

How New Technologies Can Promote an Active and Healthy City. Digital Platform to Identify Areas of Informal Sport Practice in the City of Malaga

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Abstract

In recent years the urban public space has become the largest casual sports infrastructure in cities and suburbs. WHO establishes a direct relationship between the Active Healthy City, social cohesion of communities and public space. This approach provides a framework for research and work on the design of the city and urban space as support for this sport practice. Moreover, new technologies provide an opportunity to promote the sport in the city. “Malaga Activa” digital platform project is an initiative that wants to promote the informal sport practice on the urban public space (outside the regulated sports facilities) and healthy living in the neighborhoods of the city of Malaga. This paper presents the results of the first phase of the project identifying the active sport areas in the public space -those in which physical and casual sport activities take place-. It also includes a methodology for the analysis and promotion of public space as an activator of physical activity, which includes a performance test of the created digital platform, as well as an assessment of the experience and possible improvements to be incorporated in the successive phases of the project.

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Keywords

healthy city; informal sport practice; urban space; new technologies; digital platform

1. Introduction

The characteristics of a coastal city, with a Mediterranean climate, encourage the use of public space throughout the year for a multitude of activities, including sporting activities. The sport activity can be distinguished, according to the space of the city where it takes place, between formal and informal sports activities.

Sport regulated activity or formal practices are carried out in those formal spaces where there is a specific design for the realization of a particular sport (whether in a sports space or in the same urban environment, such as bike lanes, areas bodybuilding, etc.). Sport unregulated activity or informal public spaces are those which favor the

spontaneous emergence of a sporting use attending to different reasons or aspects. This research focuses on the study of public space as a sport infrastructure and activator of physical activity.

It also studies what model of public space promotes sports in the city of Malaga, as well as the use of new technologies to encourage the practice of sport on the citizenship, with the main object of promoting the creation of a city more active and healthy.

2. Literature Review

Since 2010, the OMS urges cities to assess urban planning as an essential public health, providing relevance to the concept of urban health. Overall sport in urban public space brings benefits to the city when it comes to:

- Promote an active aging of the population
- Create urban living environments and synergies between the different activities in the public space
- Diversity of social profiles
- Creating a sense of ownership of urban space by the inhabitants
- Social cohesion among people with similar sporting interests
- Educating young people healthy habits.

Sports practice and urban public space

The public space is one of the most privileged space for the development of sports activities in its social and inclusive aspects, considering this space as a scenario of dynamic, complex and constant process of change and transformation(Maza.G 2008).

Public space is understood as a public, free and accessible area that is available for the enjoyment of any citizen. However, it should be noted the difference between public space and collective space (Magrinyà F. 2008). Collective space refers to a space where there is right of admission while public spaces refer to those places where there are quotas or some kind of control use. Many of the spaces considered public, often have fences, gates, surveillance cameras, etc., where their condition is increasingly lost and begin to be increasingly controlled and privative.

Physical activity is understood as an essential component for a healthy lifestyle. The quality of public spaces is important to promote the sport on citizens. One of the main problems of large contemporary cities is the lack of social relationship of people in public space, so it's necessary a minimum quality of facilities and urban public space for promoting recreational activities in an easily and holistically way (Kostrzewska, 2017).

It should be noted that sport activities produce changes in the public space as well as this space becomes a container of varied activities. The survey of sports habits in 2015¹ indicated that 45.9% of people practicing sport prefer outdoor realization (Maza.G, 2008).

Recently, sport activity in the urban space has increased. In the case of the city of Malaga, according to studies carried out in 2016² on sports activities on the east and west maritime promenades of the province, a total of 24,029 sports events were observed during the months of February, March, May and November of 2016. This study was carried out in 21 days and 31 different situations, producing an increase of 42% of the same study carried out in 2014. Annotations were made of all sporting events observed during half-hour periods, held on Thursdays (morning and afternoon), along with Sunday mornings, on the aforementioned sea promenades and it was appreciated as the main sporting activity running, skating, cycling and sports march.

Sports practice as a means of appropriating public space

Public spaces such as squares, parks, avenues, streets, are places used for recreation, that is, where the inhabitants of the city can express themselves in an artistic or cultural way. People make or feel a certain space because there

¹Statistics 2015. Sports habits surveys in Spain. www.mecd.gob.es

²Study carried out by the City Council of Malaga in the years 2013 to 2016 on sporting on the promenade of the province. Data provided by Publio F. Parra Trujillano, Head of Sports Service City of Málaga

is a sense of ownership, that each person gives a meaning according to their needs and desires (Fonseca Rodriguez, 2015). Nieto (2007) uses the term "territoriality" in his study on the feeling generated by the appropriation of people over these places.

The appropriation of these spaces according to Fonseca Rodriguez (2015) consists of taking cities or public spaces to carry out a cultural or sporting activity, generating a manifestation of individual or collective practices. People give a use to places that have not necessarily been designed for the realization of certain activities. From the point of view of psychology, the concept of appropriation is defined as "a basic mechanism of human development, by which the person" appropriates "the generalized experience of the human being" (Vidal & Pol, 2005).

The activities in these public spaces help to improve the diversity of uses, coherence, security, and communication of a street, a plaza and a neighbourhood. In short, sport in some public spaces has helped to produce a life based in enriching experiences in such places, ensuring that people feel the public space as their own place, but not as something that does not belong to anyone (Jacobs J., 1961).

The public sport spaces are considered those where the main physical activities in the city of Malaga. This condition tells us about the needs of each type of sport or user profile and performance of such activity. Some examples of these places with an important sports practice in the city are the seafront promenade, Marinas's square, or Guadalmedina river.

The sport practice in less lived places or little activity places, gives a different identity to the place and there is an appropriation of space by the users. The objectives of some sports practices are not the sports themselves, but the actions to socialize with other people with the same interests as a part of a network of leisure, such as skaters in the Guadalmedina river.

As indicated Magrinyà & Mayorga (2008) areas where there has been a use or appropriation of street furniture by the neighbourhood, are alive public spaces. On the contrary those where such activity does not happen, it can become an abandoned place as they are not living spaces.

Characteristics of the sports public space; regulated and non-regulated activities

In the case of this study, a classification of the sporting public space has been done considering two types: regulated and non-regulated sport activities. The regulated sport spaces are considered those that are regulated, organized, controlled or those where there is some furniture installed by the administration, such as sports courts for football, calisthenics or calisthenics parks. Unregulated sport spaces are those that have not been designed for a determined or established sport but it is used to perform some kind of sport. This is the case of the activity of running on the seafront or skating in squares with urban furniture that users adapt to their sport practice.

The most interesting areas of research are those that are not regulated or improvised in the city, because they are chosen by citizens for conducting practice. These places have characteristics of suitability for carrying a particular physical exercise and become active point of relationship.

Francesc Magrinyà and Miguel Mayorga (2008) discuss the role of infrastructure parks as valuable spaces created by the partners to sports or the role of roads as generators of informal practices. They also discuss about private sports facilities concluding that they are not attractors of sports spaces around it.

In Malaga, a coastal city, many citizens choose the east and west waterfront to do sport. Due to its linear character and pleasant surroundings, there are many sport activities of a regulated nature (tracks body building, calisthenics, bike lanes, etc.) and non-formal (running, skating, power walking, beach volleyball, etc.), constituting the primary point of sports activity in Malaga.

Most urban parks are places of regulated activities, that are equipped with some sports facilities (parks fitness, petanque, ice skating, football, basketball, etc.) which improve the creation of sport spaces in coexistence with other existing activities. In Malaga city, West park or park of Santa Julia are two clear examples of these activity places.

At present, in relation with sport equipment considered as regulated, there is a tendency to build in a repeatedly way a certain furniture (table tennis, fitness park, petanque courts, etc.) in perimeter areas. For example, in parks

this furniture is often located in outlying areas instead of focusing their design in the central parts. However, in places that are not specifically designed for sports, there is an appropriation of existing furniture and even self-built furniture (Magrinyà & Mayorga, 2008). This is the case of the skaters in the Marina's square in Malaga. It is a central square on the city, which connects the historic center with the port, and where young people appropriate the space and use public equipment not intended for the use of skating in origin.

The most interesting thing is the appearance of regulated and non-regulated sports practices coexisting in the same space, where the design is based on tolerance rather than the exclusion of undesired behaviors, for example, the prohibitions of some sports practices in some parks (Kostrzewska, 2017). Urban design should collect and allow the emergence of non-regulated sport practices or sporadic activities in order to get an active city.

Characteristics of the place in sports practice

The focus of attraction of sport activity generated by the coast and seafront in Malaga, is something that happens very often in other coastal cities. In Malaga, the sporting activity is carried out along the entire promenade, except for the zone of access to the industrial port, which produces a rupture of the coastal continuity (figure 2).

This is also the case of the cities of Barcelona and Bilbao. The reasons for this concentration of activity in the "waterfronts" are related with two main issues: the characteristics of the environment and its proximity to the sea. In the case of Barcelona, for example, 25.2% of the people preferred its location due to its proximity to the sea; on the other hand, 65.4% highlighted the characteristics of the environment, whether the proximity to the sea, low pollution or the existence of sports furniture for free use. In Bilbao city, the percentages were similar: 31.9% and 67.6% respectively (Sánchez & Torné, 2016).

Sánchez and Torné (2016) affirm that waterfronts act as attractors of sports practices as well as they contribute to the social transformation of the urban environment, through appropriation processes that restructure their value and participate in the social development of cities.

In this context, it is important to study the place where a specific sport activity is carried out in order to know what is indicated or attractive in that place for people and athletes. The sports facilities are the result of a combination of spatial and social processes, for example, elements in physical space are essential for localization and development of sports in nature. In the case of big cities (for example, Madrid), social categories have in their sport practices the means of social distinction (golf, equestrian, etc.) (Gil, 2012).

Sport as a social condenser

To sum up, the three components that come into play in this research are three complex elements: social relations, sports and public space (Puig et al 2018).

There is not always agreement between the intentions of the technicians who design an urban space, the subsequent use that users give to this place and the meaning that this area has for citizens who live there (Henry Léfèbvre, 1976). Urban planning acquires an important role in order to have a good quality life for all users. Danish study Bloch and Laursen (1996) observed that their design for a playground and physical activities place, was only used by the children of the next school, but not by the neighbors of the area. This condition did not meet the main objective projected, however it gave solution to another need or collective demand.

According to Puig et al (2018) successful urban space are the ones that can perform various activities, including sports. These become authentic social generators that contribute to cohesion of citizens and improve the quality of life of users.

Occasional sporting events in the city are also specific events where activation citizen movements take place. These events, even if short-lived, generate a significant source of attachment to space for both residents and non-residents (Misener & Mason, 2006).

The role of emerging technologies in sports activity

Internet is a tool for transmitting information while a useful tool for teaching values. Internet tools allow citizens to develop projects that educate in values through sport either as a means of communication or as a teaching support

(Font, Soler, & Calvo, 2004).

A study showed the potential of a physical activity programs based on internet technology and mobile technology; these technologies have better performance for programs to improve health changes. The study was tested among a group of people who had these technologies and another group through a traditional means of sports programs. The results were significantly more favorable in the first case (Hurling et al., 2007) as they had a higher activity

A database that reveals important information about sports users in the city are some mobile applications such as Strava³ (2018), Endomondo⁴ (2018) and similar tools. These provide data from common informal tours within the city of runners, cyclists, swimmers, etc. It is a very important source of information as more and more users participate in these web platforms.

Likewise, there are two important aspects in relation to these web platforms of informal sports: interaction and motivation. Athletes and people in general can perform the same sport, share times and routes by using these technological tools. At the same time, a factor of improvement and competitiveness comes into play, as well as a way of inviting citizens to participate in sports.

Through these web applications, the concept of appropriation of public space can be reinforced. Users mark their own routes as usual spaces of their sports activity and can show them to other users and share them. This let other users follow other people's routes and recommendations.

It is also understood these platforms or web applications, where a person purporting to be initiated in a particular sport can access and generate his/her own points or paths of physical activity from existing ones.

Some of the local administrations of other cities have web platforms that promote the sporting activity within the city such as the province of Aragon Aragon's Platform Strategic Plan for Sport⁵.

A study made on the Runtastic application⁶ (2018) - defined as a health and fitness community (Klenk, Reifegerste, & Renatus, 2017) - investigates how the platform coordinates both the mobile application and the social networks of Facebook, revealing its main use to achieve objectives and improve the enjoyment of physical activity.

All these applications can be included in the concept of eHealth or mHealth, popularized by Robert Istepanian (2010) who defined the latter as the term as the use of "emerging communication technologies in the field of health", to cover topics of healthy habits including sports practices.

Sport and Urban policies for a healthier city

Referring to Congress "Touriscape I Congreso Internacional Turismo Transversal y Paisaje", Nebot and Lopez⁷(2018) study of sports urban policies show the lack of urban policies that promote active and healthy city. There are very few urban policies that encourage health habits and practice of physical activity in the cities, such as Healthy Urban Development Unit (HUDU) dedicated to the study and management of sustainable urban development (London). Spanish panorama in the study highlights the cases of sports policies in Andalusia and Barcelona. The first of them talk about the relationship between urban planning and the health impact⁸(Decree 169/2014 of December 9). In the case of Barcelona, we could highlight initiatives like "Urban Planning, Environment and Health" from Barcelona Institute of Global Health, which aims to apply rigorous scientific testing, tools and indicators to encourage urban healthy development.

In the community of Andalusia, there are several laws that make a reflection on the situation of physical activity or sport demands and needs, such as the cases of the Strategic Plan for Sport in Andalusia (2007-2016)⁹, the Sports Act of Andalusia (Law 5/2016)¹ and the Director Plan of Sports Facilities¹⁰.

³ Strava, 2018. Social network based on Internet and GPS, focused on athletes, cyclists and runners

⁴Endomondo, 2018 "Your personal pocket trainer". Web platform motivation to sport

⁵Strategic Plan .Aragonese Sports Strategic Plan. Government of Aragon.www.deporte.aragon.es

⁶Runtastic, 2018. Health and fitness community. Application for runners.

⁷Touriscape First International Congress Transversal Tourism and Landscape. February 2018. Torremolinos, Malaga. www.touriscape.org

⁸Decree 169/2014, of December 9, by which the procedure of the Evaluation of the Impact on Health of the Autonomous Community of Andalusia is established. Chapter III, Evaluation of the impact on health of urban planning instruments (p.19). Sports Law in Andalusia.

⁹Strategic Plan of Sports of Andalusia. Junta de Andaluc'Optia.www.juntadeandalucia.es

¹⁰Master Plan for Sports Facilities. Junta de Andaluc'Optia.www.juntadeandalucia.es

The Andalusia Sports Law (Law 5/2016) recognizes the universal right of sport practice, and imposes on all public administrations the duty to guarantee access to sport in equal conditions and opportunities, considering sports as an element of social structure, as well as a way for promoting positive values in the citizens.

In the case of the city of Malaga, a Local Plan for Sports Facilities¹¹ is made. This has become an inventory of technical specifications for the construction of sports facilities at the municipal level. This plan includes specifications for built sports facilities, but also sports furniture in the urban space. However, it becomes a very generalist plan as it does not refer to specific places or public spaces in the city. It would have been interesting to establish a relationship with the urban and peri-urban areas of the province of Malaga. These relationships between urban aspects and sport activity is already being developed in other cities, such as the case of Granada, through the Integrated Local Plan of Sports Facilities Plan in the city¹².

3. Aims and Methodology

The general objectives of this article are the following:

1. Creating a methodology for the identification of areas or public spaces where outdoors unregulated sports activities take place, including the use of emerging technologies of virtual content as a way of promoting sport practices in the local communities. This methodology has been tested in a real case as it is Malaga city (figure 1).
2. Creating consultation digital platform of sports spaces in the public space for citizens. The last objective is promoting the practice of physical activity with local communities through the use of new technologies.
3. Reporting local events through such web platforms to reach all citizens in order to promote a more active city.
4. Understanding people's demands about public spaces characteristics; concluding about physical and intangible aspects of public spaces that make people practice sport or not. By understanding public opinion or observation work conclusions inventory improvement of these spaces are removed.
5. Identifying areas of the city where there is a lack of public space used for sport, with the aim of proposing new uses of sportiness or adapting existing infrastructure.
6. Offering a methodology to be tested in other cities, creating a way to promote a more active way of life and interaction with urban space.

To sum up, the main objective is to promote a more active life mode (active aging) and interaction with the urban space in cities, as well as to generate a greater network of social cohesion among the inhabitants and to become aware of the importance of sports for health.

For all these purposes, the following methodology is proposed. This method has been tested in a real urban environment as the case of Malaga city in order to confirm its validity (figure 2).

The proposed research activity for each phase is developed by points:

[1] Phase. Analysis of recreational sports initiatives in Malaga

Expert advice

A first analysis is proposed based on the existing documentation provided by institutions and other documentary sources, as well as a process of citizen participation through the municipal districts. The study area is the city of Malaga.

1. Queries about existing information about sports facilities, public spaces, parks and natural areas (PGOU planimetric Malaga and other sources) to different institutions and administrations.
2. Cataloguing urban spaces (regulated and unregulated) and sporting activities (from the documentation provided by sports area of Malaga City Town hall.)

¹¹Local Plan of Sports Facilities of Malaga. Diputación de Malaga. www.malaga.es

¹²Local Plan of Sports Facilities of Granada. Ayuntamiento de Granada. www.pmdgranada.es



Figure 1. Main study area within the city of Malaga. Source: own elaboration. Plan from Urban Management of Malaga

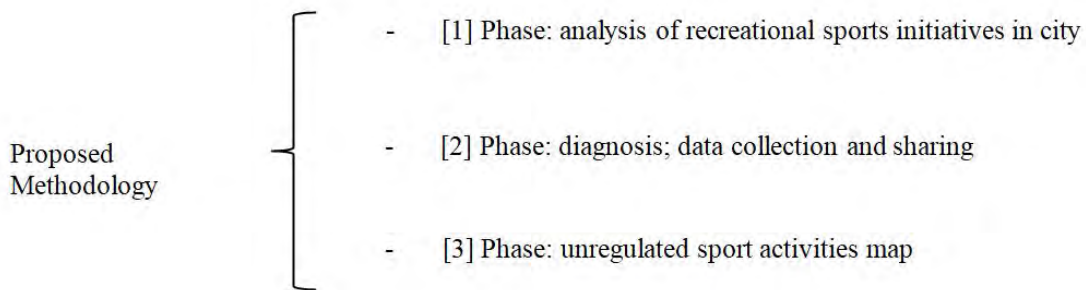


Figure 2. Pases. Source: Self-made

3. Interviews with the District Boards of the city of Malaga (citizen participation process). Preparation of surveys and subsequent preparation of maps of hot spots or activity and sports in different neighbourhoods, problems and opportunities.
4. Research about web platforms and applications in the study area. The objective of this process: identifying the main sports areas of Malaga (always in public spaces), the most relevant or most used by users of virtual platforms or applications; compilation and database of virtual resources of higher use and better evaluated by users; construction of a cartography that reflects the information made in the virtual communities of athletes.

An expert committee with information agents has been made, in order to know the main areas of Malaga where sport is done in unregulated public spaces. This committee of experts is integrated mainly by the different services of the administration (in charge of urban policies, sport policies, technological innovation area), university as well as athletes from different modalities of sports. The objective is to create a network of inter-institutional agents and

local communities where each member contributes with significant data for research.

Qualitative analysis. Experiential or phenomenological approach

It is proposed an experiential approach for the identification of unregulated sport activity where perceptive and subjective issues are considered. The objective is to identify the initiatives that are not regulated or contemplated in the most conventional sources. The scope of action is the neighborhood scale (areas detected in the objective analysis).

This process consists of the following approaches:

1. Direct observation of urban areas, most interesting or hot sport activity areas.
2. Elaboration of videos, photographs, as well as maps made by citizens and athletes (reference Kevin Lynch) in the public space.
3. Creation of a data sheet for each observation, where photographs can be included by observer. These observations have been made at different times in the same places.
4. Surveys made to users of urban space and athletes (participation process) through a questionnaire to different people who are doing the varied sport activity in public space. These surveys focus on the positive conditions of public spaces and aspects to be improved for the practice of physical activity.
5. Analysing information from digital applications such as Strava.

[2] Phase. Diagnosis. Collecting and sharing data

1. Diagnosis from interviews and perform data provided by all athletes and drawing conclusions.
2. Diagnosis from results obtained in direct observation in the place made of “hot spots” sports activity.
3. Overlapping all data given by all agents and sources. This overlap of diverse information, has conducted to contrasted results about unregulated physical activity on the public space.
4. Sending this results information to the different agents involved in the process.

[3] Phase. Sport unregulated activities

All information concluded in the previous stage is uploaded in a virtual platform WEBGIS in order to georeferencing this already structured information. For this purpose, this digital application has been made in parallel to the development of previous stages.

4. Discussion and results

The work aims to increase citizen's relationship with the sport and the public space of the city, providing a research methodology in a total of 3 phases: [1] analysis of recreational sports initiatives, [2] diagnosis : data collection and sharing and [3] mapping of unregulated sport activities . It is considered the fourth future phase for the preparation of final documentation and dissemination.

Currently, the research in the process of developing phases [1], [2] and [3]. The analysis phase of the sports initiatives in Malaga [1] was started, through an objective analysis of the existing information:

1. Thanks to the planimetric information provided by sources of the Malaga City database of runway areas and sports facilities (equipment of a regulated nature) and areas of sporting activity , both in the public space. Sports activity areas correspond to those main areas where non regulated sporting activities have been identified.

2. Another significant source of information were the web applications and internet platforms. Thanks to the information given by these digital media it was established a few points or frequent journeys made by athletes. For applications such as Strava or Endomondo, focusing especially running, cycling, swimming and power walking, another consideration of observation was the motivational skills with these tools on users, as including a link for sports competition. For other platforms such as Facebook, it raises the possibility of creating pages with specific content. There are social groups that perish these and serve to be in contact with citizens and to organize meetings.
3. Through meetings with informants agents from the local government, university researchers, and athletes form different sport modalities, information on attractive spaces for sports (used by the citizens of Malaga) was collected.

Subsequent experiential or phenomenological analysis focused on those observed areas through objective and interviews of agents, including major areas of casual sports activity or non-formal activities in the city of Malaga: [1] opposite coast, [2] mouth of the River Guadalhorce [3] Malaga Mountains and [4] Guadalmedina riverbed (figure 3).

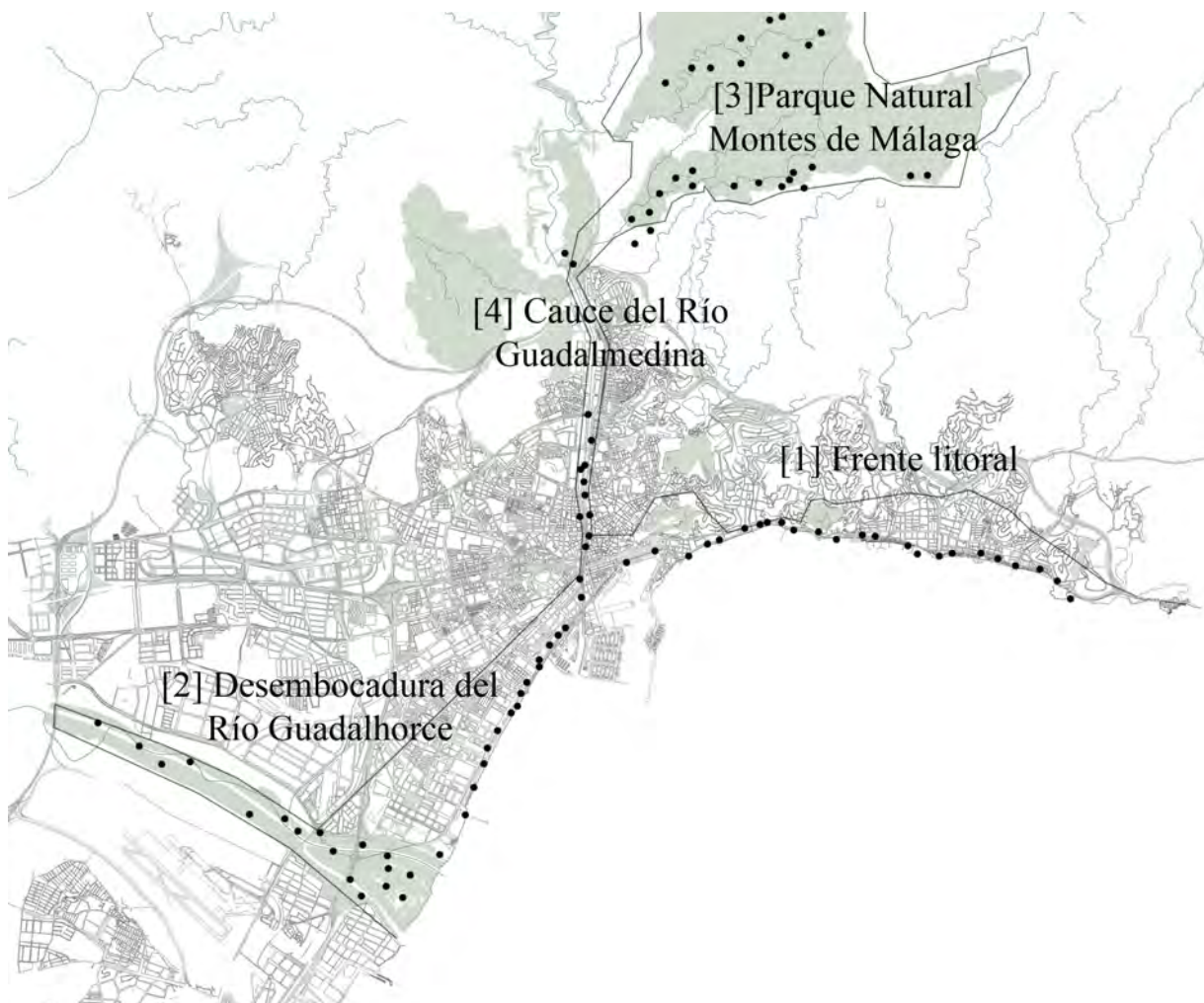


Figure 3. Localized areas according to the practice of non-regulated sports activity. Source: own elaboration.

Parks closest to the coastline general were analyzed as another important point of formal and informal sports activity in the public space.

Direct observation was done, at different hours at day, of the points [1] on the coast and [2] mouth of the Guadalhorce River, where some common basic aspects and other characteristics of each environment were analyzed.

Photographs were taken of each of the spaces of interest and sports practices, both regulated and non-regulated, such as registration or database.

Surveys were developed to athletes and urban space users. On the one hand, those citizens who were performing, sport established regulatory framework, that is, with some public infrastructure, they conducted a survey of these infrastructures' state, in order to analyze its quality. On the other hand, the interesting thing to ask those citizens who were carrying out an activity of a non-regulated practice was to know the causes for the choice of the space (among other information). This information should be related with the quality and characteristics of the place that made them go to that point and not to any other from the city.

The results were as follows: [1] coastal front: suitability for its maritime environment and [2] mouth of the Guadalhorce River: suitability for its maritime environment and its consideration as a natural site.

In general in both environments [1] and [2], athletes demanded a greater presence of shadow spaces, since most of the sports activity was exposed to the sun. In the case of urban furniture, there was a demand for drinking water sources and waste deposits. The mouth of the Guadalhorce [2] specifically, is a neglected environment, especially waste accumulated since there is no deposit of waste in the area.

Interviews with urban observers. Observers were considered by those who observe their daily work selflessly environment to analyze this study. These agents have provided temporary and seasonal information, in a global manner. The results were useful to determine the frequency of sports activity in public spaces in different seasons, as the social profile (age, gender, etc.).

For example, the results showed how elderly people practice sports and physical activity earlier in the day, while young people are the most frequent users from noon and evening time.

Climatic conditions are also an influential factor in sports practice. For the hottest summer months, the sport is done very early in the morning, while in winter is more common activity at midday or early afternoon.

In phase [2], Diagnosis: data collection and sharing, the following observations were obtained:

1. Facts that condition the coexistence between regulated and unregulated physical activity. In the study area: [1] on the littoral front, there is a synergy of coexistence between formal and informal sports. This mixture is considered interesting sport situations because many users perform both practices, for example, a citizen who carries out running as well as the ski body building calisthenics afterwards.
2. The interviews provided data about demands and needs of users who use public space for sporting activity. Most athletes demanded more shaded area and the presence of water sources. For the mouth of the Guadalhorce river [2], cleaning was a common demand among users.
3. The observation areas at different times of day generates a scheme of use of urban space, in which at certain times of day, there is a lot of life in place (in the early morning and evening) and certain times the presence of athletes is minimal (early afternoon).

In [3] Phase. Sport unregulated activities map and technological tools:

All information concluded in the previous stages is being uploaded in a virtual platform WEBGIS in order to georeferencing the structured information. Even though not all information is already mapped, first results advance about the convenience of introducing this technological tool for acquiring a deeper knowledge of the areas where sport activities take place in the urban space. The fact of geo-referencing the data has led to new questions and knowledge of neighborhoods in the city: which are the most/least active areas? Why? Can we talk about healthier or unhealthier neighborhoods?

This map is already a very useful tool and source of information not only for citizenship, but for local administrations in order to understand what is happening in our cities in relation to the practice of physical activity. The following graphical results (made from data provided by reporting agents and web platforms) show the main areas

of the city or hot spots of sporting activity: [1] coastal front (figure 3), [2] mouth of the Guadalhorce River , [3] Montes de Málaga and [4] channel of the Guadalmedina River.

The first three study areas meet common things in all cases, where proximity to a natural environment is the main aspect. We can distinguish between the spaces close to the marine environment: coastal front and mouth of the Guadalhorce River, and the spaces close to a rural environment: Montes de Malaga as a Natural Park, and mouth of the Guadalhorce River as a Natural Area.

In the case of the channel of the Guadalmedina River, it can be considered as an area of non-lived character (its function is transporting water from the river, which is in drought most of the year) of the city where some social or individual groups take advantage its linearity and situation (historical center of Malaga) for the realization of informal sports activities. There is an appropriation of this space and an identity of the place is created by its users.

5. Conclusions

The lack of knowledge about the real situation of cities in relation with practice of physical activity on their public spaces –regulated and not regulated sport activities- leads to two main lines of study:

On the one hand, those researches focused on the regulated sports facilities/spaces. These places are usually cataloged in data bases of local administrations. The design of these spaces should be mainly focused on the observation of use, and local demands, as well as the environmental characteristics of the areas in which they are located. However, in most cases this equipment is designed in a homogenous way, regardless of this environment around (Magrinyà & Mayorga, 2008).

On the other hand, the study of non-regulated sport activities in cities stands out. One of the most interesting researches focus on the causes that lead users to choose these areas and the aspects that make surroundings attractive for athletes (Gil, 2012).

The parks of general equipment (Magrinyà & Mayorga, 2008) are also considered important nodes of physical activity, with these main places of coexistence of informal and formal physical activities.

From the results obtained in this research (still in development) these following spaces are considered the most enhancers of non-regulated sports activity in the city:

- 1. Maritime Environment: near the sea spaces are pleasant to perform most sports.
- 2. Natural environment: they are pleasant areas of high environmental quality.
- 3. Parks of large surfaces: places of ample public free space accessible to the consolidated city.
- 4. Linear paths: It is observed that athletes choose a path of linear character for realization of their sport for ease when raising a precise way.
- 5. “No places”; unlive or spaces that social congregations or urban tribes begin to use that space to make it yours, appropriate place.

These results are already advancing a need of considering new aspects and data about real practice of physical activity in the urban and sport planning policies in the cities, and in particular, in the city of Málaga. Sport plans should take into consideration specific urban environments. This means local sport administrations and urban and social areas should plan the city together.

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