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**He is also was the Spokesperson for Design for All in the Official College of Designers of Catalunya, a Patron of the Design for All Foundation and the Founder and co-editor of the magazine "Hola, Design for All".**

**Alex shares his knowledge about "Design for citizens" and wayfinding design by giving workshops and also by speaking at International Conferences, Schools of Design and Universities.**

**Avanti Studio, the Agency is a cross sector strategic design company with more than twenty years experience. The Agency assists their own clients and other design companies to connect with their present and potential customers. Always bearing in mind their diversity, needs and expectations.**

**Critical design thinking is what drives Alex and his collaborators forward to offer practical ways of looking for sustainability in each project and helping to build a more liveable, equitable and viable world.**

## **Design for All is fundamental to Avanti Studio**

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### **Abstract**

**Avanti Studio is a "Design for citizens" agency that brings together different design disciplines focused on making cities more legible, prosperous and inclusive.**

**The principles of Design for All are fundamental to our wayfinding design, urban narrative, museography and Urban Tactics projects. We start from the specific needs of people, with the aim of developing projects that generate benefits for all; for citizens, organisations and the city.**

**Keywords:** *wayfinding, diversity cube, Citizen participation, readability*

### **Context**

**Universal Design is having a major positive impact on our projects. The orientation and information signage we designed for the Sagrada Familia has ordered the flow of routes for more than 11,000 visitors a day, through an easier, more enriching and accessible visiting experience. In Barcelona, we helped broaden the representation of citizen diversity by changing the symbols on Barcelona's school road safety signs. And with Leer Madrid, the city's new pedestrian signage, Design for All will bring legibility, safety and accessibility to hidden**

neighbourhoods, while promoting physical activity and the use of public transport.



Image 1.-Lead Madrid  
(Photo: Aramis León)



Image 2.- Attention at school  
(Photo: Aramis León)



Image 3.-Sagrada Família (Photo: Pep Herrero)

In order to achieve successful results, it is necessary to introduce the perspective of citizen diversity from the beginning of the design

process. The participation of potential users is essential to identify their needs and to adjust and validate the design at each stage of the project. Of all our projects, Leer Madrid is the one that has seen Design for All implemented to its maximum extent and care.

### **Lead Madrid. The wayfinding design that transforms the city**



*Image 4.-Lead Madrid (Photo: Aramis León)*

Cities concentrate a great deal of human diversity. Visitors, tourists, residents, new residents... Each person perceives the environment in a different way and the changes and conditions of the city can make it a confusing and stressful place.

Madrid is the capital of Spain and with its 3,286,662 inhabitants is the largest and most populous city in the country. In 2016 it received 9.03 million tourists. In 2016 the city council of Madrid called a tender for a new signage system. According to a study, it was difficult to find one's way around the city, up to 32% of visitors and 23% of residents had got lost in the last week.

Therefore, the British agency Applied Wayfinding joined forces with local urban planners, designers and architects such as Avanti Studio

(wayfinding and design for citizens), Paisaje Transversal (urban strategists), Urban Networks, Paralelo 39 (urban planners and architects), CG Arquitectos and Dimas García. This multidisciplinary team was the winner of the competition, acted initially as a consulting group and also ended up designing the new signage for Madrid.

From the initial study of the master plan to the implementation of the pilot projects, citizen participation and Design for All has been fundamental in the development of the wayfinding system.



*Image 5.-Lead Madrid- Images of Madrid (Photo: Aramis León)*

## **What is a wayfinding system**

Wayfinding Design is aimed at implementing a unified system of pedestrian signage in the city that is universal, sustainable and intelligent. Its function is to improve the legibility of the city, making it easier for everyone to find their way around.

**Planning and designing this layer of city information is fundamental to influencing the way people navigate Madrid, the travel choices they make and their perception and lasting impression of the city. It must therefore be easy to use, encourage appropriate route and mode choice and be accessible to all regardless of physical or cognitive ability, physical or cognitive capacity, age, language, location, ethnicity, wealth or access to online or digital tools.**

### **Wayfinding is beneficial to all**

**A universal pedestrian guidance system benefits everyone; citizens, tourism and the city, making it a friendlier, healthier and more inclusive environment for all.**

### **Benefits for people:**

**Leer Madrid promotes physical activity. Provides information about street conditions and services, providing safety and autonomy to the most vulnerable people. The representation of diversity in its symbol system promotes a culture of inclusion.**

### **Benefits for the city:**

**Wayfinding brings transparency to the more opaque areas of the city and favours the development of stronger local commerce and promotes social cohesion. By promoting walking and the use of public transport, Leer Madrid will reduce car use and emissions. It projects a positive image of the city as a more accessible and inclusive tourist destination. It allows the city to take control and ensure reliable, personalized and up-to-date information on its streets.**





***Image 6.-Lead Madrid- Applied & Avanti Studio***

## **Design principles and diversity perspective**

**The desire and aspiration to address human diversity is a key point in the development of the guidance system and, moreover, in how the city should understand its citizens.**

**The system will only be successful if it is designed for people of all abilities, not as an accumulation of complementary accessibility resources, but as a fundamental and integrated part of the planning and design approach.**



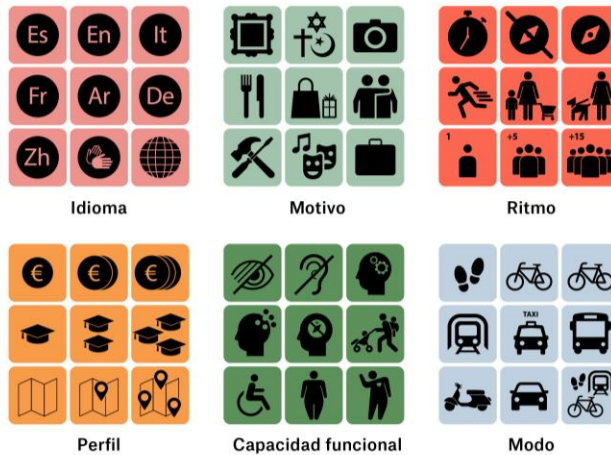
**Image 7.- Principles Scheme-Lead Madrid- Applied & Avanti Studio**

## Cube of diversity

The Diversity Cube is a model created by Avanti Studio and Design for All International. Each of its sides realistically represents the conditions that determine the individual's capacity for orientation in the city:

Language - functional ability - socio-economic profile - as well as; the reason, pace and the way we move around.





**Image 8.- Cube of diversity-Avanti Studio & Design for All International**

The cube allows us to simulate the multiple conditions of each person in their movements and the complexity of situations to which the system will have to respond. It is also an educational and awareness-raising tool for all the people, institutions and organisations involved in our projects.



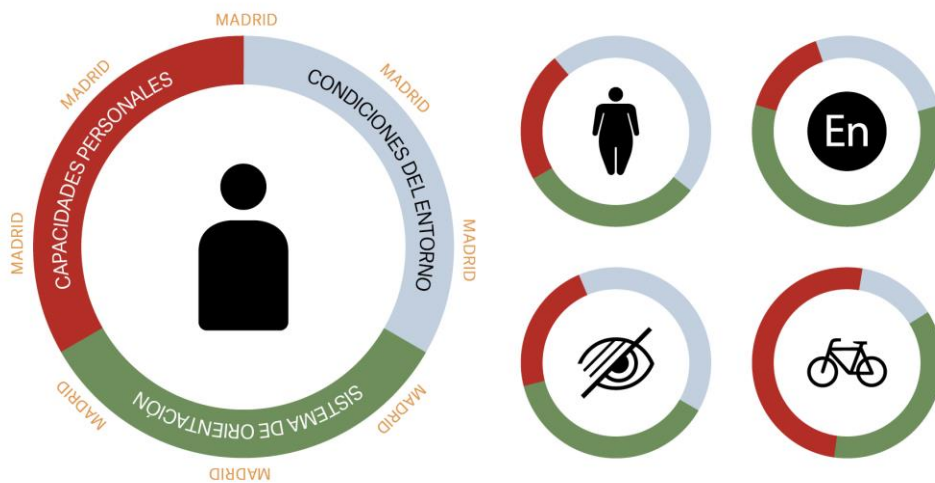
**Image 9.- Cube of diversity-Avanti Studio & Design for All International**

## Compensation principle

In order to facilitate the orientation of everyone in the city, the system must be flexible and adaptable to any situation in order to compensate.

Compensate both for the lack of individual resources or capacities of people (red) and for the limitations of legibility of the environment (blue).

The system (identified in yellow) must adapt naturally to as many situations as possible, the fewer personal skills or the lower the legibility of the environment, the more resources the system will provide.



**Image 10.- Lead Madrid- Applied & Avanti Studio**

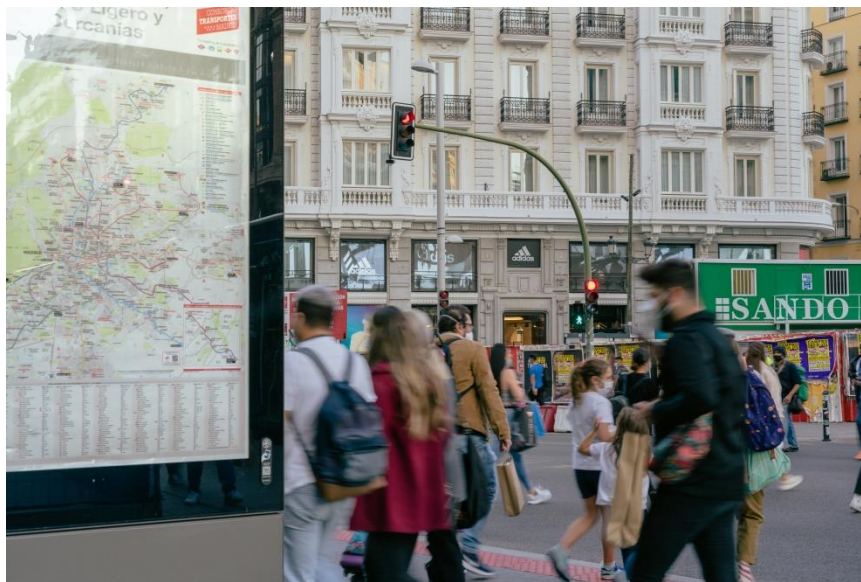
## Citizen participation in the planning and design of Read Madrid

From the beginning of LeerMadrid, the participation of citizen groups and organisations has been fundamental. The representation of citizen

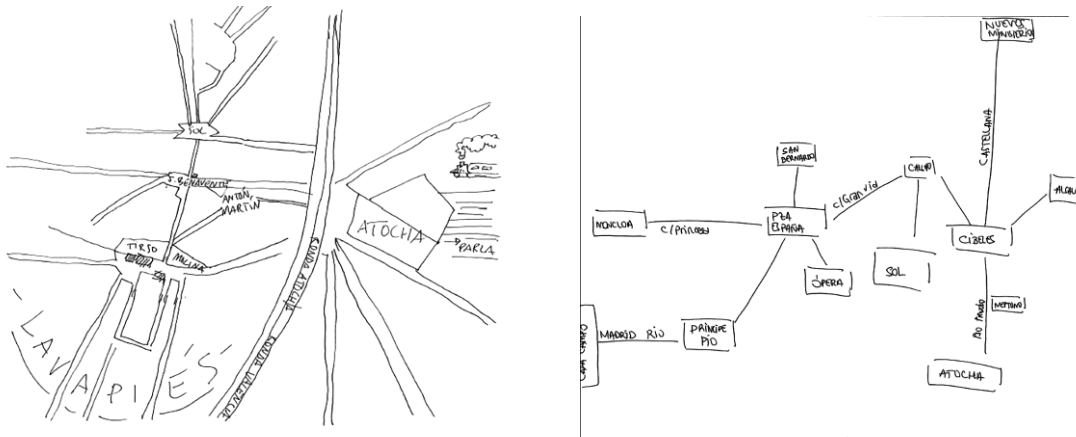
diversity has been introduced from the beginning of the system design process.

## Surveys and interviews

The project started with a long process of research about the city. More than 500 street surveys and interviews with representatives of Madrid's organisations were carried out. People provided a lot of information about the structure of the city, how they perceived it and which were its most significant places and landmarks. The mental maps drawn by the people interviewed also helped to define how people interpret Madrid.



**Image 11.-Lead Madrid (Photo: Aramis León)**



**Image 12 and 13.- Mind maps – Archive Applied**

## Workshops and walks

The toponymy workshops were fundamental in order to generate a superstructure of names agreed by the organisations, citizens and the city council. In these workshops, the groups of people with disabilities were fundamental to guarantee that the services and places of interest to them would be included in the future orientation maps of the city.

The organisation of neighbourhood walks focused on the identification of citizen diversity. Groups of experts together with members of various organisations (migrants, LGTBI, older people and people with disabilities) formed inclusive groups with whom we went for walks. These walks were fundamental to identify existing urban elements and supports that should potentially be incorporated into the orientation system.



**Image 14.- Walks through the Vallecas neighbourhood (Photo: Avanti Studio)**

## **Design validation processes**

**Inclusive validation groups were involved in the various design consultations. At all times the design was monitored by experts and validators. Thanks to their input, all design elements underwent continuous modifications to improve accessibility and efficiency.**



**Image 15 and 16.- Consultations on the design of plans (Photo: Avanti Studio)**



***Image 17.- Street consultations on signage prototypes (Photo: Avanti Studio)***

## **Information for comfort and physical accessibility**

**Leer Madrid is a personalised system for the city. This condition allows us to include in the maps information that does not appear in the generic navigation systems and that is essential for many people.**

- 1. The map focuses on existing information within a 5m minute walking radius of the person looking at the map.**
- 2. Too steep streets are marked**
- 3. The entrances to all facilities, buildings and transport systems are differentiated by accessibility.**
- 4. Pedestrian streets are differentiated from those intended for transit.**
- 5. Play, rest and exercise areas are included**



**6. It also indicates the direction of metro stations within 10 minutes outside the radius of the map.**

**7. Warns of the existence of tunnels and walkways that can be intimidating.**

### **Comprehensibility improvements**

**The design of the initial plans was greatly simplified in order to eliminate all visual noise, leaving only the essential information (Fig.1). The signs incorporate a system of pictograms and illustrations to improve the cognitive accessibility of the plans for people with reading and writing limitations (children, foreigners or people with cognitive disabilities (Fig.2). A collection of illustrations of the most unique buildings and monuments in Madrid has been generated, which are indispensable as reference points for getting around the city. A system of pictograms of urban services based on international ISO systems has also been unified.**

**Headings and legends were added to the plans to complement the graphic symbols (Fig.3). A specific legend was also incorporated for acronyms and abbreviations in the texts of the plans. (Fig.4).**

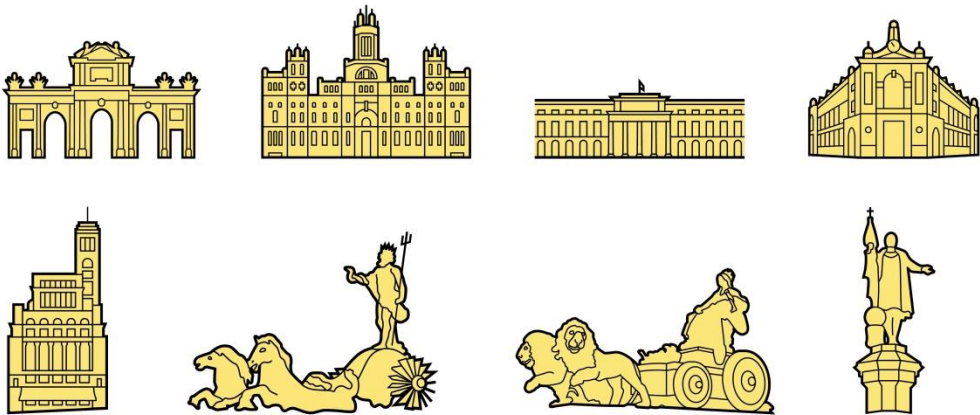
**New elements were added as a marker towards Sol (square) a cardinal point as important as the north for the people of Madrid. (Fig.5).**



Fig 1-Image 18 before and Image 19 after - Lead Madrid - Illustrations by Applied

Contenido

## Hitos ilustrados



42 Leer Madrid

Applied | Paisaje Transversal | Avanti Studio | Urban Networks

Fig 2-Image 20 - Lead Madrid - Illustrations by Applied

Contenido

Encabezados



47 Leer Madrid

Applied | Palauje Transversal | Aranzti Studio | Urban Networks

Fig 3-Image 21 - Lead Madrid - Illustrations by Applied

Contenido

Leyendas



51 Leer Madrid

Applied | Palauje Transversal | Aranzti Studio | Urban Networks

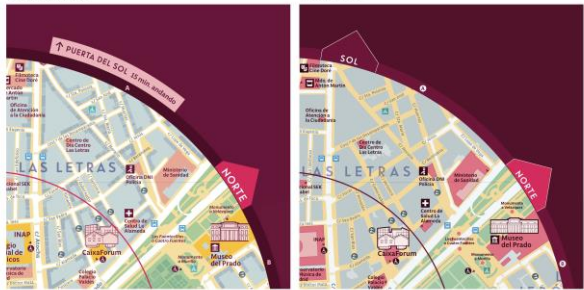
Fig 4-Image 22 - Lead Madrid - Illustrations by Applied

Contenido

Marcador de Norte y Puerta del Sol

Versión Diciembre

Versión Marzo



52 Leer Madrid

Applied | Palauje Transversal | Aranzti Studio | Urban Networks

Fig 5-Image 23 - Lead Madrid - Illustrations by Applied

## Improvements for readability

Based on the conclusions of the consultation process with users, the graphic style was rethought as a whole.

In order to have more space and to be able to lower the main plane, a second plane was eliminated to inform about transport in the rest of the areas. The density of the texts of legends and plans was simplified to be able to grow in size.

Illustrations were increased in size and their visual contrast was improved.

The changes in the colour treatment made it possible to improve their chromatic contrast and make them more accessible to people with colour blindness and vision loss.

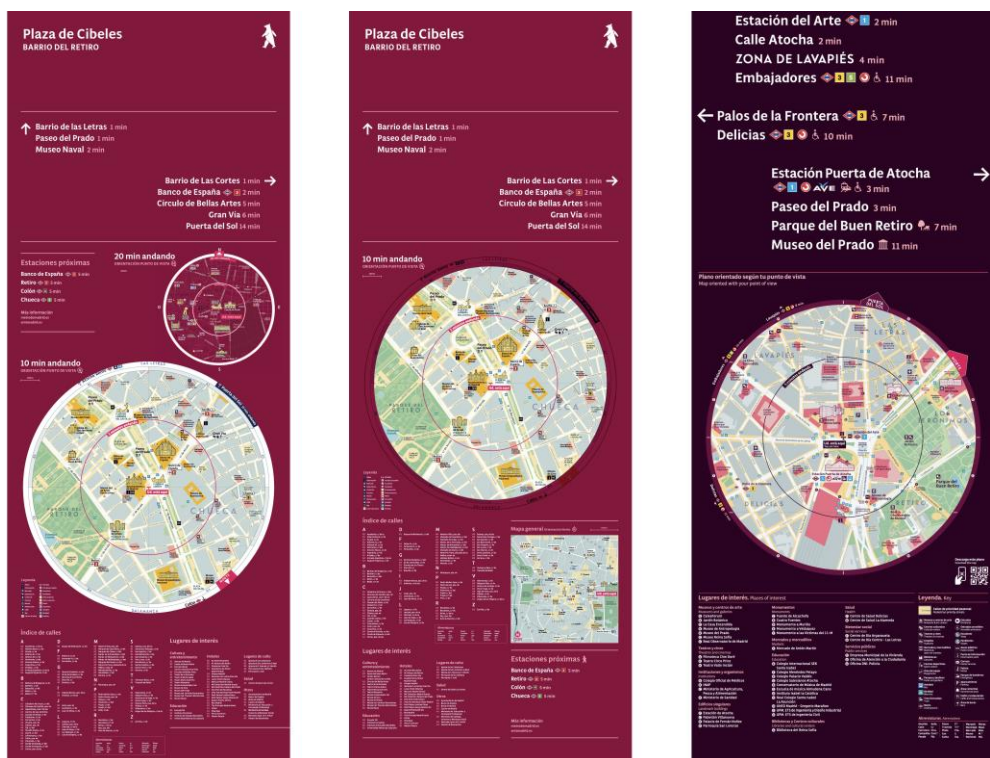
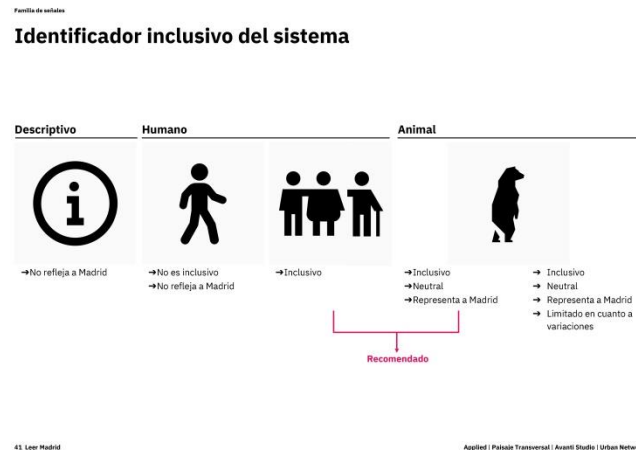


Image 24 - Lead Madrid - Illustrations by Applied

## Gender-responsive branding

Historically, the most commonly used symbol to represent pedestrian routes has been a male figure walking. Madrid is an LGBTBI Friendly city, and the system had to be respectful of these people. After analysing several options, the bear walking was chosen. The bear is the main symbol of the city's coat of arms and a figure related to nature that arouses positive emotions.



**Image 25 – Tours Vallecas - Lead Madrid - Illustrations by Applied**

## The Read Madrid Future. An open system for innovation

The City Guidance System will start to be implemented from 2023 with several pilot projects in the main streets of the city.

Leer Madrid will be progressively deployed throughout the city and will serve millions of people on their journeys through the capital's neighbourhoods. In the future, Leer Madrid will have to incorporate new layers of information adapted to the requirements of very specific groups. Leer Madrid foresees the incorporation of technology and QR

codes to make the leap into the digital sphere and continue its commitment to accessibility and citizen diversity.

Contexto

**QR de acceso digital: sistema abierto de información accesible**



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Applied | Parque Tecnológico | Avda. de la Universidad | Urban Networks

**Image 23 - Lead Madrid - Illustrations by Applied**



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