

\*Giuseppe Roccasalva

## Monetisation of urban standards: experiments between limits and perspectives

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**Keywords:** monetization of town planning standards, GIS analysis, public service areas, regional laws on land management, new urban standards, qualitative and quantitative approaches.

**Abstract** After the Ministerial Decree no. 1444/1968, which introduced town planning standards, the need to update the set of rules that determine the development of public spaces was periodically questioned. As early as 41 years ago, regional urban planning laws began to introduce specifications to Ministerial Decree 1444. In particular, having to decide how to waive urban standard areas, the Regions introduced a method for monetisation. This issue, although a limited part of a wider and more complex discussion on the renewal and coordination of national urban planning regulations, has a number of critical issues and theoretical-operational opportunities that are worth dwelling on. Starting from a comparative analysis of Italian regional regulations and from numerous examples of application in municipalities, this paper focuses mainly on the method of calculating monetisations and discusses an innovative case study that has included in the calculation also a principle of equal distribution of services based on the lack or presence of urban standards in the districts of the General Development Plan (PRGC). Spatial information tools have been used with the aim of better understanding the distribution of data on urban standards in the places where they have been or will be developed. The proposed calculation method could enable the public decision-maker to use monetisations without too much discretion and in a more conscious way than the simple calculation of the real estate value of the land that is now widely used in Italy.

\* Polytechnic University of Turin - DAD (Department of Architecture and Design), giuseppe.roccasalva@polito.it

## 1 | THE MONETISATION TOPIC IN THE WIDER DISCUSSION ON URBAN STANDARDS

Just over fifty years after the first - and still mandatory - definition of urban standards,<sup>1</sup> public space development continues to be based mainly on the minimum quantification of land for community services. Together with the laws on public housing (Law 167/62 and Law 865/71), the definition of urban standards is considered the first major achievement of the right to a "minimum quantity" of public space. The quantitative approach, although necessary in that period of reconstruction and development, has grown less effective over the years.<sup>2</sup> In this regard, numerous critical examinations on the subject of the "quality" of urban standards have been published regularly, ranging from the update of the law according to the new and varied needs of areas and communities, to the integration of service quantity with quality or performance, to the introduction of new standards that can include other aspects (social, welfare, ecosystem) in the new instruments of land management (PRGC-PUC-PS-PUG-PGT).<sup>3</sup>

It would be a great temptation to take part in the prolific discussion on standards renewal and consequently on the long-awaited new direction of national urban planning regulations. However, this paper, starting from an empirical approach, simply discusses practical aspects of the process of waiving urban standards areas through the monetisation system, with the specific purpose of verifying, in the framework of the possibilities of current regional regulations, whether it is possible to devise an evaluation process that will help the choices of designers and public decision-makers. Urban standards represent the "equipment" of the area and the services for the community that lives in it; they are defined, according to regional regulations, as minimum, local, functional and even ecological-environmental "facilities". When we think not demanding these areas, that is to say about waiving them in exchange for a monetisation, we necessarily strike a balance that is as objective as possible between the interests of the "private" city and the "public" city. Public administration is required to periodically update building and urban regulations and are therefore required to consider the adjustment of monetisation values in addition to the cost of construction and planning fees. This process, in the light of the lively discussion on the renewal of the law on urban standards, may be an opportunity which is sometimes missed, and which is worth thinking about through empirical evidence that anticipates, from the bottom, possible interpretations and additions to the law.

- 1 Ministerial Decree no. 1444 of April 2, 1968, "Mandatory limits of building density, height, distance between buildings and maximum ratios between spaces for residential and business premises and public or community spaces, public green areas or car parks, to be complied with when establishing new urban planning tools or revising existing ones, pursuant to art 17 of Law no. 765 of 1967".
- 2 Barbieri, C.A. "La disciplina urbanistica nazionale della città pubblica: è necessaria una riforma e non solo degli standard" in Giaimo, C. (ed.) "50 Anni di standard urbanistici in Italia: verso percorsi di riforma", Inu edizioni, Rome, 2018.
- 3 Ibid. Giaimo, C.  
 Avarello P. (1999), "Oltre gli standard. Per una pianificazione utile",  
 Cafiero G. (1999), "Standard urbanistici e metabolismo urbano",  
 Contardi L. (1999), "Cinque questioni per tornare a ragionare sugli standard",  
 Oliva F. (1999), "L'innovazione degli standard nella pianificazione comunale", in "Urbanistica Dossier. Trent'anni dopo...tornare a ragionare sugli standard", no. 21.

## 2 | ANALYSIS OF THE REGIONAL REGULATION FRAMEWORKS ABOUT MONETISATION

Since urban planning was delegated to the Regions,<sup>4</sup> the task of determining monetisations has had a complex development that is worth examining. From the examination of the regional regulations that in the last fifty years have touched on the subject of urban standards monetisation,<sup>5</sup> significant differences can be seen. They are summarised in three categories:

- the timeframe for the adoption of a definition of monetisation, which also represents the moment, if any, from which it is possible to observe and assess the effects of the introduction of this method;
- the subject which may use monetisation instead of giving the land;
- the allocation of funds coming from monetisations;
- calculation methods which regional laws have or have not imposed.

As for timeframes, almost all Regions are now equipped with one or more articles and regulations, but the Basilicata Region was the first to establish in 1978 that in land-plotting agreements the Municipalities had the right to request *"as a total or partial alternative to giving the land to the government, a payment in line with the economic benefit achieved keeping the land and in any case no less than the cost of purchasing other areas"*.<sup>6</sup> Only a few decades after Basilicata and in the early 2000s, the other Regions also began to establish rules on urban standards monetisation, and as many as 7 Regions (among the largest) have done so only in the last 5 years.

Regional rules on monetisation also differ in their scope. It is possible to detect forms of monetisation drawn up for specific actions such as the development of public housing in areas without urban standards.<sup>7</sup> Rules on monetisation can be found which only focus on implementation procedures,<sup>8</sup> giving specific guidelines to be included in the agreements between the proponent and the municipality; rules which partly exclude monetisation for specific operations such as those falling under the laws for attic renovation or for farmhouses recovery<sup>9</sup> or for the so-called *"Piano Casa"* ("House Plan").<sup>10</sup> In all these cases, these rules have made it clear that there is also the option to use the monetisation scheme as an alternative to giving up the land only if appropriate conditions for waiving are met.

Examination of the regulations also reveals an attempt to bind the revenues from monetisations to specific targets. In some Regions (e.g. Sicily, Lazio, Emilia Romagna), monetisation funds are tied only to maintaining public infrastructures and facilities and in other Regions (e.g. Lazio)<sup>11</sup> it is required to allocate the funds raised by monetisations to specific budget headings and use them only for public infrastructures falling within specific types defined by the Development Plan or in areas immediately surrounding the areas where the funds came from. With the law on land management, the Emilia Romagna Region<sup>12</sup> does one of the most complex and innovative work. The law allows for exceptions to the minimum urban standards defined in 1968 in certain areas of the Plan as long as it is

<sup>4</sup> Decree of the Republic Presidency N. 616/1997

<sup>5</sup> ANCE Associazione Nazionale Costruttori Edili, Direzione Legislazione e Mercato Privato, "Monetizzazione Standard urbanistici: norme regionali a confronto" 7 marzo 2018.

<sup>6</sup> Art. 12 of Regional Law N. 28/1978 "Norme di attuazione della Legge 28 gennaio 1977 n.10 in materia di edificazione dei suoli".

<sup>7</sup> Regional Law of Liguria art.31 N.

<sup>8</sup> Regional Planning Law of Marche and Lombardia.

<sup>9</sup> Regional Planning Law of Piemonte N.9/2003 and Regional Law N.21/1998.

<sup>10</sup> Decree of Prime Minister Council N.1991/2009.

<sup>11</sup> Regional Planning Law of Lazio N. 7/2017.

<sup>12</sup> Art. 9 of Regional Planning Law of Emilia Romagna N. 24/2017 "Disciplina Regionale sulla tutela e l'uso del territorio" (in force from 2018).

demonstrated that the needs for current, previous and public equipment and spaces generated by the project are already fully satisfied in the areas being developed or in neighbouring accessible areas. In addition, the law determines that monetisation revenues are tied to "...*the construction, ordinary and extraordinary maintenance of public infrastructures and facilities, the restoration of municipal buildings for public use, the rehabilitation of public and private buildings in historic centres and degraded suburbs, reuse and regeneration projects, the activities of authorisation, supervision and control of construction works and demolition of unauthorised buildings, financing design tenders, the purchase and creation of green areas for public use, projects to protect and redevelop the environment and the landscape...*". This law is the first to try and launch an assessment of the community - and not just economic - value of the contribution for new projects in terms of impact on service needs. In Sardinia and Apulia regions, the regulation that deals with monetisation aims to develop more parking areas, that the law binds the contributions collected mainly to actions for the improvement of parking facilities. In the Autonomous Province of Trento, too, the monetisation of services is tied to paying the construction of parking buildings and facilities. In Liguria and Umbria, the law binds the funds derived from monetisations to actions to support and develop Public Housing.

In some regions (Friuli Venezia Giulia, Lazio, Liguria, Piedmont, Umbria), methods for calculating monetisations have not been established, but municipalities have been explicitly delegated to give general guidelines and criteria. These rules leave to the goodwill and ability of the municipalities a calculation that is far from simple and perhaps to be defined in a shared way among authorities. In Lazio and Molise regions, the law do not use the expropriation or real estate value but the value of construction costs. In Lazio, 50% of construction costs, as defined by art. 16 of Presidential Decree 380/2001, is monetised, relating only to the volumes that generate urban standards. In Molise, there is even an 80% reduction in monetisation if the houses are built in energy class A. Finally, the regional regulations that have provided a method for calculation, have chosen to make pay a fee based on the value of land that is not provided as urban standard. In principle, Regions suggest municipalities to consider the costs of monetisation as simply equivalent to the cost that the municipality will have to bear in order to purchase, even through expropriation, areas not disused by construction / housing. This practice, despite making the definition of monetisation values clear and objective, limits the action of managing the land to a process of bare estimation.

### 2.1 The Piedmont case: a few potential regulation inconsistencies and experimentation opportunities

It is necessary to briefly explain the regulatory conditions of the Piedmont Region on monetisation. Piedmont's regional laws no.3 of March 25, 2013 and no.3 of March 11, 2015, have amended the framework law on land management (Regional Law 56/1977), introducing in Article 21 (Urban standards: social services and equipment at municipal level) paragraphs 4 bis and 4 ter, respectively. Paragraph 4 bis states that *if the acquisition of urban standards land is not possible or is not considered appropriate by the municipality due to its extension, structure or location or to municipal plans and sustainable mobility policies, the conventions and acts of obligation of executive urban planning tools and building permits may provide, as a total or partial alternative to the land transfer, that the subjects involved pay the municipality a fee, in line with the economic benefit achieved as a result of keeping the land and in any case no less than the cost of acquiring other areas, to be used to purchase areas for public services or to provide such services.*

Paragraph 4 ter states that *whenever works on **existing buildings** involve extensions, changes in the designated use or in any case an increase in the amounts established in the General Development Plan according to paragraphs 1 and 2, any areas to be disposed of or reclaimed in accordance with those*

*paragraphs must be calculated on the basis of the difference resulting from the extension, change or increase referred to above.*

The combined provisions of these two paragraphs indicate that only changes in the designated use or small expansions of existing buildings may be affected by monetisations, while new buildings are not. This principle stems from the understandable fear that monetisations may be a way of facilitating new construction rather than encouraging reuse. This is another reason why it is important that Regions introduce more precise conditions to calculate monetisations, so that this opportunity is not demised but made into an innovative tool to reorganise locally available services.

It is important to stress that these two paragraphs seem to clash with the indications of three other regional regulations, the one on attic renovation<sup>13</sup>, on farmhouse recovery<sup>14</sup> and on the so-called "Piano Casa" (House Plan)<sup>15</sup>, which do not explicitly provide for the possibility of monetisation<sup>16</sup>, even though they involve changes in the designated use or small extensions. In addition, it should be remembered that in the Piedmont Region a new law has recently been issued for *the reuse, redevelopment of buildings and urban regeneration*<sup>17</sup> which, among other things, aggregates the three previous laws but establishes the possibility of monetisation only for extensions under the Piano Casa. Leaving aside the reasons why the evolution of regional rules does not harmonise interpretations on monetisations, it is necessary to point out that the new law could have a discouraging effect on small-scale expansions (former Piano Casa) unless the method used by municipalities to calculate the value of service areas is properly thought-out.

Finally, the paragraphs mentioned above require municipalities to study in depth the conditions for waiving service areas, indicating, without specifying, criteria such as the scale of works, the design, the orientation of local programmes and mobility planning. In this case, the regional law encourages municipalities to open the discussion on monetisations to other assessment criteria in an attempt to match the quantification of monetisation to the quality of land development, so it is necessary to devise non-economic measures that reflect the morphological features of the area and the prospects for land development. To understand which assessment methods and measurements are most effective, it may be useful to study the issue through the trials being carried out at municipal level.

<sup>13</sup> Regional Law 21/1998 (Piedmont)

<sup>14</sup> Regional Law 9/2003 (Piedmont)

<sup>15</sup> Regional Law 20/2009 (Piedmont) Building and urban planning procedures simplification

<sup>16</sup> The municipality was allowed to decide whether to monetise parking areas only in the recovery of attics and farmhouses.

<sup>17</sup> Regional Law October 4, 2018 no. 16 "Misure per il riuso, la riqualificazione dell'edificato e la rigenerazione urbana" (Reuse, building redevelopment and urban regeneration measures)

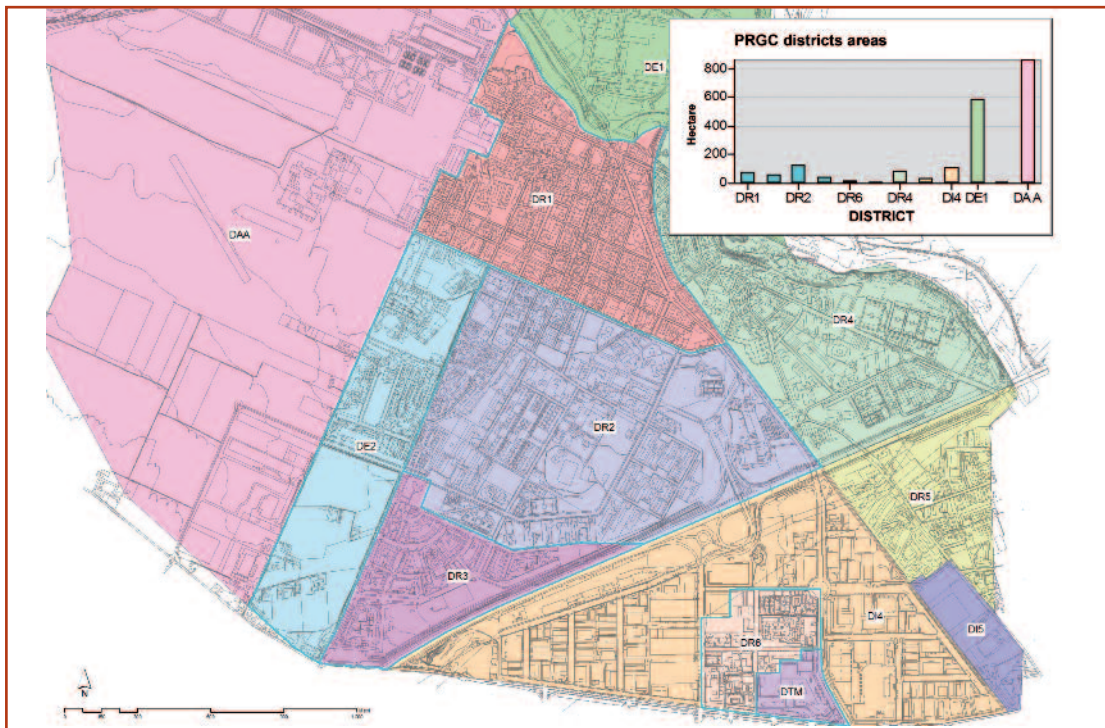
### 3 | A METHOD FOR BETTER MANAGING MONETISATION: THE VENARIA REALE EXPERIMENT

From the examination carried out on resolutions produced in the last few years in a few municipalities,<sup>18</sup> the general practice is to calculate the values of monetisation with a simple mathematical operation that takes into account the functions of the zone, the designated use of the project and the surface being developed. The values used are - mainly - the real estate values for land registry Micro zones. Some municipalities stipulate that these values must even be updated every two years, based on National Institute of Statistic (ISTAT) construction cost indicators, as is the case for planning fees. Assessment correction factors are applied in many municipal implementations. Some local governments have developed formulas in which factors are a parameter, not derived but imposed in advance, which serves to encourage or discourage a given choice or policy. In other cases, factors depend on the zones and designated use, with the aim of balancing market prices. In this case, factors only affect the economic value of lands, not project quality.

In Venaria Reale, a municipality in the suburbs of Turin, an attempt was made to make the obligation to define monetisation values an opportunity to consider waiving urban standards not only on the basis of real estate market values but also on other methods and criteria. If urban standards monetisation, as defined by a few regional laws, can only take place if the areas kept do not have a fundamental function for the municipality, it is then essential to find a criterion for waiving that objectively clarifies the importance of those areas for public space purposes.

The method used in Venaria Reale starts with pinpointing zones in the General Development Plan (PRGC) to assess what the urban standards consist of. It is necessary to study the areas and understand the original reasons why those boundaries were drawn so that they can also be a correct reference to calculate monetisations. In general terms, these areas should be "self-contained" clusters of urban fabric, expansion/consolidation/regeneration areas where there are uniform features in terms of size, infrastructure equipment, etc.... In the case of Venaria Reale, the urban "districts" were selected as a first approximation and their main features analysed on a geographical basis (see Figure 1). These are areas of similar size, delimited by main infrastructures and rivers, by a different urban structure or by a functional specialization (mainly industrial/business areas). Some of the districts stand out for their specific features, such as DAA and DE1, which are larger than the others and lesser built, within the boundary of the Regional Park (La Mandria Park and its buffer zones).

<sup>18</sup> The discussion is based on a research activity which has compared nearly 20 city council decisions in the regions of Liguria, Piemonte and Lombardia



**Figure 1** GIS visualization of the boundaries of Venaria Reale's Urban Development Plan Districts and their size  
Source: own map rendering

Subsequently, for each district, a monetary value was obtained - not lower than the expropriation value - as the reference threshold for each district, classified by main designated use allowed by the General Development Plan (PRGC). This value is mainly the IMU (council tax) value (updated to 2016), compared with valuations and estimates made for the assessment of the expropriation value, easement value and parking construction in service areas. Table 1 shows the average values calculated for each urban district with the average plot ratio.

The quantity of services generated by the land plots was calculated and then the value of service area monetisation for each designated use (residential, industrial, commercial, managerial, tourist) in each urban district was calculated. The values of service areas are calculated with formulas that vary according to the designated use, as can be seen from the regional regulations (art.21 Regional Law 56/77).

| Main designated use                             | Districts   | Area value V(IMU) (€/sqm) | Average plot ratio (lfp) (sqm/sqm) | Generated services Sg (sqm) | Service area values €/sqm (Vas)                           |
|---|---|---------------------------|------------------------------------|-----------------------------|---|
| <b>Residential</b>                              | - Historical centre district                          | 300                       | 1.00                               | 0.83                        | 136.36  |
|   | - Out of historical centre                            | 265-280                   | 0.60                               | -                           | -   |
|   | - Outer areas/prepark                                 | 240                       | 0.50                               | -                           | -   |
| <b>Industrial-manufacturing</b>                 | - DI4-DI5 and industrial-manufacturing designated use | 110                       | 0.75                               | 0,20                        | 25.00 (higher value because equal to expropriation value) |
| <b>Tertiary commercial, managerial, tourist</b> | - Historical centre district                          | 300                       | 1                                  | 0.8                         | 133.33  |
|   | - Out of historical centre                            | 265-280                   | 0.60 - 0.75                        | 0.60 - 0.75                 | 99.38 - 113.57  |
|   | - Outer areas/prepark                                 | 240                       | 0.5                                | 0,5                         | 80.00   |

**Table 1** aggregated values by resolution of the municipality, summarised by main districts which represent the territory

The monetisation value for service areas (Vas) with residential designated use is:

$$Vas = \frac{V(imu)}{1+Sg} \times Sg$$

where:

V(imu)= Area value for IMU payment purposes (€/sqm)

Sg = amount of services generated by a unit of land with the project average plot ratio (Municipal General Development Plan) (sqm)

Sg is given by:

$$Sg = \frac{1 \times lfp \times 3}{90} \times 25$$

1= 1sqm of land

lfp= Project average plot ratio (Municipal General Development Plan) (sqm/sqm)

3= conversion parameter (m) to obtain the volume (cbm) from 1 sqm of gfa (sqm)

90= conversion parameter (cbm) to estimate the number of inhabitants from the volume (art. 20 par. 3 Regional Law 56/77)

25= minimum surface of public service area per inhabitant (sqm) (art. 21 par. 1 Regional Law 56/77)



The monetisation value for service areas (Vas) with tertiary (commercial, managerial, tourist) designated use is:

$$Vas = \frac{V(imu)}{1+Sg} \times Sg$$

where:

V(imu)=Area value for IMU payment purposes (€/sqm)

Sg= amount of services generated by a unit of land with the project average plot ratio (Municipal General Development Plan) (sqm)

Sg is given by:

$$Sg = 1 \times lfp \times \beta$$

where:

1 = 1 sqm of land

lfp= Project average plot ratio (Municipal General Development Plan) (sqm/sqm)

$\beta$ = total percentage of urban standards (art. 21 par. 2f Regional Law 56/77). Can be 100% of urban standards surface if the area is located outside the historical centre or 80% if it is in the historical centre

The monetisation value for service areas (Vas) with industrial designated use is:

$$Vas = V(imu) \times 0,20$$

where:

V(imu) = Area value for IMU payment purposes (€/sqm)

0.20 = parameter set out in art. 21 par. 2 of Regional Law 56/77 that establishes that the possible amount of public services in industrial areas is 20% of land surface. Therefore, services are supposed to affect 20% of the area value.

### 3.1 Monetisation correctional factors: a calculation integrated into the spatial information system

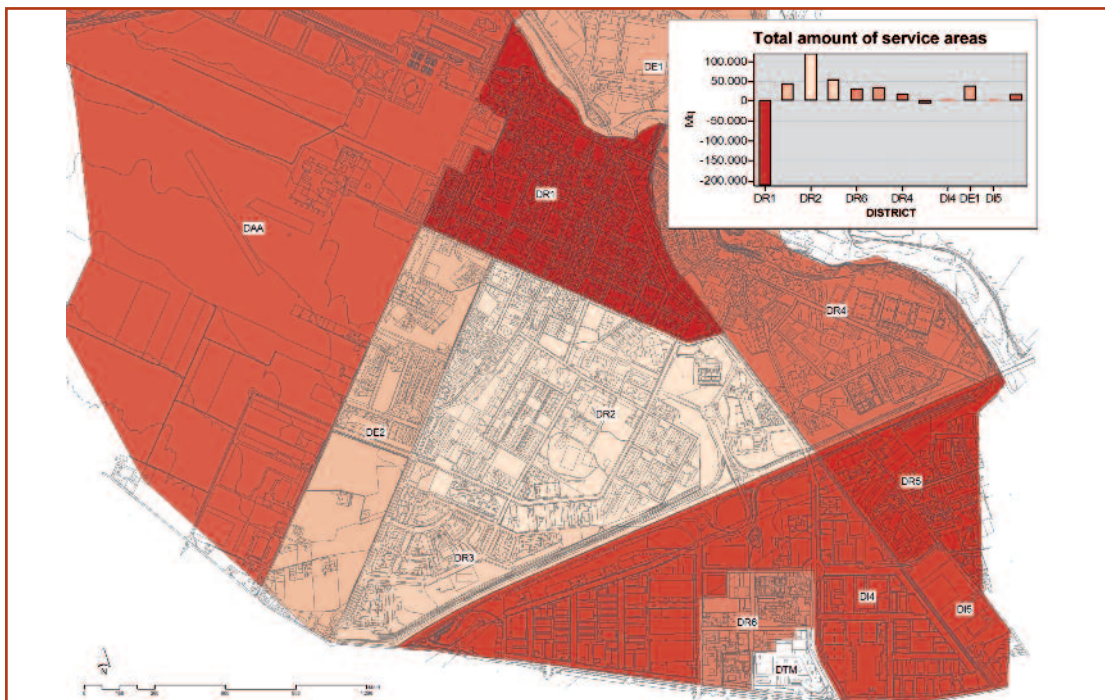
Once the method of calculation had been defined, an attempt was made to fully understand the consistency of planned and existing urban standards, and how they were distributed throughout the municipality.

The positive or negative balance of urban standards can be defined on the basis of the quantities indicated in the accounting table of the General Development Plan. Data were then implemented into the Municipal spatial information database (see Figure 2).

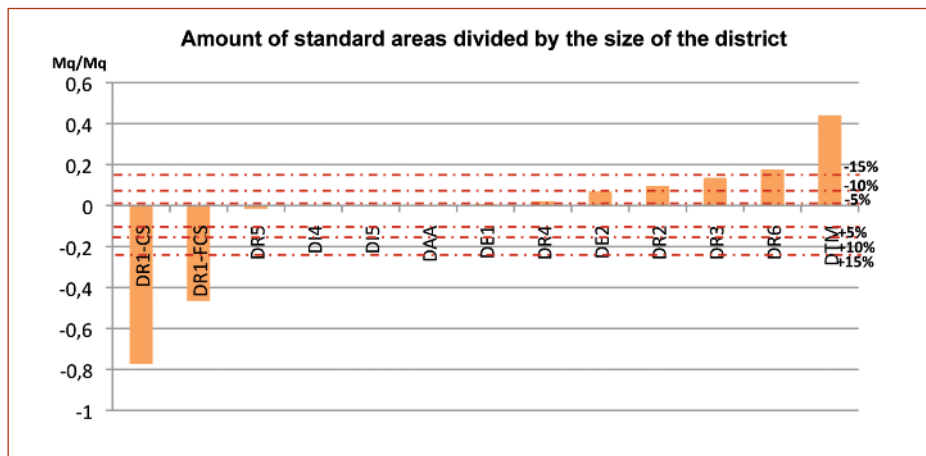
This kind of mapping may have several uses:

- it can enable decision-makers and professionals to view existing land assets, showing the differences between districts, distribution and shape of service areas within them to better consider new projects, if any
- it can facilitate the update of the quantity of service areas and even those monetised over the years, enabling the trend and choices made to be monitored
- it can be a preliminary survey basis to evaluate and plan the distribution of public works and maintenance.

The mapping clearly shows that most districts have a positive balance of between the planned and the existing service areas while the central area of the municipality, which includes the historic center (DR1), has a negative balance of urban standards. This is quite common in historical centres. The industrial/commercial area (DI4) also has a balance of areas for services pointing to zero, which is also common in the industrial areas of medium-sized suburban municipalities. If the trend distribution of these geographical data on town planning standards were to be repeated in most of the municipalities throughout the Region, it could be said that this is the legacy generated by urban development law in the last 42 years.

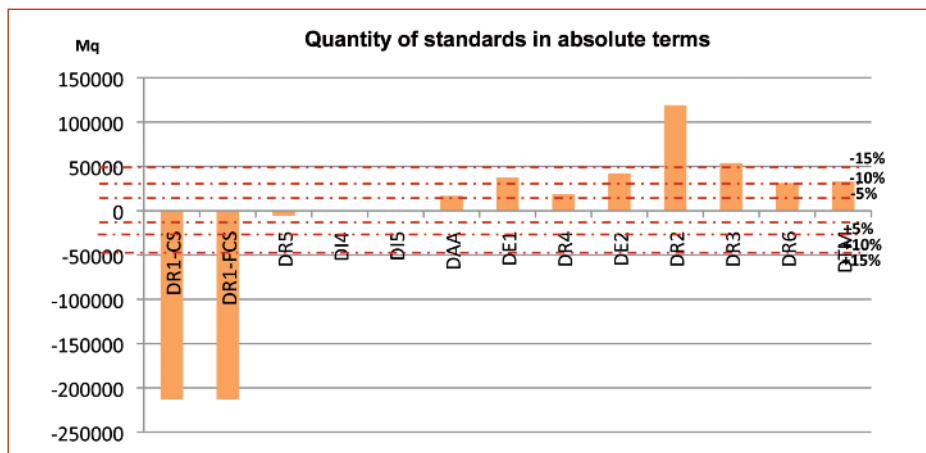


**Figure 2** The map shows the amount of service areas per district on the spatial information system in absolute terms  
Source: own GIS map rendering



**Table 2** The chart shows the amount of service areas per district in absolute terms - Source: chart elaborated form the city council final decision rendering

In light of the amount of urban standards, their distribution and regulatory review, the method of calculating monetisations has been equipped with two correction factors that take into account the specific conditions of the area in which the right to keep public service areas can be wielded. The first factor reflects the amount of existing services in each district of the plan and is an objective parameter. Depending on the higher or lower presence of services, a factor has been chosen (ranging from +15% to -15%) which will correct service areas market value. Factor's thresholds were considered on the basis of the positive or negative total amount. Where the balance is positive, the factor is an incentive, where the balance is negative, the factor is a deterrent. To further confirm the factor, the "relative" amount of existing service areas was calculated by dividing it by its district's size. A "distributed" aspect of the information is obtained which slightly but significantly changes the initial datum (see Table 3).



**Table 3** The chart shows the amount of service areas per district in absolute terms and the distribution of the correction factor - Source: own rendering

The distribution of service areas shows, in this case, a few local differences in districts (DR6 and DTM), due to the presence of large amounts of service areas compared to the small district size. Districts below average extension have a higher service relative balance compared to the absolute

balance. However, this does not reflect an actual higher quality of the area. Moreover, the historical centre (DR1cs), which is part of the central district (DR1), has a much greater lack of services than any other district even though it is the most frequented place both by the local community and by millions of tourists.

Another factor was also added if dealing with change of uses or new added uses in the districts. This added criteria (see following table) can be decided by the local government as part of its town planning authority. Its function, though, again, is not solely linked to the economic value of waived areas. In this case, attention is paid to the types of functions that are to be established in the districts, and it facilitates the inclusion of certain uses and inhibits others, more impacting, which are allowed by the General Development Plan. In general, it was therefore decided to encourage tourist connected activities in some districts (historical centre, DAA, DE1, etc.) and discourage industrial uses outside industrial districts. Tertiary uses (commercial, managerial) have been slightly encouraged in some suburban or semi-urban areas with a positive service balance (DR2, DR3, DR6) and discouraged in the Park and Prepark areas (DAA, DE1). The factor ranges from +15% to -15%.

| Designated use           | Districts   | Service area value €/sqm (A) | Inc/disc factor based on services amount (1) | Inc/disc factor to change Design use (2) | Total service area value €/sqm (Ax (1+2)) |
|--------------------------|---|------------------------------|--|--|---|
| Residential              | DR1 Historical Centre   | 136.36                       | 0.15   | 0.00                                     | 156.81                                    |
|                          | DR1 outside HC  | 136.36                       | 0.15   | 0.00                                     | 156.81                                    |
|                          | DR2   | 93.33                        | -0.15  | 0.00                                     | 79.33                                     |
|                          | DR3   | 93.33                        | -0.15  | 0.00                                     | 79.33                                     |
|                          | DR4   | 88.33                        | 0.00   | 0.00                                     | 88.33                                     |
|                          | DR5   | 88.33                        | 0.00   | 0.00                                     | 88.33                                     |
|                          | DR6   | 88.33                        | -0.05  | 0.00                                     | 83.91                                     |
|                          | DAA   | 70.59                        | 0.00   | 0.15                                     | 81.18                                     |
|                          | DE1   | 70.59                        | -0.10  | 0.00                                     | 63.53                                     |
|                          | DE2   | 93.33                        | -0.10  | 0.00                                     | 84.00                                     |
| Industrial-manufacturing | DTM   | 88.33                        | -0.05  | 0.00                                     | 83.91                                     |
|                          | DI4   | 25.00                        | 0.00   | 0.00                                     | 25.00                                     |
|                          | DI5   | 25.00                        | 0.15   | 0.00                                     | 28.75                                     |
|                          | Industrial-manufacturing design. use in non-main industrial-manufacturing design. use districts | 25.00                        | 0.15   | 0.15                                     | 32.50                                     |

| Designated use   | Districts              | Service area value €/sqm (A) | Inc/disc factor based on services amount (1) | Inc/disc factor to change Design use (2) | Total service area value €/sqm (Ax (1+2)) |
|--|------------------------|------------------------------|--|--|---|
| Tertiary business, managerial, tourist except districts DR1-CS, DR1-FCS, AA, DE1 | DR1 Historical Centre* | 133.33                       | 0.15   | 0.00                                     | 153.33                                    |
|  | DR1 outside HC*        | 105.00                       | 0.15   | 0.00                                     | 120.75                                    |
|  | DR2                    | 105.00                       | -0.15  | -0.05                                    | 84.00                                     |
|  | DR3                    | 105.00                       | -0.15  | -0.05                                    | 84.00                                     |
|  | DR4                    | 99.38                        | 0.00   | 0.00                                     | 99.38                                     |
|  | DR5                    | 99.38                        | 0.00   | 0.00                                     | 99.38                                     |
|  | DR6                    | 99.38                        | -0.05  | 0.00                                     | 94.41                                     |
|  | DAA*                   | 80.00                        | 0.00   | 0.15                                     | 92.00                                     |
|  | DE1*                   | 80.00                        | -0.10  | 0.15                                     | 84.00                                     |
|  | DE2                    | 105.00                       | -0.10  | -0.10                                    | 84.00                                     |
|  | DTM                    | 99.38                        | -0.05  | 0.00                                     | 94.41                                     |
|  | DI4                    | 80.00                        | 0.00   | 0.00                                     | 80.00                                     |
| DI5  | 80.00                  | 0.15                         | 0.00   | 92.00                                    |   |
| *Tourist in districts DR1-CS, DR1-FCS, DAA, DE1                                  | DR1 Historical Centre  | 133.33                       | 0,15   | -0.15                                    | 133.33                                    |
|  | DR1 outside HC         | 105.00                       | 0.15   | -0.05                                    | 115.50                                    |
|  | DAA                    | 80.00                        | 0.00   | -0.10                                    | 72.00                                     |
|  | DE1                    | 80.00                        | -0.10  | -0.10                                    | 64.00                                     |

**Table 4** Broken down values resolved by the Municipality are reported, distinguishing the main districts which represent the territory and the estimates based on the correction factors by designated use. In districts marked with “\*”, the amounts from the category “Tourist in districts DR1-CS, DR1-FCS, DAA, DE1” apply for the tourist designated use

## 5 | A FEW QUALITATIVE/QUANTITATIVE REMARKS

While discussions on urban standards focus on a broader set of considerations on the new values of public service areas (social, environmental, strategic, etc...),<sup>19</sup> the issue of monetisation is forced by law<sup>20</sup> to consider urban standards only indirectly and to use a quantifiable approach. These two aspects narrow the field of critical thinking down to matters of procedure, quantification and qualification of the evaluation method.

From a procedural point of view, in some Regions, monetisation revenues are bound to the purchase of other service areas or, in the best cases, to specific expenditures (ordinary and secondary maintenance, mobility upgrades, etc...). The relocation of urban standards, sometimes at different times, means that the assets can be very unrelated to the areas that generated it. This situation, caused by complicated expropriation or acquisition procedures of service areas, however, means that in areas where monetisations have been applied, minimum urban standards may not be guaranteed. Moreover, the resources from monetisations are widely used for local government budget needs. This is also due to the increasing use of these procedures as alternative compensations to the land price crisis. If not regulated, this type of monetisation will increasingly be perceived as a tax, which serves to make "easy revenues" or, worse, as a procedure to overturn on the population the obligation to find urban standards.

As far as monetisations are concerned, there may be an inconsistency in the quantification of their economic value due to the fact that the land values in land registry micro zones do not match the districts of the General Development Plan. It is obviously possible to establish, with appropriate adjustments, an average value that may be consistent with local zonings given by the various local plans, but the risk is that aggregate or average, and therefore potentially inconsistent, values are used. If the value of the monetisation is high, an expert's report can also be drawn up, specifically assessing the benefit gained by keeping the land in that specific part of the city, but this increases decision-making times.

Moreover, in almost all regional regulations, the expropriation value is strictly set as the minimum quantitative threshold. This threshold, while originally intended to protect development, must now be compatible with the reuse of existing buildings, land consumption and urban regeneration programmes. For instance, as was the case in Venaria, Piedmont's regional law does not allow an industrial area's underused warehouses to be occupied more intensively with mixed activities as a result of monetisations that tend to be lower than expropriation.

In terms of the quality of the urban standards to be monetised, the challenge is to measure something that is subjective. At the same time, the flaw in quantification, as we know, is *that not everything that matters can be quantified and not everything that can be quantified matters*. However, the shortcomings of the monetisation calculation method can be complemented by urban standard quality criteria, shifting the focus of the valuation from the cost of the land to the price at which a community is willing to give up the urban standard it deems unnecessary or, in another perspective, the value of another public service that is added to the community and that can only be obtained through economic compensation. This way, the value of the areas to be monetised can be adjusted on the basis of the people affected by the redevelopment, trying to understand their "perception" of the existing service areas and their "expectations" for the planned future. This approach needs measurable data-gathering techniques and qualitative analysis methods. For instance, in the Venaria

<sup>19</sup> AA.VV. (2017), "Urbanistica è/e azione pubblica per le dotazioni territoriali e la qualità urbana", XX SIU conference proceedings, Planum Publisher.

<sup>20</sup> The law requires to quantify the economic utility resulting from keeping the land and in any case not lower than the purchase price of similar areas in which to allocate urban standards.

case study, services mapping can be supplemented with an additional factor that corrects the "weight" of existing service areas according to the quality perceived by citizens, retailers, experts, technical offices, etc.... This way, a green area or a large market area that is, however, little frequented or, instead, an area that has few public spaces but is surrounded by historical landmarks and highly attractive activities, can change the balance of a district's service areas and consequently reposition the monetisation economic value in the table.

## 6 | CONCLUSIONS: INDUCTIVE PROCESS WITH APPLIED RESEARCHES

With the current limitations and opportunities referred to in the paragraph on regional regulations, the research on monetisations could focus on an in-depth analysis of the current state of service areas and the development of new urban standards to be implemented to compensate for the waived areas.

On the one hand, it will be necessary to carry out an innovative survey of the current number of service areas and their "service value" in relation to the perception of the population that is entitled to it or expects it. If the shortage or surplus of service areas can be measured, and if the appreciation of the active population in that area can be weighed, the use of monetisations may become a strategic tool for the redevelopment of cities. Moreover, knowing the current state of service areas, usually confined to marginal, hardly-profitable plot of lands, can be an asset for projects if combined with other areas or other forms of compensation such as monetisations.

As far as research prospects on new urban standards are concerned, monetisation calculation methods will have to be less and less "estimates" and will have to be able to support decision-making processes, especially on issues such as:

- Soft mobility, which requires the networking of new bike lanes and the installation of new equipment (bike boxes, bike stations) and electric mobility, which requires infrastructures and technologies that are struggling to take off.
- New designated uses (co-housing, co-living, co-working and its various forms, from urban farming to crowd-farming etc..) that mix the old functions with others, making sharing the common and dominant element that breaks the somewhat intricate pattern of the regulation.
- New digital and real public spaces<sup>21</sup> which augment reality and will not be measurable by the square metre any longer.
- New types of environmental infrastructures (green and blue infrastructures) that also fulfil the "glocal" duty of adapting to climate change. This is particularly relevant for all those seamless communities where these new standards are perceived as a cross-municipal need.

<sup>21</sup> Roccasalva, G.; Valenti, S. (2014), "Spazio Pubblico Digitale: una convergenza tra luoghi e comunità attive" In *Urbanistica Dossier on line – Citta Open Source: Spazio Pubblico, Network, Innovazione Sociale*, 6(2014), pp. 60-66.

The monetisation mechanism could now only be applied to many of these new urban standards under those regional regulations that allow for the replacement of waived areas with other forms of compensation. In Emilia Romagna, for instance, while maintaining the original meaning of urban standards, there is the option of "demonstrating the need" of the community, thus being able to introduce new forms of urban standards. In Lombardy, the "Service Plan" (Piano dei Servizi)<sup>22</sup> introduced in 2005,<sup>23</sup> is the urban planning tool that defines residential and welfare assistance targets. It also introduced the concept of "quality standard",<sup>24</sup> which is always calculated economically on the basis of the purchase of service areas but can also be compensated for with public works, public interest works or services for the community. Lastly, new urban standards could be included as part of the Strategic Environmental Assessment process when they are required as works not strictly related to the project but as partial compensation for it. In this case, analyses on ecosystem services could establish the right - and duty - to protect and develop the variety of resources needed by living beings.

As for the evaluation method reported in this paper, it is considered a good example that focuses on the use of non-economic quantitative and qualitative factors, to regulate the use of the monetisation scheme according to the limits of Piedmont's regional law. This method has a clear and queryable mapping that could make urban development conscious and competitive in terms of amount and distribution of urban standards in the areas where they are located.

The issue of urban standards monetisation, although specific and narrow compared to the wide discussion on urban planning law reform, has proved to be already a fertile ground for tests and experimentations that could inductively<sup>25</sup> contribute to theoretical considerations, bringing out significant techniques and measurements both for the current condition of urban standards and for the design of public spaces' new needs.

<sup>22</sup> For 5 years, the Municipal Land Management Plan (PGT Piano di Governo del Territorio) surveys the cost of public interest structures or public structures needed by the Municipality, taking into account the current resident population, the population that revolves around the municipality and the population that the PGT forecasts for the future.

<sup>23</sup> Regional Law March 11, 2005, no. 12 "Land management act".

<sup>24</sup> Introduced with a new Planning tool named PIN (Piani integrati d'Intervento - Integrated Action Plans), devised by Regional Law 12/2005 (Lombardy).

<sup>25</sup> Corsico, F. Roccasalva, G. (2005), "Visu-an-alyse indicators of urban quality. The crucial role of forecasting Scenarios in sustainable decision making processes", in International Conference for Integrating Knowledge and Practice, Life in The urban Landscape, Gothenburg, 2005.



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