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Analysis of national/regional framework conditions and barriers of flexible transport

Kosice region

Agency for the Support of Regional Development Košice

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Summary

In the frame of the activity 1-A.1 within the LAST MILE project, the main framework conditions will be analysed and obstacles in establishing and operating Flexible Transport Services (FTS) will be identified. Therefore, a survey has been drafted where potential main issues hindering the implementation of FTS are raised. In addition, partners also have the opportunity to add further aspects and to summarise their viewpoints of the major barriers against Flexible Transport Services. This work shall be the basis for the individual analysis of barriers for Flexible Transport Services of the partner regions within the LAST MILE project. At the end, there will be a synopsis of the main findings, which will be conducted by the Regional Management East Tyrol (RMO).

The consolidated findings of this joint analysis will finally flow into the general synthesis report at the end of phase 1 with overall conclusions and policy recommendations.

1. Introduction

Already the European-wide CIVITAS initiative, which redefines transport measures and policies in order to create cleaner, better transport in cities, has pointed out the importance of flexible transport systems. These flexible transport systems may overcome the two diverging classic systems of either relatively low cost schemes with rigid timetables and routes (traditional local public transport) or high cost, high quality and high comfort alternatives (taxi and private car).

This discussion is not only about transport systems and transport means in the urban area but foremost about rural areas. In this regard, manifold positive transport solutions and projects have already been realized, in various contexts and settings. Thus, in this study it is not necessary to think of concrete transport solutions and to reinvent the wheel but to think about the concrete and situation-wise hurdles and barriers (institutional/legal/economical/other) for a region to implement flexible transport solutions. Since we are talking here about Flexible Transport Services that shall be elaborated as touristic transport offers and as transport service for local citizens, a detailed analysis of the framework conditions, the barriers and the state-of-the-art in the regions under investigation is pivotal. This was also the point of departure in order to design a questionnaire building the basis for the analysis of the barriers that allows quantification on the one hand but requires further qualitative details on the other hand. The regional setting and consequently the regional framing conditions are always in the focus of the analysis.

2. Flexible Transport Services – Definition

2.1 Definition

Since we are dealing with an international context and thus very different regional settings regarding forms and approaches to flexible transport, it is important to have a common understanding of the term "Flexible Transport Services" and what it comprises.

In this study, we define Flexible Transport Services as services that only operate on demand. Operation on demand in this context includes call/dial systems (i.e. hailed shared taxi), seasonal/temporary systems (i.e. event bus/train) and other forms of on-demand transport such as sharing and pooling systems. Therefore, it can comprise services that can be summarised as enhanced public transport services (also flexible public transport services) like a hailed shared taxi service and also other Flexible Transport Services such as car- and bikesharing or carpooling which are not part of public transport in the narrower sense.

For this definition, we also took different sources of literature into account. Often, flexible transport is regarded as a special form of public transport, like in the definition of Penelope bacchus (n. d.):

Flexible Transport Services or demand responsive services (subsequently also termed as flexible transport solutions or flexible transport systems) are defined as “an advanced, user-oriented form of public transport characterized by flexible routing scheduling of small/medium vehicles operating in shared/ride mode between pick-up and drop-off locations according to passenger’s needs” (Penelope bacchus, n. d.).

In the LAST MILE project, however, also other flexible forms of transport like sharing and pooling shall also be included in the term.

The main characteristic within the definition of FTS in the LAST MILE project is that the service operates only on demand. Thereby empty trips can be avoided .

Against this background, we differentiate the following categories, which can be divided by further attributes.

- Call/Dial Systems (operates only after calling)
 - following the regular route/schedule of the bus line (only after calling)
 - fixed start and end stop, deviation from the regular route to serve additional request stops within a defined corridor
 - fixed stops, flexible routing to individual destination
- Shuttle seasonal/temporary (operates only seasonally or at specific occasions) with fixed route and stops, mostly small distances
 - seasonal
 - events
- Sharing
- Pooling

2.2 Overview of Flexible Transport Services

The following table includes possible concrete services within the above described categories, however, without intending to be exhaustive. After the detailed analysis of framework conditions, the fields may be completed.

Operating System	Means of transport / name of the service						Practice Example
	train	bus	car	bike	boat	others	
Call/Dial Systems (operates only after calling)							
- following the regular route/schedule of the bus line (only after calling)		dial-a-bus					
- fixed start and end stop, deviation from the regular route to serve additional request stops within a defined corridor		dial-a-bus					
- fixed stops, flexible routing to individual destination		hailed-shared-taxi	hailed-shared-taxi				
Shuttle seasonal/temporary (operates only seasonally or on specific occasions) fixed route and stops, mostly small distances							
- seasonal	Seasonal train	hiking/skiing bus			boat ferry in summer		

- events	Event train	festival shuttle					
Sharing			Carsharing	Bikesharing /-rental			
Pooling			Carpooling				
others							

Table 1: Overview of Flexible Transport Services

3. Survey on national/legal framework conditions and barriers for flexible transport

3.1 General information

The survey is split into four different categories of possible barriers and related questions, namely institutional -, economical -, legal - and other barriers. All questions (and the corresponding answers) are referred to the regional situation/setting, although questions on regulatory issues may be related to the national legislation. For the better quantification and the further processing of the data, different assessment categories were chosen. Almost all questions however also require further specifications and more detailed answers which are supplementary to each question (always straight below to each question). These supplementary questions relate to expected barriers when implementing Flexible Transport Services and shall investigate and extract specific information about the various regions. Hence, they provide us with further details and allow a better interpretation and assessment of the answers.

Subsequently, in order to better understand the meaning of the question, most details and explanations are always written in brackets (=).

3.2 Barrier categories

Specifications on categories of framework conditions and barriers:

For the analysis of framework conditions and barriers, four major categories were chosen:

a) Regulatory barriers

Legal foresights can play an essential role when it comes to the implementation of Flexible Transport Services and thus also define the frame if and how transport services can be established. Often there are minor legal aspects that may facilitate or complicate the implementation and operation of flexible transport solutions.

Example: Legislation restrains the aerial/spatial use of a flexible transport solution so that it can i.e. only be used within the municipality boundaries.

b) Institutional barriers

Institutional aspects can also be central hurdles for the implementation and operation of flexible transport solutions, whereby the term institution(al) has to be interpreted quite broadly. Institution in this context can thus range from political to private to associational etc. institutions. All these institutions and the related stakeholders are important when planning, implementing and operating flexible transport solutions. Moreover, not only stakeholder involvement but also active contribution, know-how of the transport services and responsibility distribution are required for successful management. However, human nature itself presents quite a potential for conflicts, resistance and opposition due to conflicting interests and viewpoints involved.

Essentially, most barriers lie with the people who are responsible for the transformation process.

Example: An interest group like the political opposition or a local taxi entrepreneur may agitate against the planning of flexible transport solutions.

c) Economical barriers

Independent of the before-mentioned aspects, the economic and financial side has shown to be the decisive criterion either for success or failure of a project (in this instance the implementation and operation of a Flexible Transport Service). Hardly any project can be realized without the necessary financial means. This particularly challenges smaller municipalities and structurally weak areas. One aspect thereon is among others the sustainable financing without or with low subsidies in the long run.

Example: Initial costs for the implementation of flexible transport are covered by funds but there is no financing for the long term operation. Operational costs are not covered by the revenues.

d) Other barriers

Apart from the above-mentioned categories, there can also be obstacles and difficulties concerning technical, organizational, structural, topographic, demographic, marketing, information dissemination and other feasibility aspects that may intervene or hinder the realization of flexible transport solutions.

In this section there are some predefined questions which cover a few more aspects that have not been addressed within the above categories. However, these questions are not conclusive and further aspects can be addressed in the summary part following the survey.

Example: A very challenging settlement structure (i.e. low population density in a valley), which requires even for Flexible Transport Services a sound organisation and routing.

4. Survey

4.1 Survey questions

a) Regulatory barriers		Yes	No	Partially	Don't know
1.) National legislation for Flexible Transport Services (FTS)					
1. Is there a national legislation that regulates Flexible Transport Services like					
a) Call/Dial systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: _Occasional transport _____	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>If yes, where are they regulated (in which juridic acts / law books) and how are these Flexible Transport Services defined (please give a brief definition here)?</p> <p>It is regulated in the Act No. 56/2012 Coll. (Law on road transport). The occasional transport is carried out under the agreement concluded with the customer of occasional transport as single contractual transport services provided for an agreed group of passengers. The services take place along the agreed route with agreed stops. The occasional transport operator is obliged to fulfil his transport obligations only in relation to the agreed group of passengers; he does not have any operational or tariff duties. Buses have to be marked with "Excursion" sign.</p>					

2.) Territorial legislation and regional programmes	Yes	No	Partially	Don't know
<p>2. Is there apart from the national legislation also a regional legislation like a decree or an edict (such as a regional program is) that bindingly regulates flexible transport solutions?</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, where are they regulated (in which juridic act / regional program etc.)?</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

3.) Regulatory minimum standard	Yes	No	Partially	Don't know
<p>3. Is there a regulatory minimum standard or recommendations concerning the provision of public transport for settlement areas in your country/region?</p> <p>If yes, please briefly describe how that minimum standard looks like?</p> <p><i>Regular transport services in terms of transport serviceability of the area are urban, suburban and intercity transport services. Urban transport can be operated together with urban tram and urban trolley transportation as a single urban transport system of coherent and interconnected lines and schedule connections are based on a single transport regulation with a single system for tickets sale.</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4.) Liability	Yes	No	Partially	Don't know
<p>4. Is the Flexible Transport Service regulated in terms of <i>liability</i> (= who is liable in case an accident happens with/without passenger happens)?</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _ Occasional transport _</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:</p> <p>The occasional transport operator is liable in case an accident happens.</p>				

5.) Spatial limitations	Yes	No	Partially	Don't know
<p>5. Is the Flexible Transport Service regulated in terms of aerial/spatial limitations (= can the transport service be used/offered without spatial limitations)?</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:</p>				

6.) Pricing	Yes	No	Partially	Don't know
<p>6. Is the Flexible Transport Service regulated in terms of <u>pricing</u> (= is there a minimum/maximum price/service; is the pricing open etc.)?</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

7.) Scheduling and pulsing specifications	Yes	No	Partially	Don't know
<p>7. Is</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>regulated in terms of <u>scheduling/pulsing specifications</u> (=is the schedule free or does it have to be coordinated with other means of transport)?</p> <p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

8.) Scheduling and pulsing specifications	Yes	No	Partially	Don't know
<p>8. Is</p> <p>a) Call/Dial systems</p> <p>b) Seasonal/Temporary systems</p> <p>c) Sharing systems</p> <p>d) Pooling systems</p> <p>e) Other flexible transport: _ Occasional transport _</p> <p>regulated in terms of <i>stipulations of the national road traffic act</i> (=does the road traffic act apply to all of these flexible mobility services)?</p> <p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:</p> <p>The occasional transport operator is obliged to fulfil his transport obligations only in relation to the agreed group of passengers; he does not have any operational or tariff duties. Buses have to be marked with "Excursion" sign.</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

9.) Accessibility	Yes	No	Partially	Don't know
<p>9. Is the Flexible Transport Service regulated in terms of <u>accessibility</u> (= does everyone have access to this service)?</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.) Transboundary traffic	Yes	No	Partially	Don't know
10. Is the Flexible Transport Service regulated in terms of <u>transboundary traffic</u> (= is it principally possible to use the specific service also transboundary)?				
a) Call/Dial systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: <u>Occasional transport</u>	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:				
The holder of the transport license for regular transport may carry out national occasional transport and based on the waybill also international occasional transport.				

11.) FTS for different purposes	Yes	No	Partially	Don't know
11. Is the Flexible Transport Service regulated in terms of limitations with regard to certain purposes (i.e. a school bus –which is rather categorized as public transport service – is often only allowed to transport school children but no other citizens)?				
a) Call/Dial systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: _____	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief how the different services a) – f) (where the yes applies) are regulated:				

b) Institutional barriers				
1.) Embedment in the transport association	Yes	No	Partially	Don't know
1. Is flexible transport organizationally, institutionally or administratively covered/embedded by the national or provincial transport association for				
a) Call/Dial systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: _____	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief how the different services a) – f) (where the yes applies) are embedded/covered:				

2.) Opposition to FTS	Yes	No	Partially	Don't know
<p>2. Do you expect (or already experience) opposition to Flexible Transport Services such as</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>by other transport service providers (i.e. taxi companies, provincial transport associations, private transport service providers etc.)?</p> <p>If yes, please describe in brief how this opposition for the different services a) – f) (where the yes applies) looks like/might look like:</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	X X X X X	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

3.) Integration into public transport	Yes	No	Partially	Don't know
<p>3. Are any of the transport services (incl. timetables) and possible connections integrated and listed at the transport information services (i.e. journey planners, route planner for public transport) of national/provincial transport associations</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief how the different services a) – f) (where the yes applies) are integrated at the online platforms:</p> <p><i>Flexible transport services (incl. timetables) and possible connections are not listed at the transport information services but in the future it would be our wish to integrate it in the public transport information services.</i></p>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>

4.) Political barriers	Yes	No	Partially	Don't know
<p>4. Do you expect great political barriers (= political opposition in the municipal committee) for implementing</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief what kind of political barriers you'd expect for the different services a) – f) (where the yes applies):</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

5.) Municipal management of mobility services	Yes	No	Partially	Don't know
<p>5. Do you expect difficulties (regarding payment, administration, workloads etc.) when municipalities have to manage different mobility services like cable cars, shuttle services, ordinary bus lines, ski buses, hailed shared taxis and so on?</p> <p>If yes, please describe (also with regard to your personal experience hereon) in brief what kind of difficulties you would expect:</p> <p><i>We would expect some difficulties from the municipalities' side – especially with participation on payment would be a problem for them. Flexible mobility services could be managed together with tourism associations and providers.</i></p>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6.) Risks in collaboration between stakeholders	Yes	No	Partially	Don't know
<p>6. Do you see any risks (= risks due to deficient communication, risks evolving through conflicts, etc.) in the collaboration between local stakeholder groups who are involved in the planning, implementation and operation phase for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>If yes, please describe in brief of what you would expect on how the realization of the different services a) – f) (where the yes applies) might be affected by a collaboration within the establishment of flexible mobility services in your region:</p>				
7.) Acceptance of FTS for touristic purposes by locals	Yes	No	Partially	Don't know
<p>7. Do you see opposition from the side of local residents when developing Flexible Transport Services such as</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>which are in its origins designed as touristic mobility offers?</p> <p>If yes, please describe in brief how this opposition could look like for the different services a) – f) (where the yes applies):</p>				

c) Economic barriers				
1.) Investment costs	Yes	No	Partially	Don't know
1. Do you expect that it is rather easy for local/regional stakeholders (i.e. regional institutions, municipalities etc.) who are involved in establishing flexible transport to gain the needed investment costs for implementing/purchasing/installing				
a) Call/Dial systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: _____	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief what kind of financing at the implementation phase you'd expect for the different services a) – f) (where the yes applies):				

2.) Investment costs	Yes	No	Partially	Don't know
<p>2. Are there specific (national, regional, institutional or other) funding schemes for flexible transport solutions for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief the funding schemes and the connected conditions for the different services a) – f) (where the yes applies):</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

3.) Financial support by transport association	Yes	No	Partially	Don't know
<p>3. Does the national/regional transport association financially support flexible transport solutions like</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief from which level and how they are supported for the different services a) – f) (where the yes applies):</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

4.) Extra costs	Yes	No	Partially	Don't know
<p>4. Do you see extra costs (especially with regard to marketing and information dissemination) for Flexible Transport Services compared to regular transport solutions for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief what kind of extra-costs you would expect and in which magnitude (low - moderate – high extra-costs) for the different services a) – f) (where the yes applies):</p> <p><i>We do not expect any extra costs if flexible transport system will be implemented within the public transport system as the information system of public transport is relatively well organised. Smooth and gradual transformation of the transport infrastructure of public transport in a particular territory would in turn contribute to more effective and more economical provision of transport services.</i></p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.) Cooperation between private – private and private-public-partnership	Yes	No	Partially	Don't know
<p>5. Do you see it realistic that private entrepreneurs (i.e. a taxi company) cooperate with i.e. the public transport association or possibly also with other competitive private entrepreneurs in order to offer Flexible Transport Services?</p> <p>If yes, please describe in brief where you would expect the biggest challenges within the cooperation and which obstacles may possibly hinder such cooperation?</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

6.) Municipalities as providers and operators of FTS	Yes	No	Partially	Don't know
<p>6. Do you think that municipalities are capable of delivering Flexible Transport Services in the same quality and professionalism as private entrepreneurs (i.e. taxi companies, specialist firms etc.) do (think of / consider here also concession, professional background and expertise, personnel resources etc.)?</p> <p>If yes, please describe in brief where could be the advantage of having the municipality as operator vs. where would you expect the biggest disadvantages and obstacles in contrast to a private entrepreneur?</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

d) Other barriers		Yes	No	Partially	Don't know
1.) Available information					
1. Is information about offers for flexible transport (whenever there is already an existing offer/solution in your region) broadly (=in different media for different target groups and in a certain order of magnitude) available for the general public for					
a) Call/Dial systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Seasonal/Temporary systems	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Sharing systems	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Pooling systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Other flexible transport: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, please describe in brief how information about the different services a) – f) (where the yes applies) and to which extent it is available:					
There are only following categories of flexible modes of transport in Košice region:					
1) Shuttle seasonal/temporary (operates only seasonally or at specific occasions) with fixed route and stops, mostly small distances: - seasonal – seasonal summer and winter buses - events - event trains.					
2) Sharing - bikerental.					

2.) Risks in the anchoring of responsibilities	Yes	No	Partially	Don't know
<p>2. Do you see any risks when anchoring responsibilities (i.e. when anchoring responsibilities concerning the accounting, the operation, the administration, the maintenance, the project management and the organization) in realizing</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe in brief where you'd see the risks and what kind of risks you'd see for the different services a) – f) (where the yes applies):</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

3.) Acceptance of use	Yes	No	Partially	Don't know
<p>3. Do you expect barriers in the acceptance of use (of people) of flexible mobility solutions for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe briefly how pronounced you'd expect people in your region to have 'difficulties' in accepting such flexible mobility solutions for a) – f) (where the yes applies):</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

4.) Personnel resources for managing a FTS	Yes	No	Partially	Don't know
<p>4. Would you expect the provider of a FTS - apart from financial resources – to also invest in personnel resources (= to employ people) in order to manage a Flexible Transport Service such as</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please allude briefly how many working hours/work you would expect for managing the different services a) – f) (where the yes applies) on an operational basis (= does not include the implementation and planning phase) given that a single unit of a certain Flexible Transport Service is offered:</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5.) Ticketing, booking and payment modalities	Yes	No	Partially	Don't know
<p>5. Do you expect difficulties with the ticketing, booking and/or payment modalities for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe briefly what kind of difficulties and problems in relation to ticketing, booking and/or payment you'd see for the flexible transport solutions for a) – f) (where the yes applies):</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

6.) Online booking and online payment	Yes	No	Partially	Don't know
<p>6. Does an already existing flexible transport solution in your region (if you have one/several) like</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>offer online-booking and/or online payment via app or webpage?</p>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

7.) Professional management	Yes	No	Partially	Don't know
<p>7. Do you expect difficulties concerning the professional management (= professional management from the 'birth' to the actual operation of the Flexible Transport Service –embracing administration, marketing & PR, operation, financial management etc.) for</p> <p>a) Call/Dial systems b) Seasonal/Temporary systems c) Sharing systems d) Pooling systems e) Other flexible transport: _____</p> <p>If yes, please describe briefly what kind of difficulties and problems in relation to the professional management you'd see for the flexible transport solutions for a) – f) (where the yes applies):</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

8.) Sustainable transport within education	Yes	No	Partially	Don't know
<p>8. Is transport and thereby more specifically >>sustainable transport<< with all its facets an integral part of education in schools in your region?</p> <p>If yes, please describe briefly what you know/think is taught in schools about sustainable transport:</p>	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>

9.) Awareness rising and information dissemination	Yes	No	Partially	Don't konw
<p>9. Are there also other (out-of-school) institutions that provide education on sustainable transport and flexible transport solutions in your region?</p> <p>If yes, please describe briefly what you know/think is taught about sustainable transport in these institutions and how important are they in the region:</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10.) Existing awareness	Yes	No	Partially	Don't konw
<p>10. Do you think there is sufficient awareness (= most people are aware that the motorized individual traffic causes environmental problems) on the importance of sustainable transport and particularly flexible transport within the general public and also within local stakeholders and decision makers?</p> <p>If yes, please describe briefly what are people aware of in relation to sustainable transport and why do you think there is still a discrepancy between environmental ideals and effective transport habits:</p>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Summary of barriers

As there is only few flexible transport systems in Kosice region we would like to try to summarise the barriers for its implementation.

The most important are legislative barriers: flexible modes of transport cannot be financed from the public funds (problematic integration into public transport - no service contract can be concluded for long distance transport and commercial local recreation and tourist transport services) and the operation of passenger transport through vehicles with capacity of maximally nine persons including the driver (8 + 1), means operation of taxi services.

Another obstacle is the absence of integrated transport organizer, which would be an ideal coordinator for the implementation of flexible modes of transport. Everything depends on who should establish the flexible transport. At present private companies / entrepreneurs already can carry out a flexible forms of transport as taxi services and occasional transport as long as they do not need any public funding. Entrepreneur who would carry out business in flexible transport should understand that its clientele is also a customer of tourist or recreational facilities and not only people traveling to work, to school or to healthcare facilities waiting at the bus stop. The rate of use of flexible transport system and variable demand for transport services are decisive parameters for efficient investment into motor vehicles. In the case of under-utilized motor vehicles and human resources (driver, dispatching system) are fixed costs for operating such system disproportionate to the effect.

That is why the existing potential of entrepreneurs and their spare capacity form an appropriate basis for launching a flexible transport system as occasional transport service. The higher number of subjects, the higher number of spare capacities. However, it is necessary to have an organizer, especially in terms of data collection, and it must also be financially secured.

As far as the flexible transport has been defined for the purposes of the analysis as supplied services, operated under a request (i.e. if there is a demand), the present legislation enables the performance of flexible transport as

- Taxi services,
- Occasional transport.

Except the above mentioned transport modes there are following categories of flexible modes of transport:

- 1) Shuttle seasonal/temporary (operates only seasonally or at specific occasions) with fixed route and stops, mostly small distances:
 - seasonal – seasonal summer and winter buses
 - events - event trains.
- 2) Sharing
 - bikerental.

The existence of this service can be implemented only on commercial basis or it might be financed on the level of the tourist organizations, or association of entities providing accommodation or touristic services. Seasonal transport is implemented through regional transport provider who is also responsible for the regular bus transport.

The cited transport types face the following barriers at working:

- absence of the appropriate organizer and coordinator with the other types of public transport,
- economically not attractive for the operators if there is no synergy with some other entrepreneur activities,

- impossible financing from the public resources (problematic integration of the system into the public transport – except the seasonal transport),
- difficult process of getting the necessary permissions for operating the public transport services, and
- absence of information platforms.

The Slovak legislation defines the transport services in the public interest as services for providing transport to schools, healthcare facilities, offices and into employment. Self-governing region has to ensure such transportation services by law from its budget. The transport needs of passengers using these services on different purpose cannot have the priority over the main purpose of the service in the public interest.

There exists a relationship between self-governing region (regional government) and transport providers but it doesn't have a character of public-private partnership. It is a contractual relationship under which the transport providers provide services under the requirements of the customer (regional government) in the required quality and at a fixed fare. The fare is why the transport provider is not at a profit and this social aspect causes that the difference between the economically justified costs and revenues will be compensated by customer (regional government) from its budget to the transport provider.

Conclusion of a public service contract is a subject to the legislation of the Slovak Republic and the EU. The aim of this service contract is to provide for the public safe, efficient and high quality transport services against the stated basic fare, to define their adequate capacity pursuant to the needs of the transport schemes of the respective region considering the social and environmental factors and the goals of the regional development, unless they are secured by the transport providers of the regular transport, operating on commercial basis. The respective service contract is concluded between the customer and transport provider operating the regular transport service, which the transport provider would otherwise not provide for the stated fare at all or partially due to its economic disadvantage, although they are necessary for ensuring the functioning transport scheme of the concerned territory. No service contract can be concluded for long distance transport and commercial local recreation and tourist transport services. Contract may be concluded only on the regular transport service that can be performed only by bus. The transport provider is the road transport operator since the day of validity of his/her transport licence, concession or other authorisation that authorise him/her to provision of transport services to the public based on the concluded transport contract. The interest of the regional government in this type of contract is determined by the existence and scale of services in the territory concerned. If the customer (regional government) finances services at the territory concerned and by granting another license will be subsequent decrease in the revenues on existing routes and this will cause an increased payment from its budget the licensing of course is not in the interest of the customer (regional government).

A major change would be the case if the customer has revised the accessibility of the regions in the Plan of transport serviceability and the designated area would be chosen for application of the flexible transport system that would also fulfil the role of a public service. In this case, it would be possible to conclude a public service contract for the specified scope of transport services.

The smooth and gradual transformation of the transport infrastructure of public transport at a particular territory to more flexible system would contribute to a more efficient and more economical safeguarding of transport services. In case of utilisation of the integrated transport system organizer and its dispatching system to address specific needs of the traveling public would enhance the usefulness of this subject. Increase in fares is out of the question and is not in favour of increase the attractiveness of public transport.

Necessary steps to take for change:

Stimulate a discussion with the Ministry of Transport of Slovak Republic and work on removing the legal barriers for development of flexible modes.

A significant conceptual solution might be the application of the elements of the flexible transport services within the system of the regular transport performed in public interest after some mild modification of the present laws.

- 1) Defining some seldom used regular bus connections as „ dial-a-bus“ would enable the more economical transport services, amendment of Decree No. 124 of Annex no. 3 by adding the informative sign „dial- a-bus“.
- 2) Creating alternative routes of the regular bus transport and detours from the normal routes only if necessary, by amendment § 7 sect. 1 by point j) in wording „data on alternative routes of bus connection and detours provided only on request“.
- 3) Allowing the co-financing of shuttle services as services carried out in public interest by amendment of § 21 sec. 2 of Law No. 56/2012 Coll. by deleting from the text: „recreational and touristic“ or § 22 sec. 4 by amending it by the alternative - to provide contribution from entrepreneur entities to support tourism by way of co-financing public services.

Regardless to the way of the implementation of the flexible transport services and the extent of its application in the territory of the Košice Self-governing Region, the main aim is to integrate the elements of the flexible transport into the coordinated transport system providing complex transport services that will ensure the economical use of public resources, and in the best case scenario it will also provide unified tariff and information system.

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Annex

a) Bibliography of literature sources – partner

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Glossary

Terminology

Public transport: Public transport is the provision of a shared passenger transport service which is available for the general public, as distinct from modes such as taxicab, carpooling or hired buses which are not shared by strangers without private arrangement (Glover, 2011).

Micro-Public Transport service (Micro-PT service): Micro-PT systems are an important part of Flexible Transport Services with the goal to promote local traffic solutions through a public provider (the financing of the micro-PT service is done by public institutions – i.e. municipalities - whereby the operation of the micro-PT service can be offered by a licensed private operator) (Wolf-Eberl et. al., 2011).

Flexible Transport Services: Flexible Transport Services or demand responsive services (also termed flexible transport solutions or flexible transport systems in the following) are defined as “an advanced, user-oriented form of public transport characterized by flexible routing scheduling of small/medium vehicles operating in shared/ride mode between pick-up and drop-off locations according to passenger’s needs” (Penelope bacchus, n. d.).

Last mile transport: The last mile - or last kilometer transport describes particularly the last kilometers of a multi-modal travel chain based on public transport (mostly from a transportation hub –i.e. at the train station) for either passengers or goods (Wang H. and Odoni A., n. d.).

Touristic transport services: The term “Touristic transport services” is quite broad and does neither specifies a certain means of transport nor whether the transport service is provided as flexible or standard transport. It can thus comprise any kind of the before mentioned transport services. The goal is to enable touristic transport aside from individual motorized traffic in order to access touristic destinations.

Commonly used Flexible Transport Services

- **On-demand bus**

is a bus service that works in contrast to regular scheduled bus lines only after prior calling of the bus-operator (depending on the operator, the call has to be made some time previously). On-demand buses also deviate from the routing compared to an ordinary bus line service (Austrian Federal Chancellery – Kraftfahrliniengesetz § 38, 2016).

- **Hailed shared taxi service**

is a taxi service that works in contrast to a regular taxi with fixed stops but with a flexible routing choice. The taxi also has to be called previously (Austrian Federal Chancellery - Kraftfahrliniengesetz § 38, 2016).

- **Shuttle service**

Shuttle bus (or coach) is a bus service which transports passengers primarily between two fixed points. Shuttle services often fulfill the function as passenger interconnections and shuttle people mostly from transport hubs (i.e. train station) to different destinations (i.e. hotel, a specific touristic destination etc.). Seasonally it is also often used as a supplementary transport offer such as skiing bus or hiking bus (Austrian Federal Chancellery – Gelegenheitsverkehrsgesetz § 2ff, 2016 and The government of Western Australia – Department of Transport, n. d.).

- **Carsharing**

is the organized collective use of one or more cars for a limited time period (mostly hours). Carsharing is particularly attractive to users who occasionally need a car. The organization of the renting of the cars may be a commercial business or the users may be organized as a company, public agency or cooperative (Bundesverband CarSharing, n. d.). Carsharing may also be attractive from a touristic viewpoint and could potentially substitute the use of private cars.

- **Carpooling**

is the sharing of car journeys so that more than one person travels in a car. A popular carpooling variant is the common commuting to the work place. Another possibility of carpooling is the use of open platforms where registered members can book car journeys (Association for commuter transport, n. d.).

- **Bikesharing**

is the use of publically available bicycles which can be rented for a short time-span and usually within a bigger rental network (several rental stations). The rental works on a self-service basis. One important characteristic is that the bicycles don't have to be brought back to the original rental point but may also be returned to any other rental station within the rental service. The technical access via card, key, mobile phone or password at a terminal as well as the parking mode of the bicycles can deviate from system (provider) to system (provider) (Forum bikesharing Schweiz, n. d.).

- **Inland passenger water-way transport**

is the transport of passengers via boat or ferry (trip boats, hotel boats, water taxis etc.) between defined 'destinations' either within a city or also as extra-urban transport. People can board or exit the boats at the defined destinations. This transport service can be attractive for both residents and tourists (UK Government, 2012).

- **Other Flexible Transport Service**

There are many solutions and concepts on transport services and particularly Flexible Transport Services available. The foregoing are the most commonly used ones and were thus been briefly addressed. Since this enumeration is not conclusive it is possible to present and describe further flexible transport concepts. The questions in the survey are subsequently related to this/these other Flexible Transport Services.