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Morphological Analysis and Restoration of the Silesian Towns of Opava and Krnov

*By Petr Stanjura**

Upper and Lower Silesia held a strategically vital position within the broader European context, evidenced by major historical trade routes such as the Amber Trail and Via Regia. A closer examination of Silesia and the Bohemian Basin highlights the intricate interconnection of these regions via dense trading networks. Following 1742, the formerly unified Silesian territory was divided between Austria and Prussia, positioning the Přemyslid royal towns of Opava and Krnov at the heart of these geopolitical shifts. After centuries of integrated territorial development since their medieval town charters, these rival towns suddenly found themselves at the periphery of new political boundaries. The urban fabric of both towns, established in the 14th century, experienced significant degradation, particularly in Opava during the Second World War, and further transformations due to post-war socialist urban planning and nationalist doctrines. This paper presents detailed mapping and analysis of Opava and Krnov using the methodology of cultural identity attributes (Jehlík et al., 2020), combining urban morphology with heritage assessment. The author's dual role as the chief architect of Opava since December 2016 and a doctoral candidate at the Czech Technical University in Prague since 2018 provides a unique perspective, bridging academic research and practical urban policy. One of the key research outcomes involves the application of urban morphology tools in the preparation of redevelopment variants for the historically significant but physically erased "town hall blocks" south of Opava's Upper Square. The results show varying levels of integration of morphological analysis, with specific variants demonstrating improved spatial legibility and continuity with the historical urban tissue. Preliminary space syntax analysis indicates which redevelopment options better reintegrate pedestrian flows and historical axes. These findings will inform decision-making in the current drafting of the Opava Urban Conservation Zone Regeneration Programme (2025–2029), the city's Spatial Analytical Documents, and the new Master Plan. Moreover, cost-benefit analyses of these variants offer an evidence-based framework for prioritizing heritage-sensitive and sustainable regeneration strategies.

Keywords: *mapping the development of historic towns; urban morphology; restoration of the historic urban core*

Introduction

Upper and Lower Silesia have historically occupied a crucial position in the European geopolitical and economic landscape, primarily due to their location along

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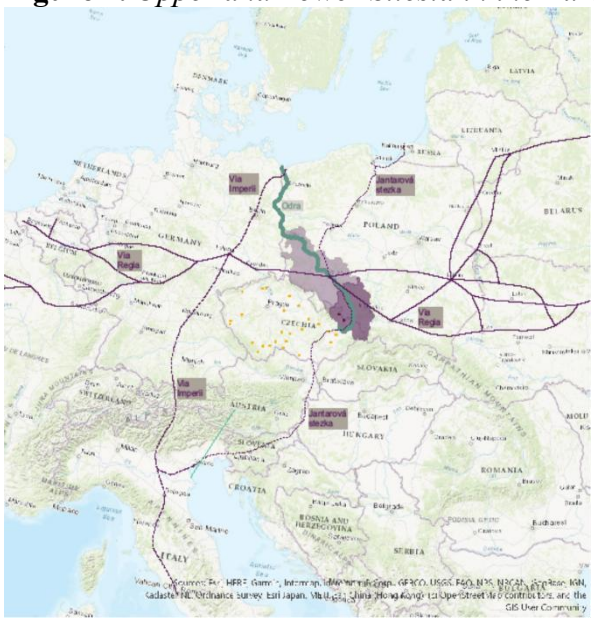
significant trade routes, including the Amber Trail and Via Regia (see Figure 1). These routes not only facilitated commerce but also fostered cultural and political exchange between Central and Eastern Europe. This study builds upon those insights by further integrating them into the context of contemporary urban redevelopment. A closer examination of the context of Silesia and the "Bohemian Basin" further underscores this interconnectedness, as evidenced by the dense network of trade routes that wove these regions together into a cohesive economic and cultural space. These connections played a vital role in shaping the development and significance of towns like Opava and Krnov within the broader European framework.

The division of Silesia in 1742 between Austria and Prussia repositioned the royal Přemyslid towns of Opava and Krnov from central hubs within an integrated territory to peripheral settlements along newly established political borders (see Figure 2). This paper investigates the urban development of these towns, focusing on how historical events, particularly the post-World War II socialist planning and nationalist ideologies, have shaped their urban form.

Through the lens of urban morphology and cultural identity assessment, this research aims to analyze the spatial structure and historical continuity of Opava and Krnov, particularly emphasizing the redevelopment of the "town hall blocks" in Opava, which were obliterated during wartime and post-war urban interventions. The author's dual role as the chief architect of Opava and a doctoral candidate offers a unique perspective, bridging academic research with practical urban policy-making.

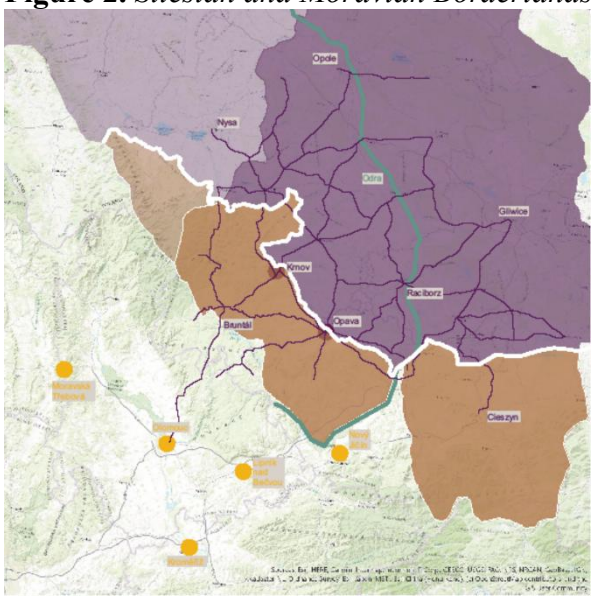
This study is structured into six main sections: following this introduction, a literature review provides theoretical grounding; the methodology section outlines the research approach, including urban morphology tools and cultural identity mapping; results detail the morphological analysis and redevelopment variants; the discussion interprets these findings within broader planning contexts; and conclusions summarize the implications for heritage-sensitive regeneration.

Figure 1. *Upper and Lower Silesia in the European Area*



Source: Map created by the author from sources: (Bolina et al., 2022; see also Stanjura, 2024)

Figure 2. *Silesian and Moravian Borderlands after 1742*



Source: Map created by the author from sources: (Bakala, 2005; see also Stanjura, 2024)

Literature Review

Urban morphology, which investigates the form and structure of urban spaces, offers valuable insights into how cities evolve in response to socio-political changes. Foundational works by Conzen (1960), Caniggia and Maffei (2001), and more recently Kropf (2018), have established robust methodologies for analyzing urban tissues, plot patterns, and building typologies. Conzen's town-plan analysis, focusing on the interplay of streets, plots, and buildings, remains a central approach for this study.

For heritage assessment, Jehlík et al. (2020) advanced a methodology for mapping cultural identity attributes, which underscores the importance of embedding heritage values within urban planning. This aligns with broader debates on sustainable urban regeneration and evidence-based planning.

Furthermore, scholarship presented at the Athens Institute for Education and Research (ATINER) conferences significantly informs this research. Sari's (2018) study on Eminönü in Istanbul, for example, highlights the challenge of reconciling modern urban interventions with historical urban fabrics, a parallel to the situation in Opava and Krnov. Likewise, Wang's (2019) research on value-oriented regeneration in Qingdao emphasizes the role of stakeholder engagement and the integration of economic, social, and cultural factors in urban renewal.

Karl Kropf (2018) also brings attention to a central issue within urban morphology: the problematic nature of defining plots or parcels. According to Kropf, parcels are inherently linked to property ownership, which complicates their definition and representation. Morphologists, however, consistently work with representations—measured drawings, maps, aerial photographs, or GIS polygons—which offer different lenses through which to analyze urban form. This nuanced

understanding is critical because the persistence of parcel patterns has direct implications for urban behavior and development processes. This issue becomes particularly relevant in the context of the newly redefined property structure within the historically erased "town hall blocks" in Opava, where the integration of parcel patterns with ownership rights represents a key challenge in achieving cohesive urban regeneration.

Continuing research in urban morphology has further emphasized that one of the most influential distinctions affecting urban form and the persistence of parcel structures lies in the relationship between individuals and groups, particularly the size and complexity of these groups. Larger and more complex groups tend to act more slowly, a dynamic that has significant consequences for the evolution and stability of urban patterns. This theoretical observation is highly pertinent for the redevelopment of the "town hall blocks," where the fragmented and recently reconstituted ownership structure poses both a constraint and an opportunity for phased regeneration strategies aligned with historical continuity.

At the outset of this research, a broader comparative group of Silesian towns was selected for initial analysis. The towns of Bruntál, Krnov, and Opava were included as royal towns operating under the Olomouc legal code, while Racibórz and Cieszyn represented towns historically aligned with Polish dominions. This selection reflects the shared geographical framework of the upper Oder basin and the prehistoric trade routes, notably sections of the main and subsidiary routes of the Amber Trail. Another critical selection criterion was the morphological transition zone between the Moravian mountain ranges and the Polish lowlands. It was precisely this strategic interface that the Přemyslid rulers targeted during the broader period known as the German eastward colonization.

This article also builds upon findings from my previous research (Stanjura, 2023), which employed similar urban morphology principles to evaluate post-war urban planning in Opava. In that earlier study, sources such as Jehlík et al. (2020) and Kropf (2018) were cited to support the analytical framework. By reapplying these foundational sources, this article maintains methodological continuity while expanding their application to new redevelopment contexts.

These combined perspectives provide a comprehensive framework for analyzing the urban morphology of Opava and Krnov, emphasizing the need to integrate historical patterns into contemporary planning decisions.

Methodology/Materials and Methods

This study employs a mixed-methods approach, combining urban morphology analysis with heritage assessment techniques. This layered methodology ensures a comprehensive understanding of the urban fabric and cultural identity of Opava and Krnov, providing a robust foundation for informed redevelopment decisions. The following tools and methods were applied in this research:

- **Cultural Identity Mapping (Jehlík et al., 2020):** This framework identifies and evaluates key attributes of cultural identity embedded in the urban

structure. Attributes such as the legibility of urban forms, historical continuity, the persistence of parcel patterns, and the authenticity of public spaces were assessed. This method was operationalized through fieldwork, photographic documentation, and archival comparison. In Opava, attributes such as the grain of built-up areas, street alignments reflecting historic trade routes, and remnants of medieval block structure were key focal points. In Krnov, the method highlighted the interplay between preserved early modern forms and socialist-era alterations, especially around the Upper Square.

- **Urban Morphology Analysis:** Based on Conzenian principles, this analysis focused on the interrelations between street networks, plot divisions, and building typologies. Primary data sources included 19th and 20th-century historical maps, stable cadastre plans, GIS layers, and aerial imagery. By overlaying these sources, morphological transformations were tracked over time. Special emphasis was placed on the former "town hall blocks" in Opava, revealing processes of consolidation, demolition, and partial regeneration.
- **Space Syntax Analysis:** Angular segment analysis was used to assess spatial integration and pedestrian connectivity across proposed redevelopment scenarios. Three variants were analyzed:
    - **Variant A** restores the southern frontage of the Upper Square using uniformly shallow 20-meter-deep plots, reflecting the width of the former Slezanka department store. However, it does not reintroduce the internal structure of the former Radniční and Pivovarská alleys, resulting in limited permeability and moderate local integration.
    - **Variant B** maintains the 20-meter-deep frontage but increases the depth of two central parcels to 40 meters, referencing the scale of the original town hall buildings. It also reestablishes the eastern frontage of Pivovarská Alley and introduces a new civic hall in the west, near the cathedral, contributing to the creation of small public squares. This variant achieved the best balance of local and global integration, due to the partial restoration of historical routes and varied spatial programming.
    - **Variant C** similarly includes deeper central parcels (40 meters) and reconstructs the eastern edge of Pivovarská Alley, but instead of a separate civic hall, it reinstates a traditional courtyard structure occupying the former town hall plots. The cultural function is internalized within these buildings, supported by an open-air auditorium in the block interior. While pedestrian integration is slightly lower than in Variant B, this approach offers strong enclosure and spatial continuity.
- **Cost-Benefit Analysis (CBA):** To support spatial assessments, each variant was subjected to a simplified cost-benefit analysis. It considered direct construction costs and projected long-term benefits, including increased commercial parterre value, residential rent appreciation, and broader social-cultural gains. Variant B emerged as the most favorable scenario, offering a strong balance between implementation feasibility, spatial performance, and heritage-sensitive reintegration. The analysis factored in both tangible and

intangible returns, reinforcing the value of integrating economic and cultural objectives in early-phase planning.

Data collection involved a triangulation of sources, including archival research (municipal records, historical maps), spatial mapping (GIS and CAD-based overlays), and stakeholder consultations. Consultations included interviews with municipal planners, heritage conservationists, local historians, and community representatives, ensuring that redevelopment strategies align with both expert assessments and local expectations. This multifaceted methodology ensures that redevelopment decisions are grounded in both quantitative spatial analysis and qualitative heritage assessment, offering a holistic approach to urban regeneration in Opava and Krnov.

This study seeks to answer the following research questions: (1) How can historical urban morphology inform contemporary regeneration strategies in post-socialist towns?; (2) What role can cultural identity mapping and cost-benefit analysis play in balancing preservation and development?; (3) Which design strategies best reconcile historical continuity, spatial performance, and implementation feasibility in the case of Opava and Krnov?

Results

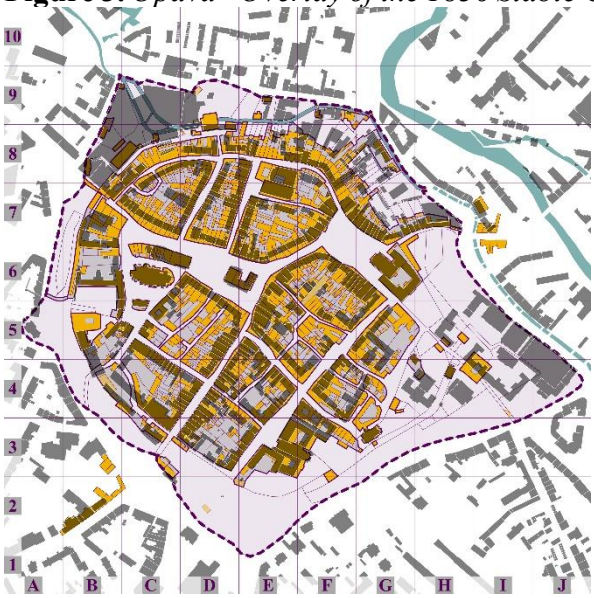
Urban Morphology of Opava and Krnov

The urban morphology of Opava and Krnov is marked by several key historical milestones that have significantly influenced their spatial structures. This analysis builds directly on the author's previous research into the morphological evolution of Silesian towns, particularly Opava and Krnov (Stanjura, 2023; 2024), which examined the interplay between historical continuity, urban identity, and spatial disruption in the context of post-war and post-socialist transformations.

In Opava, the medieval urban pattern is notably shaped by the intersection of long-distance trade routes connecting central Moravia with Silesia and Lesser Poland. Archaeological evidence from the city's cadastral area suggests no direct continuity between the town's initial urban location and any earlier, well-developed early medieval settlements. The town, situated approximately 10 kilometers north of Hradec at a ford across the Opava River, was granted municipal status between 1213 and 1220 by the Moravian margrave Vladislav Henry. This was formalized with the issuance of town privileges by King Přemysl Otakar I in 1224. The earliest layer of Opava's urban fabric likely consisted of around 65 brewing houses, each granted the right to brew beer and sell wine, eventually expanding to approximately 270 such properties. The recorded names of Opava's 13th-century burghers are exclusively of German origin, indicating the ethnic composition during the period of colonization. The town gained a residential character at the turn of the 14th and 15th centuries when Duke Přemysl I of Opava constructed a castle at the town's northeastern edge, integrating its fortifications into the city's defensive walls. The trade route in the east-west direction was fully acknowledged by the town's layout, while the southern route from Hradec nad Moravicí was altered, leading to

geometric inconsistencies between the oldest road network and the stabilized post-foundation urban tissue. This synthesis of trade routes and urban form resulted in the replacement of the original southern gate with a new one on Ostrožná Street. The initial structure of small urban blocks was gradually consolidated into larger macro-blocks, particularly evident in the area from the Johannite commandery to the Ratiboř Gate. The urban fabric in this section was almost entirely erased or remains only in fragmentary form. The layout of the Lower Square is largely preserved, except for modifications at its northeastern and southwestern edges. In contrast, the compact form of the elongated Upper Square, originally flanked by two smaller block segments, has been significantly altered, especially in its northwestern perimeter, which underwent substantial redevelopment following the demolition of the city walls. Here, a municipal brewery was established at the initiative of Mayor Schoessler, which in turn underwent a major transformation in 2012 into a large-scale commercial and social complex, further impacting the intangible aspects of the historic core. Despite these changes, some elements of the original genius loci remain, most notably at the Fish Market. The vision of the first municipal engineer, Eduard Labitzky, included the extension of Pekařská Street northwards toward the Prussian (now Polish) border, achieved by demolishing two houses on Solná Street.

Figure 3. *Opava - Overlay of the 1836 Stable Cadastre and Cadastral Map 2022*



Source: Map created by the author from sources: (Stable cadastre - Silesian Museum; see also Stanjura, 2023)

Figure 4. *Krnov - Overlay of the 1836 Stable Cadastre and Cadastral Map 2022*

Source: Map created by the author from sources: (Stable cadastre - Silesian Museum; see also Stanjura, 2023)

Further comparison of key attributes is supported by graphic representations of built-up area grain in the city's core for the 19th and 21st centuries. Unlike cities with designated urban conservation areas, where religious and monastic complexes dominate the largest built-up plots across both periods, Opava demonstrates marked disparities. Post-war prefabricated apartment blocks, administrative buildings, sports facilities, and the aforementioned commercial complex now constitute a significant portion of the built environment. Nonetheless, the fundamental urban structure of Opava has largely been preserved, a fact that gains significance considering that post-war plans contemplated the complete clearance and transformation of the city center into a modernist layout. This irreversible shift was prevented by the 1953 Sanitation Plan for Opava's historic core, which instead focused on clearing courtyard infill, prescribing colonnades along historical paths, and even envisioned reconstructing the western segment of the Upper Square in line with its original form.

In contrast, Krnov experienced less wartime devastation but saw more extensive post-war clearance. The sanitation plan by architect Zdeněk Gardavský in the 1960s prescribed a harsher clearance regime than was ultimately executed. Although the western part of the Upper Square, the original Horní Gate area, and rear courtyard structures were targeted, the plan initially called for removing many early modern buildings along the southern frontage of the Upper Square. This incomplete realization left Krnov's core in a state of partial retention and partial erasure, a contrast to Opava's more cohesive urban morphology. In both towns, Opava's medieval core exhibits a radial-concentric street network focused on the Upper Square. However, wartime destruction and post-war socialist planning introduced significant discontinuities, especially in the southern "town hall blocks." By contrast, Krnov preserves more of its historical urban fabric, although its peripheral areas display similar interventions from the socialist era.

Redevelopment Variants for Opava's "Town Hall Blocks"

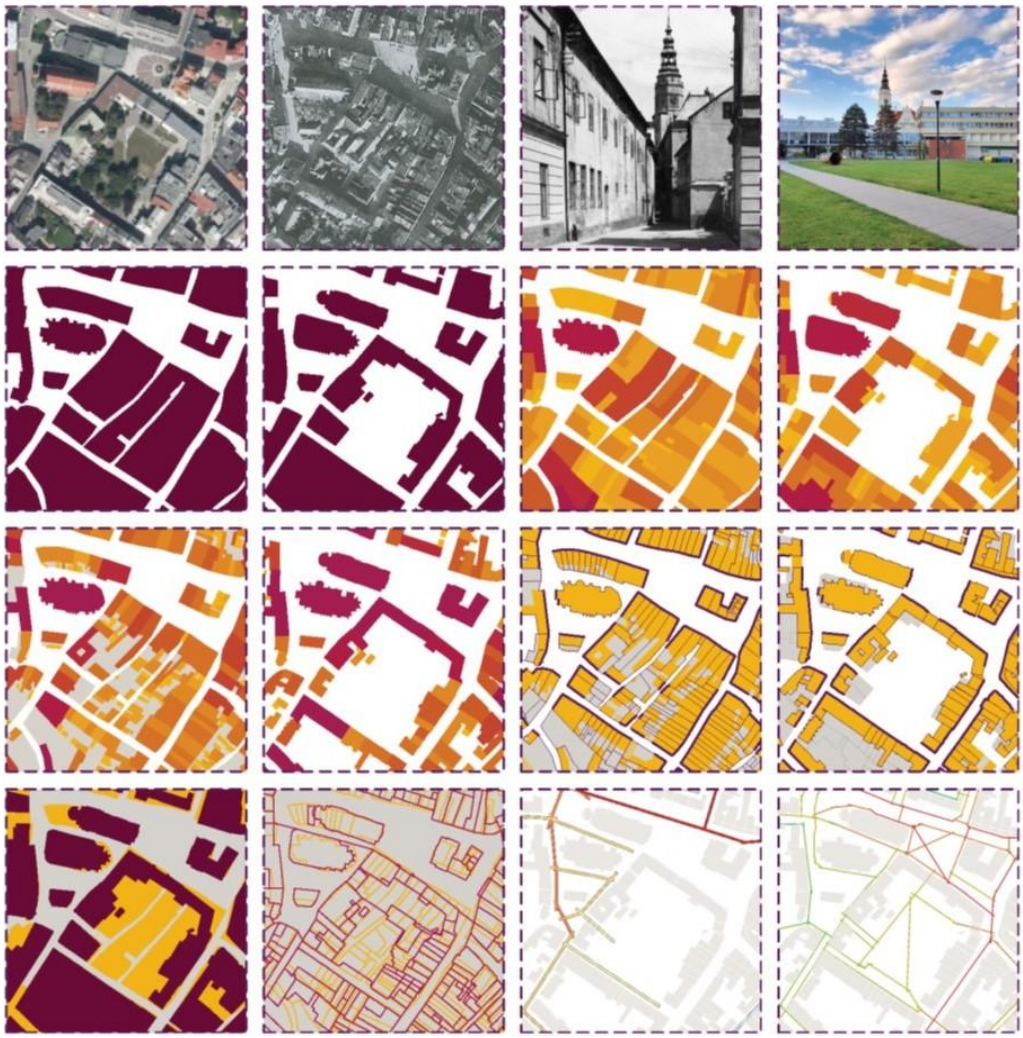
Three redevelopment variants were evaluated:

1. **Reconstruction of Historical Patterns**: Restoring pre-war street alignments and plot divisions to reestablish historical continuity.
2. **Hybrid Approach**: Integrating historical references with contemporary urban design principles to enhance spatial legibility while accommodating modern uses.
3. **Contemporary Urban Intervention**: Prioritizing pedestrian connectivity and mixed-use development through new spatial configurations.

Space syntax analysis suggests that the **hybrid approach** offers the best balance between reintegrating pedestrian flows and preserving historical axes.

For the core area, with an emphasis on the location of the town hall blocks, analyses were carried out according to the certified methodology Cultural Identity Mapping (Jehlík et al., 2020), a portion of which is illustrated and commented on in Figure 5.

Figure 5. *Opava – Analyses of the Town Hall Blocks*



*Source: C*reated by the author

In the first ro, the first and second columns show a striking contrast in the urban fabric of Opava between 1943 and 2022. The 1943 aerial image captures a compact, fine-grained network of streets and buildings, reflecting a cohesive pre-war medieval structure. By contrast, the 2022 view illustrates a more fragmented urban form, shaped by post-war interventions that introduced large blocks, reduced permeability, and disrupted the traditional rhythm of the historic core.

This shift illustrates the long-term effects of war damage and modernist planning policies that replaced intricate street networks with wider roads and monofunctional developments.

The third and fourth columns of the first row deepen this comparison by showing a view along Radniční Street toward the iconic town hall tower, Hláska. In the historical image (third column), the tower is framed by continuous street frontages, reinforcing a strong sense of spatial enclosure. In the contemporary photograph (fourth column), taken from the same vantage point, the view remains open but lacks defining architectural edges, with no built-up frontages enclosing the space. The resulting visual void underscores the loss of urban legibility and the weakened spatial definition of Opava's core. Hláska now visually dominates a fragmented open space, which undermines the cohesive character and historical continuity once offered by the urban form. This contrast highlights the importance of regeneration strategies that aim to re-establish a sense of enclosure and restore the morphological coherence of the town center.

In the second row, the first and second columns compare the configuration of urban blocks from 1836 and 2022. The 1836 map, reconstructed from the Stable Cadastre and archival sources, displays smaller, finely articulated block structures that reflect the organic growth and mixed-use character of pre-industrial towns. In contrast, the 2022 layout—derived from modern cadastral data (RÚIAN, ISKN), technical maps, and aerial imagery—shows consolidated and enlarged blocks, often the result of post-war planning and functional restructuring. These newer blocks, typically monofunctional and inward-facing, reduce street connectivity and spatial complexity. The maps were delineated using expert judgment that considered building typology, access, and use, and they reflect the broader impact of policy-driven urban transformation over nearly two centuries.

The third and fourth columns of the second row illustrate parcel granularity across the same time span. The analysis employs a color scale ranging from yellow to red in 200 m^2 increments. The 1836 visualization indicates a dense matrix of small parcels, supportive of flexible land use and incremental development. The 2022 image, however, reflects a pattern of coalesced parcels—often dark orange or red—marking a departure from the earlier mixed-grain urban tissue. This change in parcel structure signals a shift toward larger-scale planning paradigms and a reduction in the city's adaptive capacity. The diagram serves both as a morphological comparison and as a diagnostic tool to evaluate the consequences of parcel consolidation on public life, accessibility, and cultural continuity.

In the third row, the first and second columns analyze the grain of built-up areas for 1836 and 2022 using a similar color scale, but in increments of 100 m^2. The 1836 built environment exhibits a predominance of small building footprints, indicative of a high-density, walkable, and human-scale urban fabric. These smaller forms

supported functional diversity and architectural richness. By 2022, larger and more monolithic building forms dominate the same area. Many of these represent post-war typologies—such as office complexes, residential slabs, or retail centers—that break the continuity of scale and reduce spatial diversity. This shift in building grain not only alters the physical structure but also influences the social and perceptual qualities of the urban environment.

In the third row, the third and fourth columns compare the orientation and continuity of building facades between 1836 and 2022. This analysis focuses on street-facing facades—defined as linear elements that include all external building walls adjoining public streets, porticos, or arcades, as well as façades with doors or windows situated within 6 meters of a street space. In the case of detached housing, more distant but significant façades are also considered. The 1836 visualization, reconstructed through archival maps, stable cadastre data, vedute, and historical building surveys, reveals a dense and continuous pattern of building frontages, which aligned closely with the street grid and defined narrow parcels. These façades played a crucial role in shaping enclosure, rhythm, and legibility of public space. In contrast, the 2022 representation—based on detailed field surveys, historical regression analysis using surviving structures, archival photographs, and municipal records—shows a pronounced reduction in façade continuity. The demolition of entire blocks and replacement with open voids or isolated large buildings has disrupted the alignment and rhythm of building frontages. The loss of this articulated street-edge undermines the enclosure of public space and weakens the historic streetscape.

In the fourth row, the first column presents an overlay of urban block configurations from 1836 and 2022, effectively capturing the continuity and transformation of block-level morphology over nearly two centuries. The visualization highlights how many smaller pre-industrial blocks were consolidated into larger ones, especially in the southern part of the historic core, following war damage and post-war redevelopment. Some of the original block geometries remain discernible, but much of the finer urban texture has been lost or replaced with monofunctional blocks that no longer align with historical street patterns.

The second column of the same row compares parcel boundaries in 1836 and 2022. The 19th-century pattern is dense and irregular, indicating a high level of granularity and flexible land division. By contrast, the current pattern shows consolidated ownership and simplified geometry, with many historical parcels erased or merged. This shift reflects both legal and planning transformations, and it impacts adaptive reuse potential, land accessibility, and typological diversity.

The third column introduces a space syntax analysis of the current vehicular integration in the area of the former "town hall blocks." The red segments indicate streets with high vehicular integration, meaning they are more accessible and likely to attract through-traffic. Green segments are less integrated, indicating marginal connectivity. This map reveals that the area in question lacks strong vehicular integration, particularly compared to adjacent corridors. The partial fragmentation of the street network reduces navigability and deters investment or active use.

In the fourth column, a corresponding pedestrian integration map is shown, again using the space syntax method. Unlike the vehicular network, pedestrian

integration is more sensitive to visual connectivity and spatial proximity. Here, red lines represent the most integrated pedestrian paths, facilitating easy and intuitive navigation. Green lines represent less integrated pedestrian segments. The central void left by the demolished town hall blocks stands out as a low-integration zone, showing that it currently fails to connect to or support the pedestrian flow of the surrounding core. This makes it functionally and socially peripheral, despite its central geographic location. These space syntax results—computed using segment-based angular analysis—demonstrate a misalignment between Opava's historical movement patterns and current spatial configuration. Reintroducing a finer-grained street network and spatial enclosures could significantly improve both vehicular and pedestrian connectivity. This underscores the value of morphological sensitivity in urban regeneration, particularly in historical contexts.

Together, these layered visualizations of block structure, parcel grain, built-up area, façade alignment, and connectivity provide a comprehensive overview of the morphological evolution of Opava's historic core. They reveal how successive waves of destruction, reconstruction, and planning have reshaped the town's physical identity, often at the expense of its historic urban logic. These insights reinforce the importance of morphology-based redevelopment approaches that prioritize spatial coherence, cultural memory, and the re-establishment of historically rooted urban patterns.

Design Variants for the Regeneration of Opava's "Town Hall Blocks"

To evaluate feasible strategies for reactivating the historically significant but long-erased "town hall blocks" in the center of Opava, three urban design variants were developed and systematically assessed. These alternatives differ in their degree of morphological fidelity to historical patterns, in the granularity of their spatial structure, their functional composition, and their compatibility with current planning objectives. Each variant was elaborated in the form of site plans and perspective visualizations and analyzed using tools of urban morphology, the Cultural Identity Mapping methodology (Jehlík et al., 2020), and space syntax techniques.

Variant A – Contextual Infill with Minimal Reconstruction

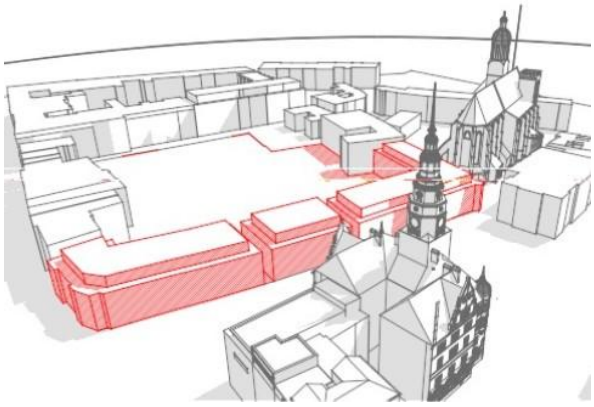
Variant A reflects the current state of built-up areas within the site and represents a minimal intervention strategy. Following the demolition of the Slezanka shopping center, the southern frontage of the Upper Square is replaced with a row of reconstructed façades replicating historical townhouse proportions, with a consistent plot depth of approximately 20 meters. This depth is only slightly greater than the 12-meter module of the former Slezanka building. The new buildings adhere to the historic height regime from the end of World War II—three full storeys with an attic level—thereby restoring the silhouette of traditional roofscapes. However, the internal structure of the former Radniční and Pivovarská alleys is not reinstated in this concept. A similar 20-meter depth is applied to the eastern section of the block, assuming the future removal of the Jednota office building.

This variant offers a simplified reconstruction approach with lower investment and planning complexity. However, it limits the revitalization of historic pedestrian connections and omits finer-grained urban tissue within the block. Although the historical street wall of the Upper Square is restored, much of the inner area of the former town hall blocks remains underused or open. According to space syntax analysis, Variant A demonstrates modest levels of local spatial integration and weak overall permeability within the urban fabric.

Figure 6. *Opava - Town Hall Blocks - Site Plan-Variant_1*

*Source: C*reated by the author

Figure 7. *Opava - Town Hall Blocks - Site Plan-Variant_1*



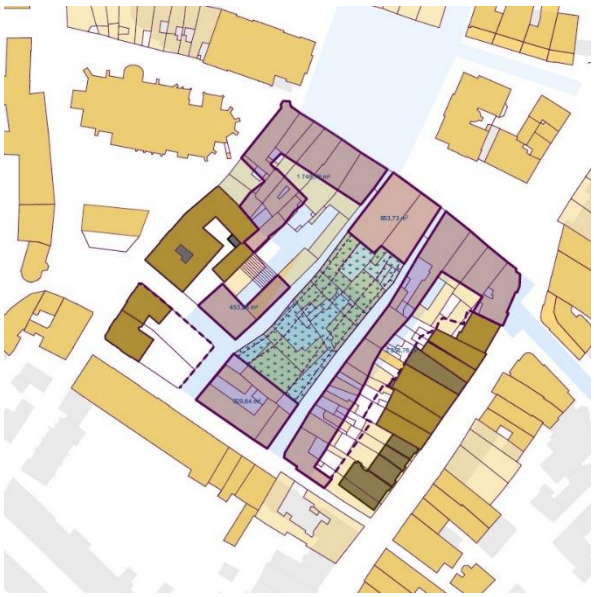
*Source: C*reated by the author

Variant B – Hybrid Morphology with Civic Infrastructure

Variant B also reinstates the southern frontage of the Upper Square with 20-meter-deep buildings but introduces greater morphological and functional diversity in the central part of the block. Two deeper parcels, approximately 40 meters in depth, are reintroduced to reflect the original footprint of the historical town hall buildings, which exceeded standard townhouse proportions. On the western edge of the site, adjacent to the Co-Cathedral of the Assumption of the Virgin Mary, a new cultural hall is proposed. This contemporary civic structure deviates from the original building outlines but introduces two new public spaces—a small entry plaza near the cathedral's buttress and an open-air auditorium near the former Radniční alley.

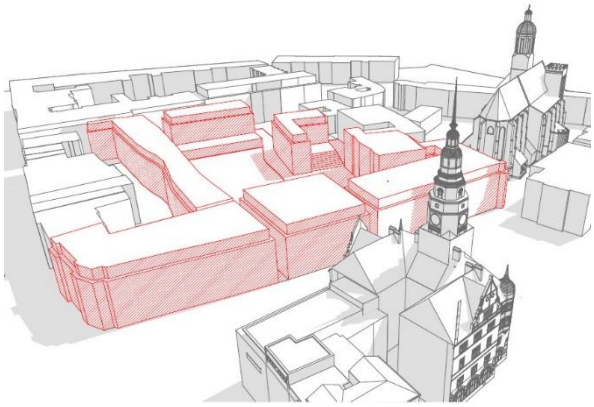
The variant further restores the eastern frontage of the former Pivovarská alley (which runs parallel to Ostrožná Street) and introduces new buildings along the northern side of Popská Street between the outlets of the Radniční and Pivovarská corridors. The proposed buildings are five storeys tall with a recessed sixth floor, accommodating a mix of functions including housing, retail, and services, while providing clear spatial definition to the surrounding public realm. Space syntax analysis reveals that Variant B achieves a balanced combination of local and global integration. This scheme optimizes historical referencing while introducing enhanced urban functionality and civic activation.

Figure 8. *Opava - Town Hall Blocks - Site Plan-Variant_2*



*Source: C*reated by the author

Figure 9. *Opava - Town Hall Blocks - Perspective view-Variant_2*



*Source: C*reated by the author

Variant C – Contemporary Reconstruction with a Central Cultural Core

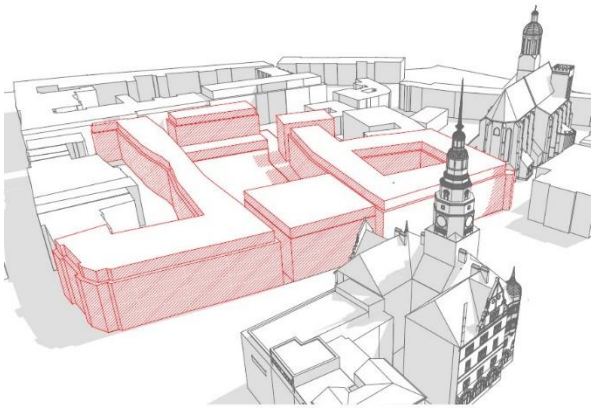
Like Variant B, Variant C re-establishes the southern frontage of the Upper Square and reinstates the deeper central parcel layout (approximately 40 meters) once occupied by the two town hall buildings. However, it forgoes the standalone cultural hall at the western edge. Instead, it reconstructs a more traditional perimeter block structure, incorporating a central courtyard. The cultural program is focused in the center of the block—within the reinterpreted footprint of the two former town hall buildings—linked at the ground and basement levels. An open-air auditorium is situated in their shared courtyard, with access from multiple directions.

Variant C also restores the eastern façade of the historic Pivovarská alley and fills in the northern frontage of Popská Street between the historical alley exits. The overall building height remains consistent with Variant B (five storeys plus a recessed sixth). In terms of spatial integration, Variant C performs comparably to Variant B, though it places greater emphasis on block compactness and internal courtyard activation. This configuration results in slightly reduced pedestrian movement potential (as indicated by syntactic analysis) but offers a strong degree of enclosure, clear spatial hierarchy, and a coherent programmatic focus. The integration of culturally significant elements is also robust due to the layering of historical references and new civic uses within the block structure.

Figure 10. *Opava - Town Hall Blocks - Site Plan-Variant_3*

Source: Created by the author

Figure 11. *Opava - Town Hall Blocks - Perspective view-Variant_3*



Source: Created by the author

Comparative Overview of Redevelopment Variants

Each variant presents a distinct approach to revitalizing the vanished urban structure of the former town hall blocks in Opava, focusing on key areas including the southern frontage of the Upper Square, the eastern Pivovarská alley, and the western edge adjacent to the cathedral. The table below summarizes key design and spatial parameters:

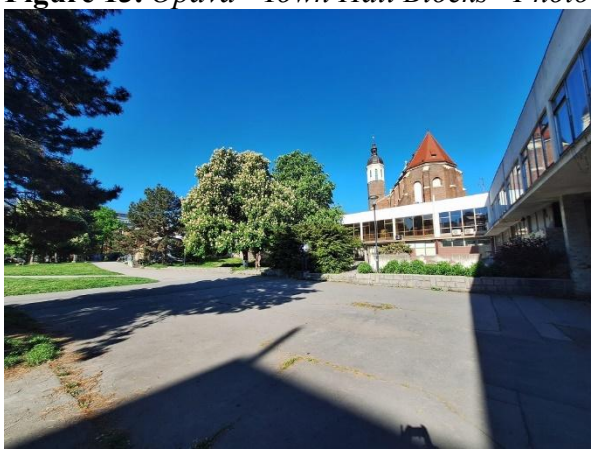
- Plot depth: A ~20 m; B ~20 m (40 m in central section); C ~20 m (40 m in central section).
- Southern frontage of Upper Square: Reconstructed in all variants with a consistent depth of ~20 m.
- Radniční and Pivovarská alleys: A – not restored; B – Pivovarská restored, Radniční partially reinterpreted as a plaza; C – Pivovarská restored, Radniční built over with internal courtyard access.
- Western block (near cathedral): A – no new intervention; B – new standalone cultural hall; C – regular perimeter block with inner courtyard (no hall).
- Location of cultural functions: A – negligible; B – in the western section (new hall); C – central part (integrated in reinterpreted town hall buildings and courtyard).
- Number of storeys: A – 3 floors plus attic; B and C – 5 floors plus a recessed sixth.
- Urban grain: A – coarse (few internal structures); B – medium (combination of large forms and small plazas); C – medium (reconstructed compact block, contemporary articulation).
- Space syntax – local integration: A – moderate; B – high; C – moderately high.
- Space syntax – global integration: A – low; B and C – medium.
- Spatial definition and legibility: A – partial (only main façade restored); B – strong (restored facades and added public spaces); C – strong (coherent block and courtyard articulation).

This comparative assessment demonstrates that the three variants represent different strategies for reactivating the erased urban fabric of Opava's town hall blocks. Variant A offers a restrained, context-aware infill with minimal internal reconstruction. In contrast, Variants B and C propose more ambitious schemes that reinstate fine-grained spatial patterns, public spaces, and cultural programs rooted in the site's historical logic. The evaluation highlights Variant B as the most balanced option—successfully merging morphological authenticity, civic utility, and practical feasibility.

Figure 12. *Opava - Town Hall Blocks - Visualization of the New Cultural Hall*

Source: CHYBIK + KRISTOF Architects

Figure 13. *Opava - Town Hall Blocks - Photo of the current situation*



*Source: C*reated by the author

Cost-Benefit Assessment of Redevelopment Variants

To complement the morphological and spatial analyses, a cost-benefit analysis (CBA) was conducted to evaluate the feasibility of different design strategies for the regeneration of Opava's "town hall blocks." The assessment compared the baseline status quo scenario (Variant 0) with the three design alternatives discussed previously (Variants A, B, and C), placing particular emphasis on Variant B due to its hybrid character. The analysis included spatial, economic, and cultural dimensions, and provided a quantifiable framework for prioritizing heritage-sensitive and sustainable urban interventions.

The CBA focused on several key dimensions:

1. **Increase in Commercial Parterre Value:** Based on comparative studies from similar Czech urban contexts, quality redevelopment can raise ground-floor rental yields by up to 20%. In Opava, assuming an average rent of 3,600 CZK/m²/year and a newly activated parterre area of approximately 33,683 m², the annual potential increase in asset value is estimated at 24.25 million CZK.
2. **Impact on Pedestrian Footfall and Retail Vitality:** Enhanced walkability and densification are expected to increase foot traffic, supporting small businesses and service diversity. An additional 8,000 pedestrian visits per month may generate approximately 110,400 CZK in added monthly income for retail tenants.
3. **Appreciation of Adjacent Properties:** Second-floor residential units near revitalized ground floors may see rental increases of up to 12.5%. For the impact zone (23,482 m²), this could translate into net rental growth of around 17.8 million CZK annually.
4. **Societal Benefits from a Multifunctional Cultural Institution:** A civic hub comprising a cultural hall, museum, or library contributes to urban vitality. Indirect returns—via tourism, events, and social cohesion—may yield an estimated 0.5 million CZK annually, with economic multipliers ranging from 1.3 to 1.7.

5. **Opportunity for Additional Housing:** The preferred redevelopment variant (especially B) creates capacity for up to 200 new housing units within Opava's core, aided by infrastructure enhancements such as underground parking (up to 500 spaces) and proximity to services.

From a net present value (NPV) perspective, Variant B demonstrates a robust financial case, with an estimated NPV of +303.9 million CZK. In contrast, maintaining the current underused condition (Variant 0) yields a negative NPV of -225 million CZK, reflecting opportunity costs and the social toll of disuse.

Interpreting the CBA: Economic and Cultural Synergies

This analysis affirms that urban regeneration, when guided by morphological logic and cultural sensitivity, generates long-term value. Variant B is especially effective, not simply filling spatial voids but weaving back together a coherent urban narrative with new housing, public functions, and heritage-informed form.

The value proposition of urban design should be viewed holistically. Tangible returns (e.g., rental income, tax revenue, employment) must be weighed alongside intangible gains—place identity, cultural continuity, and civic pride. When such metrics are integrated into planning processes from the outset, they strengthen the rationale for strategic investment.

This research underscores the importance of embedding CBA tools into early design and planning phases. Doing so fosters the co-production of economic feasibility and heritage protection rather than pitting them against one another. Opava's "town hall blocks" exemplify how spatial coherence, historical memory, and future-oriented urbanism can be jointly advanced through well-informed, evidence-based redevelopment strategies.

Discussion

The comparative analysis of the three design variants—contextual infill (A), hybrid redevelopment with civic infrastructure (B), and contemporary block reconstruction (C)—demonstrates the varying potential of urban design to balance heritage, function, and feasibility. Variant A, while financially and structurally the least demanding, delivers limited spatial impact and misses the opportunity to restore lost urban grain. Variant C achieves strong block enclosure and programmatic clarity but lacks a distinct civic gesture.

Variant B emerges as the most successful response to the challenge of reconnecting Opava's fragmented historical core. It preserves essential morphological alignments, introduces a multifunctional cultural hub, and enables vibrant mixed-use development. Crucially, it leverages spatial logic to support walkability and community identity, without reverting to pastiche.

These findings support broader conclusions drawn from comparative case studies across European contexts, particularly the need for planning models that are historically informed yet adaptable to modern civic needs. A key point of discussion

is how the local findings compare to similar cases internationally, especially regarding the aftermath of war and planning regimes. In this regard, the study by Brakman, Garretsen, and Schramm (2004) provides a telling parallel on the macro-scale. Their research on German cities showed that the impact of World War II bombings on urban growth and form was markedly different between West Germany and East Germany. Western cities tended to rebound and mean-revert to their pre-war trajectories, aided by market-driven reconstruction and economic booms, whereas eastern cities (under the socialist GDR) often did not regain their pre-war status, indicating a more permanent shock effect on their urban structure and growth patterns. The divergence was attributed largely to the contrasting post-war economic systems and urban policies: West Germany's decentralized, often restorative approach versus East Germany's centralized, transformative planning. Our findings in Opava and Krnov echo this narrative on a smaller scale. Like the East German cities, Opava (and to a lesser extent Krnov) experienced a centrally planned rebuilding process that did not fully restore the pre-war urban form – in Opava's case, the war-induced voids were filled in ways that broke with the historical city logic. The spatial legacy of this approach is evident in lingering gaps and monolithic structures that are out of tune with the original fabric. This suggests that the effect of war on a city's morphology can indeed be amplified or mitigated by the political-economic context that follows. A capitalist, heritage-conscious framework (akin to West Germany's in the 1950s–60s) might have led to more complete restoration in Opava's center, whereas the socialist framework produced a new equilibrium with a different morphology, much as GDR cities settled into altered states post-war. This comparative insight reinforces the importance of considering governance and policy history when analyzing urban form changes – it is not only the destructive event (war) that matters, but also the recovery model.

Conclusion

This research has demonstrated that the historical cores of Silesian towns such as Opava and Krnov, although shaped by similar medieval foundations, followed divergent paths of transformation due to geopolitical ruptures, war damage, and ideological planning paradigms of the 20th century. The detailed morphological and parcel-based analyses, supported by both archival sources and contemporary spatial data, have shown how fine-grained urban fabrics were fragmented and replaced by coarse-scale, monofunctional interventions, often undermining spatial legibility and the continuity of civic identity.

The case of the "town hall blocks" in Opava serves as a poignant microcosm of this wider narrative. The loss of morphological complexity in this area—once a spatial and symbolic anchor of the town—has generated both functional deficits and identity erosion. However, the application of urban morphology tools, integrated with evidence-based evaluation methods such as cost-benefit analysis and space syntax, provides a pathway for informed, heritage-sensitive regeneration.

Among the three redevelopment variants studied, Variant B emerges as the most promising from both a spatial and economic perspective. It reconnects historic

axes, reinstates urban grain, and delivers multifunctional benefits through civic, residential, and commercial activation. The inclusion of new housing and a cultural hall in particular reinforces urban vitality and long-term sustainability.

An important conclusion of this work is the **confirmation of transferability** of the applied approach and lessons. While Opava and Krnov have their unique histories, the challenges they face are emblematic of many Central and Eastern European towns that underwent similar trials. The analytical framework – combining morphological mapping with modern analytical tools – proved effective and could be replicated for other cities aiming to reconcile historic preservation with contemporary urban development. The study's comparative insight, reinforced by external research like Brakman *et al.* (2004), is that the trajectory of urban form recovery can differ greatly depending on the post-shock context. For example, cities under centralized, ideologically driven planning may carry **spatial scars that do not heal on their own**, necessitating deliberate restoration efforts decades later. Recognizing this can help policymakers in post-socialist contexts to proactively address such latent issues. Our findings encourage these cities to undertake detailed morphological audits of their centers: to identify what historic elements remain, what was lost, and how strategic infill or redesign could restore the **integrity of the urban fabric**.

Ultimately, this research advocates for a planning approach that fuses evidence-based design with cultural continuity. Historical cities are not static museums but living systems whose resilience lies in their capacity to adapt while preserving identity. The Opava case offers a replicable model of morphology-informed urban renewal—one that binds memory and modernity into a cohesive vision for resilient urban futures.

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