SUSTAINABLE URBAN MOBILITY

Iceland Liechtenstein Norway grants

SMILE

Sintra Motion & Innovation for Low Emissions

Circular Economy and Environment

Energy and Buildings

Sustainable Urban Mobility

Community, Art and Culture

Programme Operator: República Portuguesa – Ambiente e Ação Climática

Promoter: Fundação Aga Khan Portugal

Partners: Sintra Câmara Municipal; IrRADIARE Science for Evolution; CARD4B Systems; innovationpoint; dstsolar; watt is; Ciências ULisboa; IDN

Developed by:

IrRADIARE Science for Evolution

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01. GLOSSARY

Climate change - Climate Change refers to long-term shifts in temperatures and weather patterns. Since 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels.

Greenhouse gases (GHGs) - Greenhouse gases are gases in the earth's atmosphere that absorb heat, leading to climate change. GHGs are: carbon dioxide (CO_2), methane (CH_4), nitrogen oxide (N_2O) and fluorinated gases.

On-demand transport services - On-Demand transport enables passengers to book their journey at a convenient time (during service operating hours), and to be picked up from an agreed location. Thanks to the assistance of technology, the option to book online or through an App allows for a flexible experience for both commuters and service operators within a matter of minutes.

Sustainable development - Sustainable development is the development that requires an integrated approach which takes into consideration environmental concerns along with economic development.

Sustainable urban mobility - Sustainable urban mobility refers to the use of means of transport that are environmentally friendly and socially inclusive.

02. WHICH IS THE PURPOSE OF THIS GUIDE?

The growing number of inhabitants in urban and suburban areas and the increasing use of fossil fuels vehicles resulting in air pollution and health risks make urgent the transition to a more sustainable urban mobility. Over 70% of EU citizens live in urban areas (cities, towns and suburbs) that generate 23% of all transport greenhouse gas emissions. In addition, the burning of fossil fuels produces hazardous substances that can cause acid rain, which negatively affects the soil and plants and creates challenges related to congestion, air and noise pollution, climate change, road safety, and parking.

The Sustainable Urban Mobility Guide serves as a resource for disseminating knowledge on actionable steps that individuals and companies can take to align with environmental sustainability.

> *"Nothing compares to the simple pleasure of riding a bike."*
>
> **(John F. Kennedy)**

The aim of this guide is to:

Enhance the understanding of sustainability and the principles of sustainable urban mobility, as well as gaining insights into the strategies and initiatives that facilitate the shift towards a sustainable mobility within the European Union;

Encourage people to include sustainability in their travel decisions;

Grasp the challenges associated with transitioning to a more sustainable mobility;

Advocate for practices and habits that can be adopted by individuals and companies to address these issues.

03. HOW CAN WE DEFINE SUSTAINABILITY AND SUSTAINABLE URBAN MOBILITY?

What is sustainability?

The notion of sustainability shaped by the United Nations in the report “Our Common Future” means leaving a better world with sustainable ecological, economic and social conditions to future generations. According to the report, sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

The Sustainable Development Goals (SDGs), defined in the UN 2030 Agenda, are the blueprint to achieve a better and more sustainable future for all. The 17 Goals are all interconnected, and in order to leave no one behind, it is important to learn more about each issue and take action.

Sustainable development requires an integrated approach that takes into consideration environmental and social concerns along with economic development.

The SDGs are based on three pillars:

Economic development: promote sustainable employment, build resilient infrastructures, reduce inequalities among countries, ensure sustainable consumption and production patterns;

Social inclusion: end poverty and hunger, ensure healthy lives and equitable quality education, achieve gender equality, ensure access to affordable energy, make cities resilient, promote peaceful societies;

Environmental protection: ensure sanitation for all, take urgent action to combat climate change and its impacts, conserve and sustainably use water resources, protect and restore territorial ecosystems and biodiversity.

What is sustainable urban mobility?

Transport connects people, cultures, cities, countries and continents. It is one of the main pillars of societies and economies, allowing travellers to discover new places, ensuring access to key public services, such as education and health, and contributing to a better quality of life. However, our current mobility system is not sustainable. Urban transport is one of the most significant drivers of air pollution and results in direct and indirect impacts on drinking water sources and food production.

Transition to sustainable urban mobility is imperative to decarbonise transport and build urban transport systems that are environmentally friendly and socially inclusive.

The principles that a sustainable urban mobility must respect are:

- Preserve the natural environment;
- Maintain human health and safety;
- Meet the travel needs of the population;
- Minimize transport costs for access and mobility;
- Minimize infrastructure costs;
- Maintain energy security and efficiency;
- Ensure long-term viability.

As a consequence, the transition towards a sustainable mobility requires:

- Reduction of the number and length of trips;
- Encouragement of greater energy efficiency in the transport system;
- Support of public and non-motorized transport;
- The integration of land use;
- Transport planning and technological innovations;
- Adoption by citizens of more sustainable modes of transport.

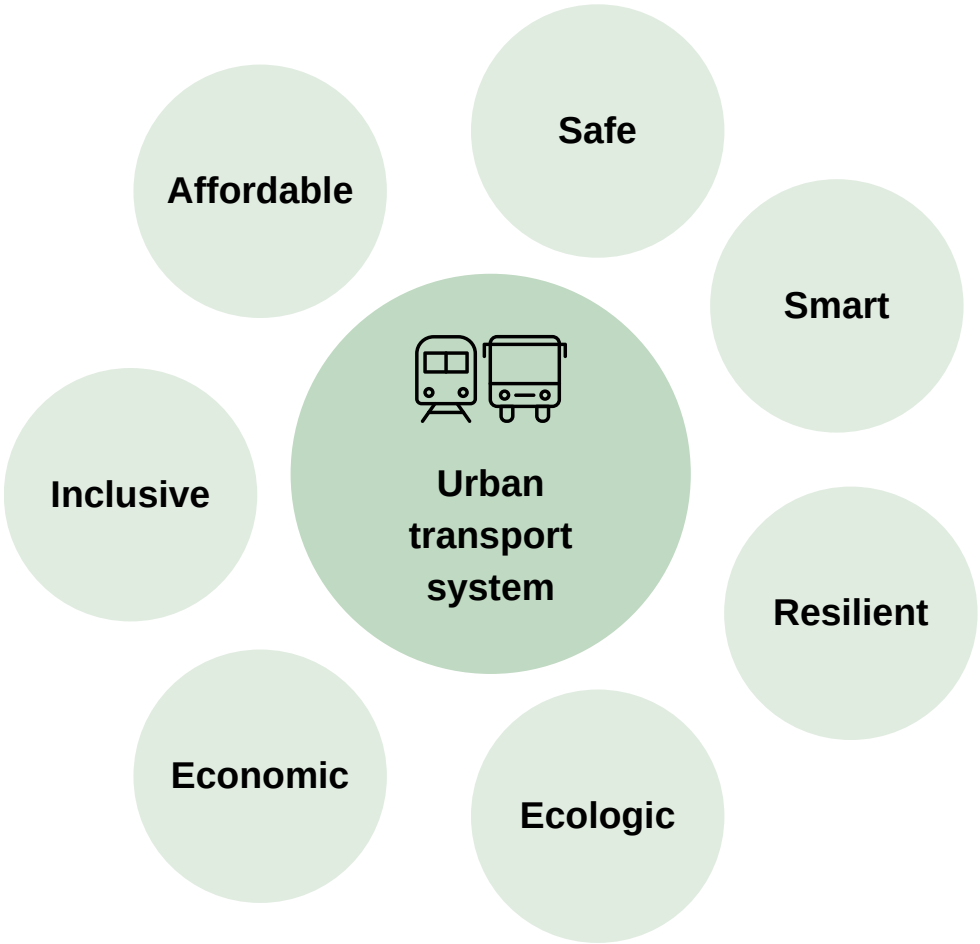
To achieve a sustainable urban mobility, several actions have already been taken, such as increasing parking ticket fees to discourage cars from entering the city center, reducing the number of parking spaces in the city center, reducing speed limits, etc.

Other possible solutions are the use of electric vehicles or the creation of a new organization system for transportation in urban areas that involves sharing vehicles.

04. WHICH IS THE MAIN CONTEXT?

What is the EU urban mobility framework?

To support the achievement of the targets defined by the European Union to reduce greenhouse gas emissions (by at least 55% by 2030 and by 90% by 2050), the Urban Mobility Framework initiative proposes measures to encourage EU Member States to develop urban transport systems that are safe, accessible inclusive, affordable, smart, resilient, and emission-free.



It strives to improve the quality of life of the EU urban population by addressing urban mobility challenges (such as air pollution, congestion, accessibility, urban road safety, etc.) and by increasing the share of sustainable transport modes (in particular public transport and active mobility) as well as zero-emission urban logistics.

It prioritizes the construction and modernization of multi-modal hubs, as well as new digital solutions and services. It promotes a coherent and integrated approach to urban mobility planning while mapping out funding options for local and regional authorities to implement priority actions.

What is the SMILE project?

SMILE is a project financed by EU grants that develops intelligent solutions that promote the transition to a low-carbon society. It includes activities concerning:

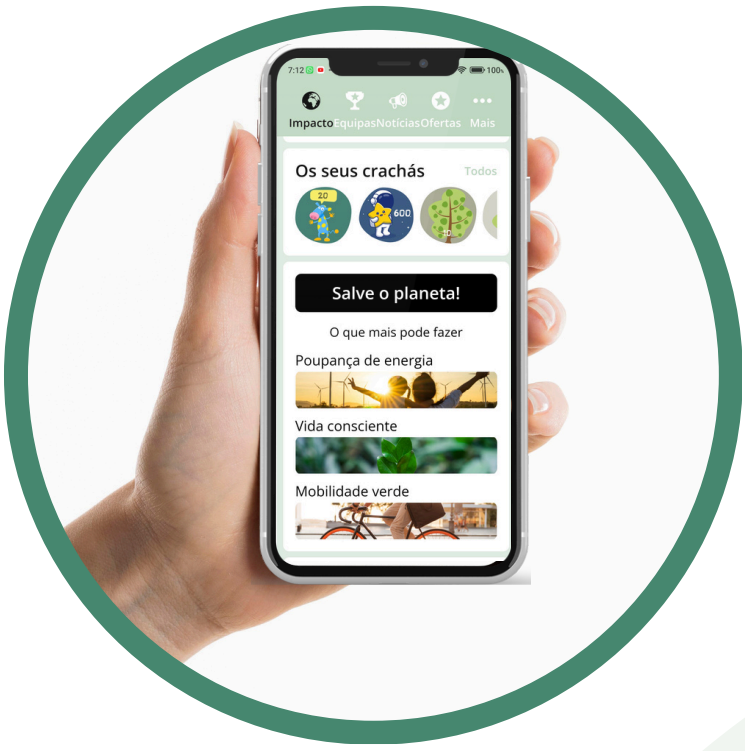
- **Circular Economy and Environment;**
- **Energy and Buildings;**
- **Sustainable Urban Mobility;**
- **Community, Art and Culture.**

Some of the initiatives aimed at achieving a more sustainable urban mobility in the Tabaqueira neighborhood are:

"On-demand" transport: promoting a set of flexible and “on-demand” transport services to offer a sustainable and greener collective transport alternatives, promoting the decrease of individual transport; through the **SintraSmile** app, residents in the neighborhood are able to request to schedule trips on the trishaw and earn green credits;

“Inverted” micro-mobility: creating an “inverted” micro-mobility, with the aim of offering alternatives to the population with mobility difficulties for small trips to municipal services or to obtain small goods and merchandise through door-to-door trips or deliveries with the use of a cargo bike;

Sharing of electric bicycles: supporting the sharing of electric bicycles, also providing secure parking for those who do not use a bicycle because tere is no space at home for storing it.



Sintra Smile

Defend the planet in your daily life and record your achievements

Exchange ClimaS

For experiences and discounts, Stimulate the Economy

05. WHAT CAN WE DO?

Travelling less

	Issue	Guideline
Households	How to travel less?	Opt for remote work when possible
		Make use of technologies to attend conferences and events that take place far from your home and imply a lot of time spent in the car
	How to increase travel efficiency?	If you often travel between the same locations or have events in the same regions, take action in advance to combine trips
		Choose an accommodation that reduces daily travel (e.g. choose lodging in a neighborhood that will allow you to use active or public transit during your holiday)
Companies	How to encourage local activities?	Explore local attractions and engage in activities that can be done in your neighborhood
	How to encourage local activities?	If you own a structure that hosts leisure activities (e.g. a gym or a dance school), offer discounts for residents to avoid that they choose more distant locations

Why taking action?

Travelling less is the most efficient way to reduce our travel footprint and reduce GHG emissions. Developing alternative plans, such as leveraging communication technologies, not only reduces pollution, but it also helps improve accessibility for attending events in a cost-effective manner.

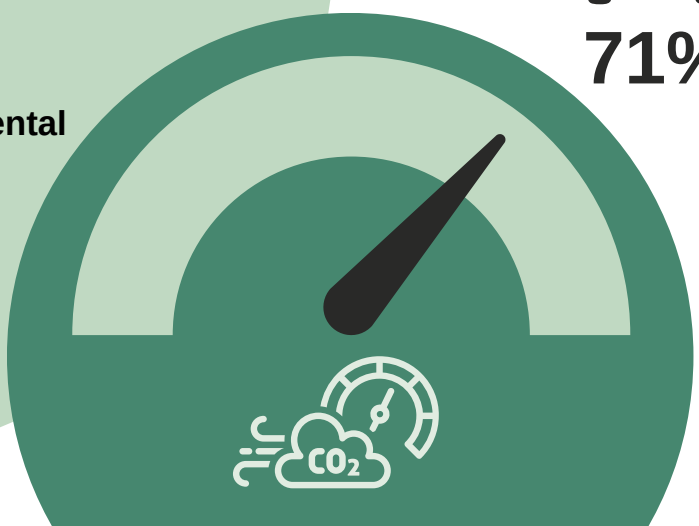
An example of good practice: The main aim of the "**SWITCH**" project, held in several EU countries, was to switch car trips to more active modes for short urban journeys, motivating behavioral changes. At the end of the project, serious changes in mobility behavior were reported by 50% of participants, changing their mobility behavior for a 10% decrease in car use and related GHG emissions.

Transport demand in Europe increased by +18% in car transport between 2000 and 2019.

Road transport emits 71% of all EU's transport GHG emissions, followed by aviation (14.4%) and ships (13.5%).

[Source: European Environmental Agency, 2024]

71%



Travelling sustainable

	Issue	Guideline
Households	How to avoid travel emissions?	Whenever possible, choose active transportation modes (e.g. walking or cycling)
	How to reduce travel emissions?	When active transportation for short distances is not an option, choose public transit over private vehicles (e.g. use buses, metro, regional train or tram)
		Prioritize fuel efficient and alternative fuel modes (e.g. electric and hybrid vehicles, or top-performing vehicles for fuel efficiency)
	How to increase travel efficiency?	If the travel requires hours, prioritize rail over air travel whenever possible
	How to reduce noise pollution?	If it’s not necessary, don’t honk when you are in the car
Companies	How to reduce travel emissions?	Establish smart working days to reduce daily travels of employees
		Offer incentives for employees who choose eco-friendly commuting options

Why taking action?

Understanding which is the most sustainable mode and itinerary for the distance and number of travelers is fundamental to reduce our negative impact on the environment, which depends on average “carbon intensity“ factors.

An example of good practice: The “MOBI” project was aimed at getting employees to use sustainable transport modes for their commutes instead of private cars.

It encouraged active mobility through online “competitions” based on points, collected according to how much individuals travelled in an energy efficient way. The result was the achievement of a 27% overall decrease of car use, saving 14.7 tons on CO_2.

In 2021, transport by car accounted for 79.7% of passenger - kilometres across the EU, compared with 7.3% for planes, 7.1% for coaches, buses or trolley buses, 5.6% for trains, and 0.3% for sea boats.

[Source: Eurostat, 2023]

	Issue	Guideline
Households	How to share information?	Let others know how they can reduce their carbon footprint by choosing sustainable transportation modes
	How to contribute to community good practices?	Participate in local community events instead of travelling far for entertainment or leisure activities
		Advocate and support policies and infrastructure projects that promote sustainable transport options
	How to reduce traffic congestion?	Participate in car-sharing or ride-sharing programs
	How to contribute to community good practices?	Engage with community planning and transportation discussions
Companies	How to contribute to community good practices?	Collaborate with local authorities to improve infrastructure (e.g. pedestrian or bike paths)
	How to share information?	Organize awareness campaigns to educate employees about the benefits of sustainable mobility

Why taking action?

Raising awareness and promoting initiatives within the community is a fundamental part of the transition towards a more sustainable urban mobility. Sharing information and good habits with family members, friends and colleagues is a more powerful tool than what we think!

An example of good practice: The “MOMO” project, which took place in several EU countries, sought to establish car-sharing as a part of new mobility culture.

MOMO informed 135,000 people about car-sharing. As a direct result of the project around 4,000 people and 600 companies joined these services, achieving a 10% reduction in fuel consumption.

Between 2017 and 2022, the number of car-sharing users in Europe climbed from around 12.7 million to 16.3 million, and growth to 20.7 million users is projected for 2027.

[Source: Statista, 2024]

06. SMILE AND SUSTAINABLE URBAN MOBILITY

Sustainable urban mobility and climate change

Urban transportation systems heavily contribute to greenhouse gas emissions, primarily through the combustion of fossil fuels in vehicles. These emissions are significant drivers of climate change, contributing to global warming and extreme weather conditions.

By shifting towards sustainable urban mobility, cities can significantly reduce their carbon footprint. This shift will not only help mitigate climate change by lowering emissions, but also improves air quality and enhances public health.

Sustainable urban mobility and energy

Sustainable urban mobility and energy are interconnected in a dynamic relationship that focuses on reducing energy consumption and shifting towards renewable energy sources.

This connection aims to minimize the environmental footprint of urban mobility by enhancing the energy efficiency of transportation modes. Implementing sustainable urban mobility strategies, such as promoting electric vehicles, biking, walking, and improving public transport reduces reliance on fossil fuels.

Sustainable urban mobility and circular economy

By integrating sustainable urban mobility practices, cities can contribute to the circular economy by reducing the need for new materials in vehicle production through shared mobility services and by extending the life of transportation infrastructure.

Facilitating the transition to a more circular approach in urban planning reduces the overall demand for private vehicle use and promotes a shift towards more sustainable lifestyles.

Sustainable urban mobility, art and culture

A more sustainable urban mobility contributes to the creation of a vibrant and livable urban environment. Cultural and creative activities can play a significant role in promoting sustainable urban mobility by raising awareness about environmental issues and encouraging community engagement.

By integrating art and cultural elements into urban mobility planning, cities can foster a sense of belonging and increase the attractiveness of local activities.

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