



# LAST MILE

Interreg Europe



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## Interregional summary Factsheet on effects of COVID-19 on FTS in Last Mile project

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## List of abbreviations

LMC-19:	Last Mile COVID-19
MEUR	Million Euros
PP:	Project Partner
PT:	Public Transport
FTS:	Flexible Transport Systems
DRT:	Demand Responsive Transport
NP:	National Park
MAED:	Mobility-Activity-Expenditure Diary
APIA:	Alt Pirineu i Aran (Region in Catalonia)

# 1. Introduction

## 1.1. Last Mile COVID-19 project

The Last Mile project, funded by Interreg Europe and completed in mid-2020, has led to sustainable and flexible mobility solutions (FTS) that users in sparsely populated areas can use to make the last mile of their journey. Due to the COVID-19 crisis, in spring 2021, Interreg Europe launched an extraordinary call for proposals to extend ongoing projects for another year. In this project extension, 6 partners from 5 different regions (Austria, Bulgaria, Spain, Luxemburg and Slovakia – one partner from Poland did not join the extension) exchange their experiences on the impacts of COVID-19 on the FTS of their regions. Each region analyses the status quo of their FTS and the effects that COVID-19 had on them, exchanges with regional stakeholders on these issues, and analyses good practices for the recovery of FTS and other sustainable modes of transport. Finally, project partners aim at improving their policy instruments considering the new challenges for FTS as well as the aim to guarantee sustainable transport accessibility for remote regions.

## 1.2. Purpose of this Interregional Factsheet

The information was collected and analysed through stakeholder interviews (e.g., mobility providers, public authorities, tourism associations, etc.) and official data, such as statistics, traffic data, surveys, reports, etc. Later, in an interregional exchange which took place at the beginning of February, information was shared on the topic to draw conclusions for possible measures to mitigate the negative effects identified.

All this information is aggregated and summarized in this interregional factsheet, which begins by evaluating the impact of COVID-19 on mobility patterns in the regions involved, and especially on FTS. Then, the effects of COVID-19 on tourism and their relationship with changes in mobility are analysed. The different measures implemented in transport systems during the pandemic (e.g., digitization, safety measures, etc.) are also studied, as well as whether they are expected to stay after the crisis. Finally, the impressions of project stakeholders regarding mobility strategies are summarised, together with cooperation in their regions during the crisis.

## 1.3. Target regions and their Flexible Transport Systems

Region	Inhabitants (2021)	Area	Topography	FTS
East Tyrol (PP2)	48.738	Austria, in the middle of the Alps (2.020 km <sup>2</sup> and settlement area of 176 km <sup>2</sup> )	Alpine and rural landscape	<i>Demand Responsive Transport (DRT): Defmobil (municipality taxis), Pustertaler Höhenstraße; Regiotaxi Defereggental E-carsharing</i>
Košice Region (PP3)	795.650	South-eastern part of Slovakia (6.755 km <sup>2</sup> )	Mountainous (Slovak Paradise National Park)	<i>Seasonal tourist trains (Ice Express)</i>
Varna Municipality (PP4)	511.200	Bulgaria (3.820 km <sup>2</sup> )	Urban. Varna is the 3 <sup>rd</sup> largest city in Bulgaria	<i>Seasonal bus line 409: connecting the airport with the city centre and the resort area "Golden sands"</i>

				<i>Seasonal bus line 14 A: connecting Varna with Devnya</i>
<b>APIA (PP5)</b>	74.271	Alt Pirineu i Aran in Catalonia, Spain (5.775,6 km <sup>2</sup> )	High mountain. Focused on Aigüestortes i Estany de Sant Maurici National Park	<i>Lleida-La Pobla de Segur train: regular and touristic trains Bus to National Park: circumvents the Park in the summer season Taxi associations Vall de Boí and Espot: 4x4 vehicles to the NP</i>
<b>Upper Sûre Nature Park (PP6)</b>	41.000	Northern Luxembourg (621 km <sup>2</sup> )	Rural characterization (forest and agriculture)	<i>Stauséinavette "Shutte Bus around the lake": running during summer Shuttle service at the south side of the lake: running at weekends</i>

## 1.4. Sources of information

Abbreviations applicable to all tables: PA = public authority, PT=public transport, TO = transport operator, SH = stakeholder (e.g., touristic SH)

	Sources of information	Stakeholders
<b>East Tyrol</b>	<ol style="list-style-type: none"> <li>Mobility-Activity-Expenditure Diary (MAED): mobility and time use survey conducted in Austria, developed by the Institute for Transport Studies at the University of Natural Resources and Life Sciences (BOKU). This is a two-wave study: autumn 2019 (before Covid) and spring 2020 (during Covid).</li> <li>Sub-sample of the Austria-wide survey, considering rural and semi-rural areas in Western and Southern Austria.</li> <li>Sub-sample drawn from the nationwide mobility survey Österreich Unterwegs (ÖU) for comparison, i.e., same areas and population group as in the MAED sample.</li> </ol>	14 respondents replied. They belong to the following SH groups: 43% PA, 36% group of TO, and 21% SH
<b>Košice Region</b>	Data from traffic counters and PT- operators (e.g., the National Motorway Company).	6 SH completed a questionnaire: 1 TO; 2 SH; 3 PA.
<b>Varna Municipality</b>	All the data used for this report was provided by the National Statistics Institute (NSI) of Bulgaria.	4 PA of the region completed the SH' questionnaire: the Varna Regional Administration, and 3 municipalities of the target region.
<b>APIA</b>	All the information used comes from different bodies and departments of the Government of Catalonia.	3 SH completed the questionnaire: 2 TO (operators of the 2 FTS) and the PA that manages the National Park.
<b>Upper Sûre Nature Park</b>	Data mainly comes from the Ministry of Mobility and Public Works – Department of Mobility and Transports and the Regional Tourist Office "Éislék".	2 PA, have been interviewed: the National Administration for Public Transport and the regional Tourist Office.

## 1.5. Different COVID-19 situations and regulations

When reading this report, it is important to bear in mind that the COVID-19 pandemic has impacted the different regions involved in this project in different ways, just as it has been managed differently and at different levels. For example:

- **Different ways of counting COVID-19 waves.** This shows that the pandemic did not impact all regions simultaneously and equivalently. For example, Slovakia speaks of 3 COVID waves, while Bulgaria mentions 4 waves and Spain, 6.
- **Differences in measures and restrictions implemented.** For instance, most countries declared a state of emergency at some point, but not all of them lasted as long or were as restrictive. Some countries had curfews, while others did not; in some, mobility was absolutely restricted, while in others there was more freedom of movement, etc.
- **Differences in the way and the level at which decisions were taken regarding COVID-19 (including mobility and transport).** Depending on the level of centralism of each State and their internal organization in subnational administrations, decisions were taken at one territorial level or another. This is also relevant as, it can allow differences and exceptions in less populated regions, for example.
- **There are also differences in society's response to the different measures.** For example, in regions where the level of obedience was lower and some people refused to wear a face mask, the use of PT has been discouraged for those who followed the rules and feared becoming infected. The vaccination rate has also had an impact on the demand for PT (including FTS) since in some countries only vaccinated, COVID-tested or those who have recovered the disease could go to hotels, restaurants, etc. The regions involved in this project show very different vaccination rates: e.g., 34,7% in Bulgaria, 85,7% in Spain.

All these differences in the effects of COVID-19 and the way the pandemic was managed in the different regions complicate the possibility of conducting a comparative study by time periods. However, while regions show many significant differences, the similarities in the management and effects of the pandemic are also striking. If we look at the situation from a global perspective, we see that the management of the pandemic and its impacts have been similar. All regions, without exception, have been impacted by COVID-19 and have, at various times, put in place measures to restrict the mobility of people in order to avoid contagion; social contacts have also been limited and tourism has been adversely affected. Thus, it does make sense to study the effects of the COVID-19 crisis on Last Mile's FTS to detect both differences and similarities and to be able to determine, jointly, what are the future expectations for these systems in these regions of Europe.

## 2. Effects of COVID-19 on tourism and relation to mobility

As was to be expected, the mobility restrictions imposed had a strong impact on tourism, in some cases leading to the total closure of tourist establishments and completely transforming tourism trends in the regions.

— Increase  
— Decrease

	Lockdown period, 2020	Situation 2021	Transformations of the pandemic in the tourist sector
East Tyrol (AT)	Nº of visitors/month in October-November compared to 2019: -10%.  Safety restrictions posed a problem for PT and car-	Nº of visitors/month in October-November compared to 2019: -30%.  2020/21 winter season: • Non-existent → business closed due to lockdown	All SH claim countries of origin of tourists changed from the pre-COVID-19 pattern.  1/3 of SH have observed more tourists from Austria and immediate neighbour countries during the crisis (expected to be maintained after the pandemic if

	<p>sharing → impact on mobility behaviour.</p> <p>Summer season went well.</p>	<ul style="list-style-type: none"> <li>Mountain railways lost <b>95%</b> of turnover</li> </ul> <p>2021 summer: increase of visitors.</p> <p>2021/22 winter season: <b>later season opening and fewer guests due to restrictions.</b></p>	<p>more offers in rural regions can be created and financed).</p>
<b>Košice Region (SK)</b>	<p>Total n° of visitors to the Slovak Paradise: <b>-44,8%</b> compared to 2019:</p> <ul style="list-style-type: none"> <li>April: <b>-99%</b></li> <li>December: <b>-89%</b></li> </ul> <p>2019/20 winter season: unstable due to COVID-19 measures → <b>temporary and permanent closure of touristic establishments.</b></p>	<p>In the whole Košice Region (data for Slovak Paradise not available) compared to 2020:</p> <ul style="list-style-type: none"> <li>Total n° of visitors: <b>+3.59%</b></li> <li>N° of overnight stays: <b>+1.12%</b></li> </ul> <p>Decrease in tourists to the region by origin, from 2019 to 2021:</p> <ul style="list-style-type: none"> <li>Slovaks: <b>-44.2%</b></li> <li>Foreigners: <b>-75.5%</b></li> </ul>	<p>In 2021: 50% of Slovak visitors came alone or in pairs; 42% in groups of 3-5 people. Visitors mostly stayed on average 2.3 nights (year-on-year decrease of <b>2.4%</b>).</p> <p>Percentage growth in domestic tourism:</p> <ul style="list-style-type: none"> <li>Slovak tourists in 2019: 78%</li> <li>Slovak tourists in 2021: 89% = <b>+11%</b></li> </ul> <p>It can be assumed that domestic tourism will still predominate in the following years.</p>
<b>Varna (BG)</b>	<p>N° of visitors compared to 2019: <b>-54%</b></p> <p>N° of overnights compared to 2019: <b>-65%</b></p> <p><b>- MEUR -66</b> in revenues compared to 2019.</p> <p><b>~50%</b> of accommodation establishment remained closed in 2020.</p> <p><b>Tourism severely affected</b> → no money for maintenance/innovation.</p>	<p>N° of visitors compared to 2019: <b>-48%</b></p> <p>N° of overnights compared to 2019: <b>-35%</b></p> <p><b>~30%</b> of accommodation establishments remained closed in 2021. <b>~17%</b> of hotels went bankrupt and were put for sale.</p> <p>Low-income revenues from foreign tourists, however, decline was more moderate than in 2020 (<b>- MEUR 32</b>).</p>	<p>Origin of tourists in 2020-2021 compared to 2019:</p> <ul style="list-style-type: none"> <li>Bulgarian tourists: <b>+28%</b></li> <li>Romanian tourists (neighboring country): <b>+19%</b></li> <li>Rest of foreign origins: <b>-53%</b></li> </ul> <p>High level of domestic tourism is expected to stay.</p> <p>Profile of tourists changed radically:</p> <ul style="list-style-type: none"> <li><b>N° of organized tourists decreased significantly.</b></li> <li>Foreign flow composed mainly of individual tourists or small tourist groups (2-3 family members traveling by their own cars).</li> </ul>
<b>APIA (CAT)</b>	<p>Total n° of visitors to the NP compared to 2019: <b>-16,04%</b>.</p> <p><b>Closures of hotels and touristic establishments.</b></p>	<p>N° of visitors to the NP almost reached those of 2019: <b>-5.3%</b></p>	<p>Scheme of visitors has transformed:</p> <ul style="list-style-type: none"> <li>Mostly families and disappearance of organized groups.</li> <li>Average length of visit reduced to half a day or one day.</li> <li>Visitors: <ul style="list-style-type: none"> <li>Before COVID: <ul style="list-style-type: none"> <li>79% nationals</li> <li>21% foreigners</li> </ul> </li> <li>During COVID: <ul style="list-style-type: none"> <li>94% nationals (+15%)</li> </ul> </li> </ul> </li> </ul>

			<ul style="list-style-type: none"> <li>6% foreigners (-15%)</li> </ul> <p>Normality is expected to be regained.</p>
<b>Upper Sûre (LX)</b>	<p>Total n° of visitors compared to 2019: <b>-43%</b>.</p> <p>Overnight stays compared to 2019: <b>-50.2%</b></p> <p><b>Closures of hotels and touristic establishments.</b></p>	<p>Total n° of visitors compared to 2019: <b>-34%</b>.</p> <p>Overnight stays compared to 2019: <b>-41.5%</b></p> <p><b>Closures of hotels and touristic establishments.</b></p>	<p>The decrease in tourists from Luxemburg (-17%) has not been as significant as that of tourists from foreign countries (-39%).</p> <p>It is expected that in the coming seasons the n° of visitors will regain those from 2019.</p>

### 3. Mobility before and during COVID-19

#### 3.1. General means of transport: private car, public transport and active modes

The pandemic and the prescribed measures to curb its spread primarily had an impact on activities outside the home and, accordingly, on people's mobility, affecting differently all modes of transport: private vehicles, PT and active modes, i.e., walking and cycling.

##### 3.1.1. Demand

— Increase  
— Decrease

	Private car	Public transport	Active modes
<b>East Tyrol (AT)</b>	<p>Modal split:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 62.9%</li> <li>Spring 2020: 61.5% = <b>-2.2%</b></li> </ul> <p>Average distance travelled per person per day:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 35.2 km/day</li> <li>Spring 2020: 25.5 km/day = <b>-27.6%</b></li> </ul> <p>Median trip length:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 6.8km</li> <li>Spring 2020: 8.3km = <b>+22.1%</b></li> </ul> <p>Motorized individual car traffic (changes in n° of vehicles) compared to 2019:</p> <ul style="list-style-type: none"> <li>April 2020: <b>-51%</b></li> <li>April 2021: <b>-22%</b></li> </ul>	<p>Modal split:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 4%</li> <li>Spring 2020: 2.7% = <b>-33%</b></li> </ul> <p>Average daily trip length per person:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 3.2 km</li> <li>Spring 2020: 1.7 km = <b>-47%</b></li> </ul> <p>Median trip length:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 13.5km</li> <li>Spring 2020: 15.7km = <b>+16%</b></li> </ul> <p>Demand for PT compared to 2019:</p> <ul style="list-style-type: none"> <li>April 2020: <b>-79%</b></li> <li>April 2021: <b>-4%</b> (but <b>+75%</b> compared to 2020)</li> </ul>	<p>Modal split:</p> <ul style="list-style-type: none"> <li>Autumn 2019: 20%</li> <li>Spring 2020: 25% = <b>+5%</b>, short trips were increasingly, made by foot or bike during the lockdown</li> </ul> <p>Average daily trip length per person:</p> <ul style="list-style-type: none"> <li><b>+75%</b> from autumn 2019 to spring 2020.</li> </ul> <p>Time spent for active modes of transport per person and day:</p> <ul style="list-style-type: none"> <li><b>~9min</b> (almost unchanged between 2019 and 2020)</li> </ul>

<b>Košice Region (SK)</b>	<p>Daily traffic volume:</p> <ul style="list-style-type: none"> <li>2020: <b>-16.5%</b> compared to 2019</li> <li>January-February 2021: <b>-25%</b> compared to same months of 2020 (before COVID-19)</li> </ul> <p>However, according to a survey from 2021, visitors continued to travel primarily by car (78%) and continued to drive in the destination (69%).</p>	<p>N° of passengers in bus transport in 2020: <b>-36,3%</b> compared to 2019:</p> <ul style="list-style-type: none"> <li>March 2020: <b>-56%</b></li> <li>April 2020: <b>-74,3%</b></li> </ul> <p>N° of transported passengers in 2020 by the Railway Company of Slovakia: <b>-39,7%</b> compared to 2019.</p> <p>According to a survey from 2021, <b>only 23%</b> of visitors used the train to travel to the destination.</p> <p>From December 2021, in Slovakia travelling in train was available only in mode "OTR" (Vaccinated, Tested, Recovered), this regulation led to a significant drop in PT demand.</p>	<p>Increased demand for bikes: In March and April 2020, bike sales went up by 200% and less-than-300€-bicycles were sold out.</p> <p>Bike shops and workshops stayed open, however, due to a lack of new bikes, sale numbers in 2021 remained the same as in 2020 or even decreased in smaller shops with lower stocks.</p> <p>According to the survey from 2021, <b>only 7%</b> of visitors used a bicycle to move around.</p>
<b>Varna (BG)</b>	<p>No data available.</p>	<p>N° of passengers in 2020: <b>-30%</b> compared to 2019.</p> <p>The mileage of trolleybuses and buses: <b>-1.3M km (-14%)</b> in 2020 compared to 2019.</p> <p>The losses of the Municipal Transport Company decreased from MEUR 1,708.2 in 2020 to MEUR 1,117.2 in 2021 (<b>-34,6%</b>).</p> <p>All 4 Bulgarian SH report a <b>decrease in demand for PT</b>.</p>	<p>Walking and cycling visibly increased, but no data collected.</p>
<b>APIA (CAT)</b>	<p>Use of private vehicle is prohibited inside the NP.</p> <p>No data has been collected on private vehicle mobility in the region.</p>	<p>N° of users of PT lines from 2019 to 2020: <b>-20.3%</b> in regular bus lines and <b>-28%</b> in on-demand lines.</p>	<p>Walking and cycling visibly increased, but no data collected.</p>
<b>Upper Sûre (LX)</b>	<p>Traffic count data compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: <b>-9.44%</b> (April 2020: <b>-51%</b>)</li> <li>2021: data not available</li> </ul>	<p>Although <b>decrease in n° of tourists</b>, we do not know its effect on transport demand as data was not collected.</p>	<p>Walking and cycling visibly increased, but no data collected.</p>

### 3.1.2. Supply

— Increase  
— Decrease

	Private car	Public transport	Active modes
<b>East Tyrol (AT)</b>	<p>No data available.</p>	<p>PT system remained stable. <b>Only some seasonal transport services like ski buses were reduced.</b></p>	<p>No data available.</p>



		The new city scheme bus was implemented as planned and there were some additional bus services.	
<b>Košice Region (SK)</b>	<p>N° of cars compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: +2,1%</li> <li>2021: +1,9%</li> </ul> <p>N° of all vehicles:</p> <ul style="list-style-type: none"> <li>2020: +2,3%</li> <li>2021: +2,4%</li> </ul> <p>N° of newly registered vehicles compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: -21.5%, due to the closure of dealerships and the lack of components in car production.</li> <li>2021: -15.3%</li> </ul>	<p>N° of contracted and travelled vehicle km by suburban bus transport compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: -5,9% (April: -28,2%)</li> <li>2021: -4,9%</li> </ul> <p>N° of contracted and travelled vehicle km by railway compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: +6%</li> <li>2021: +12%</li> </ul>	<p>COVID-19 caused a <b>short delay in the operation of public bicycles and bicycle rentals</b> in spring 2020 due to the lack of information about necessary safety measures for operators.</p> <p>During the summer season, the inability to travel abroad and safety concerns about PT caused a <b>higher demand for bike-sharing and bike rentals</b>. The hotels in the area bought e-bikes for renting purposes. The bicycle rental company in Hrabušice also started to rent e-bikes.</p>
<b>Varna (BG)</b>	No data available.	The transport supply had to be adapted to the demand, (severe decrease)→ Some less used lines were suspended and the frequency of PT decreased (-20%).	<p>To meet the increased demand during the pandemic, local authorities took measures to green urban areas and complete pedestrian and bicycle lanes→ Total length of cycling lanes in Varna:</p> <ul style="list-style-type: none"> <li>2019: 16 km</li> <li>2021: 20 km</li> <li>= +25%</li> </ul> <p><b>The supply of e-bikes in Varna was suspended during the COVID-19 period.</b></p>
<b>APIA (CAT)</b>	No data available.	PT offers in Catalonia remained stable, however, in Alt Urgell—one of the Catalan counties that form the APIA region—, 5 of the 16 available on-demand bus lines (-31.2%) stopped operating at all due to low demand.	During COVID-19 the “Bicibus system” was implemented to facilitate the transportation of bicycles in buses: they could get in the vehicle for free.
<b>Upper Sûre (LX)</b>	No data available.	PT offers in Luxemburg remained stable.	No data available.

### 3.2. Flexible Transport Systems

Just as COVID-19 impacted mobility in general, it also affected the demand and supply of FTS in the target regions, some of which had been implemented thanks to the Last Mile project.

### 3.2.1. Demand

<b>Demand responsive Transport</b>	
<b>East Tyrol (AT)</b>	<p>Total n° of passengers compared to April 2019:</p> <ul style="list-style-type: none"> <li>• April 2020: <b>-86%</b></li> <li>• April 2021: <b>-37%</b></li> </ul> <p>Harsher impact on DRT (compared to conventional PT) can be explained by a higher proportion of leisure travel or other purposes that were affected by the various restrictions and the lack of tourists.</p>
<b>APIA (CAT)</b>	<p><u>Taxi associations:</u> Total n° of users compared to 2019:</p> <ul style="list-style-type: none"> <li>• 2020: <b>-38.9%</b></li> <li>• 2021: <b>-18.5%</b></li> </ul> <p>However, much less significant decrease in n° of users in August-September compared to 2019:</p> <ul style="list-style-type: none"> <li>• 2020: <b>-0.22%</b></li> <li>• 2021: <b>-2.29%</b></li> </ul>
<b>Car sharing</b>	
<b>East Tyrol (AT)</b>	<p>N° of bookings per vehicle in 2020 compared to 2019:</p> <ul style="list-style-type: none"> <li>• 2020: <b>+164%</b></li> <li>• 2021: <b>+127%</b></li> </ul> <p>This was caused by a mixture of an increased supply (from 7 to 14 cars), marketing activities, and a general trend towards sharing mobility.</p>
<b>Seasonal transport means (trains, buses)</b>	
<b>Kosice Region (SK)</b>	<p>N° of passengers compared to 2019 (1<sup>st</sup> year of operation of the winter edition of Ice Express):</p> <ul style="list-style-type: none"> <li>• 2020 winter season: <b>+28.6%</b> → unaffected by COVID-19 restrictions as the season usually ends at the end of February (before lockdown).</li> <li>• 2020 summer season: <b>-4.8%</b> (however, increase in the n° of passengers in August 2020, seasonal train changed its destination to Banská Bystrica and its capacity to over 300 passengers).</li> </ul> <p>Data for 2021 passenger flow is not available yet.</p>
<b>Varna (BG)</b>	<p>2020 compared to 2019:</p> <ul style="list-style-type: none"> <li>• <b>-30%</b> in the n° of transported passengers by municipal buses (from 32M to 25M)</li> <li>• <b>-87,9%</b> in the mileage of trolleybuses and buses (from 10.7M km to 1.3M km)</li> </ul> <p>1<sup>st</sup> half of 2021: the losses of the Municipal Transport Company decreased from MEUR 1,708.2 in 2020 to MEUR 1,117.2 in 2021 (<b>-34,6%</b>).</p> <p>This information also refers to seasonal bus lines as they are part of the municipal bus fleets.</p>
<b>APIA (CAT)</b>	<p><u>Train line:</u> Total n° of users compared to 2019:</p> <ul style="list-style-type: none"> <li>• 2020: <b>-79.9%</b> (<b>-95%</b> in April 2020)</li> <li>• 2021: <b>-60.7%</b> (data for November and December are forecasts)</li> </ul> <p><u>NP Buses:</u> Total n° of users of the main bus (Park Bus) compared to 2019:</p> <ul style="list-style-type: none"> <li>• 2020: <b>-20%</b> (but increase in August: <b>+2.3%</b>)</li> <li>• 2021: <b>+82.6%</b> (increase due to the relaxation of restrictions and an increase in local tourism. Highest increase in August: <b>+139.6%</b>)</li> </ul>

	<p>Total n° of users of the other bus (La Vall Fosca Bus) compared to 2019:</p> <ul style="list-style-type: none"> <li>2020: <b>-82.6%</b> (the greatest decrease is registered in July: <b>-94%</b>, as the cable car to which the bus takes, and which connects to the NP, was out of service due to a technical failure)</li> <li>2021: <b>-68.6%</b></li> </ul> <p>The use of flexible buses to the detriment of the private car → -173% of CO2 from 2020 to 2022.</p>
<b>Uppers Sûre (LX)</b>	<p>The two FTS operating are new –Stauséinavette was introduced in 2020 and shuttle service at the south of the lake, in 2021– so, there are no reliable statistics concerning the effects of COVID-19 on the demand of the services.</p> <p>During the pandemic there were special regulations at the hotspots around the lake to avoid crowds (people needed to buy an online ticket to access the beach). <b>This led to fewer tourists per day, but also to people accessing the beach via the woods, where there was no control.</b></p>

### 3.2.2. Supply

— Increase  
— Decrease

<b>Demand responsive Transport</b>	
<b>East Tyrol (AT)</b>	Partly stopped operating during the lockdown phases, and even one DRT service (Defmobil) stopped completely in April 2020. This contributed to a severe decrease in the passenger n° of these services.
<b>APIA (CAT)</b>	<u>Taxi associations:</u> During the initial phases of the COVID-19 crisis, <b>limitations were established, such as a reduction in the n° of occupants per vehicle.</b> During the summer of 2020, the situation returned to a certain normalcy.
<b>Car sharing</b>	
<b>East Tyrol (AT)</b>	<p>E-carsharing increased its service continuously (in terms of n° of stations, booking service, etc.). N° of cars offered in East Tyrol compared to 2019:</p> <ul style="list-style-type: none"> <li>From 7 in May 2020 to 11 in October 2020 (+36.4%)</li> <li>From 7 in May 2020 to 14 in June 2021 (+50%).</li> </ul> <p>This increase was, however, already planned before the crisis and it was probably one of the causes of an increase in e-car demand.</p>
<b>Seasonal transport means (trains, buses)</b>	
<b>Kosice Region (SK)</b>	<p>In 2020, during COVID-19, the contractor DMO the Košice Region Tourism changed the operator, and, with this change, the capacity of trains increased from 110 seated passengers to 114 (+3.5%).</p> <p>The 2020 winter operation of the trains stopped at the end of February, being almost unaffected by COVID restrictions as it usually operates until the end of February/beginning of March.</p> <p>In summer 2020, new regional seasonal train connections were developed, and the train offer was extended, DMO contracted 11 train connections from Košice to the NP and back and from July 2020 on the route of this connection was extended to Telgárt. Later, since August 2020 the seasonal train changed its destination to Banská Bystrica and its capacity to over 300 passengers.</p> <p>In summer 2021, things stayed the same as in the previous season. In winter 2021, <b>trains did not operate</b> as since January 2021 ski centres and hotels were closed due to the crisis.</p>
<b>Varna (BG)</b>	<p>In 2020, the seasonal bus lines 409 and 14-A changed to a less frequent schedule (<b>-20%</b>) due to the reduced flow of tourists and the need for disinfection of the vehicles after each course. In 2021, the PT company replaced the long-articulated buses (with 80 places) with ordinary 40-places buses (<b>-50%</b>).</p> <p>In addition, the seasonal local transport for tourists in Byala by carriages pulled by horses <b>became occasional</b> because of the small n° of tourists, and <b>the e-bike rental service was suspended.</b></p>

	The public procurement for the purchase of e-buses is currently being challenged and checked by the state authorities. Similarly, projects for new infrastructure and a light rail connection (connecting Varna with the main resorts in the municipalities of the province), have so far been suspended by the government due to a lack of funds and a regular parliament.
<b>APIA (CAT)</b>	<p><u>Train line:</u> During COVID-19, 100% of the established public service (regular train) has been maintained, except for the period between 21 March and 18 May 2020, when 50% of the offer was suspended. As for the Historic Train, its maximum occupancy was set at 75%.</p> <p><u>NP Buses:</u> With COVID-19, the frequency of buses was increased to meet the higher demand (especially in 2021). Timetables were doubled/tripled and were adjusted to make the most of the connections with the <i>La Pobla-Lleida</i> train line. New bus routes have been established so that the bus service can go all the way around the park. There are also better connections with other towns (Lleida, Barcelona, Vielha...). To implement these changes, PP5 made an extra investment of +105,876.44€ in 2021 (+101.1% of 2020's total investment).</p>
<b>Uppers Sûre (LX)</b>	The two FTS that operate today in the region were introduced in 2020 and 2021, so, there are no reliable statistics regarding the effects of COVID-19. Regarding their supply and schedules during the pandemic, there were no changes from what had been planned.

## 4. Measures implemented in transport systems during COVID-19

To comply with the restrictions imposed on transport and with the aim of making users feel secure, regions implemented different types of measures in their FTS during the crisis. The acceleration in the digital transformation of FTS, as well as the implementation of safety measures and measures to promote the systems are particularly noteworthy.

— Permanent measure (PM)  
— Temporary measure (TM)

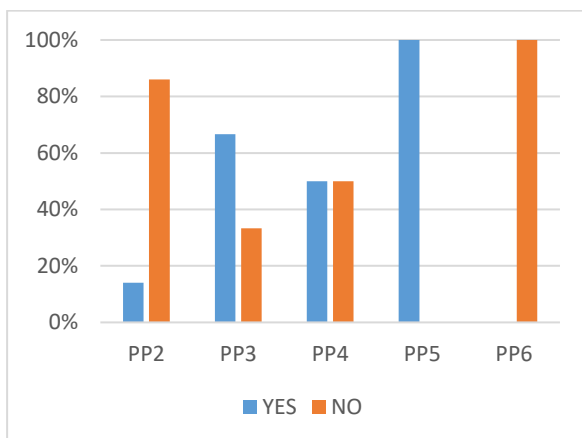
Region	Digitalization measure	Other measure
<b>East Tyrol</b>	New booking system / booking app	<p>No collection of ticket sales revenue</p> <p>Protective barriers installed in vehicles</p> <p>Placement of signs on the obligation to wear a mask and to keep a safe distance</p> <p>Regular ventilation and disinfection of vehicles</p>
<b>Košice Region</b>	<p>Online ticket system</p> <p>Online brochures / videos</p> <p>Contactless door-opening-system in buses</p> <p>Mobile payment of tickets</p>	<p>All public railcars were regularly disinfected</p> <p>Drivers and cashiers received specific safety training</p> <p>Increased promotion of the services to let the customers know the trains were still in operation and to inform about safety measures</p>
<b>Varna Municipality</b>	Electronic ticket system	<p>Complex disinfection of the vehicles after each course</p> <p>Physical separation with the driver's cab and non-use of the front door of the vehicles.</p>
<b>APIA</b>	<p>Credit card payment system (train)</p> <p>WIFI in 100% of the bus fleet</p>	<p>Regular cleaning and disinfection of vehicles and stations/stops, hand sanitizer dispensers... (train and buses)</p> <p>Suppression of welcome packs, the theatrical group and the tasting in the historical train</p>

	QR codes to access information on service Online sale system	Reduction in the number of occupants per vehicle (taxi associations)
Upper Sûre Nature Park	No digital measures	Face masks were mandatory The first seats in buses were blocked to protect the bus drivers

## 5. Stakeholder’s input regarding mobility strategy and coordination during COVID-19 crisis

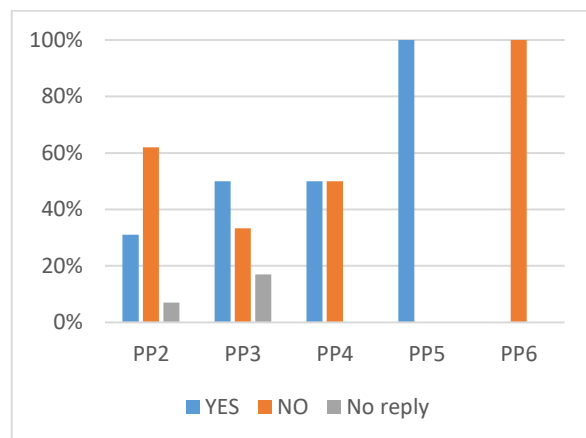
To find out how the pandemic has been managed by the stakeholders of the FTS in each region, each PP has asked their stakeholders about the strategy followed, the coordination between stakeholders, the response of users, among other questions. Respondents have had different experiences and opinions are divided on practically all topics.

*Do you think there was a coordinated strategy in the management of transport systems in your region during the pandemic?*



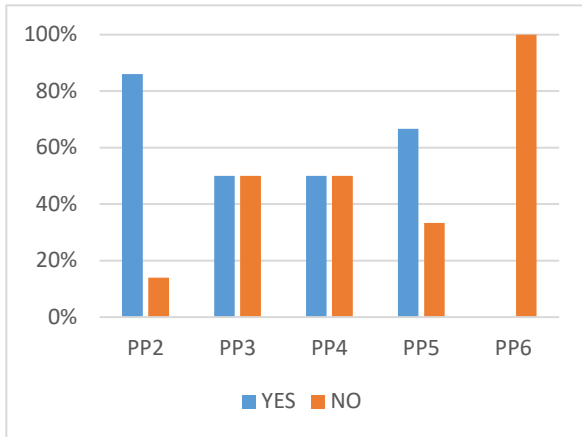
On average, 54% of the regions represented by their stakeholders believe there was a coordinated strategy on place for the management of transport systems in the region during the pandemic, 46% do not agree.

*Do you think this strategy helped to maintain the public transport systems?*



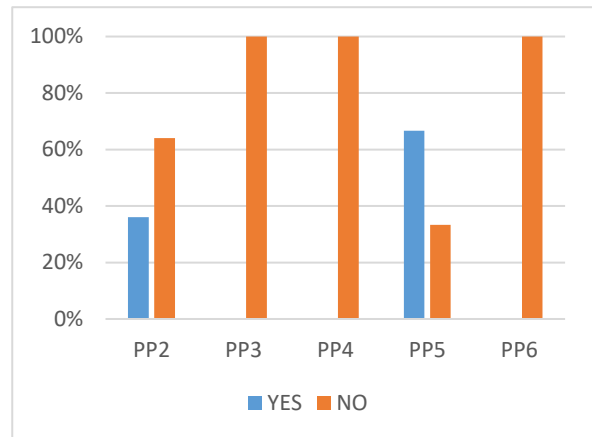
49% of the regions represented by stakeholders do not think this strategy helped maintain PT systems, while 46% do.

**Do you think collaboration among stakeholders regarding transport systems in the area increased during the crisis?**



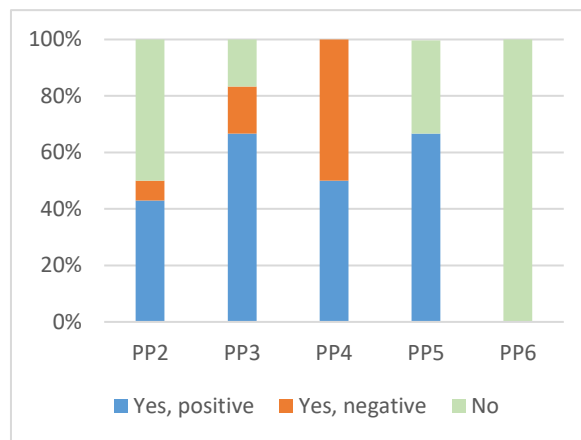
51% of the regions represented by stakeholders believe collaboration among stakeholders regarding transport systems in their area increased during the crisis, while 49 think it did not.

**Did you increase dissemination of transport options for end-users during COVID-19 crisis?**



79% of the regions represented by their stakeholders did not increase dissemination of transport options during the crisis. Only 21% did.

**Did you receive feedback from users regarding transport systems in your region related to the COVID-19 crisis? Was this feedback positive or negative?**



60% of the regions represented by stakeholders received feedback from end-users regarding the operation of transport systems in their region during the crisis. 75% of this feedback was positive, while 25% was negative. 40% of respondents did not receive feedback at all.

## 6. Conclusions: Summary and future expectations

The Last Mile project aimed at finding sustainable, flexible transport systems (FTS) for the last mile in the transport chain in tourism. The COVID-19 pandemic and the prescribed measures to curb its spread had an impact on activities outside the home and, accordingly, on mobility, causing a decrease in the use of transport systems in general and in flexible transport systems (FTS) in particular.

In addition, **the effects of the pandemic on mobility are closely related to its strong impact on tourism**, since, in most cases, the project's FTS are implemented in tourist spots of the participant regions, e.g., national parks. In this sense, in many regions and especially at the beginning of the pandemic, tourism came to a standstill, aggravating the lack of passengers for FTS: 2020 marked an absolute minimum of visitors to all sites (-34% on average), especially of foreign visitors. In 2021, most regions recorded a year-on-year improvement in visitor numbers although without recovering their pre-pandemic figures (-29% on average). In addition, all regions noted a significant rise in local tourism, at least in percentage terms, creating new and different challenges for them. In most cases, some of the transformations in tourism that the pandemic has entailed are still visible today, such as the trend towards shorter trips, smaller groups of tourists, or the reduction in the number of organised trips.

General means of transport		
Private motorized transport	Walking and cycling	Public transport
During lockdown there was significantly less mobility and this affected all transport systems, including car traffic (-25.6% on average <sup>1</sup> ), however, we have observed that, in general, <b>when mobility did occur, it was more often undertaken by private cars</b> ; this is especially true when referring to longer trips.	People seem to have <b>switched to active modes for shorter trips</b> and, compared to other modes of transport, partners have witnessed an increase in the use of bicycles. However, we do not have precise figures for this increase. Accordingly, most regions have taken advantage of the situation to promote active modes: opening of new bike rental companies, improvement of pedestrian and cycling infrastructure, and encouragement of multimodality.	<b>The decline in the demand has been more severe than in other transport modes</b> as people preferred not to use collective modes to minimize the risk of infection: on average, from 2019 to 2020, there was a 28% decrease <sup>2</sup> in the use of PT in the project regions and the decrease is predicted to be even higher in 2021. As for PT supply, in general, it has been maintained, although, service frequencies have decreased. In a few cases, services have stopped operating for a while due to restrictions and/or low demand.
Flexible Transport Systems (FTS)		
The loss of confidence in PT has resulted in a <b>general loss of customers also for the last mile solutions</b> , especially during the hard phase of the pandemic (beginning and mid 2020). However, the situation varies from region to region in the more relaxed periods.		
Demand		
<b>In East Tyrol, Austria</b> , demand responsive transport has suffered a severe decrease –even more significant than that of conventional PT–, while demand of e-carsharing has increased during the pandemic.		

<sup>1</sup> 3 regions provided data

<sup>2</sup> 4 regions provided data

**In Slovakia** there has been a decrease in the use of seasonal trains, but it has been less severe than in general PT due to an increase in domestic tourism.

**Varna, Bulgaria**, has also registered a significant decline in the use of their FTS, but they cannot compare it to conventional PT as there is no separate monitoring of the seasonal bus lines, which are part of the municipal bus fleet.

**In Catalonia**, the train line from Lleida to La Pobla de Segur has suffered a significant decrease in demand, while the decrease has been milder for the taxi associations and especially the buses of the National Park, which have even recorded some peaks in passenger flow during the pandemic due to the rise in local tourism.

**Upper Sûre Nature Park** has received less tourists per day due to COVID-19 restrictions, so the demand for FTS has also been lower than expected, however, there are no statistics as the FTS were introduced in the last two years.

### Supply

Some of the FTS **stopped operating completely during the hard lockdown** (e.g., DRT in East Tyrol in April 2020; seasonal trains in the Slovak Paradise in winter 2021); in other cases, services **reduced their frequencies and/or capacity** to adapt to service demand and COVID-19 restrictions (e.g., seasonal bus lines in Varna; specific train line and taxi associations in Catalonia); other services **remained stable and did not undergo any changes** in supply at all (e.g., Upper Sûre Nature Park shuttle services in Luxembourg); finally, some services even **increased the number of vehicles, their frequencies and/or capacity and implemented new routes** to adapt to occasional increases in tourism (especially domestic) and demand for their services (e.g., e-carsharing in Austria, the seasonal tourist trains in Slovakia in 2020, the buses in the NP in Catalonia).

To keep the spread of the virus as low as possible different measures (digitalization, safety, etc.) have been implemented. There has been a **tendency to incorporate digitization measures**, with the aim of reducing personal contact as much as possible. For example, real-time information systems, online booking systems, e-ticketing sale and other payment systems, etc. In general, these measures have received positive feedback from end-users and operators of transport systems intend to keep them once the pandemic is over. On the other hand, **all regions have implemented safety measures** in transport systems, such as regular disinfection of vehicles, reduction of allowed capacity, closure of the first row of seats, etc. Most operators do not expect to maintain all these measures once the COVID-19 situation ends.

Finally, feedback from stakeholders on their **experiences and impressions of how the pandemic was managed** varied widely across regions:

- Approximately equal number of regions represented by their stakeholders believe that:
  - there was / was not a coordinated strategy in place for the management of transport systems in the region during the pandemic;
  - this strategy helped / helped not maintain PT systems;
  - collaboration among stakeholders increased / decreased during the crisis.
- On average, regions represented by their stakeholders did not increase the dissemination of transport options during the crisis (79%).
- On average, regions represented by stakeholders did receive feedback from end-users regarding the operation of transport systems in their region during the crisis (60%) and this feedback was predominantly positive (75%).