ASTUS

Alpine Smart Transport and Urbanism Strategies

Reduce in a long term perspective the carbon impacts linked to daily trips in the Alps.

ASTUS is an european project, funded by the European Union under the INTERREG fund and the Alpine Space Program (Priority 2: Low Carbon Alpine Space / Transport and mobility solutions).
It follows the 2011-2014 MORECO project (Mobility and Residential Costs).
The partnership includes 12 partners in five Alpine Space countries (Austria, France, Germany, Italy, Slovenia).

ASTUS's overall objective is to reduce in a long term perspective the CO2 emissions of daily mobility in the Alps by helping local authorities to identify a set of relevant transport options and spatial planning measures that have a positive impact on household's mobility.

- Identify and assess low CO2 options by estimating and highlighting specific costs of different mobility modes and settlement types from an environmental, economical and social perspective
- Support alpine local authorities to define and implement relevant long term solutions for a low CO2 approach of mobility, combining transport and spatial planning solutions

- Create transferable instruments for any alpine regions willing to improve its CO2 footprint in the field of mobility.

The project is now in an first results stage.

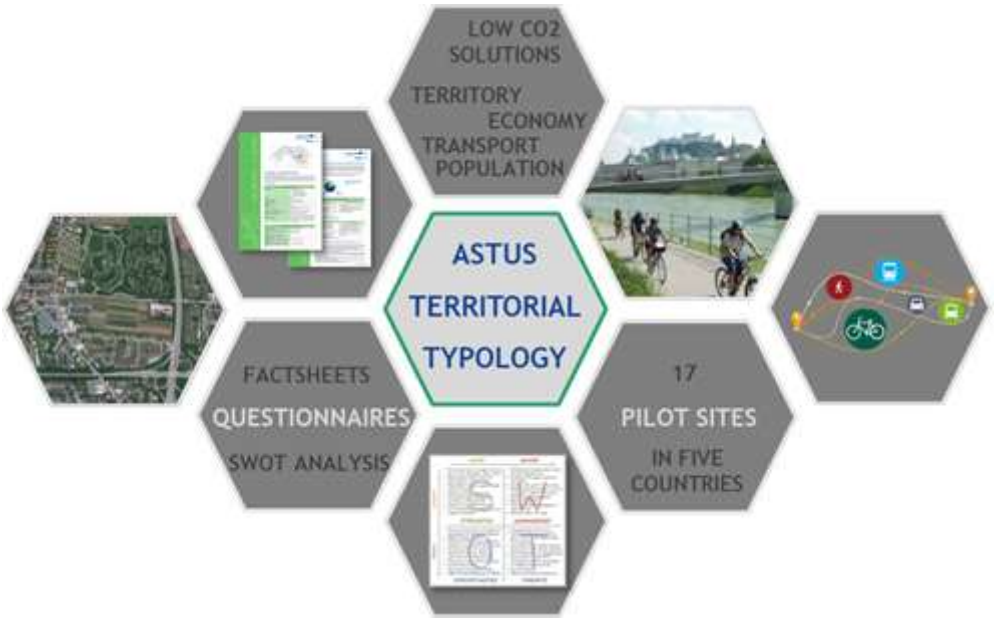
The ASTUS transnational territorial typology

One of the main outputs of the ASTUS project is the ASTUS transnational territorial typology.

This typology represents different alpine space regions with similar challenges, characteristics and trends in respect to low CO2 solutions covering transport and settlement, spatial planning, mobility practices and experiences. Studio iSPACE and CEREMA coordinated the preparatory work for this first result with the other 10 project partners.

Questionnaires were prepared to gather information about all 17 ASTUS pilot sites in five countries (Austria, France, Germany, Italy, Slovenia). Information, relevant for working on low CO2 solutions, includes main territorial features, mobility supply and demand, mobility and spatial planning background, strengths, weaknesses, opportunities and threats (SWOT analysis), best practices and experiences to share as well as tools for mobility and spatial planning.

Using the results from the questionnaires and existing Alpine Space typologies, the partnership defined comparative indicators (tourism, quality of public transport). The analysis of this indicators led to the identification of eight different ASTUS region types: *metropolitan core areas, cities, towns, growing regions bordering on a metropolitan core area, stable rural regions (with functional centres), rural regions with declining development and touristic regions.*



Each region type is described by its territorial, social, economic and transport characteristics against the background of low CO2 solutions. Moreover, "best practiced" low CO2 solutions are identified for each ASTUS territorial type. The ASTUS territorial typology is provided in a tabular form consisting of the general description of the region types and the specific characteristics of the corresponding pilot sites. This approach demonstrates the range of potential characteristics. The alignment with existing Alpine Space typologies allows for a better transferability of the ASTUS typology.

The filled table and a guideline for using the typology are available for download on the ASTUS project website:

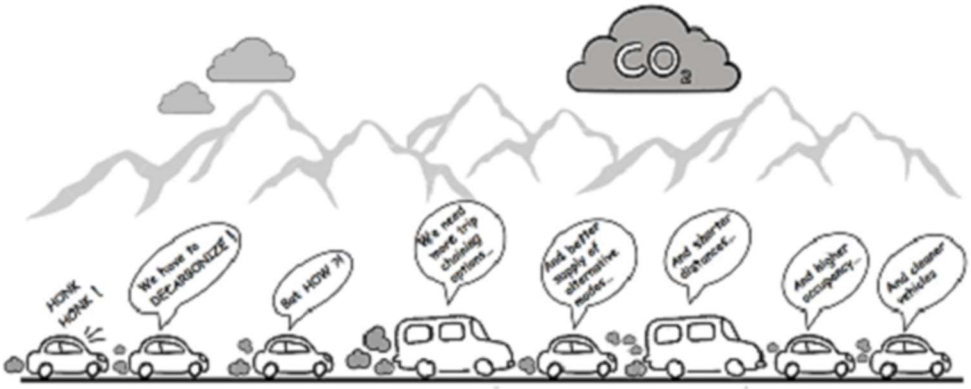
- ASTUS Territorial alpine space typology
- ASTUS Typology guideline

ASTUS transnational methodology for low CO_2 scenarios

'Decarbonizing' transport has become the need of the hour owing to the emission targets set by the member states of the European Union.

Within the project ASTUS (Alpine Smart Transport and Urbanism Strategies), a transnational framework for low CO_2 scenarios has been developed. It acts as a guideline for local authorities to find suitable land use and transport planning solutions in order to reduce CO_2 emissions from everyday travel in the Alpine Space. The methodology helps to quantify current transport-related CO_2 emissions, identify levers for reducing them, and estimate potential emission savings due to the implementation of various measures.

The backbone of the methodology is a simple formula that enables the quantification of CO_2 emissions from transport activities. The formula requires certain input data like the number of people, trip rate, mode share, distance travelled, occupancy rate and emission factors. All of these parameters affect the amount of CO_2 generated and can thus be considered as levers for lowering emissions.



In order to facilitate the process of finding the most effective measures, the methodology contains the transnational tool CO_{2L}, which can be applied within various typologies and contexts. The CO_{2L} includes a calculation sheet, a data sheet and a measures sheet. The calculation sheet can be used to quantify emissions based on the formula described above. Data for a specific territory, location or relation can be inserted in this sheet in order to calculate the CO_2 emissions of the baseline situation as well as the change in emissions after certain measures have been implemented. The data sheet provides sample input data for calculating CO_2 emissions in different contexts. Input data from the sample can be adapted according to local knowledge. The measures sheet contains a number of potential measures for low CO_2 scenario building. The measures are categorized according to the type of measure and also provide information on the possible impacts of the measure on the levers. In addition to the CO_{2L}, exemplary storylines are included in the framework, which illustrate the scenario building process.

The methodology is transferrable to any context. However, different typologies and baselines require unique solutions. The guideline includes recommendations for a

successful implementation of planning solutions. A common vision, clear objectives and targets, stakeholder engagement, knowledge about the territory, and effective measures are the essential elements for succeeding in reducing transport-related emissions. The transnational methodology, along with the templates of the CO_{2L}, provides the user with a complete package to help reduce CO_2 emissions from transport activities in the Alpine Space.

The transnational methodology for low CO_2 scenarios on the ASTUS project website:

- ASTUS transnational methodology for low CO2 scenarios

FOCUS ON PROJECT PARTNER

AUVERGNE-RHONE-ALPS REGION

Auvergne-Rhone-Alps region (AURA)

AURA is an administrative body with competencies in different topics including transport, spatial planning and land use. French Regions are in charge of spatial planning and intermodality with a special responsibility towards other territorial levels. They are considered as leaders and need to produce integrated and strategic planning documents that will be taken in account by municipalities while producing their own planning documents. The ASTUS project is linked to land use and transport policies.

Within the ASTUS partnership, AURA is Lead Partner and responsible fo work packages Management and Communication. AURA organized ASTUS European launching event and contribute to all project activities. In Auvergne-Rhone-Alps region, ASTUS will be implemented in 4 pilote sites located in rural and mountainous areas. AURA support local decision-makers and lead a

FOCUS ON PROJECT PARTNER

ISPACE

Research Studios Austria – Studio iSPACE

As a part of the national research organisation Research Studios Austria, the Research Studio iSPACE operates at the interface between universities and enterprises. The working group Smart Settlement Systems focuses on the development of decision support and operative planning systems in the context of spatial and traffic planning, sustainable energy, quality of life, eco-mobility and multimodal mobility chains. MORECO and ASTUS are two major projects referring to sustainable and intelligent mobility and behaviour.

Within the ASTUS partnership, the Research Studio iSPACE is responsible for work package 1 as lead partner. In that course, iSPACE coordinates the production and completion of questionnaires for the ASTUS pilot sites together with CEREMA, analyses the gathered information against their strengths, weaknesses, opportunities and threats in order to feed and develop the ASTUS transnational territorial typology. Moreover, iSPACE further

continuous work with his local stakeholders (pilote sites and observers) to build in each pilot sites, local low CO2 scenarios, strategies and actions plans. AURA disseminate this project results on various networks.

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FOCUS ON PROJECT PARTNER

CEREMA

Direction territoriale Centre-Est

Center for Studies and Expertise on Risks, Environment, Mobility, Town and County Planning (Cerema)

Centre East Territorial Division of Cerema is competent in fields such as economics, mobility services and supply, land use planning and environment. Cerema have experiences in leading projects in line with national and local authorities. Related to the general topics of the ASTUS project, they develop expertise in implementing sustainable and innovative mobility solutions in sparsely populated, rural and / or mountain territories. They develop processes to support local stakeholders in the implementation of transportation and land uses policies, thanks to both qualitative and quantitative tools, methods and skills.

Within the ASTUS partnership Cerema is work package 1 assistant. The main output of this first work package is a territorial alpine space typology. Also, Cerema develop relevant tool in work package 2 dedicated to decision making tools for low carbon scenarios develops the MORECO tool to contribute to the overall ASTUS objectives, especially by implementing an option for calculating individual transport emissions. iSPACE assists local decision makers to build local action plans by providing tools, GIS-based analysis and through workshops.

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(assessment of urban sprawl and land uses in line with low CO2 emissions). They accompany local decision-makers through methods and workshops to build local actions plans, and enlist and disseminate results on various networks.

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