CROSS
ONE STOP SHOP

CRoatian One-Stop-Shop

Barrier Detection and Removal Report

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CRoatian One-Stop-Shop

Project Acronym	LIFE22-CET-CROSS
Project Name	Establishment of CRoatian One-Stop-Shop facility in North-West Croatia
Project Coordinator	North-West Croatia Regional Energy and Climate Agency (REGEA)
Project Duration	36 months
Website	CROSS I Regea

Deliverable No.	D3.4 Barrier detection and removal report
Dissemination Level	PU - Public
Work Package	WP3 CROSS Support and barrier removal
Lead beneficiary	REGEA
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Date	August, 2026

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About CROSS

The general project objective of the CROSS project is to establish and operate a regional one-stop-shop (OSS) in order to accelerate the renovation wave in the public sector covering a territory of four regional and 88 local authorities in Croatia and offering a comprehensive, all-inclusive service from technical, financial to legal advice, procurement and quality assurance of works. The long-term objective is to replicate this concept to a wider area covering Croatia and beyond as well as to ensure the long term sustainability of the OSS.

CROSS will achieve the targeted impacts and goalsset out in the project through the completion of the following specific project objectives:

1. Speed-up of public building renovation
2. Provision of support for the preparation of project pipelines
3. Development, validation and implementation of advanced funding, procurement and financing models
4. Stakeholder engagement and long-term sustainability

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1. Executive Summary

This report was prepared within the CROSS project with the aim of identifying and analysing barriers that hinder the preparation and implementation of public building renovation projects in the participating counties. The analysis is based on the results of previously prepared action plans, experience gained through cooperation with the counties, and practical challenges identified during the preparation of energy renovation projects.

The identified barriers are grouped into four main categories: legal, financial, organisational and infrastructural. Legal barriers primarily relate to unresolved property and ownership issues, inconsistencies between cadastral and land registry data, and questions concerning the legality of existing buildings. Financial barriers are associated with the limited budgetary capacities of public authorities, complex financing conditions and dependence on the availability of grants. Organisational barriers include insufficient administrative and professional capacities for project preparation and implementation, while infrastructural barriers relate to the lack of basic utility infrastructure, particularly in rural areas, which may limit the possibility of applying for available sources of funding.

The analysis shows that the successful renovation of public buildings depends not only on the technical readiness of projects, but also on the ability to secure financially sustainable investment models and to adapt financing conditions to the actual needs of local and regional authorities. Challenges are particularly pronounced for buildings which, despite requiring renovation, cannot meet certain eligibility criteria due to circumstances beyond the owners' direct control.

The results of the analysis provide an overview of the most common challenges faced by local and regional authorities and serve as a basis for further activities aimed at removing barriers and accelerating the renovation of public buildings.

2. Introduction

The renovation of public buildings is one of the key prerequisites for achieving energy efficiency targets, reducing greenhouse gas emissions and improving the quality of public infrastructure. Although significant national and European funding sources have become available in recent years for the implementation of renovation projects, practice shows that the successful delivery of such projects often depends on a range of interconnected factors that go beyond the mere availability of financial resources.

During the implementation of the CROSS project, a number of barriers were identified that may slow down, hinder or completely prevent the preparation and implementation of public building renovation projects. These barriers occur at different stages of the project cycle – from the preparation of project documentation and the resolution of property and ownership issues, through ensuring the necessary administrative and organisational prerequisites, to project implementation and applications for co-financing programmes.

The purpose of this Report is to identify and analyse the most common barriers faced by regional and local authorities and other public institutions when preparing and implementing public building renovation projects. The identified barriers are grouped into four main categories: legal, financial, organisational and infrastructural. For each category, its impact on the renovation process is presented, together with measures and recommendations for removing or mitigating the barriers.

The objective of the document is to provide a practical overview of the challenges arising in the public building renovation process and to contribute to more effective planning, preparation and implementation of future projects by strengthening institutional capacities, improving existing procedures and removing barriers that slow down investment in the public building stock.

3. Legal barriers

The analysis of legal barriers was presented in detail in the previous Deliverable D3.3 (Action Plan for Removal of Legal Barriers Related to Building Ownership and Permits), which included an Action Plan for removing the identified barriers related to ownership issues.

The following section presents the status of legal barriers by county (City of Zagreb, Zagreb County, Krapina-Zagorje County and Karlovac County) at the time the legal barrier analysis was prepared, up to June 2024. Legal barriers are divided into categories ranging from more difficult-to-resolve issues to buildings with no legal barriers to renovation projects. More difficult-to-resolve issues include ownership that is either not held by the county or is divided among several owners (e.g. the user and the county/city), while the category with no legal barriers includes buildings for which cadastral and land registry records are aligned and county ownership has been resolved.

In parallel, the renovation rate for the selected building stock in each county is presented based on the current status up to June 2026. The renovation rate includes buildings in the design phase, buildings where works are under way, and buildings for which renovation has already been completed.

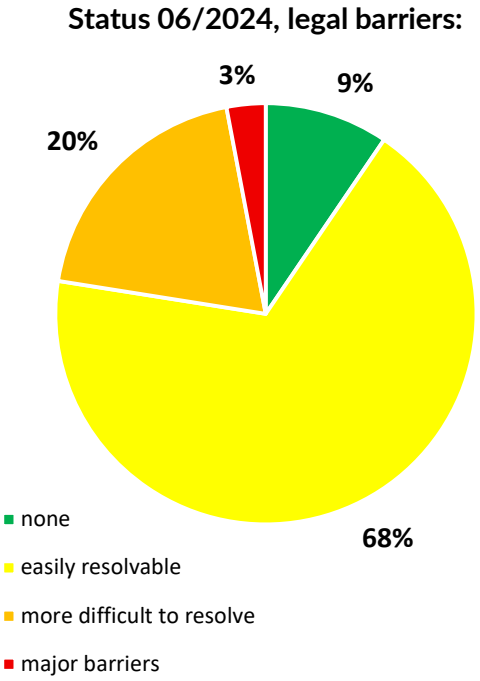
The comparison should indicate how legal barriers affect the renovation rate of public buildings.

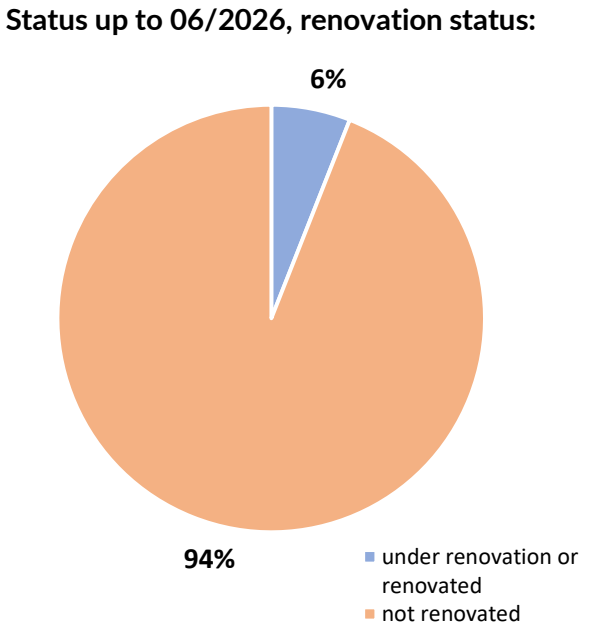
Zagreb County

A summary analysis of ownership status and legal barriers for a sample of 200 buildings (06/2024) identified different legal barriers affecting building renovation in Zagreb County. Of the buildings analysed, 19 had resolved property and ownership issues, 136 had easily resolvable barriers, 39 had more difficult-to-resolve barriers, while 6 buildings had major legal barriers.

The category with no legal barriers included 7 health centre buildings, 5 primary schools, 4 pharmacy buildings, 2 secondary schools and 1 office building.
The category with easily resolvable legal barriers included 73 primary schools, 40 health centre buildings, 12 pharmacy buildings, 6 secondary schools, 2 hospitals, 2 other healthcare buildings and 1 student dormitory.
The category with more difficult-to-resolve legal barriers included 39 buildings, comprising health centre buildings, primary schools, pharmacy buildings, other educational buildings and one secondary school, as recorded in the underlying analysis.
The category with major legal barriers included 6 buildings: 4 pharmacy buildings and 2 health centre buildings.

The analysis showed that almost three quarters of all buildings in Zagreb County fall within the category of easily resolvable legal barriers, while 20% have more difficult-to-resolve legal barriers. Only 3% of all buildings have major legal barriers (e.g. unresolved ownership), while 9% have no legal barriers to the implementation of renovation projects.





The diagram shows that, despite the high share of easily resolvable legal barriers (almost 70%) and 9% of buildings having no legal barriers, the renovation rate from 06/2024 to 06/2026 was relatively low (6%). This indicates that legal barriers in Zagreb County do not have a significant impact on the implementation of renovation projects and that other factors are slowing down the process.

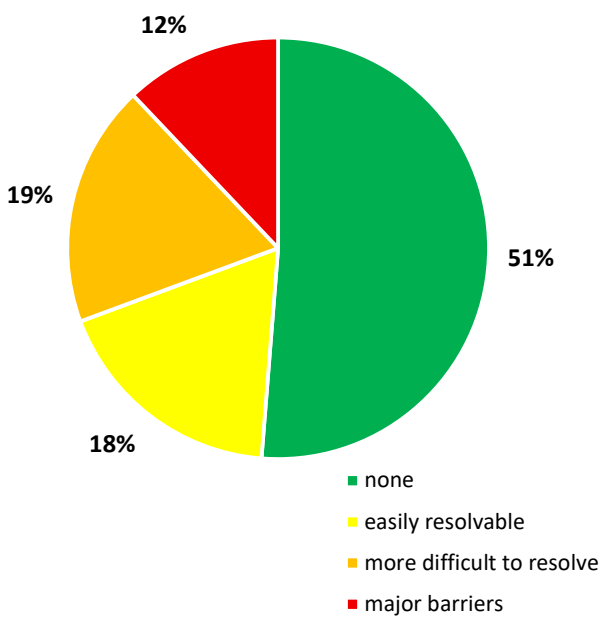
Karlovac County

A summary analysis of ownership status and legal barriers for a sample of 199 buildings (06/2024) identified different legal barriers affecting building renovation in Karlovac County. Of the buildings analysed, 102 had resolved property and ownership issues, 36 had easily resolvable barriers, 37 had more difficult-to-resolve barriers, while 24 buildings had major legal barriers.

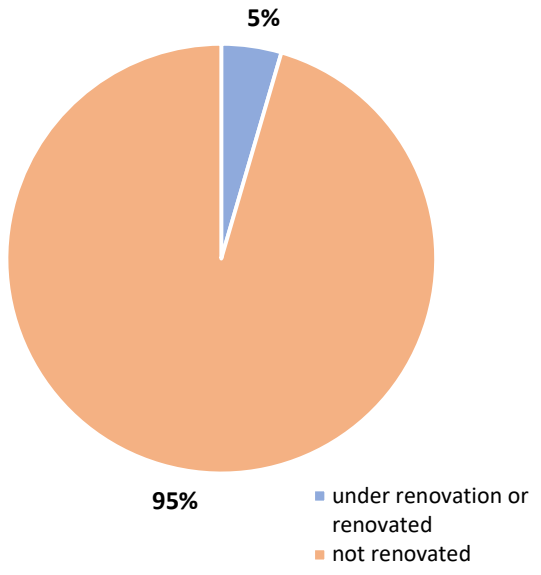
The category with no legal barriers included 23 branch school buildings no longer used for education, 21 branch schools, 16 main school buildings, 12 secondary schools, 12 health centres, 6 other healthcare buildings, 3 other educational buildings, 3 other public-sector buildings, 2 student dormitories, 2 school sports halls, 1 hospital and 1 home for older persons and persons in need of care.
The category with easily resolvable legal barriers included 10 health centres with associated outpatient clinics, 8 pharmacies, 5 other public-sector buildings, 4 branch school buildings, 3 branch school buildings no longer used for education, 2 main primary school buildings, 2 secondary schools, 1 student dormitory and 1 other healthcare building.
The category with more difficult-to-resolve legal barriers included 17 branch school buildings no longer used for education, 8 health centre/outpatient clinic buildings, 8 other public-sector buildings, 2 branch schools, 1 main school and 1 pharmacy.
The category with major legal barriers included 4 branch school buildings no longer in use, 3 other public-sector buildings, 2 health centre buildings with associated outpatient clinics and 1 pharmacy.

The analysis showed that as many as half of all buildings in the Karlovac County sample had no legal barriers in terms of ownership status and alignment between cadastral and land registry records. The remaining three categories of buildings (easily resolvable, more difficult-to-resolve and major legal barriers) each account for a roughly similar share of the sample.

Status 06/2024, legal barriers:



Status up to 06/2026, renovation status:



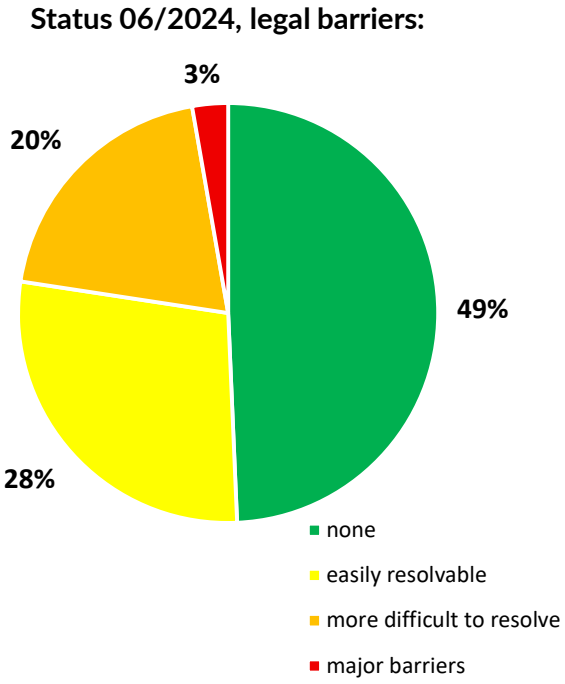
The diagram shows that only 5% of buildings in the sample were undergoing renovation or had been renovated in the period 06/2024–06/2026. Although the initial analysis showed that half of the buildings in the sample had no legal barriers, this did not result in a higher renovation rate. This indicates that legal barriers are not always a decisive factor in the implementation of renovation projects.

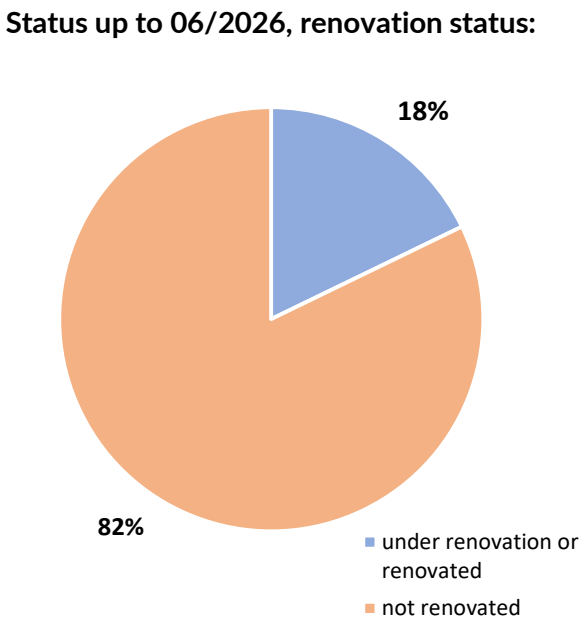
Krapina-Zagorje County

A summary analysis of ownership status and legal barriers for a sample of 146 buildings (06/2024) identified different legal barriers affecting building renovation in Krapina-Zagorje County. Of the buildings analysed, 72 had resolved property and ownership issues, 41 had easily resolvable barriers, 29 had more difficult-to-resolve barriers, while 4 buildings had major legal barriers.

The category with no legal barriers included 52 primary schools, 12 health centres, 5 secondary schools, 2 other educational buildings and 1 office building.
The category with easily resolvable legal barriers included 12 hospital buildings, 9 health centres, 6 office buildings, 4 primary schools, 4 secondary schools, 4 pharmacies, 1 student dormitory and 1 healthcare building.
The category with more difficult-to-resolve legal barriers included 22 primary schools, 6 health centres and 1 student dormitory.
The category with major legal barriers included 3 health centres and 1 primary school.

The analysis showed that as many as half of all buildings in the Krapina-Zagorje County sample had no legal barriers in terms of ownership status and alignment between cadastral and land registry records. The numbers of buildings with easily and more difficult-to-resolve legal barriers were relatively similar, while 3% of buildings fell into the category of major legal barriers.





The diagram shows that as many as 18% of buildings in the sample were undergoing renovation or had been renovated in the period 06/2024–06/2026. It can be concluded that this relatively high renovation rate is partly the result of the absence of legal barriers in as many as 50% of the buildings in the sample. Nevertheless, the absence of legal barriers was certainly not the only reason for the higher renovation rate; further barriers are explained in the following chapters.

City of Zagreb

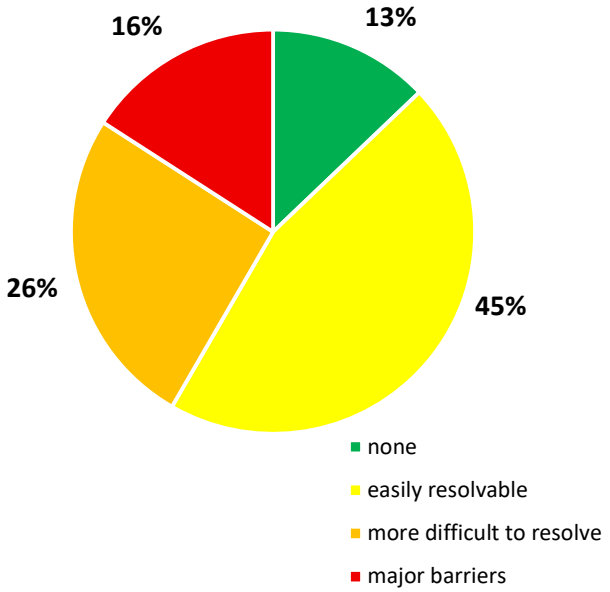
A summary analysis of ownership status and legal barriers for a sample of 132 buildings (06/2024) identified different legal barriers affecting building renovation in the City of Zagreb. Of the buildings analysed, 17 had resolved property and ownership issues, 60 had easily resolvable barriers, 34 had more difficult-to-resolve barriers, while 21 buildings had major legal barriers.

The category with no legal barriers included 4 primary schools, 4 secondary schools, 3 homes for older persons, 2 hospitals, and one each of a kindergarten, museum, cultural facility and city/local administration building.

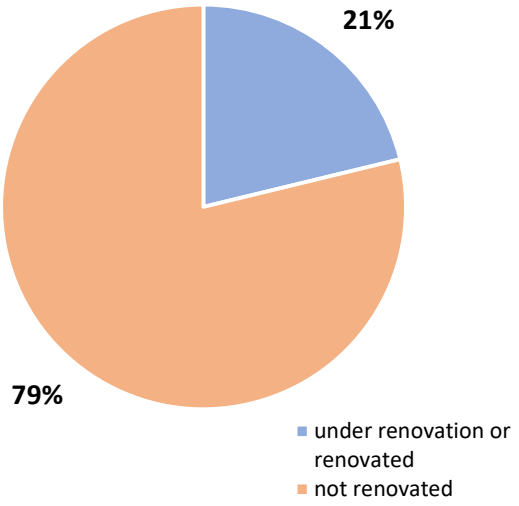
The category with easily resolvable legal barriers included 17 primary schools, 9 kindergartens, 8 health centres, 7 homes for older persons, 4 hospitals, 4 secondary schools, 4 city/local administration buildings, 3 sports facilities, 3 cultural facilities and 1 student dormitory.
The category with more difficult-to-resolve legal barriers included 9 primary schools, 5 secondary schools, 5 sports facilities, 4 homes for older persons, 3 health centres, 2 kindergartens, 2 museums, 2 city/local administration buildings, 1 hospital and 1 student dormitory.
For the City of Zagreb, the final category of buildings with major legal barriers comprised buildings excluded from the analysis due to their cultural heritage status: 5 cultural facilities, 4 primary schools, 4 secondary schools, 3 museums, 2 city/local administration buildings and 1 hospital.

The analysis showed that the largest share of buildings (45%) had easily resolvable legal barriers, while buildings in the remaining categories were relatively evenly distributed. The share of buildings excluded from the analysis due to cultural heritage status was relatively high (16%).

Status 06/2024, legal barriers:



Status up to 06/2026, renovation status:



The diagram shows that, despite the high share of legal barriers across all categories (only 13% of buildings had no legal barriers), the renovation rate from 06/2024 to 06/2026 was relatively high (21%). This indicates that legal barriers were not a significant obstacle to the implementation of renovation projects in the City of Zagreb.
The analysed period should also be taken into account: it coincided with post-earthquake reconstruction and the renovation of city kindergartens and health centres, many of which were built in the 1970s and 1980s and have now reached the end of their 50-year design life. The renovation rate is therefore likely to be higher than in previous periods.

4. Financial barriers

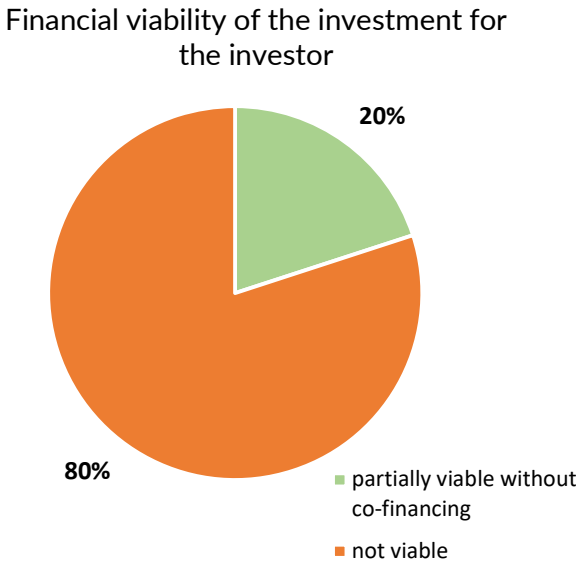
One of the key obstacles to initiating renovation projects is the financial barrier. Financial considerations are often also the main criterion for selecting contractors or service providers (both for the preparation of project documentation and for the execution of works). This chapter therefore addresses financial analyses and the related barriers.

Deliverable D3.2 included the preparation of 100 Feasibility Studies, each of which contained a financial analysis for the public-purpose buildings assessed. For the analysis of financial barriers in this Deliverable, 70 buildings in four counties were analysed (Zagreb County, Karlovac County, Krapina-Zagorje County and the City of Zagreb). Buildings of all public uses were included, in proportions that approximately reflect the overall share of individual uses within the total public building stock. Detailed indicators of the analyses by county are presented in the text and charts below.

The financial analysis examined renovation types (integral, deep and comprehensive renovation) and their financial viability over time. Investment and operating costs were taken into account, together with the financial savings resulting from the implementation of energy measures.

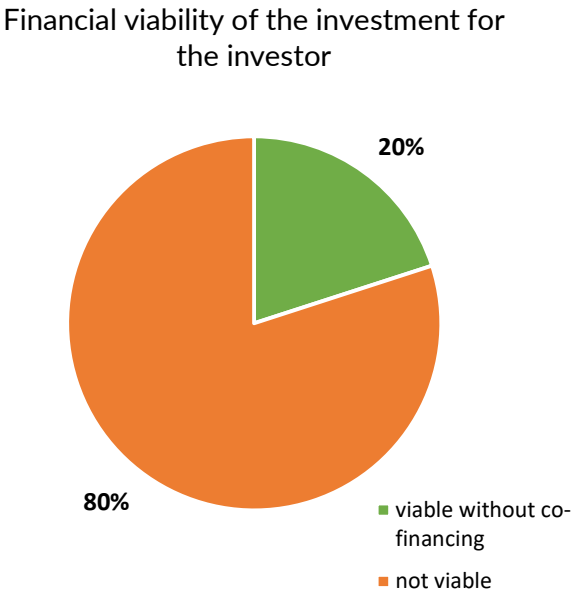
Zagreb County

In a sample of 5 feasibility studies prepared for public-purpose buildings in Zagreb County, only one showed partial financial viability. Although a rate of 20% may be realistic, the small sample size should be taken into account. Four primary schools and one secondary school were analysed. The financial analysis found the renovation of one primary school to be viable.



Karlovac County

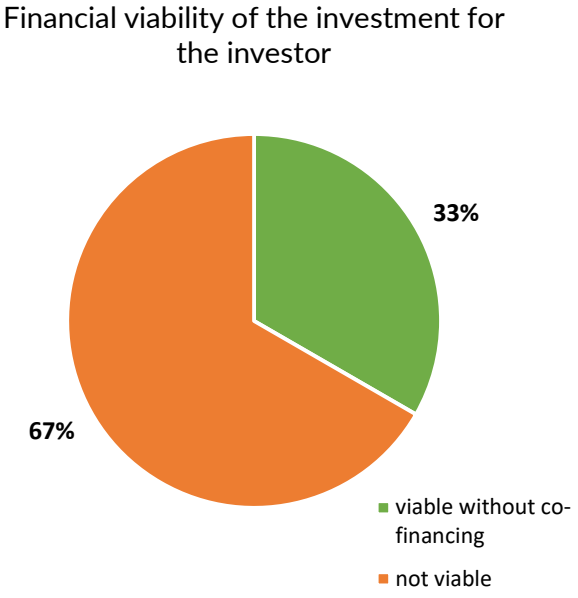
In a sample of 10 feasibility studies prepared for public-purpose buildings in Karlovac County, only two showed financial viability (20%). The analysed buildings included one outpatient clinic, one music school, one student dormitory, one health centre, one sports hall of the School of Economics and Tourism, and five primary education buildings, including two main schools, two branch schools and one school sports hall. The financial analysis found the renovation of one main primary school and the sports hall of the School of Economics and Tourism to be viable.



Krapina-Zagorje County

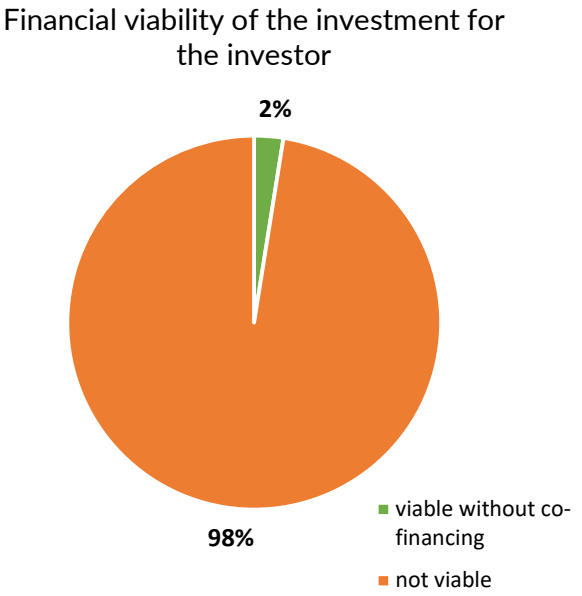
In a sample of 15 feasibility studies prepared for public-purpose buildings in Krapina-Zagorje County, five showed financial viability (33%). The analysis covered 6 primary education buildings, including 4 main schools, 1 branch school and 1 sports hall; two secondary education buildings, one of which was a grammar school; and healthcare buildings comprising 6 health centre buildings (including 4 outpatient clinic buildings) and one specialised hospital.

The financial analysis found the renovation of one grammar school and 4 health centre buildings, including two outpatient clinic buildings, to be viable.



City of Zagreb

In a sample of 40 feasibility studies prepared for public-purpose buildings in the City of Zagreb, only one showed financial viability (2.5%). The analysis covered 17 health centre buildings, 2 homes for older persons, 9 kindergartens, 10 primary schools and 2 secondary schools. The financial analysis found only the renovation of one health centre to be viable.



It can be concluded that, for three counties, the share of financially viable investments ranges from 20% to 33%, with the percentage also influenced by the number of studies prepared and the buildings and uses included in the analysis. For the fourth area, the City of Zagreb, the figure is far more striking, with only 2.5% of investments being financially viable. This means that renovation investments would not be financially viable over the analysed period of 20 years; in other words, the savings generated by implementing energy measures would not make the investments financially viable.

Nevertheless, among the analysed counties, the City of Zagreb carries out the highest number of renovations, which is understandable for the capital city – the wealthiest and most populous part of the country. This clearly demonstrates that barriers related to financial non-viability can be overcome where sufficient own-source financing or co-financing from external sources is available.

5. Organisational barriers

Organisational barriers to the implementation of renovation projects are barriers identified through practical experience in working on renovation projects. They cannot readily be expressed through figures and charts; nevertheless, experience shows that they are among the main real-world barriers slowing down the renovation process.

Some of the key organisational barriers to renovation projects relate to the availability of adequate institutional and human-resource capacities within counties and other regional authorities. Successful preparation and implementation of renovation projects requires experts from different disciplines, including technical, legal, financial and project-management competences. However, regional authorities often face a limited number of staff with the appropriate knowledge and experience to implement complex investment projects and projects financed through European funds. A shortage of qualified staff can lead to increased administrative burdens, difficulties in stakeholder coordination and delays in project preparation and implementation.

Among the analysed counties, the City of Zagreb, as expected for the capital and the authority with the largest staffing capacity, performs best in overcoming organisational barriers. Most of the organisation and implementation of renovation projects is handled by designated city offices employing technical, legal and economic professionals whose expertise is necessary for successful project delivery. In the other counties, overcoming organisational barriers is considerably more difficult. They often lack the necessary staff, reflecting broader workforce shortages in those counties, and therefore need to engage external experts to support project implementation.

Particular attention should be paid to the continuous professional development of staff so that they can effectively manage increasingly complex renovation projects, especially those financed through external co-financing sources, where technical expertise must be complemented by knowledge of specific requirements related to application preparation, implementation, reporting and monitoring of project indicators.

6. Infrastructural and other barriers

One of the barriers encountered in practice was an infrastructural barrier. Under the co-financing Call to which public-sector buildings from all four counties were expected to apply, the general eligibility criteria required projects to comply with the 'do no significant harm' (DNSH) principle. One of the conditions was linked to Environmental Objective III – Sustainable use and protection of water and marine resources – requiring the building to be connected to public water supply and wastewater drainage infrastructure. This criterion excluded a very large share of buildings from co-financing, since projects were often located in rural areas where public sewerage systems are not available.

7. Conclusion

The analyses carried out show that the successful preparation and implementation of public building renovation projects depends on a range of interconnected factors that go beyond the mere availability of financial resources. During the implementation of the CROSS project, legal, financial, organisational and infrastructural barriers were identified, affecting the pace and feasibility of renovation projects to varying degrees.

The analysis showed that barriers rarely occur in isolation and are most often interconnected. Unresolved property and ownership issues, inconsistent records, limited institutional capacities, dependence on external funding sources and inadequate infrastructure can significantly slow down or hinder project preparation, regardless of the actual renovation needs of individual buildings.

The importance of the organisational capacities of public authorities was particularly recognised, as successful project implementation requires qualified staff capable of managing complex administrative, technical and financial processes and continuously adapting to changes in the regulatory and financial environment. At the same time, the analysis confirmed that the quality of available building data, clearly defined ownership arrangements and adequate infrastructural prerequisites provide an important basis for effective investment planning and implementation, although the analysed legal barriers did not have a significant impact on the final renovation rate.

The results presented in this document provide insight into the most common challenges faced by local and regional authorities and other public institutions during the preparation and implementation of renovation projects. The conclusions of the analyses can serve as a basis for a better understanding of existing barriers and their impact on the public building renovation process, as well as for planning future activities aimed at increasing the efficiency and effectiveness of project implementation.

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