

## Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla – Tool Summary

### Authors

Name	Organisation	Origin
Salvador Rueda and team	Agencia de Ecología Urbana de Barcelona	Gov
José Antonio García Cebrián and Josefa García-Jaén	Gerencia de Urbanismo. Ayuntamiento de Sevilla	Gov
Albert Cuchi	Universidad Politécnica de Catalunya	Aca
Jaume Terradas	Universidad Autónoma de Barcelona	Aca

### Info

**Date:**

December 2006

**Place of origin:**

Barcelona, Spain

**Homepage:**

[http://www.bcnecologia.net/index.php?option=com\\_content&task=view&id=126&Itemid=118&lang=EN](http://www.bcnecologia.net/index.php?option=com_content&task=view&id=126&Itemid=118&lang=EN)

**References:**

- Agencia de Ecología Urbana de Barcelona, 2006. *Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla*, Barcelona, Spain: Gerencia de Urbanismo. Ayuntamiento de Sevilla.

**Latest use:**

Numerous projects in Spain, it's one of the key governmental guidelines in urban planning.

**Download:**

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### Description

“El Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla, realizado por la Agencia de Ecología Urbana de Barcelona para el Ayuntamiento de Sevilla, reúne un amplio conjunto de indicadores y condicionantes del nuevo urbanismo en un solo documento.”

“The Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla has been developed by the Agència d'Ecologia Urbana de Barcelona for the Sevilla City Council. This Plan gathers, in a single document, a wide range of indicators and determining factors of the new Urban Planning.” [from web site]

“The Special Plan of Environmental Sustainability Indicators of the Urban Activity of Seville appears as an instrument that precedes the formulation of urban planning that should be applied within the framework of the General Plan of Urban Planning of Seville.

The Special Plan set a landmark in the process of urban and regional transformation of Seville that aims for the development of a more sustainable urbanism in the new era of

information and knowledge. It's a first rate instrument to build a more sustainable city model and as well a model of city of knowledge city.

The Special Plan creates a set of indicators that constraint of the urban planning process following the structure of the compact city model, which is efficient in its metabolic flows and socially cohesive. In turn, sets the foundations for the development of a new urbanism (the urbanism of the three levels) that intends to address the two main challenges of today as a society: sustainability and the new era of information and knowledge.

To summarise, the indicators and constraints aim to answer the criteria and variables related to these challenges.” [2006 – my own translation]

## Key Theoretical Background

de Diego, I.E.P. & Hergueta, S.P., 2007. El Libro verde de Medio Ambiente Urbano, tomo 1, Spain: Ministerio de Medio Ambiente.

The references are not all explicit in the document, but it clearly draws a lot from the compact city principles and adds some new dimensions to the concept based on the information and knowledge society.

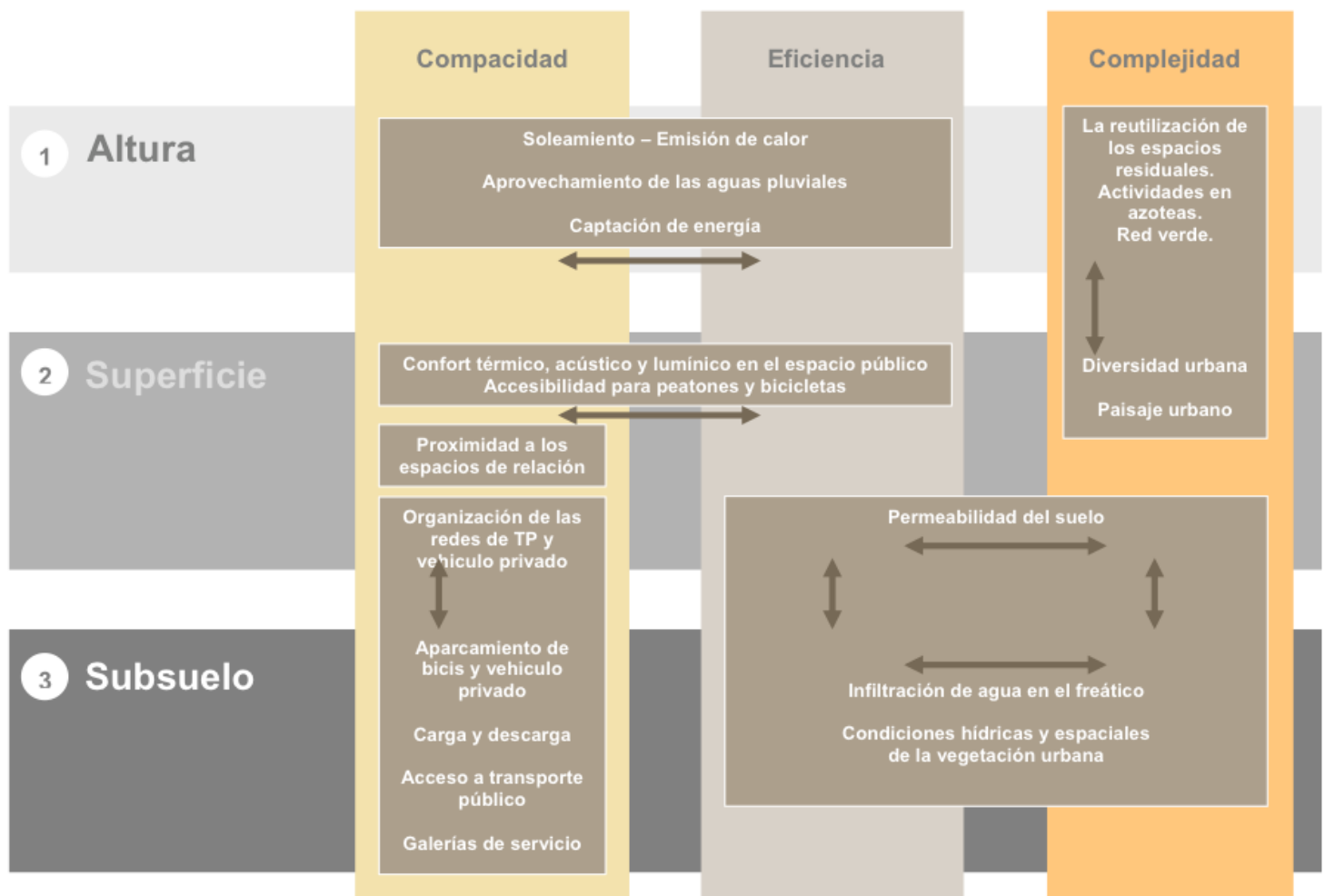
## SUD Framework

The model is loosely based on the three sustainability dimensions, with the addition of the information dimension. From there it proposes urban form based sustainability principles:

1. Density and compact - Compactness
2. Efficient use of natural resources - Efficiency
3. Urban diversity of uses - Complexity
4. Social cohesion (?) - Stability

It also proposes a model for the structuring of the urban environment around three levels:

- Elevation
- Ground level
- Underground



“The proposed indicators and constraints respond to the ordering of the urban environment in three levels. It's about redistributing the functions of the system, currently highly concentrated on the ground surface, in such a way that the underground and the elevation take on part of those functions with the aim of making the whole system

more efficient. From this organisation one achieves a freeing up of space on the ground, enabling its use for the development of relations between the citizens.” The model is thus a crossover of the three (or four?) dimensions of sustainability (really?) - compactness, efficiency, complexity, (stability) – with the three dimensions of the environment – elevation, ground level, underground.

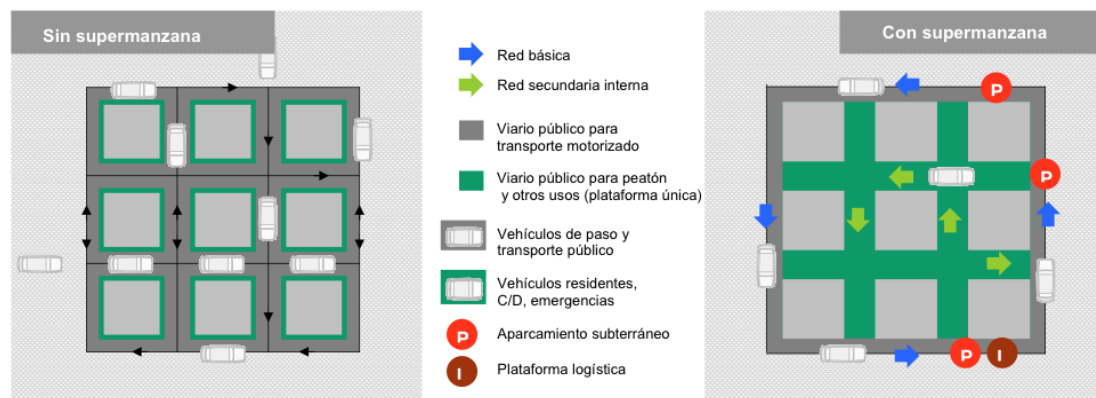
(the fourth dimension of stability is mentioned in the text but missing in the diagram)

“The application of the urbanism of the three levels shows the relations that are established between the different axis of the sustainability model. Thus, for example, the compactness of the urban fabric in elevation affects the insolation of the facades and therefore affects the demand for energy to regulate the temperature inside the buildings, an aspect that belongs to the efficiency dimension.” [2006]

#### “The new habitability

The future urban model should be promoted on the basis of a good quality of life, based in a lifestyle in which people can interact in a diverse public space. To achieve it is necessary to design places with a new habitability based on three axis:

- The dwelling as subject of habitability, replacing the house as only solution. It is intended to give room to new family structures providing greater flexibility in the different life styles and the temporal evolution of the house.
- The extension of the concept of habitability to the accessibility of services belonging to city life. Expand the principles of environmental comfort to embrace the requirements of urban life. From personal hygiene to the placement of health services, material, information, educational resources. It's necessary to define in this habitability model the degree of access to services - in time, space and quality - from each habitable space, and make it in relation to the available mobility models.
- The consideration of the resources necessary to obtain habitability and their relation to the immediate environment. Depending on the environmental resources (hydrology, energy, and building materials used in construction) - and derived from our management of that medium - should limit the resources required to obtain the urban habitability.” [2006]



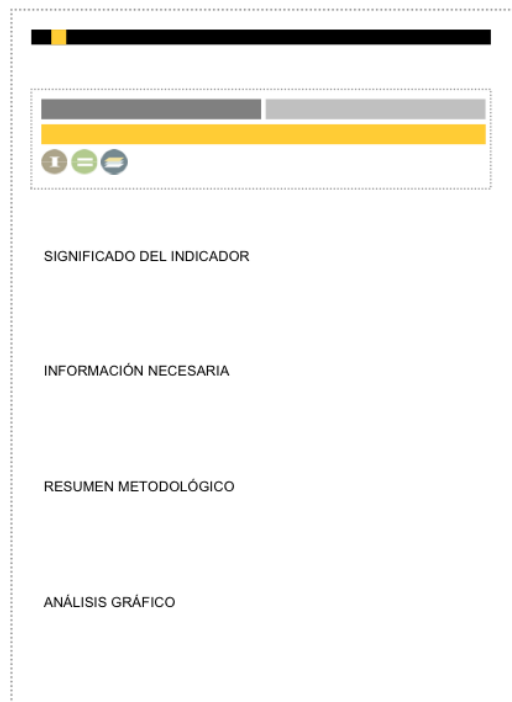
#### “Mobility and public space model

The super block is defined by a set of basic streets making a polygon, in which interior are located different blocks. This new structure, defined with the indicators of modal distribution of public streets, focuses on the reduction of the car hegemony and the increase of public transport and alternative transport modes (bike and pedestrian). This way it's possible to give new uses to the public space inside the super block, to improve environmental parameters, as well as the availability spaces of stay, the reduction of noise and other nuisances, the energy consumption and contamination.” [2006]

## Input

Each indicator is organised according to a form template, with all the required information to apply it, including:

- Application context
- Description
- Data requirements
- Calculation methods
- Supporting software
- Illustration of output



## Methods

Each indicator specifies the software and calculation methods required in a symbolic and descriptive way.



Makes extensive use of GIS for spatial representation and analysis, including a specification for an urban GIS database.



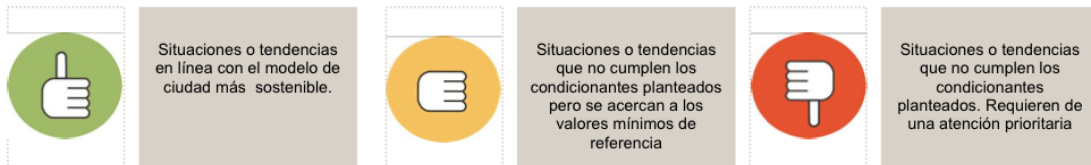
## Output

Each indicator results in different graphic output, most of it GIS based.

ANÁLISIS GRÁFICO. Muestra de tipologías edificatorias por sectores urbanos.



Each indicator produces a score that should be compared against the reference values and one indicates how it performs against them, using the three situations below.



No template is provided for the presentation of the summary results for each indicator. The results are not aggregated at any level, nor a final rating is given.

## Plan Especial de Indicadores de Sostenibilidad Ambiental de la Actividad Urbanística de Sevilla – Tool Review

### General

#### Background

Interesting from its from a different context, southern Europe. It's also very extensive, makes use of GIS, very detailed in explaining every indicator. Some issues with the conceptual underpinnings though...

Fully committed to some notion of compact city, which for southern European countries is something different, as residential densities tend to be much higher anyway and the issue of sprawl is slightly different.

#### Application (Scale and Design Phase)

#### Sustainability Principles

Introduces a whole new model of urban environment for sustainability mixed with a mixed bag of issues, supported by poetic/political words but no evidence, nor references to where these principles come from, or for the roots of this type of thinking. It actually sounds very mechanistic and modernist, in line with the Athens charter. Just with a new flavour for the contemporary society, dressed in green (sustainability) and blue (IT) colours. Sounds like a lot of hot air, to build a crazy theory to support some very standard principles and indicators. That don't propose anything new.

Could be a regional/style issue, the way to pass this kind of message.

The economic and social aspects are very weak, the environment is very much focused on resources. Most of it is prescriptive urban "design" and building guidelines.

The model based on elevation clearly distracts the sustainability issues from the urban structure, flows and dynamics dimension and focuses instead on buildings, energy, materials and technologies.

The dimension of habitability is concentrated around the house and the very close neighbourhood. It doesn't consider a contemporary life of flows despite claiming to be for it. The mobility dimension as well, based on the concept of super block and road hierarchy. No mention of the integration with the city and the wider region.

Overall a very narrow perspective, present in only few models, but more irritating here because of the whole hot air and big words.

#### Assessment Criteria

It's a mixed bag with no clear links with the sustainability dimensions, nor a clear theory behind the selection and priority.

#### Indicators and Calculation Methods

Since it uses a GIS for the calculation of most indicators, it takes into account spatial distribution. The analysis is grid based, at different resolutions for different indicators. Different benchmarks apply to different areas depending on the output of the indicator in that grid cell.

But spatial factors are only an output (mostly visual) and are not in themselves input to the design/decision process.

GIS analysis is mostly raster or buffer based, which are the most standard methods used in geography. However one might argue that these are not indicated for urban environments, where the network configuration connecting people and services, and its distances, plays a big role.

Some indicators are constraints, which means they should be complied with in all instances. Makes more sense for various accessibility indicators.

**Output**

No specific output is prescribed. This is not a checklist nor a rating system. There are various outputs from indicators and the GIS platform.