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## Summary of Challenges and Next Steps for FastTrack Local Affiliates

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## Abstract

This document provides a detailed analysis of the challenges faced by the local authorities engaged in the Fast track project. It compares the challenges perceived at the beginning of the project with the ones remaining after the completion of the learning programme. This deliverable draws conclusions about the learning curve experienced by the representatives of the 23 engaged local authorities. Finally, it suggests further learning content and projects to be followed to respond to the remaining issues faced.

## Project Partners

No	Name	Short name	Country
1	ICLEI EUROPEAN SECRETARIAT GMBH	ICLEI	Germany
2	EUROCITIES ASBL	Eurocities	Belgium
3	MOBIEL 21 VZW	M21	Belgium
4	EUROPEAN INTEGRATED PROJECT SRL	EIP	Romania
5	VECTOS GMBH	Vectos	Germany
6	ETHNIKO KENTRO EREVNAS KAI TECHNOLOGIKIS ANAPTYXIS	CERTH	Greece
7	STAD ANTWERPEN	Antwerp	Belgium
8	COMUNE DI BOLOGNA	COBO	Italy
9	BUDAPEST FOVAROS ONKORMANYZATA	MUNBUD	Hungary
10	STOCKHOLMS STAD	Stockholms Stad	Sweden

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## Glossary

Abbreviation / Term	Explanation
AC	Ambassador City / Ambassador Cities are those, who thematically lead a Cluster together with the Technical Support Partner. ACs are project partners yet also aim at developing a deployment plan on one selected measure.
CBW	Capacity Building Week(s)
Cluster	Thematic based group of cities (Local Affiliates) lead by an Ambassador City and a Technical Support Partner.
D	Deliverable(s)
DP	Deployment Plan. Each Local Affiliate will create a Deployment Plan, which outlines an action plan to rapidly and effectively implement the innovations they have explored in FastTrack. Plans will articulate the actions they will take, alongside a timescale, who will be responsible for these actions, funding sources, and any additional detail needed to make plans easily monitorable and actionable.
Exchange Hub Platform	The Exchange Hub is the main online exchange and communication interface with the project partners as well as the community of Local Affiliates. It combines the functionalities learning – storing – discussing - finding, and allows the Innovation Community to stay in touch regularly.
FUA	Functional Urban Area
Horizontal Skills Streams	The horizontal skill streams cover the transversal themes each Cluster will work on. They encompass: Funding, financing and procurement; digitalisation and (big)-data management; governance, planning, co-creation and behavioural change.
ID	Innovation Diary. The innovation diaries are the cities' capacity building road map. After each Capacity Building Week it captures the outcomes and feedback of the capacity building week, as well as the milestones and objectives for the subsequent learning sequence as well as internal objectives for each local authority.
KPI	Key Performance Indicator(s)
LA	Local Affiliate
Leader Affiliate	A relative leader or Ambassador Local Affiliate in a specific topic, but still with room to benefit from further advice and enhancement through FastTrack, ready to enter into a rapid stage of implementation during FastTrack.
LS	Learning Sequence(s). FastTrack Programme of Work is divided into five Learning Sequences of 4-5 months each.
NAS	Needs Assessment Survey
PC	Project Coordinator
PO	Project Officer
PPP	Public-Private Partnership

Sharer Affiliate	“Capacity conscious” city/ regions who can share knowledge, like Leader affiliates, but also have learning needs about the topic, alongside the Starter affiliates.
Starter Affiliate	City/ regions facing a rapid transition curve and ready to interact and learn from the challenges and experiences and proven knowledge of the Leader and Sharer affiliates, perhaps located in countries lagging behind in the deployment of urban mobility innovations and committing to practical ways to accelerate deployment in their own contexts, spread this to peers in their own countries.
TSP	Technical Support Partner(s)
WP	Work Package
WPL	Work Package Leader

# 1 Executive Summary

This report assesses the evolution of the challenges expressed and identified by the Local Affiliates and Ambassador Cities from the beginning to the end of the FastTrack project. As such, it allows to draw conclusions on the learning curve of the representatives that participated in the FastTrack Capacity Building Programme.

The deliverable will first explain the methodological approach used to assess the evolution of challenges. A continuous dialogue about perceived challenges with the local affiliates' representatives taking part in the project has been at the core of the working methodology and a key to the success of the learning programme. Unlike more common approaches tending to assess challenges and needs only at the start of a project, FastTrack assessed the needs at the beginning, throughout and at the end the project. This uninterrupted dialogue allowed to gain a precise understanding of challenges which ultimately did not lead to a decrease of challenges identified but to a change in nature as they became more precise and targeted.

In the second chapter the deliverable provides an overview of the challenges faced by all representatives specifically along key enabling factors for accelerated uptake of mobility innovations including the capacity to engage with stakeholders and citizens, sufficient planning capacities, knowledge on how to develop new business models, and new data collection models.

The third chapter of the deliverable details the evolution of learning challenges per thematic cluster. Each sub-chapter details the comparison of challenges expressed at the beginning and after completion of the learning programme. Further learning material is suggested to tackle the remaining learning needs.

The deliverable will conclude with some final reflections and remarks.

## 2 Detailed analysis of challenges

The assessment of the needs and challenges at the beginning and at the end of the project has been done through an ex-ante and ex-post analysis. The ex-ante analysis was conducted at an earlier stage of the FastTrack project through the Needs Assessment under WP1 (Deliverables D.1.1 and D.1.2). The exchanges during the first learning sequence helped fine-tune the identification and analysis of the challenges as well as the First Innovation Diary (ID) filled out by the Local Affiliates at the end of the first Learning Sequence. For the LAs that did not fill out the ID1, the responses provided in ID2 were used to identify the needs and challenges expressed prior to the deployment of the FastTrack learning programme. To run the ex-post analysis, several sources of information were used including the responses to the last Innovation Diary, the final Deployment Plans as well as the outcomes of the workshops run in the last Capacity Building Week in Budapest.

From this assessment the levels of analysis can be differentiated in the general one and in the cluster-specific one. This chapter will detail the methodology used for the assessment and the analysis of the trends related to the challenges for the whole group of city representatives. Chapter 3 will detail the trends per cluster in a more theme-specific manner.

## 2.1 Assessment methodology of challenges faced by Local Authorities

The FastTrack learning programme allowed to monitor the evolution of the challenges expressed by the Local authorities through two main instruments. Firstly, the Innovation Diaries which the representatives filled out after each learning sequence (four Innovation Diaries were distributed in total), allowed to evaluate which challenges were addressed through the learning programme and which were perceived as remaining ones. After each activity, the main organising partner had to fill out an Event Form indicating challenges expressed by cities. The minutes gathered after each capacity building activity also allowed to keep track of the challenges expressed by the local authorities during the learning process. This iterative assessment allowed to fine-tune the analysis of the challenges faced by the Local Authorities and was at the core of the adaptive learning strategy deployed within the FastTrack Capacity Building methodology. That way, all activities performed were addressing to the most pressing needs expressed by local city representatives. The iterative monitoring also showed that through the learning process and while local authorities were starting to work on their chosen innovation, they faced unexpected and new challenges, they had not foreseen at first.

### 2.1.1 Overview of assessment data

Information on the cities' needs, obstacles and opportunities regarding innovative sustainable mobility solutions was gathered, at an early stage of the project, through the **Needs Assessment Survey**.

In total 70 completed **Innovation Diaries (ID)** were received: 18 ID1 replies (representing 17 cities), 17 ID2 replies (representing 16 cities), 25 ID3 replies (representing 19 cities), 21 ID4 replies (representing 20 cities). The Innovation Diary was shared through an online questionnaire targeting the Ambassador Cities (ACs) and Local Affiliates (LAs). The questionnaire initially collected information related to challenge definition (barriers that hinder the rapid deployment of innovative mobility solutions), idea formation (getting inspired from city peers) and learning action framing (what exactly cities need to overcome the identified challenges). As the Capacity Building Programme moved forward from problem definition to planning formulation (Deployment Plans), the ID content was adjusted accordingly. Nonetheless, questions related to the city's progress/ satisfaction from FastTrack Capacity Building activities, remained as a key content in all IDs. Finally, it should be noted that, in order to avoid survey fatigue, ID3 was provided in a simpler and shorter form. ID4 was the most extended one, as the last ID shared for data collection from the cities.

**Deployment Plans (DP)** were developed and delivered by the cities for the innovative mobility solution studied within FastTrack. In total 23 Deployment Plans have been received. In the final section of the DP cities were invited to share any remaining challenges.

The **Minutes** of the activities implemented allowed to collect the outcomes of the discussions and thus also keep track and fine-tune the understanding of the challenges faced by the LAs and ACs. A summary of the main outcomes per activity is available in D2.2.

## 2.2 General evolution of challenges and learning needs

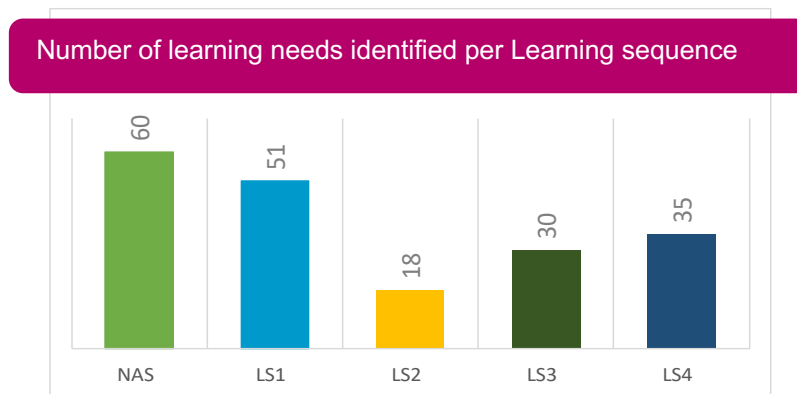
In the early phase, the project collected a high number of challenges expressed by the city representatives in FastTrack. Then, as the project proceeded and the learning programme got



deployed, the number of needs collected gradually decreased, and finally increased again towards the end of the programme. Once LS2 concluded, the cities made their definitive innovation selection and narrowed down the specific content to focus on, resulting in less broad challenges being expressed. Looking at a concrete example, the learning needs expressed by the city of Munich ranged at the early stage of the project from Sulp development to interest in developing shared logistics data platforms and eventually to specific stakeholder engagement structures.

As the project progressed, the city's attention shifted towards the establishment of a micro-logistics hub, leading to a change in the primary concerns and difficulties expressed, which now revolved around this innovative concept. Consequently, the discussions encompassed the finer aspects of legal procedures related to the hub and the formulation of a business model tailored to its development.

**Figure 1:** Number of learning needs identified in the Needs Assessment (NAS) and per Learning Sequence (LS), cf. D.4.2.



**Figure 2:** percentage of learning needs per city category covered by the learning activities, of D.4.2

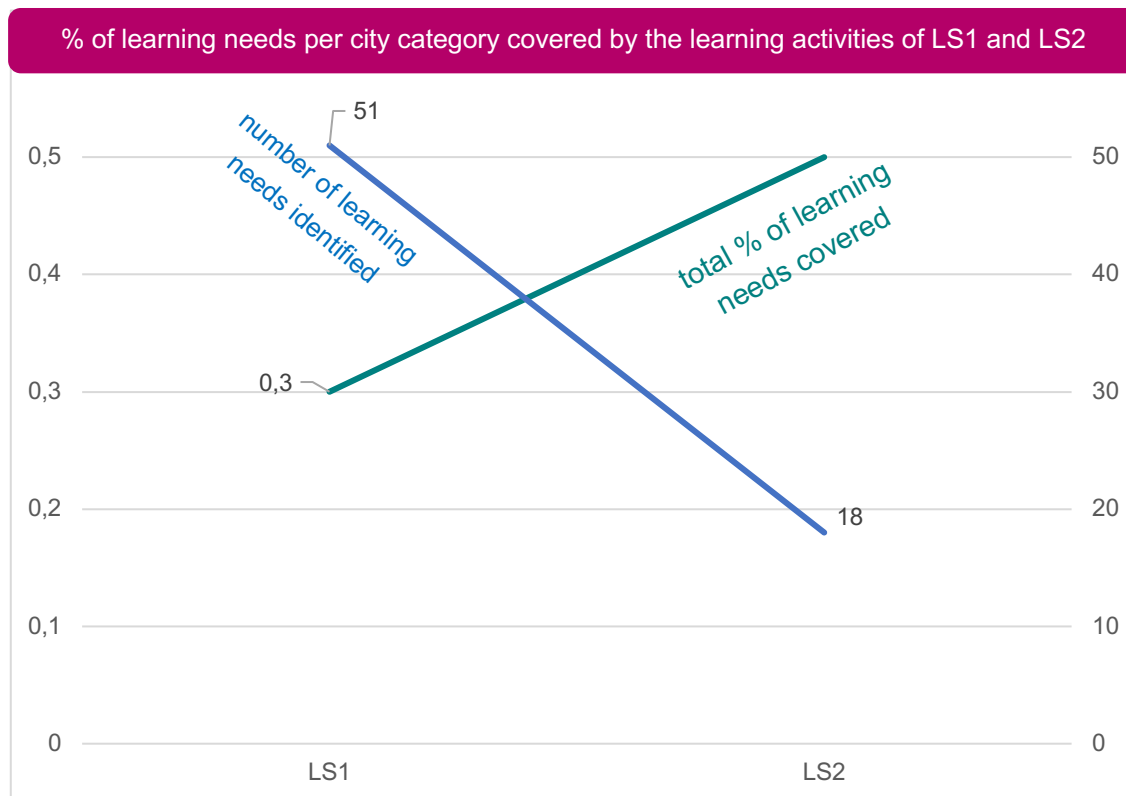
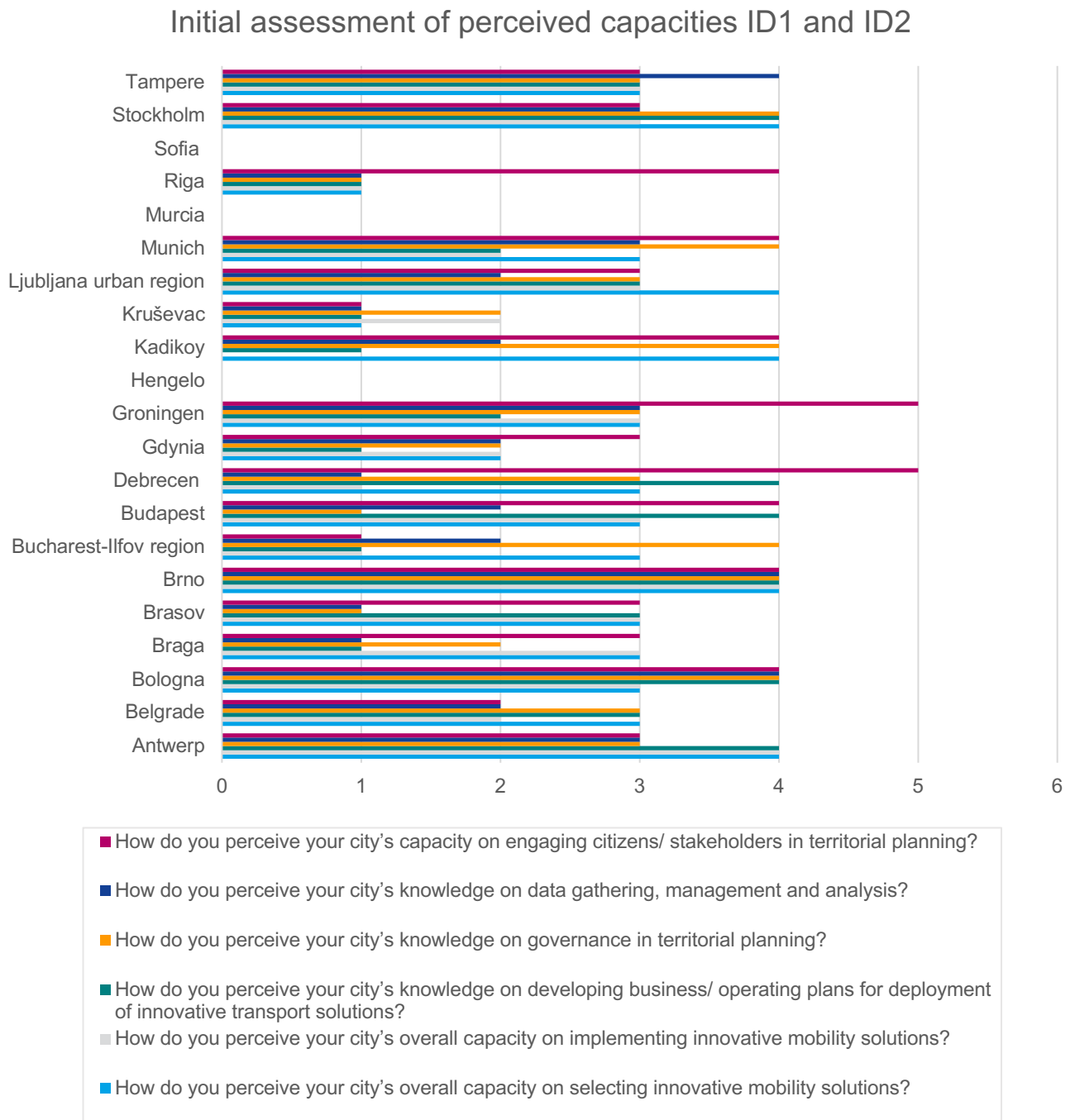


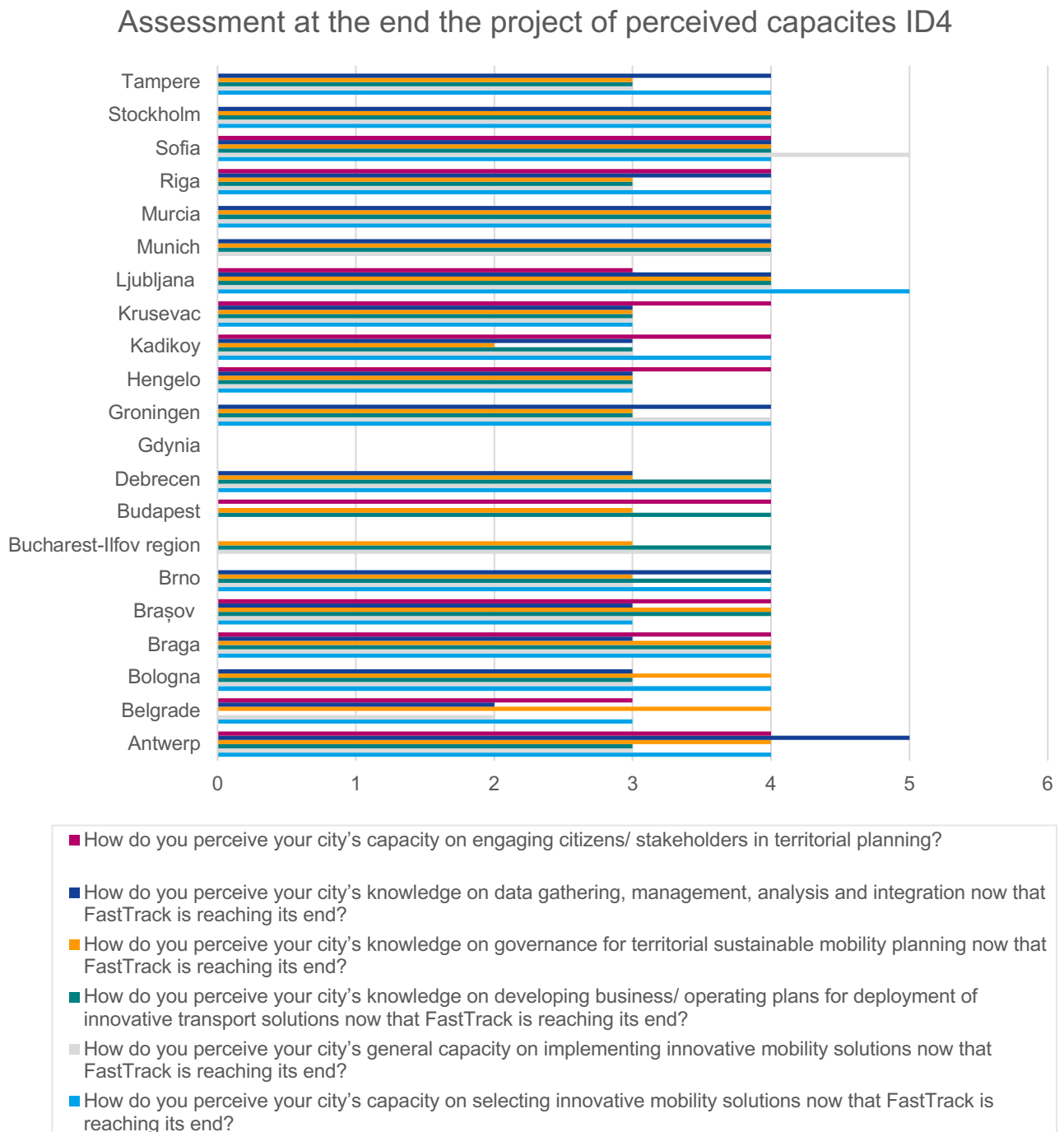
Figure 2, shows that the learning needs got increasingly covered by the learning activities performed in the framework of the FastTrack learning programme. During LS1, 51 learning needs have been discussed, 30% of which have been addressed while 18 learning needs were discussed during LS2, 50% of which were addressed.

**Figure 3: Initial assessment of perceived capacities**



A comparison of the general perception of challenges and skills of participating cities shows that there is a positive trend between the beginning and the end of the project. Except for a couple of cities where the data is not available for comparison (Hengelo, Sofia, Murcia) and for the city of Belgrade where the trend is less strong, all the city representatives now rank their capacities from 3 to 5, while the initial ranking was lower for the ex-ante evaluation. This evolution shows that there has been a perceived increase in capacity on all the aspects encompassing citizen engagement, data management, governance, funding and business models, capacity to select mobility innovations.

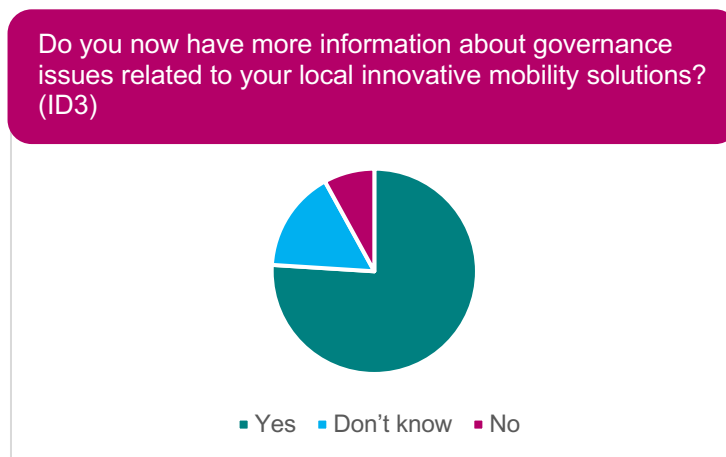
**Figure 4:** Assessment at the end of the project of perceived capacities



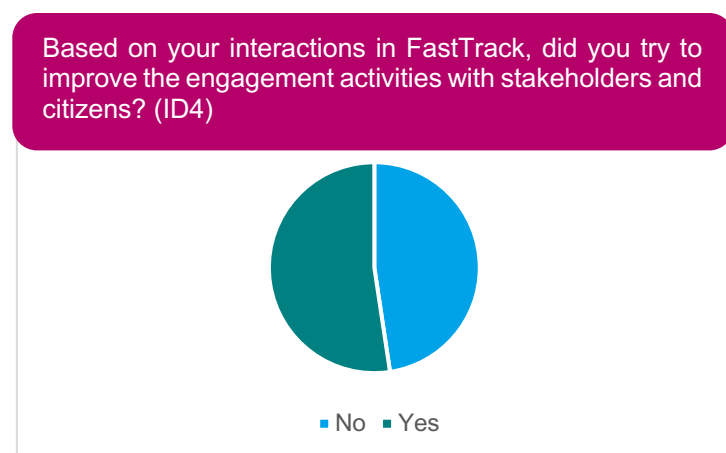
Looking more in detail, most representatives express that in terms of governance related matters the FastTrack project has allowed them to improve internal collaboration as well as the engagement strategies with stakeholders and citizens.



**Figure 5:** Improvement of internal collaboration



**Figure 6:** Improvement of information about governance



**Figure 7:** Improvement of engagement with stakeholders

### Examples of improvements based on replies provided in ID4:

*“We have learnt great examples from fellow cities in the project in the field of citizen engagement and how they involve the different stakeholders from the beginning of a project. We tried and are still trying to adapt these examples in our processes, and we can already see some great results.” Balint Szemenyei, City of Budapest*

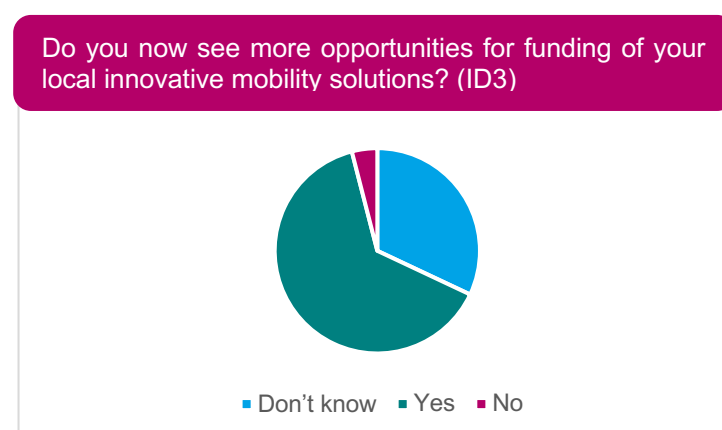
*“We were able to develop new ways of approaching stakeholders. For the technological stakeholders, it was possible to make our strengths and needs to be known, aligning them with the solutions presented. It was possible to propose new challenges to the partners, finding ways of integrating data that make the ideas realizable. The way to involve all internal and external stakeholders was also improved, either by sectorial meetings or by the creation of an advisory board for mobility.” Pedro Moreira, City of Braga*

*“The SUMP is being updated and it will have a mobility survey as a basis of it. The questions are phrased partly based on our understanding that we gathered through FastTrack.” István Tóháti, DKV Debrecen*

Also, regarding technical specification, skills required within the local administration and the capacity to identify funding sources the majority of local representatives indicated that they experienced a positive learning trend.



**Figure 8:** Knowledge about technical specifications and skills



**Figure 9:** Opportunities for funding of mobility innovations

Looking at the geographical scale of the challenges and barriers identified, the local level has been dominantly identified to be the one where the challenges can be addressed and solved (see Figure 10 and Figure 11). After completion of the four learning sequences the representatives still identified in total 54 barriers and challenges to the implementation of their chosen mobility innovations. Out of those 98% can be solved at local and national level only 2% was perceived to require support at EU level (further details can be found in D. 4.2). Access to funding has been perceived as a key challenge across the project and as dimension where EU support is crucial. In most cases political support has been identified as key challenge to overcome at local level. When the national level is perceived as barrier to the implementation of certain innovations, the EU is often perceived by the practitioners as useful leverage power.

**Figure 10:** Matrix of barriers and obstacles that hinder the implementation of FastTrack mobility solutions after LS2, cf. D. 4.2.

Matrix of barriers and obstacles that hinder the implementation of FastTrack mobility solutions after LS2

	Mobility solution spatial reference: urban	Mobility solution spatial reference: urban & peri-urban	Mobility solution spatial reference: all levels	
Barriers at local level	16	6	7	29
Barriers at national level	3	0	1	4
Barriers at European level	0	0	0	0
Barriers at all levels	0	0	2	2
Barriers at local & national level	2	0	1	3
Barriers at local & European level	0	0	0	0
Barriers at national & European level	1	1	1	3
<b>Total</b>	<b>22</b>	<b>7</b>	<b>12</b>	<b>41</b>

**Figure 11** Matrix of barriers and obstacles that hinder the implementation of FastTrack mobility solutions after LS4, cf. D. 4.2.

Matrix of barriers and obstacles that hinder the implementation of FastTrack mobility solutions after LS4

	Mobility solution spatial reference: urban	Mobility solution spatial reference: urban & peri-urban	Mobility solution spatial reference: all levels	
Barriers at local level	9	4	15	28
Barriers at national level	3	0	2	5
Barriers at European level	0	0	0	0
Barriers at all levels	3	4	1	8
Barriers at local & national level	4	0	6	10
Barriers at local & European level	0	0	2	2
Barriers at national & European level	1	0	0	1
<b>Total</b>	<b>20</b>	<b>8</b>	<b>26</b>	<b>54</b>

## 3 Evolution of challenges per thematic Cluster

Throughout the FastTracking Capacity Building Programme, all cities had the opportunity to express the challenges they face as well as their learning needs regarding the deployment of their selected mobility innovation. The challenges faced by the local authorities at the beginning of the FastTrack project can be grouped under 5 broader topics:

1. Funding and financing
2. The question of governance and stakeholder participation
3. Collection and management of data
4. Planning and regulating
5. Development of infrastructure

The next four sub-chapters detail the evolution of challenges within each of the thematic clusters.

### 3.1 Challenges of sustainable urban logistics

Urban freight transport plays a crucial role in the economies of cities and the daily functioning of urban systems, encompassing the transportation of various goods such as waste, food, and parcels. However, the COVID-19 pandemic has further amplified the significance of this sector due to a substantial surge in online shopping. In fact, consumer e-commerce deliveries experienced a notable growth of 25% in 2020 as a direct result of the pandemic, and this trend of increased last-mile deliveries is expected to continue.

These activities have a detrimental impact on both congestion and air quality within urban areas. According to FCE (Foresight Climate & Energy), freight transport constitutes a significant portion of city traffic, accounting for approximately 10-15% and contributing to air pollution. Moreover, it is responsible for up to 25% of carbon dioxide emissions from transportation and 30-50% of nitrogen oxide and fine particle emissions.

Furthermore, heavy freight vehicles traveling on urban roads inflict more damage compared to their lighter counterparts. For instance, according to Ricardo Energy & Environment a standard 44-tonne Heavy Goods Vehicle (HGV) causes approximately 136,000 times more damage to road infrastructure than an average car. These statistics highlight the additional strain and challenges posed by urban freight transport in terms of environmental sustainability and the maintenance of transportation infrastructure.

In recent times, public authorities and institutions have shown an increasing recognition of the vital significance of freight transport and logistics within the broader urban mobility system. It has become evident that local authorities must collaborate with logistics stakeholders and local businesses to devise innovative strategies that reconcile two potentially conflicting aspects: an efficient freight distribution system that meets market demands and the creation of a livable, environmentally friendly urban environment.



Within FastTrack a closer look has been taken at the exact challenges faced by local authorities in managing the transformation of urban logistics. Seven local authorities worked on the topic of sustainable urban logistics throughout the whole project. The assessment of the challenges hereafter is therefore based on the responses and exchanges with city representatives of the city of Antwerp, the city of Brno, the city of Gdynia, the city of Munich, the city of Murcia, the city of Riga, the city of Stockholm (Table 1).

<b>FUNDING, FINANCING AND BUSINESS MODELS</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Selecting the right incentives and disincentives</li> <li>– How to get away from funding-based measure to permanent financing options</li> <li>– E-service logistics business model</li> <li>– Procurement criteria and design for urban logistics</li> </ul>	<ul style="list-style-type: none"> <li>– Think of return trips to the hub to further develop the business model - dry waste</li> <li>– For the first year the operation costs will be partly financed by the city. Further develop the scheme beyond year 1 (potential additional funding etc.)</li> </ul>
<b>GOVERNANCE, PARTICIPATION AND COOPERATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Define local leadership, lack of political impetus</li> <li>– The city as trendsetter, not following the market only</li> <li>– Have a long-term coherent vision</li> <li>– Long term implementation timescales are unclear</li> <li>– How to get skilled staff on board</li> <li>– Stakeholder engagement: coordination platforms</li> <li>– Working conditions: how to integrate workers interests in discussions</li> <li>– Private/public logistics actions are not consolidated;</li> <li>– Induce change in private sector</li> <li>– Stakeholder engagement isn't regular/constant</li> <li>– Communication with citizens</li> </ul>	<ul style="list-style-type: none"> <li>– To create a strong ecosystem, start with a specific and targeted set of shop owners</li> <li>– Structuring the dialogue in the long term</li> </ul>
<b>DIGITALIZATION AND DATA MANAGEMENT</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Data collection: how to upgrade smart infrastructure to collect data</li> <li>– How to share data with operators</li> <li>– How to set up shared data platforms</li> <li>– Collect data on empty running</li> </ul>	<ul style="list-style-type: none"> <li>– The main remaining “chicken-and-egg” problem for many cities is the lack of data to support policies and the overall lack of logistics policies at urban level including a data collection strategy.</li> <li>– The management of sensitive (personal) data retrieved for example from mobile phones or truck drivers remains challenging, also for logistics purposes to measure the success of innovation: identify data sources set up to measure these indicators (stores delivered to, or items that were delivered)</li> </ul>
<b>PLANNING AND REGULATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Sulp development</li> <li>– Urban access management lezs</li> <li>– E-logistics schemes</li> </ul>	<ul style="list-style-type: none"> <li>– Setting the long-term milestones and planning accordingly</li> <li>– There are currently no regulations on hours of deliveries but there are regulations on</li> </ul>

<ul style="list-style-type: none"> <li>– Logistics under specific conditions (pandemic, weather)</li> <li>– How to monitor the effects of greening the last mile</li> </ul>	<p>vehicle weight (max. 10 tons). 7-9 am heavy trucks can go into the city center but after 9am only light cars can do the deliveries. It can be politically sensitive to introduce new restrictions</p> <ul style="list-style-type: none"> <li>– Limitations due to lack of regulation and legal frameworks makes testing solutions very difficult</li> </ul>
<b>INFRASTRUCTURE</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Consolidation centres (also for construction sites)</li> <li>– Fast charging infrastructure for heavy vehicles</li> <li>– Parking and cycling facilities for cargo bikes (fast routes)</li> <li>– Define right characteristics for logistics hubs</li> <li>– Smart delivery zones that can be monitored and booked</li> <li>– Road safety</li> <li>– Flexible space management</li> <li>– Construction site logistics in the inner-city</li> <li>– Heavy vehicles in the inner-city</li> </ul>	<p>No specific infrastructure related challenges expressed at the end of the project.</p>

**Table 1:** comparison of logistics' challenges expressed at the beginning and at the end of the project

The overall pattern has been verified, and the representatives of the urban logistics cluster expressed fewer but more precise challenges at the end of the project. This shift can be attributed to the learning curve and the increasing emphasis placed on specific measures as the project progressed, which offers one possible explanation for this transformation.

Logistics hubs and charging infrastructure for heavy vehicles were the main infrastructural aspects the cities worked on in-depth. Stockholm focused on a strategy for the development of charging infrastructure for heavy vehicles while Brno, Gdynia, Munich and Murcia work on different concepts for micro-logistics hubs. Antwerp was the only city looking into the development of a Sulp throughout the entire learning programme. The persisting obstacles indicate that there continues to be a lack of sustainable business models for (micro-) logistics hubs, as well as ongoing difficulties related to legal and bureaucratic barriers. Moreover, the lack of data remains a key concern especially in creating partnerships with the private sector, which could offer logistics' flow data. It is also interesting to notice that from an initial issue around the general involvement of logistics stakeholder the cities have become more precise in identifying more specific stakeholders such as shop owners, employees or parking facility owners as strategic yet challenging stakeholders to work with.

#### Future learning suggestions:

Projects to follow on last mile solutions, micro-hubs and logistics' data collection: [ULaaDs](#), [LEAD](#), [SENATOR](#), [MOVE21](#), [URBANE](#), [Green-Log](#), [UNCHAIN](#), [DISCO](#), [MORE](#)

To further dig into logistics' automation: <https://mobilitylab.hel.fi/app/uploads/2022/09/Logistics-robots-how-does-piloting-work-in-Helsinki.pdf>

[CIVITAS](#) learning programme to be published in October 2023.

A 2013 study of the European Cyclists' Federation (ECF) quantified the following cycling benefits: health improvements; congestion-easing; fuel savings; and reduced CO2 emissions; air pollution, and noise pollution.

A modal shift to cycling can improve health by reducing the physical inactivity. More broadly the health of urban populations is improved from a reduction in air pollution and noise emissions from motorised transport.

Within the scope of FastTrack, a closer look was taken at the exact challenges faced by local authorities in addressing challenges related to the uptake of cycling innovations. Four local authorities worked on the topic of cycling in the urban and functional urban area throughout the whole project. The assessment of the challenges hereafter is therefore based on the responses and exchanges with city representatives of the city of Antwerp, the city of Brasov, the Ljubljana Urban Region, the Lviv City Institute (Table 2).

<b>FUNDING, FINANCING AND BUSINESS MODELS</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– USING FUNDS PROVIDED BY NATIONAL AND SUPRANATIONAL LEVEL</li> <li>– FINANCE MODEL FOR MAINTENANCE OF BIKE SHARING SYSTEMS</li> <li>– Payment model for bike sharing schemes</li> <li>– Regional coordination for cycling schemes</li> </ul>	<ul style="list-style-type: none"> <li>– Lack of funds on the municipality level</li> <li>– Lack of smart and effective intermodal services</li> </ul>
<b>GOVERNANCE, PARTICIPATION AND COOPERATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Try-and-buy model for employees</li> <li>– Stakeholder management</li> <li>– Connecting railway to cycling infrastructure</li> <li>– Communication and behavioural change</li> </ul>	<ul style="list-style-type: none"> <li>– Enhance the refinement of identifying and collaborating with allies to implement cycling initiatives, including those targeted towards employers.</li> </ul>
<b>DIGITALIZATION AND DATA MANAGEMENT</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Little guidance on the identification of the most suitable bike sharing system</li> <li>– Further data gathering on modal split is needed</li> <li>– Lack of skills on data required for station location</li> <li>– Data selection: further capacity required on ways to select the right amount and types of data</li> <li>– Evaluation of measures, kpis selection</li> <li>– Interconnectivity of proposed e-bike sharing scheme with other mobility systems in the region and with other regions (e.g. E-bike compatibility with other systems, p+r, public bikes).</li> </ul>	<ul style="list-style-type: none"> <li>No specific challenges expressed at the end of the project.</li> </ul>
<b>PLANNING AND REGULATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Lack of coordination and connectivity with close-by regions; integration with other systems must be further developed.</li> <li>– Need for basic bike parking law</li> <li>– Mindset shift needed inside local authorities: think planning in multi-modal terms</li> <li>– Lack of national cycling guides</li> <li>– Incoherence between bike lanes</li> </ul>	<ul style="list-style-type: none"> <li>No specific challenges expressed at the end of the project.</li> </ul>

<b>INFRASTRUCTURE</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Lack of safe and connected cycling infrastructure standards</li> <li>– Selecting infrastructure for mobility hubs / public bike checks</li> <li>– Lack of residential bike parking</li> <li>– Lack of regional cycling infrastructure to support (e)-bike schemes</li> <li>– Lack of connection to existing transport infrastructure</li> <li>–</li> </ul>	<ul style="list-style-type: none"> <li>– Lack of cycling infrastructure (in Eastern and Southern European countries as well as in smaller municipalities) constitutes a barrier to effective deployment of sharing systems</li> <li>– Lack of charging infrastructure</li> </ul>
<b>COMMUNICATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Use of social media regarding cycling development</li> <li>– Brand marketing of the system: find a common look and feel</li> <li>– Cycling promotion</li> </ul>	No specific challenges expressed at the end of the project.

**Table 2:** Comparison of cycling challenges expressed at the beginning and at the end of the project

This cluster has been quick in focusing its work on the development of bike sharing schemes. Few challenges have been identified at the end of the program. The ones indicated mainly concern the framework conditions in which bike sharing schemes can be implemented. An overall qualitative cycling infrastructure is fundamental to the efficient deployment of such schemes. For the cities involved in FastTrack the key to a successful and rapid implementation lies in the collaboration and identification of target groups and allies that will be the first ones to use the service and thus become the critical mass that can convince further users to start cycling with a shared bike.

#### Future learning suggestions:

Projects to follow on cycling and public space reallocation: REALLOCATE, [EU CYCLE](#), [CIVITAS Handshake](#)

European Cyclist Federation Library: <https://ecf.com/resources/library>

### 3.3 Integrated multi-modal mobility solutions

Safe, affordable, accessible, and well-connected public transportation systems are crucial in providing all residents with a convenient alternative to private cars. In this field, there is a range of innovative interventions that can be applied in local contexts, including maintenance of transport fleets, ticketing systems, service integration, intermodality, accessibility for people with reduced mobility, and new management and financing schemes. Within the FastTrack initiative, cities explored various aspects of public and shared mobility, such as multi-modal hubs, integrated network services, Mobility as a Service (MaaS), and integrated e-ticketing systems.

Mobility as a Service (MaaS) integrates different forms of transport and related services into a comprehensive, on-demand mobility solution. By using a single application and payment channel, MaaS offers end-users the convenience of accessing multiple modes of transportation (e.g., public transport, walking, cycling, ride/car/bike-sharing, taxi, car rental) based on their specific needs. Implementing successful MaaS services means creating new business models and improved organization and operation of various transport options, which comes with a wide array of challenges.

Mobility hubs serve a similar purpose as mobility stations or other terms used to describe the integration of multimodal and intermodal transport options. A mobility hub is a location that brings together seamlessly integrated modes of transport (e.g., shared vehicles) and facilities (e.g., charging stations) within an attractive urban design. These hubs provide a safe and convenient place for travellers to transfer between different modes of transportation, enhancing their overall experience. This integrated effort requires attention on developing innovative governance models, financial mechanisms, the combination and alignment of data sets and procedures.

Within the FastTrack project, a closer examination has been made of the specific challenges faced by local authorities in adopting innovative integrated multimodal mobility solutions. Eight local authorities focused on integrated multimodal mobility solutions in urban and functional urban areas throughout the project. The assessment of these challenges is based on the insights and exchanges with city representatives from Budapest, Debrecen DKV, Groningen, Hengelo, Intercommunity Development Association for Public Transport Bucharest-Ilfov, Kadikoy, Krusevac, Malmö and Tampere (Table 3).

<b>FUNDING, FINANCING AND BUSINESS MODELS</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Lack of financing for data collection</li> <li>– Funding the development project and finding the "operating" model and business/co-operation models for hubs.</li> </ul>	<ul style="list-style-type: none"> <li>– Low purchasing power of users</li> <li>– Public procurement not being sufficiently implemented</li> <li>– Price changes on the market</li> </ul>
<b>GOVERNANCE, PARTICIPATION AND COOPERATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Obstacles for mobility platform development: knowledge or skills, common and shared objectives, unclear priorities</li> <li>– Obstacles for maas implementation: political address, unclear responsibilities, lack of legal framework</li> <li>– Lack of technical knowledge limits proactive interaction with technical designers</li> <li>– Lack of willingness and trust to cooperate</li> <li>– Lack of awareness amongst decision makers.</li> </ul>	<ul style="list-style-type: none"> <li>– People are not willing to change their mobility habits as far as the remaining options stay the same</li> <li>– Political changes and cycles can compromise the development of larger-scale projects that require political support over several years</li> <li>– Technological and digital barriers for users</li> <li>– Difficulties in engaging private mobility providers, reluctance to share data</li> <li>– Different city units need to share the target and have a shared idea of mobility points.</li> </ul>
<b>DIGITALIZATION AND DATA MANAGEMENT</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Data collection and collaboration with private operators</li> </ul>	<ul style="list-style-type: none"> <li>– Regarding micro-mobility there is a lack of data concerning privately-owned e-scooters and cycling.</li> <li>– Technical barriers, time lags or gaps in real-</li> </ul>

<ul style="list-style-type: none"> <li>– Limited knowledge of monitoring indexes calculation in order to forecast mobility benefits</li> <li>– Find the right persons and the resources to develop the work inside the city organization.</li> <li>– Ticketing integration between public transport operators and other mobility operators</li> </ul>	<ul style="list-style-type: none"> <li>– time info collection, provision and ticketing</li> <li>– Lack of skilled employees especially in the domain of data management</li> <li>– Legal issues regarding PPP contracts, GDPR, privacy and cybersecurity</li> </ul>
<b>PLANNING AND REGULATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Adapting to GDPR</li> <li>– Harmonization of hubs and micro-hubs, lack of guidelines for hub development</li> </ul>	<ul style="list-style-type: none"> <li>– Scaling up from single pilots to a city-wide concept for system integration.</li> <li>– Definition of mobility hubs in the planning tools</li> </ul>
<b>INFRASTRUCTURE</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Finding physical locations for mobility hubs in existing city structures</li> <li>– Finding the right operating model for a medium-sized european city in the field of multimodal integration</li> <li>– Defining the right functionalities for a neighborhood hub according to neighborhood characteristics</li> </ul>	<ul style="list-style-type: none"> <li>– Lack of space to build hub infrastructures.</li> </ul>

**Table 3:** Comparison of integrated multimodal mobility solutions challenges expressed at the beginning and at the end of the project

The challenges faced by this cluster of local affiliates were numerous and equally covering all aspects from data management to governance and planning. As MaaS and Mobility hubs are complex innovations their accelerated deployment strongly depends on the quality of the collaboration within the local administration and then the collaboration with all external partners. Trust has always been identified as a key to success.

In this cluster the scope and scale of challenges and learning needs identified has not changed much over the duration of the project. Core difficulties remain and fully integrated MaaS systems are still to materialise. Yet the project allowed the cities to better structure and plan the deployment of such innovations. The need to think beyond the piloting phase and to have a strategy for upscaling as part of the overall strategy has been identified by most representatives at the end of the FastTrack project. This shows the improved capacity in foresight by the local representatives.

#### Future learning suggestions:

Projects to follow on mobility hubs developments and public transport service improvements: [UPPER](#), [SPINE](#), [MOVE21](#), [SCALE-UP](#), [SmartHubs](#)

To focus on specific user needs, have a look at following toolkit:

<https://www.eltis.org/in-brief/news/gender-balance-transport-sector-toolkit-change>



### 3.4 Traffic and demand management

Too often, our cities and towns are still primarily designed to accommodate private cars, resulting in traffic congestion and negative effects on air quality and well-being. To establish more sustainable mobility systems, it is crucial to manage traffic in a way that allows for the integration of alternative modes of transportation.

A common strategy for addressing transportation issues typically involves managing the supply side, which includes developing new infrastructure, improving existing facilities, or introducing new transportation services such as shared bikes and cars. However, there is a pressing need to enhance investment strategies, expand transport infrastructure, and diversify transportation services. These efforts should be accompanied by policies targeting the demand for and supply of transportation, seeking to create a better balance between societal acceptance, policy goals (like sustainable development), and sustainable funding models. The aim is to align transportation practices with specific levels or types of available transportation options, implement measures to change travel behaviours (such as mode shifts, time adjustments, or changes in geographical patterns), or reduce the necessity of travel altogether.

The approach of managing demand for mobility represents a transformative shift. In the medium to long-term, crises like the COVID-19 pandemic have proven to be catalysts for change, disrupting established habits and leading to the emergence of new trends and expectations. The pandemic has altered people's expectations regarding public transport conditions, including considerations for distancing, comfort, and hygiene.

Additionally, we are in times where new mobility practices have emerged, such as increased walking and cycling for local and short trips, reflecting changes in lifestyle and habits. Working from home, hybrid work models, and flexible working hours have also become more prevalent, while leisure and non-essential travel have seen a relative increase.

FastTrack, aimed at exploring innovative approaches to multi-modal traffic management, focused on implementing digital travel information, routing, and navigation systems, as well as employing access regulations to divert and reduce car traffic. Within the FastTrack project, local authorities closely examined the challenges faced in adopting innovative integrated multi-modal mobility solutions. Four local authorities, namely the Municipality of Bologna, the city of Braga, Sofia urban mobility center, Belgrade, worked collaboratively on traffic and demand management throughout the project. The below assessment of these challenges is based on the insights and exchanges with representatives from these cities (Table 4).

<b>FUNDING, FINANCING AND BUSINESS MODELS</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Lack of funding mechanisms/budget constraints</li> <li>– Need for proven business models, PPPs</li> </ul>	<ul style="list-style-type: none"> <li>– Lack of funds to integrate all the components for integrated mobility management platforms</li> <li>– More knowledge needed on how to access EU pre-accession funds for public transport infrastructure</li> </ul>
<b>GOVERNANCE, PARTICIPATION AND COOPERATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Administrations are not prepared for radical changes</li> <li>– Lack of understanding of stakeholders' needs</li> </ul>	<ul style="list-style-type: none"> <li>– Further develop citizens participation.</li> <li>– Further include “non-digital people” in the data collection system and make the system also cater to them</li> </ul>

<ul style="list-style-type: none"> <li>– Lack of dedicated personnel for data management</li> <li>– Lack of public/ private collaboration</li> <li>– Lack of active participation of citizens in data collection (for instance crowdsourcing tool)</li> </ul>	<ul style="list-style-type: none"> <li>– Expectations management and procurement processes</li> <li>– Data-driven decisions are of high value for technicians but are sometimes still considered a threat for politicians, especially when they indicate that the targets have not been reached</li> </ul>
<b>DIGITALIZATION AND DATA MANAGEMENT</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Lack of data accuracy</li> <li>– Difficulties in integrating data from many providers</li> <li>– Lack of skills in data management</li> <li>– Lack of skills in data collection</li> <li>– Need for variety of data collection methods</li> <li>– Need to transition to real-time data</li> <li>– Lack of automatic information procedures for citizens</li> </ul>	<ul style="list-style-type: none"> <li>– Greater need for real-time data to support planning, including for non-motorised traffic and collection of traffic data on suburban areas, as counters are sometimes only present in the city centre</li> <li>– Ensure data collection beyond the lifespan of funded projects</li> <li>– Clarify the issues of data ownership by private companies and the lack of data-sharing arrangements in contracts</li> <li>– Require further technical expertise and knowledge and training in data analysis</li> <li>– Lack of knowledge in open data use</li> </ul>
<b>PLANNING AND REGULATION</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– Unclear legal framework for data protection</li> <li>– Current pricing policies for time-based ticketing make the integration difficult</li> <li>– Environmental limited traffic zones (UVAR) – new solutions not sufficiently explored to gather data through cameras</li> </ul>	No specific challenges expressed at the end of the project.
<b>INFRASTRUCTURE</b>	
<b>Original challenges:</b>	<b>Remaining challenges:</b>
<ul style="list-style-type: none"> <li>– ITS systems need to be updated</li> <li>– MaaS complicates the management</li> <li>– Lack of knowledge on traffic light system upgrades</li> <li>– The costs of digital infrastructure are high</li> </ul>	No specific challenges expressed at the end of the project.

**Table 4:** Comparison of traffic and demand management related challenges expressed at the beginning and at the end of the project

The core issues faced by this cluster are related to the collection, the integration and the management of data. The remaining challenge showed above all that there is a great need for further development of specific skills inside city administrations. The rapid development of technologies and the new horizons merging with the development of ITS and autonomous vehicles requires the public administrations to invest in specialized profiles. Beyond that, the challenges faced also highlight the importance to not forget the citizens behind the data, be it in terms of data rights or in terms of representativity of the users able to share data. Further work and attention are required to ensure digital inclusiveness.

#### Future learning suggestions:

Projects to follow: [SHOW](#), [PAV](#), [INDIMO](#), [co-ump](#), [TMAAS](#)

New SUMP Topic Guide on Integrating Mobility Management

[https://www.eltis.org/sites/default/files/sump\\_topic\\_guide\\_integrating\\_mobility\\_management.pdf](https://www.eltis.org/sites/default/files/sump_topic_guide_integrating_mobility_management.pdf)

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## 4 Final remarks

The FastTrack project has collected a large number of challenges and learning needs throughout the project duration. Not all have been addressed but the feedback from the local representatives shows that for all dimensions including data collection and management, governance, funding and financing, as well as capacity to select and implement innovation there has been a positive learning curve. The figures presented in this report thus underline the positive impact of the peer-learning on the capacities and skills of local representatives. However, the challenges faced by local representatives most of the time require more than individual learning progress and should be complemented by institutional learning and institutional changes. In some specific cases the FastTrack project has managed to generate and initiate such institutional changes for instance through improved internal collaboration processes in more than half of the cities involved. Other challenges require commitment from stakeholders on which the project had no direct impact. Nonetheless the 23 representatives have now gained further capacity in identifying and addressing the challenges in a collaborative manner.

This thorough analysis of the evolution of challenges expressed also showed that it remains difficult for local representatives to distinguish between the general challenges they face and those that are specifically hindering the rapid implementation of their chosen mobility innovations. One important insight gained from the project is the recognition that addressing all the encountered challenges holistically is crucial in order to effectively promote the adoption of mobility innovations.

Initially, when they directed their attention towards a single mobility innovation, the extent of challenges encountered diminished compared to the initial evaluation of requirements. However, as the process unfolded, the identified challenges broadened in scope, becoming more intricate and precise, while also encompassing a broader long-term outlook.

Many of the representatives that took part in the FastTrack did not fundamentally manage to reduce the number of challenges faced, yet they were able to identify them more specifically, foresee difficulties in advance which for many was perceived as a great added value in avoiding future bottlenecks and thus ultimately allowing them to save time in the overall implementation process.

By learning from each other, city representatives developed a common understanding and exchanged advice and solutions to overcome bottlenecks. As such, they have become ambassadors of the newly gained knowledge and skills in their own local context. Further support in that endeavor could be of use and might allow them to tackle some more of the remaining challenges listed in this final report.