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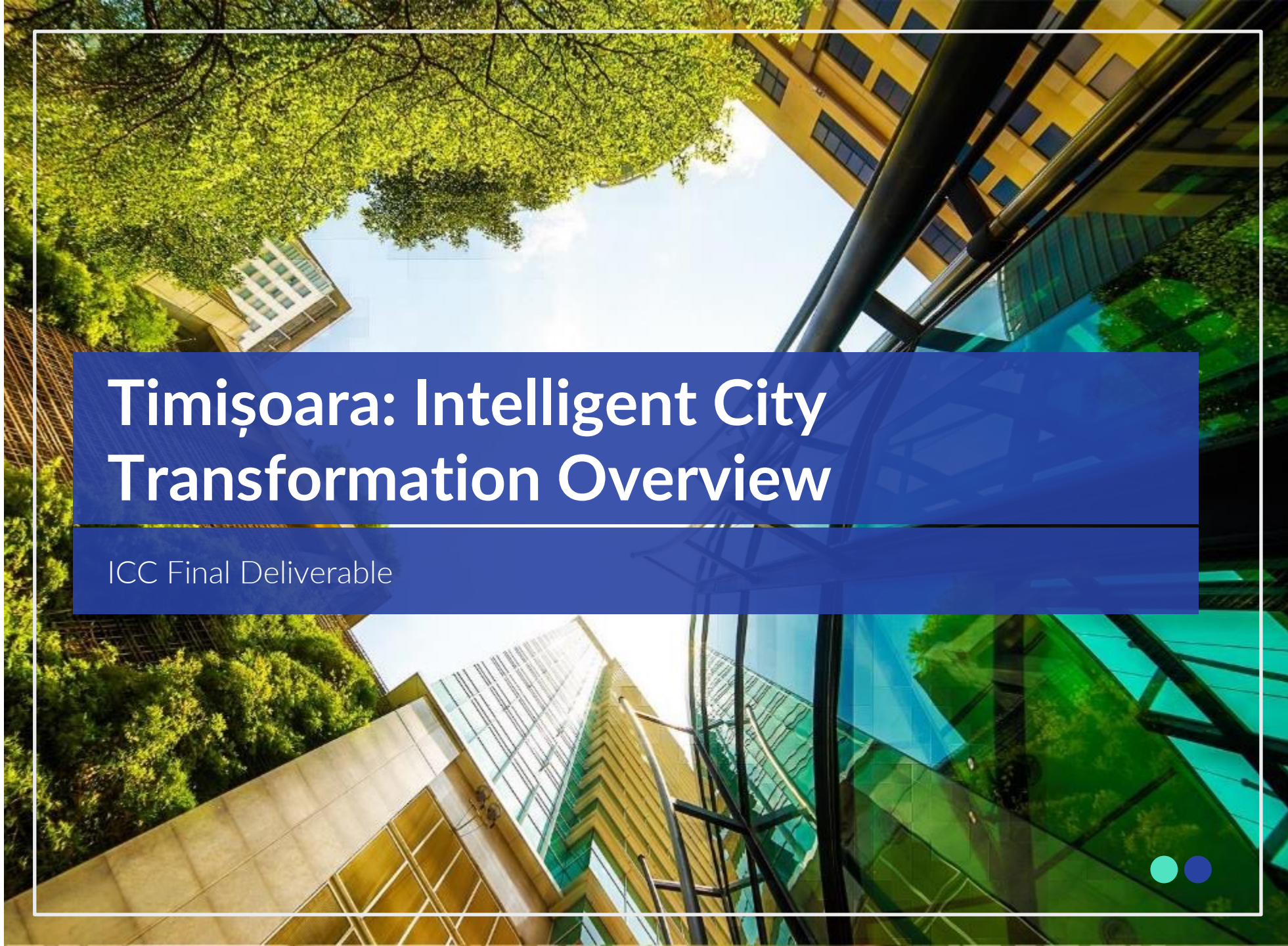

Timișoara: Intelligent City Transformation Overview

ICC Final Deliverable

May 2022

European Commission | The Intelligent Cities Challenge is funded by COSME, the EU programme for Competitiveness of Enterprises and SMEs

Executive summary

City's main challenges are related to the lack of quality mobility apps/platforms that would contribute to manage mobility in a more sustainable manner, difficulty with parking in the central area of Timișoara and widespread illegal parking.

The six dimensions of the smart city provide guidance to the public administration in the design of the smart city strategies, as well as an instrument for decision-making and planning of investments: environment, mobility, governance, economy, people and living.

The city's vision according to the new Smart City and Digital Transformation Strategy is "European location of choice for human resources engaged in developing innovative products", and the 7 ambitions of the strategy are: Every Citizen Has a Voice, The City for All, Vibrant Innovation Ecosystem, An Attractive City for International Talent, The Sustainable City, Smart City is Fun City, Intelligent and Impactful Investments.

Even if the Timișoara city's traffic data indicate an improvement of the congestion index, the problems of accessibility and communication of the city centre with the periphery remain on the agenda.

The City brought together stakeholders and chose two priority solutions for the ICC program: Digital Mobility Platform – digital twin concept and adoption of a Parking Strategy in Timișoara. The digital technologies, processes and solutions enables the deployment of Timișoara smart city interventions.

The two solutions within the ICC program were included on the City's Smart City and Digital Transformation Strategy.

Timișoara's plan for the next 3 years is to focus on sustainability and digitalisation.

Mayor Foreword

”Mobility is at the heart of Timișoara and developing policies and projects to manage mobility is both challenging and central to the development of the city. As a city resting on the Western Plain of Romania, a growing hub for living, learning and working, and a central crossing to get to Romania’s western neighbours, Timișoara and its metropolitan area face a growing demand for mobility and lesser physical space for solutions.

The parking strategy and mobility platform activities progressed within the ICC directly address these challenges we face and are a welcome addition to our array of solutions for the city. As next steps, we are to test the effectiveness of these tools, correlate them with our Sustainable Urban Mobility Plan and ensure buy-in.”

Dominic Fritz

Mayor of Timișoara

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Section

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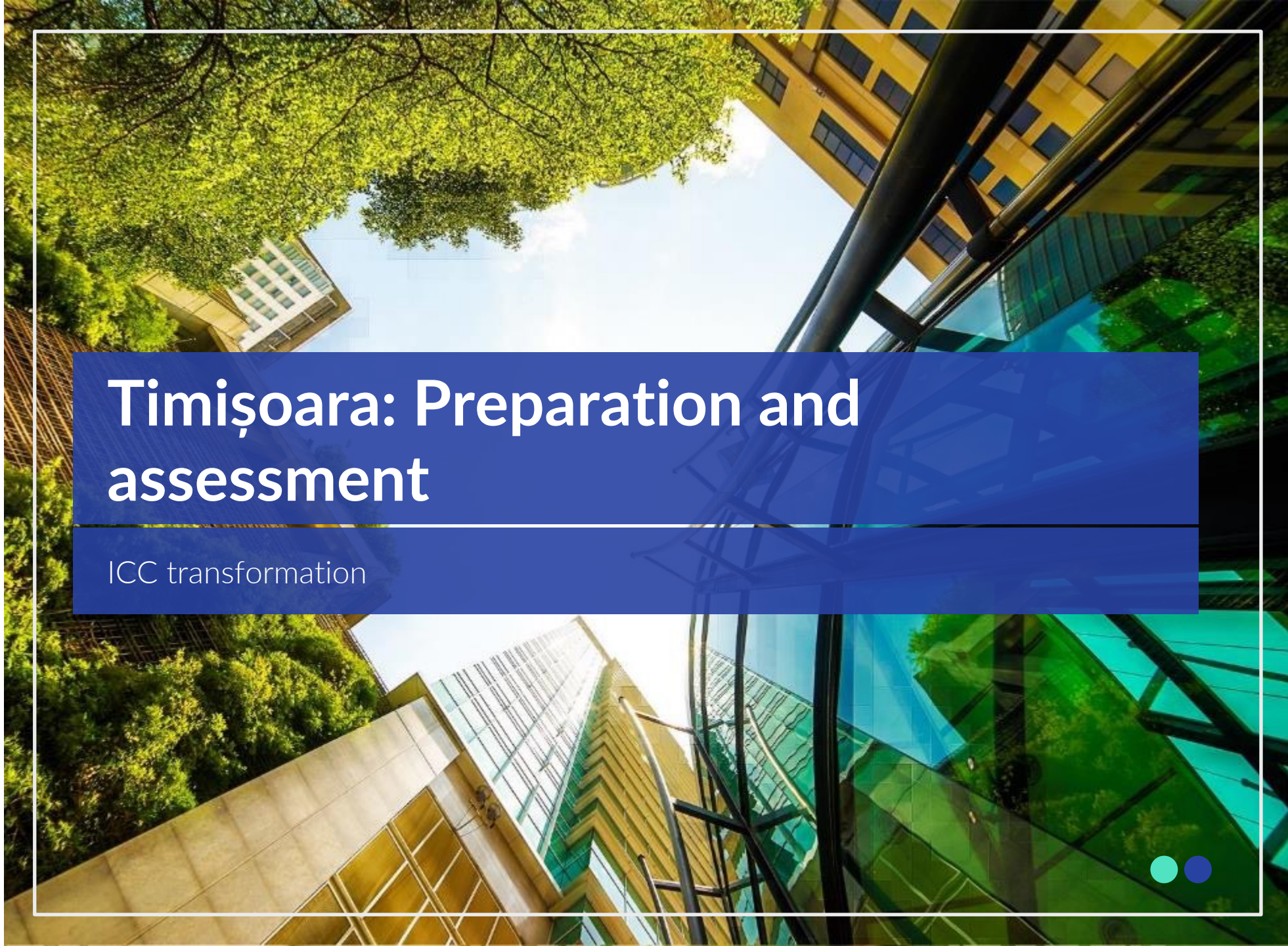


Timișoara: Preparation and assessment

ICC transformation

September 2020 to January 2021

European Commission | The Intelligent Cities Challenge is funded by COSME, the EU programme for Competitiveness of Enterprises and SMEs

Introduction

- Timișoara is the third largest city in Romania and has 320,000 inhabitants / 500,000 with suburbs (villages around Timișoara exploded in terms of population growth, even up to 182% in just a few years; migration of population in suburbs was not followed by development of transport infrastructure)
- The Sustainable Urban Mobility Plan (SUMP) of Timișoara for 2016-2030 issued in 2015 was last updated in 2020, and the City is currently in the process of drafting the terms of reference for an updated SUMP
- The updated SUMP has to align with the current trends around the sustainable mobility topic
- The updated SUMP has to expand on the metropolitan area in accordance with the latest developments in this larger area
- Timișoara Smart City and Digital Transformation Strategy 2022-2027 was adopted by the Local Council in July 2022, with the motto "Innovation made accessible to everyone, the vision "European location of choice for human resources engaged in developing innovative products" and the mission of boosting the city's evolution by tapping into the citizens' collective intelligence
- The digital component of Smart City and Digital Transformation Strategy, Twin Transition, involves sustainable development and the adoption of digitalisation
- The smart city and alternative mobility solutions are of significant interest in order to promote green transport
- This also has to align with the priorities set by the EU funding opportunities in the 2021-2027 cycle
- The ICC program helped the City in identifying, developing and addressing the needs and challenges and improving the local strategies

City needs: State of the city overview

Significance of insight to what we want to do on the ICC

- Of critical importance to ICC journey and we should be working to change
- Of importance to ICC journey, and we should act to change this along the journey as opportunity presents
- Contextually relevant, but not major point of attention in ICC and unlikely to be impacted on the journey

The state of Timișoara today

- The new leadership has a new vision about the city needs, more oriented towards greener solutions, rather than building extra access for cars in the city centre

- This will trigger new strategy exercises

- The metropolitan administration is fragmented between the city and 14 villages that host residential areas. This may pose a problem.

-Road infrastructure is rather patchy than solid and scalable

-New investments in public transportation are planned

-New funding opportunities are coming from EU – resilience and structural funds

-Mobility should be well connected with the other smart city initiatives

Key insights from city performance analysis

Higher performance observed

1. 958 km of street network, based on a radial pattern, reinforced by a series of five concentric rings
2. No predominant load corridor, traffic volumes being relatively evenly distributed over a significant number of radial and circular roads.
3. Very good train network: 9 train lines departing from Timișoara, used for transport of passengers and freight
4. Twelve metropolitan routes (10 bus and 2 trolleybus), 298 km of roads
5. 106km of bicycle lanes, only half of them in satisfactory state. 25 self-service bicycle rental stations were built and 300 public bicycles were purchased

Lower performance observed

1. Difficulty with parking in the central area of Timișoara; widespread illegal parking
2. While trams have a strong common route east west through the centre of the historic area, buses and trolleybuses penetrate the city centre relatively poorly.
   Some stations are in inappropriate locations for many points that attract or generate travel
3. Currently seriously underutilised and not very well maintained
4. Lack of quality mobility apps/platforms that would contribute to manage mobility in a more sustainable manner
5. Much more room for improvement when it comes to the width of the runways, their connectivity, poorly placed street furniture and the lack of markings; bike lanes placed on sidewalks, reducing the width available to pedestrians

City Ecosystem

- Bilateral meetings with different stakeholders (public authorities – Timiș Council, NGOs, Politehnica University of Timisoara, companies that have an impact on mobility - Continental, mobility solution providers - Nokia, financial institutions - BCR)
- High interest from stakeholders in the subject and high interest in cooperation
- Their insights varied from describing the mobility problems in the city / region, the positive aspects and the opportunities present and offering project ideas
- Different perspectives have been brought to the table on the same mobility and parking problematic and themes based on their types of activities (office vs home based work, large vs small organisations, depending on the size of the customer base)
- While the human resource skills and critical thinking tick the requirements for an urban transformation, the funding at the moment is not matching the expectations because we are in between EU funding cycles with a totally new administration leadership
- Urban mobility traffic monitoring based on smart city sensors inserted in tarmac + traffic light cameras
- The metropolitan governance is still shaping up and it might take more time to get the necessary structure to act on the mobility problem

City Ecosystem

Interpreting the content of the deliverable from the Stakeholder workshop, i.e.:

- Insights from the 1:1 interviews

- 7 bilateral meetings with different stakeholders (public authorities – Timiș Council, NGOs, Politehnica University of Timisoara, companies that have an impact on mobility - Continental, mobility solution providers - Nokia, financial institutions - BCR)
- High interest from stakeholders in the subject and high interest in cooperation:
- Their insights varied from describing the mobility problems in the city / region, the positive aspects and the opportunities present and offering project ideas
- Based on their input, a presentation was created and presented at the Stakeholders workshop (available in Romanian)

- Insights from the local enablers analysis

- The survey was translated and sent to the stakeholders via Google Docs
- 7 responses have been received and interpreted, the results being analysed in the Stakeholders' Workshop

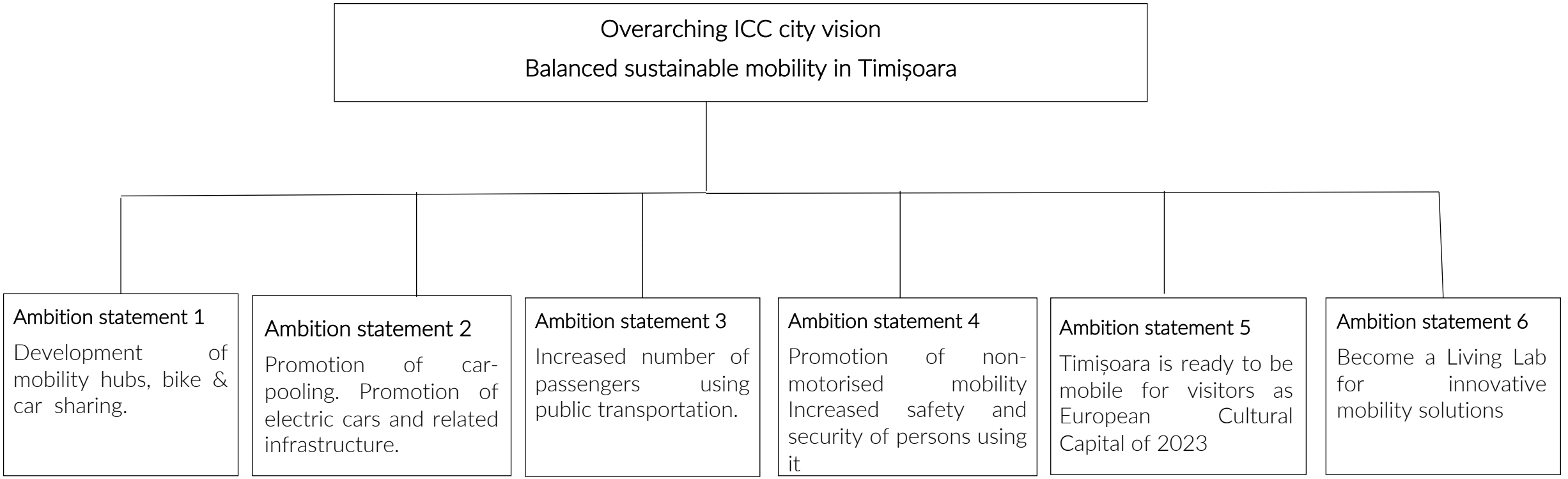
City Ecosystem

Interpreting the content of the deliverable from the Stakeholder workshop, i.e.:

- Reflections from the stakeholders in the workshop
  - A total of 13 participants attended the workshop, most of them being present also at the bilateral meetings
  - The summary of the bilateral discussions and of the enablers' survey were presented during the workshop
  - Presentations created high interest and a good base for the discussion with the stakeholders, that approved or constructively criticised the results so far; a google doc (in Romanian) presenting feedback on the seminar is available here.
  - The vision of the project developed in the needs assessment seminar was further refined

- Reflections on working norms with the ecosystem
  - Participants showed their interest in the ICC project and want to be further involved in it
  - The proposal of having further monthly stakeholders' meetings for the duration of the project was accepted

ICC vision for Timișoara



City strategy: justification

Solutions chosen for ICC Timisoara

1. Design of a Parking strategy

- During the mapping exercise, this solution obtained equal points with the SUMP Update solution in the "Moving and Growing" category
- this solution was preferred because there are already advanced plans to hire consultants for the SUMP update, while the parking strategy is in a more initial stage and the expertise of the thematic experts would be more helpful.

2. Creation of a mobility platform

- According to the mapping exercise, this solution fell into the category of "underinvested"
- The rationale of choosing it was to counterbalance a strategic project (parking strategy), with a more concrete project
- The mobility platform obtained a similar number of points to "building biking infrastructure" solution, but was preferred because of the strong IT industry in the city, strong stakeholders support and because it offers general support across all modes of transportation, not just one.
- The experience of the thematic experts in developing mobility platforms was also considered as a plus

Both prototypes were presented and tested with the larger stakeholders group on the 2nd February 2021. Their comments were noted and incorporated as much as possible into the solutions.

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Section

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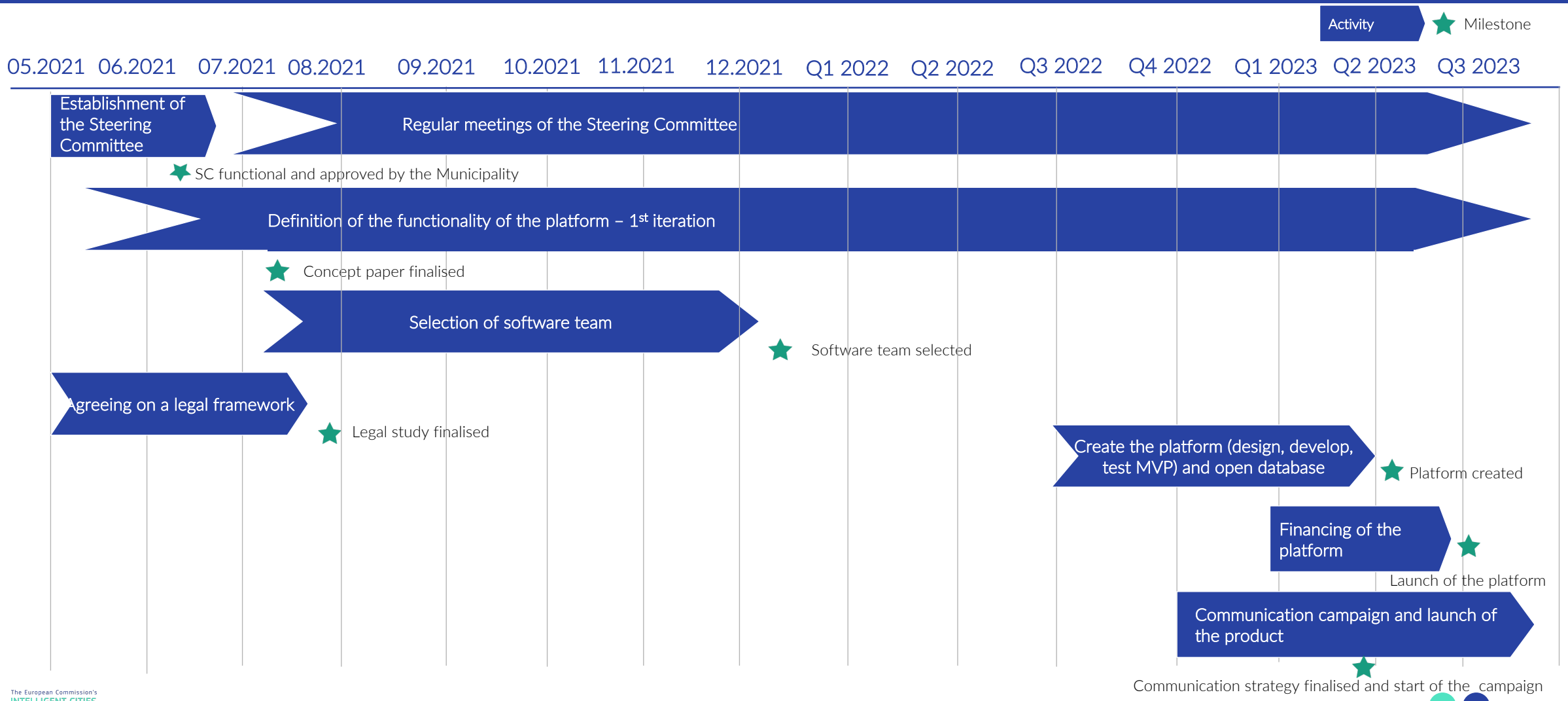
Timișoara: Ambition and roadmap

ICC Transformation

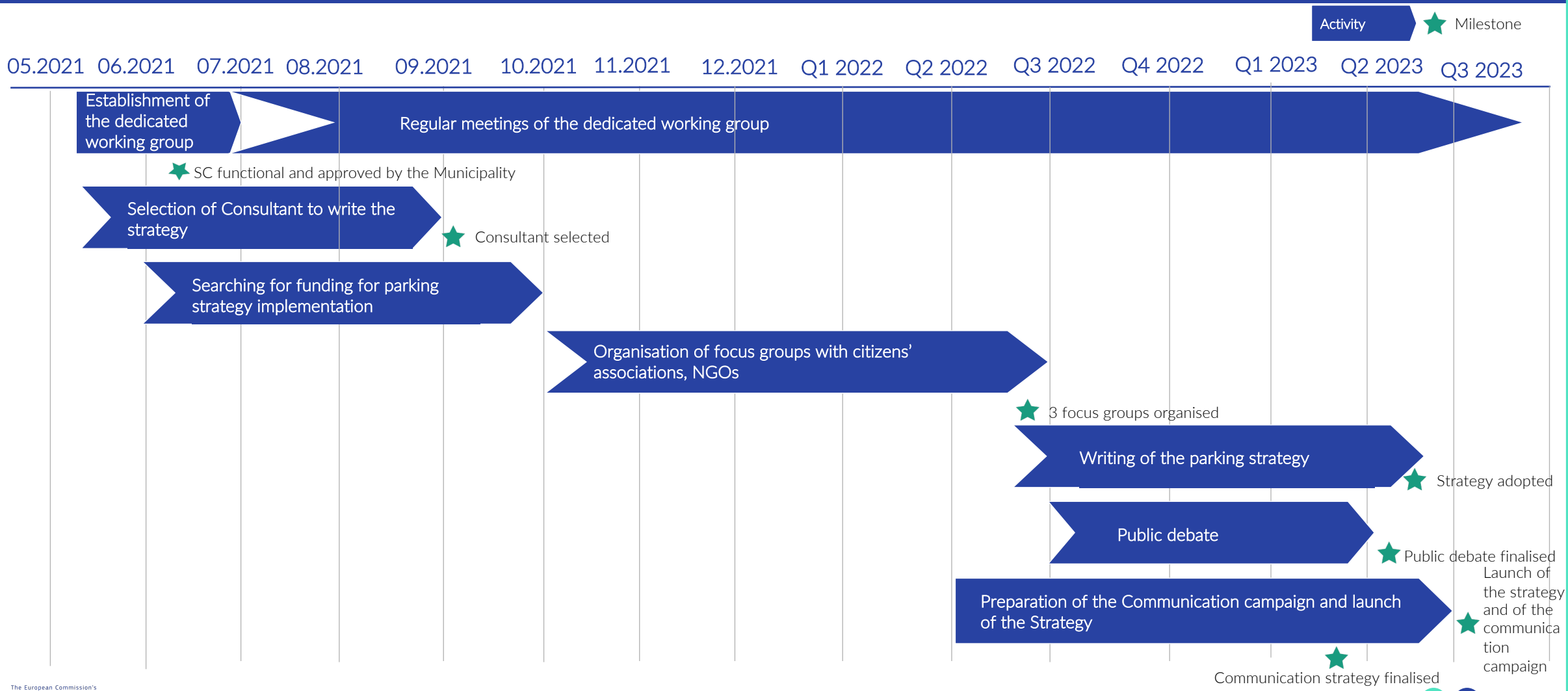
February 2021 to May 2021

European Commission | The Intelligent Cities Challenge is funded by COSME, the EU programme for Competitiveness of Enterprises and SMEs

High level implementation roadmap for the Mobility Platform (“10000m plan”)



High level implementation roadmap for the Parking Strategy ("10000m plan")



Rationale to road map

- Timisoara targeted a **short-term solution** as this is more easily achievable (**the development of a mobility platform, including a digital twin of the city**) and can become a quick win for the city to entice citizens and businesses towards more cooperation.

- A **long term**, strategic solution is related to developing a long-term **strategy for the parking system**.

- We chose to conceive a **mobility/digital platform** to gather data in order to help us analyse the problems, while coming up with new and wiser ways to run mobility in our town, at the same time with solutions to build on longer term

- The **parking strategy** helps us cover an area that was historically not covered in our mobility plan as it has not been a priority by our city's previous leadership

- Both elements cover two strategic elements in the mobility domain and greatly help to round the mobility solution to Timisoara's current issues. This will boost and strategically guide investment in digital infrastructure.

Initiative charter
Mobility Platform

Strategy

Description What: Digital Mobility Platform – digital twin concept

Why: Improve citizens' understanding of Timisoara's digital information (air quality, mobility, infrastructure, etc) by offering them an analysis and visualisation tool that compiles all the information useful for their daily life (pollution, journeys, available public transportation).

How: (1) Requirements phase (2) Platform development (3) Launch of the platform (4) Maintenance.

Link to vision "Balanced sustainable mobility in Timișoara"

Empower the citizen by encouraging the use of alternative green transportation.

Link to ambition statement Development of mobility hubs, bike & car sharing.

Promotion of car-pooling. Promotion of electric cars and related infrastructure. Increased number of passengers using public transportation. Promotion of nonmotorised mobility, Increased safety and security of persons using it. Timișoara is ready for visitors as European Capital of Culture 2023. Become a Living Lab for innovative mobility solutions.

Expected impact and timing

The platform will provide the infrastructure to be able to collect data, analyse it, identify the problems, and propose solutions for more balanced living in Timisoara. The platform will enable the implementation of a set of tools to achieve the above.

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Stakeholders involved

Solution lead: Timișoara City Hall

Solution working team: Timișoara City Hall, ICC team, Mobility operators

Contributors: IT volunteers, other external consultants, Operators, Police, Press

Risks and mitigation

Key risks:

Low number of companies submitting an offer for tender. Low interest in partnership. Finding the budget to accommodate requirements of the project

Challenges:

Finding a suitable team to deliver the project

Mitigating measures:

Identifying alternative teams and financing sources

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

Local budget of the City Hall/ Structural Funds

20.000 EUR local budget for requirements phase, 100.000 EUR Structural Funds

Solution maturity outputs

- Extent of data publicly available
- Available mobility applications
- Availability of public transport passenger information systems

City performance outcomes and impacts

- Degree of stakeholder participation in the process of developing and implementing the mobility platform (numbers involved in advisory panels, working groups etc.)
- % of public transport modes with real time data availability

Initiative charter
Parking strategy

Strategy

Description What: Adoption of a Parking Strategy in Timisoara. The parking strategy will maximise the existing parking infrastructure usage and improve the redistribution of public space and the quality of life. Solutions for development of new parking infrastructure.

Why: Timisoara has no parking strategy. Data are missing. There is no accurate inventory of parking spaces and real demand. Reducing the induced traffic.

How: Strategy preparation, Strategy launch and communication, Application of the Parking Strategy, enforcement of the measures, and monitoring the results

Link to vision

The vision the solution links to "Balanced sustainable mobility in Timișoara"

Link to ambition statement

Development of mobility hubs, bike & car sharing. Promotion of car-pooling. Promotion of electric cars and related infrastructure. Increased number of passengers using public transportation. Timișoara is ready to be mobile for visitors as European Capital of Culture 2023.

Expected impact and timing

The Strategy and phasing of the proposed measures will lead to the reduction of use of personal car, especially in the central areas, leading also to a reduction of the pollution.

The European Commission's INTELLIGENT CITIES CHALLENGE

Stakeholders involved

Solution lead: Timișoara City Hall

Solution working team: Timișoara City Hall, ICC team, Parking operators, Police, enforcement companies

Contributors:

Citizen associations, Politehnica University Timișoara, Press

Risks and – mitigation

Key risks:

Lack of experience in writing ToR for parking strategy; Low number of companies submitting an offer for tender; A few delays caused by the necessity of correlating the Parking Strategy with the SUMP; Lack of funding source.

Challenges:

Data are missing. There is no accurate inventory of parking spaces and real demand.

Mitigating measures:

ICC Consultants experience and expertise; Identifying alternative sources for financing.

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

Local budget of the City Hall

100.000 EUR

Solution maturity outputs

Increasing the efficiency of the use of current parking spaces

Reduction of illegal parking

Ratio in the number of parking places in the central area (street parking vs. car parking in built-up areas)

City performance outcomes and impacts

% increase in the modal share of public transport with real time data availability

Degree of stakeholder participation in the process of developing and implementing the parking strategy (numbers involved in advisory panels, working groups etc.)

Key Performance indicators

Solution	Activities – Inputs and actions	Solution Maturity - outputs	City performance – outcomes and impacts
Mobility platform	Funding committed by city authority	The number of mobility open data sets publicly available	Presence of innovation living labs (fablabs/ citylabs/ civiclabs) involved in the use of the platform
	Funding committed by other city ecosystem players	Share of mobility services available online	Number of times citizens' satisfaction with the City Hall has been surveyed % of public transport modes with real time data availability
	Mobility initiatives	Availability of public transport passenger information systems	Degree of stakeholder participation in the process of developing and implementing the mobility platform and the parking strategy (numbers involved in advisory panels, working groups etc.)
Parking strategy		Number of smart parking sensors per 1000 spaces	Reduction of use of personal car will lead to reduction of emissions
		Reduction of illegal parking	Cost-effectiveness of the parking activity
		Ratio in the number of parking places in the central area (street parking vs. car parking in built-up areas)	Freeing streets and boulevards from the phenomenon of on-street parking

Key Performance indicators - Cross cutting indicators

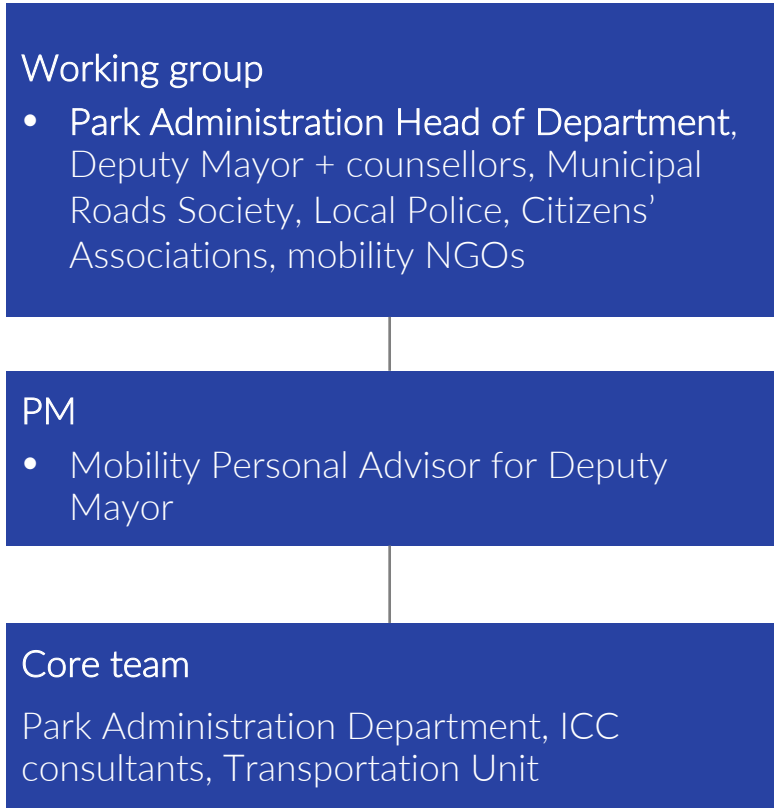
Cross cutting indicatrs
Number of users of mobility platform and parking system
Average annual GDP growth past 5 five years
Profitability and efficiency of the parking activity

Rationale to KPI approach

The rationale to KPIs defined during the workshops through collective brainstorming of the stakeholders:

KPI	Rationale
KPI Activities (inputs and actions)	The KPIs have been identified based on the strategic objectives defined in the roadmap. Input indicators help analyse the required resources to produce the desired results.
KPI Solution Maturity (outputs)	The KPIs quantify the result. Maturity focuses on asking if underlying infrastructure is in place, solutions are available, and stakeholders genuinely use and like them.
KPI City Performance (outcomes & impacts)	The KPIs are chosen based on relevance, availability and trackability. KPIs identify if specific processes are meeting the short- and long-term objectives. City performance indicators are measuring aspects that are directly relevant to citizens and stakeholders.
KPI Cross cutting indicators	The KPIs have the purpose of carrying out specific monitoring on the outcome of the project and on the timely achievement of the defined objectives.

Governance structure for Parking Strategy



Governance structure for Mobility/Digital Platform

Steering Committee

Mayor/ Mayor's smart city advisor, University presidents, main corporate GMs (Continental, Nokia), Regional Development Agency West, NGOs, other mobility actors

PM

Personal advisor of Timisoara Mayor on digitalisation and smart city

Core team

ICC consultants, mobility advisor, Procurement Department, Legal Department, technical director, Mayor's advisor on urban development, IT volunteers, other external consultants

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Section

3+4

Timișoara: Impact

ICC Transformation

February 2021 to May 2021

European Commission | The Intelligent Cities Challenge is funded by COSME, the EU programme for Competitiveness of Enterprises and SMEs

Impact executive summary

The Intelligent Cities Initiative Challenge provided an important added value for the development and implementation of the projects planned by Timișoara based on the "smart cities" approach.

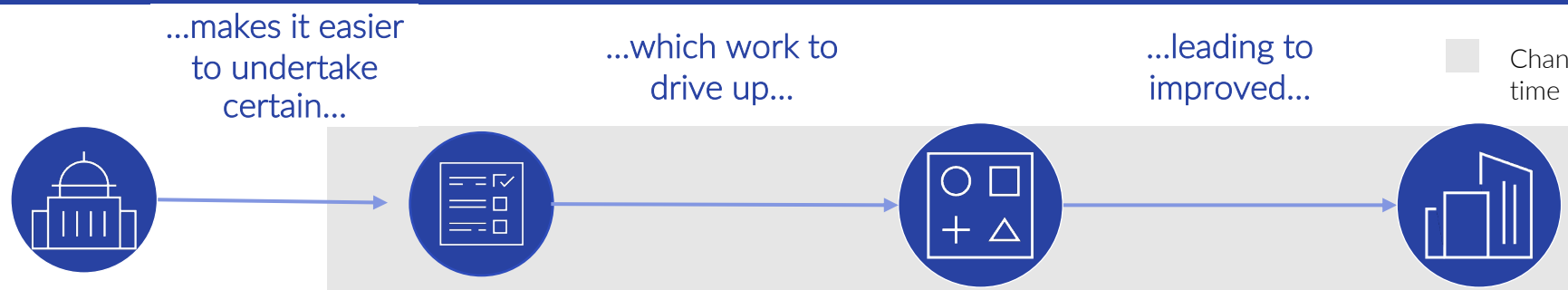
The major successes during the ICC is the collaboration with the stakeholders involved in the projects we developed, the expertise of the consultants, and the collaboration with the other cities. Working with stakeholders in the ICC program has led to the development of collaborative relationships and generated project ideas.
The major obstacles were related to funding of the projects and the Covid19 pandemic.

The KPIs were established during the workshops through collective brainstorming of the stakeholders.

For the next three years Timișoara's goals are to:

- complete the implementation of the projects and achieve the proposed objectives
- focus on sustainability and digitalisation
- boost and strategically guide investments in digital infrastructure
- support public institutions to achieve optimal impact from their investments through instruments that support their operation and sustainability

There are four types of measurable concepts that come together to drive success in the ICC



Idea	Local enablers –city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Description	Each city has unique strengths and weaknesses that help action happen. These can be stakeholder networks, local capabilities, cultural factors or many more that drive success in ICC projects.	A cities main intervention on the ICC is to take actions. These can be direct (e.g., procuring technology), or indirect, (e.g., forming a working group on a topic). The right actions can lead to the right inputs going in to the ICC (e.g., funding, time)	Cities can drive technological solutions to try and improve city performance. How well these solutions are currently used can be described as their 'maturity', - considering whether they are available for stakeholder use, what stakeholders think of them, and so on	Success of an intelligent city is ultimately measured by its ability to address city needs. These can be considered an improved quality of citizen life and a better environment for stakeholders
Example	A history of strong collaboration between city and a local university...	...allows the creation of a new e-health pilot project using social housing in the city...	...leads to the launch a new tele-health solution utilising 4G data connections...	...resulting in pre-emptive diagnosis and lower wait times at medical facilities

Assessment of city performance - progress against KPIs

City performance		Where we started	Midway through the challenge	Final results
1	KPI 1 Degree of stakeholder participation in the process of developing and implementing the mobility platform (numbers involved in advisory panels, working groups etc.)	1	8	15
2	KPI 2 Number of public transport modes with real time data availability	2	3	4
3	KPI 3 % (population that uses the platform) increase in the modal share of public transport with real time data availability	0%	0%	50%
4	KPI 4 Freeing streets and boulevards from the phenomenon of on-street parking – km of bicycle lanes	106	113	120

Assessment of city performance - discussion

The parking strategy was not yet implemented, but some institutional measures were already implemented. Before the parking strategy the management of parking system was done by another party, not by municipality directly, and only 50% of the revenue was collected by the municipality.
The final result will be that the municipality will collect 100% of the parking tax.

The parking strategy will indicate projects in the development area and information of users regarding the reduction of travel time needed for locating parking facilities in the central area or choosing different mobility solutions.

Assessment of solution maturity - discussion

The ICC solutions for Timișoara is on-track for implementation with:

- Degree of data publicly available
- Available mobility platform functionality
- Availability of public transport passenger information systems
- Increasing the efficiency of the use of current parking spaces

The parking strategy will include projects for smart monitoring of parking spaces.

Reduction of illegal parking – the strategy will define the systems needed for enforcement of parking measures and equipment for illegal parking detection.

Ratio in the number of parking places in the central area (street parking vs. car parking in built-up areas) – the city envisaged the development of at least 2 high-capacity parking lots located on the border with Ring I (central area). This would allow the users of private vehicles to be able to park at the border with the central area, without congesting and generating traffic on the streets and alleys inside the first ring in search of a parking space, which is limited on those streets.

Assessment of city ecosystem and activities - discussion

In the context of the ICC program and the proposed projects, the stakeholders in the ecosystem collaborated for aligning current/planned projects of Timișoara as per the city's new Smart City and Digital Transformation Strategy, with the expectations from ICC – e.g., working sessions with (among others) thematic experts, drafting output documents/deliverables, participating in city labs and other European events to present Timișoara's ICC initiatives, etc.
https://smartcity.primariatm.ro/

The cluster will operationalize the smart city strategy which includes the sustainable mobility as one of the objectives.

At local level, several workshops and stakeholders meetings were organised between November 2020 and November 2021, as well as a Geographical Chapter Meeting Romania that took place on May 19th, 2022.

5 key lessons

Lesson	Reflections
1	One of the key issues has been related to the engagement of experts from the city and guiding the public administration in such new and innovative processes, namely the ICC.
2	Public authorities are under pressure of fulfilling election pledges by the end of their term of office.
3	Mapping of the local ecosystem in order to find solutions by involving local stakeholders is very important in addressing public administration challenges in a time-effective manner. By bringing together different minds, the problem solving route is shortened.
4	There is a need for a behavioural change, whereby the stakeholders are engaged with the city matters and objectives and act more towards the city's needs. At city level, clusters should be formed in which the stakeholders find the space to debate their needs and find solutions in their own interests.
5	Lack of capacity of Romanian consultancy market to sustain the development of projects.

Reflections on city collaborations

The ICC program offered Timișoara the opportunity to strengthened collaboration between involved stakeholders and benefit from international experience of the other ICC cities and of the consultants involved in the program.

During the ICC, Timișoara strengthened their connection with other cities, respectively Szeged and Romanian cities engaged in ICC.

Also, through the Romanian Geographic Chapter Meeting we had the opportunity for peer exchanges on key challenges in implementing ICC and digital city initiatives in Romania, and on getting the political actors on board.

Through the ICC, Timișoara benefits of networking, having access to other cities' best practices, to the assigned experts (contracting consultancy services is normally time-consuming and costly), connecting to people outside public institutions (fighting the citizen's distrust of public authorities); it was also useful for the City to have the expert help with keeping track of the next steps and coordinating the process.

Different cities should work together to find common solutions at country level instead of county/city level. E.g., tax payment solutions should not be different from one city to another in one country. The Association of Romanian Municipalities could play a role so that local authorities do not have to reinvent the wheel and work together instead.

Commitments

Commitments to on-going resources	Commitments to on-going collaboration	Commitments to on-going KPIs
On-going work on prototyping the mobility platform Searching for funding	Participatory budgeting; civic engagement We are part of two H2020 projects	We will monitor the number of users of mobility platform and parking system Average annual GDP growth past 5 five years Profitability and efficiency of the parking activity

3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?	Timișoara to be a city of technology, urban and cultural premieres in Romania, as well as in Central and South-Eastern Europe. ▪ complete the implementation of the projects and achieve the proposed objectives, ▪ focus on sustainability and digitalisation ▪ boost and strategically guide investments in digital infrastructure ▪ support public institutions to achieve optimal impact from their investments through instruments that support their operation and sustainability ▪ Start-up the projects proposed by the parking strategy
What steps will you take over the next 3 years to achieve these goals?	Participatory mode of all the stakeholders in the implementation phase of the solutions Continue the implementation of the planned initiatives Secure financing for the projects

3 Year plan - targets

KPI	Category	What commitments will the city make to this end?
1	City Performance	Sustainable development and the adoption of digitalisation.
2	City Performance	Reduction of emissions in Timisoara by implementation of the mobility and parking strategy. Yearly monitoring of emissions reduction will be done by introduction of low emission areas.
3	City Performance	Accessibility and accuracy of the information about the available parking spaces, busses and public transport schedule.
4	Solution maturity or activities	Economic growth Reduction of the on-street parking that is still free in a lot of locations/streets and that occupies a public space that could be dedicated to other transport infrastructure solutions (dedicated public transport lanes, bicycle lanes, etc.).
5	Ecosystem	Regular meetings will be organised with the stakeholders so their interest in implementing the solutions will be kept.

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Appendix

Timișoara: Additional information

ICC Transformation

February 2021 to May 2021

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City Needs: State of the city – detailed analysis

Higher performance areas

Key insight	Data points	Interpretation	So what?
Very good train network	9 train lines departing from Timișoara, used for transport of passengers and freight	Currently seriously underutilised and not very well maintained	Potential to better use and revive the train network; however, the train network belongs to the Romanian Railways so the City Hall cannot act very much, but can collaborate and influence
Twelve metropolitan routes that connect the city to the metropolitan area	10 bus and 2 trolleybus lines, 298 km of roads	Routes managed by the Metropolitan Transport Authority (Timișoara and 12 surrounding villages)	This network can be further transformed and developed, connecting more surrounding villages to Timisoara; this is a long-term project, requiring serious funding. It can be tackled however, as part of the ICC project, even though not as main priority
Good public transport infrastructure	Good public transport infrastructure, even though fleet partly outdated (especially trams). A detailed state of the infrastructure is given in slide 20.	Efforts to modernize the fleet with EU funds Some stations are in inappropriate locations for many points that attract or generate travel	Efforts to modernize the infrastructure will continue. This is a long-term project, requiring serious funding. It can be tackled however, as part of the ICC project, even though not as main priority

City Needs: State of the city – detailed analysis

Lower performance areas

Key insight	Data points	Interpretation	So what?
Difficulty with parking in the central area of Timișoara; widespread illegal parking	50,000 parking lots in Timișoara, out of which 10,760 in the city centre	Difficult to find parking lots available in the city centre during the day Several cars looking for parking spots in the centre creates additional congestion At night, the situation reverses, residential areas becoming overcrowded, but not experiencing difficulties during the day There is an excessive degree of illegal parking,	Can be tackled in the Parking Strategy that the City Hall is about to create
Lack of quality mobility apps/platforms that would contribute to manage mobility in a more sustainable manner	There are a few apps available, but they are not very popular and do not integrate different modes of transportation (see slide 26).	Apps developed by the Public Transport Authority, but a few private apps as well	Given the high complexity of the different modes of transportation, an integrated mobility platform would help better manage mobility in town. The costs of creating/ maintain/ developing the platform would be reasonable as well.

City Needs: State of the city – detailed analysis

Lower performance areas

Key insight	Data points	Interpretation	So what?
Poor biking and walking infrastructure	106km of lanes, only half of them in satisfactory state 25 self-service bicycle rental stations were built and 300 public bicycles were purchased Surveys at home showed that only 1.1% of city trips are made by bicycle	Much room for improvement when it comes to the width of the runways, their connectivity, poorly placed street furniture and the lack of markings; bike lanes placed on sidewalks, reducing the width available to pedestrians. Narrow or absent sidewalks or discontinuous sidewalks Obstacles built or placed on sidewalks, heavily damaged surfaces Sidewalks blocked by illegally parked cars. Mobility of people in wheelchairs and other similar classes is unsatisfactory in the vast majority of cases	85,000 euros for the design of a new network of bike lanes, with a total length of almost 68 kilometers, which will be connected to the current network. ICC could potentially classify this topic as a priority.
Street network based on a radial pattern, reinforced by a series of five concentric rings, none of them completely built	958 km of street network 170,000 cars entering Timișoara every day Number of cars in Timiș county increased by 55% in 8 years	The main streets were generally planned with the necessary space for their further expansion. One of the most congested roads is the one connecting Timișoara with the most populated suburb (Dumbrăvița)	The completion of rings is ongoing in Timisoara, but it was decided to not consider this area a priority in ICC, but rather concentrate on “softer” solutions

Solution strategy – Parking Strategy

The need to create new parking spaces derives from the following:

1. In Timisoara (a city with a metropolitan area that has ~450,000 inhabitants with travel needs in Timisoara) there are only few large-capacity parking lots (>100 spaces), respectively one which is actually the private parking lot of a Shopping Mall located on the II ring (so quite far), other private parking also at a Shopping Mall (on ring IV) and some construction materials retailers private parking also near the IV ring. There is only one big parking facility located between ring II and ring I - which was developed in a private partnership regime. None of these parking facilities belong to Public Parking operator and are not integrated into the TimPark charging system, only for the last mentioned one an annual revenue is obtained. There are all sort of private mini-parking lots (on private plots of land) of 20-30 parking spaces each located in locations that are more or less uninspired and that generate and complicate car traffic on certain streets and at certain intersections.
2. In the 2015 Urban Mobility Plan developed under EBRD supervision (the SUMP will be updated next year), based on the analysis carried out since 2015, the need for the development of at least 2 high-capacity parking lots located on the border with Ring I (central area) was identified. This would allow the users of private vehicles to be able to park at the border with the central area, without congesting and generating traffic on the streets and alleys inside the first ring in search of a parking space, which is so scarce on those streets.
3. The mobility plan also suggests the analysis of some Park and Ride projects in the IV ring area correlated with the development of the public transport infrastructure to make those areas accessible.
4. In Timisoara there is a very large number of parking spaces (the vast majority located in neighbourhoods) that are located on streets and even boulevards with 2 traffic lanes in each direction (Bld. Take Ionescu, bld. Gh. Lazar, etc.) and also behind the condominiums - the so called on-street parking that is still free in a lot of locations/streets and that occupies a public space that could be dedicated to other transport infrastructure solutions (dedicated public transport lanes, bicycle paths, etc.). It is necessary, therefore, a phased planning of the introduction step by step of all parking spaces into the charging system and the creation of underground and/or above-ground parking lots in densely populated areas that would allow streets and boulevards to be freed from the phenomenon of on-street parking.
5. Timisoara still does not have a future-proof, carefully planed and calibrated public transport system which, first of all, to have the physical infrastructure extended to the peri-urban area, a system that should be calibrated and adjusted (with lines, routes, required by the fleet, frequencies) to meet travel needs of ~40% of the population working in Timisoara but with the residence in the peri-urban (according to the World Bank study - Magnet Cities - in 2018 this percentage was ~38%). Consequently, the working/active population does not have the physical infrastructure and solutions for alternative transport except in an extremely small percentage. Also in the area of logistics, as in the case of many cities in Romania, the situation is quite critical and "unplanned" yet.

Solution strategy – Parking Strategy

There are many other aspects related to the increase in cars and traffic volumes, and it is a shame that certain projects and measures (as we show in point 2, for example) have not been taken/implemented until now, precious time has been wasted, and of course now we could discuss other types of measures to discourage the use of private vehicles if those projects, measures were already in place - unfortunately it is not the case.

The reduction of the use of personal vehicles can be achieved through a mix of measures and projects that must address the actual needs of Timisoara, and first of all, I would say the area of viable transport alternatives that can serve ~ 40% of the active population residing in the peri-urban - that is, the public transport area (line extensions, dedicated lanes, new lines and new infrastructure, fleet growth, etc.). And with regard to the parking strategy within the radius of Timisoara and the development of parking facilities, we consider that a well-thought-out strategy, with correct and coordinated stages, projects and measures will certainly lead primarily to the reduction of traffic, especially in the central area and a much, much better organisation, use and efficiency of both the parking places and the parking/tolling system as well as the public space in general.