MACRO REGIONAL STRATEGY DISCUSSION PAPER

D.T3.2 |EU Strategy for the Danube Region

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Contents

1. Project background and programme context

The magnitude and growing trend of air traffic (on average 10% per year in the EU) requires actions also for the improved and sustainable landside accessibility of airports to and from their respective FUAs. Airports are key assets and transnational transport gateways for citizen traffic and commercial activities worldwide. LAirA (Landside Airport Accessibility) addresses the multimodal, smart and low carbon mobility integration of airports in the mobility systems of functional urban areas (FUAs). The project is supported by the Interreg Central Europe cooperation programme and includes Eastern and Southern regions of the EU and affects about 56 million passengers and 39 thousand employees of the FUAs of Budapest, Dubrovnik, Milan, Modlin (Warsaw), Poznan, Stuttgart, and Vienna.

The main subject of the LAirA project addresses the improving capacities for mobility planning in FUAs to reduce CO2 emissions. The ambition of the project is to facilitate a change in the mobility behaviours of both airport passengers and employees, by respecting the FUAs continuous energy reduction, by the introduction of smart technologies and by observing environmental mobility impacts. It is important to develop a common new low carbon mobility strategy by involving local authorities, other organizations and stakeholders. Transportation today is one of the largest sources of carbon emissions in the European Union. The main overall objective is to reduce the carbon footprint of transport activities related to the airports' landside connectivity in FUAs – develop strategies and capacities for transport planning.

The most important factors in reducing CO2 at airports and their FUAs would be the easing of the growing congestion as well as managing the traffic and transportation flow. The unlimited development creates the loss of the natural habitat, increases air and noise pollution and leads to high distress growth on the local population. The major challenge of the analysed airports and their FUAs is to find a sustainable strategic way of balancing the negative airport traffic with the wellbeing of the affected population. The project employs a transnational and innovative comprehensive approach that integrates seven key thematic areas:

Electric Vehicles: Electric vehicles are becoming increasingly practical in terms of their range, availability, cost and specification. Provision for these vehicles in terms of charging infrastructure is increasingly common at airports for convenience for customers and to support low carbon travel.

Air-Rail Links: Easy access to a fast, frequent rail link to the local city centre is an attractive alternative to road-based transport to/from airports. Often faster services compete with cheaper slower rail or bus services, so Air-Rail services need to be frequent, fast, high quality and well promoted.

Active Travel: To encourage cycling to the airport, particularly for airport employees, good supporting facilities and incentives are required. This includes good connectivity to cycle routes in the wider area, on-site facilities such as secure parking and showers, and incentives such as promotions and events.

Shared mobility: Car-pooling and car sharing offer alternatives to taxi, hire car and single occupancy car trips. Car sharing can be more economical than taxi or traditional car hire, depending on the timescale of use. The shared cars themselves are often low emission models, including electric options. Car-pooling is particularly useful to reduce single occupancy commute trips.

Intelligent Transport Systems (e.g. Apps): 63 percent of the world's population is estimated to have a smart phone and Apps are now a key method of accessing information on travel. Traditionally airport Apps have focused on parking and air-side information, however, modern best practice examples provide detailed information for passengers on landside transport options. Apps can also assist airport staff to provide high quality customer services to passengers by providing travel information, particularly at times of disruption.

Wayfinding: Airport terminals are complex buildings, often on multiple layers. Airports with multiple options for landside travel can have the associated issue of providing information in a way which is intuitive to an international and transient audience. Clear wayfinding to onward transport connections is vital to ensure these options are as easy to use as possible.

Road-based Public Transport: Bus and coach services often provide opportunities for low cost, convenient links to a wider range of destinations than rail services may provide. Special airport coaches, other coach operators and local bus services can provide excellent levels of accessibility. Local bus services also provide an important option for airport staff. Ensuring attractive and easy to use ticketing options and information is important for both passengers and staff.

In a transnational policy learning dialogue action plans for low carbon mobility of airport passengers and employees were developed, that took into consideration multiple types of measures according to the above mentioned thematic areas, not only related to public transport but also to further integrate other low carbon mobility solutions (e.g. e-mobility, car-sharing). Based on the broad – taking into consideration the characteristics of the covered FUAs – and depth of information collected and analysed, the concepts drafted and tested local and transnational level strategies are formulated that have relevance to broader EU sectoral and spatial development strategies. The ambition of this discussion paper is to highlight synergies and help to define further improvements to relevant macro-regional strategies, or in case the specific topic is not presented even to initiate the broadening of the scope of such strategies.

2. Macroregional Strategies of the European Union

The macro-regional strategy of the European Union is a policy framework to allow countries of the same region to jointly tackle and find solutions to problems (e.g. environmental hazards, climate change, navigability, economic or social) or to better use their common potentials (e.g. by building networks to better utilize locational advantages, natural resources, human capital). By doing so, they benefit from strengthened cooperation, thus making their policies more efficient than if they had addressed the issues in isolation. EU macro-regional strategies may be supported by various EU funds, like the European Structural and Investment Fund. EU macro-regional strategies are initiated and requested by EU Member States concerned, located in the same geographical area, via the European Council. Following the European Council request, the strategies are drafted and adopted by the European Commission. As a result, such strategies are intergovernmental initiatives. Their implementation relies heavily on the commitment and goodwill of the participating countries.

Another important aspect is that macroregional strategies do not come with new EU funds, legislation or formal structures: they rely on coordination and synergy, enabling the optimal use of all existing financial sources including EU, national, regional and private funding, better implementation of existing legislation, and better use of existing institutions at all levels. EU macro-regional strategies address challenges and opportunities specific to the respective geographical areas they are concerned with, that are too local to be of direct interest to the whole EU, but too broad to be dealt with efficiently at the national level.

The objectives of the strategies are long-term and jointly agreed by the participating countries. They vary according to the needs of the macro-region concerned, focusing on strategic issues that bring added value to horizontal EU policies. Each strategy involves a broad range of actors at various levels (international, national, regional, local), sectors (public, private, civil society) and fields of expertise, thereby providing a platform for consistent multi-country, multi-sectorial and multi-level governance. To date, four EU macroregional strategies have been adopted. Each is accompanied by a rolling action plan updated regularly to accommodate emerging needs and to remain relevant in a changing context:

- the EU Strategy for the Baltic Sea Region (2009);
- the EU Strategy for the Danube Region (2010);
- the EU Strategy for the Adriatic and Ionian Region (2014);
- the EU Strategy for the Alpine Region (2015).

These concern in total 19 EU Member States and 8 non-EU countries, representing over 340 million people. The EU member states involved are Austria, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia and Sweden, whereas the non-member states participating are Albania, Bosnia and Herzegovina, Liechtenstein, Moldova, Montenegro, Serbia, Switzerland and Ukraine. Some EU countries are involved in multiple strategies: Germany and Slovenia are involved in three, while Croatia, Italy and Austria are concerned with

two. Three non-EU countries, Bosnia and Herzegovina, Montenegro and Serbia, are part of two EU macro-regional strategies.[1]

2.1. The EU strategy for the Danube Region

The EU Strategy for the Danube Region (EUSDR) aims to provide an integrated framework for countries and regions in order to address issues that require transnational and supranational strategic approaches. The Danube Region is a functional area defined by its river basin. Geographically it concerns primarily but not exclusively: Germany (Baden-Württemberg and Bavaria), Austria, the Slovak Republic, the Czech Republic, Hungary, Slovenia, Romania and Bulgaria within the EU, and Croatia, Serbia, Bosnia and Herzegovina, Montenegro, the Republic of Moldova and Ukraine (the regions along the Danube) outside. The 'EU Strategy for the Danube Region' is described in two documents: (1) a Communication from the European Commission to the other EU Institutions, and (2) an accompanying Action Plan which complements the Communication. The first document outlines the main challenges and opportunities for the region.

Challenges[2]

- Mobility: the Danube River itself is a major TEN-T Corridor. However, it is used way below its full capacity. Freight transported on the Danube is only 10%-20% of that on the Rhine. As inland waterway transport has important environmental and efficiency benefits, its potential must be sustainably exploited. There is particular need for greater multimodality, better interconnection with other river basins modernising and extending infrastructure in transport nodes such as inland ports.
- Energy: prices are high in the Region, in relative terms. Fragmented markets lead to higher costs and reduced competition. Reliance on too few external suppliers increases vulnerability, as periodic winter crises testify. A greater diversity of supply through interconnections and genuine regional markets will increase energy security. Improved efficiency, including energy saving and more renewable sources, is crucial.
- Environment: the Danube Region is a major international hydrological basin and ecological corridor. This requires a regional approach to nature conservation, spatial planning and water management. Pollution does not respect national borders. Major problems such as untreated sewage and fertiliser and soil run-off make the Danube highly polluted. The environmental impact of transport links, tourist developments, or new energy-producing facilities must also be considered
- Risks: major flooding, droughts, and industrial pollution events are all too frequent. Prevention, preparedness and effective reaction require a high degree of cooperation and information sharing.
- Socio-economic: the Region has very wide disparities. It has some of the most successful but also the poorest regions in the EU. In particular, contacts and cooperation are often lacking, both financially and institutionally. Enterprises do not sufficiently exploit the international dimension of marketing, innovation or research. The share of highly educated people in the Danube Region is lower than the EU27 average, again with a pronounced divide. The best often leave.
- Security, serious and organised crime: significant problems persist. Trafficking in human beings and smuggling of goods are particular problems in several countries. Corruption undermines public confidence and hampers development.

[1] https://ec.europa.eu/regional_policy/sources/cooperate/macro_region_strategy/pdf/mrs_factsheet_en.pdf

[2] quoted from the document COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Union Strategy for Danube Region COM(2010) 715

Opportunities

The Region:

- is where Europe opens to the east. Existing transport and trade links must be developed (e.g. through the TRACECA transport network connecting the EU through the Black Sea region to the Caucasus and Central Asia);
- has a solid education system, with many universities. However, quality is variable. Education and training must be relevant to labour market needs, while student mobility within the Region is promoted;
- possesses a striking cultural, ethnic and natural diversity. There are global cities and heritage sites, including more capitals than any river in the world. This requires a modern tourism offer and infrastructure, so that guest and host can profit;
- can better exploit renewable energy sources, whether water, biomass wind or thermal. There is also great scope for energy efficiency, by better managing energy demand, and by modernising buildings and logistics. These actions would foster the transition to a low-carbon economy;
- is characterised by rich environmental assets: exceptional fauna and flora, precious water resources and outstanding landscapes (e.g. the Danube Delta, the Carpathians). These should be sustainably preserved and restored.

The document outlines Four Pillars that address the major issues identified. Each comprises Priority Areas, distinct fields of action. These are[3]:

(1) Connecting the Danube Region
- To improve mobility and multimodality
  - (a) Inland Waterways
  - (b) Road, rail and air links
- To encourage more sustainable energy
- To promote culture and tourism, people to people contacts

(2) Protecting the Environment in the Danube Region
- To restore and maintain the quality of waters
- To manage environmental risks
- To preserve biodiversity, landscapes and the quality of air and soils

(3) Building Prosperity in the Danube Region
- To develop the knowledge society through research, education and information technologies
- To support the competitiveness of enterprises, including cluster development
- To invest in people and skills

(4) Strengthening the Danube Region
- To step up institutional capacity and cooperation
- To work together to promote security and tackle organised and serious crime

[3] ibid.

Within each priority areas (PAs) several actions were identified by the Action Plan. Within the PA 1b dealing with all modal connectivity issues outside inland navigation there are 7 actions ranging from filling gaps in transeuropean infrastructural networks to developing multimodality.

2.2. The relevance of LAirA project results in the context of the EUSDR

The EUSDR Action Plan states that "modern, well connected road infrastructure is essential, but this needs to be complemented by rail transport to avoid congestion and ensure an efficient and environmentally sustainable transport system, while air transport is also crucial to ensuring the Region can fully play its part in a globalised world." Among the actions sustainable metropolitan transport systems and mobility is given a priority as it improves competitiveness as well as promotes sustainability (contributes to climate protection) and improves health as well. The Action Plan also mentions ICT solutions making sustainable modes of transportation easily accessible and the further development of e-mobility. Under the title: "To develop further nodal planning for multimodality", the action stresses the importance of terminal infrastructures and the elimination of bottlenecks on feeder routes to assist the shift of transport volumes to more energy efficient and environmentally friendly modes of transportation.

"Airports need to be easily accessible, safe and secure. In certain parts of the Danube Region airports are undergoing privatisation and/or management decentralisation processes and need to have a strong and efficient management system. The potential for regional airports is being put into light by point-to-point flights and the growth of air cargo. Such growth must take place in a harmonious and unconstrained way. Problems are largely linked to a lack of coordinated planning, funding and implementation. The existing inter-governmental bodies need support to deliver sufficient, concrete results. Since mobility and accessibility require costly investments, it is important to plan so that these investments are used to their full potential (e.g. joint investments, planned transnationally with shared costs and benefits). Multimodal nodes need to play a more significant role not only in terms of accessibility but as optimal places for concentrating business and industry. (…) Mobility and accessibility are also linked to other policy fields such as environment, and socioeconomic development. An integrated approach means overall benefits are more realistically assessed, to include the benefits for all the countries and sectors concerned. Modern technological advances (e.g.: ICT) also allow mobility needs overall to be re-examined."[4]

3. Proposals for consideration

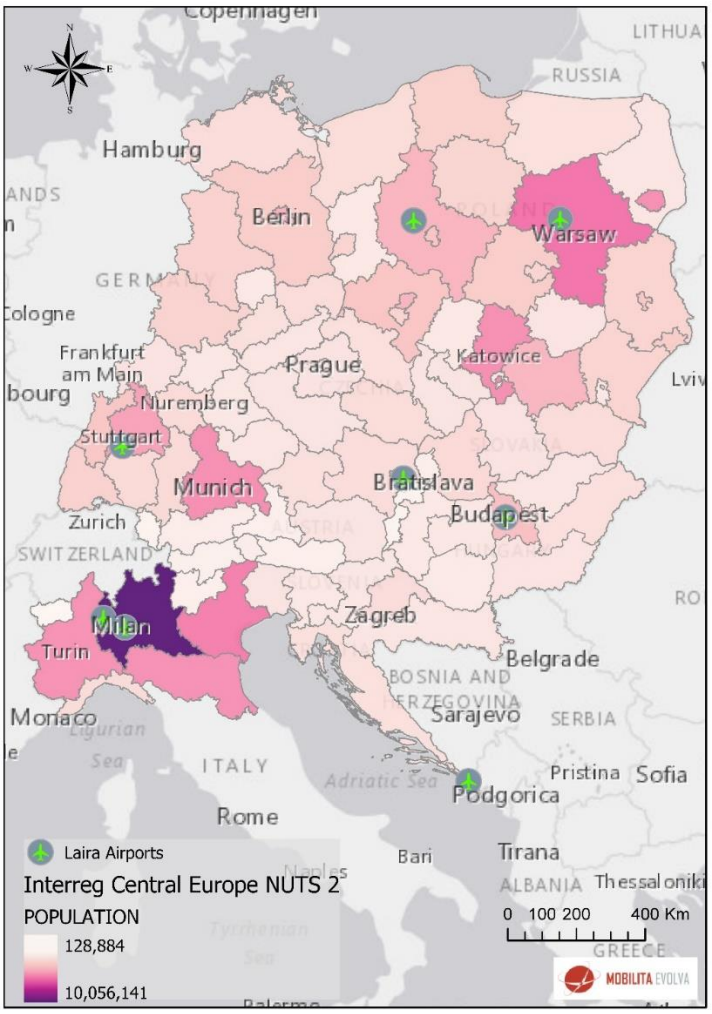
3.1. Geographic coverage

As shown above accessibility of airports to their FUAs connects to several themes of the EUSDR. All the eight participating airports and their FUAs in the LAirA context have different sizes with respect of the area, the number of inhabitants and the level of airport landside accessibility (multimodality). The Budapest FUA is considered as a large metropolitan area with almost 3 million inhabitants. The Dubrovnik-Neretva County is considered as the FUA Dubrovnik with approximately 122.000 inhabitants. Linate (LIN) and Malpensa (MXP) Airports, located in FUA Milan (LIN) and Varese (MXP) together have over 10 million inhabitants. The two FUAs host over 40% of the regional population. The Warsaw Modlin Airport is located in the FUA Mazovia, which covers the area of three municipalities: Nowy Dwór Mazowiecki, Zakroczym and Pomiechowek (approximately 46.000 inhabitants). FUA Poznan (the city of Poznan and the surrounding municipalities) has over 1 million residents. The FUA of Stuttgart comprises 95 municipalities. The total population of FUA Stuttgart reached 1.965.942 inhabitants in 2014. Besides the FUA Stuttgart there are five other FUA`s (Tübingen, Reutlingen, Heilbronn, Pforzheim, Sindelfingen) in the direct catchment area of the Stuttgart Airport. The three provinces that belong to the Vienna FUA are Burgenland, Lower Austria and Vienna. The City of Vienna is the main point

[4] COMMISSION STAFF WORKING DOCUMENT, ACTION PLAN Accompanying document to the COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS European Union Strategy for the Danube Region, 2010, p. 11.

of attraction within the FUA, with about 1.8 million inhabitants. Although there are some differences between the geography of LAirA (Interreg Central Europe) and the Danube Region the variety of participating regions and airports provides a valid platform to adapt results within the framework of EUSDR.

Population of LAirA participating FUAs



3.2. Thematic proposals – transnational strategy

Transnational cooperation is required to improve the coordination among existing services provided by different modes of transport. By creating intermodal systems of existing transport facilities and overcoming discontinuity across borders connectivity is restored. The coordinated strategies, concepts and implementation management contributes to improving the multimodality of available environmentally sustainable transport modes, enhancing the efficiency, reliability and quality of available transport modes and services in the respective FUAs. A common theme – transnational potential – revealed in the LAirA project was that a higher use of public transport is relevant for every LAiRa airport. Extending the service lines and increasing the frequency of the public transport modes available are crucial, as well as the modernization of the fleets – including implementing new environmentally friendly technologies – and timetable harmonization within the FUA transport system.

Building railway infrastructure that runs directly to the airport from the city centre is a major concern for: Milano Linate, Poznan Lawice, Warsaw/Modlin and Budapest airports. In the latter case a full integration with the national (and international) rail network is under discussion. By combining rail and air transport modes – by facilitating remote baggage drop-off and check-in – may prove to be a viable alternative to the automobile

that is the overwhelming mode used currently to access airports – even in regions where public transport is available. Such large-scale infrastructure investments require an in-depth cooperation between different political and administrative stakeholders. The availability of infrastructure should be complemented by strong awareness raising among potential users of the newly created services.

A reduction of landside mobility CO_2 emission may be achieved by switching to electric mobility. Airports are destined to become large scale testing grounds as the operation of airports involves large fleets: rental cars, taxis and a number of shuttle and coach services between the FUA and the airport. Also many airports are investigating electrifying their on-site support fleets – cars, minivans, thugs, aircraft service mobile equipment – thus becoming carbon-neutral. Landside infrastructure should be developed to accomplish this: charging stations for e-vehicles, parking places equipped with charging spots as seen at Stuttgart Airport, one of the forerunners in electrification. Electric car sharing has also potential for every partner airport regardless whether there is already car-sharing available already or if there are plans to introduce car-sharing in the future. The development of electric mobility should be emphasized both at national and local level and thus it is one of the areas EUSDR should extend its focus, especially when considering future actions to improve urban and regional multimodal public transport development.

Probably a neglected area for airport landside accessibility, nevertheless all the LAiRA partners have highlighted the particular potential for soft mobility. Every LAiRA airport reported having employees living 1-15 km away from the airport, who commuting alone by individual car. In most cases the direct vicinity of airports are low density single family housing suburban areas that do not have sufficient public transport offering and also the shifts these workers take are hours less frequented by any public transport even if it is available during normal working hours. Generally, soft mobility and its promotion in urban policies is linked to reducing emissions generated by vehicular traffic. It is expected that by increasing soft mobility would reduce private car traffic (single drivers), particularly regarding the short trips daily commuters take to and from the airport (employees). Another way to reduce single driven private car trips would be ride-sharing. Both models require the enabling infrastructure: dedicated, safe bike (and walkways) in and around airport areas that were developed very much to serve cars and buses. The emerging attention to environmental concerns led many cities towards development of specific infrastructure and services dedicated to make soft mobility available. These are to be promoted within the context of EUSDR as well. Within the LAirA project several pilot activities were conducted such as the introduction of car-sharing platform, bike-to-work, awareness raising campaigns and also digital wayfinding tool that informs users about the carbon footprint of their choices.

There are serious land use and traffic congestion as well as air pollution and noise problems that increase as air connectivity improves and air transportation is made feasible for a wider audience (as seen with the low-cost airline business model). When talking about sustainable access to the airport, the main objective is to reduce carbon emission produced by private cars. Since parking is number one source of non-aeronautical income for most airports, accounting for up to a quarter of the total operating revenue, airport authorities need to rethink how they find other sources of income. Another challenge faced when switching to the public transport is the congestion of public transport vehicles themselves seen in Stuttgart, Vienna and Warsaw. Public transport timetables are not suited well to employees working in odd shifts, which poses great challenge to convince employees to switch to sustainable transport modes.

Within the transnational context the development of coordinated concepts for smart regional mobility and services is foreseen, fostering improved service standards and interoperability. Particular attention is put on mobility services in the public interest. LAirA identified short term (2025), medium term (2030) and long-term objectives (2050). In line with the proposals for a new EU level cohesion policy (2021-2027) where regional development investments will strongly focus on objectives 1 and 2: Smarter Europe and Greener, carbon free Europe allocating 65% to 85% of ERDF and Cohesion Fund resources to these priorities, bringing co-financial support to strengthening airport-FUA transport integration. The most important common strategic goals identified valid for all participating airport FUAs were:

Objective 1 – Improving and investing in the public transport sector – making it attractive and accessible;

Objective 2 – Investing in the infrastructure for electric mobility and vehicle sharing systems;

Objective 3 – Soft mobility for commuters;

Short term 'quick wins' include:

- Application with real-time data with information on different modes of transport and their schedules and itineraries for passengers. The enhanced passenger digital experience with reference to real-time information is tested by SEA Milan Airports in a travel planning application as part of the pilot project to improve airports digital channels for FUA land access. Implementation requires airline, airport and public transport operator data integration (shared platform).
- Awareness raising on low carbon emission mobility among employees: positive contributions to public health, the environment and the local identity. Facilitating mentality of change by campaigns and small investments improving soft and shared mobility between airport and nearby urban areas.
- Shared mobility hubs in the main city of the airport for passengers and surrounding cities for employees and at the airport:
    - Bike sharing systems provide access to bicycles for short trips at a low cost and eliminate the barriers to owning and maintaining or traveling with a personal bike. A person rents a bike at the airport and drives with it to his/her destination. An acceptable distance to bike is 10 km and optimal distance is 5 km (especially considering e-bikes). Bike share is designed to provide a cost-effective, environmentally friendly and convenient travel option for many short trips. Bike sharing is optimal for employees living in the area 10 km from the airport to access the airport.
    - Car sharing would allow passengers to reach the city center or the airport in an easy, non-stressful way. A person picks up a car at the city center hub and drops it off at the airport hub. Car sharing differs from the traditional car rental model by offering more locations to pick up vehicles and eliminating the hassle of having to go into a branch office to pick up and drop off a vehicle and being basically an on-demand service on short time basis.
- Measuring and monitoring of the air quality at the permanent measuring stations. Feedback of environmental impact is an important measure for all passengers and employees.

Longer term investment proposals

These interventions are the key elements for developing green airports, in terms of surface access.

Enhancing public transport	Improving and investing in the public transport sector – making it attractive and accessible
New public transport links, connecting surrounding areas for employees and more harmonized system to the city center and the FUA.	Priority of direct air – rail links for the airports

Strategy for battery management	Preservation of the environment
Long term electrification measure	Cradle to grave scenario for lithium ion batteries: sustainable plan of reusing and recycling

Investments in electric mobility infrastructure	Investing in the infrastructure for electric mobility and vehicle sharing systems
Appropriate charging infrastructure is a key enabler for the switch to electric mobility	Medium term investment for airports and municipalities in the FUA

Investments in soft mobility infrastructure	Soft mobility as a way of accessing and leaving the airport
Appropriate cycling and pedestrian infrastructure are key enablers for the switch to soft mobility	Development and modernization of cycling routes. Due to lack of facilities for cyclists at airport offices, commuting by bike is not attractive to employees. Auxiliary infrastructure is crucial in order to attract employees to cycle to work, at least in warmer seasons (bike parking, lockers, showers, changing rooms).

3.3. Further resources contributing EUSDR actions

In the LAirA project partners have prepared reports, studies action plans and strategies. Some of them are particularly relevant in the context of EUSDR:

International best practice report

This report is divided in the same seven thematic areas as the LAirA project. The best practice review has been conducted via desk based research focussing on 20 case studies, across 16 airports located in Europe and North America. The desk based research was complemented with interviews with stakeholder representatives, who assisted in providing more detail on several topic areas. Recommendations refer to best practice implementation and aimed at stakeholders with an interest in developing them.

Transnational Action Plan - Multimodal, Smart and Low Carbon Accessibility in Airport Functional Urban Areas

This report specifically focuses on identifying actions for sustainable surface access at the LAirA airports. It can support non-partner airports in better understanding which actions they can deliver to improve landside accessibility, by bringing the LAirA partners' experience.

Educational Model on Understanding the Integration of Airports' Landside Access Into the Mobility Systems of Urban Areas

This educational model handbook presents the multimodal and sustainable low carbon mobility integration of seven different airports in the transport systems of their functional urban areas (FUAs). The educational training would cover public authorities, such as public servants and transport providers, as well as airport employees to improve their skills in the development of low carbon mobility services at the airport and its catchment area. It is very important to understand the sustainable airport connectivity procedures, so that the right solutions to the problems that arise in the mobility sector of the FUA can be found.