ACTION PLAN

D.T2.1.4 Joint Soft mobility action plan in LairA airport FUAs	**Version 3** **11 2018**

Project background and programme context

1. Project objectives

LAirA addresses the specific and significant challenge of the multimodal, smart and low carbon mobility integration of airports in the mobility systems of Functional Urban Areas (FUAs) of Central Europe (CE). Airports are key assets of CE FUAs and important transnational transport gateways for CE citizens. The magnitude and growing trend of air traffic (on average 10% per year in the EU) requires actions for the improved and sustainable landside accessibility of FUAs to airports.

LAirA's ambition is to reduce the energy use and the negative environmental impacts of transport activities in central-European urban centres and their hinterlands by provoking a change of mobility behaviours of passengers and employees of airports. A By building novel strategies that are available for public entities low carbon mobility planning should be improved. The 87 million passengers and over 50,000 employees of the airport systems in the FUAs of Vienna, Budapest, Warsaw, Milan, Stuttgart, Dubrovnik and Poznan are addressed by the LAirA developments. LAirA shall develop the capacities of public entities – local and regional authorities and airports -, that jointly plan and implement low carbon mobility solutions.

A transnational and innovative comprehensive approach is used that integrates seven key thematic areas:

- Electric mobility,
- Air-Rail links,
- Walking & cycling,
- Shared mobility,
- ITS,
- Wayfinding,
- Road Public Transport.

LAirA defines in a transnational policy learning dialogue the action plans for low carbon mobility of airport passengers and employees, taking into consideration multiple types of interventions (the seven LAirA thematic areas) not only related to public transport (competence of authorities) but also to further integrate other low carbon mobility solutions(e.g. e-mobility, car sharing).

Strategies for low carbon integration of airports in FUAs are defined in a governance process involving airports, authorities, agencies, transport providers, associations & nodes. WPT2 focuses on action planning low carbon mobility services & changing behaviour for low carbon airports accessibility in FUAs. The expected output is a transnational Action Plan for Multimodal, Smart and Low-carbon Accessibility in Airport FUAs.

2. Thematic Focus:
Joint soft mobility action plan in LairA airport FUAs

Soft mobility itself has a vague definition and often interpreted in broad sense. In this deliverable we define soft mobility modes environmental-friendly and people-friendly transport modes including any human powered (non-motorized) or partially e-mobility modes (e.g. pedelecs, e-bike, e-scooter etc.) gaining multiple benefits to the users, environment and increase the liveability of an urban area. According the definition, we can define under soft mobility modes the pedestrian, bicycle, roller skate, scooter and skateboard, as well as electric or electric assisted vehicles (e.g. pedelec, e-bike, e-scooter etc.), that basically use the same infrastructure just like the other soft mobility modes. These soft modes are meant to indicate alternative to car use within a certain geographic range. Referring to these sustainable mobility modes, they help optimizing urban mobility and enhance standard of living thus keeping the individual right to move.

Most cities are engaged in soft mobility defining interventions to relieve cities from traffic congestion, slow down traffic and improve urban quality of life. This requires a certain infrastructure that is essential to facilitate and pull citizens to increasingly use these soft modes. In general, the use of soft mobility modes influences people's lifestyle offering a feasible alternative to car use. In many cases it is closely connected and incorporated into spatial planning including urban, regional mobility management. Moreover, at wider level, including the corporate level the promotion of soft mobility modes for employees is emerging. Soft mobility and "soft" (non-infrastructural) measures are often associated as they are meant to influence and change attitudes and travel behaviour. However, we have to point out, that without proper infrastructural measures, mobility options soft measures have only marginal impact.

Each mobility mode has its own constraints, and that applies the soft mobility modes too, therefore their proper place and integration into the mobility system has to be defined, when it comes to improving soft mobility in the FUA. The scope of this action plan is the functional urban areas restricted to the optimal use of soft mobility modes in the vicinity of airports in order to foster the shift of the modal choice of airport employees to soft mobility.

The elaboration of a joint soft mobility action plan needs coordination among several stakeholders at the landside of the airport as well as outside the area of the airport. Outside the airport area, depending on the administrative system of the country the local municipalities / regional municipalities or other regional coordinating entities in the FUA play a key role in planning, implementation and coordination of action to exploit all potential synergies for soft mobility.

3. Relevance of topic for airports

The EU WHITE PAPER - Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system[1] has a dedicated section for clean urban transport and commuting highlighting that "facilitating walking and cycling should become an integral part of urban mobility and infrastructure design". Moreover, the promotion of the awareness of alternatives (e.g. walking and cycling) to individual conventional transport are explicitly mentioned, while the vulnerable users as pedestrians, cyclists etc. are seriously taken into account as beneficiaries of the 'zero-vision' on road safety.

The Communication from the European Parliament, European Commission, European Council, The European Economic and Social Committee and the Committee of the Regions on the 'Together towards competitive and resource-efficient urban mobility'[2] calls the attention, that with their high population densities and high share of short-distance trips. There is a greater potential for cities to move towards low-carbon transport than for the transport system as a whole, through the development of walking, cycling, public transport.

Aviation industry is a dynamically growing segment of the economy and the economic activities concentrate into the airport areas. The more intensive this activity, the more significant is the role of an airport providing job opportunities to the citizens. Airports are relative large employers of a region that triggers mobility demand resulting from the location of the airport and the residential areas where from the employees regularly commute. The mobility demand, depending on the available choice of mobility alternatives determined by the infrastructure, could be partially covered by soft mobility modes. Most of the airport have not been designed to facilitate these modes, though the potential for their use is available and they could provide a real alternative with limitation against other transport modes such as car.

Major European airports are located in the close vicinity of larger dense urban areas within the FUAs. The location of the airport may vary from close distances (e.g. Geneva Airport is found only 4 km, while in Poznan the distance is not more than 7 km from the city centre), over medium distances (about 20 km from the city centre in Budapest and in Vienna). Larger distance from the city centre of the FUA to the airport may apply to Warsaw-Modlin and Milan-Malpensa airports 40 and 50 km respectively.

In the first case, urban density is a great asset to facilitate soft mobility. In the medium distance case, the location of the airport might be close to suburban areas that cover partially the range of commuting by soft mobility in case the proper infrastructure is available. Airport with large distance from dense urban centres might be located in rural areas or next to smaller settlements. In this case, due to limited efficient transport modes

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[1] COM(2011) 144 final
[2] COM(2013) 913 final

resulting from low-density population might not have available and adequately safe infrastructure to facilitate the soft commuting for some share of the airport employees.

The social, geographic and infrastructural aspects determine the policy and modal share in FUA. The related policies and status quo on soft mobility at LAirA partner airports arethe following:

- The Vienna FUA covers the City of Vienna, Lower Austria and Burgenland. Lower Austria's mobility concept explicitly mentioning the coordinating regional and transport-related developments, building and maintaining sufficient bicycle infrastructure. Schwechat Airport (Vienna Airport) is located geographically in the Municipality of Schwechat, in Lower Austria. The municipality has a separate local transport plan in which the goal is to make a shift from motorized individual transport to sustainable transport modes such as walking, biking and public transport. Measures and activities regarding the airport address the railway connectivity and bicycle access. One docking station for public bike service is available for the employees at the airport, though there is a fairly large distance by bicycle from Vienna City centre to the airport. The share of cycling to Vienna Airport was 2% in 2013.

- Budapest Urban Development Strategy and Program aims to halt urban sprawl and minimize mobility needs to better use public transportation and environmentally friendly modes of private transport e.g. (cycling). The Sustainable Urban Mobility Plan of Budapest contains the development goals and all measures for improving all transport modes. The sustainable urban mobility plan of Budapest aims at increasing the share of walking and cycling together from 20 to 30% by 2030. The vicinity of the Budapest Airport has incomplete cyclist and pedestrian infrastructure, e.g. fragmented cycle road network. Instead, lower ranked roads could be used to approach the airport by bicycle as a workplace. It is not surprising, that the share of cycling and walking among the employees was 4% according to the LAirA survey.

- The Sustainable Urban Mobility Plan for FUA Poznan aims at integrating the railway system better while connecting with the networks of bicycle paths too. Public bike system is also available for the airport employees with one docking station near the airport, though serving the local residents. However, the docking station distribution is not the most user friendly for airport employees, this way the walking distance is relatively large. Due to the short distance, existing safe infrastructure, the Airport of Poznan (Ławica Airport) showed a 6% cyclist, 3% pedestrian share according to the LAirA employee survey

- The surrounding municipalities at Modlin Airport in Mazovia would support soft transport modes, but for example, the spatial development study of the Pomiechówek municipality at Modlin Airport identifies main roads a risk for

pedestrians and cyclists. This comes from the suboptimal infrastructure dedicated to cyclists and significant car traffic on national roads. The current cycling routes do not provide adequate levels of comfort, safety and fast accessibility to the airport along the most optimal ways from key locations of the functional urban area. Despite short distances between the municipalities of the functional urban area and the Warsaw Modlin Airport there is hardly any possibility to safely reach the airport on foot, from the three municipalities due to fragmented safe infrastructure on potential walking routes. Public bike system is available in the nearby municipalities and one docking station is located in front of the terminal and the nearest train station. The share of walking and cycling among employees is 3%.

- Dubrovnik Airport is hardly accessible safely on foot or by bicycle. There is no proper parking facilities for bike. Even though there are 3 bicycle routes for recreation purposes including Eurovelo near the airport the municipal bicycle route development strategy shall be developed to better utilize the already existing recreational routes for short trips. The modal share of walking and cycling was 1- 1,5% at the latest employee mobility survey in 2018.

Needs and visions on soft mobility of LAirA Airports in the CE region

The results of the LAirA learning interaction from May 2018 is summarized below in the action plan matrix for soft mobility:

Partner	Local Thematic Vision	Key challenge	Relevant Best Practice (for local situation)
LP- PP2 BUD	- Barrier-free accessibility of the airport by all means of transportation to the airport. - Complete infrastructure for soft mobility developments (bike roads, storage, user-friendly bike transportation practice) - Allowing bike use at landside areas	- Available good infrastructure to the airport - Integration of soft mobility plans into the separate developments - Integration of the related developments of the various actors (airport-local government-country level developments) - Convincing and creating new policies for airline companies, security officers, etc. to set up user-friendly bike transportation at airports and airplanes	Design of bike roads is integrated into the new developments or in the refurbishment of existing infrastructure, as well as the adjustment of regulations of bike use is on the way at BUD.
PP3 Milan Airport	Integrate cycling network around Malpensa to the local bike network		
PP4 Mazovia	- pavements/sidewalks - bicycle paths and stands	coordination	Vienna, Copenhagen
PP5 WRS	N/A	N/A	N/A
PP6 DBV – PP7 DURA	All forms of non-motorized transport powered by human energy are desireable	Novelty; Adaptation of local people	None
PP9 ATECh	- Higher usage of biking trail for employees - Idea of e-bike usage by employees when traveling on-site at the Airport	Fairly long bicycle distance for daily commuters (challenging factors such as weather conditions, as cycling path is not protected at all), commuters tend to commute by car to work at the airport (~70% in 2013) **Potentials:** - Ambitions of e-bike promotion for employees - Availability of 'nextbike' (bike-sharing) stations at the airport (for commuting on-site)	"Heathrow hires world's first airport cycle officer to encourage staff to get on their bikes" (Target group: employees who live within 5km of the airport)
PP10 Poznan			Permission for build a Poznan City Bike station near airport
PP11 SEA	LIN: develop greenways for employees (walking and cycling)	LIN: investment depends on local authorities	Genève Airport (located 4 km from the city center) has cycle and pedestrian dedicated routes and on-site facilities

Based on the results of the thematic workshop about the vision and challenge of the airports involved in the LAirA project the following results turned out

Vienna Airport is in a favourable position that a good quality bike road is built from Vienna to the Airport. The vision therefore addresses the higher usage of the trail by the employees by promoting them and the bike-sharing system that is available at the airport. The vision involved the higher share of e-bike and pedelecs use while commuting to the airport. The challenge for the daily commuters is the distance (20 km from the city centre of Vienna) and the weather conditions that do not favour regular cycling on unprotected paths. Relevant best practice could be to employ an airport cycle officer to encourage staff living within 5 km of the airport to get on their bikes such as at Heathrow in London.

Budapest Airport has a vision of fostering barrier-free accessibility of the airport by all means of transportation. This incorporates strongly the cycling infrastructure development from bike roads to safe parking opportunities, changing room and shower and adopting cyclist friendly behaviour. They plan to allow bike use at the landside areas of the airport with a corporate bike-pool system. The challenges for further promotion of soft mobility modes are that the airport has a good road infrastructure. Future developments must have a complex view in which soft mobility must be included. Integrating the soft mobility plans of the airport into local and regional planning and mobility plans. The lobby at authorities to support the development vision shall be complemented by encouraging airline companies, security officers, etc. to set up user-friendly bike transportation at airports and airplanes. The Budapest Airport aims at refurbishing the existing infrastructure with a complex view on supporting cycling infrastructure and adjusting existing regulations and policies for bike use in the landside zone of the airport.

The Poznan Airport has a relatively close location to Poznan and a good bicycle road infrastructure from the city to the airport. The Poznan bike (public bike-sharing system) with a docking station near the airport, but not specifically for the airport use. The challenge is to make people use the public bike-sharing system and to get a permission to build a docking station at the airport

Modlin Airport aims at improving the infrastructure near the airport in cooperation with the regional and local authorities as well as increasing the maintenance effort of the existing infrastructure so that the airport could safely accessible by bicycle and providing a better onsite conditions for storing the bicycles. Furthermore, the Modlin Airport aims at improving intermodality where soft mobility is taken strongly into account. Namely using public bike-sharing from Modlin train station to the airport. The key challenge lays within the coordination of these activities among the relevant stakeholders and decision-makers. The airport has no control over activities outside its area, while it has clear vision for facilitating accessibility of the airport by soft mobility modes. Modlin airport is looking at Copehangen and Vienna Airports as good practices to follow.

Dubrovnik Airport has a clear local vision by fostering the use of all forms of non-motorized transport means powered by human energy. The challenge is coming from the poor or often lacking infrastructure elements. Their aim is to improve the infrastructure for pedestrians and for cyclists to connect the routes to the airport into safe network for commuting. This way the unnecessary car trips could drop.

To conclude, the focus of the LAirA partner airports is getting more and more into the cyclist mobility development. Without safe, seamless bike road infrastructure let it call greenway, cycling cannot flourish. In case the infrastructure exists, other auxiliary, but crucial infrastructural elements are necessary such as proper bike facilities supporting cyclist behaviour at the airport such as safe storage facilities, changing and shower room etc.

In all cases, the fundamental cyclist road infrastructure is depending on the regional and local authorities that is out of the scope of the airport. However, indirect impact coming from the good relationship with the stakeholders could result in strong lobbying activities to support this goal of the airport and integrate the dedicate cycle and pedestrian routes to the airport into the existing system.

Limitations and Potentials

Higher share of soft mobility modes in the modal split has clear limitation, but great potential too within certain framework conditions. At transnational level it is challenging to generalize, as each airport, every location has its specificities. However, in general walking, cycling and other human-powered transport modes have their limitations, that can determine the set of possible solutions too.

Walking and cycling has an optimal range in daily commuting deriving from the average speed. Depending on the lifestyle, attitude of an employee, the range of walking is up to 2-3 km, but in extreme cases it might reach the 5 km. Residential areas are rarely located in the close vicinity of airports, therefore the pedestrian infrastructure even if cannot be neglected, but it has limited impact on the increase of sustainable mobility modes.

In the case of walking, the focus shall be on the intermodality aspect as all movements start and end with walking, therefore the barrier-free comfortable walking conditions are highly favoured.

Cycling is a swifter mode of soft mobility, this way it has a larger range. Especially in denser urban environment, cycling is very competitive with individual motorized transport and this can replace the under 5 km long, unnecessary urban short trips by car. Beyond the 5 km range, cycling has a typical range of 0-25 km range for commuting depending on the individuals and the type of bike they use. With the spreading of pedelec and e-bikes, this range is closer to the 25 km or sometimes it may exceed that.

A comparison: door-to-door in urban traffic*
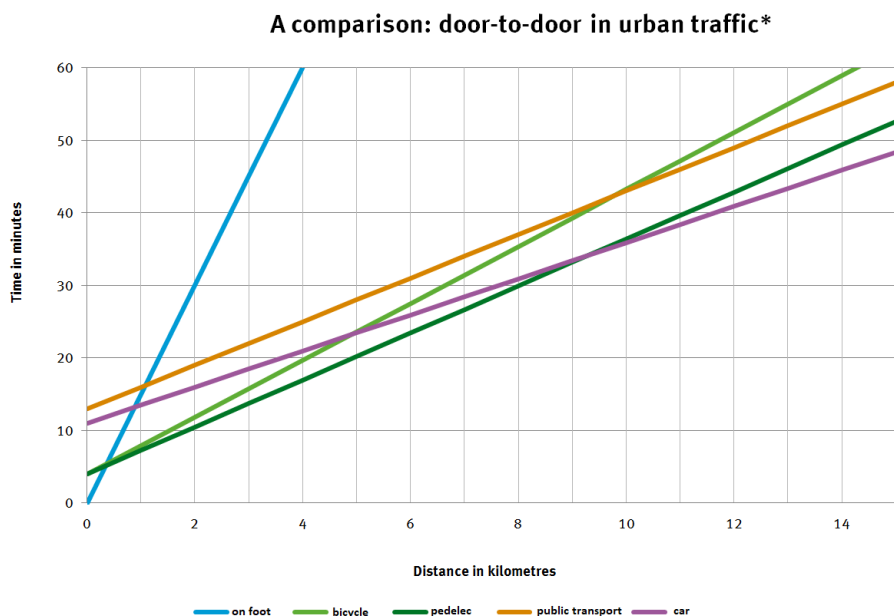
* An average speed is assumed for every mode of transport: on foot = 4km/h, bicycle = 15.3 km/h, pedelec = 18.5 km/h, bus/train = 20 km/h, car = 24.1 km/h.
In addition, travel times to and from each travel mode were determined = shown on y-axis.

1. Figure A comparison: door-to-door in urban traffic (UBA, 2016)

What are the major considerations that might become limitation to the increasing of the ratio of the soft mobility modes?
- existence of safe, barrier-free infrastructure as an alternative transport mode;
- optimal routing for soft modes against individual motorized transport;
- relief;

- distance;
- climate;
- existence of auxiliary facilities at the workplace e.g. for cyclists (safe parking place, changing rooms, locker and shower);
- individual behaviour,
- social pattern and culture.

The limitations and potentials are interdependent on each other. Primarily, a well-built infrastructure offering mobility alternative can increase the potential of the use of soft modes. If the users can find the route quick, safe, seamless, and the user journey enjoyable etc. then they would consider using the mode and the route even under unfavourable weather conditions.

Once the infrastructural potential is given, soft campaigns highlighting the favourable benefits of the soft modes such as riding the bike is fun, financial benefits or cost-saving, time-saving, convenience, health benefits and better stress tolerance etc. could help exploiting the potential. The emphasis of lifestyle beyond the separate benefits is a key.

4. Key objectives from airport's perspective for future developments

a) Short-term and medium-term (e.g. 2030)

- Connect the airport in the local and regional pedestrian and cycling infrastructure in a barrier-free and safe way.

- Determine a noticeable share for soft mobility users (e.g. walking, cycling, pedelec or scooter users) in the modal split of employees.

- Use a complex planning method for road and public transport development providing equal chances for all mobility modes including soft mobility and put much emphasis on seamless multimodal accessibility of the airport.

b) Long-term (e.g. 2050)

- Increase the ratio of sustainable commuting modes to employees including public transport to 60%

5. Measures/Actions addressing the key objectives including: time period, responsible/involved actors and priority

In this section the key fields of actions are defined that will address the key objectives. These key fields are the backbones for the promotion of soft mobility at airports among the employees as specific measures will actively contribute to meeting the overall objectives, the vision of the airport.

Infrastructural development – integration into the FUA pedestrian and cyclist network

Safe and barrier-free infrastructure is often missing partially or completely that hinders accessibility of airport by soft mobility modes. Therefore, related actions for improving these conditions are essential to increase the share of these modes in the modal split.

- Revision existing urban development and master plan in the FUA of the airport to facilitate the accessibility of the airport by soft mobility modes;
- Enhancing multi-modal transportation with special focus on soft mobility modes in regional and urban SUMPs / mobility plans;
- Building main infrastructure corridors (network integration) for cycling and walking in the direction of the airport

Enhance existing infrastructural pedestrian and cyclist network

Making the commuting easier and better is a key in making soft modes more attractive. This entails:

- Increase safety along the roads and at crossings
- Improve the quality of roads thereby increase the comfort of commuting e.g. barrier-free transport
- Give priority of equal chances to soft modes (waiting time at crossings, short cuts, etc.) comfort of bicycle and pedestrian roads, crossings (quality, waiting time etc.)
- Allowing the use of soft mobility and enhancing soft mobility infrastructure at the landside areas of the airports

Improving auxiliary infrastructure at the workplace

In some aspects, human-powered modes may be less comfortable when arriving to the workplace due to the required physical effort.

- Creating changing and shower room for employees and providing them lockers
- Establishing safe parking facilities for bicycles and scooters etc. at a convenient distance from the workplace

- Making all pedestrian roads barrier-free

Awareness raising activities, promotion of soft mobility modes

Active promotion of soft mobility modes and the lifestyle related to them. These activities play a vital role in getting familiar with the use of these modes, new improvements other than the conventional car use.

- participation of airport in certain awareness raising activities of thematic days such as EU Mobility Week, Cycle to work campaign, Earth Day, etc.
- Community programme, personal introduction and site-visit for new soft mobility modes.
- Celebrate successes and achievements
- Incentivize the use commuting by soft mobility modes
- Establishment of community/corporate bike sharing system
- Create a mobility smart phone app for employees to track their achievement, routes to receive feedback
- Gamification

6. Actions

Action 1 – Revise urban development and mobility plans in the FUA

a) Action

Strategic plans set the direction for future developments. The regional and local authorities shall elaborate or revise existing development and sustainable mobility plans in line with the needs of the airports to facilitate the physical possibility of the infrastructural development so that soft mobility could play a viable alternative to car use.

b) Overview on measures

Action	Actors involved (Target groups and agents of change and their role)	Barriers	Timeline	Proposed changes/improvements in general addressing airports and their FUA
Revision of strategic integrated urban development plans and sustainable urban mobility plans	Local, regional authorities. airport, trade unions of employees, transport service providers etc.	cyclic planning process might take longer Financing developments are political decision, strategic documents might not be taken into account	2018-2022	Revising future infrastructure planning to make the accessibility of airport easier by soft mobility modes.
Elaborate a sustainable urban mobility plan for the FUA	Local, regional authorities, broad scale of stakeholders	Thinking outside the box (outside the territory of a municipality requires more effort and cooperation from all parties)	2018-2022	Harmonizing mobility and spatial planning in the SUMPs and involving broad scale of stakeholders such as the airport operator.

c) Sustainability Potential/impacts

Strong involvement of sustainable mobility (including soft mobility) is key in strategic development plans e.g. masterplan, integrated urban development plans. These strategic directions laid down in documents supposed to be the fundament for future developments.

d) Risk Mitigation Measures

Lobbying power of airport is considerable when it comes to local developments. Co-financing by airport might be attractive for decision-makers and that could facilitate the implementation of the spatial plans, the creation of necessary, good quality infrastructure for soft mobility.

Action 2 - Improve existing infrastructural pedestrian and cyclist network

a) Making soft mobility safer, suitable in all weather conditions, barrier-free and providing equal opportunities at junctions outside the airport as well as in the landside areas.

b) Overview on measures

Action	Actors involved (Target groups and agents of change and their role)	Barriers	Timeline	Proposed changes/improvements in general addressing airports and their FUA
Supervision of existing infrastructure to make them suitable for 21st century soft mobility needs.	Local and regional municipalities, road authorities.	Car-centred authorities	2018-2020	Fine-tuning of existing infrastructure could improve considerable the commuting by soft modes without great investment
Enhancing the maintenance works at pedestrian and cyclist infrastructure	Local authorities maintaining pedestrian and bicycle road infrastructure	Lack of financial means / machinery / human capacities / political will.	2018-2022	More attention to and investment into the existing soft mobility infrastructure

c) Sustainability Potential/impacts

Existing infrastructure has already users, but it the potential number of users could be raised by the improvement of the existing infrastructure that requires small-scale interventions.

d) Risk Mitigation Measures

Proactive airport operators paying attention to the soft modes and foster regular maintenance and improvements could change the mindset of local authorities and give impetus to the developments.

Action 3 - Improving auxiliary infrastructure at the workplace

a) The paradigm of car-centred mobility is over. More sustainable transportation modes namely soft mobility shall be given equal opportunities too. Soft mobility modes do not take as much as space as car-use, however, they need other type of infrastructure, that helps the users themselves to feel comfortable, because most of these modes require physical effort to move. Auxiliary infrastructure at the workplace, under the authority of the employer is required such as shower room, changing room with lockers as well as safe storage for the bicycle, scooters etc. at a reasonable distance from the workplace.

b) Overview on measures

Action	Actors involved (Target groups and agents of change and their role)	Barriers	Timeline	Proposed changes/improvements in general addressing airports and their FUA
Improving auxiliary infrastructure at the airport for workers (shower, locker etc.)	Airport operator, companies working at the airport, Trade Unions for employees	Limited space and limited cooperation among too many actors.	2018-2020	Existing infrastructure for soft mobility should be revised and the infrastructure shall be developed to meet the needs of soft mobility mode users.
Improving parking conditions for human powered two-wheeled vehicle	Airport operator	Lack of space and car-centered mindset might not treat soft modes equal to cars	2018 - 2022	Establish safe, easily accessible bicycle/scooter/etc. parking stands for the employees
Improving parking conditions at regional public transport stops	Airport operator, local authorities, public transport operator	Users might not feel the parking places safe enough	2020 - 2025	Parking places for bikes should be established at regional public transport stops from where the airport is easily accessible.

c) Sustainability Potential/impacts

The space for creating these supporting infrastructural elements could help changing from car-use to soft modes within the vicinity of the airport that could results in less pollution, space demand for employees at the airport, while the freed up space could be used for market based activities.

d) Risk Mitigation Measures

Establishment of such environmental airport cooperation with the tenants and cooperative partners in which such initiatives could be discussed and carried out under the coordination of the airport operators.

Action 4 - Awareness raising activities, promotion of soft mobility modes

a) Soft modes are often not taken into account as competitive alternative to car use. Often this is because people are not aware of the existence and the use of the mode, that these provide real alternative while changing people's lifestyle into a favourable direction. Promotion and awareness raising campaigns could contribute to shift in people's mindset and to make them aware of these alternatives.

b) Overview on measures

Action	Actors involved (Target groups and agents of change and their role)	Barriers	Timeline	Proposed changes/improvements in general addressing airports and their FUA
Participation in awareness raising initiatives, thematic days e.g. EU Mobility Week, Cycle to work campaign, Earth Day etc.	Airport operator, airport tenant companies, local municipality, NGOs	Lack of capacity for coordination and organization Lack of interest of airport tenants	2018-	Organzing these events will increase the general awareness of the employees on sustainable mobility and lifestyle and increase the group/team cohesion of the employees.
Organizing dedicated sustainable mobility or soft mobility community programmes for employees	Airport operator, airport tenant companies, local municipality	Lack of capacity for coordination and organization Lack of interest of airport tenants	2018-	Organizing thematic community events, related site visits, introduction of new developments at the airport.
Celebrate successes	Airport operator, airport tenant companies, local municipality	Disinterest of employees or companies	2018-	Positive feedback and communication about soft mobility related developments within and outside the airport while involving employees beside positive internal and local media appearance. Strong awareness raising impact.
Incentivizing the regular use	Airport operator,	Lack of intention to	2019-	Incentivizing commuting by soft

of soft mobility modes for commuting to work	airport tenant companies	support soft commuting modes		mobility modes is a good way of directing additional benefits to the salary for changing the behaviour of employees
Establishment of corporate bike-sharing system, bike-pool, company bike	Airport operator, airport tenant companies	High initial investment, lack of employee / tenant engagement	2020-	Airport operator and airport tenants could offer bikes for their employees as part of the mobility benefits.
Development of an sustainable mobility app to employees	Airport operator, airport tenant companies, mobility service providers	Lack of user due to lack of employee engagement and technology barrier	2020-	Airport operators hand-in-hand with largest tenant could develop a mobility app to facilitate sustainable commuting such as cycling. Valuable information for future developments could be tracked by the application while an app could be used for justifying the mobility benefits employees might receive.
Gamification with smartphone application assisted corporate games related to soft mobility commuting	Airport operator, airport tenant companies, mobility service providers, NGO-s	Lack of interest from the employees. No real effort from initiators.		Making behaviour change fun is a good driving force to get used to new habits. Increasing capacities over organizing such activities could result in surprisingly good impact.
Testing new products for a certain period of time	Airport operator, airport tenant companies, mobility service providers, private companies	Lack of interest from the employees	2018-	Teaming up with certain technology provider e.g. smartwatch, scooter, bicycle, e-scooter, pedelec or e-bike etc.producers could for testing their product for a certain period of time could provide good opportunity to test the product and give feedback on the identifying potential deficiencies how to make soft commuting better.

a) Sustainability Potential/impacts

Awareness raising activities often improve soft skills; do not need any physical infrastructural intervention. However, they are complementing infrastructural developments and their additional value is to increase the efficiency of existing infrastructure elements and to help spreading sustainable mobility pattern, lifesytle.

b) Risk Mitigation Measures

Good communication, real company intention to change and valuable content for each activity is needed to raise the interest of the employees to participate such events. The coordinators and participating companies may have to allocate additional resources to make the activities regular.

7. References

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