Metropolitan City of Capital Rome: Intelligent City Transformation Overview

ICC Final Deliverable

Executive summary

Sustainable mobility is a key strategic resource for creating an inclusive and balanced metropolitan area which guarantees full fulfillment for the individual and social participation, local development and competitiveness.

Lack of integration among different local projects and initiatives on sustainable mobility, partial use of digital solutions, difficulty to use funds in an integrated manner are among the lower city perfomance observed.

The Biovie project, trough ICC, is aimed to contribute to the implementation-testing of SUMP strategies by dedicating the strategic territorial area of Castelli Romani as a pilot area from a mobility system perspective.

The project identified 5 different solutions which have been almost all implemented:

- a Digital platform to enable cooperation and coordination among key stakeholder

- Common methodological Guidelines which defines the characteristics and services of the infrastructure and network to ensure adherence of the projects to people needs

- a Portfolio of maintenance and management models

- a common visual identity for the cycle network

- a Portfolio of digital added values services

A common faisability plan for the target area and a common digital platform to facilitate coordination and alignement among key stakeholders are key results of the project. In the next 3 years MCCR will identify funds to implement the faisability plan.

Mayor Foreword

The "Biovie" project, represents an integrated plan for sustainable mobility of inter-municipal character developed on different routes dedicated to school-cultural mobility, mobility for work and commerce and tourist-receptive mobility, contributing to the implementation/experimentation of the strategies of the Urban Sustainable Mobility Plan.

The experimentation on the target area of the Castelli allowed to define a model of collaboration between different stakeholders to align and coordinate the different initiatives undertaken in the field of sustainable mobility and a feasibility plan for a network of inter-municipal bicycle routes, with homogeneous characteristics from an infrastructural, services and visual identity point of view, which constitutes a replicable model also in other areas of the metropolitan territory.

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Section

1

Metropolitan City of Capital Rome : 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

Sustainable mobility is a key strategic resource for creating an inclusive and balanced metropolitan area which guarantees full fulfillment for the individual and social participation, local development and competitiveness.

The Metropolitan City of Capital Rome is developing its strategic plan for sustainable mobility through the adoption of the Sustainable Urban Mobility Plan (SUMP).

Through the ICC, the Metropolitan City of Capital Rome is implementing the 'Biovie' project which is a model of sustainable mobility in the pilot area of "Castelli Romani".

The "Biovie project" is aimed at:

- creating a "Bicipolitana", an integrated network of cycles routes for soft mobility;
- creating Mobility Hubs;
- defining guidelines to create a network of cycle routes and mobility hubs in different areas of the metropolitan area to promote small-scale multimodality and sustainable modes of transport for work, educational and recreational purposes.

City needs: State of the city overview

The state of the Metropolitan City today

The lack of an integrated soft mobility network at the intermunicipality level delays the economic and tourist development of a territory which has significant resources and a great potential attractiveness.

Key insights from city performance analysis

Higher performance observed

1 Presence of complementary initiatives in the sustainable mobility sector

2 Interest and research activity at university level on various topics related to the Biovie project

3 Digital connectivity

4 Strong tourism attractiveness of the pilot area

Lower performance observed

1 Traffic congestion is considered to be a major issue in the city

2 The city makes partial use of digital technologies

3 Only stand-alone actions are taken to improve access to goods and services in the post-COVID recovery

4 Difficulty in getting funds and using them in an integrated way

City Ecosystem

Shared aspirations and vision – All the stakeholders participating in the ICC initiative have a similar vision for the city: they all agree on the need to align the Biovie project with other local / regional initiatives in the field of sustainable mobility and tourism and on the need to design a soft mobility network connecting relevant nodes to the daily life of citizens and which enhances local excellence. They also agree on the need to ensure a unique visual identity and a sustainable maintenance and management model of the soft mobility network.

What we bring and how we work together – The stakeholders participating in the initiative have a heterogeneous and complementary set of skills and competences which makes the "team" absolutely complete. In fact, it is composed by the University, with its wealth of knowledge, the mobility agency of the City of Rome, the business associations (e.g. Unindustria Lazio), infrastructure and mobility operators, which can provide a key point of view to analyze and understand the social and economic dynamics developing within the city.

Urban resources for transformation – The city has a great unexpressed potential, which could be activated thanks to the contribution of the ICC initiative. In terms of financial resources, the city benefits from the contribution of the national decree on "cycle routes" and from the Ministry of Environment; moreover, additional resources could come from the Recovery Plan being prepared and from regional funds. In terms of skills the city ecosystem needs support to identify the most effective design and technological solutions to implement a sustainable soft mobility network ensuring accessibility of services and places for tourists and citizens.

ICC strategy: Vision and ambition statements

Sustainable mobility is a key strategic resource for creating an inclusive and balanced metropolitan area which guarantees full fulfillment for the individual and social participation, local development and competitiveness.

Ambition statement 1

Green and Smart mobility

To ensure accessibility of services and places, connecting relevant nodes to the daily life of citizens and enabling livability of the areas

Ambition statement 2

Smart and Sustainable Tourism

Define and promote the destination identity of the areas by ensuring awareness, attractiveness, and accessibility of natural and cultural resources for local and international tourists.

Ambition statement 3

Participation, connectivity and community

Make use of digital technologies and platform to facilitate communication and connections between citizens, public administration, private operators/businesses

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City strategy: justification

- There is a high degree of interdependency among solutions. All of them are aimed to guarantee an integrated approach and identify the best practices that can be shared among different players.

- The key point that have guided the strategy has been the alignment among the different local authotities in order to reach consensus on the project objectives.

Key factors

- Level of adoption and endorsement

- Level of political commitment

- Alignment of all stakeholders to city strategies
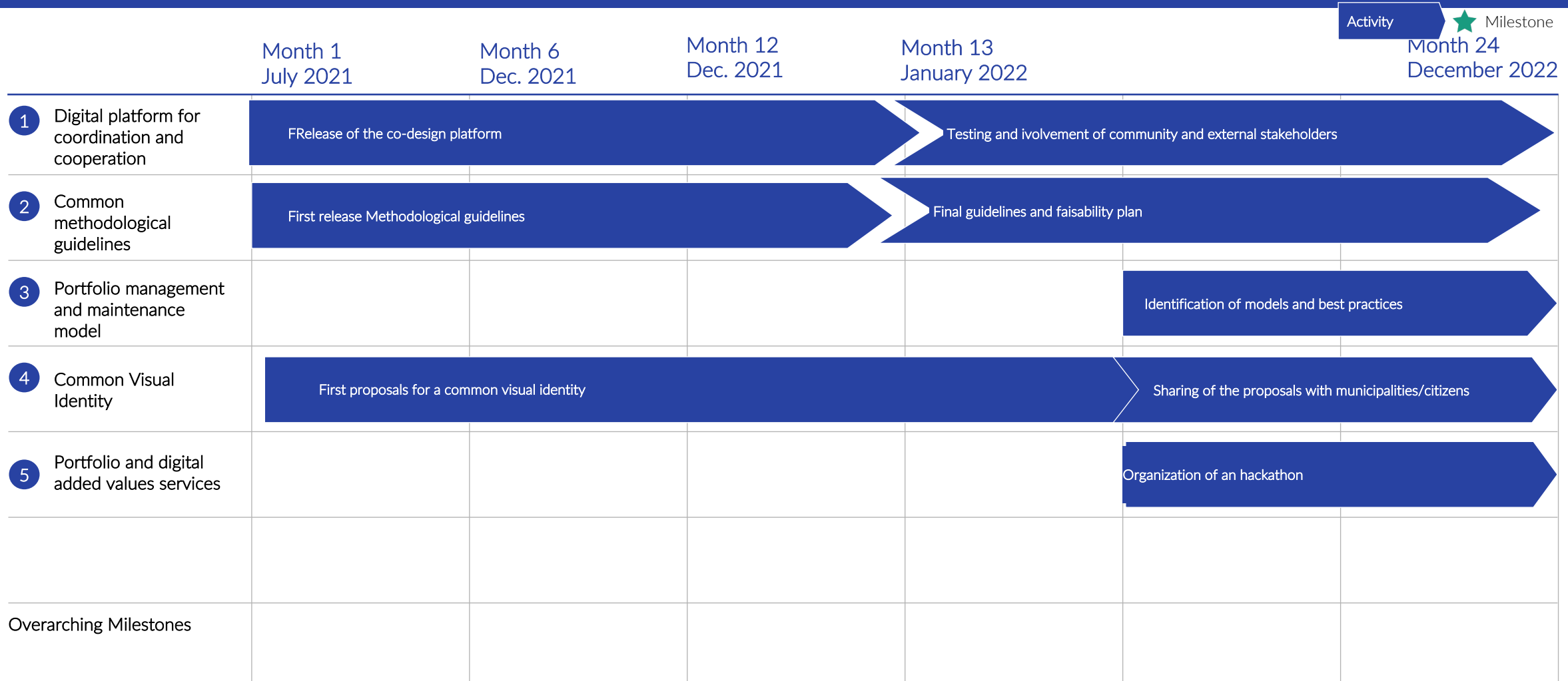- Level of engagement of project advisors

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2

Metropolitan City of Capital Rome : Ambition and roadmap

ICC Transformation

February 2021 to May 2021

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High level implementation roadmap for solution ("10000m plan")

Activity | ★ Milestone

		Month 1 July 2021	Month 6 Dec. 2021	Month 12 Dec. 2021	Month 13 January 2022	Month 24 December 2022
1	Digital platform for coordination and cooperation	FRelease of the co-design platform			Testing and ivolvement of community and external stakeholders	
2	Common methodological guidelines	First release Methodological guidelines			Final guidelines and faisability plan	
3	Portfolio management and maintenance model				Identification of models and best practices	
4	Common Visual Identity	First proposals for a common visual identity				Sharing of the proposals with municipalities/citizens
5	Portfolio and digital added values services				Organization of an hackathon	
	Overarching Milestones					

Rationale to road map

- The roadmap has been planned by giving priority to two key solutions that are the basis for starting the others: the digital platform and the methodological guidelines.

- The need to reschedule the timing for these solutions caused a slowdown also in the implementation of the other solutions.

① Digital platform to enable cooperation and coordination

Strategy

Description

What: It will provide a knowledge sharing capability and will support co-design, communication and engagement of local community and external stakeholders

Why: scarce coordination and cooperation among project participants and external stakeholders

How:
- Implementation of the first release
- Testing of main functions and participation tools with Municipalities

Link to vision

To guarantee full fulfillment for the **individual and social participation, local development and competitiveness.**

Link to ambition statement

Participation, connectivity and community

Expected impact and timing

All key stakeholders (Municipalities) will test main functions by October 2022

Stakeholders involved

Solution lead: MCCR - Strategic Planning Office

Solution working team: MCCR - Strategic Planning Office

Capitale Lavoro S.p.A. (in house providing company)

Contributors: GIS Office

Risks and mitigation

What are the key risks?

- Real adoption and endorsement of the solution
- Quality and frequency of data shared

Mitigation measures:

- giving access to relevant data

- facilitating participation in key decision making processes

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

Centralized funding (140.000€)

Solution maturity outputs

A shared mobility planning tool

City performance outcomes and impacts

Alignment of different public authorities and stakeholders

Enhanced citizens and stakeholder participation in sustainable mobility policies

② Common methodological guidelines

Strategy

Description

What: Guidelines will define the characteristics and services of the infrastructure and network to ensure adherence of the projects to people needs

Why: lack of minimum common criteria for infrastructure and services design for cycle mobility

How:
- Identification of models and best practices
- First draft of the guidelines
- Agreement with municipalities on main common elements
- Final delivery and presentation

Link to vision

To create an **inclusive and balanced metropolitan area**

Link to ambition statement

Green and Smart Mobility

Expected impact and timing

Agreement on common elements/criteria for cycle network planning adopted by October 2022

Stakeholders involved

Solution lead: MCCR - Strategic Planning Office

Solution working team: MCCR - Strategic Planning Office

Contributors: Municipalities

Risks and mitigation

What are the key risks?

- Diffculty to define the guidelines while some projects for cycle networks are underway

Mitigation measures:

To establish an agreement on main common elements of the cycle network

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

National funds (74.500€)

Solution maturity outputs

Common planning criteria shared and adopted

City performance outcomes and impacts

- Improved accessibility in one of the most strategic area of the metropolitan territory + improved livability
- Increased use of sustainable, individual and collective, transport modes (especially bicycle);
- Increased use of integrated transport services
- A model transferrable to other metropolitan territories

③ Portfolio maintenance and management model

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description	**What:** It will grant the sustainability of the solution during the maintenance phase **Why:** Lack of personnel and funds to ensure the sustainability of the model **How:** ▪ Identification of best practices ▪ Definition of a management/maintenance model shared with all Municipalities + stakeholders	**Solution lead:**	MCCR - Strategic Planning Office	**Source of funding and estimated cost**	
Link to vision	To create an **inclusive and balanced metropolitan area**	**Solution working team:**	MCCR - Strategic Planning Office	**Solution maturity outputs**	A shared maintenance model
Link to ambition statement	Green and Smart mobility; Smart and Sustainable Tourism	**Contributors:**	Municipalities		
Expected impact and timing	A common maintenance and management model adopted by all key stakeholders by December 2022	**Risks and mitigation**	What are the key risks? Solutions identified might be difficult to implement Mitigation measures: Involvement of local associations and network of SMEs, start ups	**City performance outcomes and impacts**	Effective maintenance of the infrastructure

④ Common Visual Identity

Strategy

Description

What: A unique and differentiating visual identity is required for all the solutions of the project

Why: lack of visibility and attractiveness of the cycling infrastructure

How:
- First draft of the visual identity
- Sharing with Municipalities
- Final proposal and sharing with the wider community (trough digital participation tools)

Link to vision

To create an **inclusive and balanced metropolitan area**

Link to ambition statement

Smart and Sustainable Tourism

Expected impact and timing

A final proposal to be shared by December 2022.

Stakeholders involved

Solution lead: MCCR - Strategic Planning Department

Solution working team: MCCR - Strategic Planning Office

Contributors: University of Rome La Sapienza

Risks and mitigation

What are the key risks?

Difficulty to find a shared solution among different local authorities

Diffculty to define the guidelines while some projects for cycle networks are underway

Mitigation measures:

Involvement of citizens and local communities in the selection and approval of the solution

Identification of key common elements

Inputs, outputs, outcomes and impacts

Source of funding and estimated cost

Centralized funds + contribution in kind

Solution maturity outputs

Higher visibility and identity of the project

City performance outcomes and impacts

Increased use of local cycle network for recreational purposes (by citizens and tourists/visitors)

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⑤ Portfolio of digital added values services

Strategy		Stakeholders involved		Inputs, outputs, outcomes and impacts	
Description	**What:** create a portfolio of digital added value services as a complement of the project. **Why:** promote better usability of the mobility hub and the bicycle network. **How:** organising an hackathon to help identify possible digital services and develop pre-alpha versions of digital services	Solution lead:	MCCR - Strategic Planning Department.	Source of funding and estimated cost	The prize for the winner will be charged at internal budget.
Link to vision	Ensure full fulfillment for the individual and social participation. Local development and competitiveness.	Solution working team:	MCCR - Strategic Planning Department.	Solution maturity outputs	Availability fo added value services for cyle network's users
Link to ambition statement	Green and Smart mobility Smart and Sustainable Tourism	Contributors:	ICT Department Our totally owned company		
Expected impact and timing	Enhanced services and solutions for citizens. Organization of the hackathon by November/December 2022	Risks and mitigation	The hackathon will not be able to identify suitable software solutions. Software developed during the hackathon is not good quality and difficult to being further developed. These risks can be mitigated by carefully drafting the guidelines for digital solutions and carefully selecting developers to be invited at the hackathon.	City performance outcomes and impacts	Increased attractiveness of sustainable transport modes.

Key Performance indicators - overview

Solution	Activities – Inputs and actions	Solution maturity - outputs	City performance – outcomes and impacts
Digital platform to enable cooperation and coordination	▪ Implementation of the first release ▪ Testing of main functions ▪ Involvement of key stakeholders	A shared mobility planning tool	Alignment of different public authorities and stakeholders; Enhanced citizens and stakeholders participation in sustainable mobility policies.
Common methodological guidelines	▪ Feasibility study with first common criteria to plan the cycle network ▪ Agreement with municipalities on main common criteria	Common planning criteria shared and adopted	Improved accessibility in one of the most strategic area of the metropolitan territory + improved livability Increased use of sustainable, individual and collective, transport modes (especially bicycle); Increased use of integrated transport services A model transferrable to other metropolitan territories.
Portfolio maintenance and management model	▪ Identification of best practices applicable to the project ▪ Definition of a management/maintenance model shared with all Municipalities	A shared maintenance model	Effective maintenance of the infrastructure
Common Visual Identity	▪ First draft of the visual identity ▪ Sharing with Municipalities ▪ Final proposal and sharing with the wider community	Higher visibility and identity of the project	Higher visibility and identity of the project Increased use of local cycling network for recreational purposes (by citizens and tourists/visitors);
Portfolio of digital added values services	▪ Organization of an hackathon to help identify possible digital services	Availability fo added value services for cyle network's users	Enhanced services and solutions for citizens - Enhanced level of digitalization of PA services Increased attractiveness of sustainable transport modes.

Key Performance indicators - Cross cutting indicators

Cross cutting indicators
New cycle routes (extension in Km)
Improved perception of liveability of the pilot area (questionnaire pre-post intervention)
Citizen satisfaction with the implemented cycling measures/infrastructures

Rationale to KPI approach

The rationale linked to the definition of the identified KPIs is shown below:

KPI	Rationale
KPI Activities (inputs and actions)	Each KPI defines measurable macro activities identified for each strategic objective.
KPI solution maturity (outputs)	These KPIs are indicators with the aim to define specific targets to be achieved
KPI City Performance	These KPIs are related to benefits achieved trough the identified solutions
KPI Cross cutting indicators	These KPIs have the purpose of carrying out a monitoring on the main outcome of the project

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Governance structure for roadmap implementation

Steering Committee
M. Piacenza

Reviews overall progress, takes key decisions and sponsors overall roadmap

PMO
- Fomini

Provides administrative support for overall project implementation

Core team
AR Turlò
A Celima

Initiative 1 – Codesign Platform
- <Name>

Initiative 2 – Methodological guidelines
- <Name>

Initiative 3 – Management and Maintenance Model
- <Name>

Initiative 4 – Common Visual Identity
- <Name>

Initiative 5 – Portfolio of digital services
- <Name>

Section

3+4

Intelligent Cities Challenge

Metropolitan City of Capital Rome: Impact

Impact executive summary

Major successes during the ICC were:

➢ Enhanced stakeholders partcipation in sustainable mobility policies

➢ A more integrated planning process of sustainable mobility hubs and soft mobility networks

The imlplementation of some soultions and the achievement of related goals was slowed down by the time required for coordinating different local authorities and keeping aligned the level of decision makers.

Main goals for the next 3 years are:
- To implement all the planned cycle itineraries
- To increase the use of bikes for daily commuting in the target area
- To extend the use of the co-planning platform to other municipalities and stakeholders
- To obtain funds for executive planning and implementation of the cycle network

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

...makes it easier to undertake certain...

...which work to drive up...

...leading to improved...

[ ] Change measured over time during ICC

Idea	Local enablers –city characteristics	Activities – actions and inputs	Technology maturity – outputs	City performance – outcomes and impacts
Description	The role of the Metropolitan City, second level government, helps to coordinate the actions of several local authorities. The MCCR has stable relations and collaborations with the different Universities existing in the metropolitan territory.	This facilitated the planning of an inter-municipal cycle network with common criteria from an infrastructural, visual, maintenance point of view.	An integrated cycle network with high innovative standards for infrastructural, technological components and digital added values services.	An improved accessibility and liveability of the target area thanks to an increased use of soft mobility means of transport.
Example				

Assessment of city performance - progress against KPIs

	Where we started	Midway through the challenge	Final results
City performance			
1 KPI 1	Existing cycle routes (extension in Km):		New planned cycle routes (extension in Km):
2 KPI 2	Length of existing cycle paths in relation to the population resident (m / inhabitant):		Length of planned cycle paths in relation to the population resident (m / inhabitant):
3 KPI 3	Number of accessible services by means of bike		Number of accessible services by means of the planned new cycle itineraries

Assessment of city performance - discussion

Taking into consideration the different solutions, at this stage, we have reached the following
 main performances:

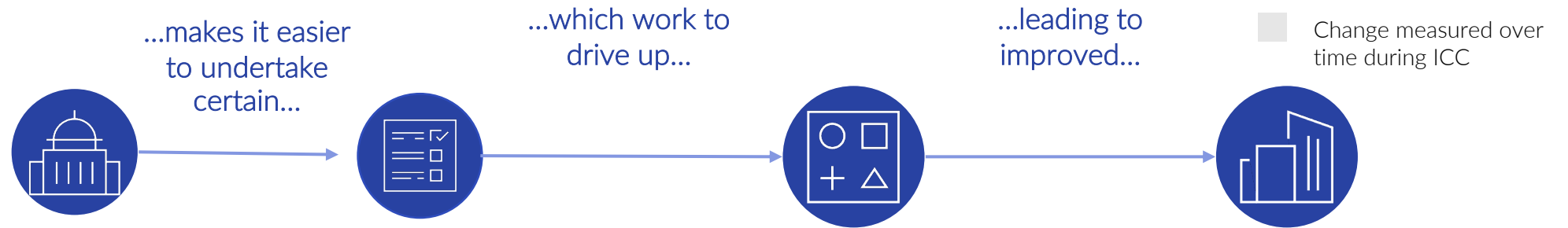➢ Enhanced stakeholders partcipation in sustainable mobility policies

➢ A more integrated planning process of sustainable mobility hubs and soft mobility networks

The other KPIs related to the city performance can only be assessed in the medium-long term.

Assessment of solution maturity - progress against KPIs

	Where we started	Midway through the challenge	Final results
1. Digital Platform			
a Adoption and use of the platform	No common planning tool	Alignment of municipalities with common planning criteria	Adoption and use of the common planning tool by all the municipalities (by December 2022)
2. Common methodological guidelines			
b Adoption of shared criteria to plan the integrated cycle network	No common planning criteria for cycle network	Shared guidelines to plan cycle itineraries	Adoption and use of the guidelines by all the municipalities to plan cycle itineraries (by October 2022)
3. Maintenance and management model			
c Adoption of a common maintenance model	No common maintenance model for similar infrastructure	Identification of possible maintenance model in progress	A common model to be approved by December 2022
4. Common Visual Identity			
d Higher visibility and identity of the project	No brand and visual identity for cycle itineraries	Proposals of a brand and common visual identity for the cycle network	Adoption of the common visual identity by December 2022
5. Portfolio of digital added value services			
e Availability fo added value services for cyle network's users	No digital added value services	Proposal of an hackathon to be organized by October 2022 to identify possible solutions	

Assessment of solution maturity - discussion

Taking into consideration the different solutions, at this stage, we have reached the following main outputs:

➢ A shared digital tool/platform to plan cycle networks among different local authorities

➢ A shared feasibility plan for an integrated network of cycle routes enhancing the multiple vocations of the territory

➢ Alignment of different local authorities with main common planning criteria for the cycle itineraries

Assessment of city ecosystem and activities - progress against KPIs

	Where we started	Midway through the challenge	Final results
Ecosystem			
1 Municipalities involved	6 municipalities joined the project	Other 4 local authorities expressed the interest to join	The project spreads over the initial target area
2 Participation in mobility planning	7 actors formally involved at the beginning (6 municipalities + 1 Universities)	Around XX actors involved in the definition of general strategy and possible solutions	Involvement of 10 municipalities in the definition of the cycle network + 2 Universities actively involved in development of the solutions

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Assessment of city ecosystem and activities - discussion

Strengths

- Local authorities participated in all the different phases of the project
  - (they collaborated in the phase of data gathering, in the planning of the cycle itineraries, ecc.)

- Other local authorities expressed their interest in joining the project (4 more than the initial ones)
- The project spread over the initial target area
- Universities participated actively in different meetings of the projects and contributed

to develop the «visual identity»

Weaknesses

- Collaboration among several local authorities required a rescheduling of the project
- Involvement of private actors was more difficult

5 key lessons

Lesson	Reflections
1	**Key success factors**: sustainable mobility is a key issue for local communities and local administrators (especially during and after the pandemic crisis); sustainable mobilty is key topic for the MCCR which is in the planning phase of its SUMP; availability of additional funding on this topic
2	**Main obstacles/difficulties**: difficulty in respecting timing, due to the large number of local authorities involved, difficulty in involve the wider ecosystem of stakeholders; difficulty to involve Municipalities already engaged in several projects (related to the National Recovery Plan); difficulties to plan cycle itineraries in high density populated areas
3	**What has worked well**: capacity to attract and involve in the project an higher number of municipalities than the initial ones; capacity to use different available funds
4	**What could have been done better:** communication to and involvement of the wider local community, coplanning activities due to the lack of competencies in Municipalities
5	**Where did the ICC help you succeed, and what else could it have done to help you?:** ICC helped in identifying some good practices; the support of dedicated experts on the specific topic of sustainable mobility would have been more useful; continuous change of lead experts made more difficult to have ad hoc support/assistance

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Reflections on city collaborations

Interesting advanced models and solutions for:

- Smart and sustainable mobility (city of Amsterdam, city on Antwerp,)

- Citizen participation platform and tools (City of Porto)

Commitments

Commitments to on-going resources	Commitments to on-going collaboration	Commitments to on-going KPIs
To exploit and use all available funds (at national, regional level) for the implementation of the cycle network	To strengthen the co-planning level of cycle and soft mobility network with municipalities, also in different areas of the metropolitan territory	• Increase Km of cycle routes • Increase the number of users of cycle routes • Increase the citizen satisfaction regarding the infrastructure and provided services

3 Year plan - ambitions

Building on the ICC, what would will the city aim to achieve in 3 years time?	▪ To implement all the planned cycle itineraries ▪ To increase the use of bikes for daily commuting in the target area
What steps will you take over the next 3 years to achieve these goals?	▪ Extend the use of the co-planning platform to other municipalities and stakeholders ▪ To obtain funds for executive planning and implementation of the cycle network

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3 Year plan - targets

	KPI	Category	What commitments will the city make to this end?
1	New planned cycle routes (extension in Km)	City performance	
2	Bike users	City performance	
3	Municipalities involved	Ecosystem	To involve other municipalities of the area in the project of cycle network
4	Private actors	Ecosystem	To actively involve private actors in the providing of services for bike users and in the maintenance of the network
5	New functionalities of the digital platform	Solution maturity	To develop new co-planning and consultation tools and functionalities of the digital platform
6	Digital added value services	Solution maturity	To develop new digital services