Interreg CENTRAL EUROPE
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LAirA

LOCAL STRATEGY - Recommendations for the Vienna Airport (FUA) on low-carbon emission landside accessibility

D.T3.1.7 - Building the strategy for Vienna airport long term mobility integration into the FUA

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Author: AustriaTech

Inhalt

1. Introduction

LAirA strategies for airports low-carbon landside mobility planning in functional urban areas (FUAs) aim at contributing to the reduction of CO_2 emissions when accessing the airports from the landside. The objective of the LAirA strategies is to use the experience and knowledge of the project partners to build a common transnational format of strategies, which will enhance the integrated environmental management of covered airport FUAs regarding the mobility, i.e. landside access.

1.1. Subject and purpose of the strategy

LAirA WPT3 builds strategies for low carbon integration of airports in surrounding FUAs by involving airports, authorities, agencies and transport providers. AustriaTech compiles this strategy for the Vienna airport region within the framework of the LAirA project. The content of this strategy may contribute to the future mobility- and transport-related developments around the Vienna International Airport and in the related FUA of Vienna.

LAirA develops a transnational process of the rollout and transfer of its results in Central European (CE) FUAs also engaging Macro-Regional Strategies. The specific objective is related to improvements in terms of novel strategies within the LAirA FUAs and in the development of a blueprint (transnational strategy) transferred to CE FUAs.

The target groups of the strategy are all institutions, organisations and individuals, who are interested and engaged in the mobility and transport developments in airport FUAs. The strategy addresses local, regional and national stakeholders, development agencies, authorities, businesses and civil organisations whose actions and attitudes are determinant for the long-term durability of the project results.

1.2. Methodology

Based on the LAirA WPT1 local analysis, existing action plans, projects or best practices and other guiding documents, a vision, objectives and potential interventions for future developments in the field of landside access to airports were drafted. From the project itself, previous working documents such as the results of the passenger survey, the employee survey, the analysis of the mobility system as well as policy plans/strategies and other insights to local best practises were considered.

Other inputs for this strategy report were collected in available documents such as:

- Austrian Strategy on climate and energy "mission2030" (published by the Federal Ministry for Sustainability and Tourism and the Ministry for Transport, Innovation and Technology)
- Portfolio presentations from ASFINAG and ÖBB at the GSV (The Platform for Mobility) event on March 19th 2019 in Vienna as well as the ÖVG event on May 22nd 2019
- Results report of the airport-related Interreg project „PUMAS"
- Sustainability Report from the Vienna Airport for 2017.

The purpose of the Austrian mission2030 strategy is to ensure the life quality and well-being for the population. Therefore, climate and energy goals are defined throughout the fields of mobility and transport, building technology, decarbonisation in general, digitalisation and many more. Among the covered measures and recommended transport-related activities, e.g. train-related infrastructure investments are included in the strategy.

On March 19th 2019 the Platform for Mobility, GSV, organised an event targeting the growing airport cities and challenges for the transport infrastructure in the eastern Austrian region (from the Vienna Airport's

geographical perspective). Speakers from the Vienna Airport (Mr Ofner, Managing Board Director), the ASFINAG (Mr Walcher, CEO of ASFINAG Construction Management) as well as the ÖBB (Mr Baltram) and the Province of Lower Austria (represented by Mr Schleritzko, Lower Austria's Regional Minister for Finances and Mobility). It is estimated that the Vienna Airport will handle 40 million passengers by 2030. At this time not even, the third runway will be completed. The province of Lower Austria, where the airport is located, emphasises the need to focus on the shift from road to rail as well as optimisation of road transport where rail is not an option. Infrastructure investments projects, such as the expansion of certain sections of the highway A4 and the train corridor direction east were the most intense discussed topics of the event on 19th of March, and emphasised by all present stakeholders. Similar content was presented at the ÖVG annual conference at the Airport of Vienna on May 22nd 2019. At the conference, a focus was set on the possible railway extensions especially in the south and east and in the rural areas. Further inputs in field of waterways and highways were given. Some planned railway projects are the improvement of the S1, the extension of the railway to Bratislava and Budapest and the extension to Vienna.

The PUMAS project, funded within the Alpine Space Programme in the period from 2007-2013, focused on Sustainable Regional-Urban Mobility Planning (SUMP) and implemented this concept in seven pilot areas, whereas the area of Schwechat-Wien (covering the Airport of Vienna) was one pilot area. For the Austrian pilot a regional mobility concept for the corridor Schwechat-Wien was drafted targeting focus areas such as micro-public-transport for the region, bicycle infrastructure and the public transport connection to the Vienna Airport. Results can be retrieved from the project website http://bit.ly/2Wnt4U8.

The latest available Sustainability Report from the Vienna Airport was published in 2018. It covers research and development projects, achievements when it comes to environmental certificates, efforts in the field of corporate social responsibility and environmental and climate protection. Within this strategy measures for mobility and transport developments are included, most of them still on going.

Based on these above-mentioned documents, information that was collected throughout the project (mainly provided by the Vienna Airport representative in LAirA) a vision for the Airport of Vienna as well as objectives, challenges and potential interventions for future low-carbon mobility developments (related to landside access) were drafted.

2. Baseline situation

The Airport of Vienna is well connected to the City of Vienna and at least by road, also well connected to its surrounding municipalities. The quality of public transport service is higher between the airport and the City of Vienna compared to the small municipalities in the rural surrounding area. Programmes and initiatives have been already set up in order to ensure a constant dialogue between the Vienna Airport and the FUA municipalities (addressing CO_2 and noise emissions). However, when analysing the situation on a deeper level, it is obvious that there is high potential towards low-carbon mobility for commuting to and from the airport, especially when it comes to employees. Different mobility solutions, especially demand-driven solutions (e.g. shuttles, car-pooling) are yet not covered by an overall mobility strategy for the airport (region) and the use of digital benefits (e.g. trip planning, information provision) is yet not sufficient. The share of individual passenger cars is still high; especially among the employees working at the airport site. Parking revenues are still an important part of an airport's business model and hence, it is necessary to find a balance between environmental and business goals as well as user needs.

2.1. Analysis of the Vienna FUA's mobility plans and policies

As the airport is geographically located in the province of Lower Austria but also economically related to the city/province of Vienna, mobility plans and policies from both regions were taken into account for the

analysis. Furthermore, as there is a high share of employees commuting from the province of Burgenland, also the documents from this region were considered.

Existing mobility plans and policies can be distinguished by their legitimacy and responsible parties. In Austria various instruments - legally binding and of recommendable nature - exist for spatial developments and transport planning issues. Considering mobility plans and policies from the regions of Vienna, Lower Austria and Burgenland, none of the documents is legally binding. However, objectives, planned activities and set measures on local level have to be developed in accordance with supra regional or national recommendations as well as spatial planning laws (e.g. Regional Development Act) that are available on province scale.

Existing plans and policies established for the area of/around the FUA Vienna lack of concrete recommendations as well as measurements for more sustainable transport to and from the airport. Immediate surrounding areas that serve the airport with employees are hardly considered.

Different measures and activities are proposed in a number of plans/policies, such as:

- More frequent intervals for the local train connection S7 → already implemented
- Construction of the railway-link to Bruck an der Leitha - Bratislava - Budapest (previously called Götzendorfer Spange) for connecting the airport with the eastern railway track → successfully passed a strategic impact assessment, efforts for suitable train line are on-going and should be decided until summer 2019
- "Better public transport connections" (without any specifications)
- Train connection between the airport and the Central Train Station of Vienna → successfully implemented
- Extension of the highway A4 from two to four lanes → currently under construction
- "Improved parking management" at the airport (without any specifications)

In general, it appears as if most of the measures dealing with sustainable transport modes only address people traveling to or from Vienna. Especially those who live in the rural area next to the airport seem to be at a disadvantage in terms of low-carbon airport accessibility.

2.2. Analysis of the Vienna FUA's multimodal mobility system

The Airport of Vienna is very well accessible by road and rail. Especially during peak hours, the frequency of local trains serving the airport with passengers and employees is high and soon will reach its capacity limits. By providing three different bus lines ("Vienna airport lines"), the Vienna Airport is well connected to different areas of Vienna. However, especially those regions that are in the immediate surrounding area of the airport are not very well connected by public transport. There is only one bus line connecting the airport with the northern part of the province of Burgenland and the course takes about an hour. When speaking of immediate surrounding areas or the municipalities located east of the airport, west of the City of Vienna or the southeastern parts of the province of Burgenland, the access by car is the most convenient and probably even the most reasonable way of accessing the airport - for employees as well as for passengers. Train connections are available between Vienna, the airport and other small municipalities located north and east of Vienna. By implementing the direct train service between the airport and the City of Linz (Upper Austria) as well as Graz (Styria), the catchment area for passengers traveling to and from the Vienna Airport has been expanded. This improvement of train lines, especially between the Airport of Vienna and Linz, is considered as one major achievement during the last years. Another big achievement was the implementation of the bicycle path between Vienna and the airport. Although, due to the location and weather conditions in this area (characterized by strong winds) and a total duration of around 75 minutes

for one direction it can be assumed that this mode of transport is not chosen very often, especially not by passengers. Marketing for the cycling network around the airport could be improved by the province of Lower Austria and affected municipalities. Besides private cars and public transport services, also car-sharing companies and usual taxis are available for commuting to and from the airport. Especially taxis produce a high amount of CO_2 emissions by empty journeys between Vienna and the airport: Taxi drivers that are registered in Vienna are not allowed to pick-up passengers at the airport (located in the province of Lower Austria) and taxis that are registered in Lower Austria are not allowed to pick up passengers in Vienna.

Another Lack of mobility service could be identified regarding mobility services available directly at the airport. Offices are not always located in immediate distance to the train or bus station and therefore an on-site airport shuttle bus for employees exists. However, this shuttle bus is not included in any digital or online mobility information system. Another lack appears when it comes to the informal and formal car- and ride-sharing options: different solutions exist but they are not integrated in an overall mobility information system/platform.

2.3. Vienna FUA passengers' landside mobility demand, needs and behaviour

In order to work with accurate information about the mobility behaviour of passengers, newest data from a representative passenger survey mid of 2018 was analysed. From the 2018-data, it could be concluded that three transport modes "private or company car" (23%), "taxi and rental car with driver" (16%) as well as "suburban train" (24%) are represented the most among outbound passengers traveling to the airport of Vienna.

42% of those people, that access the airport by car mostly travel for business reasons. In comparison, 25% of those that arrive by car are visiting friends or family and additional 21.5% are on holidays. The two main reasons for choosing the car are that it is "most convenient" and takes the "shortest travel time". Especially the reason "shortest travel time" in this case is plausible, as today's business people try to lose as less time as possible and parking may be compensated by the company. That is why it is important to strengthen all transport modes and reinforce people's awareness of what options they have.

What is striking out further more is that passengers travelling from distances up to 25 km, most of them are choosing the train for accessing the Vienna airport. Regarding distances higher than 25 km there is a significant tendency towards car usage. The analysis shows that passengers arriving from distances higher than 25 km the decision on choosing the transport mode "car" is rising up to around 50%.

Moreover, it is clearly visible that passengers from neighbouring FUAs (e.g. Slovakia, Hungary) are primarily using the car for accessing the Vienna Airport. It can be assumed that this is whether because there are no other options (e.g. train connection) of transport modes or because receiving the information on what other transport modes would be possible for getting to the Vienna Airport is plagued by obstacles or not/hardly possible.

2.4. Vienna FUA employees' mobility needs and behaviours

In the years of 2012 and 2013, a study investigating the mobility needs and behaviour of airport employees was carried out by the Airport of Vienna and the Leader Region Römerland-Carnuntum. Survey results were included to the LAirA employee's mobility report for the Vienna FUA (D.T1.4.1).

The majority of people commuting to and from the airport of Vienna use a car, followed by public transport and other modes such as motorcycles, bicycles or walking. The reasons why car users rather stick to this mode than shift to public transport are the following: it is fast, easy to handle and often the only transport supply that is available. People may shift to public transport in case the connections - especially to the surrounding rural area - would be improved (in terms of operating hours, intervals and availability in general)

and the accessibility to the last mile (the home) is guaranteed. It seems as if there is a need for enhancing the intermodal aspects by the means of infrastructure (e.g. secure bicycle parking lots at train stations) but also timetable alignment across transport supplies and reliability.

However, the study results also indicate that there is a lack of flexibility when it comes to behavioural change. Complaints and needs for improvements refer to infrastructure adaptions (public transport terminals at the airport, expansion of motorway), timetable adaptions and organisational improvements regarding public transport (e.g. tariff models), ride sharing and taxi regulations.

Other factors explaining the employee's behaviour seem to be the missing connection between the airport and the immediate surrounding area/municipalities. People are not willing to switch because they also use their car for business trips during the day. Especially shift workers mentioned that the use of public transport would only be an option if the operating hours would be better adapted to the requirements of all airport employees.

Concrete measurements for improving the transport situation at the airport (for employees) are mentioned in the report from page 78 of the 'Römerland-Carnuntum' study. However, probably not all of them are ready for implementation. Measurements would need to be subject to an impact analysis or even a benefit-cost-analysis - especially from a long-term perspective.

Below a selection of valuable measures suggested in the study report of the Römerland-Carnuntum survey (and yet not implemented)[1] is listed:

- Shorter intervals and longer operating hours for the CAT (City Airport Train)
- Cheaper tickets for public transport
- Shorter intervals for the Airport Shuttle
- Better facilities for bicyclists and improvement of bicycle storages/parking spaces
- Better options for interchanging between modes/vehicles
- Better information in case of delays or disruptions

[1] Other, already implemented measures, can be found in the LAirA report on D.T1.4.8

3. Recommendations for Vienna Airport strategy

The recommendations for future mobility- and transport-related developments at the airport and the surrounding FUA summarise the needs that were revealed in LAirA studies and by stakeholder discussions during the last two years. This chapter provides potentials, challenges, visions and objectives as well as ideas for potential interventions. The content was shared and discussed with the representative from the Vienna Airport in the LAirA project and recognised as valuable by the legal representative of the project partner AustriaTech.

3.1. Potentials

From an external perspective, potentials in the fields of **enhancing even more the attractiveness and awareness of public transport** use, **making use of (and improving) the infrastructure for active mobility** and **taking new opportunities in the field of company-driven mobility management** could be identified. A solid basis for all three fields of potentials has been already set-up by providing a variety of mobility services that serve the Airport of Vienna. Furthermore, concrete measures are implemented/planned in the field of transport infrastructure development, by the Airport of Vienna, the ÖBB (national railway operator) as well as the ASFINAG (federal highway operator). Besides these infrastructure measures, more plans and measures (rather for organising the traffic load) exist, such as mentioned in the previous chapters of this report. Already defined and implemented/planned measures are not necessarily subject to the upcoming suggestions for interventions in this LAirA report.

3.2. Challenges

Challenges are faced due to the diversity of affected/involved stakeholders and different interests - especially when it comes to the involvement of three different Austrian provinces (Burgenland, Lower Austria and Vienna). Furthermore, various actors/departments are involved in the mobility management within the organisation of the airport and many external frameworks (e.g. taxi regulations, infrastructure investments for roads and railway, regional and local transport and spatial planning strategies and plans) affect the planning mechanisms of the airport.

Other challenges are capacity bottlenecks when it comes to the rail and road infrastructure. Furthermore, the airport needs to operate CO_2-neutral until (probably) 2030, when the third runway is supposed to be finished.

The passenger volume all over Europe is expected to be four times higher than now by 2030. This also affects the landside connections to/from the airport, such as the low-dimensioned railway station at the airport, parking facilities and access roads/railways.

3.3. Vision and objectives

The vision for future mobility- and transport-related developments in the Vienna Airport FUA Actions is derived from the potentials that have been identified (see also chapter 3.1). The objectives comply with these potentials.

> ***THE LAIRA VISION FOR THE VIENNA AIRPORT FUA***
>
> *In 2030, more than 50% of outbound passengers use rail-bound transport modes for accessing the airport. The other share commutes by eco-friendly road-bound transport modes such as e-/alternative-fuel-taxis, joint rides and eco-friendly busses. At the same time, employees benefit of the mobility management in their FUA home-municipalities, which are supported by the airport. An overall programme covering all businesses at the Vienna Airport considers employees' mobility needs and provides a set of alternative transport modes to individual/single rides by fossil-fuel cars.*

Thus, the following **objectives** can be drafted:

1. CO_2-neutrality of the Vienna Airport by 2030
2. Higher share (+50%) of rail-bound transport modes for accessing the airport by 2030
3. Higher share of e-vehicles among taxis that access/leave the airport
4. Higher share of bicycle users among airport commuters

Actions should fulfil the set objectives and are related to the potentials that have been identified. Hence, the following **actions** are recommended:

POTENTIAL 'Enhancing attractiveness and awareness raising towards public transport usage'

Related Actions 1:

- A) Provision of information pre-trip and on-trip for passengers, meaning that travellers can easily find information on the public transport offers at the Vienna airport before their trip but also when arriving at the Vienna airport (e.g. in the arrival hall)
- B) Mobility strategy/plan for the Airport of Vienna - addressing passengers and employees

POTENTIAL 'Making use of (and improving) the infrastructure for active mobility'

Related Actions 2:

- A) Improvement of facilities for bicyclists such as storages/parking spaces/charging facilities for the bikes as well as showers in offices/office parks for the cyclists
- B) Set-up of awareness raising programmes and improvement of cycle path network in the Vienna FUA

POTENTIAL 'New opportunities in the field of company-driven mobility management'

Related Actions 3:

- A) Testing of the usability and feasibility of e-bicycles for on-site mobility for employees
- B) Improvement of airport fleet management in favour of electric/alternative vehicles
- C) Continuous dialogue with surrounding municipalities, initiatives and companies such as the Vienna Airport Region and identify mobility needs of employees and inhabitants

3.4. Potential actions

3.4.1. Action 1A - Provision of information pre-trip and on-trip for passengers

Objective Title: Higher share (+50%) of rail-bound transport modes for accessing the airport by 2030	**Objective Number:** 2
Action: Provision of pre-trip and on-trip information for passengers	**Intervention/investment number:** 1A
Origin of the action: (X) Transfer ( ) New Concept ( ) Other	
Action description	
Currently, a variety of mobility information systems does exist at the Airport of Vienna. However, they are hardly visible or accessible by foreign passengers that travel to Austria/Vienna. The idea is, to enhance the cooperation between a selected provider (e.g. AnachB - first discussions have been achieved during a LAirA stakeholder workshop) and promote their tool at the airport, e.g. such as other mobility options (e.g. uber commercials) are promoted. Furthermore, this action can be combined with the provision of an information desk, explaining the different mobility options to the travellers. A further possibility to improve the Information system could be the combination of landside mobility information with flight data in the provided tool.	
Minimum viable action	
Recommendations for **must haves**: • Get in touch with the provider • Set-up internal process and team for providing the physical and technical infrastructure for this action • Promotion/marketing of selected mobility-information-tool (in cooperation with the selected provider) Recommendations for **nice-to-haves**: • Regular meetings for staying in contact with local providers	

• Consultation of external expertise on mobility behaviour and behavioural change
Responsibility - Who will implement the action?
This action could be implemented by considering the following actors: • Airport departments • Transport association/information system provider • External experts
Estimated budget and resources
Not available.
Measuring success - Inputs for KPIs & measuring tools
Suggestions for **KPIs** to measure success of interventions: • Documented meetings (with internal and/or external actors) • Number of hits for Vienna Airport (Railway Station) as origin or destination for a public transport trip (in the respective mobility information system) • Availability of physical infrastructure/information desk at the airport Suggested measuring **tools:** • Documentation of the process by responsible actor
Timeline - Start and end dates
Not available. Suggestion is, to start as soon as possible.
City/region vision and beyond
This intervention would affect the FUA of Vienna, covering three different provinces and its inhabitants as well as all travellers coming to Vienna or outbound passengers. It may furthermore affect surrounding FUAs.

3.4.2. Action 1B - Mobility strategy/plan for the Airport of Vienna

Objective Title: CO_2-neutrality of the airport by 2030	**Objective Number:** 1
Action: Mobility strategy/plan for the airport until 2023	**Action number:** 1B

Origin of the action:

(x) Transfer ( ) New Concept ( ) Other

Action description - What could be done

This intervention was originally mentioned as goal for 2023 within the sustainability report of the Vienna Airport. However, the sustainability report does not include an action description. Such a mobility strategy or plan could cover mobility solutions for passengers and employees, developed by the airport as well as other stakeholders such as the Province of Lower Austria and the City of Vienna. Based on a well-founded analysis, partially based on LAirA results but further based on results collected by the respective stakeholders (airport, provinces, city, ...), a joint strategy is recommended to be developed covering the mobility needs of all employees and passengers (international, domestic). It might also be an added value if, in addition, travel agencies and local airlines could be integrated to this process. Involvement of transport agencies as well as strong participation by transport participants (i.e. travellers, citizens/employees) should be granted. Furthermore, the mobility strategy could consider new mobility services and the combination of these services (e.g. MaaS). A connected integration of these services would ensure a multimodal mobility offer and a comprehensive information provision. As a contribution to the goal of a CO_2-neutral airport by 2030, an e-mobility and charging infrastructure concept for employees and passengers could also be included.

Minimum viable action

Recommendations for **must haves**:

- Set-up of time frame, stakeholder group and allocate responsibilities
- Engage consultation office that will be responsible for the citizens' and travellers' participation
- Draft actions and measures for passengers and employees

Recommendations for **nice-to-haves**:

- Regular meetings for constantly updating the strategy
- Integration of more users via online surveys

Responsibility - Who will implement the action?

This action could be implemented by considering the following actors:

- Airport shareholders and departments (e.g. Environment, HR, Parking)

• FUA provinces and municipalities • Transport agencies • Travellers, citizens/employees - i.e. transport users
Estimated budget and resources
Not available.
Measuring success - Inputs for KPIs & measuring tools
Suggestions for **KPIs** to measure success of interventions: • Finalised mobility strategy/plan for the Vienna Airport • Number of discussed measures • Number of certain implemented actions • Number of involved stakeholders Suggested measuring **tools:** • Documentation of the process by responsible party
Timeline - Start and end dates
Not available. Suggestion is, to start as soon as possible.
City/region vision and beyond
This intervention would affect the FUA of Vienna, covering three different provinces and its inhabitants as well as all travellers coming to Vienna or outbound passengers. It may furthermore affect surrounding FUAs.

3.4.3. Action 2A - Improvement of facilities for bicyclists at airport offices

Objective Title: Higher share of bicycle users among airport commuters	**Objective Number:** 4
Action: Improvement of facilities for bicyclists at airport offices	**Action number:** 2A
Origin of the action: ○ **Transfer** ○ **New Concept** ☒ **Other**	
Action description - What could be done	
Due to lack of facilities for cyclists at airport offices (e.g. secure storage, showers), commuting by bike is not attractive to employees. By implementing targeted measures for cyclists, the share	

among employees accessing the Vienna Airport from the immediate surrounding area could be raised - at least in the warmer seasons (between March and October). Together with this action, also Action 1B is necessary in order to raise awareness on the available cycle network. Infrastructure improvements may be needed on-site at the airport area in order to ensure safe travels by bike.

Minimum viable action

Recommendations for **must haves**:

- Start discussions with internal departments and involve the employee representative
- Survey among employees for identifying their needs on traveling by bike
- Identify premises that are suitable for secure storage and shower equipment/lavatories

Recommendations for **nice-to-haves**:

- Involve/engage other airport companies to also equip their offices with appropriate facilities

Responsibility - Who will implement the action?

This action could be implemented by considering the following actors:

- Vienna Airport departments
- Employee representatives
- Employees
- Other airport companies
- VAT (Vienna Airport Technik)

Estimated budget and resources

Not available.

Measuring success - Inputs for KPIs & measuring tools

Suggestions for **KPIs** to measure success of interventions:

- Modal split before and after the intervention
- Number of survey participants
- Number of "mode-shifters" (those that are willing to switch to more sustainable-friendly transport modes)

Suggested measuring **tools**:

- Surveys and group discussions

Timeline - Start and end dates

Not available.

City/region vision and beyond
This intervention affects the region of the FUA Vienna, covering mainly the province of Lower Austria and if need be, also the province of Burgenland (that strongly depends on the actual demand for longer-distance commuters).

3.4.4. Action 2B - Set-up of awareness raising programmes and improvement of cycle path network in the Vienna FUA

Objective Title: Higher share of bicycle users among airport commuters	**Objective Number:** 4
Intervention/Investment: Set-up of awareness raising programmes and improvement of cycle path network in the Vienna FUA	**Intervention/investment number:** 2B
Origin of the action: ● Transfer ○ New Concept ○ Other	
Action description - What could be done	
In order to achieve a shift to more sustainable transport modes for accessing the airport, awareness building and improvement in the field of active mobility needs to be achieved. In fact, already a lot of offers and mobility services to/from/at the Vienna Airport exist, however, as often, their visibility is not be given. The province of Lower Austria as well as the affected municipalities are required to take actions in this field (e.g. by naming/mapping cycle paths in the region) and being supported by the Vienna Airport (with focus on their employees).	
Minimum viable action	
Recommendations for **must haves:** • Set-up of internal process for starting awareness campaigns and cycle network improvements (mapping, branding of paths) • Involvement of external experts and stakeholders (provinces, municipalities) Recommendations for **nice-to-haves:** • Early involvement of user groups by e.g. surveys • Hands-on testing of new mobility solutions or services on newly mapped tracks/paths, e.g. by providing e-bikes for a certain time frame	
Responsibility - Who will implement the action?	

This action could be implemented by considering the following actors: • Vienna Airport departments • Vienna FUA Municipalities (rather the surrounding ones than the City of Vienna) • Province of Lower Austria/Burgenland
Estimated budget and resources
Not available.
Measuring success - Inputs for KPIs & measuring tools
Suggestions for **KPIs** to measure success of interventions: • Modal split before and after the intervention • Number of campaign participants • Number of "mode-shifters" (those that are willing to switch to more sustainable-friendly transport modes) • Number of test-users Suggested measuring **tools**: • Surveys and group discussions
Timeline - Start and end dates
Not available.
City/region vision and beyond
This intervention again affects the region of the FUA Vienna, covering mainly the province of Lower Austria and if need be, also the province of Burgenland (that strongly depends on the actual demand for longer-distance commuters).

3.4.5. Action 3A - Testing the usability and feasibility of e-bicycles for on-site mobility for employees

Objective Title: Higher share of bicycle users among airport commuters	**Objective Number:** 4
Intervention/Investment: Testing the usability and feasibility of e-bicycles for on-site mobility for employees	**Intervention/investment number:** 3A
Origin of the action: ○ Transfer ○ New Concept ◐ Other	

Action description - What could be done

Besides the lack of cycle path network information and bicycle facilities at the airport, e-bikes are yet not a subject to the airport employees' mobility management. Although two next bike stations with conventional bikes are available at the airport area, the utilisation level of bikes is not that high. The testing and implementation of e-bikes for employees could attract car-user towards a more environmental-friendly mode of transport. Furthermore, by testing a certain amount of bikes for employees, first-hand information of users can provide feedback on the practicability of cycling with battery-assisted systems.

Minimum viable action

Recommendations for **must haves:**

- Purchase e-bikes for upgrading the mobility management for employees
- Guarantee charging options and maintenance of the bikes
- Organise the bike rental / set-up internal processes

Recommendations for **nice-to-haves:**

- Early involvement of user groups by e.g. surveys to capture their real needs
- Hands-on testing of new mobility solutions or services

Responsibility - Who will implement the action?

This action could be implemented by considering the following actors:

- Vienna Airport departments
- Employee representatives
- Employees

Estimated budget and resources

Not available.

Measuring success - Inputs for KPIs & measuring tools

Suggestions for **KPIs** to measure success of interventions:

- Modal split before and after the intervention
- Number of campaign participants
- Number of "mode-shifters" (those that are willing to switch to more sustainable-friendly transport modes)
- Number of test-users
- Driven distance (per e-bike)

Suggested measuring **tools:**

• Surveys and group discussions • Counter unit on e-bike
Timeline - Start and end dates
Not available.
City/region vision and beyond
This intervention again affects the region of the FUA Vienna, covering mainly the province of Lower Austria and if need be, also the province of Burgenland (that strongly depends on the actual demand for longer-distance commuters).

3.4.6. Action 3B - Improvement of airport(-related) fleet management in favour of electric/alternative vehicles

Objective Title: CO_2-neutrality of the Vienna Airport by 2030	**Objective Number:** 3
Intervention/Investment: Improvement of airport(-related) fleet management in favour of electric/alternative vehicles	**Intervention/investment number:** 3B
Origin of the action: ○ Transfer ○ New Concept ⊗ Other	
Action description - What could be done	
The airport of Vienna is switching to alternative vehicles little by little, paying a special focus on their fore field and service vehicles (e.g. e-tractors, e-lift-trucks). Nevertheless, also off-fore-field vehicles such as pooling cars or company cars that are used for commuting between different office buildings or other premises (e.g. hangar, cargo area) could be exchanged to more environmental friendly vehicles, mainly e-vehicles (at the moment). As the airport needs to be CO_2-neutral by probably 2030 (depending on when the third runway will be finished), this action could contribute to required future developments. Furthermore, electric pooling cars could attract employees to switch to this mode of transport in general, also when it comes to their personal vehicle. Moreover, also taxis with e-propulsion could receive preferential treatment, such as easier permission to the departure zone or legal exemptions (e.g. to avoid the prohibition of picking up passengers at certain places).	
Minimum viable action	

Recommendations for **must haves**:

- Define and test suitable e-vehicles, led by the airport's fleet management
- Provide charging infrastructure
- Adapt process and organisation model of pooling cars for e-vehicles (if need be)
- Find dialogue with taxi fleet providers to discuss e-vehicle option

Recommendations for **nice-to-haves**:

- Early involvement of the employees in order to ensure acceptance of the new vehicle types

Responsibility - Who will implement the action?

This action could be implemented by considering the following actors:

- Airport of Vienna, mainly fleet management and employee representatives
- VAT (Vienna Airport Technik) for infrastructure adaptions
- Taxi companies/representatives

Estimated budget and resources

Not available.

Measuring success - Inputs for KPIs & measuring tools

Suggestions for **KPIs** to measure success of interventions:

- Users of e-vehicle per year (among passengers and employees)

Suggested measuring **tools**:

- Survey among employees
- Adapt passenger survey accordingly to find out how many people use e-vehicles
- Documentation of driven kilometres via car's logbook

Timeline - Start and end dates

Not available.

City/region vision and beyond

This action mainly affects airport's employees and fleet managers directly at the airport. Positive effects may be generated in case employees use pool cars instead of a CO_2-emitting vehicle within the region or beyond.

3.4.7. Action 3C - Continuous dialogue with surrounding municipalities, initiatives and companies

Objective Title: CO_2-neutrality of the Vienna Airport by 2030	**Objective Number:** 1
Intervention/Investment: Continuous dialogue with surrounding municipalities, initiatives and companies	**Intervention/investment number:** 3C

Origin of the action:

○ Transfer ○ New Concept ⊗ Other

Action description - What could be done

In order to be aware of the mobility needs and planned spatial/transport-related infrastructure developments in the Vienna Airport FUA, a continuous dialogue with all stakeholders should be granted - such as somehow provided by the Vienna Airport Regions. In the course of such a cooperation programme, a joint strategy for mobility management could be developed. Furthermore, standardised monitoring methods and tools for monitoring their employee's mobility behaviour could be discussed (similar to the previous survey conducted by the Römerland-Carnuntum region and the airport of Vienna).

Minimum viable action

Recommendations for **must haves:**

- One project leading person / allocation of responsibilities
- Written agreement on cooperation among involved stakeholders
- Meeting at least once a year
- Monitoring of behaviour once a year
- Implementation of at least one measure for changing mobility behaviour towards more sustainable modes (e.g. once per year)

Recommendations for **nice-to-haves:**

- Regular meetings on improving mobility management in the FUA of Vienna
- Active participation of employees for finding new mobility solutions and services - broad participation process once a year

Responsibility - Who will implement the action?

This action could be implemented by considering the following actors:

- Airport of Vienna
- Vienna Airport Region
- Municipalities
- ASFINAG (federal highway operator)

• ÖBB (national railway operator)
Estimated budget and resources
Not available.
Measuring success - Inputs for KPIs & measuring tools
Suggestions for **KPIs** to measure success of interventions: • Modal split for employees (and passengers) per year • Implemented mobility measures/awareness campaigns per year Suggested measuring **tools**: • Representative survey • Monitoring of the intervention process by responsible person / department / organisation
Timeline - Start and end dates
Not available.
City/region vision and beyond
This intervention may also be relevant for the nearby FUA of Bratislava, as many people are commuting between those two airports. Furthermore, the intervention not just affects employees that live in the immediate surrounding of the Vienna Airport, other Austrian FUAs/provinces but also in Hungary and Slovakia.

4. Summary

As already mentioned, this present strategy report is drafted by AustriaTech, project partner in the LAirA project and not responsible for mobility measures, interventions or services that could or rather should be managed by the Vienna Airport. All mentioned recommendations and ideas are based on the project's analysis and partner discussions within LAirA. Hence, no remarks on budget or investments in € could be given. Regarding on-going and already planned measures by the airport, there might be a lack of information within the course of LAirA. In case anything important/essential is yet not included/considered, this is due to the external perspective of this report's author.

Most of the proposed interventions/actions are based on campaigning activities for raising awareness and willingness for shifting to more sustainable modes of transport for landside access as well as of organisational nature. Furthermore, it seems essential to provide an airport-related mobility plan/strategy involving all relevant share- and stakeholders. There is definitely a high potential in the field of employee's mobility for saving CO_2 when commuting to and from the airport. When considering the objective of being CO_2-neutral by 2030, high efforts need to be put in respective measures.

A summary table for the recommended interventions can be found below.

Vision: "Green ways to VIE"				
Objective	**Action title**	**Involved actors**	**Budget**	**Timeline**
Obj. 1	Mobility strategy/plan for the airport until 2023	Airport shareholders and departments (e.g. Environment, HR, Parking), FUA provinces and municipalities, transport agencies, travellers, citizens/employees - i.e. transport users	n/a	2030
	Continuous dialogue with surrounding municipalities, initiatives and companies	Airport of Vienna, Vienna Airport Region, Municipalities, ASFINAG, ÖBB	n/a	From 2020
Obj. 2	Provision of pre-trip and on-trip information for passengers	Airport departments, transport association/ information system provider, external experts	n/a	From 2020
Obj. 3	Improvement of airport(-related) fleet management in favour of electric/alternative vehicles	Airport of Vienna, mainly fleet management and employee representatives, VAT for infrastructure adaptions, Taxi companies/representatives	n/a	2025

Obj. 4	Improvement of facilities for bicyclists at airport offices	Vienna Airport departments, employee representatives, employees, other airport companies, VAT	n/a	From 2020
	Set-up of awareness raising programmes and improvement of cycle path network in the Vienna FUA	Vienna Airport departments, Vienna FUA Municipalities (rather the surrounding ones than the City of Vienna), province of Lower Austria/ Burgenland	n/a	From 2020
	Testing the usability and feasibility of e-bicycles for on-site mobility for employees	Vienna Airport departments, employee representatives, employees	n/a	2020

Closing remarks: The content of this LAirA strategy report is provided by the LAirA project partner AustriaTech. AustriaTech is not responsible for whether the recommendations/suggestions in this strategy will be implemented or not, neither for the future transportation measures that will be designed and implemented at the Vienna Airport. As a federal agency, AustriaTech is committed to support the development of an ecological, efficient, modern and affordable mobility system. Therefore we support the development to more ecological friendly commuting options to airports and can support this development with our activities in the topics of Mobility as a Service, Digital Infrastructure, Decarbonisation, Clean & Automated Mobility as well as Connectivity & C-ITS.

Vienna, 20.12.2019

Date, Place, Signature

DI Martin Russ, Managing Director