, less than half of the national value[15] of 44.9 people per square kilometer. While the population of Montenegro generally stagnates, our projection indicates that by 2035, the population of Mojkovac will further decrease to around 5,500 people.



The employment rate in Mojkovac is 52.9% significantly below the national employment rate of 61.1%, while the unemployment rate stands at 11.5% which is higher than the national unemployment rate of 9.4%[16].

The age distribution in Mojkovac reveals a clear trend toward an aging population. As of 2023, only 13.4% of residents are under 15 – a proportion that has steadily declined since 2003 – while 20.2% are over 65, a figure that continues to rise rapidly. The region's aging index reached 150.44 in 2023, well above the national average of 93.39, highlighting Mojkovac's significantly older population profile.



The vast majority of the population (95%) lives in self-owned housing, while 5% reside in private rental accommodations.

From a socio-demographic perspective Mojkovac stands out with an extremely low employment rate and with a high ageing index.

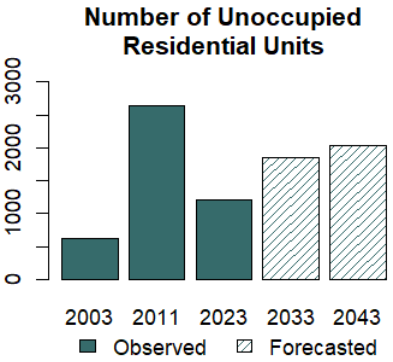
[15] MONSTAT. (2024). Population of Montenegro by Sex and Age
[16] MONSTAT. (2024). Population by activity status in Montenegro

Mapped buildings

A total of 118 deteriorating buildings were identified in the municipality of Mojkovac, 42 of which have been mapped across eight settlements. Most of these are concentrated in the central part of the municipality, particularly in the town of Mojkovac and the settlement of Podbišće.

Projection of unoccupied residential units

The number of unoccupied residential units in Mojkovac has shown considerable fluctuation over the past two decades. In 2003, there were 628 such units, which rose sharply until 2011, followed by a notable decline to 1,216 units in 2023, however this drop may be influenced by changes in data collection methodology. Looking ahead, our projection suggests a renewed increase, with unoccupied units reaching 2,037 by 2043.



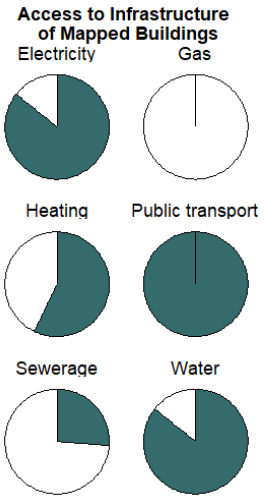
Condition of the mapped buildings

- 38.1% require major repairs
- 33.3% require medium-level repairs
- 28.6% require minor repairs

The proportion of buildings needing only minor repairs is notably higher than the average of all pilot areas (19%). Only 7% of the buildings are considered to be in a condition that necessitates demolition, while the remaining 93% are assessed as suitable for renovation – in line with the trends observed in other pilot areas.

Ownership and Occupancy

31% of the mapped buildings are in public ownership, which is below the average of all pilot areas. 69% of the buildings are empty, indicating a high vacancy rate in this area.



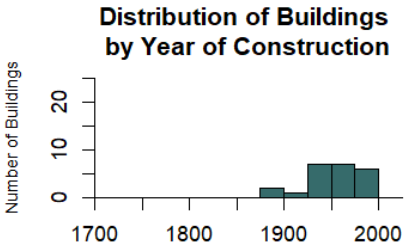
Infrastructure

The properties are moderately equipped with essential infrastructure. Notably, 85% have access to electricity and water, while all buildings are within easy reach of public transport, highlighting a strong potential for revitalization of the area.

However, none of the buildings have access to piped gas, and less than a quarter are connected to the sewerage system. These should be taken into account when planning for future development and modernization.

Technical details

Most buildings were built in the second half of the 20th century, with a small number dating back to around 1900.



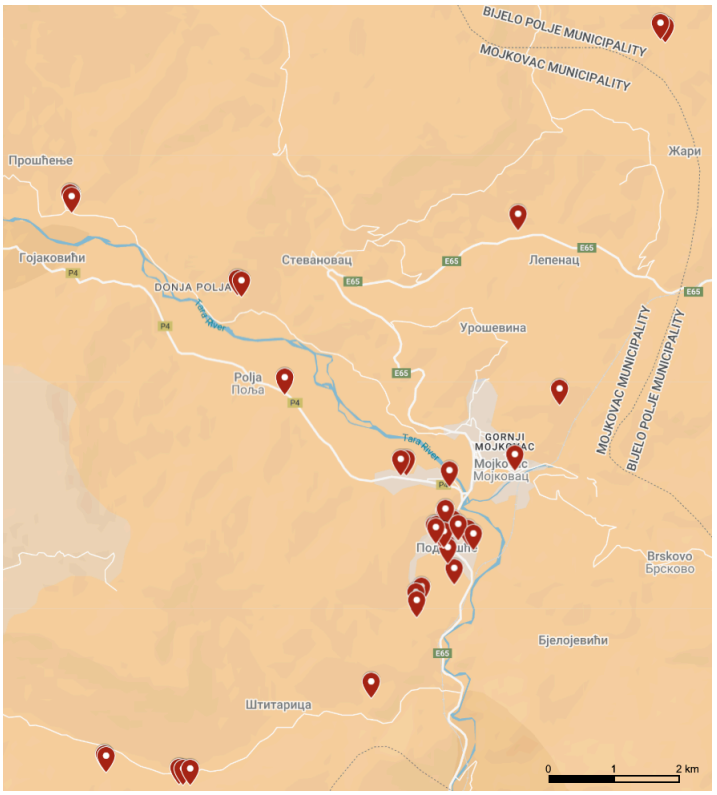
Most properties are single-storey buildings, with a significant number also featuring basements, attics, or additional floors – up to three in some cases.

Construction materials vary but commonly include stone, wood, cement, and bricks. Timber frame construction appears frequently, especially in homes with basements. Hollow clay blocks, reinforced concrete, and particle board are also used, indicating a mix of traditional and more modern building techniques across the housing stock.

The gross area of the buildings are among the smallest in comparison with the other pilot areas, with an average size of 113 square meters. The majority of gross area of the buildings are between 60 and 140 square meters.

Surrounding Neighborhoods

The buildings in Mojkovac are found in a mix of rural and urban settings. Many are near forests, meadows, orchards, and pastures, with some offering mountain views. Several are close to cultural landmarks like the Partisan cemetery and memorial complex "Grotulja". Others are near schools, sports fields, or planned business zones. Some areas are densely populated, while others are quiet and surrounded by nature, showing a varied landscape with both development potential and natural appeal.



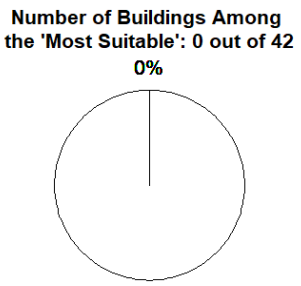
Spatial Planning Regulations

Most properties fall under regulations for low-density housing, often tied to agriculture or mixed residential and activity zones. A large portion is also located in general settlement areas or zones designated for agriculture and rural living. Additionally, a few properties are situated in areas intended for higher-density housing or community-oriented functions like sports, education, or administration.

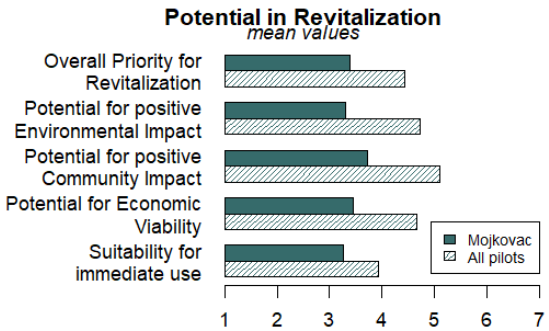
Potential use

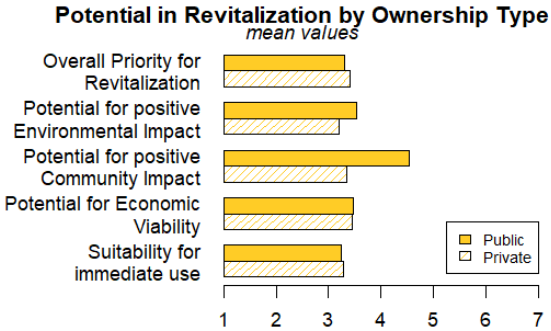
The potential for revitalizing the 42 buildings in Mojkovac Municipality presents an opportunity for a variety of uses, even though receiving relatively low scores for revitalization potentials compared to other pilot areas.

None of the properties are subject to cultural heritage or environmental protection regulations, which removes the legal and administrative barriers typically associated with such projects. The buildings have potential to be used in a diverse range of ways, with many suitable for private residential purposes, tourist accommodation, or small business activities. Several could even accommodate combined uses, such as housing with agricultural or commercial functions. Additionally, there are opportunities for public, community-oriented purposes, including venues for cultural events, educational facilities, or spaces dedicated to local heritage and tourism. This broad spectrum of potential uses highlights the flexibility of the buildings, making them adaptable to a variety of needs and supportive of both individual and community development.



However, despite the range of potential uses, the revitalization prospects for these buildings are generally modest. Analyzing the suitability scores of the buildings reveals that their potential for immediate reuse, economic viability, and positive community or environmental impact consistently falls below the averages of all pilot areas. With an overall revitalization priority score of just 3.38 – compared to the average of 4.43 – none of the 42 buildings are ranked among the 'most suitable' for redevelopment. As a result, Mojkovac Municipality ranks among the three pilot areas (out of eleven) with zero buildings in the highest suitability category. Ownership also appears to play a role: the 13 publicly owned buildings generally received higher scores than privately owned ones, particularly in terms of community impact, where public buildings nearly reached 5 points, while private ones barely exceeded 3. In conclusion, prioritizing the publicly owned buildings offers the best chance to achieve meaningful and community-oriented revitalization in Mojkovac.





Case Summary - Municipality of Mojkovac, Montenegro

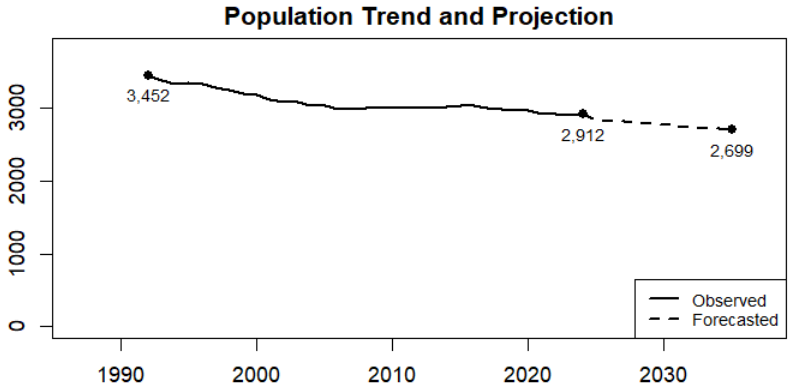
- Mojkovac has been experiencing long-term population decline and demographic aging, with fewer young residents and a growing elderly population, creating challenges for workforce sustainability and service provision.The municipality faces economic hardship, with employment rates significantly below national averages and a high unemployment rate.
- The vacant and deteriorating buildings in the municipality are mostly structurally suitable for renovation rather than demolition, offering potential for reuse if revitalization is prioritized.
- Despite lacking piped gas access, the buildings are generally well-connected to public infrastructure, including public transport, electricity and other essential services. Many are located in attractive natural or culturally significant settings, enhancing their redevelopment appeal.
- While overall revitalization potential is modest, publicly owned buildings show higher suitability – especially for community-oriented functions – making them the most promising assets for regeneration efforts.

Municipality of Hodod, Romania

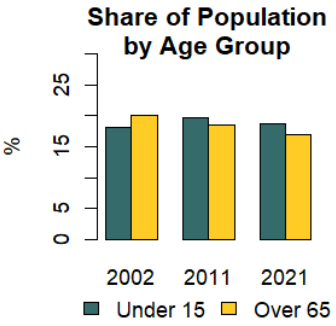
Socio-demographic characteristics

The Municipality of Hodod (LAU-2) in Romania covers an area of 76.88 square kilometers, consisting of three settlements (Giurtelecu Hododului, Lelei and Nadișu Hododului) and the commune of Hodod.

Its population currently stands at 2,912 and has shown a consistent downwards trend over time. Since 1992, the population has decreased by 540 (-15.6%). The population density of the area is 37.9 people per square kilometer, less than half of the national value of 80.0 people per square kilometer[17]. Similarly to the slowly shrinking population of Romania, our projection indicates that by 2035, the population of Hodod will further decline to less than 2,700 people.



The employment rate in Hodod is 53.5%, below the national employment rate of 63.3%, while the unemployment rate stands at 3.1%, which is on par with the national unemployment rate of 3.7%[18].



The age distribution of Hodod reveals a trend of population rejuvenation; over the past two decades, the commune's demography shifted from an aging population toward a younger population structure. As of 2021, 18.7% of residents are under 15, while 16.9% are over 65. The region's aging index reached 90.5, compared to the national average of 121.2

The vast majority of the population (99%) lives in self-owned housing, while 0.3% reside in private rental accommodations and 0.4% live in public rental.

From a socio-demographic perspective, Hodod is characterized by high rates of home ownership, and a population rejuvenation despite a long-term decline in total population.

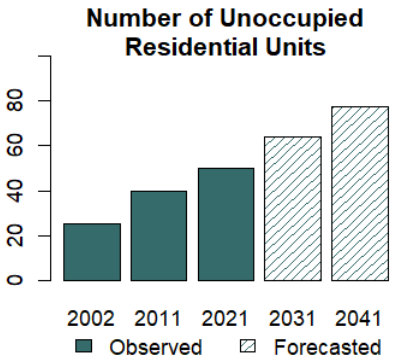
[17] Eurostat. (2024). Principles, countries, history. EU countries. Romania
[18] INS. (2022). Population and housing census 2021 - Labour force in Romania

Mapped buildings

A total of 100 deteriorating buildings were identified in the municipality of Hodod, 41 of which have been mapped. All of the buildings are in the commune of Hodod.

Projection of unoccupied residential units

The number of unoccupied residential units in Hodod has been steadily increasing over the past two decades. Since 2001, the number has doubled from 25 to 50 units. Projections indicate that this upward trend will continue, with unoccupied units expected to reach over 77 by 2041.



Condition of the mapped buildings

- 12.2% require major repairs
- 41.5% require medium-level repairs
- 46.3% require minor repairs

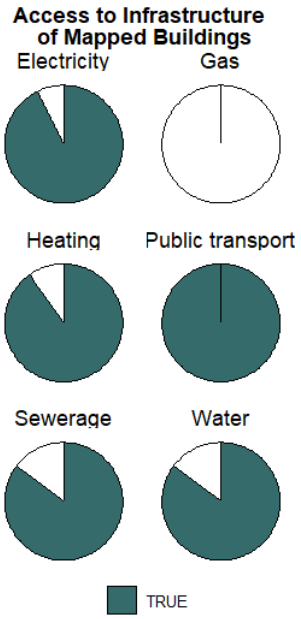
The mapped buildings in Hodod are in relatively good structural conditions. The proportion of buildings needing only minor repairs of 46.3% is more than double the average of all pilot areas (19.2%). All of the buildings are assessed as suitable for renovation, and none are considered to be in a condition that necessitates demolition..

Ownership and Occupancy

5 out of the 41 mapped buildings are in public ownership (12.2%), which is a fraction of the average of all pilot areas. A quarter of the buildings are empty, while the majority is occupied.

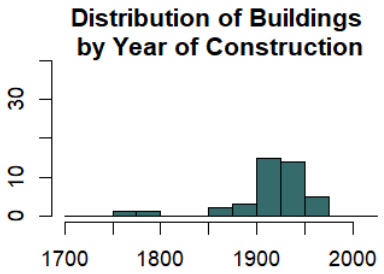
Infrastructure

The mapped properties are generally well equipped with basic infrastructure. All mapped buildings have good connection to public transport networks and the vast majority of them have electricity, heating, running water and access to the sewerage system. However, all properties lack the access to piped gas in the commune.



Technical details

The mapped building stock in Hodod commune is predominantly historic, with many structures dating back to the late 19th and early 20th centuries. The oldest mapped building was constructed in 1767, and at least half of the buildings are now around a century old. While a few buildings were built as recently as the 1950s, the mostly aged structures may require special attention for preservation and restoration.



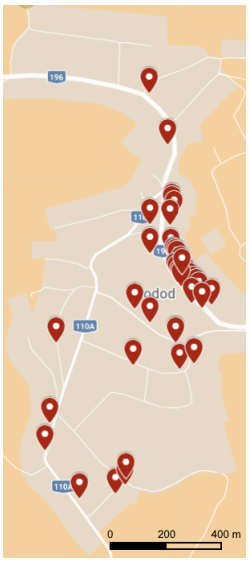
The vast majority of buildings in Hodod are two-storey structures. Only a small number have one or three floors, indicating relatively uniform building height across the area.

Most buildings are constructed from brick. Only one building is made of wood and one has mixed structural materials.

The mapped buildings in Hodod are predominantly composed of small to medium-sized properties. They are smaller and more modest in scale compared to the overall average across all pilot areas. The median net area is 147 square meters, noticeably lower than the overall median (203.9 square meters), and the mean net area in Hodod (217.7 square meters) is nearly half of the overall average.

Surrounding Neighborhoods

Most of the mapped buildings in Hodod are concentrated in the central area of the locality, often in close proximity to key landmarks such as the town hall, Wesselényi castle, and public institutions. A smaller number are located in semicentral or southern residential zones, typically surrounded by housing and local services.



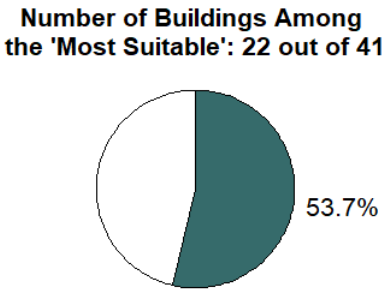
Spatial Planning Regulations

According to spatial planning regulations in Hodod, most mapped buildings are located in central zones designated for residential, community, and service functions. In these central zones, the possibility to add additional floor area is typically restricted. However, in semi-central and peripheral residential zones, especially in the southern and western parts of the commune, spatial plans are more permissive, and extensions or the addition of new floor area are generally allowed.

Potential use

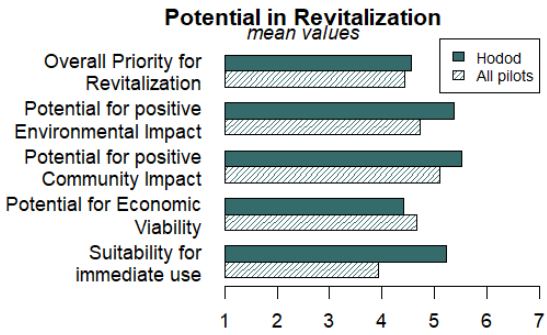
Mapped buildings in the municipality of Hodod have comparatively high revitalization potential. Importantly, revitalization is largely unrestricted, with only a few buildings affected by cultural heritage and environmental protection regulations.

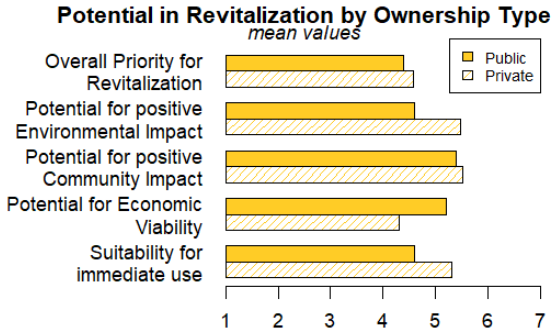
The revitalization of the mapped buildings in Hodod includes a variety of uses that balance economic development with community needs. Many buildings are suited for mixed-use functions, with residential units on the upper floors and commercial or craft-based activities on the ground floor, supporting local entrepreneurship and street-level activity. Others offer opportunities for tourism-related functions such as guesthouses, hotels, restaurants, or conference centers, particularly in architecturally or historically significant properties. Community-oriented uses like parish houses, youth centers, counseling spaces, and museums are also proposed, contributing to the area's social infrastructure.



Hodod stands out among the pilot locations with strong scores across key revitalization dimensions. It shows high suitability for immediate use and exceptional potential for generating positive community and environmental impacts. While its economic viability is slightly below the pilot average, this is balanced by its strengths in other areas. Privately owned buildings score higher on immediate use suitability and community and environmental impact, while public buildings have higher economic viability scores. However, the differences are small and inconclusive, showing that both private and public buildings are important for revitalization. Overall, Hodod emerges as a high-priority site for revitalization with more than half of the mapped buildings rated among the 'most suitable' buildings for revitalization, outperforming the average of the pilot areas.

In summary, by combining mixed-use development focusing on community spaces, tourism-related functions and residential purposes, the revitalization of deteriorated houses can foster sustainable economic upheaval and strengthen the local community.





Case Summary - Municipality of Hodod, Romania

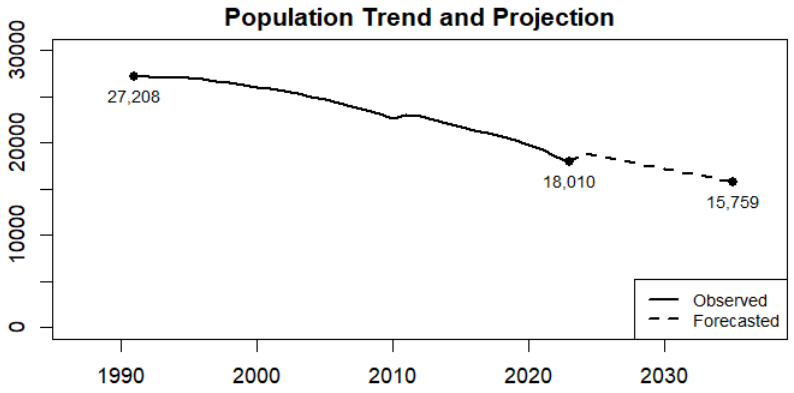
- Hodod's population has been steadily declining, yet its age distribution has shifted toward a younger population, with a relatively low aging index (90.5 vs. national 121.2).
- 99% of residents live in self-owned housing.
- The population density is less than half the national average.
- The number of unoccupied residential units has doubled in just two decades, with further increases expected.
- The mapped deteriorating buildings are in exceptional structural condition: almost half of them only need minor repairs, and none require demolition.
- The buildings are relatively old, and smaller than average compared to other pilot areas.
- The buildings offer strong potential for mixed-use, tourism, and community-oriented functions.
- More than half of the mapped buildings are rated among the 'most suitable' for revitalization.

Municipality of Despotovac, Serbia

Socio-demographic characteristics

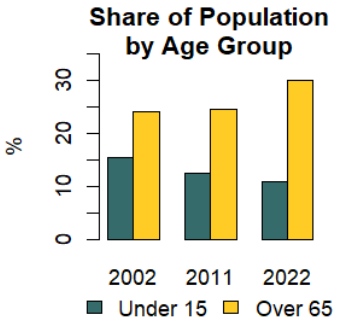
The Municipality of Despotovac (LAU-1) in Serbia covers an area of 623 square kilometers, consisting of 33 settlements centered around the town of Despotovac.

Its population currently stands at 18,010 and has shown a steep declining trend. Since 1991, the population has decreased by 34%. The population density of the area is 28.9 people per square kilometer, a fraction of the national value of 85.1 people per square kilometer. Similarly to the population of Serbia, our projection indicates that by 2035, the population of Despotovac will further decrease to less than 16 thousand.



The employment rate is at 44.5%, significantly below the national employment rate of 56.9% while the unemployment rate stands at 13.0% which is significantly higher than the national unemployment rate of 9.5%[19].

The age distribution in Despotovac reveals an increasingly aging population. As of 2022, 10.9% of residents were under 15, while 30.1% were over 65. The region's aging index reached 277.5, drastically higher than the national average of 121.2[20].



The population of Despotovac is predominantly characterized by owner-occupied housing. In 2022, 98% of residents lived in privately owned homes – an increase of 6 percentage points over the past 11 years. Meanwhile, the proportion of the population living in public rental housing declined to just 1.4%.

From a socio-demographic perspective, Despotovac is marked by severe depopulation, low employment, and rapid aging, with a strong trend toward owner-occupied housing and minimal public rental use.

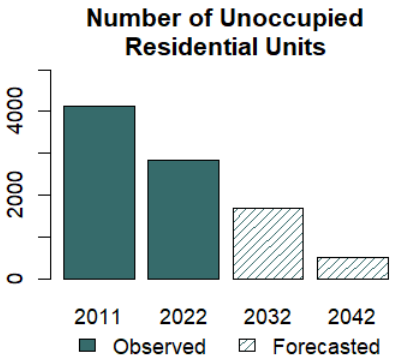
[19] Statistical Office of the Republic of Serbia.(2025). Population by economic activity, age and sex
[20] Statistical Office of the Republic of Serbia.(2025). Population by age and sex

Mapped buildings

A total of 60 deteriorating buildings were identified in the municipality of Destopovac, 30 of which have been mapped across 10 settlements. The mapped properties are scattered all across the region, with a higher concentration in the town of Destopovac.

Projection of unoccupied residential units

In Despotovac, the number of unoccupied residential units dropped sharply from 4,117 in 2011 to 2,842 in 2022, and is projected to fall to just 524 by 2042 – a decline of nearly 90%. This trend is puzzling given the municipality's shrinking population. At the same time, the number of unoccupied buildings rose from 652 in 2011 to 764 in 2021, highlighting a possible mismatch in housing metrics.



Condition of the mapped buildings

- 33.3% require major repairs
- 33.3% require medium-level repairs
- 33.3% require minor repairs

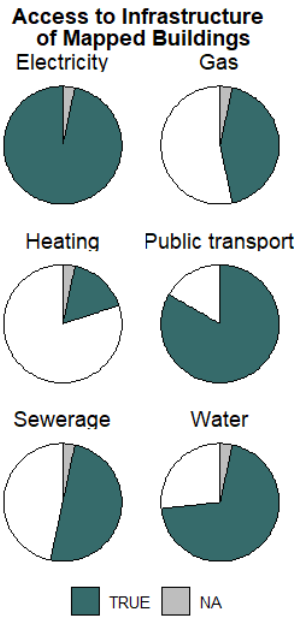
These mapped deteriorating buildings in Despotovac are in comparatively good structural condition. The share of buildings needing only minor repairs in Despotovac is slightly higher than the average of all pilot areas. Additionally, none of the buildings are considered to be in a condition that necessitates demolition, with all mapped buildings being assessed as suitable for renovation.

Ownership and Occupancy

The vast majority of the mapped buildings are in public ownership (25 out of 30), which is much higher than the average of all pilot areas. 21 out of the 30 buildings total are empty.

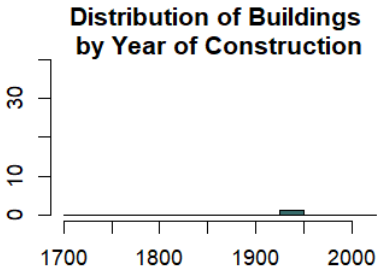
Infrastructure

The properties are generally moderately equipped with essential infrastructure. Almost all buildings have access to electricity and good public transport connections are also frequent. The majority of the buildings have access to running water and the sewage system. However, less than half of the buildings have access to piped gas and heating in the buildings is scarce.



Technical details

The construction year of the vast majority of buildings is unknown; only one has a confirmed date, built in 1933. Of the 30 mapped buildings, 19 are two-story structures, while the remaining 11 are single-story.



The buildings are predominantly constructed from a combination of stone, brick, and concrete. A few structures also incorporate additional materials such as wood or steel, suggesting some variation in construction methods or periods.

Buildings in Despotovac are relatively uniform in size, with most having a net area between 260 and 330 square meters. Compared to other pilot areas, where building sizes vary widely, Despotovac's buildings are notably consistent and moderately sized. The average building here is slightly smaller (298 square meters) than the overall average across all areas.

Surrounding Neighborhoods

The buildings in Despotovac are situated in a variety of settings, reflecting the municipality's diverse landscape. Many are located in the hilly, forested areas surrounding the village, some near natural landmarks like the Resava River, Resava Cave, or the protected Lisine waterfall. Others are positioned in or near the village center, often close to key community institutions such as the elementary school, Municipal Administration, Cultural Center, or the Museum of Mining. One building is situated in an industrial zone, adding to the range of neighborhood contexts observed in the area.

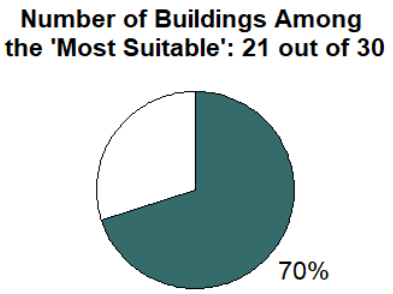
Spatial Planning Regulations

All buildings fall under the Spatial Plan of Despotovac Municipality, with some also subject to more specific local plans such as the General Urban Plan of Resavica or the development plan for the Lisine waterfall area. In most cases, the possibility to add floor area is limited – only about one-third of the buildings are permitted extensions under current regulations.

Potential use

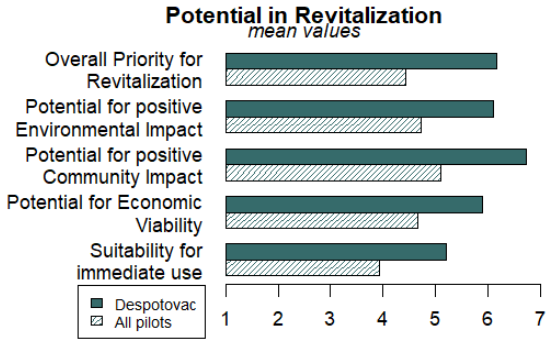
The mapped deteriorating buildings in Despotovac offer great potential for diverse revitalization efforts, supported by minimal regulatory restrictions and outstanding revitalization scores.

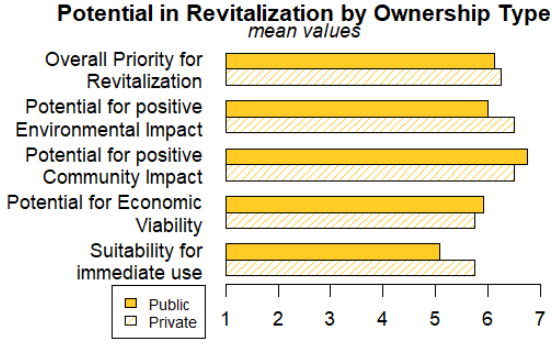
Restrictions on revitalization are minimal, with only a few buildings designated as cultural heritage sites and just one located in a flood-risk area. None of the properties are affected by environmental protection regulations. The buildings in Despotovac present a broad spectrum of potential uses, including private residential, public, commercial, and tourism-related functions. Given their varied locations and structures, many could be adapted for community services, small businesses, or hospitality ventures. A few buildings are part of the area's industrial heritage, offering opportunities for cultural, educational, or museum-related reuse. Others could support local economic development through initiatives such as hunting tourism, local product sales, or small-scale workshops.



The buildings in Despotovac received some of the highest overall scores for revitalization across all pilot areas. They were assessed as more suitable for immediate use, with greater potential for economic viability, community impact, and environmental benefit. The buildings in Despotovac scored over 6 in overall priority for revitalization, suggesting that buildings of the municipality stand out as particularly promising candidates for revitalization efforts. Most of the properties are publicly owned, and while privately owned buildings scored slightly higher in a few categories – such as immediate usability and environmental impact – the difference was minor. Overall, both public and private assets in Despotovac show strong promise for reuse and revitalization. These outstanding figures resulted in 21 out of the 30 mapped buildings scoring among the 'most suitable' for revitalization, the highest rate among all pilot areas.

The diverse potential uses of Despotovac's buildings position them as valuable assets for future development. Their high revitalization scores reflect significant opportunities for impactful reuse that can benefit both the local community and economy.





Case Summary - Municipality of Despotovac, Serbia

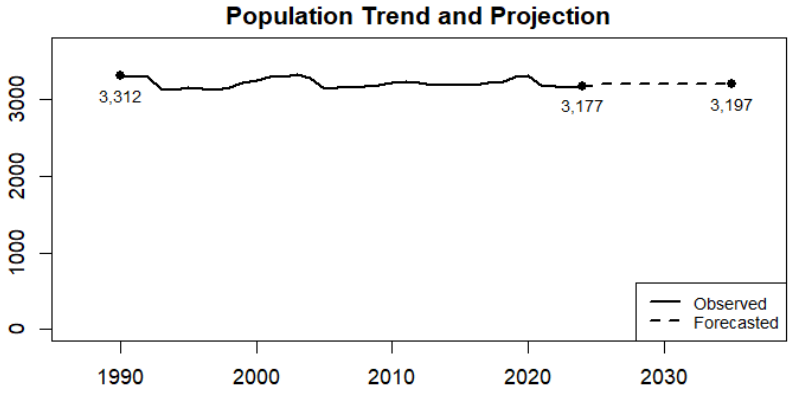
- Despotovac faces severe depopulation (–34% since 1991), low employment, and rapid population aging.
- The mapped deteriorating buildings are in excellent structural condition, with one-third requiring only minor repairs and none needing demolition.
- Buildings are generally well connected to infrastructure but lack piped gas and heating.
- Despotovac's buildings received the highest revitalization scores among all pilot areas.
- Regulatory barriers are minimal; only a few buildings are culturally protected or in flood-risk zones.
- With high public ownership and strategic locations, the buildings offer strong potential for residential, commercial, and community reuse.

Municipality of Jelšava, Slovakia

Socio-demographic characteristics

The Municipality of Jelšava (LAU-2) in Slovakia covers an area of 46.8 square kilometers, consisting of the town of Jelšava and a neighboring settlement, Teplá voda.

Its population currently stands at 3,177 and has shown a somewhat fluctuating, but generally stagnant trend.Since 1990, the population has generally stagnated, though it has decreased slightly by 135 people (-4.1%). The population density of the area is 67.9 people per square kilometer, significantly lower than the national value of 110.5 people per square kilometer[21]. Similarly to the general population of Slovakia, our projection indicates that in the following decade, the population of Jelšava will continue to stagnate with a slight increase.

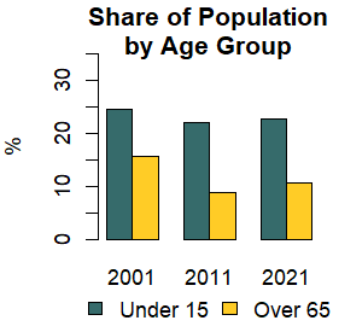


The employment rate is 58.0% significantly lower than the national employment rate of 75.6% while the unemployment rate stands at 17.1% which is drastically higher than the national unemployment rate of 5.2%[22].

The age distribution in Jelšava reveals a trend of population rejuvenation. As of 2021, 22.8% of residents are under 15, while 10.8% are over 65. The region's aging index reached 47.3, less than half of the national average of 107.7.

Over the past two decades, housing in Jelšava has seen a marked shift toward private ownership. While public rental housing once played a significant role – every third person used to live in public rental in 2001 –, by 2021 over 90% of all residents lived in homes they own.

From a socio-demographic perspective, Jelšava is marked by high unemployment, a young population, and a major shift toward private homeownership, despite overall stagnating population trends.



[21] Statistical Office of the Slovak Republic. (2022). Stock and Change of Population
[22] Statistical Office of the Slovak Republic. (2022). Labour Force Sample Survey

Mapped buildings

A total of 61 deteriorating buildings were identified and mapped in the municipality of Jelšava. All mapped buildings are located in the town of Jelšava, concentrated in the north-eastern part of the locality.

Condition of the mapped buildings

- 29.5% require major repairs
- 29.5% require medium-level repairs
- 36.1% require minor repairs

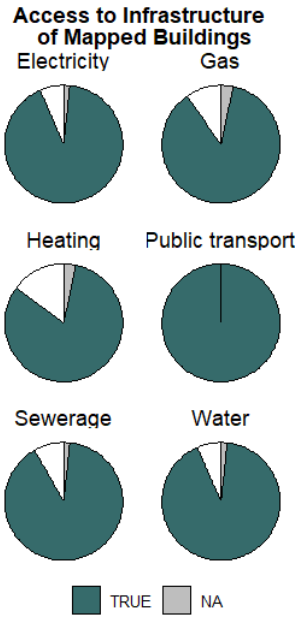
The mapped deteriorating buildings in Jelšava are in average condition but still offer potential for revitalization. A relatively high share of buildings require only minor repairs when compared to the average for all pilot areas. Of the 61 buildings mapped, all were identified as potential candidates for renovation, though several are in a ruinous condition.

Ownership and Occupancy

10 out of the 61 mapped buildings are in public ownership (16.4%), which is less than half of the average of all pilot areas. A total of 48 buildings are occupied, while 11 are unoccupied.

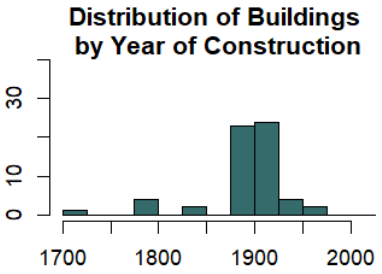
Infrastructure

The mapped properties in Jelšava are generally very well equipped with essential infrastructure. Most buildings have reliable access to electricity and running water. In Jelšava, most mapped properties have on-site sewage systems rather than access to a public sewer network. Due to the town's sloped terrain, only a limited number of houses are connected to the public system, which primarily serves to drain rainwater. Access to gas and heating is also much more common here compared to other areas, suggesting a well-developed utility network. All mapped buildings in Jelšava report the existence of public transport connections, however, the available services are limited and insufficient to meet residents' needs, contributing to broader challenges in the region.



Technical details

Jelšava has some of the oldest mapped buildings among all pilot areas, with a few structures dating back to the 18th century. The majority of the mapped buildings were built between 1890 and 1901, with only a handful of newer buildings from the mid-20th century.



Most of the mapped buildings in Jelšava are single-story structures, with two-story buildings also fairly common. Only a small number have three floors. This suggests a low-rise urban character to the town.

The vast majority of the buildings are made of brick, with only one building constructed using a panel structure.

Surrounding Neighborhoods

Most of the mapped buildings in Jelšava are located around the town square, primarily within residential areas. This central neighborhood is under national cultural heritage protection, reflecting its historical and architectural significance. In addition to these protected areas, one former Soviet army military complex is also part of the mapped properties, standing out from the otherwise residential and heritage-dominated surroundings.

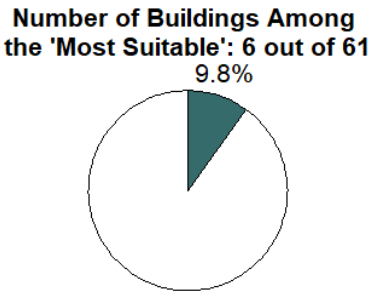
Spatial Planning Regulations

The mapped buildings in Jelšava all within a designated residential area and are subject to strict spatial planning regulations due to their heritage status. Any alterations or new constructions must receive approval from the Regional Cultural Protection Office and comply with cultural heritage guidelines, ensuring that the historical character of the area is preserved.

Potential use

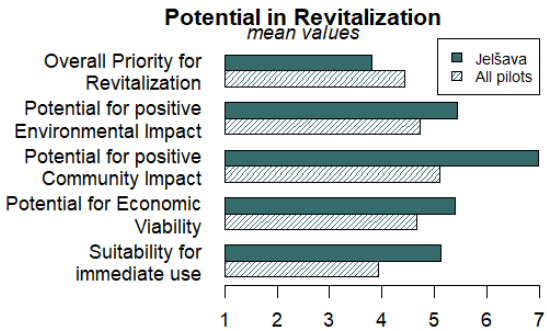
The mapped buildings in Jelšava present a complex but promising landscape for revitalization, balancing heritage protection with diverse potential uses. Even though none of the properties face environmental protection or flood risk issues, several of them face cultural heritage protections, imposing strict regulations that may slow revitalization and increase costs due to required coordination with the cultural protection office.

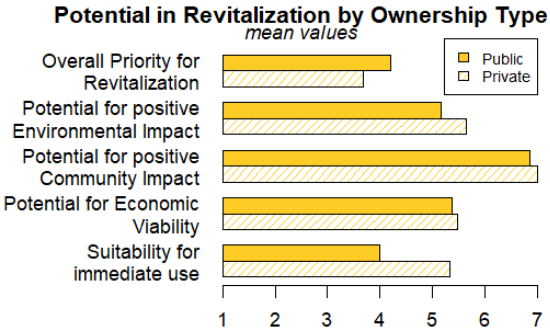
The mapped buildings in Jelšava offer diverse revitalization options, reflecting their current and potential uses. Many could continue serving as residential buildings, either solely residential or mixed with small commercial spaces like shops or offices. Some buildings are well-suited for cultural purposes, such as museums, galleries, cultural centers, or community hubs. Religious buildings, including churches and parish offices, can maintain their spiritual functions. Other possibilities include educational centers, concert halls, or leisure centers for youth. Additionally, several commercial buildings, including small shops, grocery stores, and offices, could support local business development.



Overall, the buildings in Jelšava show strong potential across several key revitalization dimensions. Most of them are suitable for immediate use and their potential for economic viability and potential for positive environmental impact are similarly promising, exceeding the average of all pilot areas. The potential impact on the community is especially notable, with scores approaching the maximum score. Despite these high scores, the overall priority for revitalization in Jelšava is somewhat lower. In Jelšava, privately owned buildings score higher in suitability for immediate use and show slightly greater potential for community and environmental impact, however, publicly owned buildings have a higher overall priority for revitalization, indicating that such distinction in this case might be inconclusive.

Overall, 6 out of the 61 total mapped buildings scored among the 'most suitable' for revitalization, highlighting a select group of properties with strong potential to drive positive change in the area. Focusing efforts on these key buildings could create visible improvements and serve as catalysts for broader neighborhood revitalization.





Case Summary - Municipality of Jelšava, Slovakia

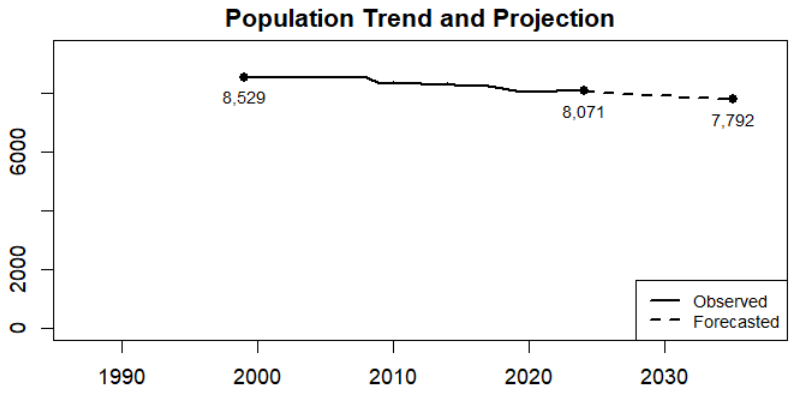
- Jelšava's population is relatively stable, with low density and significantly lower employment rates than the national average.
- The population is young, with a very low aging index of 47.3.
- Housing tenure has shifted overwhelmingly toward private ownership.
- The 61 mapped deteriorating buildings are in good structural condition, mostly requiring only minor or medium repairs, and all are considered suitable for renovation.
- Infrastructure is well-developed, with nearly all mapped buildings having access to utilities and public transport.
- Most buildings are historical, low-rise brick structures located in protected heritage zones, limiting modification options.
- Revitalization potential is high across residential, cultural, commercial, and community functions, with many buildings suitable for mixed-use development.
- Six buildings were identified as the 'most suitable' for revitalization, offering the highest potential to drive visible improvements and act as catalysts for broader area development.

Municipality of Beltinci, Slovenia

Socio-demographic characteristics

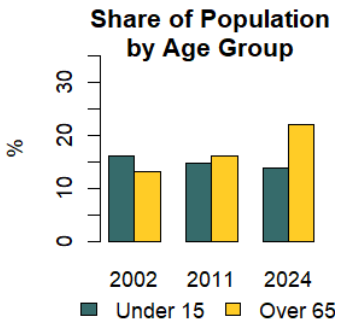
The Municipality of Beltinci (LAU-2) in Slovenia covers an area of 62 square kilometers, consisting of 8 settlements centered around the town of Beltinci.

Its population currently stands at 8,071 and has shown a slow declining trend. Since 2000, the population has decreased by 458 (-5.4%). The population density of the area is 130.2 people per square kilometer, significantly higher than the national value of 105.1 people per square kilometer[23]. While the population of Slovenia is on a steady rise, our projection indicates that the population of Beltinci will further decrease, falling below 7,800 by 2035.



The employment rate in the municipality is 65.5%, below the national employment rate of 74.2% while the unemployment rate stands at 3.6% which is higher than the national unemployment rate of 2.7%[24].

The age distribution in Beltinci reveals an increasingly aging population. As of 2024, 13.8% of residents were under 15, while 22.1% were over 65. The region's aging index reached 159.9, which is slightly higher than the national average of 150.7.



In terms of housing tenure, Beltinci is characterized by a strong predominance of owner-occupied homes, with over 90% of residents owning their dwellings. Market rental housing accounts for less than 8%, while public rental is minimal. This pattern has remained largely stable between 2011 and 2024, reflecting a consistent preference for homeownership.

From a socio-demographic perspective, Beltinci is marked by population decline, an aging demographic, and a stable pattern of high homeownership, coupled with modest employment figures.

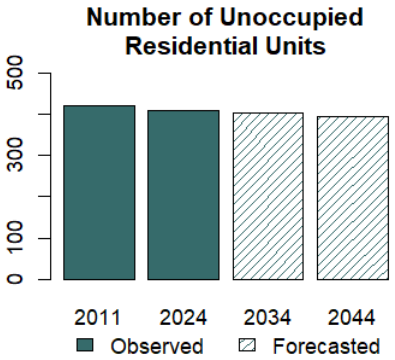
[23] Statistical Office of the Republic of Slovenia. (2025). Population of Slovenia
[24] Statistical Office of the Republic of Slovenia. (2025). Slovenian Labour Force Survey

Mapped buildings

A total of 156 deteriorating buildings were identified in the municipality of Beltinci, 52 of which have been mapped across eight settlements. A significant number of these are concentrated in the central part of the municipality, particularly in the town of Beltinci.

Projection of unoccupied residential units

In Beltinci, the number of unoccupied residential units is fairly high, with a slow decrease from 419 in 2011 to 409 in 2024. Our projection estimates a further slow decline in the next two decades.



Condition of the mapped buildings

- 50.0% require major repairs
- 30.8% require medium-level repairs
- 19.2% require minor repairs

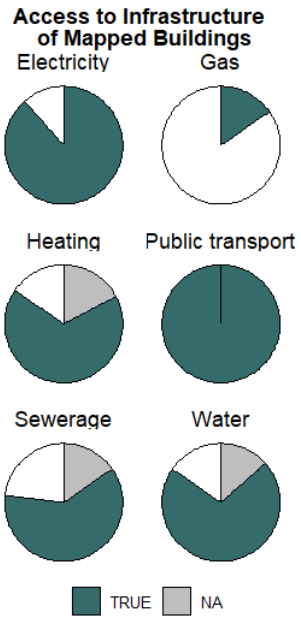
The mapped deteriorating buildings in Beltinci are in a below average structural condition. A relatively high share of buildings needs major repairs, significantly higher than the average of all pilot areas (36%). 7 out of the 51 buildings are considered to be in a condition that necessitates demolition, while the remaining 44 (85%) are assessed as suitable for renovation.

Ownership and Occupancy

5 out of the 51 mapped buildings are in public ownership (9.6%), which is a low proportion when compared to other pilot areas. Additionally 3 buildings are in mixed ownership; the rest are privately owned. The vast majority of the buildings are empty (48 out of 51).

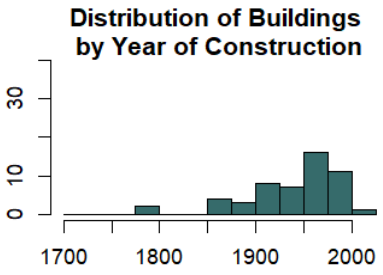
Infrastructure

The properties in Beltinci are generally well-equipped with basic infrastructure. Nearly 90% of buildings have access to electricity, and all properties benefit from access to public transport. Around 70% of the buildings have access to running water, while about 60% are connected to the sewage system for both fecal and rainwater. However, access to piped gas is quite limited, available in only 8 out of the 51 buildings in total. Heating is present in approximately two-thirds of the properties, indicating moderate availability.



Technical details

The mapped buildings in Beltinci vary widely in age, with the oldest constructed as early as 1780 and the newest completed in 2005. Most buildings date from the mid-20th century, with the majority of properties built between the early 1900s and the 1970s.

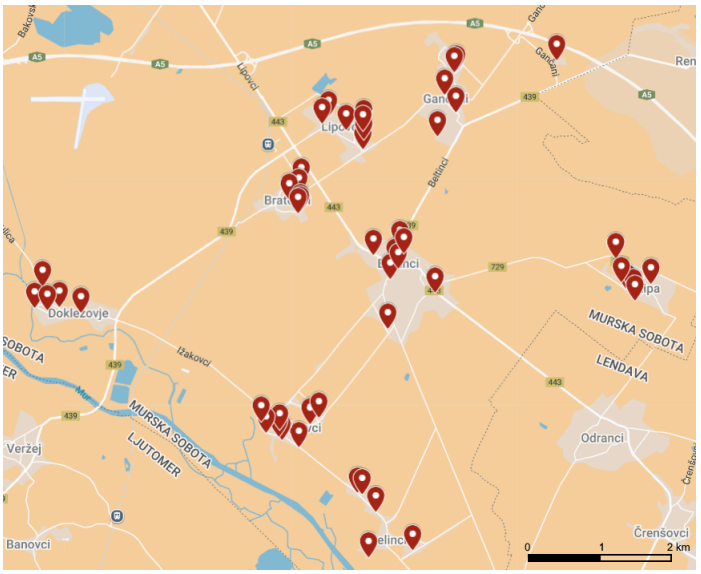


The majority of the mapped buildings have two or three floors, with 24 buildings having two floors and 16 having three. Single-story buildings are less common.

The mapped buildings are almost evenly split in terms of construction materials, with 25 made primarily of brick and 27 featuring mixed materials.

The buildings in Beltinci have a net area ranging between 45 and 570 square meters. The majority of the properties are ranging between 130 and 260 square meters. In comparison with other pilot areas, the average building size in Beltinci is notably smaller at 257 square meters (compared to 405 square meters).

Surrounding Neighborhoods



The mapped buildings are located in a variety of neighborhoods across the municipality of Beltinci, ranging from quiet residential streets to more active areas near main roads. Several properties are situated close to village centers, offering easy access to shops, schools, health centers, cultural institutions, and public transport. Others lie on the outskirts or near industrial zones, often bordering fields or natural areas such as the Mura river or surrounding forests. Many neighborhoods combine residential and commercial uses, while some are more peaceful, with nearby playgrounds, sports fields, or community facilities like churches, fire stations, and kindergartens. The proximity to amenities varies, with some homes just a short walk from schools, post offices, and medical centers, while others enjoy more secluded locations near nature or quiet streets.

Spatial Planning Regulations

Most of the mapped dwellings are located in mixed-use zones, as defined by municipal or state spatial plans. A few properties are also situated in hospitality and leisure zones.

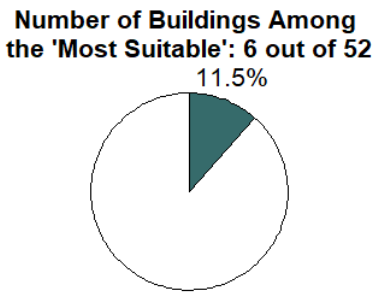
Potential use

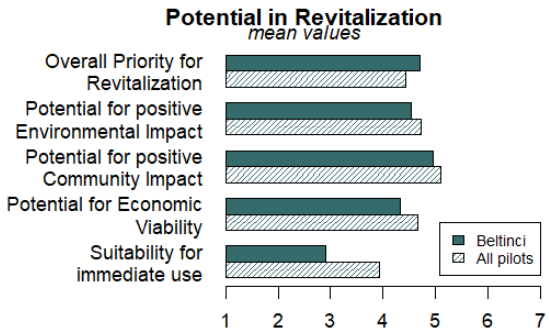
Out of the total 51 mapped buildings in Beltinci, a few are associated with cultural heritage protection and water or flood risk consideration, and 14 properties fall under environmental protection zones. These cases are in the minority, but they are significant enough to warrant attention, however with the majority of buildings facing no major legal or ecological constraints does allow for greater flexibility in potential redevelopment.

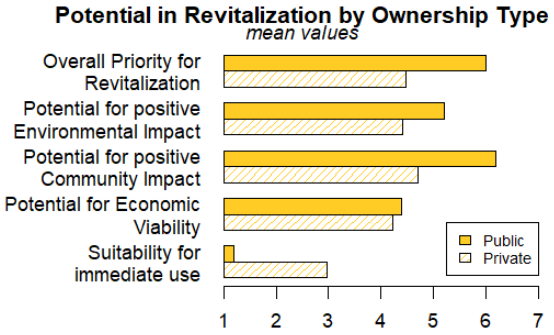
The mapped properties present a diverse range of opportunities for revitalization, reflecting both their physical conditions and locational advantages. Many buildings are suitable for mixed-use development, combining residential units with commercial or community-oriented functions. For instance, former restaurants or centrally located buildings could be transformed into cafés, local artisan shops, or community hubs, while structures with villa-like characteristics may serve well as boutique accommodations or cultural centers. Properties near schools and industrial zones could accommodate affordable housing or co-working spaces for start-ups and small businesses, particularly those in the creative or service sectors. In more rural or heritage-sensitive locations, revitalization could take the form of eco-tourism centers, cultural museums, or intergenerational meeting spaces that preserve local identity while serving present-day community needs. Where buildings are not fit for renovation, new construction on these plots could prioritize sustainable housing or public-use infrastructure that complements the existing settlement fabric.

The mapped buildings in Beltinci have similar revitalization scores to the average of all pilot areas. Even though suitability for immediate use is notably below the average, the overall priority for revitalization is slightly higher. When differentiating by ownership, the five publicly owned buildings have outstanding scores on average, especially in potential for positive community impact, however their suitability for immediate use is drastically low. Overall 6 out of the 52 mapped buildings scored among the 'most suitable' for revitalization.

These findings suggest that while most buildings allow for flexible redevelopment, focusing on the 'most suitable' and the publicly owned properties could lead to the most effective and community-focused outcomes.







Case Summary - Municipality of Beltinci, Slovenia

- Beltinci is experiencing population decline and demographic aging.
- The 52 mapped deteriorating buildings are in relatively poor structural condition, with half of them requiring major repairs, and 7 even necessitating demolition.
- Only 5 buildings are publicly owned; 48 out of 51 mapped properties are currently unoccupied.
- Infrastructure is mostly adequate, but piped gas and full sewage connections are less common.
- The buildings are significantly smaller in size compared to other pilot areas.
- Most mapped buildings face no major legal or ecological constraints, allowing flexibility for redevelopment
- Revitalization opportunities include mixed-use, cultural, commercial, and eco-tourism functions, tailored to location—e.g., cafés in town centers, co-working near industry, or museums in rural areas.
- Focusing on the six buildings among the 'most suitable' and the publicly owned properties could lead to the most effective and community-focused outcomes.

Comparative Analysis

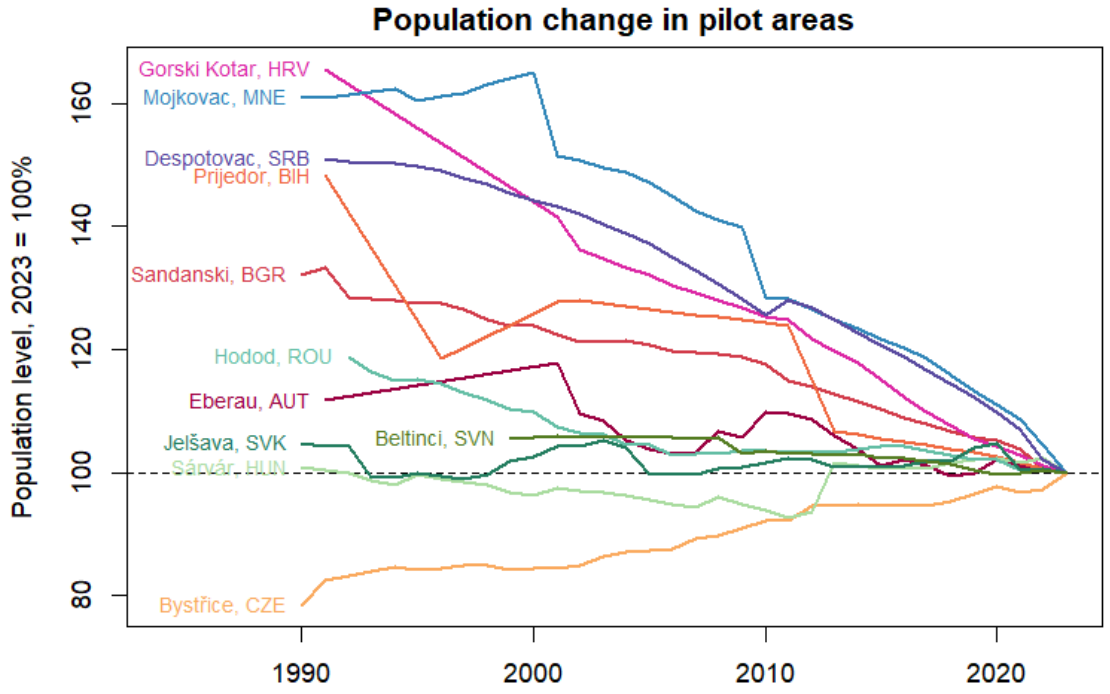
Socio-demographic characteristics

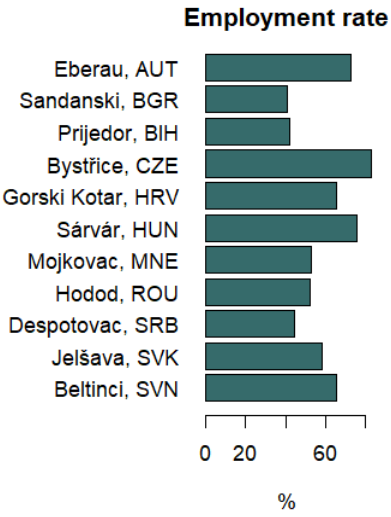
The pilot areas are from a diverse geographic range, covering municipalities and districts in Austria, Bulgaria, Bosnia and Herzegovina, the Czech Republic, Croatia, Hungary, Montenegro, Romania, Serbia, Slovakia, and Slovenia. These pilot areas vary widely in size and administrative classification, as well as in socio-demographic characteristics.

The pilot areas typically have either LAU-1 or LAU-2 classification. Additionally, the Gorski Kotar region in Croatia is a geographical and historical area, but not an administrative one, which lies between NUTS3 and LAU levels. Finally, in Bosnia and Herzegovina, where LAU regions are not defined, the Municipality of Prijedor remains unclassified.

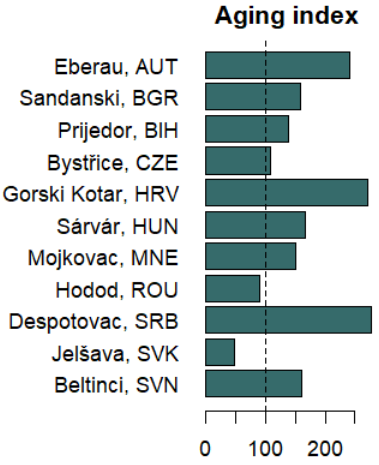
The pilot areas vary significantly in size, ranging from 30.75 square kilometers of Eberau (AUT), to 1,273.1 square kilometers of Gorski Kotar (HRV). Their populations also span a wide range, from 916 residents in Eberau (AUT), to 75,908 in Prijedor (BIH). Population density varies accordingly, from just 14.5 people per square kilometer in Gorski Kotar (HRV), to 130.2 in Beltinci (SVN).

Population trends across the pilot areas are diverse. Most have experienced a decline over the past three decades. In particular, Gorski Kotar (HRV) and Mojkovac (MNE) have seen sharp declines of nearly 40%, while significant population decreases have also occurred in Despotovac (SRB) and Prijedor (BIH). In contrast, some areas have seen relatively stable population levels, and Bystřice (CZE) stands out with a population increase of more than 30% since 1990.





Employment rates across the pilot areas show notable variation. The highest employment rate is found in Bystřice (CZE), at 83.1%, followed by Sárvár (HUN) and Eberau (AUT). At the other end of the spectrum, Sandanski (BGR) and Prijedor (BIH) report the lowest rates, at 41.0% and 41.8% respectively. Unemployment rates across the pilot areas range widely, from just over 2% in Sárvár (HUN) to a high of 31.8% in Prijedor (BIH). While northwestern pilot areas of Eberau (AUT), Beltinci (SVN), and the Bystřice (CZE) maintain low unemployment levels below 4%, pilot areas of the Western Balkans, namely in Prijedor (BIH), Mojkovac (MNE) and Despotovac (SRB) face significantly higher unemployment.



The age distribution across the pilot areas reveals varying degrees of population aging, as measured by the aging index. The pilot areas Jelšava (SVK) and Hodod (ROU) stand out as the only areas experiencing population rejuvenation, with a higher population under the age of 15 than over 65, therefore, aging index below 100. These cases showcase a trend of decreasing aging index, accompanied by a low share of unoccupied residential units. A moderate level of aging characterizes the pilot areas Bystřice (CZE), Prijedor (BIH), Mojkovac (MNE), Beltinci (SVN), Sandanski (BGR), and Sárvár (HUN), with aging indices ranging between 107 and 167. Pilot areas of Eberau (AUT), Gorski Kotar (HRV), and Despotovac (SRB) exhibit high levels of population aging, with aging indices exceeding 240. These areas also tend to have low population densities and a high proportion of unoccupied residential units.

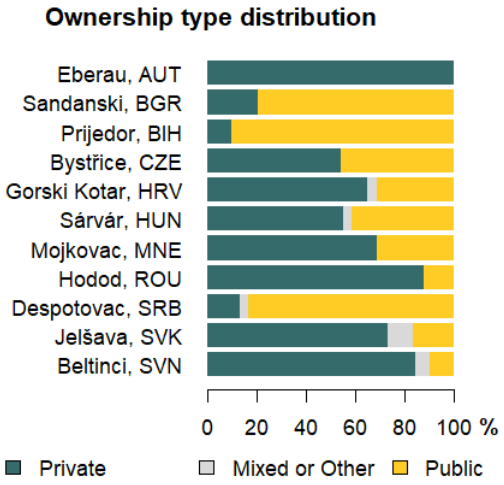
The socio-demographic analysis reveals substantial diversity across the 11 pilot areas, with key differences in administrative classification, population trends, employment levels, and aging dynamics. A central takeaway is the contrast between more stable or growing regions and areas facing severe demographic decline. Severe population aging and low density suggest additional challenges for revitalization in several cases. Employment disparities are equally stark, with Western Balkan regions facing significantly higher unemployment than Central European pilot areas, reflecting deeper structural economic differences. These findings underscore the importance of tailoring revitalization strategies to local demographic realities, recognizing that population dynamics, labor market conditions, and age structures are critical enablers or constraints on long-term redevelopment success.

Mapped buildings

Altogether 568 deteriorating buildings were mapped across the 11 pilot areas. The number of mapped deteriorating buildings per pilot area range from 24 in Bystřice (CZE) to 134 in Gorski Kotar (HRV).

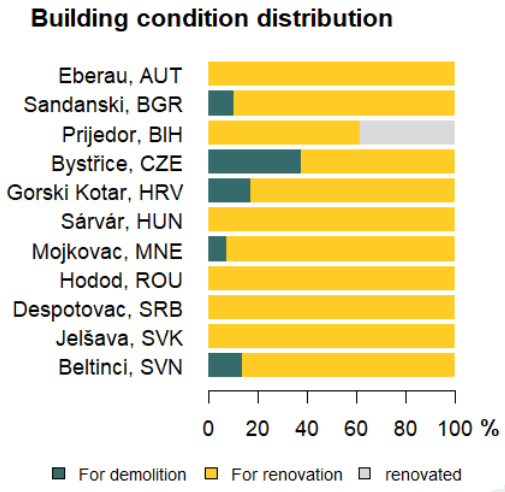
Ownership and occupancy

Ownership patterns of deteriorating buildings across the pilot areas show notable variation. Overall, the majority of buildings, 59% are privately owned, while 38% are publicly owned, and only a small fraction (about 3%) fall under mixed or other forms of ownership. Some areas deviate sharply from this general trend: Eberau (AUT) stands out with 100% private ownership, while Prijedor (BIH) has over 90% of its mapped buildings in public hands. Sandinski (BGR) and Despotovac (SRB) also show a strong public ownership presence, in contrast to the pilot areas of Hodod (ROU) and Beltinci (SVN), where private ownership overwhelmingly dominates.



Across all pilot areas the majority, 56.5% of mapped buildings are empty, while just 37.5% are still in use. However, this overall picture masks significant variation at the local level. In Eberau (AUT), Sandanski (BGR) and Beltinci (SVN), nearly all buildings are empty, with vacancy rates of 100%, 96% and 94% respectively. In contrast, Prijedor (BIH) and Jelšava (SVN) stand out for their high occupancy rates, with over 98% and 81% of buildings still in use. The remaining pilot areas show a more balanced distribution between empty and occupied buildings

Condition of buildings



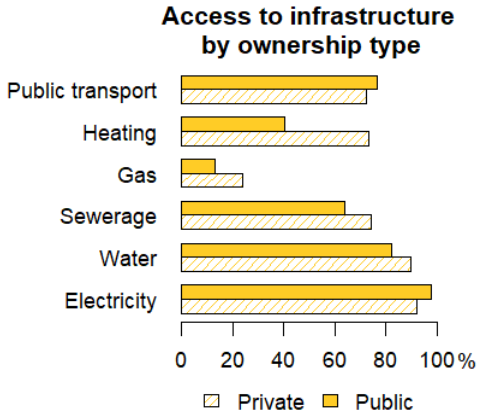
Most deteriorating buildings across all pilot areas are considered suitable for renovation (85.7%), while a smaller share (8.5%) are deemed beyond repair and marked for demolition. Only a small fraction (just 3.5%) have already been renovated. Prijedor (BIH) stands out as the only area with a significant proportion of renovated buildings (38.5%). In contrast, Bystřice (CZE) shows the highest share of buildings marked for demolition (37.5%), well above the average. Areas such as Jelšava (SVK), Despotovac (SRB), Hodod (ROU),

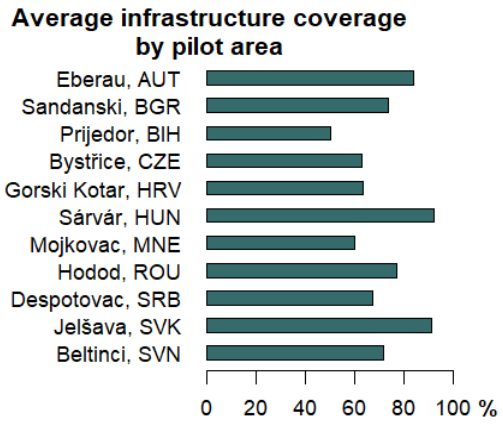
Sárvár (HUN), and Eberau (AUT) report 100% of buildings as suitable for renovation, with no buildings marked for demolition or listed as already renovated. The remaining areas show less extreme but still varied patterns in building condition.

Infrastructure

Access to basic infrastructure among the mapped deteriorating buildings is uneven. While most buildings have electricity (95%) and water (87%), access to gas is limited, with only 20% connected. Sewerage coverage is also incomplete, available in about two-thirds of cases (70%), and heating is missing in over a third of buildings. Public transport or walkable access is reported for 74% of buildings.

When comparing infrastructure access by ownership type, distinct patterns emerge between public and privately owned buildings. Publicly owned buildings generally have slightly better access to electricity and public transport than privately owned ones. However, private buildings tend to be better equipped with basic utilities such as water, sewerage, gas, and especially heating. These patterns suggest that while public buildings may benefit from better location and connectivity, they are often less maintained or equipped than their privately owned counterparts.





At the level of the pilot areas, Sárvár (HUN) and Jelšava (SVK) show the highest overall infrastructure coverage, while Prijedor (BIH) and Mojkovac (MNE) lag behind. These differences highlight disparities in basic service provision that may impact renovation potential and investment priorities.

Potential use

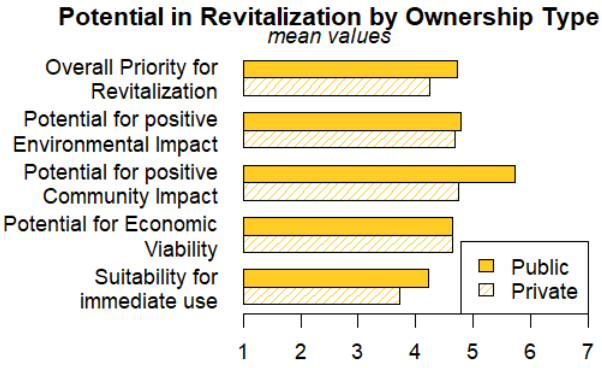
The adaptive reuse potential of the mapped deteriorating buildings across the 11 pilot areas is marked by a rich diversity of viable functions that align with local needs, economic trends, and community aspirations. Many deteriorating buildings are suitable for transformation into community-oriented spaces such as cultural centers, youth facilities, co-working hubs, and educational venues, as seen in Prijedor (BIH), Sárvár (HUN), and Bystřice (CZE). Others – particularly in areas like Despotovac (SRB), Hodod (ROU), and Eberau (AUT) – offer strong potential for mixed-use development, combining residential, commercial, and tourism-related purposes, such as guesthouses, artisan shops, cafés, and event venues. Former agricultural or industrial structures are often reimagined as innovation hubs, rehabilitation centers, or craft workshops, reflecting a growing emphasis on multifunctional and socially valuable redevelopment. Despite varying structural conditions and regulatory contexts, the pilot areas demonstrate a shared capacity for transforming abandoned or underutilized buildings into vibrant, productive assets that contribute to both economic revitalization and social cohesion.

Regulatory and environmental constraints

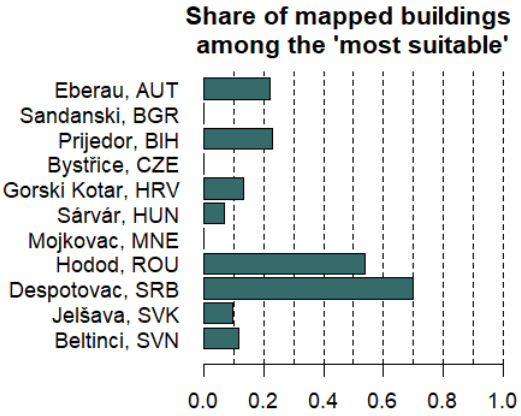
Constraints	**Pilot areas**
Low	Bystřice (CZE), Despotovac (SRB), Hodod (ROU), Mojkovac (MNE), Prijedor (BIH)
Moderate	Beltinci (SVN), Eberau (AUT), Gorski Kotar (HRV)
High	Jelšava (SVK), Sárvár (HUN)

The regulatory landscape across the pilot areas ranges from minimal to significant constraints, shaping the ease and strategy of building revitalization. The mapped buildings in Bystřice (CZE), Despotovac (SRB), Hodod (ROU), Mojkovac (MNE) and Prijedor (BIH) face few if any legal or environmental restrictions, allowing for high flexibility in redevelopment and faster project execution. In Beltinci (SVN), Eberau (AUT) and Gorski Kotar (HRV), revitalization efforts are subject to moderate regulations. These areas have specific zoning rules, flood risks, or environmental protections that apply to certain buildings, presenting targeted but manageable limitations. At the higher end of the spectrum, Jelšava (SVK) and Sárvár (HUN) deal with substantial cultural heritage protections that can increase the complexity, cost, and duration of revitalization projects due to strict renovation guidelines and required coordination with heritage authorities. While these constraints help preserve historical and ecological values, they necessitate more strategic, often longer-term approaches to redevelopment.

Ownership plays a significant role in shaping the revitalization potential of deteriorating buildings across the pilot areas. Publicly owned buildings generally demonstrate greater suitability for revitalization, especially when it comes to delivering positive community and environmental impacts. They are more often seen as strategic assets for civic and social functions, such as cultural centers, community hubs, or educational spaces, and tend to be better suited for immediate reuse. In contrast, privately owned buildings are slightly stronger in economic viability.



In certain regions, namely Gorski Kotar (HRV), Sárvár (HUN), and Mojkovac (MNE), publicly owned buildings consistently score higher in terms of community benefit and overall revitalization priority. These buildings often align more closely with public service goals and can be more easily integrated into strategic development plans. In the rest of the pilot areas public and private buildings demonstrate equal revitalization potential, with no clear dominance by ownership type.

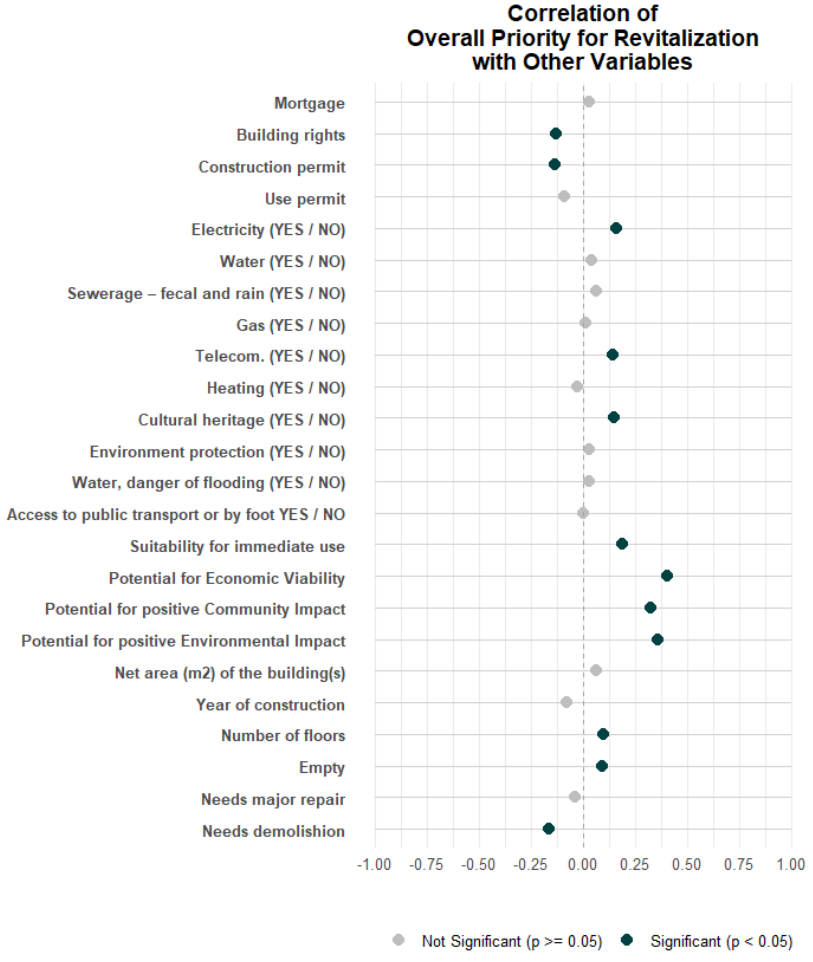


The share of mapped buildings classified as 'most suitable' for revitalization varies significantly across the pilot areas. Despotovac (SRB) leads with an outstanding 70% of its mapped buildings rated in this top category, followed by Hodod (ROU) with over half deemed highly suitable. Prijedor (BIH) and Eberau (AUT) also perform well, each with around 23% of their buildings in the most suitable group. In contrast, Bystřice (CZE), Mojkovac (MNE), and Bulgaria (BGR) have no buildings in this category, indicating limited immediate potential for revitalization.

Determinants of Revitalization Potential

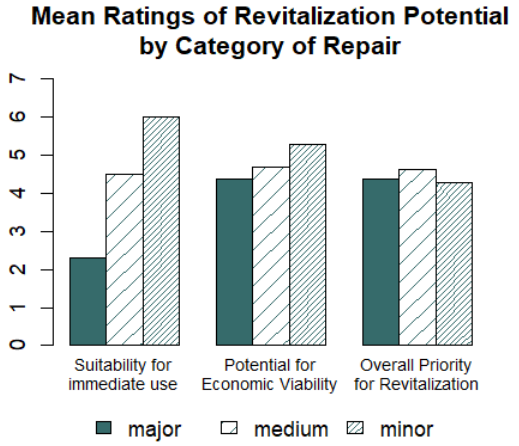
Understanding what drives the revitalization potential of deteriorating buildings is critical for shaping effective revitalization strategies and adequate policy. This chapter analyzes the key determinants that influence which buildings are prioritized for reuse, offering insights into the characteristics that most strongly predict successful revitalization. It begins with a correlation analysis to identify overarching patterns, followed by a detailed examination of specific attributes, such as usability, economic viability, physical condition, and legal status, that shape revitalization decisions.

The correlation analysis reveals several key factors that help explain why some deteriorating buildings are prioritized for revitalization over others. The most influential attributes are related to a building's revitalization scores, particularly positive economic, environmental, and community benefits. These forms of impact appear to carry the most weight in determining revitalization priority, suggesting that buildings offering positive community impact and are economically viable are more likely to be suitable for revitalization. In addition, buildings that are empty or suitable for immediate use also tend to rank higher, indicating a preference for projects that can be implemented with fewer obstacles or delays.

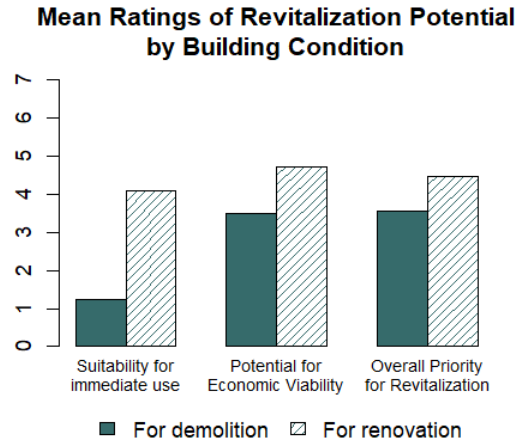


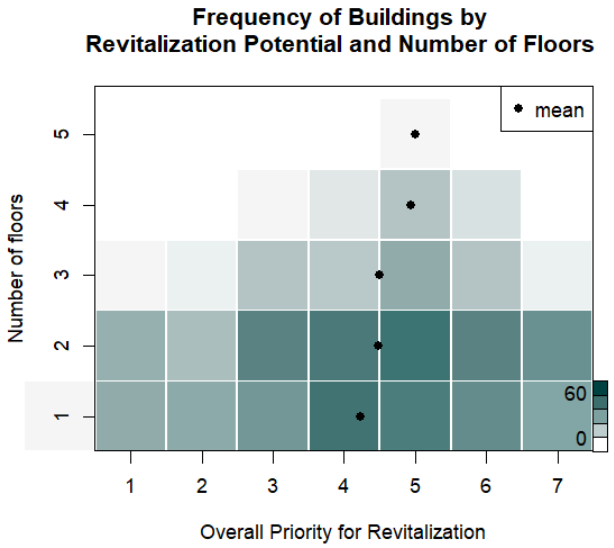
Among physical and infrastructural attributes, access to essential services such as electricity and telecommunications stands out, albeit with more modest influence. The presence of cultural heritage value also appears to play a positive role. In contrast, legal and regulatory barriers – such as lack of building rights or construction permits – as well as buildings requiring demolition are associated with lower revitalization potential.

The condition of a building and the extent of repair it requires both have a clear impact on its revitalization potential. Buildings needing only minor or medium repairs consistently score higher in suitability for immediate use and economic viability. Interestingly, however, in terms of overall priority, no clear trend emerges.



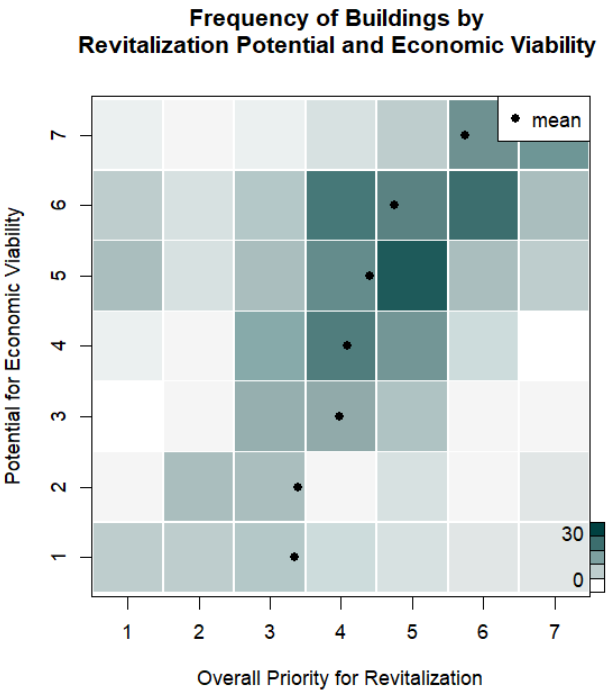
A similar pattern emerges when comparing buildings marked for demolition versus those suitable for renovation. Renovation-ready buildings are viewed as significantly more viable for reuse, with higher scores across all revitalization dimensions. Buildings necessitating demolition, by contrast, are seen as having limited potential. These findings underline the importance of structural integrity and repair needs in shaping both practical and strategic decisions around revitalization.





There appears to be a slight positive relationship between the number of floors and the revitalization potential of buildings. On average, taller buildings score somewhat higher in overall priority for revitalization. However, this pattern should be interpreted with caution, as mapped buildings with more than two floors are much less common. The small number of multi-storey buildings – especially those with four or five floors – limits the reliability of this trend and suggests that the observed increase in scores may not be broadly generalizable across all cases.

The data shows a clear positive connection between economic viability and overall priority for revitalization. Buildings with higher potential for economic viability tend to receive higher overall priority scores, indicating that economic feasibility is a key factor driving revitalization decisions. For instance, the vast majority (over 75%) of buildings rated with the highest economic viability scores (6 and 7) also fall into the top categories of overall priority (5 to 7), reflecting a strong alignment between financial potential and strategic importance. Conversely, buildings with lower economic viability scores generally correspond to lower overall priority rankings. This relationship underscores that economic considerations significantly influence which buildings are targeted for revitalization efforts, as projects with greater economic promise are more likely to be prioritized for investment and redevelopment.



This analysis highlights that revitalization potential is fundamentally driven by a building's ability to deliver tangible benefits – especially economic viability, community impact, and environmental value. While physical condition and immediate usability matter, they are secondary to the broader strategic value a building can provide. Regulatory and legal constraints, along with buildings marked for demolition, significantly reduce revitalization prospects, emphasizing the importance of minimizing bureaucratic and structural barriers. Furthermore, as explored in the previous chapter, ownership is also a key determinant: publicly owned buildings are generally more suitable for revitalization, suggesting higher positive outcomes for communities and the environment. In certain regions, these publicly owned properties clearly lead in terms of revitalization priority and potential community benefit. In summary, the buildings most worth revitalizing are those that align strategic value with ownership structures and policy conditions that support sustainable, community-focused outcomes.

Policy Recommendations

The main objective of the RurALL project is to address "the major challenge of depopulation in rural areas that is considered as one of the most universal challenges of the Danube area", as it is stated in the project application document. Indeed, from a global perspective, Europe is considered to be one of the regions most affected by population decline in the coming decades, as fertility rates have been low in most of the European countries in recent decades, and there are no signs of a turning point in this regard[25]. Zooming into Europe, shrinking and depopulation is more prevalent in the rural hinterlands of Eastern European countries, including most of the countries from the Danube region[26]. Rural shrinking is a complex issue, and typically goes beyond the simple fact of declining population; population loss is often coupled with economic hardships (e.g. lack of job opportunities, low wages), negative demographic trends (e.g. aging population), social conflicts (e.g. increasing ethnic tensions), declining access to public services (such as health care, education, social services) and deteriorating built environment. If multiple disadvantageous trends are combined, they can easily lead to a downward spiral, where feedback loops are created and whole regions can quickly experience rapidly falling liveability. However, these issues have been widely discussed in recent decades in scholarly and policy circles, and thus a wide range of potential policy interventions are already described and tested[27].

A key conclusion of existing research on depopulating rural areas is that drivers behind depopulation tend to be manifold. In other words, rural shrinking can have multiple faces. This insight is backed by the main results of the analysis presented in this report. In the table below, the observed pilot areas are divided into four basic types in a 2*2 matrix. "High" and "low" aging index was defined by whether the aging index of the pilot area is above or below the EU average (which was 147.9 in 2024)[28].

	Declining population	**Increasing population**
High aging index	Despotovac (SRB), Mojkovac (MNE), Beltinci (SVN), Eberau (AUT), Gorski Kotar (HRV), Sárvár (HUN)	
Low aging index	Hodod (ROU), Jelšava (SVK), Prijedor (BIH)	Bystřice (CZE)

[25] See for example the analyses of the UN.
[26] OECD (2025), *Shrinking Smartly and Sustainably: Strategies for Action*, OECD Rural Studies, OECD Publishing, Paris, https://doi.org/10.1787/f91693e3-en.
[27] This chapter will extensively build on the policy recommendations of two recently closed robust research projects: OECD's "Shrinking Smartly and Sustainably" and ESPON-ESCAPE.
[28] See for more details a thematic Eurostat webpage.

Based on this simple typology, there are at least three versions of disadvantageous processes among the pilot areas of RurALL. The category with the most cases is characterized by a declining population and high aging index. These local contexts might be labeled as “classical” scenarios of rural shrinking. There are also three pilot areas with declining populations and a low aging index. In such cases, the relatively high proportion of children in the local society might require additional attention for local decision makers. In the third category there was only one case: Bystrice (CZE) is characterized by a growing population, and the local aging index is also significantly lower than the EU average (and the third lowest among all the pilot areas). From the perspective of this analysis, this category seems to be an outlier, and thus some of the policy recommendations might not be relevant for this specific context.

Another key conclusion of the socio-spatial research done in this field is that policy interventions should be designed and implemented through a scale-sensitive approach. This means that, in the context of contemporary Europe, different territorial and governmental scales have different potentials and limitations in shaping local social realities. For EU member states, the scale of the European Union might be an important level of governance. For example, the specific regulations of the Cohesion Policy might have a huge impact on whether certain declining rural regions can have access to fund their local development projects or not. In the case of countries outside of the EU, access to different other international development projects can be equally important. Another important level of governance is the national scale. Not only the framework of EU-funded development projects are partially determined by national decision makers (through designing Partnership Agreements or Operative Programs), but also the national institutional and regulatory framework. At the same time, sub-national scales should also be taken into account, including local municipalities and regional authorities. In order to reflect on the reality of multi-scalar governance, the policy recommendations below are structured following a scalar logic. Naturally, in an ideal scenario, all the policies implemented on different scales by different actors should be synergic and not interfere with one another, whereby most of the policy domains require multiple parallel interventions on different scales.

Recommendations for EU-level decision making

Given the forecasts, according to which an increasing number of European rural regions will experience further shrinking in the coming decades, there is a need for sustained attention to this problematique on the EU-level. The ESPON-ESCAPE project suggested the **establishment of a “Rural Shrinking Observatory”** on the EU-level, which could monitor relevant processes inside and beyond the EU. Once there is a detailed picture of the main trends, as well as empirically-grounded forecasts, the EU should **provide adequate funds for mitigating the consequences of, or adapting to rural population decline**. Similarly to the European Urban Initiative, direct grants could be provided for innovative local rural pilot projects, with the possibility of connecting these efforts to the New European Bauhaus Initiative. Furthermore, the current debates about the nature of the Cohesion Policy instruments for the next financial cycle of the EU provide a momentum, which could be used for EU-level lobbying towards such goals. Ideally, **earmarked amounts from ERDF could be channeled towards declining regions**,

similar to how 5% of ERDF funding was required to be spent on integrated urban development projects in the 2014-2020 period. It is also possible that the "more developed" / "transition" / "less developed" categorization of regions could be supplemented with **a specific category of "declining rural regions"**, which could entail additional funding for rolling out adaptation strategies.

Recommendations for national decision making

The data collection phase for this report also underlined that having a clear, empirically grounded picture of exactly how population decline unfolds in local settings is a demanding task. Local stakeholders have limited access to statistical data about their own populations, which creates a significant bottleneck for designing suitable local strategies. Thus a first step for national decision makers should be **to set up processes of monitoring rural shrinking and ensure the highest possible data transparency for all stakeholders**. This mapping exercise should include the creation of **a national cadastre of deteriorating buildings**, especially the ones in public ownership. A good example of such a cadastre is the so-called Brownfield Cadastre of Budapest created by the Municipality of Budapest, which is updated regularly, and which provides an open access database for all interested parties about vacant and underused properties[29]. Open access databases in general, and cadastres of vacant and deteriorating properties specifically can be useful tools in **mobilizing extra-governmental resources both from private investors and from civil society**.

Besides mapping and data-driven protocols, national governments should **allocate the necessary resources for improving access to public services in rural areas with declining populations**. A crucial step in this endeavour should be **the support dedicated for key workers needed for running such services** (health workers, social workers, teachers, etc.). Targeted housing programs, potentially coupled with additional benefits, could be a useful tool in this regard[30].

National housing and spatial planning policies in themselves could also be useful tools in tackling the negative effects of rural population decline. This report shows that there are numerous vacant buildings in such areas with significant potential for adaptive reuse. Our data shows that local stakeholders have various ideas on how to transform vacant spaces into new functions, and dedicated national funds for such purposes have the potential to catalyze beneficial local processes. National funds and innovative financial tools should also be supplemented with **technical assistance programs**. Smaller municipalities often lack not only available capital for investments, but technical know-how and capacities as well. Nationally-designed and orchestrated assistance programs could help bridge this institutional gap, in turn multiplying the absorption capacity of local authorities and boosting the efficiency of the investments.

[29] See the results of the 2023 update at this webpage (in Hungarian).
[30] The Scottish example can be interesting in this regard.

Recommendations for local decision making

While local authorities in shrinking rural regions usually lack resources to significantly counteract negative local trends caused by systemic social and economic changes, local decision making holds significant potential. International scholarly and policy literature tends to highlight the advantages of "place-based approaches"[31], which has also been endorsed by the European Commission in recent years. This approach is based on mobilizing locally situated knowledge of local stakeholders in order to maximize efficiency and potential positive outcomes. In order to do this, data-driven long-term strategic planning is needed and should be the basis of all related interventions[32]. Uncovering the main drivers of declining population is a necessary first step in designing long-term strategies.

During the process of strategic planning, several policy areas should be highlighted. Especially for localities with a high aging index, the exploration of elderly-friendly futures seems to be a necessary pathway to follow. In the context of a low aging index coupled with shrinking, careful attention should be paid to designing necessary services for children. In remote locations, smart techniques of organizing local services in general could be a key question in tackling population decline. Harvesting the potential in retrofitting vacant spaces should also be taken seriously; this analysis shows the manifold future pathways which could be taken during investing in the built environment locally. For smaller rural municipalities, it is quintessential to unlock local resources and energies, i.e. empower local (private, civil) stakeholders and citizens in shaping their futures in partnership with the municipality through participatory approaches and place-based strategies.

Finally, creating trans-local networks of shrinking rural municipalities in order to exchange know-how and best practices, and in order to become more efficient in channeling local needs into higher-scale (national or international) policy debates, is another promising way forward. The RurALL project can serve as a good example in this regard, with a potential to catalyze international collaboration similar to what inter-city alliances (such as Eurocities or the Pact of Free Cities) have formed in recent decades and years.

[31] Barca, F., McCann, P., & Rodríguez-Pose, A. (2012). The case for regional development intervention: place-based versus place-neutral approaches. *Journal of regional science*, *52*(1), 134-152.

[32] For some local strategies from the perspective of planning resilient futures for shrinking cities see Eraydin, A., & Özatağan, G. (2021). Pathways to a resilient future: A review of policy agendas and governance practices in shrinking cities. *Cities*, *115*, 103226.