


## The Role of Local Government in the Process of the Brownfield Regeneration – Case Study of Košice, Slovakia


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**Abstract:** Many enterprises were created during the process and steps of societal changes related to industrialization. Currently, we are undergoing further development and again changes, during which the established enterprises have been closed, and unused spaces have been left behind. The issue of brownfields is increasingly becoming more and more relevant. It is in everyone's interest to use the potential of any area at the highest possible level. Brownfields offer several opportunities for overall revitalization using existing buildings. The main aim of this article is to analyze the status and possibilities of revitalizing brownfields in the city of Košice from a local government perspective. It also includes an optimal global model that covers the basic elements of subprocesses necessary for the local government's revitalization of brownfields. The research results

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illustrate that identifying these objects generates a wealth of new information useful in understanding the current state of brownfields in Košice. This new knowledge can subsequently contribute to the quality of public administration's public space management, the redevelopment of urban sites, and the improvement of urban life for everyone.

## 1. Introduction

Definitions of brownfield sites are various. Some authors state that there is a lack of consistent, general, or uniform interpretation of the concept of brownfield.<sup>1</sup> Brownfields are connected to places, lands, and areas that are underused and forgotten because of the risk of contamination,<sup>2</sup> or the factor of contamination or pollution may not be strictly present.<sup>3</sup> Sometimes, the term brownfield is also used for a degraded area, defined as a wasteland, abandoned, or ecologically affected area that has lost its previous use.<sup>4</sup> The most frequently mentioned term is derelict, abandoned land in the context of land that cannot be revitalized without a remedial intervention.<sup>5</sup> However, the weak point of the above definition was noted by Pagano and Bowman,<sup>6</sup> who concluded that abandoned land has no one accepted definition. This is because (as mentioned above) there are various brownfield definitions, which vary in different countries, at different levels

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<sup>1</sup> Luis Loures and Eric Vaz, "Exploring Expert Perception towards Brownfield Redevelopment Benefits According to Their Typology," *Habitat International* 72 (February 2018): 66–76, <https://doi.org/10.1016/j.habitatint.2016.11.003>.

<sup>2</sup> Environmental Law Institute, "Brownfields Basics," accessed May 21, 2024, <https://www.ei.org/brownfields-program/brownfields-basics>.

<sup>3</sup> Jakub Černík, "Současná Východiska Výzkumu Brownfields," XVIII. Mezinárodní Kolokvium o Regionálních Vědách. Sborník Příspěvků. 18th International Colloquium on Regional Sciences. Conference Proceedings, 2015, 532–3, <https://doi.org/10.5817/cz.muni.p210-7861-2015-71>.

<sup>4</sup> Slovak Environment Agency, "Degraded Areas," accessed May 21, 2024, <https://www.sazp.sk/zivotne-prostredie/starostlivost-o-zivotne-prostredie/degradovane-uzemia>.

<sup>5</sup> Georgiana Popescu and Roberto Patraşcoiu, "Brownfield Sites – between Abandonment and Redevelopment Case Study: Craiova City," *HUMAN GEOGRAPHIES – Journal of Studies and Research in Human Geography* 6, no. 1 (26 May 2012): 92.

<sup>6</sup> Michael A. Pagano and Ann O'M. Bowman, "Vacant land in cities: An urban resource," accessed May 21, 2024, <https://www.brookings.edu/wp-content/uploads/2016/06/paganofinal.pdf>.

of public administration, and due to each such site's distinct and unique conditions.

The European Environment Agency defines a brownfield site as “land within the urban area on which development has previously taken place.”<sup>7</sup> On the EU level, brownfields started appearing in the agenda around 1999 in the European Spatial Development Perspective.<sup>8</sup> Interestingly, the keyword “brownfield” is not included in this document, but it mentions the underused sites and the necessity of their restructuring.<sup>9</sup> Further, they were integrated into the cohesion policy and other strategic documents; brownfield revitalization is part of steps and policies related to urban sustainability development.<sup>10</sup>

### 1.1. Brownfields in the Slovak Republic

The significance and position of brownfields in Slovakia's functional and urban spatial structure are covered by the Ministry of Environment of the Slovak Republic and the Slovak Environment Agency (in the context of the sustainable development of cities). The Agency covers sustainable spatial development for spatial planning and construction in the Slovak Republic. The main strategic documents include the Concept of Territorial Development of Slovakia, the Concept of spatial development of the region, Microregion land–use plan, Land–use plan of a city or village and Zoning plan.<sup>11</sup>

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<sup>7</sup> European Environment Agency, “Brownfield Site,” accessed 17 May 2024, <https://www.eea.europa.eu/help/glossary/eea-glossary/brownfield-site>.

<sup>8</sup> Manca Krošelj, Tomaž Pipan, and Naja Marot, “Are EU Policies for Brownfield Redevelopment? A Case Study of Alpine Industrial in the Context of Small and medium-Sized Towns,” *Urbani Izziv* 33, no. 1 (2022): 94, <https://doi.org/10.5379/urbani-izziv-en-2022-33-01-03>.

<sup>9</sup> European Commission, “European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the European Union,” Publications Office of the EU, 23, accessed May 13, 2024, <https://op.europa.eu/en/publication-detail/-/publication/a8abd557-e346-4531-a6ef-e81d3d95027f/language-en/format-PDF/source-287285340>.

<sup>10</sup> European Environment Agency, “Urban Sustainability in Europe – Avenues for Change,” accessed May 13, 2024, <https://www.eea.europa.eu/publications/urban-sustainability-in-europe-avenues>; United Nations, Department of Economic and Social Affairs, “Desertification, Land Degradation and Drought,” accessed May 13, 2024, <https://sdgs.un.org/topics/desertification-land-degradation-and-drought>.

<sup>11</sup> Act on spatial planning of 27 April 2022, *Journal of Laws* 2024, No. 200, § 18(3).

Slovakia is one of the countries influenced by the change in the socio-economic system after phases of a centrally planned economy. The socialist economy was followed by a market economy when several enterprises closed, especially in the heavy, chemical, engineering or mining industries. They left behind large, unattractive, and ecologically damaged sites.<sup>12</sup> In the context of these changes, we have other topics – underdeveloped regions, which have been unable to adapt to the new challenges following the change and new opportunities.<sup>13</sup> If we put these two sides together, they have one common element – the lack of flexibility in responding to a change in the economy. Both are persisted to date and are obstacles to economic development. This is why we need to look at the brownfield issue in a wider context of sustainable spatial development.

This article is concerned with the local level and attempts to approximate the relationship between brownfields and spatial development. If there are many abandoned places in the city or country, it is difficult to say that this area is becoming more and more developed and prosperous. Rather, in the long term, it is a sign that the local government does not care so much about developing the territory it is supposed to manage.

Currently, we are facing another turning point in our society: demographic trends, urban densification, and rural depopulation. Indeed, each of these issues can and is considered separately, but on the other hand, cooperation with wider stakeholders is necessary. If more and more people want to live in or near a city, we must solve the housing issue (for example, in 2023 in Slovakia, more than 52% of the population lived in the cities, and more than 48% in the rural areas).<sup>14</sup> This is just another example of how the revitalization of abandoned buildings can meet the housing needs

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<sup>12</sup> Bohuslava Gregorová et al., “Transforming Brownfields as Tourism Destinations and Their Sustainability on the Example of Slovakia,” *Sustainability* 12, no. 24 (17 December 2020): 4, <https://doi.org/10.3390/su122410569>.

<sup>13</sup> Zuzana Beňová, “Analysis of Provided Financial Support to the Least Developed Districts with Regard on Situation on Labour Market,” *Ekonomické Rozhlady – Economic Review* 50, no. 3 (22 September 2021): 314, <https://doi.org/10.53465/er.2644-7185.2021.3.312-329>.

<sup>14</sup> Statistical Office of the Slovak Republic, “Age composition – SR, regions, counties, districts, urban, rural,” accessed May 19, 2024, [http://statdat.statistics.sk/cognosext/cgi-bin/cognos.cgi?b\\_action=cognosViewer&ui.action=run&ui.object=storeID%28%22i40A03AF2150C-41DE8BE98D0C0C41A764%22%29&ui.name=Vekov%C3%A9+zlo%C5%BEenie+-+SR-%2C+oblasti%2C+kraje%2C+okresy%2C+mesto%2C+vidiek+%5Bom7009rr%5D&](http://statdat.statistics.sk/cognosext/cgi-bin/cognos.cgi?b_action=cognosViewer&ui.action=run&ui.object=storeID%28%22i40A03AF2150C-41DE8BE98D0C0C41A764%22%29&ui.name=Vekov%C3%A9+zlo%C5%BEenie+-+SR-%2C+oblasti%2C+kraje%2C+okresy%2C+mesto%2C+vidiek+%5Bom7009rr%5D&)

of a city. Urban densification is a topic not only in Slovakia but also in the EU. It is also closely connected with the efforts to use built-up areas. Therefore, the goal is to use the space that is already built up and not to encroach upon “greenfields”.<sup>15</sup>

Brownfields pose challenges for policymakers on national and regional levels and for the wider surrounding area. In addition to policymakers, brownfield revitalization should also involve urban planning and environmental experts. The overall direction and economic policy must also be considered.<sup>16</sup> We can conclude that these aspects are the starting points. When they fail, they cause problems in such areas as finance, lack of methodology, and lack of understanding in defining the roles and responsibilities of participants.<sup>17</sup> Insufficient financing and municipalities not including revitalizations of their sites in the budget are also current topics linked to inconsistencies in economic policy. Missing comprehensive methodological frameworks and misunderstanding defining the participants’ tasks mean revitalization is often not a priority. In general, there is a low level of cooperation and collaboration across all stakeholders. That is why this article aims to identify the current situation and simultaneously propose a model that could eliminate the above shortcomings, mostly in the methodology area.

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<sup>15</sup> Slovak Environment Agency, “Degraded Areas,” accessed May 18, 2024, <https://www.sazp.sk/zivotne-prostredie/starostlivost-o-zivotne-prostredie/degradovane-uzemia>.

<sup>16</sup> Detlef Grimski and Uwe Ferber, “Urban brownfields in Europe,” *Land Contamination & Reclamation*, no. 9 (1), (2001), 143–148. [https://www.researchgate.net/publication/228865814\\_Urban\\_brownfields\\_in\\_Europe](https://www.researchgate.net/publication/228865814_Urban_brownfields_in_Europe).

<sup>17</sup> Vladimír Koudela, Vítězslav Kuta, and František Kuda, “The Effect of Brownfields on the Urban Structure of Cities,” *Slovak Journal of Civil Engineering*, no. 4 (2004), 26, accessed May 22, 2024, [https://www.svf.stuba.sk/buxus/docs/sjce/2004/2004\\_4/file3.pdf](https://www.svf.stuba.sk/buxus/docs/sjce/2004/2004_4/file3.pdf).

## 2. Research Materials and Methods

The research includes a literature search of the issues under study at home and abroad and the analysis of a database of brownfield sites in urban areas. To identify the status and number of degraded areas in Košice, the indicator of the status and protection of biodiversity is applied. This indicator evaluates the location and number of brownfields in cities. It is modified to meet the research's main objective by median and temporal comparison (2015–2024) of the number of brownfields. Based on primary research, obstacles to the regeneration of brownfields and their urban potential are mapped. The study result is the proposal of an optimal model of revitalization and evaluation of the mapping of degraded areas in the city of Košice, with a proposed assessment scale of the status of degraded areas in Slovak cities so that they can be revitalized, also with the help of financial resources from the EU Structural Funds and reused. The model uses the Eriksson–Penker notation. This step will considerably strengthen not only the city of Košice but also other cities, as the main regional representative in Slovakia, and at the same time, eliminate the pressure on taking agricultural land and building on “greenfields”.

## 3. Research Results

Košice is the metropolis of eastern Slovakia and the second most populous city in Slovakia, with almost 230,000 inhabitants. The city is part of the Košice agglomeration with 367,000 inhabitants and the Košice – Prešov agglomeration with more than 555,000 inhabitants. These figures put Košice among the largest urbanized areas in Slovakia. Urbanization brings a higher concentration of population in cities and urban areas, which causes problems related to socio-economic development. The biggest challenges are in housing and associated civil facilities.<sup>18</sup>

The following figure shows the Territorial plan of Košice and urban districts.

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<sup>18</sup> “Self-Governing Regions of Slovakia,” The Association of Self-Governing Regions of Slovakia, accessed March 17, 2024, <https://www.samospravnekraje.sk/en/home-english/>.



Figure. 1. Maps of the city of Košice. (The author's resources, Štatistický úrad SR, 2002)<sup>19</sup>

### 3.1. Indicator of Status and Protection of Biodiversity

This indicator assesses the area and number of degraded areas, i.e. brown-fields, in Slovak cities based on their mapping and revitalization status. The size of the built-up area is an important attribute in terms of possibilities

<sup>19</sup> Territorial Plan of Košice, accessed May 11, 2024, <https://www.enviroportal.sk/eia/detail/uzemny-plan-mesta-košice>.

for further use because, in many cases, the revitalization budget depends not only on the condition of the building but also on the size of the buildings, their built-up area and number of storeys, etc. By applying this indicator, adapted to the research needs, we can analyze how many degraded areas are in Košice. The reason for inclusion in the mapping of brownfields is the period of disuse of at least two years.

In Košice (Fig. 1), we found 39 brownfields based on the presented methodology of identification and inventory of brownfield sites. The total area of brownfields in Košice is 306.04 ha, which is 1.3% of the total area of the city within its administrative boundaries. In 2015, 26 brownfield sites were identified in Košice, which represented 0.98% of the total area of the city. In the long term, there is a clear trend of an increase in the number of brownfield sites in Košice between 2015 and 2024. The increase represents an increment of 13 new brownfield sites. The average value of the number of brownfields in individual locations of the city of Košice has increased from 1.18 in 2015 to 1.77 in 2024. This indicates that the average size of brownfields is growing. However, the trend is significantly differentiated by individual district urban districts (I–IV). The mapping of degraded buildings in each urban location in Košice is illustrated in Figure 1.

The first attribute studied was the spatial differentiation of brownfields in Košice according to territorial units. Based on this criterion, we can observe an uneven distribution of brownfield sites (Fig. 1). Out of a total of 22 localities (or even municipalities), it is possible to identify brownfields in only 8 (Sever, Sídliisko Ťahanovce, Ťahanovce, Juh, Západ, Staré Mesto, Nad jazerom, Myslava). The largest number of brownfields is located in Staré Mesto (15 BF). Thus, most brownfield sites in Košice are strategically placed in the city center. However, these sites are unused in terms of the city's urban potential. In the last 9 years, the number of brownfields in the central part of Košice has increased by 6 rather than decreasing or possibly having been regenerated. The increase of degraded sites is also in the urban parts of Košice, i.e. Nad jazerom, Juh, Myslava. On the contrary, the number of brownfields has decreased over the last 9 years in the Košice localities of Dzungla, Západ, Sídliisko KVP.

The data analysis shows a significant increase in the number and size of brownfield sites in Košice between 2015 and 2024. This trend indicates the growing importance of managing and revitalizing these brownfield sites



in urban planning. At the same time, however, it is evident that there are significant differences in the size and number of brownfield sites between different locations in the city, which requires a differentiated approach to their management and use.

Table 1. Mapping of degraded buildings in urban parts of Košice

Urban parts	Number	Number	Trend	Hectare	Total area (ha)
	2015	2024	2024	2024	2024
Košice II – Západ	3	1	II ↓	2.41	553
Košice III – Dargovských hrdinov	0	0	III –	0	1109
Košice IV – Nad jazerom	2	7	IV ↑	47.28	366
Košice II – Sídliisko KVP	2	0	II ↓	0	178
Košice IV – Juh	5	9	IV ↑	30.00	977
Košice I – Sídliisko Tahanovce	1	1	I –	18.22	826
Košice I – Staré mesto	9	15	I ↑	19.41	434
Košice I – Sever	2	2	I –	164.26	5458
Košice II – Luník IX	0	0	II –	0	107
Košice II – Šaca	0	0	II –	0	4121
Košice IV – Krásna	0	0	IV –	0	2005
Košice IV – Barca	0	0	IV –	0	1813
Košice III – Košická Nová Ves	0	0	III –	0	577
Košice IV – Vyšné Opátske	0	0	IV –	0	419
Košice I – Tahanovce	1	1	I –	0.30	728
Košice II – Myslava	0	3	II ↑	24.16	701
Košice II – Pereš	0	0	II –	0	133
Košice I – Kavečany	0	0	I –	0	1005
Košice II – Poľov	0	0	II –	0	1296
Košice II – Lorinčák	0	0	II –	0	297
Košice IV – Šebastovce	0	0	IV –	0	510
Košice I – Džungľa	1	0	I –	0	47
Total	26	39	↑	306.04	23,660
Median	1.18	1.77	↑		

Source: The author's draft based on data from SAŽP, 2024.

It is important to develop effective strategies for the use of these spaces to strengthen the city’s urban potential and contribute to its sustainable development. Cooperation with the public and the involvement of other stakeholders in the planning and regeneration of brownfield sites is crucial for the successful implementation of these measures and for achieving positive urban and social changes in the urban environment.

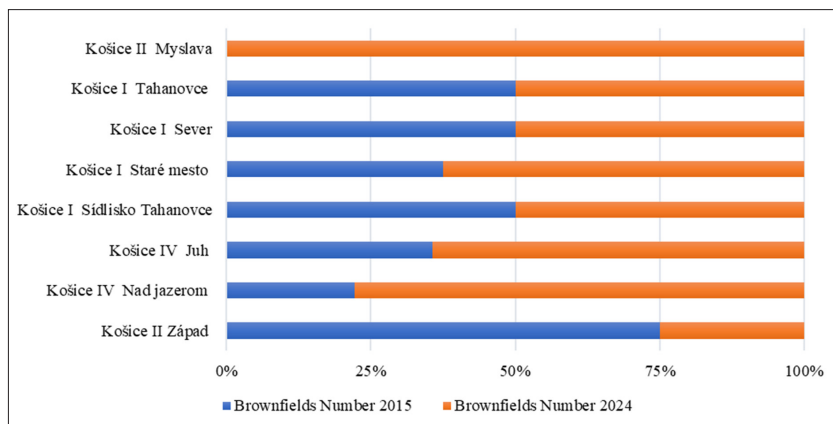


Figure. 2 Number of brownfields in % of analyzed urban parts of Košice between 2015 and 2024. (The author’s resources, 2024)

The success of brownfield regeneration depends on several factors such as location, environmental conditions, potential for future use, ownership, and the existence of infrastructure<sup>20</sup>. Based on this, we further analyzed these selected factories in the city of Košice in our study and illustrated in Table 2 our scale of evaluation of the degree of degraded areas into 3 basic levels. This division characterizes the status and condition of the site, and the degree of degradation of buildings and surrounding areas.

<sup>20</sup> Hamil Pearsall, “Superfund Me: A Study of Resistance to Gentrification in New York City,” *Urban Studies* 50, no. 11 (14 March 2013): 2293–310, <https://doi.org/10.1177/0042098013478236>.

Table 2. Mapping of degraded areas according to the degree of degradation in Košice

Košice	1 Weak degradation	2 Moderate degradation	3 High degradation	Total
	<i>Facilities and objects abandoned but preserved</i>	<i>Facilities and objects partially dilapidated</i>	<i>Facilities and objects devastated</i>	
Západ	–	–	1	1
Nad jazerom	–	4	3	7
Juh	5	1	3	9
Sídliisko Ťahanovce	1	–	–	1
Staré mesto	5	5	5	15
Sever	2	–	–	2
Ťahanovce	2	–	1	3
Myslava	1	–	–	1
<b>Total</b>	<b>16</b>	<b>10</b>	<b>13</b>	<b>39</b>

Source: The author's resources, 2024.

From the mapping of the degree of degradation in Košice and its individual urban parts, it is clear that the largest number of brownfields occurs in the category of weak degradation (16), moderate degradation (10), and high degradation unsuitable for regeneration (13). The largest number of degraded sites is in the Stare Mesto, where there are 15 objects, of which 5 represent the category of weak, 5 moderate, and 5 high degradation. Another location with a significant number of degraded buildings is Košice-Juh, where there are 9 buildings, of which 5 are weakly degraded, 1 is moderately degraded, and 3 are highly degraded. The other locations have fewer degraded objects or none at all.

In Table 3, we evaluated the degraded objects in the city of Košice according to property relations. Objects are divided into four categories according to the type of property relations: settled with a small number of owners, settled with many owners, and unsettled. The number of objects corresponding to the type of property relations is provided for each

category. The total number of properties in each location and the total number of degraded properties in the city are also given.

Table 3. Mapping of degraded objects according to property relations

Košice	1 Settled with a small number of owners	2 Settled with a large number of owners	3 Unsettled	Total
Západ	1	–	–	1
Nad jazerom	4	3	–	7
Juh	6	3	–	9
Sídliisko Ľahanovce	–	1	–	1
Staré mesto	14	–	1	15
Sever	2	–	–	2
Ľahanovce	2	1	–	3
Myslava	1	–	–	1
<b>Total</b>	<b>30</b>	<b>8</b>	<b>1</b>	<b>39</b>

Source: The author's resources, 2024.

From the analysis, it is clear that ownership relations in the possible regeneration of brownfields are not an obstacle to their implementation in Košice. Out of the 39 mapped brownfields, up to 30 are settled with a small number of owners. This represents 77% of the objects with settled property relations. On the other hand, 20% of the settled land plots in Košice have a large number of owners, and 3% are unsettled land plots located only in Staré Mesto.

In Table 4, we mapped the degraded objects in Košice according to the availability of infrastructure. The objects are divided into three categories according to the level of infrastructure accessibility: good accessibility, moderate accessibility, and difficult accessibility. For each category, the number of objects that correspond to the given level of infrastructure accessibility is provided. In addition, the total number of objects in each location and the total number of degraded objects in the city are given.

Table 4. Mapping of degraded objects according to infrastructure availability

Košice	1 Good accessibility	2 Moderate accessibility	3 Difficult availability	Total
Západ	1	–	–	1
Nad jazerom	7	–	–	7
Juh	9	–	–	9
Sídliisko Ťahanovce	1	–	–	1
Staré Mesto	15	–	–	15
Sever	2	–	–	2
Ťahanovce	3	–	–	3
Myslava	1	–	–	1
<b>Total</b>	<b>39</b>	<b>0</b>	<b>0</b>	<b>39</b>

Source: The author's resources, 2024.

This attribute characterizes the transport infrastructure near the degraded site and its potential to be connected to road infrastructure. The results show that all degraded objects in Košice have good transport accessibility and are thus suitable for revitalization. Therefore, transport infrastructure cannot be considered a problem in the removal and revitalization of brownfields in Košice.

In Table 5, we mapped the degraded objects according to natural and architectural values.

The buildings are divided into two categories: those with historical and heritage value and those without historical, architectural, or other value. The number of objects corresponding to that type of value is given for each category. The total number of buildings in each location and the total number of degraded buildings in the city are also listed. There are 5 objects of historical and architectural value in Košice's Juh and Staré Mesto. There are 34 objects without historical and architectural value in total. The largest number of degraded buildings is in the Stare Mesto, where there are 15 buildings, of which 4 have historical and architectural value, and 11 have no historical, architectural, or other value. Therefore, the historical and

architectural value of the objects cannot be considered a problem in the removal and revitalization of brownfields in Košice.

Table 5. Mapping of degraded objects according to natural and architectural values

Košice	Historical and heritage value	No historical, architectural, or other value	Total
Západ	–	1	1
Nad jazerom	–	7	7
Juh	1	8	9
Sídlisko Ťahanovce	–	1	1
Staré Mesto	4	11	15
Sever	–	2	2
Ťahanovce	–	3	3
Myslava	–	1	1
<b>Total</b>	<b>5</b>	<b>34</b>	<b>39</b>

Source: The author's resources, 2024.

It is evident from the results that the largest part of the objects requiring revitalization are located in the urban areas of Košice-Staré Mesto, Košice-Nad jazerom and Košice-Juh. The problematic aspect of the actual removal and revitalization in Košice is the degree of degradation of individual sites, which shows the status and condition of individual areas. This aspect is also crucial for the investment itself. In Košice, up to 59 % of the mapped objects fall into the category of moderately to heavily degraded, which requires increased investment.

The perception of brownfields as a territorial reserve in Košice is unquestionable. On the other hand, there is a change in the functional use of the BF area, which may not always be welcomed in the area. It is crucial to consistently apply a full-fledged urban concept to areas for all necessary functions and not only for the current use of selected sites.

### 3.2. The Global Model of Brownfield Revitalization for Local Governments

This model aims to create a level of abstraction of the process that enables an understanding of all its activities and their connections. Brownfield revitalization consists of a set of four interconnected subprocesses. To visualize the system's complexity, but not in great detail, a global process model has been developed by the authors of this paper. The global model is perceived as timeless and statically focused on the existing elements and their interactions.

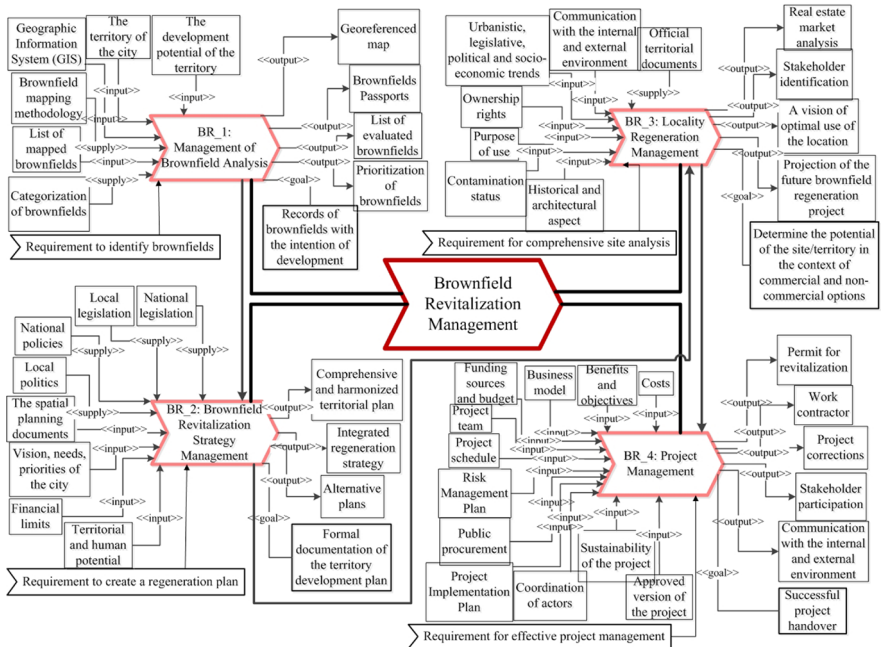


Figure 3. Global Model of Brownfield Revitalization Management in Slovakia. (The author's resources, 2024)

Brownfield Revitalization Management consists of BR\_1 Management of Brownfield Analysis, BR\_2 Brownfield Revitalization Strategy Management, BR\_3 Locality Regeneration Management and BR\_4 Project Management. Each of the mentioned subprocesses has its own model elements,

according to H. Eriksson. It is an event, information, resources (inputs), outputs, and a goal. The global model shows a system of subprocesses and their relationships, where the outputs of a subprocess are inputs to the next subprocess. The model can be a methodical and informational tool for local government representatives responsible for developing degraded areas and the municipality in general. However, this development depends on the financial resources of the local government.<sup>21</sup>

#### 4. Discussion and Conclusion

The issue of brownfields is handled marginally, within other projects and at the local level. However, if we consider international experience, it shows that the best solution is a comprehensive approach at the national level.<sup>22</sup> Degraded areas are most often located in historical city centers and have become new city symbols. Their revitalization could transform the functional use of the space. A degraded area is a disused, dilapidated, or environmentally affected property that has lost its original use. The main goal should be to transform degraded sites into economically productive, ecologically and socially healthy areas through coordinated efforts at all levels of government, the private sector, and non-profit organizations. The revitalization of brownfield sites should also be one of the fundamental objectives of urban development. It should be supported in many city conceptual documents, e.g. the Urban Housing Policy Concept, the Urban Master Plan, etc. However, Košice does not even have this concept defined in its strategic documents, and it is not apparent that such sites are suitable for revitalization. The definition and mapping of these objects and the method of their transformation should be the first step in solving this problem in the city. These objects could become a suitable place for an investor who would prefer them to a greenfield investment.

However, there is a significant difference in the possibilities, opportunities, and approaches to tackling this complex issue.

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<sup>21</sup> Ivana Butoracová Šindlerová, Lukáš Cibik, and Kamil Turčan, "Effects of Indebtedness of Self-Governing Regions: Comparison between Selected Central European Countries," *Lex Localis – Journal of Local Self-Government* 21, no. 4 (1 November 2023): 1167–200, [https://doi.org/10.4335/21.4.1167-1200\(2023\)](https://doi.org/10.4335/21.4.1167-1200(2023)).

<sup>22</sup> Slovak Environment Agency, "Degraded Areas," accessed 22 May 2024, <https://www.sazp.sk/zivotne-prostredie/starostlivost-o-zivotne-prostredie/degradovane-uzemia>.



Overall, this analysis shows the importance and dynamics of brownfield management in Košice, focusing on the regeneration and transformation of such sites for future use. With the continuous growth of urbanization and the spread of individual cities, the issue of brownfields, which are often in strategic locations in the city centers, as is the case of Košice, will play a major role in their further development so as to serve the needs of the city and its inhabitants.

This topic has multiple points of view, and we divided it into two groups. The first group can be conceptualized from a negative side – brownfields as a problem. For example, in our towns and cities, we have plenty of abandoned areas that are not used, and it seems that nobody cares about them. The overall look and feel of the city are also related to this – semi-dilapidated, dilapidated, or damaged buildings are part of the visual smog that no one needs. Also, the question of costs – for revitalization or also for destruction.

The second group can be considered positive – brownfields as an opportunity. The fact is that the rate of consumption is continually increasing. We all need more space to meet our needs (for example, various kinds of services, etc.). Another viewpoint with a very similar basis is related to the trends in urbanization – many people (mostly younger) prefer city life to country life – the question of housing affordability arises.

These are just a few examples. Notwithstanding the above split, it is necessary to point out that all brownfields share some characteristics – they are objects situated in a concretely geographical area in towns, cities, and self-government units. This fact should also be borne in mind by elected representatives. Of course, it is a complicated, complex, and wide-ranging issue, but city leaders should take responsibility for the area they manage. The brownfields topic cannot be avoided endlessly.

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