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 a first results stage.

1/ ASTUS MID-TERM CONFERENCE IN THE AUSTRIAN PILOT REGION PONGAU

First results and outputs of ASTUS project

ASTUS presented first results and outputs during the Mid-term Conference organised by project partner SIR in Werfenweng, Salzburg, Austria on June 26th 2018. Almost 60 international experts and stakeholders from the fields of mobility and regional planning participated in the meeting. Project partners and observers, representatives from the Alpine Convention, the EU Strategy for the Alpine Region EUSALP and local politics and administration of pilot regions have taken the opportunity to exchange views on smart transport solutions and urbanism.
Speakers and participants intensively exchanged examples of low-CO2-mobility practises in the regions of Graz, Munich and Werfenweng, which were accompanied by an overview of current ASTUS transnational outputs, approaches and tools. Peter Brandauer, mayor of Werfenweng – and winner of many awards for sustainable transportation strategies – guided a walking tour and practical demonstrations of “smart mobility solutions” for locals and tourists (e.g. successful e-car sharing for a new housing estate).

Conference agenda:

- Key note: Steering mobility – thinking environment
  (Bernd Gassler, Regional Planning Association Graz)
- ASTUS project: objectives and activities – progress, overview of topics and pilot sites
  (Maxime Bouly, AURA, Lyon)
- Challenges, potential measure for low CO_2 scenarios & GIS-based planning tools supporting integrative settlement and mobility planning
  (Thomas Prinz, iSPACE, Salzburg & Benjamin Büttner, TUM, Munich)
- ASTUS scenarios – practical applications
  (Gesa Volpers, MVV, Munich) & David Caubel, CEREMA, Lyon)
- Preview / next steps – strategies, actionplans, recommendations
  (Florence Catanese, RBFC, Besancon, Susa Tulikoura & Lena Tourbot, SYSTRA, Lyon)
- E-mobile municipality of Werfenweng
  (Peter Brandauer, municipality of Werfenweng)

2/ SECOND ASTUS SCHOOL – JUNE 26TH / 27TH 2018 IN WERFENWENG, AUSTRIA

Marketplace of ideas

This "marketplace of ideas" for experts, pilot sites, stakeholders and elected representatives directly followed the ASTUS Mid-term Conference. Six workshops provided an excellent opportunity for 50 participants to discuss and exchange ideas, learn about new tools and improve the connection between pilot sites. Workshop topics:

- Better usage of existing settlements – smart densification
  Günter HEYLAND, mayor of Neubiberg, presented a smart densification concept in Bavaria, supplemented by latest psychological findings by Florian KUTZNER to intensify usage of existing housing.
- Tools and modelling – examples of use, traffic modelling, settlement development
  Anna BUTZHAMMER, iSPACE and Julia KINIGADNER, Technical University of Munich provided innovative GIS-examples of transport modelling in the province Salzburg and in Munich.
- Transport options in low density areas – practical examples
  Markus HALLER and Gesa VOLPERS (TUM) presented a comprehensive car-sharing model of the Munich Transport and Tariff Association.
- Preparation and possibilities of using local public transport timetables on Google maps in the urban municipality of Novo mesto
  Simon KOBLAR, Urban Planning Institute of the Republic of Slovenia, gave an insight into a trip planning tool for small municipalities which is easy to build and to maintain.
- Regional ticketing system OuRA – transport interoperability, mobility information service and collaborative partnership platform
  Marion ALLARD, Auvergne-Rhône-Alpes Region, presented a complex mobility service for the AURA region, which integrates a large number of service providers.
- Visualising mobility issues inside the "local landscape"
  Baptiste BEBIN, Grégoire FEYT and Valentin RAVIER, University of Grenoble, suggested new 3D-maps, trying to use shared and familiar media in communicating with stakeholders.

ASTUS School concluded with an excursion in the pilot region Pongau, guided by Stephan MAURER (Regional Association Pongau) and Hannes WEITGASSER (mayor of Werfen). Walter RIEDLER (SIR) presented scenarios for housing and mobility in the municipality of Werfen, which aim to strengthen the village centre, use vacancies, densification and develop new sites.

3/ LOW CO2 SCENARIO – UNCEM, ITALY

Pilot site Unione Montana dei Comuni del Biellese Orientale, Province of Biella, Region of Piemonte

The scenarios elaborated for the UNCEM partner pilot case are divided in short-term scenario and medium-long-term scenario.

The short-term scenario describes measures and actions just elaborated inside the ASTUS project, allowing an immediate application and impact on local site while the medium-long-term scenario describes measures to be applied in a more strategic vision.

The steps of the **short-term scenario** methodology are the following:

1. Analysis of current mobility trends and problems (possible economic availability from little used public lines cutting)
2. Interviews with companies for home-work mobility
3. Analysis of the resulting data with companies headquarters and workers' residences location georeferencing
4. Analysis for intra-company solutions (to be funded in collaboration with each company mobility manager)
5. Analysis for inter-company solutions with
6. car-pooling solutions among workers of different companies
7. identification of solutions for new routes of public transport (using Vehicle Routing Algorithm) to be financed with the resources referred to in point 1 above)
8. Identification of the car-pooling platform to be used

Some images about the elaborated analysis are represented in figures 1-3.

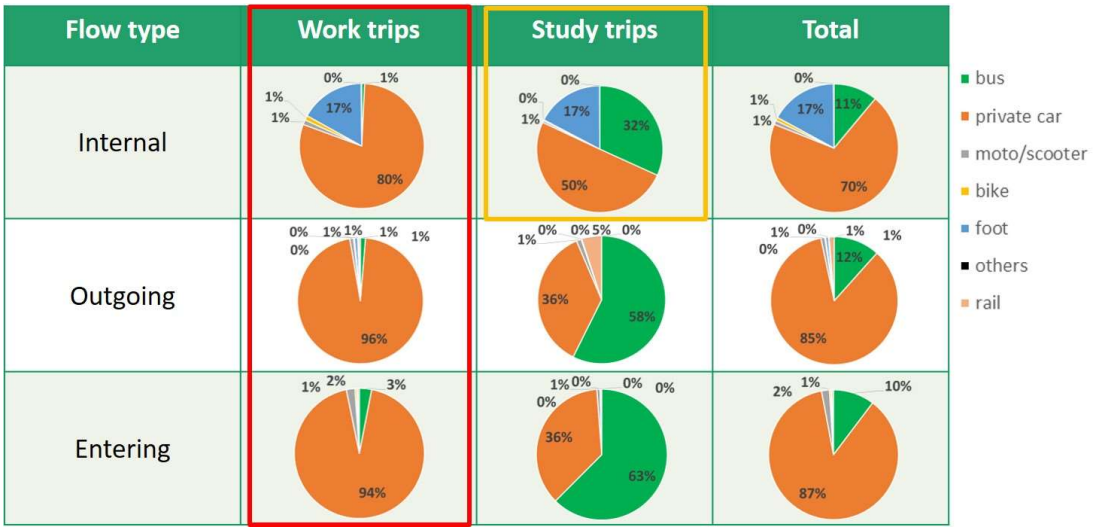

Figure 1 – Analysis of current mobility – the actual modal split

linea	denom_linea	corse	n_rilievi	km	saliti	sal/corse	sal/km
300	300 - Biella-Cossato-Vallemosso-Trivero	55	171	1.057	549	9,99	0,52
310	310 - Zimone-Borriana-Biella-Valdengo-Bioglio-Vallemosso	44	123	1.149	227	5,16	0,20
332	332 - Biella-Vaglio	44	114	429	329	7,47	0,77
400	400 - Cossato-Gattinara	8	27	178	39	4,89	0,22
410	410 - Cossato-Buronzo	6	18	84	6	1,06	0,08
430	430 - Cossato-Mezzana-Trivero	3	9	65	5	1,78	0,08
440	440 - Andorno-Veglio	6	18	67	6	1,06	0,09
501	501 - Pray-Santhia	2	6	122	10	5,17	0,08
548	548 - Lessona-Vigliano	8	24	91	14	1,71	0,15
	Totale	**176**	**510**	**3.242**	**1.186**	**6,74**	**0,37**

Summer period

Budget of 2.185 km/day Cost: 1,67 €/km About 3.650 €/day

In all summer workdays about **175.200 €** can be recovered from the cutting of the lines with less than 6 climbs/race

Figure 2 – Analysis of current mobility – the actual public transport frequentation

For example, the inter-companies analysis for worker with entry time at 22:00 shows the involving of 8 companies and 157 workers. The solution shows a decrease of trips bigger than 50% with only two busses starting from the depots of the local public transport operator and allowing a decrease of CO_2 emission of about 46,7% (from 203 to 108 tons/year). Figure 3 shows the result of the vehicle routing problem, taking into account a work place arrival not before than 30 minutes and not after 5 minutes from the worktime start and a travel time not longer than twice the private car one.

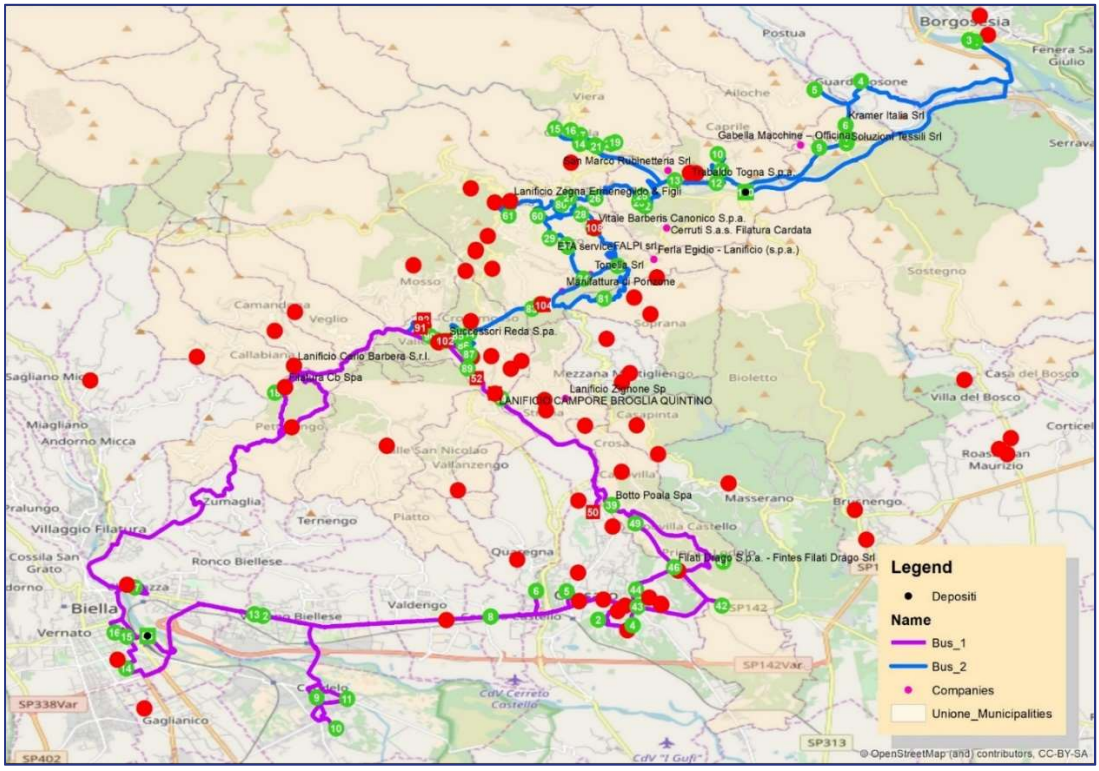

Figure 3 – Result of the vehicle routing problem

The steps of the **medium-long term scenario** methodology are the following:

1. Identification of possible vehicle lenders / to-buy-program for little busses
2. Implementation of a platform for the interaction of tourist mobility demand and supply, including:
   - module to load temporary events and attractive tourist locations
   - module to search for events of interest with researches by geographical area, keywords, etc..
   - module for tourists transport service request/booking
   - module for residents-only on-demand transport service
   - management module for those who use the on-demand system, with discounts on local products as rewards (tourism marketing of products, e.g. craft / local)

The tourist service, at a higher cost than the simple public transport one, enables to finance the service for residents (elderly people and others) at typical public transport costs, guaranteeing the financial balance of the whole transport service.

This system will allow an increase in territorial knowledge, in accessibility level for weak tourist groups, an increase of communication and tourist presences for minor local attractiveness, the decongestion of major tourist places, a decrease of small village depopulation and many other advantages.

FOCUS ON PROJECT PARTNER

UNCEM

Unione Nazionale Comuni Comunità Enti Montani

UNCEM represents the mountainous territories grouping the mountain union communities, 553 mountains Municipalities and other authorities. UNCEM has a strong experience in transnational and interregional projects (Demo-Change, Moreco) and is a part of the European Networks. UNCEM Piemonte has the capacity to mobilize more than 500 Municipalities at Regional level and to involve at Regional and National levels the Governments in order to promote accessibility and legislative innovations of the existing instruments in the framework of transport and planning policies of mountain areas..UNCEM will contribute to all work packages (WP), especially in the WP Communication for transferring innovative planning and transport solutions into regional and local policies helping decision makers to evaluate the best solutions to minimize CO2 emissions. EU co-financed projects and other international projects: INTERREG ASP: Alpwaterscarce, ClimAlpTour, DemoChange and Moreco.CENTRAL EUROPE PROGRAMME : E2BEBEIS, ADAPT2DC and RETURN)

Contact point : Nuria MIGNONE - nuria.mignone@libero.it

FOCUS ON PROJECT PARTNER

SIR

Salzburg Institute for Regional Planning and Housing

Salzburg Institute for Regional Planning and Housing SIR is a transdisciplinary team, working in the fields of Spatial Planning, Housing, Mobility, Community Development and Sustainable Energy. All municipalities of the Austrian Federal State Salzburg are members of SIR. It assists the Federal State of Salzburg, municipalities and national institutions by research, consulting, facilitation, education and training for more than 40 years. The institute provides essential information and fundamental know-how about spatial patterns, living and mobility behaviour, about communication and stakeholder involvement.
Within the ASTUS partnership, SIR contributes to all work packages and is work package 3 assistant. This work package is dedicated to the exchange of experience and know-how by ASTUS schools. ASTUS 2nd school is implemented in combination with ASTUS Mid-term Conference, both are organised by SIR. On a local level SIR supports decision-makers and works with local pilot-site stakeholders to build low CO2 scenarios, strategies and actions plans in the Austrian Pongau-Region.

Contact point : Walter RIEDLER - walter.riedler@salzburg.gv.at

FOCUS ON PROJECT PARTNER

REGION BOURGOGNE FRANCHE-COMTE

Région Bourgogne Franche-Comté

As an ASTUS partner, the Regional Council of Bourgogne-Franche-Comté is responsible, assisted by SIR, for the work package dedicated to the local experimentations for low CO_2 actions plans. Two ASTUS Schools were organized, the first one in Besançon, the second one in Werfenweng. The objective was to promote the creation of a transnational exchange network. Partners, observers and pilot sites benefited from this transnational facilitation and cooperation. They are involved in developing scenarios and operational action plans based on co-constructed methodological proposals.

Two local pilot sites are involved: the “PETR Horloger” - Mountain territory confronted with strong urban / mobility issues (land pressure, urban sprawl, commuting flows of vehicles, increased by the proximity with Switzerland).The “PETR Lédonien” - Urban / peri-urban / rural complementarity area. The concentration of jobs and services in Lons-le-Saunier draws a territory with strong polarity exposed to a growth of commuting towards the central city.

Contact:
Florence CATANESE
Florence.Catanese@bourgognefranchecomte.fr

European Regional Development

SUPPORT FROM THE EUROPEAN UNION : € 2.036.558

PROJECT SELECTED | FOR CO-FINANCING BY THE EUROPEAN UNION