

TULCEA CENTRAL AREA
URBAN REGENERATION OF THE CENTRAL AREA OF TULCEA
MUNICIPALITY

DESIGN COMPETITION

Annex 2.6. – Maximum cost estimate for the investment and design

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1. ESTIMATION OF THE IMPLEMENTATION AREA

The intervention perimeter includes the following public spaces that will constitute the implementation area of the winning design following the competition:

Area / Street name	Surface (sqm)
Area A - CIVIC Square	13.887 sqm
Area B - Unirii Street	7.198 sqm
Area C - Three Fountains area	6.182 sqm
Roadway area - Isaccea and Babadag str.	3.727 sqm
TOTAL area A + area B + area C	30.994 sqm

2. CALCULATION METHODOLOGY

2.1 ESTIMATION OF INVESTMENT VALUE

In order to estimate the maximum ceiling of the investment value, a comparative study is necessary for similar investments of recent date, both in Romania and in the European space. The comparative study was carried out taking into account the three types of urban spaces proposed for development, namely the square, the pedestrian street, and the park area towards the seafront. Given the unique character of the proposed ensemble, as well as the diversity of the types of interventions that make it up, a structuring of the component elements was achieved to provide a clear breakdown of the investment objectives while maintaining the flexibility of the intervention.

The estimated execution cost represents the sum of the estimated execution costs for each type of space (market, street, park) entering the competition, adjusted according to the type of intervention and weighted in relation to the surfaces of these spaces.

2.2 CONVERSION OF INVESTMENT VALUES CONSIDERATIONS

In the process of analyzing similar investments, the following were selected:

- improvements and modernization of public spaces in other cities in Romania, which have technical-economic indicators approved by decisions of local councils;
- fittings and modernization of public spaces in the European space, which have economic indicators reported in the public presentation sheets.

Translation from Romanian

The values taken into account for investments in Romania are expressed in lei and do not include VAT. For investments in other countries, the values taken into account are those officially reported and most likely represent all costs. In order to have an indicator that allows the comparison of the projects, the total values were related to the developed area related to each project and then converted into euros.

Given the fact that this approach to analyzing similar investments includes projects carried out in different years, the following steps were taken to ensure a fair comparison:

- a. The execution cost / sqm expressed in lei, related to the year in which the technical-economic indicators of each project were approved, was updated with the annual values of the construction cost index (ICC), using the data published by the National Institute of Statistics and Eurostat available at: <http://statistici.insse.ro/shop/index.jsp?page=tempo2&lang=ro&context=52> (indicator CNS107C) and respectively, https://ec.europa.eu/eurostat/databrowser/view/STS_COPI_A_custom_3265908/default/table?lang=en (STS_COPI_A indicator). For the year 2024, the value related to quarter one (Q1) according to STS_COPI_Q was used. The reference year is 2021.

Year	ICC	Year	ICC	Year	ICC
2010	60,27%	2015	65,57%	2020	89,18%
2011	65,68%	2016	66,20%	2021	100%
2012	69,88%	2017	70,79%	2022	118,59%
2013	67,51%	2018	81,37%	2023	128,37%
2014	66,90%	2019	88,19%	2024Q1	138,07%

Table 1 The annual value of the construction cost index (ICC)

*The value for 2024 is the value related to the first quarter (January-March)

The formula used to update the execution cost / sqm is:

$$CE (2021) = CE (n) \times ICC (2021) / ICC (n)$$

where:

CE (2021) represents the execution cost / sqm updated at the level of 2021, expressed in lei / sqm;

CE (n) represents the execution cost / square meter related to the year in which the technical-economic indicators were approved, expressed in lei/sqm;

ICC (2021) represents the value of the construction cost index for the first quarter of 2024;

Translation from Romanian

ICC (n)

represents the value of the construction cost index for the year in which the technical-economic indicators were approved.

- b. The execution cost / sqm estimated for the competition objectives represents the arithmetic mean of the indicators mentioned in point (a), resulting from the update.
- c. The estimated execution costs were converted after the update using the average value of the leu-euro exchange rate for Q1 2024 published by Eurostat: 1 euro = 4,9735 lei.

https://ec.europa.eu/eurostat/databrowser/view/ERT_BIL_EUR_Q/default/table?l%20ang=en&category=ert.ert_bil.ert_bil_eur

2.3 ESTIMATION OF DESIGN SERVICES VALUE

The estimation of the design value was made by reporting percentage to the estimated investment value. The percentages allocated to each functional typology were established based on the reference fees of the Order of Romanian Architects published in May 2005 and the MLPAT tariff (Order 11N/1994).

3. REQUIRED INVESTMENT VALUE

The estimate of the investment value is based on a comparative study of similar investments, taking into account that the works for the development of the Civic Square, Unirii Street, the Three Fountains area and the adjacent streets and sidewalks and should tentatively include:

- the design of large pedestrian areas;
- the design of some areas of road surfaces, occasional (supply, fire brigade);
- the creation or rehabilitation of green areas, including the planting of trees and the creation of 'urban forest' type areas;
- refurbishing and taking over significant level differences with stairs and ramps accessible to all categories of users;
- the design of special areas for children (playgrounds);
- the implementation of a sustainable surface water management system (Sustainable Urban Drainage System) and their controlled transfer to the existing building networks;
- creation of areas with aquatic urban elements such as fountains, water surface, etc.;
- the implementation of an adequate lighting system, which allows night crossing and deters delinquency; an adjustable lighting system is preferable due to the lower energy consumption, correlated with the actual use of the spaces;
- integration / completion of the ambient lighting system;
- the provision of urban furniture that allows selfless respite (gardens, benches, chairs, bicycle rack);

Translation from Romanian

- the creation of temporary constructions (pergolas, stages, event stage, etc.) that can support various seasonal activities;
- equipping the market with sanitary facilities;
- drinking water supply (pump type);

Consideration should be given to the type of intervention and the character of each of the three main areas and adjacent spaces, according to the general requirements described below:

Area A - CIVIC Square: redevelopment of the city's central square and the integration of its administrative, social, and leisure functions. Its transformation into a contemporary urban market accessible to all users with an important component of green spaces of the '*urban forest*' type, as well as a multifunctional area for carrying out socio-cultural activities.

Area B - Unirii Street: transformation of the current street into a pedestrian space with a commercial character and occasional car traffic of the shared-space type (rivers, supplies, etc.). Strengthening the urban link between Central Square and Faleză, thus completing the pedestrian system of the city.

Area C - Three Fountains: redevelopment of the existing park, restoration of pedestrian public spaces and connections with the Ivan Patzaikin waterfront.

Roadway area: roadway restoration and road markings on the sections of Isacsei and Babadag streets that intersect the intervention area.

Finally, we can detail each of the areas described above through a clear series of distinct typologies of urban interventions:

1. Redevelopment of the central urban square
2. Roadway transformation into an urban pedestrian area
3. Redevelopment of existing sidewalks
4. Design and rehabilitation of new and existing green spaces
5. Design of new green spaces of the '*urban forest*' type
6. Roadway restoration and road markings

3.1. ANALYSIS OF SIMILAR DESIGN WORKS IN ROMANIA

In a first phase, the estimation of the execution costs related to the urban planning of the Civic Square, Unirii Street and the Three Fountains area was done by referring to a suite of technical-economic indicators approved by the local authorities in Romania for projects with a similar level of complexity. Projects aimed at the redevelopment of public spaces in the central area, located in Cluj-Napoca, Resita and Oradea, were selected, as well as a series of projects for the design and revitalization of existing parks and green spaces in central areas.

Translation from Romanian

A. REDEVELOPMENT OF CENTRAL PUBLIC SPACES:

	General data		Execution costs			
		Initial value (SF)			Initial value (SF)	
	Year	S (sqm)	C+M lei, without VAT	Lei/sqm	Lei/sqm	Euro/sqm
Cluj-Napoca Increasing and improving the pedestrian space in the urban area - modernizing the streets King Ferdinand, Emil Zola, Sextil Puscariu, Tipografiei and the CEC square	2018	13,252	11,597,845	875	1,485	298.53
RESITA Rehabilitation of six connecting streets between The December Revolution Blvd and A.I. Cuza Blvd and pedestrian modernization in the central urban area	2018	27,790	26,751,723	963	1,634	328.55
Oradea Pedestrianization of Libertatii area	2018	6,195	5,986,876	966	1,639	329.57
Cluj-Napoca Works of street planning Mihail Kogalniceanu, Universitatii street	2019	25,000	27,150,519	1,086	1,700	341.86
AVERAGE INVESTMENT VALUES						324.63

Table 2 Approved execution costs for similar urban pedestrian space development works

*Values do not include underground works

As can be seen from the analysis presented in **table 2**, the average values for the execution costs related to projects for the **redevelopment of public spaces in central urban areas** (without infrastructure / underground works), updated with the construction cost index, converge towards a value of **324.63 euros/sqm, without VAT**.

Translation from Romanian

B. DEVELOPMENT/REVITALIZATION OF PARKS AND URBAN GREEN AREAS

	General data		Execution costs			
			Initial value (SF)		ICC Conversion (2024 Q1)	
	Year	S (sqm)	C+M lei, without VAT	Lei/sqm	Lei/sqm	Euro/sqm
Cluj-Napoca The revitalization of the non-motorized mobility corridor related to Someș, the modernization and expansion of the pedestrian and cycling infrastructure on the banks of the river area 3 – the plateau of the Sports Hall	2023	32,500	14,630,189	450.16	484	97.35
Cluj-Napoca Park layout on the Canalul Morii corridor - Rozelor Park section	2023	23,205	18,108,221	780.36	839	168.76
Cluj-Napoca Development and revitalization of Primaverii Park and the adjacent area	2023	34,183	18,108,294	531.85	572	115.02
Oradea Modernization of Libertății Park and landscaping in Lunca Crisului	2023	22,898	5,077,768	221.76	239	47.96
Cluj-Napoca East Park Development	2023	540,000	287,186,245	531.83	572	115.01
AVERAGE INVESTMENT VALUES						108.82

Table 3 Approved execution costs for similar green space development and urban park rehabilitation works

*Values do not include underground works

Thus, according to **table 3**, the average investment value for the **development or revitalization of an urban park/green space** in 2024 in Romania is around **108.82 euros/sqm**.

Translation from Romanian

C. RESTORATION OF EXISTING ROADWAY AND ROAD MARKINGS

The cost estimate for the **restoration of the adjacent road areas** was made on the basis of estimates for works, material, and labor, made in Sibiu County, in 2020 and updated to the values of 2024 according to the cost indices.

	Measure unit		Execution costs			
SIBIU county 2020			Initial value	ICC Conversion (2024 Q1)		TOTAL
	lm	sqm	Lei/um	Lei/sqm	Euro/sqm	Euro
Asphalt stripping		3,727	41.86	71	14.28	53,226.94
Asphalt carpet 5cm		3,727	47.1	80	16.07	59,889.84
Curbs	530		61.94	105	21.13	11,200.05
Longitudinal road markings	265		3.35	5	1.05	279.45
Transversal road markings		860	98.3	154	30.94	26,611.53
TOTAL EUROS						151,207.82

Table 4 Approved execution costs for road restoration works, Sibiu county, 2020
source: <https://www.cjsibiu.ro/wp-content/uploads/2020/12/Anexa-1-la-contractul-subsecvent.pdf>

3.2. ANALYSIS OF SIMILAR LANDSCAPING WORKS IN THE EUROPEAN AREA

Given Romania's membership in the European space, both politically (EU) and from the point of view of cultural aspirations, this comparative study began by documenting relevant examples from Europe, the main sources of documentation being the website dedicated to exterior design www.landezine.com and the site dedicated to the European Prize for Urban Public Space competition, www.publicspace.org.

Examples of recent (>2010) similar urban layouts have been chosen that contain as many of the works, typologies, and equipment listed above as possible. Thus, in **table 5** we have investment values for the redevelopment of contemporary urban markets with urban ecology components, having extensive green spaces, specially designed furniture and lighting, play areas and multifunctional spaces, and in **table 6** we find a series of examples of transformation of some existing central streets into pedestrian areas and their design with green areas and specific furniture:

NAME	COUNTRY	YEAR	mil. EUROS	S (sqm)	euro/sqm	euro/sqm (ICC conversion)
Pope John Paul II, Zadar	Croatia	2010	1,700,000	5,655	301	352

Translation from Romanian

Espace urbain Paul Grimaud	France	2011	1,000,000	3,400	294	352
Grønnegade Square	Denmark	2012	2,143,312	6,000	357	450
Place de la Fontaine Chaude	France	2013	3,000,000	10,000	300	327
Brotogetby	Sweden	2016	1,600,000	4,900	327	415
Sovereign Square	England	2016	2,925,000	4,550	643	720
Châtenay-Malabry	France	2016	1,800,000	4,200	429	478
Skandenberg Tirana Square	Albania	2017	12,000,000	40,000	300	321
Grote Markt Vilvoorde	Belgium	2019	3,878,917	8,000	485	516
AVERAGE INVESTMENT VALUES						437

Table 5 Investment values for similar urban market development works

*The values have been updated with the most recent construction cost index from the Eurostat situation, as follows: Sweden, Albania — 2022Q1; Denmark, Germany, Netherlands, Spain — 2021Q4; Croatia, France, Switzerland, Belgium- 2021Q2; England —2020Q3.

As can be seen from the analysis presented in **table 5**, the average investment values related to **public square redevelopment projects in central urban areas** in Europe, updated with the construction cost index (latest available), converge towards a value of **437 euro/sqm**.

NAME	COUNTRY	YEAR	mil. EUROS	S (sqm)	euro/sqm	euro/sqm (ICC conversion)
Pedestrian Bad Salzuflen	Germany	2014	1,600,000	2,850	561	706
Sct Olai Square	Denmark	2015	401,871	1,200	335	378
Slovenska Street pedestrianisation	Slovenia	2015	2,800,000	14,000	200	254
Street Square Turó de la Rovira	Spain	2017	1,312,070	4,200	312	348
Poblenou Superblock Barcelona	Spain	2017	1,484,560	4,500	330	368
Renovation of Aleko Konstantinov street	Bulgaria	2021	322,300	1,100	293	301
AVERAGE INVESTMENT VALUES						393

Table 6 Investment values for similar pedestrian street development works

Translation from Romanian

*The values have been updated with the most recent construction cost index from the Eurostat situation, as follows: Sweden, Albania — 2022Q1; Denmark, Germany, Netherlands, Spain — 2021Q4; Croatia, France, Switzerland, Belgium- 2021Q2; England —2020Q3.

From the analysis presented in **table 6**, the average investment values related to similar projects in Europe for the **transformation of an existing street into a landscaped pedestrian area**, updated with the construction cost index (the most recent available), converge towards a value of **393 euros/sqm**.

Most of the examples have been nominated or won important awards from the guild, such as the European Prize for Public Space or the Mies van Der Rohe Award. These international recognitions demonstrate the level of attention and quality that the design of a public space must contain.

3.3 ESTIMATED DEVELOPED BUILT-UP AREAS

The estimation of the developed built surfaces was achieved by the point-by-point approach of each area and its detailing in relation to the requirements of the related investment typology. The estimated built-up areas have been rounded up, the values obtained are detailed in the table below:

		estimated areas (sqm)
Area A	Civic Square	13,887 sqm
	Urban market redevelopment	9,841 sqm
	Rehabilitation of existing green spaces	1,322 sqm
	Intensive green spaces and 'urban forest' areas	1,500 square meters
	Restoration and design of adjacent sidewalks	1,224 sqm
Area B	Unirii Street	7,198 sqm
	Transformation of a pedestrian area with occasional car traffic type share-space (supply, fire brigade, etc.)	4,466 sqm
	Rehabilitation of existing green spaces	662 square meters
	New green spaces with intensive planting	650 square meters
	Restoration and design of adjacent sidewalks	1,420 sqm
Area C	Three Fountains area	6,182 sqm
	Urban pedestrian area redevelopment	2,728 sqm
	Redevelopment of green spaces and existing park	3,258 sqm

Translation from Romanian

	Restoration and design of adjacent sidewalks	196 sqm
Roadway area	Roadway restoration and road markings related to Isacsei and Babadag streets	3,727 sqm
	TOTAL	30,994 sqm

3.4 REQUIRED INVESTMENT VALUE

From the detailed analysis of the different types of interventions in the selected areas (Area A + Area B + Area C + Roadway Area) and comparing with the works carried out in recent years both in Romania and in the European space, the following conclusions can be drawn:

- **Areas with urban design having a special character**, which additionally contain multifunctional areas for events and complex uses, equipped with furniture, public and ambient lighting, temporary constructions as well as possible tree plantings and aquatic facilities (fountains, water fountains, etc.), without works to modify the routes of underground installations and /or their replacement, can be considered at an estimated average value of **325-435 euros/sqm** without VAT.
- **Road areas that are expected to be transformed into pedestrian areas**, equipped with rainwater collection systems, lighting and urban furniture, can be considered at an estimated average value of **300-390 euros/sqm** without VAT.
- **Restoration and design of existing pavement areas** can be considered at an estimated average value of **230 euros/sqm** without VAT.
- **Rehabilitation or creation of green spaces and urban parks**, with all the necessary installations, can be considered at an estimated average value of **100-125 euros/sqm** without VAT.
- **Restoration of the roadway and road markings** can be considered at an estimated value of **151,208 euros** without VAT.

For a correct estimate, we have proposed differentiated values for each type of investment depending on the landscaped area and the level of intervention, correlated with the activities and the importance of the foreseen endowments. Thus, we proposed the following preliminary estimate for the investment:

1. Estimated cost for the **redevelopment of the central urban market** = **380 euros/sqm** without VAT.
2. Estimated cost for the **transformation of road space into an urban pedestrian area** = **345 euros/sqm** without VAT.
3. Estimated cost of **restoring and designing adjacent sidewalks** = **230 euros/sqm** without VAT.

Translation from Romanian

4. Estimated cost of **setting up and rehabilitating existing green spaces** = **100 euros/sqm** without VAT.
5. Estimated cost of **setting up intensive green spaces and 'urban forest' type areas** = **125 euros/sqm** without VAT.
6. Estimated cost of **restoring the roadway and road markings** = **151,208 euros** without VAT

		estimated areas (sqm)	COST estimates (euro)
Area A	Civic Square	13,887 sqm	4,340,800 €
	Urban market redevelopment	9,841 sqm	3,739,580 €
	Rehabilitation of existing green spaces	1,322 sqm	132,200 €
	Intensive green spaces and 'urban forest' areas	1,500 square meters	187,500 €
	Restoration and design of adjacent sidewalks	1,224 sqm	281,520 €
Area B	Unirii Street	7,198 sqm	2,014,820 €
	Transformation of a pedestrian area with occasional car traffic type share-space (supply, fire brigade, etc.)	4,466 sqm	1,540,770 €
	Rehabilitation of existing green spaces	662 sqm	66,200 €
	New green spaces with intensive planting	650 sqm	81,250 €
	Restoration and design of adjacent sidewalks	1,420 sqm	326,600 €
Area C	Three Fountains area	6,182 sqm	1,312,040 €
	Urban pedestrian zone redevelopment	2,728 sqm	941,160 €
	Redevelopment of existing green area and park	3,258 sqm	325,800 €
	Restoration and design of adjacent sidewalks	196 sqm	45,080 €
Zona de carosabil	Roadway restoration and road markings related to Isacsei and Babadag streets	3,727 sqm	151,208 €
	TOTAL	30,994 sqm	7,818,868 €

Thus, the total estimated investment value for the objectives assumed through the tender is detailed in the table below. It amounts to **7,818,868 euros** without VAT.

Translation from Romanian

The total estimated investment value corresponds to an average value of **252.27 euros/sqm** without VAT.

4. ESTIMATED DESIGN VALUE

The calculation of the design value will be done according to the MLPAT Tariff (Order 11N/1994). The objective of the design of the Civic Square, Unirii Street and the Three Fountains Zone in the municipality of Tulcea falls under Group IV – Furnishing works and urban-street equipment (page 46) and has a **design value of 4%** of the investment value, according to Annex Table 6.15. A. To this value must be added the value of studies related to the design (update geotechnical study, historical study, technical-economic documentation, etc.).

Comparatively, the Romanian Order of Architects only recommends the value of the architectural tariff, in accordance with the REFERENCE FEES approved by the National Conference of the OAR from May 30-31, 2005. Thus, according to this guideline, the design of the Civic Square, Unirii Street, and Three Fountains Area would fall into Class I (simple problem, low design requirements). For an investment value between 3,300,000 and 10,000,000 EUR (Table 3), as in the present case, the **value of architectural design** should be around **3%** of the investment value.

We believe that for the present project, due to the size and complexity of the design brief as well as the specific requirements, the percentages of the design values should be adjusted around **5% of the total investment value**. Thus, the **value of the architectural design** should be **3.5% of the investment value**, namely **273,660.38 euros + VAT** - this value also includes the design of temporary constructions (benches, public lighting, stands, toilets and other objects of urban furniture), and the remaining **1.5% of the investment value**, respectively **117,283.02 euros + VAT**, should be reflected in the contribution of the following specialties:

- design of road, road, and pedestrian system with occasional share-space road access (supply, fire brigade);
- design of capture, storage, and controlled discharge of surface water;
- construction network design (improvements, diversions, etc.);
- night lighting design, including lighting calculations;
- landscape design that specifies all the components of the vegetation that must be preserved or planted;

The following studies **are not included** in this calculation:

- urban design (PUD, PUZ) - existing;
- necessary traffic studies for the area adjacent to the implementation area - existing;
- archaeological studies and downloads - proposed
- update topographic elevation of the intervention area - proposed
- updated historical study for the vision area - proposed

Also, the design contract will not include the following:

- site management (works quality check);
- project management (organization of tenders, execution processes).

Translation from Romanian

SYNTHESIS:

	MAXIMUM CEILING EUR without VAT	MAXIMUM CEILING LEI without VAT
TOTAL INVESTMENT VALUE	7,818,868 €	38,887,140 RON
TOTAL DESIGN VALUE - 5%	390,943	1,944,355 RON

5. PROPOSED PRIZE FUND

The proposed prize fund is detailed in the table below. This was achieved by reporting the percentage to the total estimated design value, equivalent to the first prize. At the same time, in order to ensure the attractiveness of the competition on an international level, it was considered that the value of the third prize should cover the costs necessary to participate in the competition, within an architecture office international.

Prize fund amount: 35,000 euros without VAT (174,073 lei without VAT)

	proposed value	
	EUR without VAT	LEI without VAT
TOTAL INVESTMENT VALUE	7,818,868 €	38,887,140 RON
PRIZE I- Design contract value	390,943 €	1,944,355 RON
PRIZE II	20,000 €	99,470 RON
PRIZE III	10,000 €	49,735 RON
MENTION 1	2,500 €	12,434 RON
MENTION 2	2,500 €	12,434 RON
TOTAL value solutions contest	425,943 €	2,118,428 RON

* the average value of the leu-euro exchange rate for Q1 2024 published by Eurostat:
1 euro = 4.9735 lei.

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