RE-DESIGNING THE FUTURE OF MOBILITY

HOW TO CREATE A HOLISTIC AND SUSTAINABLE TRANSPORT SYSTEM

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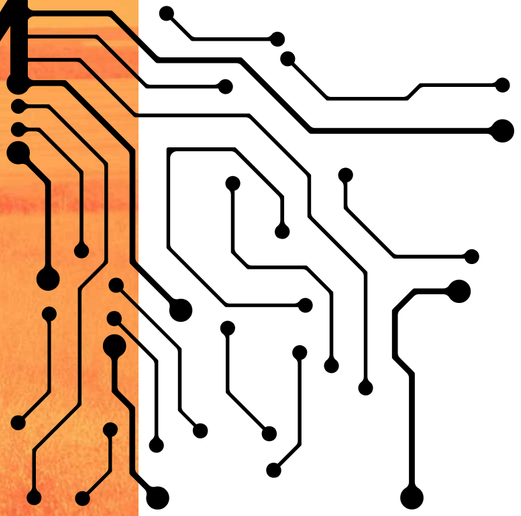
RECET
RURAL EUROPE
FOR THE CLEAN ENERGY
TRANSITION

SSNE

A HOLISTIC AND SUSTAINABLE TRANSPORT SYSTEM

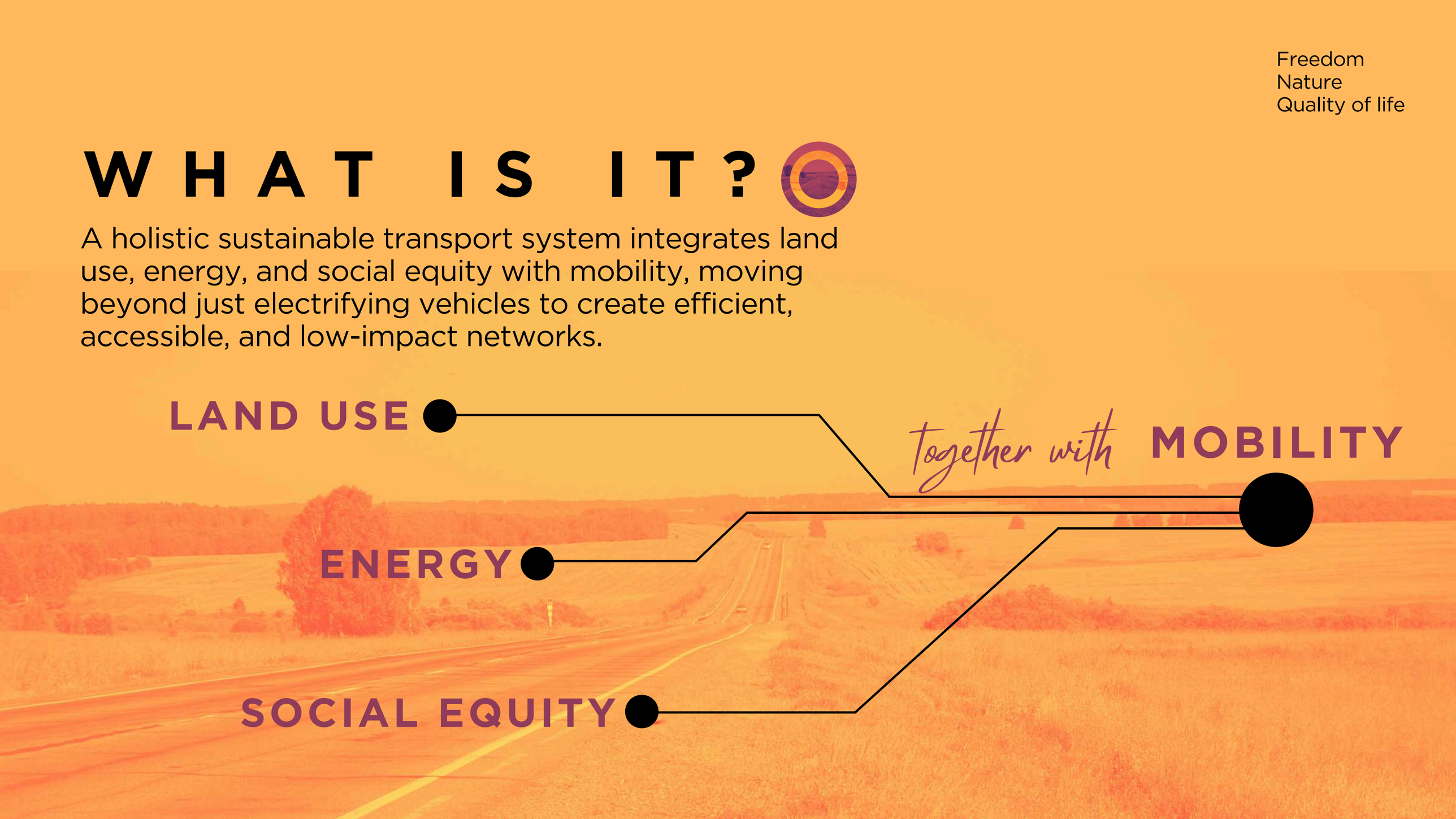
- WHAT IS IT?
- WHAT IS IT MADE OF?
- HOW IS IT DONE?



Freedom
Nature
Quality of life

WHAT IS IT?

A holistic sustainable transport system integrates land use, energy, and social equity with mobility, moving beyond just electrifying vehicles to create efficient, accessible, and low-impact networks.



WHAT IS IT MADE OF?

- **SUSTAINABLE PLANNING:** Links transportation directly with urban development and land use to reduce the need for long-distance travel. (TOD)

- **MULTIMODAL INFRASTRUCTURE:** Infrastructure that encourages a mix of all sustainable transport options, including walking, cycling, public transport and all electric vehicles + high importance on seamless transfers between modes.

- **TECHNOLOGICAL INTERGRATION:** Utilizes electric vehicles, renewable energy, and smart traffic management. Features unified ticketing, coordinated schedules and Maas (Mobility as a service) + shared mobility

SUSTAINABLE PLANNING

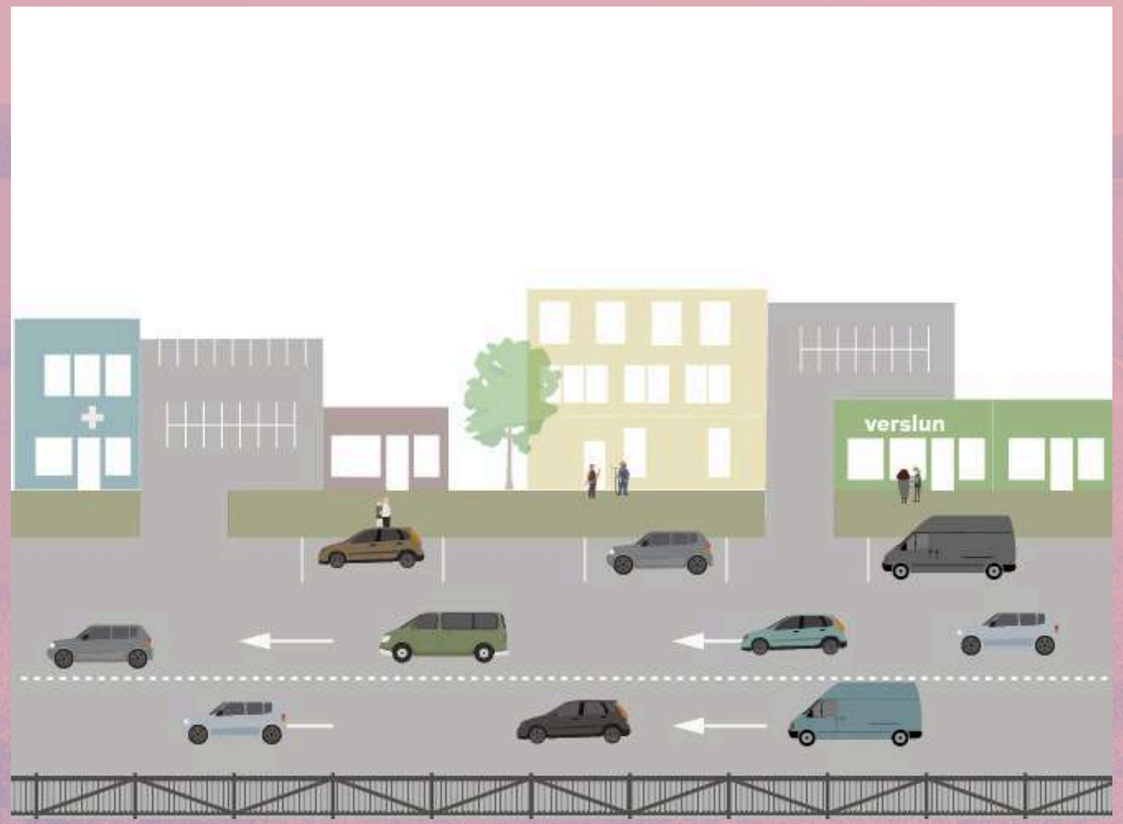
Sustainable planning links **diverse transportation** directly with **urban development.** Otherwise known as Transport Oriented Development (TOD)

Reduce the need for people to travel long-distances

Create opportunity for people to choose from diverse modes of transportation

But what is the opposite of sustainable planning?

CAR-ORIENTED PLANNING = CREATES **INDUCED DEMAND**



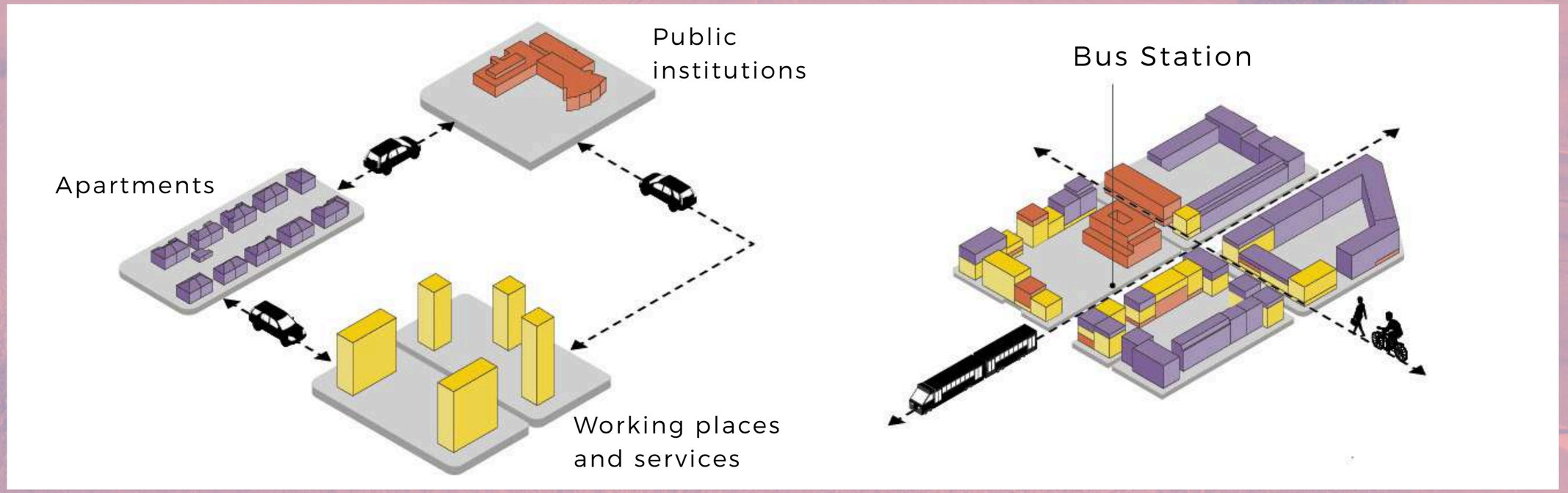
The term "induced demand" refers to the trips that are created to and from a specific location as a result of the land use and activities that take place there.

Examples of activities that are likely to attract a large number of people include local service centers, offices, schools and universities, shopping centers, grocery stores, and other service-oriented facilities.

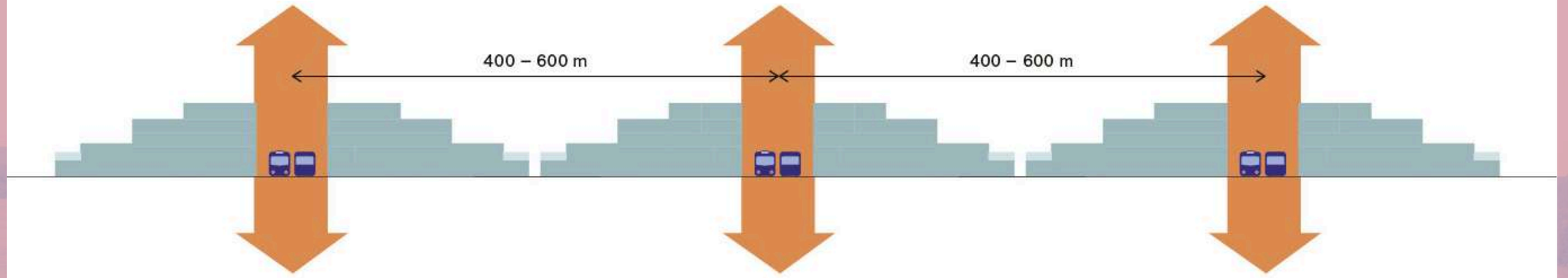
SUSTAINABLE PLANNING

CAR-ORIENTED PLANNING

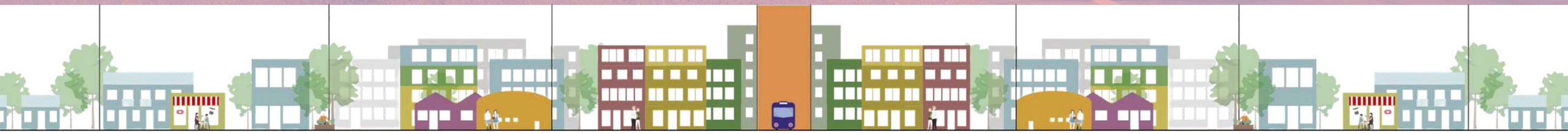
SUSTAINABLE PLANNING



High density
functional urban area

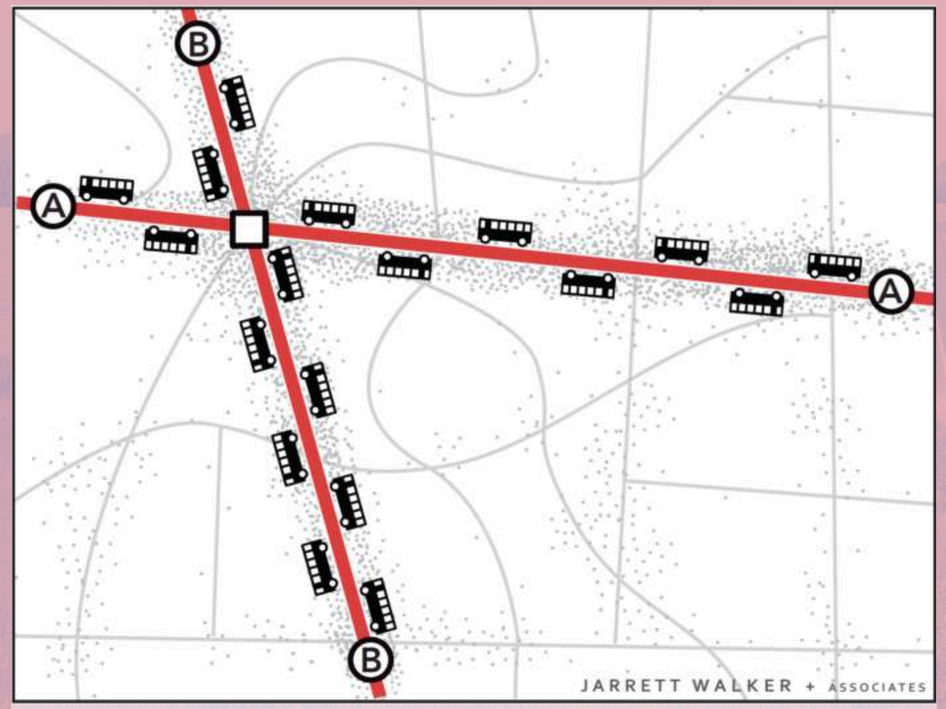


Bus Station

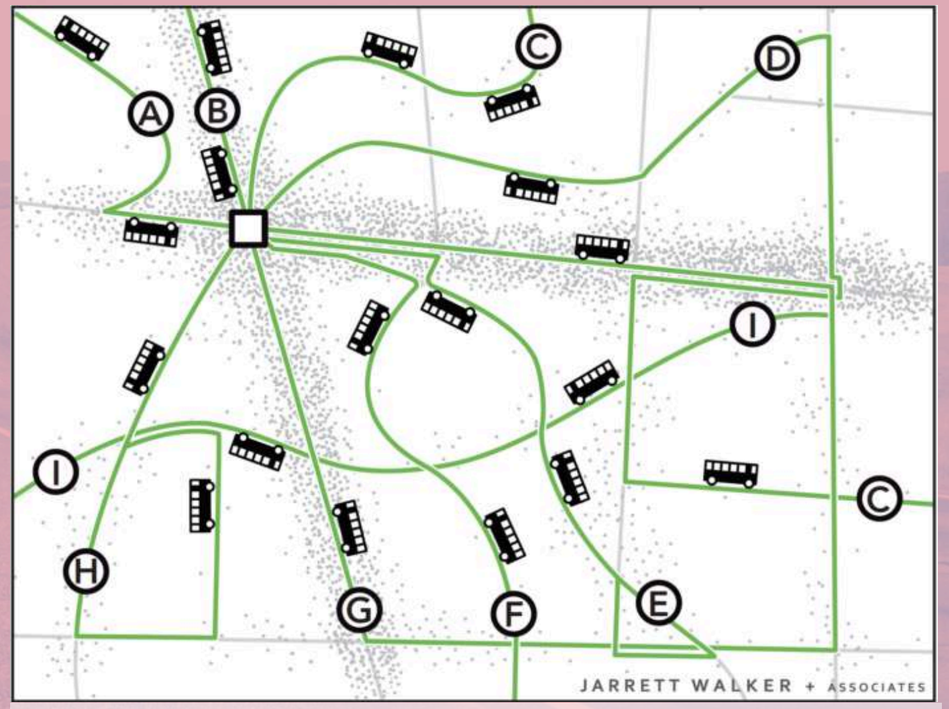


Bus Station

RIDERSHIP or COVERAGE?



Ridership focuses on maximizing passengers by concentrating resources on high-frequency routes in dense areas. .



Coverage aims to provide service to as much of the geographical area as possible, ensuring access for all residents, often resulting in lower-frequency, suburban, or rural routes.

- **MORE EFFICIENT USE OF LAND**

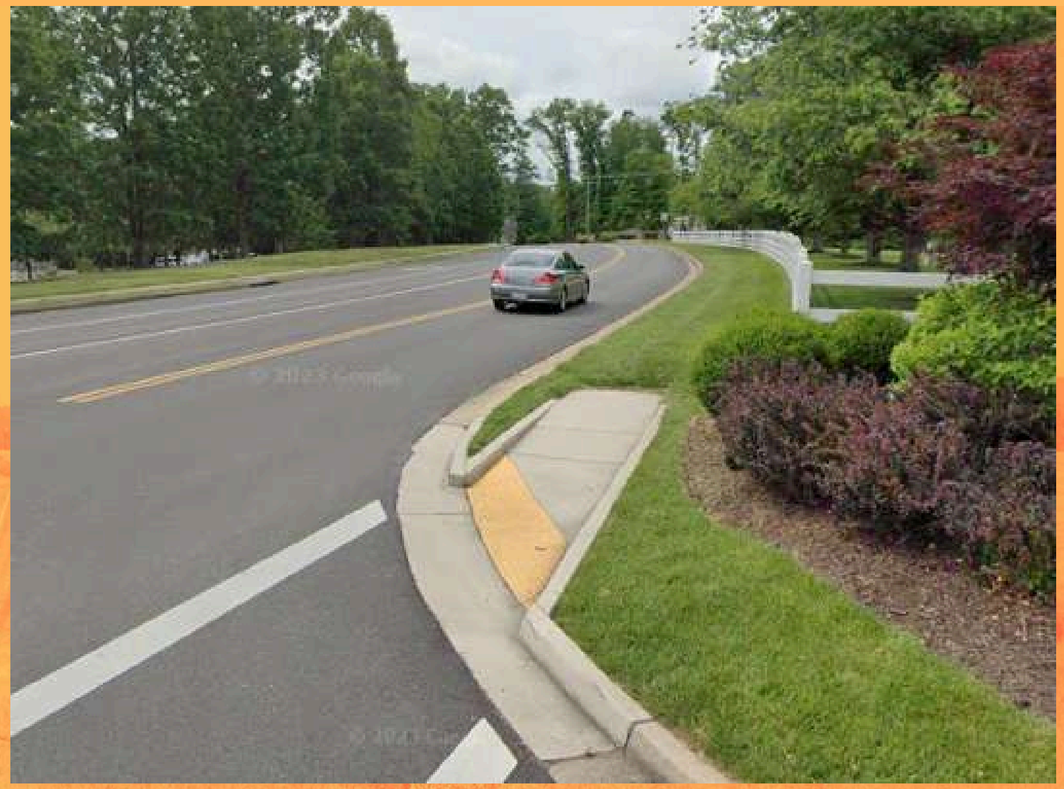
- **MORE COST-EFFECTIVE DEVELOPMENT AND OPERATION OF TRANSPORT AND UTILITY INFRASTRUCTURE**

- **HOUSEHOLD TRANSPORTATION COSTS**

Household transportation costs represent the second-largest expenditure after housing 15 - 17% of total spending These costs, mainly driven by vehicle ownership and operation, disproportionately burden lower-income households (30% of income) compared to higher-income ones (9.% of income).

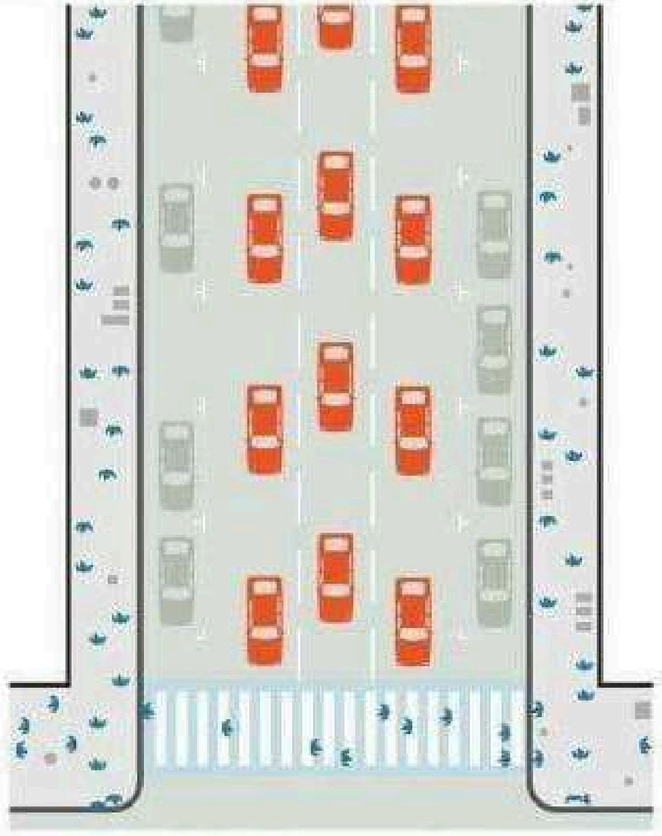
MULTIMODAL INFRASTRUCTURE

Infrastructure that encourages a mix of all sustainable transport options, including walking, cycling, public transport and all electric vehicles **+ high importance on seamless transfers between modes**.



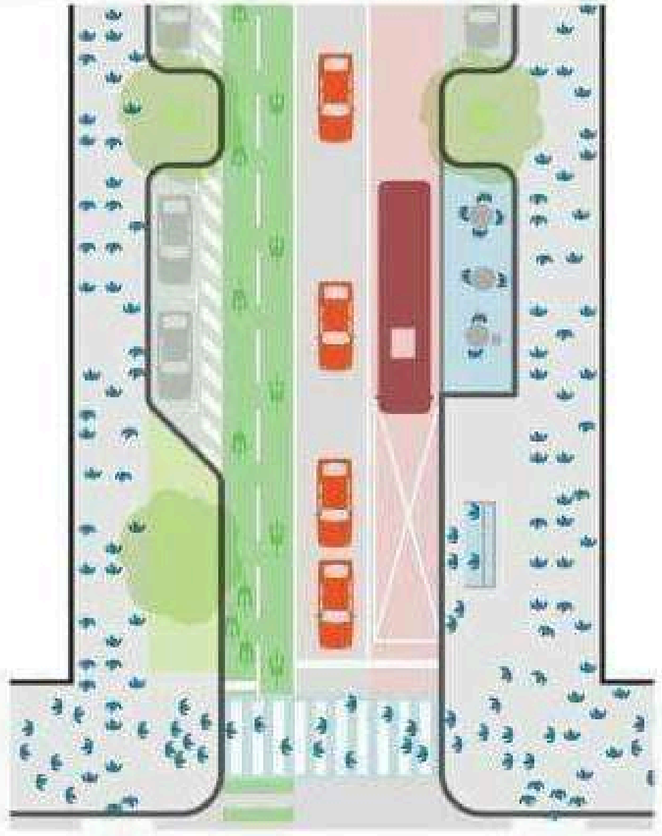
Passenger capacity in design

Car oriented Street



Total capacity **12.300 people/h**

Multimodal Street

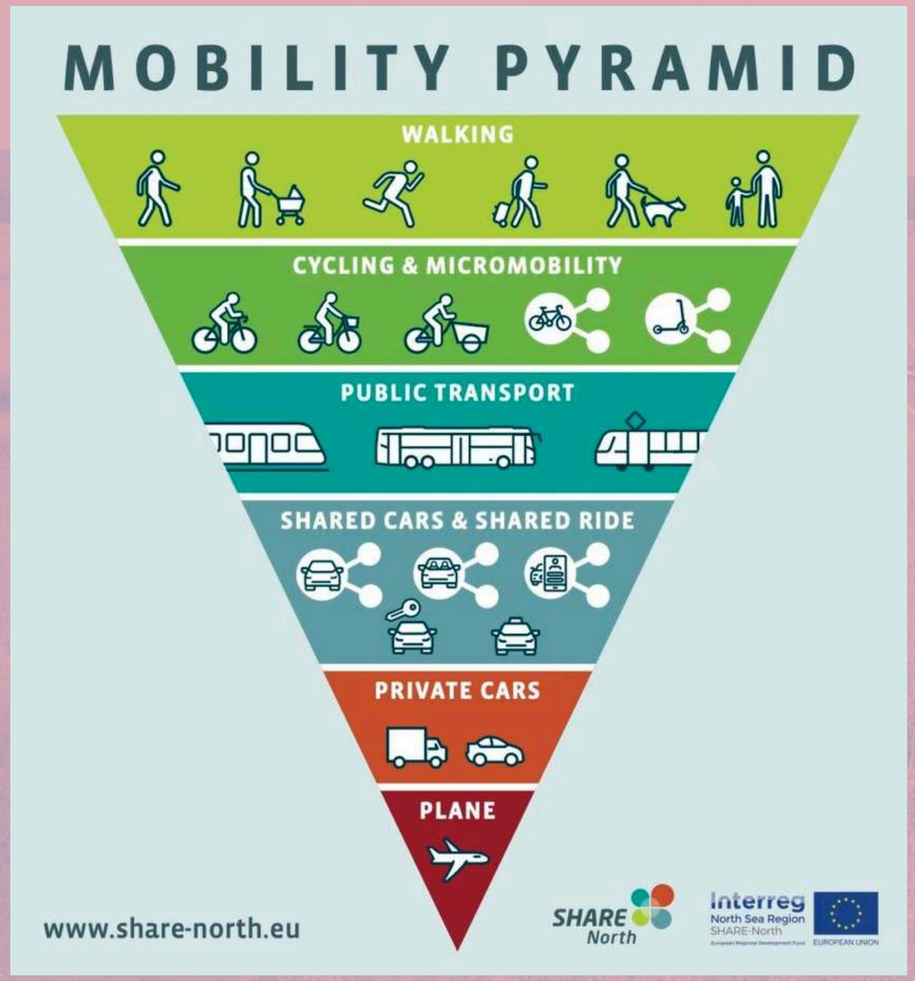


Total capacity **30.100 people/h**

The Endless Modes of Transport

MULTIMODAL INFRASTRUCTURE

The mobility Pyramid



The mobility pyramid is a urban planning tool that ranks transport modes from most to least prioritized, focusing on safety, efficiency, and sustainability.

It prioritizes vulnerable users—pedestrians at the top, then cyclists, public transit, and lastly private vehicles and planes.

Incorporate the mobility pyramid in your master plan, your urban plans and all design.

Less space for the car

To strengthen the role of sustainable mobility, it may be necessary to repurpose some of the space currently allocated to car traffic and build upon the existing street network.

How most traffic engineers see your city

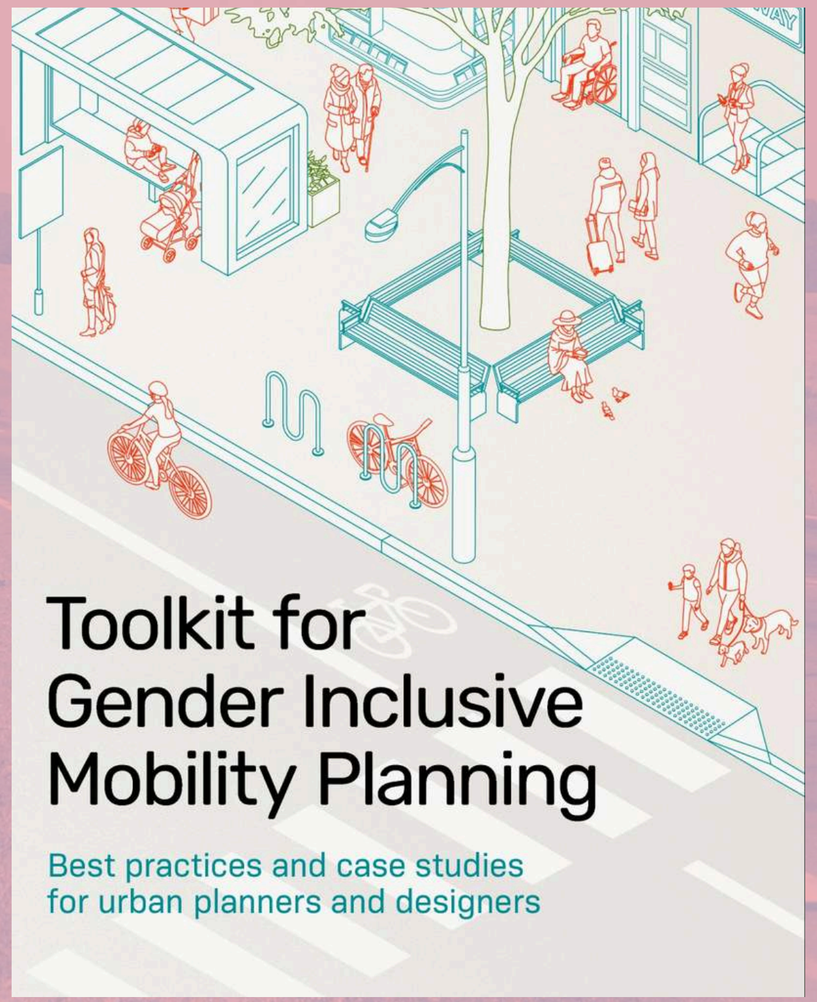
How cities should be designed

RE-DESIGNING THE STREET

Patriarchy and Car culture

The intersection of patriarchy and car culture is a deeply entrenched, gendered system.

Historically and contemporarily, cars are designed, marketed, and operated in ways that prioritize male experiences, often at the expense of women's safety and mobility.



What does gender inclusive mobility look like?

PRECIOUS SIDEWALKS

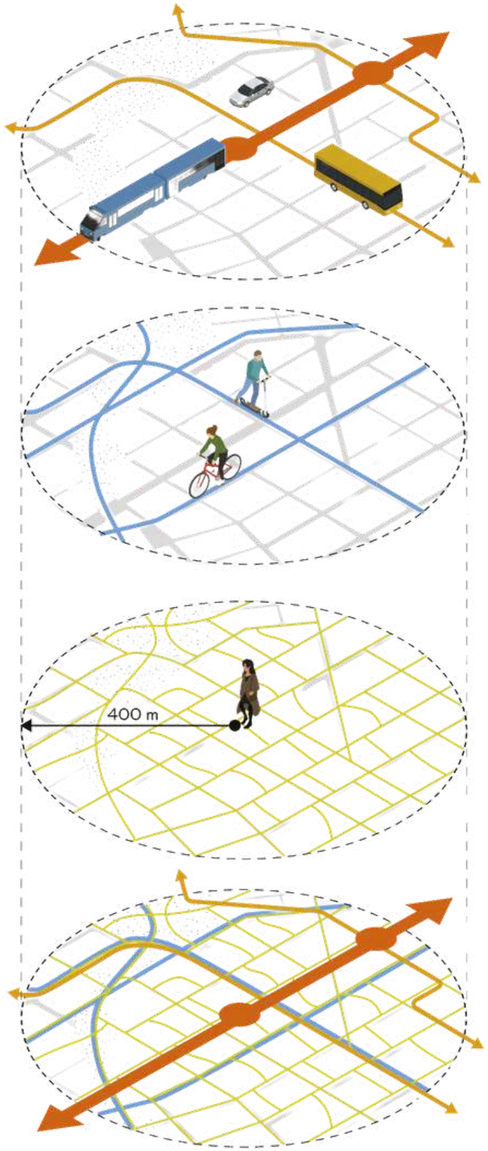
Sidewalks are one of the most important points of contact between residents and the urban environment.

They are fundamental transportation infrastructure, as we are all pedestrians at some point.

A well-functioning, unobstructed sidewalk should be approximately 3 meters wide In areas with high pedestrian traffic and diverse sidewalk-related services, widths may exceed 6 meters.

The two sisters; **Planning** and **Design**

In successful urban planning, planning and design are always together. The planning process must ensure that essential services are within walking distance and that the environment is designed on a human scale.



Safety and **slow traffic** will always come hand in hand

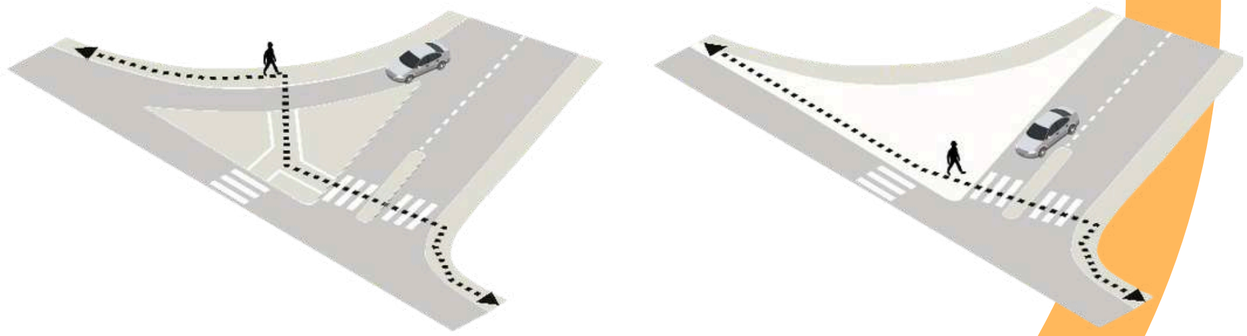
Safety is a critical factor in the design of urban spaces and should be a fundamental consideration from the outset of the planning and design process.

In general, urban design should ensure generous activity space for users, separation of different modes of transport, traffic calming for motor vehicles, adequate lighting conditions and quality, and unobstructed sightlines.

Raised pedestrian crossings enhance safety and help slow down vehicular traffic.

Safety

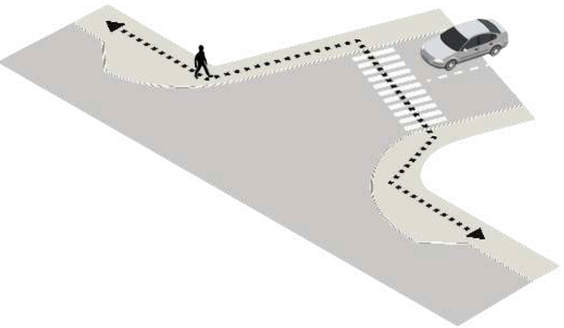
The design of intersections and crossings should aim to allow pedestrians and cyclists to cross as directly and efficiently as possible, without detours.

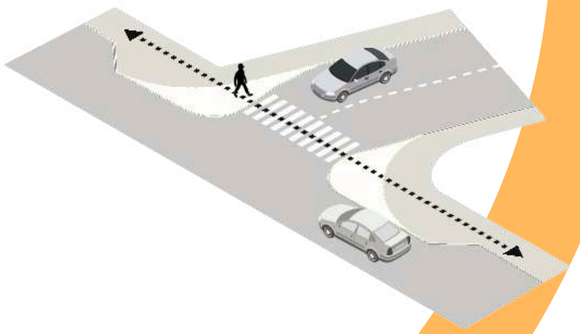


Safety

Turning lanes and slip roads increase the crossing distance for pedestrians and cyclists at streets and intersections.

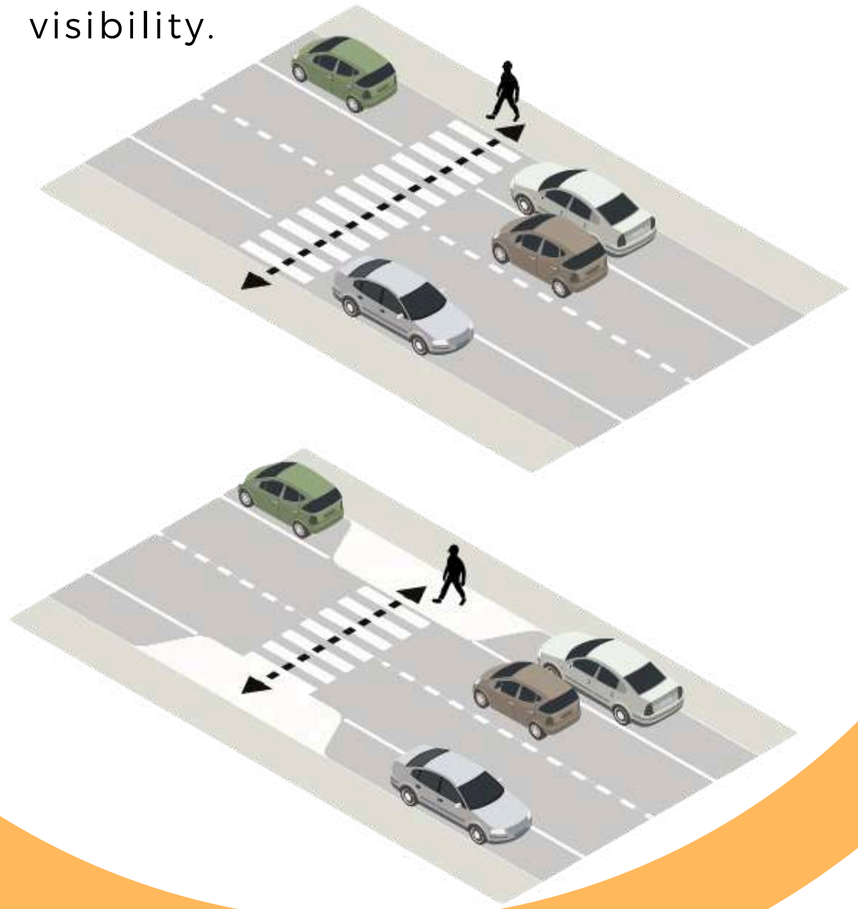
Through redesign, it is possible to improve connectivity, enhance safety, and reduce traffic speeds.





Safety

Sidewalks are extended into the street at crossings to shorten the distance for pedestrians, improve safety, and enhance visibility.



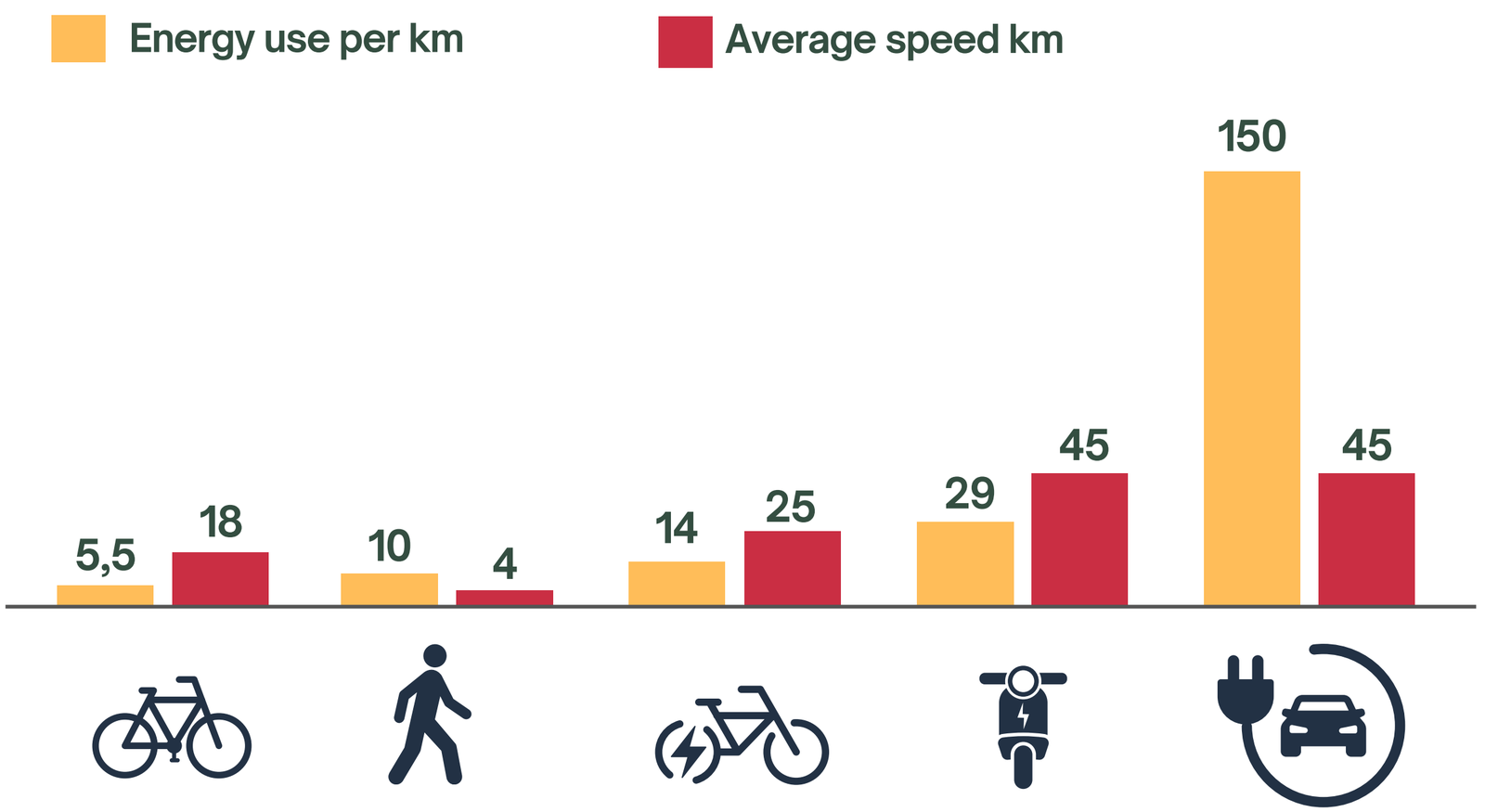
TECHNOLOGICAL INTERGRATION

Utilizes electric vehicles, renewable energy, and smart traffic management.

Features unified ticketing, coordinated schedules and Maas (Mobility as a service).

+ shared mobility

ENERGY EFFICIENCY



When energy efficiency is examined specifically, it becomes clear that the electric bicycle takes you the furthest using the least amount of energy.

The electric car, however, uses a great deal of energy just to move its own weight.

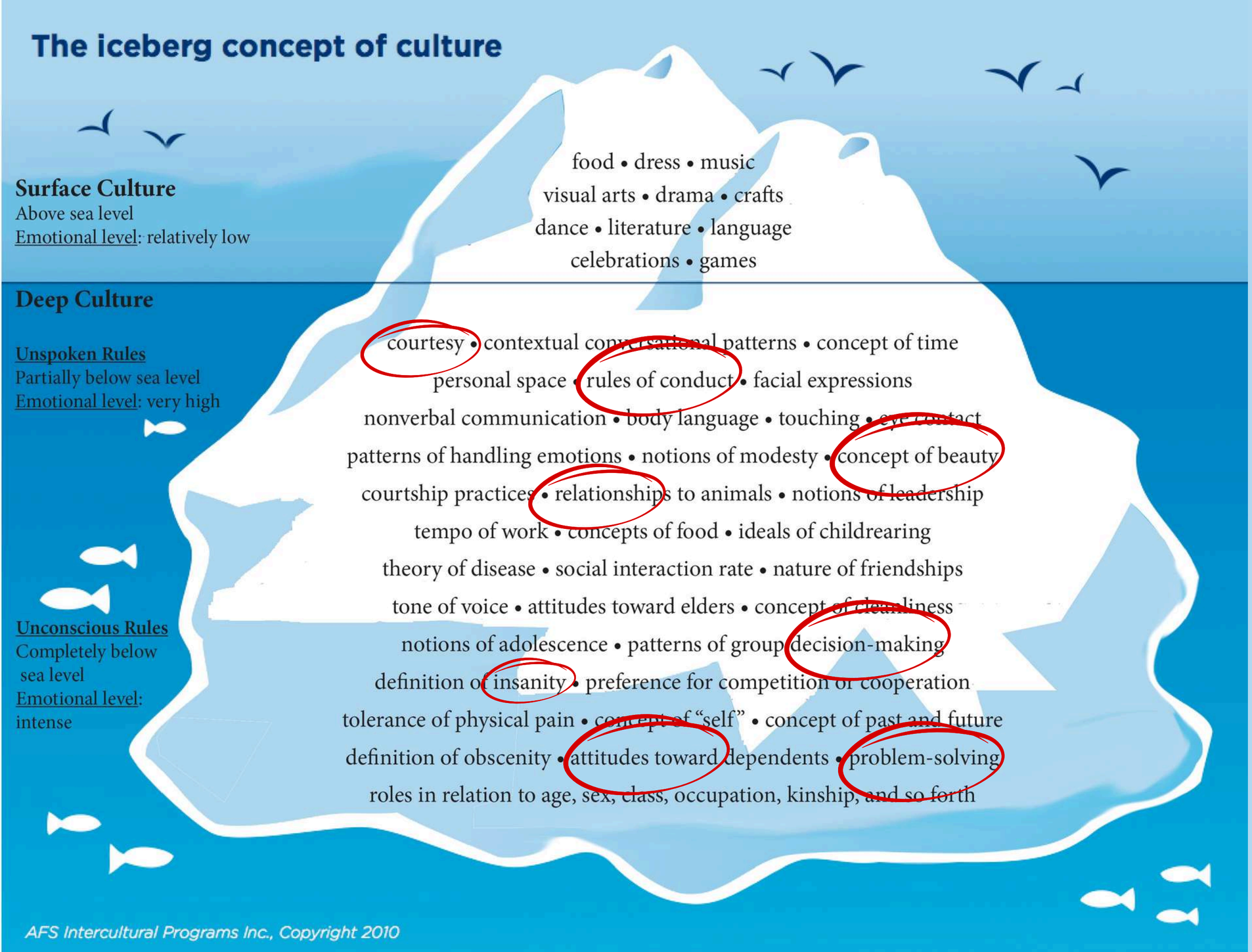
Heimild: Transports urbains - L'avenir des véhicules

DEEP CULTURE

Deep culture refers to the underlying, often unconscious beliefs, values, and implicit norms that define a group, existing below the surface of observable behaviors like food or clothing.

It acts as the "roots" of culture, influencing how people interpret the world, make decisions, and interact.

The iceberg concept of culture

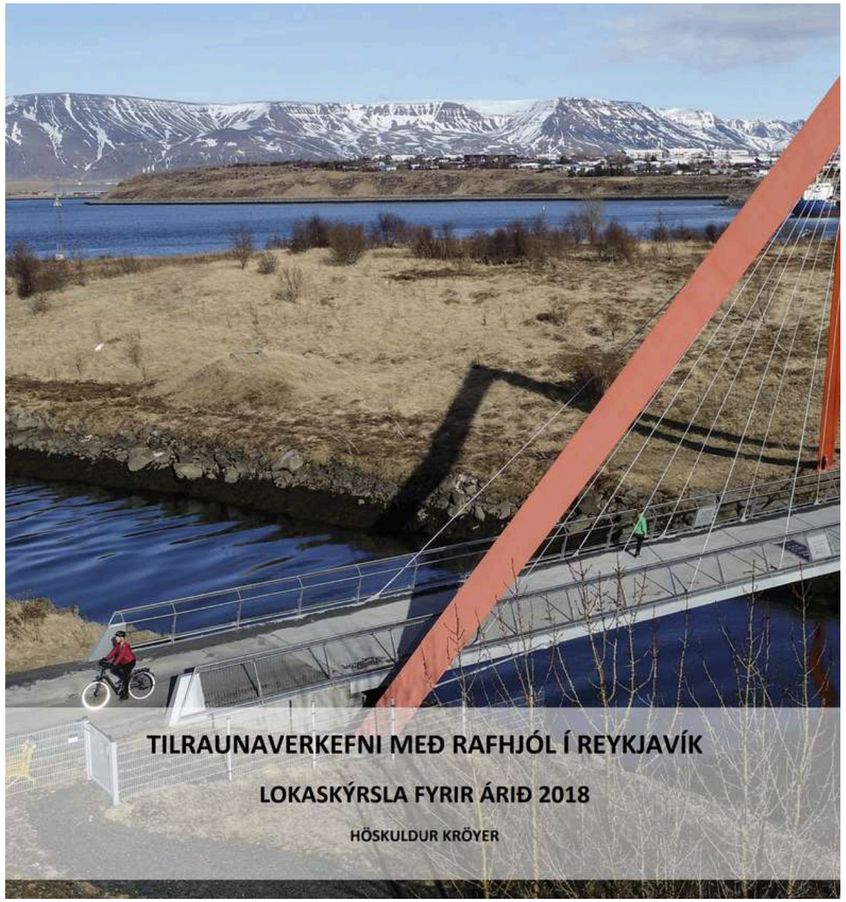


Elements of deep culture deal with the feelings and attitudes that **we learn by being a member of a particular group**.

It involves the thoughts and beliefs, the personal values, and the subtle gradations of interpersonal relationships as expressed in actions and words, by day-by-day details of life as it is lived.

Owning a car = social status

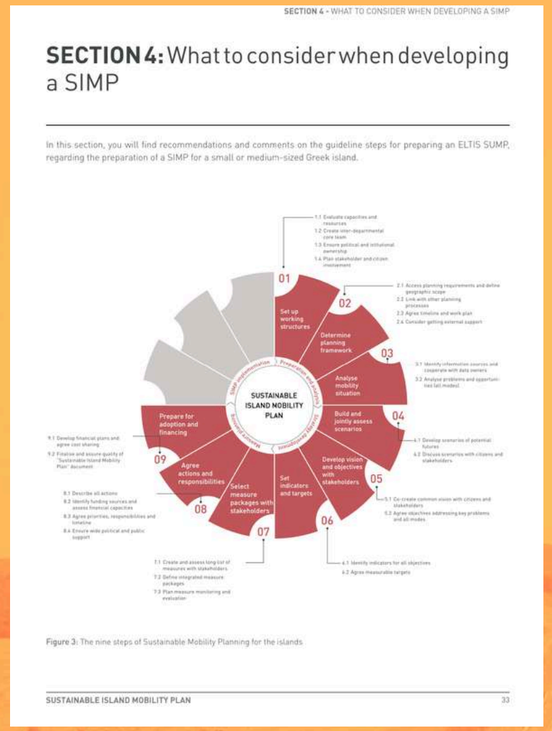
Reykjavík Pilot project for **electric bikes**



This is **Iceland.** The weather is **not an excuse.**

HOW IS IT DONE?

MOST IMORTANT FIRST STEPS



SECTION 4 - WHAT TO CONSIDER WHEN DEVELOPING A SIMP

SECTION 4: What to consider when developing a SIMP

In this section, you will find recommendations and comments on the guideline steps for preparing an ELTIS SUMP, regarding the preparation of a SIMP for a small or medium-sized Greek island.

Figure 3: The nine steps of Sustainable Mobility Planning for the islands

SUSTAINABLE ISLAND MOBILITY PLAN 33

01 Evaluate capacities and resources

SECTION 4 - WHAT TO CONSIDER WHEN DEVELOPING A SIMP

STEP 1:
Set up working structures

- 1.1 Evaluate capacities and resources
- 1.2 Create inter-departmental core team
- 1.3 Ensure political and institutional ownership
- 1.4 Plan stakeholder and citizen involvement

ACTIVITY 1.1: Evaluate capacities and resources

It should be known from the start that developing a SIMP for a small or medium-sized island will come up against difficulties related to the competency of the municipal mechanism to develop such a plan and to implement policies and innovative measures in areas and settlements that have always functioned differently.

Such competence is not so much related to funding sources as to adequate human resources and training of personnel assigned to the task. Many of the smaller islands do not have a Technical Department or a university-trained engineer, and even where such engineers exist, their specialisation is not related to mobility/transport and they have had no related training.

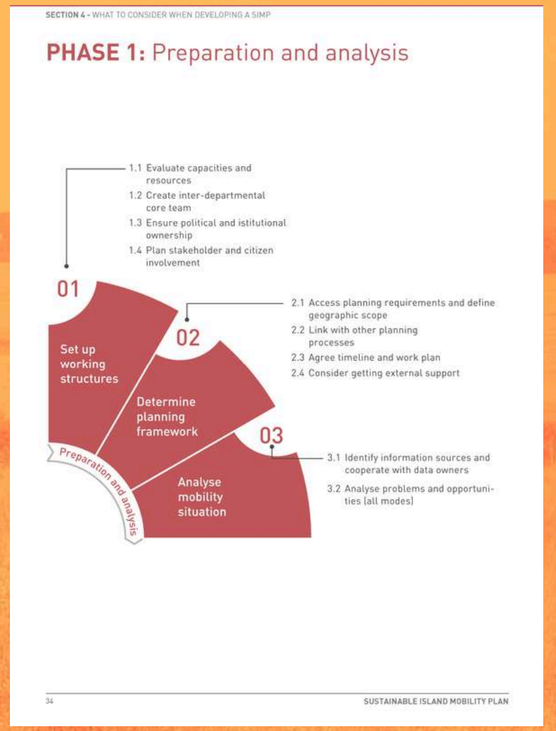
At all such islands, without exception, the few engineers who may work there are also burdened with the daily duties and operation of key infrastructure of the island (public buildings, water supply, sewage, energy, port facilities, road network, etc.) and despite the interest of some to become involved in issues of innovation, they do not have the opportunity within their contractual work hours. Additionally, it is common on the islands for every resident to be engaged in more than one business activity, which also constrains working hours and the inclination of personnel to become involved in issues related to SIMPs.

In this context, the islands face considerable difficulties in obtaining addition resources from funding programmes, while additional required permitting associated with their sensitive natural and cultural environment form yet another obstacle in implementing measures.

As regards the budget for developing a SIMP, serious consideration should be given to the fact that it is not relative to the permanent population of the island and it is not derived by merely scaling down the budget of an urban SUMP. As has already been documented, the SIMP is essentially 'two SUMPs in one', as it must examine two periods of mobility on the island: the tourism high season and the winter period with the smaller population on the island. The population during high season is many times larger than the permanent population; it is of a size comparable to an urban population and exerts great pressure on the island, which is never equipped with urban infrastructure and urban services. The problems that arise are different

SUSTAINABLE ISLAND MOBILITY PLAN 35

02 Create inter-departmental core team



SECTION 4 - WHAT TO CONSIDER WHEN DEVELOPING A SIMP

PHASE 1: Preparation and analysis

34 SUSTAINABLE ISLAND MOBILITY PLAN

03 Ensure political and institutional ownership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