Retos de la Dirección 2021; 14(2):183-205

Article

Protection of Relevant Views in the Historic Center of Camagüey, an Urban Management Tool for Decision-Making

Protección de vistas relevantes del centro histórico de Camagüey: instrumento de gestión urbana para la toma de decisiones

MSc. Marisabel Almeida Torrens[1*] http://orcid.org/ 0000-0001-5395-8069
Dr. Libys Martha Zúñiga Igarza[2] http://orcid.org/ 0000-0001-9669-8658
Dr. Lourdes Gómez Consuegra[1] http://orcid.org/0000-0002-2187-647X

[1]Faculty of Constructions, *Ignacio Agramonte Loynaz* University of Camagüey, Camagüey, Cuba
[2]Department of Constructions, University of Holguín**,** Cuba

[*]Corresponding author: marisabel.almeida@reduc.edu.cu

ABSTRACT

Objective: To design an urban management tool that facilitates spatial decision-making, as a way of protecting relevant sights of historic urban landscapes, based on an integrated vision of urban management and its instruments. Its practical application is to take place in the historic center of Camagüey City, Cuba.

Methods: Direct observation of sights during field works; surveys, and interviews to several different social groups and experts for validation of geographical information in the analysis of various components and variables.

Main results: The demarcation of protection zones and landscape units with priority levels for action and specific urban regulations in these areas, which enable urban control with respect to building height restrictions, breakdown of building units, aerial infrastructure, roofing changes, uses, materials, and so on.

Conclusions: This tool contributes to a more accurate and quicker response to investments in the historic center, and the establishment of specific intervention

strategies, in order to enhance the visual quality of urban landscapes, which is critical to achieve local identity.

Key words: protection of relevant views, urban management tool, historic urban landscape, historic center of Camagüey.

RESUMEN

Objetivo: Un instrumento de gestión urbana que facilite la toma de decisiones espaciales para la protección de vistas relevantes en paisajes urbanos históricos, sustentado en una visión integrada de la gestión urbana y sus instrumentos. Se expone su aplicación práctica en el centro histórico de Camagüey, Cuba.

Métodos: La observación directa del paisaje en los trabajos de campo; encuestas y entrevistas a diversos grupos sociales y expertos para la validación del procedimiento metodológico propuesto, y utilización de los sistemas de información geográfica en el análisis de los diversos componentes y variables.

Principales resultados: La delimitación de zonas de protección y unidades de paisaje, con niveles de prioridad para la actuación sobre estas áreas y regulaciones urbanas específicas que facilitan el control urbano respecto a las restricciones de altura de las edificaciones, la inserción de nuevos edificios, desglose de unidades edificatorias, infraestructuras aéreas, cambios de cubierta, usos, materiales, entre otros.

Conclusiones: El instrumento contribuye a dar respuesta certera y ágil a las inversiones que se desarrollen dentro del centro histórico y a establecer estrategias de intervención específicas, para potenciar la calidad visual de las vistas urbanas que son clave para la identidad local.

Palabras clave: protección de vistas relevantes; instrumento de gestión urbana; paisaje urbano histórico; centro histórico de Camagüey.

Received: 07/10/2019
Accepted: 24/04/2020

INTRODUCTION

Decision-making with the purpose of protecting heritage values is mainly materialized through instruments of urban management. The relevant views of historical urban landscapes, in a direct relationship with the exceptional universal value (EUV) of heritage cities, and their main vulnerabilities, indicate the need to manage them through implementation of protection and preservation measures.

Today, such protection has focused mainly on the preservation of the highest quality views of European cities (London) (Greater London Authority, 2012), and in North America (Ottawa) (National Capital Commission, 2007), with an exclusive perspective of landscape, which mainly evaluates the visual impact of contemporary insertions (Mérida & Pardo, 2017). Hence, it is important to develop this methodological practice in other contexts such as Latin America, with urban features and issues different from other territories, which need particular and updated solutions. Based on this perspective, the case of Camagüey city, in Cuba, whose ongoing morph-typological transformations threaten relevant views, and the whole urban scene, as a result of the current economic pressures, is presented. For instance, the internal division of homes, construction of tall buildings, the loss of building proportions, changes of traditional roofing, increased plot occupation, transformation of facades, overcrowding, absence of habitability, and so on. This paper offers a general plan to protect relevant views as an instrument of urban management that facilitates spatial decision-making by institutional managers, technicians, and citizens in charge of urban heritage and management. This plan comprises a set of phases from planning to monitoring and control, which enable the implementation of results, and control of effectiveness through time.

This instrument has the general scale purpose —given the character of the landscape, and of the relevant views— of spreading over the entire urban fabric, and its geographic surroundings, whose influence goes beyond the limits of the historic center, and requires a global conception of a city, and the interconnection of all the parts involved. Its implementation relies on the conception of heritage value as a resource, and the recognition of the need for relevant views management, as bearers of heritage values. The purpose is to confer it usefulness, in order to enhance local economic prosperity,

attract visitors, enrich the daily life of citizens based on an aesthetic-visual-functional perspective, and strengthen local identity.

It also introduces sustainability aspects in terms of proposed improvements of the historic urban landscape (HUL), by implementing preservation and restructuring actions to relevant views. The social contributions are given by the conservation and consolidation of the existing urban functions, and the proposal of others in these sectors, which will assist in improving the local economy, based on harmonic utilization of heritage resources.

DEVELOPMENT

Protection of the relevant views of heritage cities

The protection of relevant views is directly related to the protection of exceptional urban heritage values EUV, and the concept of visual integrity of landscapes. According to UNESCO & World Heritage C. (2013), it is associated to sights, panoramas, points of observation, and city lines. “It can also mean the capacity of heritage to maintain visual particularities, and to demonstrate their relations with the environment visually” (p.2). The integrity of historic cities relies, in part, on their visual relations, both internal and external; hence, the protection of views from and to any property acknowledged as culture heritage is critical.

Starting in 2005, the importance of this issue was visualized; in a relatively short period of time, a broad theoretical discussion was held in relation to the impact of contemporary architecture, particularly of high rises and infrastructure. However, the issue of relevant views is hardly dealt with in the international norms (ICOMOS, 2005; UNESCO, WHC & Whitrap, 2012; UNESCO, 2007; UNESCO & World Heritage C., 2013), with no conceptualization, though there is a declared need to study the visual impact of landscapes, in which visual integrity and fragility are evaluated, based on the analysis of sights, panoramas, lines, visual perspectives, and so on.

The relevant views of heritage cities are images obtained by an onlooker situated in visual corridors or urban lookout points, through direct observation of the landscape. They contain cultural attributes of heritage value, where certain landscape resources

with symbolic-visual character are offered to locals and visitors. They also influence the appreciation and understanding of a city, since they constitute a “historical composition, and are the cumulative results of a large development process” (English Heritage, 2011, p. 3).

Therefore, the subjective and assessing dimensions have important weights on the conformation and preservation of cultural identity and the collective memory, and they foster social preference, according to an aesthetic point of view, of urban or symbolic comfort of certain urban sights. This choice will depend on the culture of the observer and its past experiences (Sánchez, 2014). It is also in accordance with the form in which the components of urban morphology and the natural environment articulate, their visual qualities, values, and symbolism. This will also allow for considerations of the value, quality, and visual fragility, and to recognize the conflicts of landscape that affect relevant views. That way, it demonstrates that their subjective and assessing characters make urban management-based analysis more complex.

The authors consider that the basic components for characterization and assessment are, geographic-morphological components (natural, built or socioeconomic environments); visualization components (visual corridors, urban lookout points, and landscape resources); assessing components (visual quality and fragility, landscape conflicts); legal and heritage components (legislation, regulations, ordinances, natural heritage, tangible heritage, and intangible heritage).

In that sense, an outstanding role is observed in the pertinence of spatial decision-making, which may become part of useful instruments for urban or territorial arrangement, as in this case (Pardo, 2015). Then it can be asserted that the protection of relevant views constitutes a methodological tool of urban management that takes into account preservation not as a freezing process, but as reconfiguration and respect for valuable urban stratigraphy (Gómez and Almeida, 2018).

The previous elements promote a direct relation between EUV —therefore, integrity and authenticity— and the relevant views of heritage sites, since their status, evolution, and vulnerability become indicators of the negative impacts received by EUV. In other words, the greater the vulnerability of relevant sights, the higher the risk of affecting that condition. This can be illustrated with the group of four towers Aquarela (94 m high,

started in 2015), in Cartagena de Indias, Colombia, which, according to UNESCO, would create an important affectation to the visual and symbolic relation between San Felipe Castle, and its surrounding, risking one of the attributes of EUV.

Hence, HUL should become the starting point with its two sides: as a heritage category to widen understanding of the historical environment, helping "people identify the complex elements that make cities distinct", and as an approach that has "the basis for integration of urban conservation within a general sustainable frame, through a group of traditional and innovating instruments adapted to local contexts" (UNESCO, 2016, p.11).

The protection of relevant views can be achieved from the integration of traditional approaches of urban management with HUL, so their point of encounter produces innovating instruments of urban management capable of consolidating a resilient response from the city. In that sense, resilience is seen as a quality of urban sustainable development, both as a factor of self-development, which recognizes urban areas as a complex and dynamic system in cities that should adapt continuously to various challenges thoroughly, and holistically (UN, 2015a). Accordingly, a different manner to accomplish adaptation of the city and citizens to vulnerabilities that threaten heritage and visual values has been presented.

Urban management instrument for the protection of relevant views of heritage cities

The process of urban management, and the methods of performance are closely related to the protection of relevant views because they influence the behavior of their components; that is, urban structure and functions in the interpretation of the city, and conditioning elements, like socioeconomic, political, cultural, identity, and historic aspects. The analysis of intrinsic processes of urban management and urban heritage has provided proper approaches and phases to manage relevant views in heritage cities, and the capacity of building an adequate management instrument. This involved time analysis of the evolution of urbanism, and its relationship with the heritage tendencies.

In the case of urban management, the systemic, strategic, integrated, sustainable development, and participatory approaches should be regarded (UN, 2015b).[1] The

following phases or stages that influence all the processes of the city were identified as: to project-plan, organize, regulate-implement, and monitor-evaluate-control. In turn, heritage management involves the HUL approach, which considers that visually, cities are related to territories. That, in addition to the urban sights in the interior of cities, as elements of interest to protect the visual integrity of historical cities, which is one of the ways to preserve heritage values (De las Rivas, 2018; Jordán, Pérez, and De las Rivas, 2020).

Apart from being a very versatile tool, this last approach has constraints regarding the manner of implementation, due to the complexity of elements that intervene. This allows for considerations of integrated urban management approaches, such as the systemic approach, the strategic approach, and the participatory approach, which adapt to the complexities of the context studied.

Several authors have dealt with the issue of relevant views, both in urban and natural areas, through urban management instruments, considering that these instruments are all the means or mechanisms whose function is to run processes generated in urban areas or their surroundings. They are mainly developed through instruments of planning, regulation, monitoring, and control, that contribute to the preservation of urban identity, and improvement and protection of general landscape quality (Czynska & Rubinowicz, 2015; Generalitat Valenciana, 2012; Greater London Authority, 2012; Lalana and Santos, 2011; LeBlanc, 2008; Mérida & Pardo, 2017; National Capital Commission, 2007; Peters, Taylor, Meyer & Sullivan 2018; UNESCO, 2011; UNESCO & WHC, 2015; Xunta de Galicia, 2019).

From a practical perspective, these studies emphasize on the development of catalogs, guides, and landscape studies, in order to run inventories, record, and evaluate the types of landscapes and their features. Then, based on that information, project landscape quality goals that support preservation actions and measures. The methodological procedures, variables such as quality, visual fragility, landscape conflicts, visual exposure, and others, are useful. The subdivision of the area of study in landscape units, is based on the determination of visual cones, and the utilization of geographic information systems for organization and analysis of different components.

The protection of relevant views is thought to have been dealt with strategic planning, mainly. The low level of integration of procedures for management with several different unequal terms to define actions, has been observed as well. Table 1 shows a summary of criteria offered by several authors about the classification of the phases of relevant views management. The analysis of these phases shows certain analogy with the phases, stages or actions of urban and heritage management, which allows for making determinations in the development of the instrument proposed, and to establish adequate phases for materialization.

Table 1 Classification of stages of relevant views management by several authors

Authors	Stages, phases or actions
British Columbia Ministry of Forests (1997)	Identification of values, analysis, propositions, implementation, monitoring
English Heritage (2011)	Identification, assessment, evaluation, proposition
Greater London Authority (2012)	Identification, assessment, planning, regulation, implementation, control
Generalitat Valenciana (2012)	Characterization, assessment, proposition
Czynska and Rubinowicz (2016)	Information gathering, simulation, evaluation, proposition
Mérida and Pardo (2017)	Identification, characterization, evaluation, proposition
Peters *et al.* (2018)	Organization, assessment, evaluation, proposition
Xunta de Galicia (2019)	Organization, analysis, diagnostic, proposition

Source: Self-made.

In this sense, a common element stands out in all the cases: the identification of landscape values observed, a process in which the most interesting sights are chosen for use in subsequent phases. The action of organizing the process has been considered only by Peters *et al.* (2018), in which the personnel is trained to develop the study, and costs and scopes are established. The authors consider that this phase is critical for the success of all the management process. They also note that most authors do not consider control as a fundamental action. This action is often implicit in the phases mentioned; however, it is thought to be included as an independent action, without establishing the respective interactions with the others.

Importantly, the protection of relevant views requires changes of traditional management approaches, so under this perspective, an urban management instrument for

professional and legal intervention is provided to urban managers for collective decision-making. It aims to create awareness in all local actors of the need to offer protection and adequate management based on urban arrangement, as a support of heritage value, cultural identity, and useful application as an economic resource due to its influence on tourism, location of residence, recreational activities, services, and as a visual-psychological resource for the general welfare of the population and life quality, since certain pleasant sights have a repercussion on the psychological functions of people.

Based on the previous criteria, four phases for relevant sight management in historic urban landscapes are suggested: to organize-create the starting situation, to assess-plan, to regulate-implement, and to monitor-control (Fig. 1). These phases comprise 16 steps, including their corresponding tasks. The steps are described below:

Fig.1 Phases of the general plan for the protection of relevant views

Source: Self-made.

Phase 0: To organize-create the start situation

The goal of this phase is to create the basic conditions to develop the other phases in the plan successfully: human and financial resources, and their terms. It comprises the determination of the institution in charge of the implementation of the plan. This institution should be part of planning and territorial control processes at different spatial scales, articulating with every local actor: institutions, government, and citizenship in critical processes of local development. This phase also includes the conformation of the working group, and staff training through group workshops, analysis of related information, seminars, lectures, interviews, and other techniques and methods. Besides, it will establish the costs, plan scopes, and terms for implementation, which is a key aspect to guarantee efficiency and feasibility within the socio-economic context where it takes place.

Phase I: To assess-plan the protection of relevant sights

This phase is based on identification, characterization, and ranking of relevant views, in a process of action planning and organization. The first two steps are structuring axes of the phase: identification of relevant views, and determination of landscape units, for which it is fundamental to run direct observation of landscape, and surveying, as techniques for gathering information during field works, and the utilization of geographic information systems (GIS) as mapping tools, and for proper analysis of the information gathered. The determination of landscape units will be developed as described below:

The Intermediate Landscape Units (ILU) are determined for each relevant view identified (Table 2) through photo-planimetry of a visual cone whose horizontal opening angle is defined according to the type of urban closure (relation between street width and building height) of the horizontal visual corridor of the human eye.[2] The visual cone area extends longitudinally over the plane of the city, then a vertical cut is made from the height of the onlooker position to the point of reference taken of the corresponding landscape resource. This line will be used in the plane to control heights and new insertions and expansion of existing buildings. ILU is the landscape unit from which the other landscape units are formed.

Table 2 Landscape unit scales determined

Landscape unit scales	Determined quantity	Graph	Characteristics
Basic landscape unit (BLU)	Investment dependent		A detailed fraction of the visual cone
Specific intermediate unit of landscape (S-ILU)	108		A fraction of the visual cone based on its typology
Intermediate landscape unit (ILU)	44		A visual cone directed to a landscape resource
General intermediate landscape unit (G-ILU)	9		Set of visual cones directed to the same landscape resource
General landscape unit (GLU)	1		All visual cones

Source: Self-made

Then, it is important to reduce the longitudinal distance of the visual cone to the necessary value, in order to perform the pertinent analyses efficiently. In this sense, a distance equivalent to the building height allowed by the technological and socio-economic environments is placed between the plane to control height and the terrain line[3], since higher than stated buildings are not supposed to be built in the temporary foreseen horizon. This point will mark the final distance of the visual cone, from which the ILU will be determined.

From this determination, the general visual protection zone can be identified by overlapping all identified ILUs, which may become the area of visual buffering. Later, the value of landscape units is determined, along with the visual fragility, and the landscape conflicts that create a negative impact.

The value was measured using three indicators: landscape visual quality, visual accessibility, and social assessment. Visual quality was evaluated through 19 indicators that measure quality in the three component elements of the scenery observed (scenic

background, volume built, and public space): visibility of landscape resources, sunlight exposure, diversity of landscapes observed, objects in the middle of landscape resources, scale and proportions, urban architectonic values, constructive conditions, diversity of uses, visual blocking by infrastructure grids, signaling, artifacts, and/or vegetation; quality of urban properties, technical conditions of street-sidewalk, vehicle and bicycle pressure, existence of vegetation or quality water sheets, topography, smells and relevant sounds, and the possibility to observe cultural referents.

The results achieved are systematized in identifying sheets and theme maps. This information will be used to suggest protective actions of relevant views, one of the determining steps of the entire instrument, as they give way to regulatory terms, the implementation plan, and control mechanisms.

Phase II: To regulate-implement the protection of relevant views

During this phase, the previously planned actions to protect relevant views in the previous phase will be regulated and implemented. The regulatory body is the legal instrument of the plan, which is linked to the legal body, based on existing norms and regulations. It will be subdivided into general regulations expressed through general aspects, in all the visual protection area, as well as specific regulations for every ILU. It is an instrument for management and control of the plan determination, and it ensures implementation through an investment process. In turn, implementation is the phase that materializes the plan; along with the next monitoring and control phase, it will take place through the implementation plan or execution program that responds to priority levels based on planning made in the previous phase.

Phase III: To monitor-control the protection of relevant views

The key to monitoring and control is comparing the advance and implementation of planned activities, budget accounting, and external factors that affect the results. This management mechanism ensures the implementation of actions to meet the desired goals. It requires monitoring the work done through set regulations for the protection of relevant views, territorial control of investments, and visual follow-up of relevant views through time.

Main qualities of the instrument

When the phases of the instrument were presented, the authors determined the following qualities:

- Flexibility, since it can be contextualized in other relevant views of historic urban landscapes, which are not necessarily identical to the practical object of research, with the adjustment capacity of processes and procedures.
- Integration, since it is conceived from interrelationships and assessment between phases and steps that make implementation safe.
- Viability and feasibility, since the implementation of phases and stages do not require large funding or excessive time, the methodological requisites are simple and accessible, and the training demanded by the personnel in charge of the implementation is not very complex. The information and data gathered in each phase, step, and task are collected promptly. The interrelationships defined offer the possibility of identifying the errors made during the phase, before concluding the procedure. It grants speediness in correction and safety of implementation.

Protection of relevant views in the historic center of Camagüey city, partial implementation of the instrument

The EUV of the historic center of Camagüey city is supported by criteria IV and V since 2008: it is an exceptional example of an architectonic set that illustrates a significant historical period, and an exceptional example of traditional human habitat, which is representative of the culture and its interaction with the environment, respectively (Office of Camagüey City Historian [OHCC], 2009).

Among the group of attributes that distinguish the heritage values of Camagüey is the irregular urban layout, with a system of squares and smaller squares that generates a diversity of perspectives and visual planes, low volumetric continuous facades; on which the bell towers from churches stand out. These temples are articulating urban landmarks; the great unity within the wide diversity of architectonic styles (homogeneity); the presence of rivers and arid public spaces, in contrast with the green inside the blocks; construction materials and constructive techniques, where clay utilization has a key role; and so forth.

Camagüey has the protection and management mechanisms of heritage: the Partial Plan and the Managing Plan of the World Heritage Zone, designed in 2006 and 2007; these instruments call for integrated management of the territory to generate urban competitiveness, and strengthen the local economy sustainably, for which policies, strategies, programs, and actions have been established. (Master Plan and Managing Office [DPMG], 2007). A way of materializing these instruments was the issuing of urban regulations of the historic center; it starts with the implementation of the HUL approach in detailing and determining studies associated to landscape units for management.

The political will of the local authorities is to enable heritage protection, which is run through a group of institutions led by OHCC, in charge of starting out the management system, and defining the operational structure and working methods in relation to heritage. However, these favorable organizational conditions for heritage management cannot ensure total protection of identity attributes that support EUV in the historic center of Camagüey. A number of constraining aspects were found; for instance, higher relevance given to the heritage variable, in relation to the socioeconomic and environmental variables; partial implementation of the HUL approach, hindering systemic and holistic analyses required for the protection of the urban heritage. Consequently, in the current context, it is important to expand analysis beyond those constraints, and consider the close-knit relationship between this valuable zone and the surrounding territory, as a basis of a global conception of city. For instance, it is important to consider the perceptions and visual relationships in face of impacts caused by new urban developments or protect certain iconic views of the historic center only seen from outside its boundaries. In that sense, the Management Plan, from a narrow perspective, states that the recovery of significant visuals and perspective closures, in first-order axes and poles (DPMG, 2007), should be done through actions included in the program of public spaces.

Additionally, there are not urban management instruments that deal with specific topics like protection of relevant views, the insertion of contemporary buildings or restructuring of traditional buildings. The control phase is, therefore, more difficult to implement due to the absence of follow up indicators that allow for evaluation of the effectiveness of results through time, along with outdated national legislation for heritage protection, and

restraints in structuring and organization of urban control by the corresponding institutions in the territory.

This management issue has an indirect influence leading to other risks against the attributes that determine good EUV, and relate to morpho-typological transformation of the historic center of Camagüey. These transformations are generated by two main reasons: the insertion of a new architecture, and regulations of existing buildings. Also, the new buildings have proven low quality; loss of scales and proportions; inadequate arrangement of building units; utilization of non-traditional materials; speedy transformation of representative volumetry; loss of iconic city landmarks, and so on.

Together with these anthropic phenomena having a social and organizational character, there are hydro-meteorological events such as hurricanes, a threat to the fragility of heritage building roofs, and the little capacity of material replacement due to the weak autarchy of the territory.

Hence, it is necessary to strengthen urban management from several different perspectives, particularly urban planning, its managing cycle, and public engagement as a transversal axis. Accordingly, the heritage urban system will be capable of withstanding, absorbing, adapting, and recovering from the effects of these threats speedily and efficaciously, based on a preparedness conception of built systems and social systems with planned support, and recovery in the shortest possible time by strengthening the resilience of the diverse components presented.

From that perspective, the instrument designed can be implemented, following the principal landmarks in the historic center: church bell towers. Partial results of the implementation of the instrument within the context studied.

As to the organizational phase, in Camagüey, the responsibility of leading the implementation of the general plan for the protection of relevant views is given to OHCC, since it runs the heritage management process, and protection of EUV that supports the declaration of Camagüey as a World Heritage Site. It must establish a direct and continuous link with the Municipal Physical Planning Office (DMPF in Spanish), for its role as an entity that concerts the efforts of bodies in charge of socio-economic development, and for its role as the first link in the investment process (MEP, 2006). To implement the steps and tasks established in the instrument, two work teams must be

set up, a mean team and a complementary team, including training of personnel so that the team members master strategic information in relation to successful implementation of the plan.

During the assessment-planning phase, 9 landscape resources were identified, along with 44 related relevant views. The landscape resources correspond to the 9 main churches of the historic center: Our Lady of Mercy, Sacred Heart of Jesus, the Cathedral, Our Lady of Solitude, Holy Christ of Good Traveling, Our Lady of Carmen, Saint John of God, Santa Ana, and Our Lady of Charity.

Later, the 44 visual cones corresponding to the relevant views identified were graphically recorded. This preliminary information, and other data, such as the height of onlooker positions, the topography, the reference height of church bell towers, and the vertical topographic line of each visual cone were processed using ProfileTool from freeware Qgis 3.4 (as SIG), and AutoCAD 2012, for ILU determination, as previously explained. The first scale of landscape units allowed for determination of other three scales of landscape units, as shown in Table 2.

Resulting from the overlapping of 44 ILUs, the general landscape units (GLU) for the protection of relevant views associated to the bell towers of the main churches in the historic center, were obtained, as shown in Fig. 2. It is a protection and restriction zone suggested as a new buffering zone within the World Heritage site. It allows for specific studies; that is, investment propositions in that area of protection will be subject to detailed height control studies of new insertions and volumetric transformations of the already existing ones.

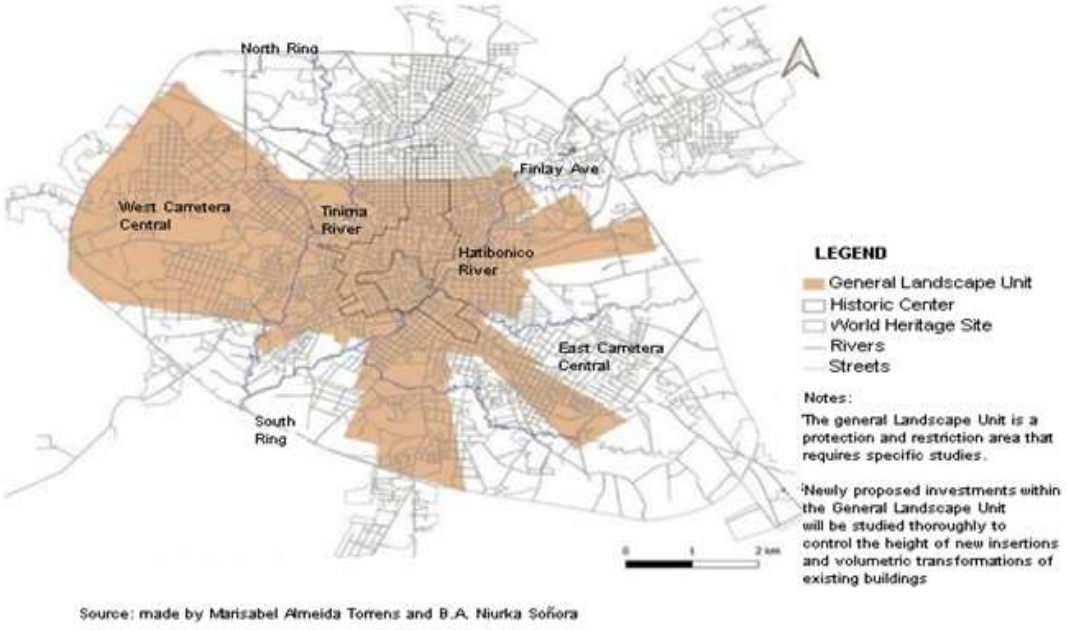

Fig.2. General landscape unit for the protection of relevant views of the 9 main churches in the historic center of Camagüey

Source: Self-made.

Determining the value of the landscape units was done using two ways: technical assessment through the previously explained variables, and social assessment of the aesthetic quality of the relevant views.

Information related to the variables of scenic elements was collected through field work, in addition to photo surveying. Independently, the main working team assigned values to the variables, in a 1-3-5 scale. Then, the whole team discussed every component, and agreed on the values by consensus.

Concerning social assessment, three ways were implemented to gather information: directly from people; online, promoted in several websites of the city in Facebook, such as Camagüey en el Corazon, Camagüey, Cuba, and others; and through direct emails. Fig. 3 shows a result of the survey. The propositional stage is currently in progress, as the regulation phases.

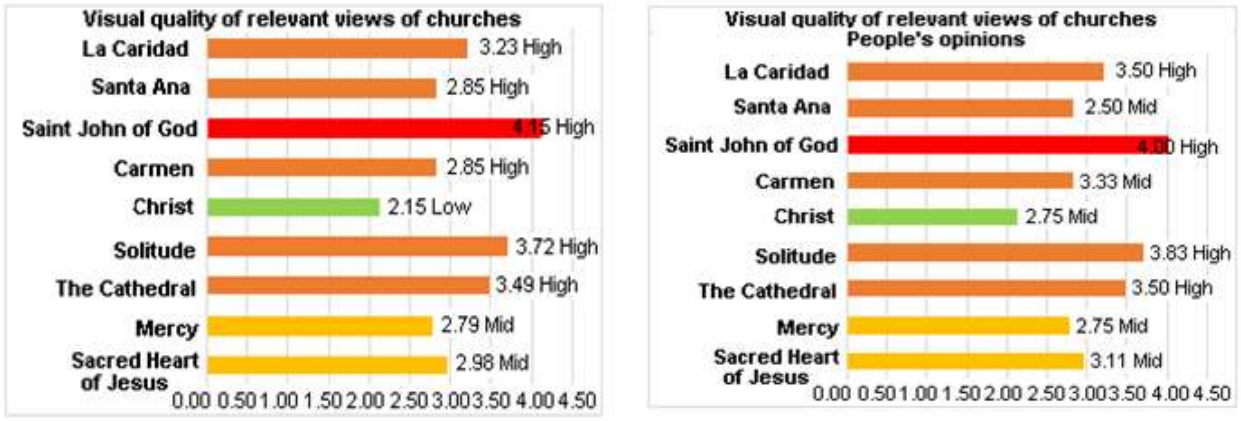

Fig. 3 Behavior of visual quality of relevant views, according to technical assessment and social assessment

Source: Self-made.

Other four detailed studies are being conducted in the GLU defined. They were made in the ILU they belonged to previously, considering the direct impact on landscape, and its relation to the bell towers of the churches included. These studies were done between 2018 and 2019; they provided accurate and timely response to OHCC investment through corresponding micro-location research, and analysis by the Provincial Commission of Monuments. The cases studied were extensions on the roof of the former Hotel Habana, The Padre Olallo Rehabilitation Center, Pichardo Palace, and the building at 272 Avellaneda Street.

This demonstrated the binding character of the plan suggested through detailed scaling, and its contribution to the process of analysis and decision-making, in relation to possible increases in height, and permissible volumetric transformations in the buffering zone.

Lastly, besides territorial control of GLU investments, visual follow-up of ILU investment, is critical in the monitoring-control phase. In other words, direct visual follow-up of relevant views through time is essential to compare the existing conditions before the implementation of the plan to the new situation after implementation. Running general checking of the evolution of landscape, either positive or negative, facilitates decision-making in terms of control measures implementation.

CONCLUSIONS

The treatment of relevant views should be based on a comprehensive conception of urban management that relies on the interrelation of systemic, strategic, participatory, and HUL approaches.

The instrument used for the protection of relevant views, in a general scale, should consider a set of urban management instruments with a binding character, which may be included in four phases: organizing, assessing-planning, regulating-implementing, and monitoring-controlling. Their implementation will enable the conservation of values, identity, and the usefulness of relevant views inside historical urban landscapes.

The partial implementation of this instrument in the city of Camagüey permitted to check its usefulness for spatial decision-making in face of the need to provide an accurate and timely response to investments developed in a defined GLU proposed as a visual buffering zone.

The collaboration ties among institutions like DMPF and OHCC, and their respective ties with the government and citizenship, are critical to attain the expected results.

The impact of decision-making is directly seen on the accomplishment or not of a balance between the adaptation needs of acquired heritage that the society requires to enhance life quality, and the need of preservation, which is materialized through the behavior of perceived landscape.

REFERENCES

British Columbia Ministry of Forest. (1997). Visual Landscape Inventory: Procedures and Standards Manual. Retrieved from https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/vli.pdf

Czynska, K. y Rubinowicz, P. (2015). Study of city landscape heritage using lidar data and 3d-city models. *36th International Symposium on Remote Sensing of Environment*, Berlin, Germany. Retrieved from http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XL-7-W3/1395/2015/isprsarchives-XL-7-W3-1395-2015.

De las Rivas. (2018). Apuntes sobre el Paisaje Urbano Histórico. Aprendiendo del "buen urbanismo". *Dossier Ciudades*, (*3*), 39-52. Retrieved from http://iuu.uva.es/DOSSIER/Dossier%2003/Dossier%2003%20039-052%20Juan%20Luis%20de%20las%20Rivas.pdf

Dirección de Plan Maestro y Gestión. (2007). *Plan Parcial de la zona priorizada. Oficina del Historiador de la Ciudad de Camagüey.* Camagüey, Cuba: Autor

English Heritage. (2011) *Seeing History in the View. A Method for Assessing Heritage Significance Within Views.* Retrieved from https://content.historicengland.org.uk/images-books/publications/seeing-history-view/seeing-history-in-view.pdf

Generalitat Valenciana. (2012). *Guía metodológica. Estudio de paisaje.* Retrieved from www.upv.es/contenidos/CAMUNISO/info/U0670136.pdf

Gómez, L. y Almeida, M. (2018). El paisaje urbano histórico sostenible. ¿conservación o reconfiguración? En E. García y A. Vaca (eds.). *Sostenibilidad: ¿un extraño a la modernidad?* (pp.88-107). Guadalajara, Jalisco, México: Universidad de Guadalajara.

Greater London Authority. (2012). *London view management framework. Supplementary planning guidance.* Retrieved from http://www.persona.uk.com/Athlone_House/B-dox/CD-55-part-1.pdf

ICOMOS. (2005). Declaración de X'ian sobre la conservación del entorno de las estructuras, sitios y áreas patrimoniales. China: Autor. Retrieved from www.icomos.org

Jordán, J., Pérez, V. y De las Rivas, J. L. (2020). Paisaje urbano histórico: aprendiendo de una ciudad paisaje, Segovia. *EURE, 46*(137), 87-110. Retrieved from https://scielo.conicyt.cl/pdf/eure/v46n137/0717-6236-eure-46-137-0087.pdf

Lalana, J. L. y Santos, L. (2011). El problema de las vistas relevantes en la conservación del patrimonio urbano*. VIII Congreso Ibérico de Urbanismo.* Portugal. Retrieved from http://aup.org.pt/microsites/congresso/pdf/artigo%20(13).pdf

LeBlanc, F. (2008). *World Heritage: Defining and Protecting Important Views.* Retrieved from http://ip51.icomos.org/~fleblanc/publications/pub_2008_important_views.pdf

MEP (Ministerio de Economía y Planificación) (2006). Resolución No. 91/2006 sobre indicaciones para el proceso inversionista. Cuba: Autor

Mérida, M. y Pardo, S. (2017). Las vistas panorámicas urbanas: caracterización y análisis de su tratamiento legal en España. *Ciudad y Territorio Estudios Territoriales, 49*(193), 417-436. Retrieved from https://www.researchgate.net/publication/320307626_Las_vistas_panoramicas_urbanas_caracterizacion_y_analisis_de_su_tratamiento_legal_en_Espana

National Capital Commission (2007). *Canada's capital views protection. Protecting the Visual Integrity and Symbolic Primacy of Our National Symbols*. Retrieved from http://www.ncc-ccn.gc.ca/sites/default/files/pubs/NCC-Canadas-Capital-Views-Protection-2007.pdf

Oficina del Historiador de la Ciudad de Camagüey. (2009). *Centro histórico urbano de Camagüey. Patrimonio mundial.* Camagüey, Cuba: El Lugareño.

ONU (2015a). *Temas hábitat III. 15, Resiliencia urbana.* Retrieved from http://habitat3.org/wp-content/uploads/Issue-Paper-15-Urban-Resilience.pdf

ONU. (2015b). *Agenda 2030 para el desarrollo sostenible*. Retrieved from http://www.un.org/sustainabledevelopment/es/2015/09/la-asamblea-general-adopta-la-agenda-2030-para-el-desarrollo-sostenible/

Pardo, S. (2015). *Las vistas panorámicas de núcleos urbanos: propuesta para su análisis y aplicación al caso de Andalucía*. (Tesis de doctorado). Universidad de Málaga, España. Retrieved from https://riuma.uma.es/xmlui/bitstream/handle/10630/10762/TD_PARDO_GARCIA.pdf?sequence=1

Peters, M., Taylor, K., Meyer, M. & Sullivan, R. (2018). Getting in the game: A national park service approach to visual resources inventory. En USDA Forest service *et al*. (Eds.). *Visual Resource Stewardship Conference Proceedings:*

Landscape and Seascape Management in a Time of Change. Retrieved from https://www.fs.fed.us/nrs/pubs/gtr/gtr_nrs-p-183.pdf

Sánchez, D. (2014). *Paisaje y evaluación ambiental*. Retrieved from https://tini.to/PwP

Organización de las naciones unidas para la educación, la ciencia y la cultura (2011). *Propuestas relativas a la conveniencia de disponer de un instrumento normativo sobre los paisajes urbanos históricos*. (36 C/23). Retrieved from http://unesdoc.unesco.org/images/0021/002110/211094s.pdf

UNESCO. (2007). Recomendación sobre la Conservación y gestión de Centros Históricos inscritos en la Lista del Patrimonio Mundial. Retrieved from: https://conservacion.inah.gob.mx/normativa/wp-content/uploads/Documento25.pdf

UNESCO & World Heritage C. (2013). *International World Heritage Expert Meeting on Visual Integrity. Background Document.* Retrieved from: https://whc.unesco.org/uploads/events/documents/event-992-12.pdf

UNESCO, WHC & WHITRAP. (2012). Application of the Historic Urban Landscape Approach in China. Retrieved from http://www.historicurbanlandscape.com/themes/196/userfiles/download/2015/3/25/q0rvv5osqduxpet.pdf

Organización de las naciones unidas para la educación, la ciencia y la cultura y *World Heritage* C (2015). *Directrices Prácticas para la implementación de la Convención del Patrimonio Mundial*. (15/01). Retrieved from http://whc.unesco.org/document/137843

Organización de las naciones unidas para la educación, la ciencia y la cultura (2016). *The HUL Guidebook. Managing heritage in dynamic and constantly changing urban environments.* Retrieved from http://historicurbanlandscape.com/themes/196/userfiles/download/2016/6/7/wirey5prpznidqx.pdf

Xunta de Galicia. (2019). *Guía de estudos da paisaxe urbana*. Retrieved from https://cmatv.xunta.gal/c/document_library/get_file?folderId=444733&name=DLFE-53007.pdf

Conflicts of interest and conflict of ethics statement

The authors declare that this manuscript is original, and it has not been submitted to another journal. The authors are responsible for the contents of this article, adding that it contains no plagiarism, conflicts of interest or conflicts of ethics.

Author contribution statement

Marisabel Almeida Torrens. Design of the manuscript, theoretical rationale, redaction of results and summary, development of procedure, development of measurements, analysis of results, drafting of conclusions, content review.

Libys Martha Zúñiga Igarza. Design of the manuscript, analysis of results, content review.

Lourdes Gómez Consuegra. Design of the manuscript, analysis of results, content review.

NOTES

[1]The four last were included in the 2030 Agenda for Sustainable Development, 2015.
[2]For instance, in a full closure street (1:1 ratio), the horizontal visual angle suggested to graph the opening of the visual cone is 10°; for the closure threshold (1:2), 15°; for minimum closure (1:3), 30°; and for no closure (1:4), 60°.
[3]It is important to use a digital elevation model.