

THE URBAN HERITAGE CHARACTERIZATION USING 3D GEOGRAPHIC INFORMATION SYSTEMS

THE SYSTEM OF MEDIUM-SIZED CITIES IN ANDALUSIA



HUM-700

Heritage and Urban Territorial
Development in Andalusia

Daniel Navas Carrillo
Blanca del Espino Hidalgo
Javier Navarro de Pablos
María Teresa Pérez Cano

Introduction

This paper has been developed under the project entitled:

Caracterización Urbano Patrimonial y Modelo Turístico Cultural en Ciudades Medias. Potencialidades y Retos para su Internacionalización: Bética Interior

[Urban Heritage Characterization and Cultural Tourism Model in Medium-Sized Cities. Potentialities and Challenges for its Internationalization: Inner Betica]

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Objectives & Methodology

This paper seeks to:

- approach the use of the 3D GIS in the **urban heritage characterisation** of the system of medium-sized cities in Andalusia
- make a **multi-scale approach** that addresses some of the 3D GIS applications.



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CULTURAL
VALUES

HISTORICAL
EVOLUTION

URBANISTIC
PARAMETERS

VISIBILITY
ASPECTS

DETAILED
ANALYSIS



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The general identification of heritage values in Andalusian medium-sized cities as a fact linked to territorial support



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The study of the historical evolution of these cities from the analysis of historical cartography



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Their characterisation through a series of urbanistic parameters, with particular emphasis on protection issues



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The analysis of visibility aspects to guarantee the conservation of the historical urban environments



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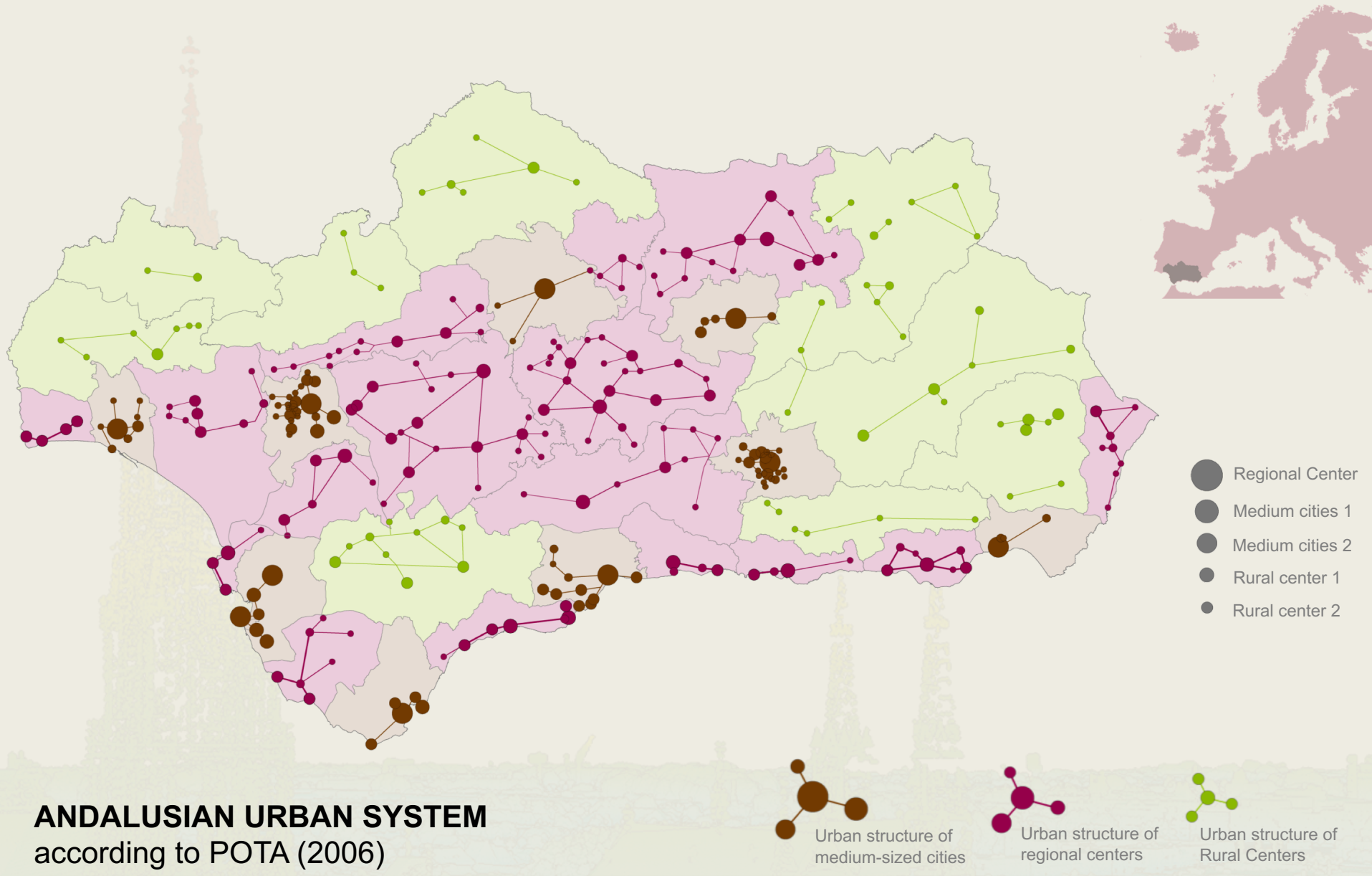


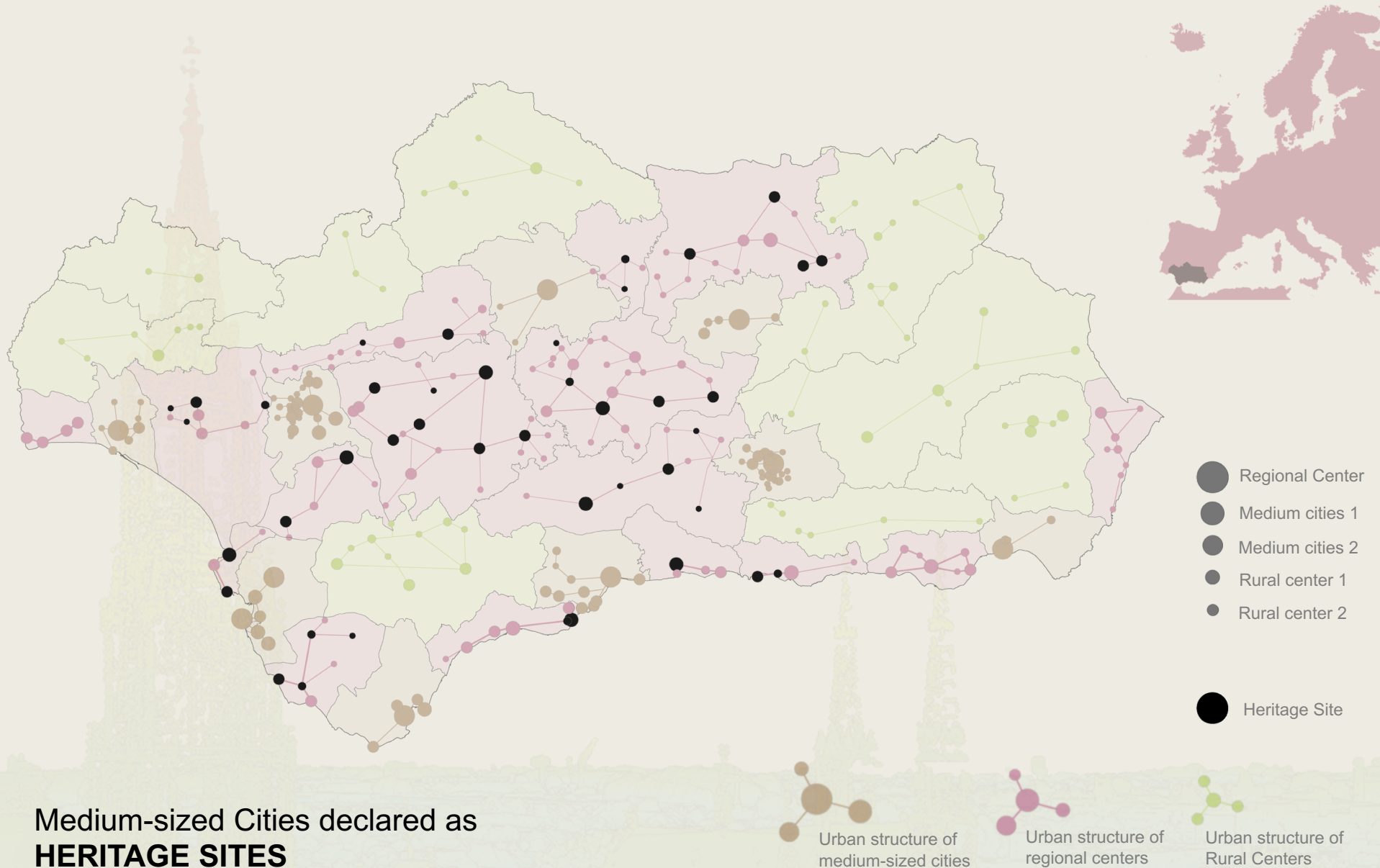
The in-depth analysis of the characteristics that define some buildings or public spaces of heritage interest in some of these cities



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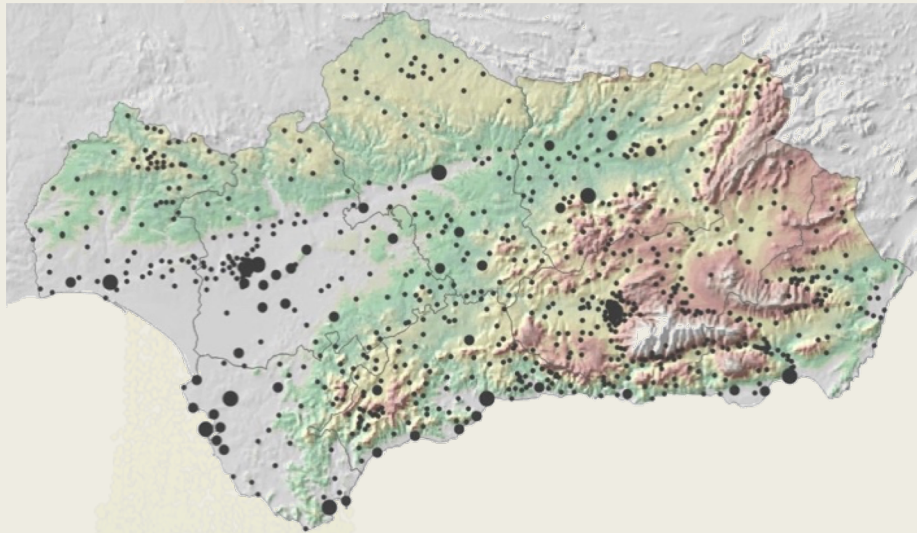
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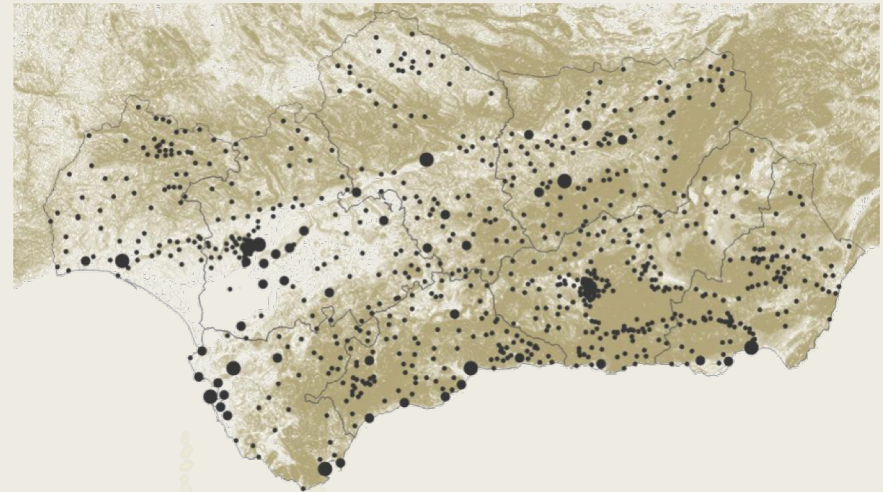


TERRITORIAL INFLUENCE ON ANDALUSIAN HERITAGE

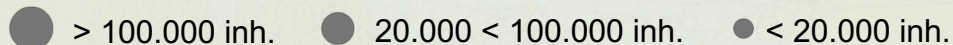
Urban settlements categorised by **population range**



Topography map based on
shadows and elevation

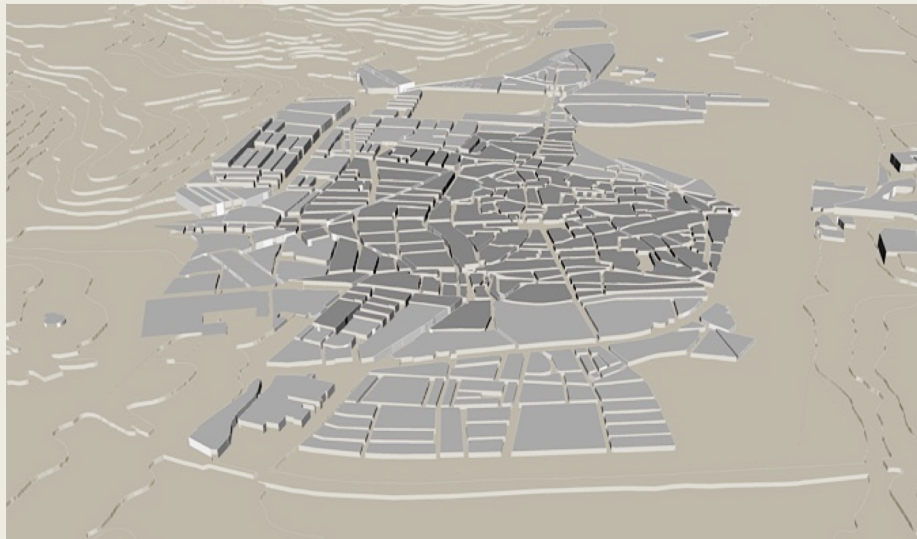


Topography map based on
contour lines



URBAN HERITAGE CHARACTERIZATION

Medium-sized cities in Andalusia



Urban evolution

The analysis of historical maps has allowed localising the consecutive borders of the cities



Plot surface analysis

The systematisation allows taking decisions concerning the conservation of urban environment

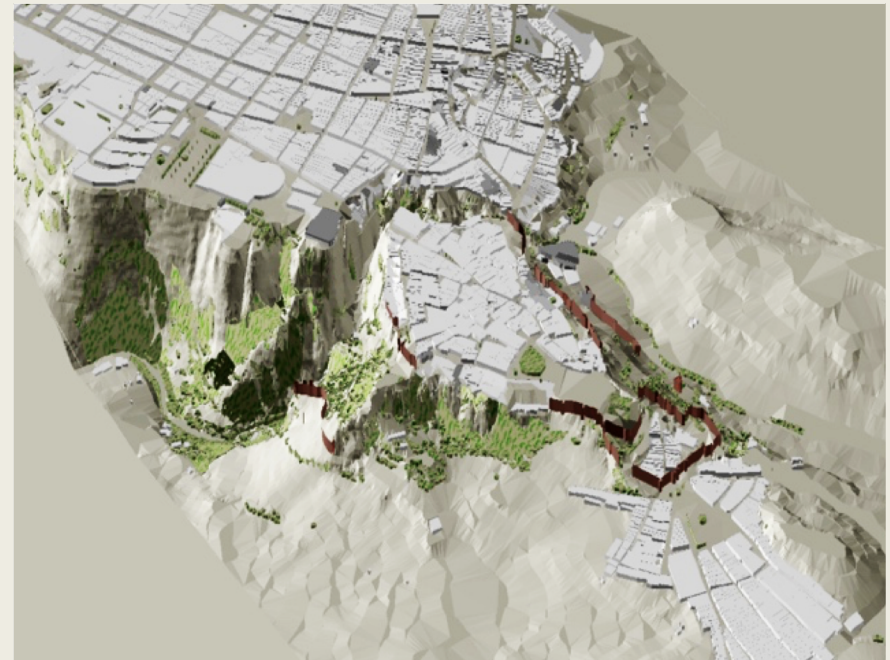
VISIBILITY OF HERITAGE LANDMARKS

Medium-sized cities in Andalusia



Historical and current views

The visual impact that these heritage elements have on the environment and vice versa

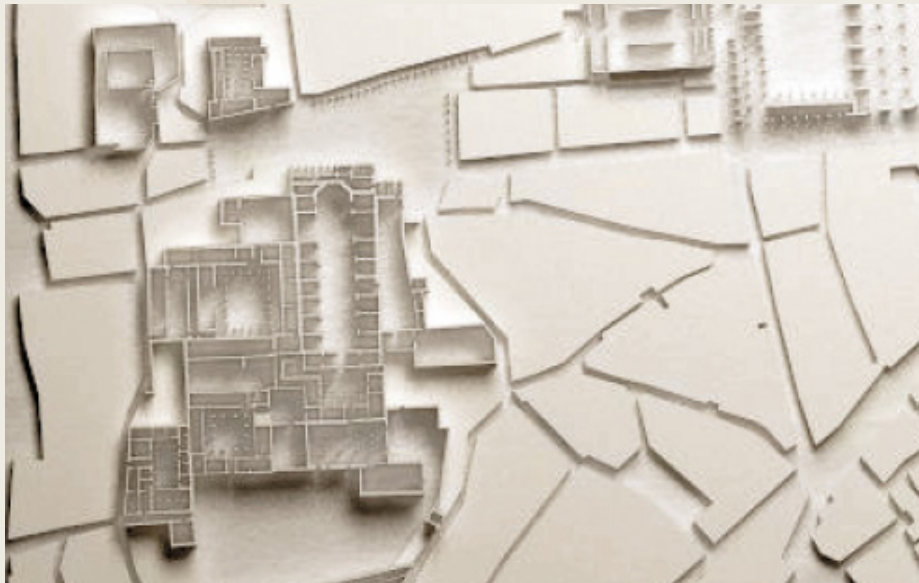


3D perspective

The topography is crucial to the understanding of its historical structure and position of some cities

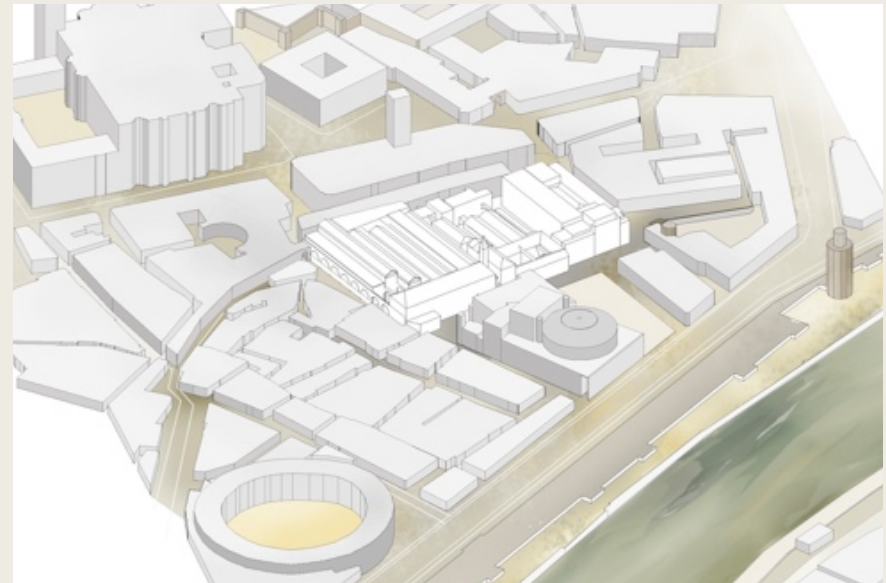
INFOGRAPHIC TREATMENT OF 3D IMAGES

as a complementary tool for a detailed analysis



City scale

The reconstruction of urban hypotheses serves as a support to explain the historiography of cities



Neighbourhood scale

It also serves to simulate the visual impact of contemporary architectural performances

01

DEAL WITH
A HUGE AMOUNT OF DATA

Results have demonstrated the suitability use of the 3D GIS to **deal efficiently with the extensive and diverse amount of information** that characterises heritage researches concerning urban and territorial scales.

02

DEAL WITH
MULTIPLE APPROACHES

03

DEAL WITH
MULTIPLE SCALES

01

DEAL WITH
A HUGE AMOUNT OF DATA

02

DEAL WITH
MULTIPLE APPROACHES

Results have demonstrated the suitability use of the 3D GIS to **deal efficiently with multiples approaches**, such as cultural values, historical cartography, heritage protection, urbanistic information, visibility aspects, etc.

03

DEAL WITH
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Being the research under development, the use of 3D GIS also allows developing different **analysis and graphical representation on multiple scales** using the third dimension to facilitate a cross analysis among the complete information.

Daniel Navas Carrillo

dnavas@us.es ⁽¹⁾

Blanca Del Espino Hidalgo

bdelespino@us.es ⁽²⁾

Javier Navarro de Pablos

jnavarro@us.es ⁽¹⁾

María Teresa Pérez Cano

tpcano@us.es ⁽¹⁾



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University of Seville (Spain)

⁽¹⁾ Department of Urbanism and Regional Planning

⁽²⁾ Department of Architectural History, Theory and Composition