# OUR SOLUTION

## INTRODUCTION

The proposed solution introduces a system of colored stickers placed on the front and sides of buses. Each sticker corresponds to a specific route, with every line assigned a unique and easily distinguishable color. The color becomes the key element for quick recognition, allowing users to identify the correct bus from a distance without needing to read numbers or text.



## INTRODUCTION

It can be supported by an information campaign for elderly users, their families, and care centers, ensuring quick understanding of the color code. Using color as a communication tool makes interaction intuitive and reduces the need to read or identify bus line numbers.



## INTRODUCTION

The sticker is large, highly visible, and placed in well-lit areas of the bus, ensuring easy recognition even in rain or fog. Each sticker matches a route map with the same color, helping users identify the correct path at a glance. The system requires no structural changes and is inexpensive, making it quick and easy for the transport company to implement.



#### **TEXT SIZE**

- To ensure readability for seniors with reduced vision, character sizes should be adapted to viewing distance. For distances of 30–40 meters, a minimum character height of 10–12 cm is recommended. For longer distances of 50–70 meters, characters should be at least 15–18 cm tall.
- For line initials and numbers, it is recommended to use a character height of 20–25 cm, which remains readable from distances of 50–70 meters.



# STICKER DIMENSIONS

• To accommodate characters with a height of 20–25 cm, different sticker formats can be used. A square or rounded sticker should measure 30 × 30 cm, while a vertical rectangle can be 30 cm high and 20–25 cm wide.



#### PLACEMENT ON THE BUS

#### • Front

Do not place on the windshield Position above the windshield, near the usual digital line display If space is limited: 20 × 20 cm sticker near the display (without covering it)

#### Side

Place above windows, near the front section Avoid doors, mirrors, and glass Recommended size: 30 × 30 cm (up to 35 cm)

#### Rear

Recommended for recognition as the bus moves away Suggested size: 35 × 35 cm

#### COLOR AND CONTRAST

For optimal readability, high-contrast color combinations should be used. Backgrounds in yellow, orange, dark blue, or strong green work best, with text in either white or black. Low-contrast combinations, such as red on green, should be avoided. Adding an outline of 10–15 mm around letters and numbers further improves visibility, especially under strong sunlight.

## STICKER AND MATERIAL

The stickers should be made from UV-resistant vinyl to prevent fading, with an anti-glare surface that is especially important for seniors. They should be easy to remove without leaving any residue. For routes used at night, reflective material is recommended to ensure visibility.

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## STICKER RECOGNITION

In Porto Alegre, the large number of bus lines can make it difficult for users to identify and distinguish them quickly. To make this process easier, we developed a visual system that combines symbols and colors. Each letter of a bus line is represented by a specific symbol—for example, T is shown as a circle, while R is displayed as a diamond. Meanwhile, each number corresponds to a color, such as 1 being red, 2 blue, and 3 green.

Using this system, a line like T1 becomes a red circle, and R1 becomes a red diamond. This approach allows users to recognize bus lines quickly from a distance, without needing to read the alphanumeric code.

## A DECOMPOSABLE MAP

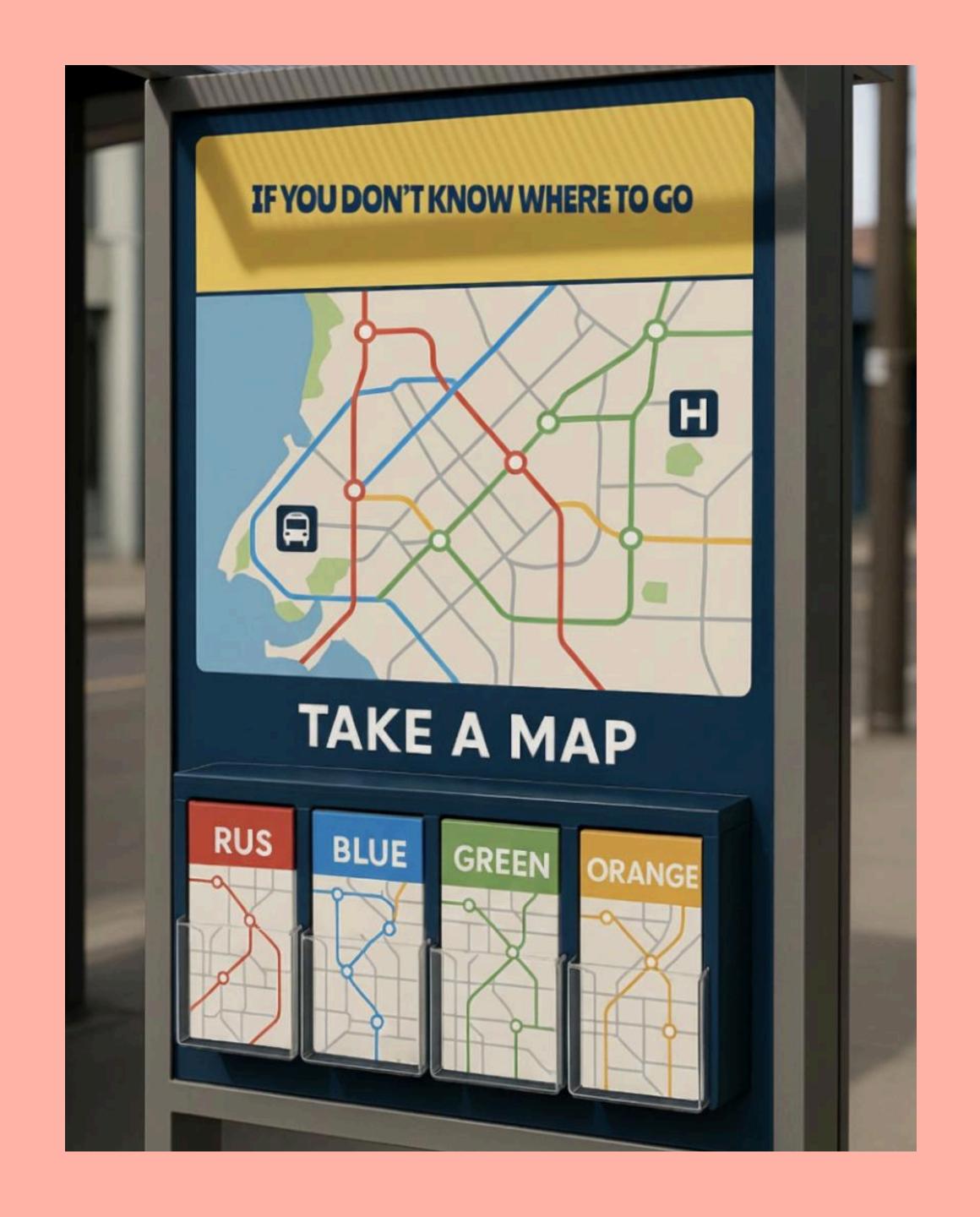
**ERGOMIND** 

## A DECOMPOSABLE MAP

Our solution is an urban signboard that serves as an orientation point for older adults, equipped with a pouch holder from which they can freely take pocket-sized paper mini-maps showing bus routes with their main and intermediate stops.

## A DECOMPOSABLE MAP

At the base of the main board, a mailbox-style map holder provides users with immediate access to paper maps. The dispenser is divided into multiple compartments, each dedicated to a different bus line and organized with matching color codes to make the choice intuitive. This simple physical system makes route information easy to obtain, without the need for smartphones or digital tools, offering clear and immediate support to all users.



## MOUNTING SYSTEM

#### 1. Shelters

The shelters are designed with aluminum snapframe, similar to a poster frame, which allows the map to be replaced quickly and easily. Each map is protected by a transparent, shatter-resistant sheet made of either plexiglass or polycarbonate, ensuring durability and safety.

## 2. Bus stop poles

The maps installed on bus stop poles are enclosed in a sealed, rigid case made of transparent polycarbonate. They can accommodate A3 or A2 formats and are securely fastened using metal brackets designed to prevent loosening, ensuring stability over time.

## MATERIAL

The external coverings are made from recyclable materials, specifically recycled plexiglass (recycled PMMA). This material can be composed of up to 100% recycled content while maintaining the same performance as new plexiglass. It is infinitely recyclable, highly impact-resistant, and represents the most sustainable and durable choice for uncovered bus stops.

#### BUS STOP MAP

Maps at bus stops should be designed to balance readability and practical size. They need to be large enough to be easily read by older adults, yet compact enough to fit within shelter panels or pole-mounted frames, with legibility from a distance of 1–1.5 meters.

Based on typical international standards, common formats include:

- A2 (42 × 59.4 cm): This is a widely used size for bus shelters. It is easy to produce and offers good readability.
- $50 \times 70$  cm: Provides excellent readability even for elderly users and works well when the shelter has a larger display area.
- 60 × 90 cm: Used in some major capitals for network-wide maps.
  Ideal for shelters with a dedicated panel, though it requires more space.

## ADAPTIVE DESIGN BASED ON THE BUS STOP

Depending on how many bus lines pass through that stop, the signboard can be simpler, with fewer elements, or include more postal-style compartments to accommodate additional maps.

This makes the system flexible and scalable, adapting to both small stops and major transit points.



## DETACHABLE MAPS

The maps are designed to highlight the main destinations served, using symbols and color-coding to make recognition immediate, even for users with visual or cognitive difficulties.

## DETACHABLE MAPS

Each map is pocket-sized and easy to carry, allowing passengers to keep it with them throughout the journey and use it as a reliable point of reference whenever they need it.

#### DETACHABLE MAPS

They maps are designed in a way to show only the specific bus line you need, in a clear and highly visible way, without visual distractions from other routes. All information about the intermediate stops is included in a dedicated legend, ensuring that every detail of the journey is easy to understand at a glance.

# Terminal Triángulo T. Loureiro da Silva



**BUS LINE T1** 



## DETACHABLE MAPS DIMENSION

The real-world dimensions of the maps will be 10 × 22 cm when folded, and 30 × 22 cm when fully opened into three panels

## DETACHABLE MAPS MATERIAL

The maps are made from sustainable materials, combining high-density recycled cardboard with a biodegradable lamination. The cardboard contains 70–100% recycled fibers, providing excellent rigidity and stability while supporting high-quality printing. With proper eco-friendly lamination, the maps can last outdoors for 1–2 years.

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