HANDSHAKE

List of participants

Participant No.	Short name	Participant organisation name	Country
1 (Coordinator)	ISINNOVA	Istituto di Studi per l'Integrazione dei Sistemi	IT
2	CPH	City of Copenhagen	DK
3	AMS	City of Amsterdam	NL
4	KVR	City of Munich, Department of Public Order	DE
5	BM	Bordeaux Metropole	FR
6	BRUGGE	City of Bruges	BE
7	DUBLIN	Dublin City Council	IE
8	GMK	Municipality of Krakow	PL
9	HEL	City of Helsinki	FI
10	TIGM	Transport for Greater Manchester	UK
11	RCC TD	Riga City Council - Traffic Department	LV
12	RSM	Roma Servizi per la Mobilità	IT
13	MS TO	City of Turin	IT
14	UVA-UCI	University of Amsterdam - Urban Cycling Institute	NL
15	M21	Mobiel 21	BE
16	VELO MONDIAL	Velo Mondial	NL
17	DECISIO	Decisio	NL
18	ICLEI	ICLEI European Secretariat	DE
19	CADIZ	City of Cadiz	ES

1. Excellence

1.1 Objectives

HANDSHAKE supports the effective take up of the **integrated cycling solutions** successfully developed by **Amsterdam**, **Copenhagen** and **Munich**, our **3 Cycling Capitals** (CCs) and world-renowned cycling front runners, to a number of other cities, in Europe and beyond[1]. This will be achieved through:

1. A complete transfer programme benefitting our **10 highly committed Future Cycling Capitals** (FCCs): **Bordeaux Metropole**, **Bruges**, **Cadiz**, **Dublin**, **Helsinki, Krakow**, **Greater Manchester**, **Riga**, **Rome** and **Turin**.
2. An intensive dissemination effort benefitting a **wider audience of cities** interested in cycling planning and innovation, which will draw from the broad body of knowledge and targeted guidance produced by HANDSHAKE, which will represent an inspirational legacy for post-project exploitation.

Our 13 partner cities are combined in a composite working environment in which diverse geographical contexts, starting points, socio-economic conditions and planning cultures work toward the same goals, that is, delivering on the desired cycling change. While this diversity can add to the complexity of our work in terms of take up requirements and timescales, it also provides HANDSHAKE with a **comparative overview** of how our policy transfer approach works in different contexts.

In order to carry out these tasks, HANDSHAKE has built a group consisting of highly **committed** cities aware of the complexity of the mission at hand, and a team of experts with proven capabilities in the research and innovation arena and a full command of methodologies and tools that are regarded as benchmarks in the development and transfer of policy. The gathered team will cooperate to reach a number of **overarching objectives**:

- Support the **take up of innovative cycling solutions** by transferring them from the 3 CCs to the 10 FCCs, thereby **enabling a faster** and **more cost-effective deployment** towards sustainable urban mobility. Possible (technological and non-technological) barriers and ways to overcome them will be identified and addressed.
- Study and compare the **impacts and the conditions** for effective transfer, with both medium-term (2022) and long-term (2030) HANDSHAKE scenario assessments.
- Add to and make publicly available a **comprehensive body of knowledge,** including producing **evidence-based practical guidance,** for wide take up in other contexts (in Europe and beyond) as a post-project legacy.
- Foster inter-city **professional and personal collaborations**, and turn our cities into full-fledged **cycling innovation ambassadors.**

These objectives will be delivered by working toward a number of **strategic objectives**:

- Inspire and inform the **creation, validation and/or refinement of holistic cycling visions** and **concrete transfer approaches**.
- Provide cities with **organisational and technical know-how**, from innovative **forward-looking and appraisal tools** to working **business models**.
- Foster the adoption of a **multidisciplinary planning culture and a systematic evaluation practice** to empower the project process and consolidate future cycling policies and investments.
- Allow cycling to become a key element of **urban transport**, fully integrated in the overall planning cycle, and partaking with the other public and active modes in the creation of more human-friendly, sustainable and efficient transport systems.
- Improve **cycling modal share**, leveraging the untapped potential of key assets such as spatial design, road access management and network prioritisation, new cycling infrastructure, multimodality, mobility management and awareness raising.
- Improve **cycling safety**, reducing accidents and fatalities, enhancing a understanding of reciprocal road user needs as accordingly foster a more respectful behaviour.
- Leverage the potential of cycling as a **critical congestion relief tool**, creating higher quality and more human-scaled urban spaces.
- Leverage cycling to improve **public health** by reducing pollution and fostering physical and mental well-being.

[1] As described later in the proposal, HANDSHAKE relies on a wide network of contacts that extends well beyond the European borders by including primarily ICLEI, whose members hail from all world continents, as well as organisations such as NACTO, the National Association of City Transportation Officials in the USA and Canada, and EMBARQ, the World Resources Institute's global network present in Brazil, China, India, Mexico, Turkey, USA.

- Change cities into more **human-scaled environments**, with more opportunities for social interactions.
- Foster **economic growth** through the creation of urban spaces that are: i) commercially more appealing, ii) conducive to higher real estate values, and iii) capable of attracting private investments in jobs connected with sustainable economy.

To assess our objectives, HANDSHAKE has set **realistic, achievable and measurable short-term targets (2022)** in headline areas:

- **Cycling attractiveness**: **+52%** greater cycling comfort for circa **150.000** existing cyclists.
- **Cycling competitiveness:** average cycling journey and driving time both improve thanks to cycling innovation, but cycling competitiveness improves by **+17%** compared to the calculated business-as-usual scenario.
- **Modal share rebalancing**: shift circa **60.000** people to cycling.
- **Cycling levels** and **health**: **+34%** frequency of cycling use (trips/day).
- **Cycling safety**: - 37,5% accidents/average number of cyclists.
- **Social safety**: **+21%** improved perceived security.
- **Traffic levels** and **travel accessibility**: **-6,34%** minutes/trip and **-2%** Km/day (both for all modes).
- **Local economic growth**: **€6 mln** generated every year after the project of direct and indirect socio-economic benefits among which: €1.330.900/year due to expected additional 4.750 working days/year.
- **CO2 savings: -3.706.000 kg** CO2/year.

HANDSHAKE also seeks to produce **exploitable outputs** intended to facilitate a wide take-up of cycling innovations:

- **16 innovative cycling solutions** deployed in the CCs for future upscale.
- **43 transferred cycling solutions** deployed in the FCCs for future upscale.
- **10 final Post-Project Action Plans** for cycling implementation and exploitation in the FCCs.
- **1 set of methodological and practical guidance** on Immersive Study Tours and Transition Management.
- **1 publication on the state-of-art of Cycling Innovation** (including a set of transparent cycling indicators to enable the comparison of orgware, software and hardware).
- **1 set of Lessons Learned and Comparisons** from the assessment of the 59 solutions of HANDSHAKE.
- **Sets of multimedia Inspirational guidance for wider take-up,** including e-booklets, short videos, and animated infographics.
- **2 sets of publications in technical/academic journals:** 1) the role of policy entrepreneurs in cycling innovation and 2) policy tourism (**lessons and guidance** on the immersive study tours).
- **1 set of practical guidance** on influencing factors for cycling planning practice and innovation.

The full estimated quantitative impacts and all assumptions are illustrated in Section 2.1, with additional details in the Annex, while the objectives and the outputs are consistent with the plans for exploitation shown in Section 2.2.

1.2 Relation to the work programme

Challenges, scope and impacts

HANDSHAKE directly caters to the following MG-4.1-2017 domains:

- **Traffic and travel avoidance***:* planning and location policy; innovative demand management approaches while providing citizens, businesses and organisations with minimum levels of access; less car dependent lifestyles.
- **Supporting modal shift towards more efficient modes**: increased walking and cycling; urban waterborne transport; mobility management and travel awareness; increased attractiveness of public transport; new coordination and service concepts.

The integrative nature of our approach is also relevant for other MG-4.1-2017 domains such as the *optimisation of existing infrastructure; new governance models; public and stakeholder consultation and engagement; education and training; policy transfer*. The following table provides an overview of the responses that HANDSHAKE provides to specific challenges and the scope set out by MG-4.1-2017.

MG-4.1-2017 challenges	How we address them
Increase the take up of innovative solutions by transferring them to new contexts and studying and comparing the impacts	HANDSHAKE works with arguably the most accomplished and innovative Cycling Capitals in Europe. This allows the project to draw from a wide range of proven cycling solutions, both in terms of: • Access to their **historical evolution**, with insights on development and deployment fundamentals. • Access to **technical** and **non-technical know-how**, including visioning, planning,

MG-4.1-2017 challenges	How we address them
	community engagement, transitioning and financing. • Access to the most recent **cycling innovations**. HANDSHAKE situates these knowledge assets within a coherent programme to transfer solutions, employing proven methodologies and tools that have already proven to be effective, notably: • Bikenomics for the appraisal of the **socio-economic worth** of available cycling solutions. • Transition management for the **forward-looking** definition of a cycling vision and the facilitation of potentially **disruptive change.** • Immersive study tours for the **hands-on inspiration** and **accompaniment** of cycling change. These 3 key transfer instruments allow for the assessment of the following: • **Effectiveness** of actual take-up. • Comparison of **impacts** across **different urban contexts**. • Gathering of **lessons learned** for wider take up.
Special attention should be paid to social issues and implications	All three key transfer instruments, and thus the approach in its entirety, place a lot of emphasis on social issues and their implications. HANDSHAKE recognises that any changes that are disruptive (such as those entailed by the cycling innovations we advocate) require deep **societal involvement**. Transitioning to new mobility choices involves acquiring new mindsets and governance models; appraising and balancing societal gains and losses; passing supportive regulations; and planning and using transport networks and public spaces differently. The only way to do so sensibly is to proceed by closely involving all societal actors, especially those that are traditionally averse to change or who may perceive negative implications. Immersive study tours and transition management cater to these needs by fostering inclusive change, bringing together **change agents** and **change opponents**.
Where relevant, potential gender differences should be investigated	Gender and equality issues need to be addressed to ensure maximum take up of cycling change, as **accessibility**, **education**, **religion** and **socio-economic factors** play a role in cycling use. HANDSHAKE is aware of these challenges, which have been incorporated into the work plan through appropriate requirements to be defined ex-ante, and then addressed and monitored during the progress of our activities.

MG-4.1-2017 scope and impacts	How we address them
Supporting modal shift towards more efficient modes: increased walking and cycling. Traffic and travel avoidance: planning and location policy; innovative demand management approaches while providing citizens, businesses and organisations with minimum levels of access; less car dependent lifestyles.	HANDSHAKE directly addresses this mobility domain by providing for enhanced cycling conditions. For cycling is here seen not only as a desirable mode of transport within a more sustainable mobility system, but a true **game changer** in the way cities develop from a spatial, behavioural, and socio-economic standpoint. As demonstrated by our Cycling Capitals, cycling is able to steer the evolution towards urban spaces that are human-centred, social, efficient, accessible, safe, pleasant and economically thriving. To do so, cycling needs to be supported by coherent mobility policies encompassing walking, mobility management, access management (both of private and commercial vehicles), public transport, shared mobility, MaaS, intermodality and land-use policies.
Actions should successfully transfer a single solution/approach or limited package of mutually reinforcing solutions/approaches from a small number of locations in Europe (indicatively not more than five) to at least ten new locations in Europe.	HANDSHAKE transfers the integrated approaches developed by our 3 Cycling Capitals to 10 Future Cycling Capitals. The 13 cities represent **12 member states** ((BE, DE, DK, ES, FI, FR, IE, IT, LV, NL, PL, UK) and as many different socio-economic contexts. All partner cities embrace a **vision** of more sustainable and human-centred mobility and share a **commitment** to successfully perform the transition by adopting the tailored work plan designed by HANDSHAKE.
Building on clear commitments from action participants for a further Europe-wide take-up and rollout of results during and following the actions, they will result in new insights into the practical transferability of innovative solutions and approaches.	HANDSHAKE is committed to use the results and the knowledge generated by the project to trigger a wider EU take-up of cycling innovation. This pledge is substantiated by the provision of specific work packages seeking to **amplify** the **outreach** of the project and to **consolidate** a project **legacy** for post-action inspiration, scientific and practical guidance. This ambition is further empowered by cooperation with key **supporters**, such as the Danish Cycling Embassy, the Dutch Cycling Embassy and the German Cycling Federation, as well as the leverage of long-established synergies with **wide-reaching international networks** like Polis, Eurocities, ICLEI, ECF, REC, NACTO and Energy Cities. HANDSHAKE will also link with

MG-4.1-2017 scope and impacts	How we address them
	relevant **running projects** in which cycling is part of research and innovation activities, such as CIVITAS Trace, CIVITAS Flow, SURF-SCF, Bike2Work, Pasta, Prospect, XCycle, CycleWalk Mode, and Allegro.
Actions will demonstrate how their activities will lead to faster, more cost-effective and larger scale deployment of innovative solutions and approaches to achieve sustainable mobility in urban areas. Possible (technological and non-technological) barriers and ways to overcome them should be identified and addressed by actions.	Our Cycling Capitals, Amsterdam and Copenhagen in particular, are where they are today because of decades of hard work and commitment, which goes on as we speak. Their experiences, including their shortcomings and outright setbacks, serve as a unique and priceless **point of reference** for our Future Cycling Capitals. Having the luxury to interface with such frontrunners through a carefully tailored work plan is our strongest asset in view of **accelerating** the deployment of innovative cycling solutions. Our pledge to the cities is to learn from the past and the present to roll out the action in a more **informed**, **cost-effective** and **scaled** manner.

Other key relations

Additionally, the work of HANDSHAKE is expected to inform a possible future **European Cycling Strategy of the European Commission**, which is increasingly wished for by the EU member states, the European Parliament and the Committee of the Regions. We also seek to positively contribute to the strategic objectives put forward by the European Union through the 2015 Declaration on Cycling of the EU ministers for Transport[2] as well as the European Commission's present focus on Multimodal Transport Policy, notably through:

- The assessment of the role of cycling and its **integration,** e.g. with walking and public transport, MaaS, and land use, thereby fulfilling the agenda of the multimodal EU transport policy.
- The role of cycling (and walking) as a mobility choice for socio-economically **disadvantaged** categories.
- The increase of **road safety** in relation to cycling.
- The wider **engagement** of relevant inter-governmental organisations and stakeholders.
- The reinforcement of cycling **statistics** for more informed decisions.
- The promotion of **physical activity** by EU citizens.
- The employment of **ITS** for more efficient and informed cycling use.
- The establishment of an innovative **predictive** and **monitoring framework**.
- The promotion of a **deeper exchange** of urban mobility (cycling) best practices, also through **synergies** with other EU projects and relevant national projects.
- The identification of a **transferability strategy** between more advanced and less advanced cycling cities.

1.3 Concept and methodology

Concept

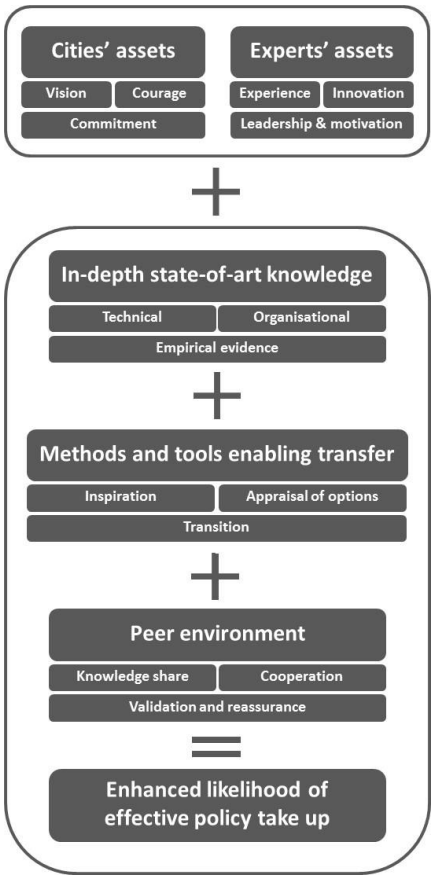
Policy makers, practitioners and academics across the globe seek detailed information on urban policies and, importantly, a better understanding of **how an effective transfer occurs**. This is what HANDSHAKE contributes to. We know from research and practice that policies are continuously borrowed, translated, and customised, but there still is little empirical evidence regarding what positively influences the learning and transfer process. HANDSHAKE's **response** is shown in the diagram here, which outlines the components that foster an effective policy transfer.

Although policy is scientifically challenging and cities are far from being stable living laboratories, decades of policy work have allowed our expert group to conclude that the common denominators of most transfer success stories are: i) **knowledge**, ii) **transfer-conducive methods and tools** and iii) **peer environment**.

We also know that these elements can be enhanced by the **assets** of the key players of a policy transfer effort (city coalitions and supporting experts). Intangibles such as *commitment*, *courage*, *vision*, *innovation* and *leadership* considerably impact the outcome and often separate success from failure.

[2] http://www.eu2015lu.eu/en/actualites/communiques/2015/10/07-info-transports-declaration-velo/07-Info-Transport-Declaration-of-Luxembourg-on-Cycling-as-a-climate-friendly-Transport-Mode---2015-10-06.pdf

This is the **underpinning concept** of the project, which is empowered by an **integrated methodological approach** (see next section) that applies methods that have already proven effective at the locally and nationally in a diversified European context. Key to our concept is the adoption of a **multidisciplinary outlook**, which stems from the acknowledgement that cities are complex systems requiring complementary skills to bolster problem solving innovation. Our team combines urban planning, economics, sociology, communication, engineering and architecture to better intercept people's needs while pursuing the changes demanded by bold cycling strategies. In doing so we dramatically disrupt the traditional planning approach prevailing in many cultures, where cycling, and mobility in general, is deemed a mere technical affair requiring engineering. Such disruption shall be gradually instilled by guiding the cities through a critical transitional phase, which often short-circuits the change process.



In synthesis, the main ideas and assumptions driving HANDSHAKE are:

- Our CCs and FCCs possess the intangible yet fundamental **assets** required by a cycling transfer exercise whose ambition and scale have not been tried before. HANDSHAKE arguably sets the **highest benchmarking standards** for the take-up cities by taking Amsterdam, Copenhagen and Munich as reference models. This requires a strong commitment from all involved parties, especially on the part of the FCCs.
- Our CCs provide an **unparalleled cycling knowledge base** resulting from decades of unrelenting development and experimentation, innovation and fine-tuning, successes and failures, battles and alliances. This patrimony is vast and often not even fully known to our CCs, so much so that HANDSHAKE has agreed to join forces with other **centres of excellence** working in our CCs in order to collaboratively build a world class and world reference cycling knowledge base. Throughout its duration, HANDSHAKE will actively collaborate and exchange information with:
  - The Dutch Cycling Embassy.
  - The Danish Cycling Embassy.
  - The German Cycling Federation.
  - The Dutch SURF - Smart Cycling Futures[3] project.

  HANDSHAKE also links with relevant research and innovation projects, which will be able to feed and feed off of our activities. These include: SURF-Smart Cycling Futures, Bike2Work, Pasta, Prospect, XCycle, CycleWalk Mode, CIVITAS Trace, CIVITAS Flow, Allegro.
- Our cycling expert organisations (ISINNOVA, DECISIO, MOBIEL21, VELO MONDIAL, ICLEI, URBAN CYCLING INSTITUTE – UNIVERSITY OF AMSTERDAM) provide a unique yet proven **methodological architecture** that will guide and support the transfer process. Furthermore, it is our ambition that the very methods and tools utilised in the project will be incorporated in the future planning and monitoring practices of our cities, so that the transferred capacity can be structurally adopted in **other public policy domains**.
- Finally, our CCs and FCCs will be combined for the creation of a peer environment in which each player of each city coalition can find a **comfort zone** for inspiration, exchange, support and validation. The experts will facilitate these dynamics and ensure that linguistic, technical or organisational hurdles do not get in the way.

Our Cycling Capitals

Historically, Amsterdam, Copenhagen and Munich, cycling was never simply seen as an urban transport mode, but rather as an extremely powerful instrument to steer more **natural**, **sustainable, safe, cost-efficient** and **equitable** living conditions. In this sense, cycling is both an **asset** of the transport supply chain and a powerful **planning tool** capable of providing orientation, coherence and balance. Cities with high rates of cycling are in fact:

[3] The Smart Cycling Futures (SCF) program investigates how smart cycling innovations – including ICT-enabled cycling innovations, infrastructures, and social innovations like new business models – contribute to more resilient and liveable urban regions.

- More sustainable, resilient, and human-scaled for people of all ages.
- More attractive and liveable, socially more cohesive and vibrant.
- Safer and environmentally cleaner.
- Economically more thriving.

A thriving economy is particularly important in times of **budgetary constraints**, and that is why cycling is attracting growing interest from policy makers, economists and diverse groups of stakeholders, including those who have historically been neutral or contrary towards cycling initiatives (e.g. car manufacturers, shop owners). Figures show that the social return on cycling investments is **substantially higher than those of other transport provisions** (with social savings of €0,41 and €0,51 per km when switching respectively from car and public transport to cycling). Cycling has also been shown to improve the local economy: real estate values increase when car traffic decreases and cycling and walking increase[4]. Bikenomics show that Utrecht thanks to cycling saves ca €250 mln a year.

When Amsterdam, Copenhagen and Munich decided to embrace cycling, the goal was not merely to encourage a natural mode of transport but to find an **effective response** to the alarming growth of traffic congestion and pollution, occupation of public space, and lack of safety. They wanted to create the conditions for more hospitable places where economic and social activities could unfold without absolute dependence on private motorised vehicles. The following before and after images of our three CCs express these ideas:


Amsterdam, Eerste van der Helstraat in 1978


Amsterdam, Eerste van der Helstraat in 2016


Copenhagen, Nørrebrogade in 1970s


Copenhagen, Nørrebrogade in 2016


Munich, Mittlerer Ring on a normal day


Munich, Mittlerer Ring on a campaign day

Back in the 1970s and 1980s, Amsterdam, Copenhagen and Munich struggled with the **same problems** that many European cities still face today. Particularly in Copenhagen and Amsterdam, well-timed social movements and key

[4] Decisio, Study carried out for the Ministry of Transport in the Netherlands, 2012.

political events catalysed the decision to prioritise human safety, health, environmental quality and vibrant street life. Over the last few decades, these 3 cities found the courage to embrace **cycling and high quality public spaces** as the **way forward**. As a result of this hard work, cycling has become a policy beacon embedded in a vision that has included interventions in public transport promotion, provisions for walking, reclaiming of public spaces, access management, road use and traffic prioritisation of active modes, speed control, and the advent of ITS novel platforms for the integration of mobility services.

Today, our CCs are considered **role models** by many other cities worldwide. Using cycling as an **icebreaker**, they have been able to influence the mentality, mobility habits and overall lifestyles of **administrators, residents and tourists alike**, reducing car congestion, reshaping the form, size and quality of public spaces, sustaining the vitality of the local economy, and becoming attractive cities that entice people and businesses. In Copenhagen and Amsterdam, cycling is part of everyday life, something that goes unnoticed altogether as it seems to have always been there. When asking an *Amsterdammer* or a *København*er what cycling is to them, the reaction is usually of surprise. It is not infrequent to hear:

"Well, I never really thought about it, I guess just like water for fish!"

The phenomenon is such that today the role of cycling has become a derived demand, as there are now **more bikes than cars** entering the centres of both Copenhagen and Amsterdam.

Strengthened by this past and present, Amsterdam, Copenhagen and Munich are now ready to collaborate in an international transfer initiative of this scale and ambition for the **very first time**. The project will leverage their already extensive and hands-on coaching experience (as world-renowned front-runners in the cycling domain they are regularly visited by delegations of cities interested in studying local approaches) to enhance the knowledge exchange and capacity building schemes that HANDSHAKE will use to empower its transfer process.

Apart from inspiring change in other European cities, HANDSHAKE will also offer the 3 CCs the opportunity to exchange experiences with each other, sharing information on local conditions, empirical evidence, data collection and processing, running and envisioning projects, barriers, working business models and emerging innovations (in terms of orgware, software and hardware). Like in sports, measuring up with other leaders only helps **raise the bar** even further. We thus expect that the collaboration in this project will push the **cycling frontier even further** than where it would be without it. As shown in the next few descriptions, early evidence can already be seen in the innovative pilot solutions that the 3 CCs will **co-develop** thanks to HANDSHAKE.

Cycling in Amsterdam

There was a time, in the 1950s and 60s, when cyclists were under severe threat of being expelled from Dutch cities by the growing number of cars. It is thanks to fierce activism and a number of decisive events that Amsterdam succeeded in becoming what it now unquestionably is: the bicycle capital of the world.

Until the early 70s the priorities in Amsterdam were cars and public transport; the presence of private vehicles in the city was encouraged with several investments. Connected with the presence of car traffic, the number of casualties rose to a peak of 3,300 deaths in 1971. More than 400 children were killed in traffic accidents that year.

The first cycling revival started during the 1970s when the political movements Provo and Stop de Kindermoord drew attention to this mode of transport. Even if the quality of infrastructure was very low, the founding of the Cyclists' Union led to increased bicycle use.

In the 80s, the policy approach changed and Amsterdam started to invest in new bike lanes; added to the flat terrain and the mass production of affordable bikes, cycling became an attractive mode of transport.

In the 90s with the increase of car ownership, car use started to be seen as a problem for cycling, especially in large urban areas such as Amsterdam. The city decided to reinvest car parking fees in cycling infrastructure. While in past years cycling and public transport were in competition (due to the inexpensiveness of public transport), in these years they started to support each other, becoming a single integrated system.

In the new millennium, cycling became an integral part of Dutch society and a solution to congestion, even for longer commuting distances. Over the last 20 years, the modal share of cycling has increased rapidly and this popularity has become a challenge for the city, given the high demand for new bike parking at stations and the bike congestion in city centres. During the HANDSHAKE project, Amsterdam will focus on:

- Facilitating growth, giving more way to cycling but with less stress.

- Better understanding of behaviour and innovation.
- Better parking solutions.
- Better decision-making with more data and better methods (transport models, CBA).

To do so, the city is interested in sharing knowledge of best practices and learning from similar pilots in other cities with data collection plans, applied transport models and ITS technologies.

Cycling in Copenhagen

The shift away from the car-oriented strategy that had dominated the post-war era started during the 1970s. Even if an increase of population in the suburbs led to an expansion of car ownership and traffic, the protests from the public against the automobile city in a context of a financial crisis influenced the political decision. The plan to build a connected highway network in central parts of Copenhagen failed, and the central government stopped investing in road development and gradually reduced speed limits in the streets. In addition, alternative models of urban planning were being developed (e.g. Jan Gehl's "Life between buildings"), influencing the role and use of streets.

From 1970-1995, due to the economic recession and fiscal debt, the level of car traffic stagnated and bicycle traffic doubled. The city reacted with several interventions, such as more suitable streets for car traffic and traffic calming measures on smaller roads, new cycling lanes and pedestrian areas, an increase of safety at intersections, "green light" traffic management at the city's borders and a dramatic reduction in the number of parking spaces.

A rebranding of cycling as flexible, reliable, faster and healthier, rather than associated with poverty and pre-war mobility, helped to create a new image of the bike in a city with a great and strong biking tradition.

In the 1990s Copenhagen reinvented itself as a European Green City. With the support of the central government, income from land sales, and EU structural funding, large-scale urban regeneration programs and new investments in public transport were introduced. The building of the bridge between Copenhagen and Malmö (Sweden) forged a new image of the city as the main strategic hub for and gateway to Scandinavia.

From 1995 to the mid-2000s, car traffic increased and the number of kilometres driven by car in the inner parts of the city increased by 20%. New work spaces outside Copenhagen led to more commuting out of the city, and thus an increase in congestion. However, the city continued to invest in cycling, introducing green cycle routes and extending the metro and the network of bicycle paths.

Over the next few years, despite growing numbers of car owners and inhabitants, car traffic once again started to decrease. This was due to the number of passengers that shifted to the metro and to the competitiveness of bicycles and public transport vis-à-vis cars. Bicycles were now allowed in S-trains without extra costs and a regional network of cycling super highways was established.Urban planning and design also played a role, making the city more accessible to cyclists and pedestrians and reducing the need for cars. An active urban marketing strategy contributed to brand "Copenhagenization" as a design strategy and bicycling mainstreamed policy.

Over the recent period, despite population growth, car traffic has been decreasing and in 2016 bicycles outnumbered cars in central Copenhagen. The city has continued expanding the network of bicycle paths and facilitating the crossing of the harbor with new bridges.

Today, increasing urbanization and a growing population in Copenhagen has put pressure on urban spaces. Copenhagen faces congestion in several bicycle lanes during rush hour traffic and bicycle parking is not sufficient at many stations and in the inner city. The political goal is to increase the percentage of commuters who cycle to work or school to 50 % in 2025 (it was 41 % in 2016). During HANDSHAKE, Copenhagen will test and develop:

- Infrastructure designed for cyclists.
- More (multifunctional) bike parking, especially at stations.
- Extensive data on cycling to identify traffic patterns and to strengthen political decision-making.
- A socio-economic assessment of cycling investments and infrastructural projects.

The main objectives in HANDSHAKE are to share best practices within cycling (physically, methodologically and organisationally) in order to further increase cycling levels in Copenhagen.

Cycling in Munich

Post-war turned Munich into Germany's economic powerhouse, proud of its car industry with BMW in the lead. In 1960, 100.000 people commuted to the city by car and public transit daily. In the wake of the 1973 oil crisis and the environmental debates around the UN 1972 summit in Stockholm, cycling activists presented cycling as a viable mobility alternative for the city. Munich residents started to cycle more. For that reason, the city started to allocate

a dedicated budget for installing bicycle paths and assigned to 4 within the mobility department the responsibilities for cycling issues.

In June 1978 and in May 1979, over 2000 cyclists respectively, including young activists and entire families, took to the streets demanding a green road network for cyclists and pedestrians and a more cycling friendly city. Following Dutch and Danish examples to represent ordinary urban cyclists and to enlist activists, traffic experts, and (local) politicians, local organizers established Munich's ADFC (German Cycling Association) in 1981.

Alarmed by these citizen initiatives, the policy paradigm shifted gradually. To increase urban cycling in the 1980s and 1990s, Munichs authorities started a cycling lane policy. For the first time, the city facilitated urban cycling as long as these did not impact cars and public transit. Munich's 1983 urban development plan addressed traffic calming and quality of life aspects; encouraged walking and cycling; and improved traffic safety. In 1986 the city council decided to design the first 'Transport Development Plan – Bicycle Traffic' as basis for the development of a cycle path network. Three years later the first cycling map was published.

1994 was the year of the installation of the first public bike sharing system ('Call a bike') developed by founders of Green City, a key environmental association in Munich, and became owned by the German railway six years later.

The strategic importance of cycling found also in Josef 'Hep' Monatzeder (Green Party) a 'cycling mayor' that guided the city from 1996 to 2004. At the end of the 90's and at the beginning of 2000 several measures were implemented to avoid car traffic and shift towards eco-modes. In 2003, the city council decided to invest another 75 million euro over the next 15 years to improve the cycling lane network. The council also expressed the ambition to turn Munich into Germany's cycling capital. In 2010 the city launched a bicycle marketing campaign with the slogan 'Radlhauptstadt München' which should underline the own approach to become the most bike-friendly big city in Germany. The campaign includes the following main activities: i) bicycle safety checks and cycling tours for new residents (regular service offer); ii) big bicycle flea market once a year and bicycle-culture-festival once a year (in springtime); iii) cycling parade once a year ('Radlnacht' as most popular event); iv) participation events e.g. photo or film competitions; v) bicycle fashion shows; vi) school activities e.g. an annual 'check your bike' program; vii) official website with information on current events and activities and various printed materials. By 2000, the cycling share in Munich's modal split was 10%. By 2011 it had increased to 17%.

In 2013 the city decided to widen winter service activities on cycle paths and updated again the bicycle masterplan (new goal: increasing the share of bicycle traffic to 20 % by 2015). In the following year the city increased again the cycling budget for bicycle traffic (10 million EUR/year) and permanent marketing campaigns (800.000 EUR/year).

In 2017 the city launched 3 new pilot projects (testing a 'green wave' for cyclists, giving right of way to cyclists on bicycle streets, testing a green arrow sign for cyclists) and established a new staff position for bicycle traffic with the following responsibilities: bicycle commissary and coordinator for citizen's concerns relating to bicycle traffic.

Within the HANDSHAKE project the main objectives Munich wants to reach are:

- Improve cycling facilities and safety.
- Match challenges in signalling bicycle traffic.
- New ways of data collection and evaluation in cycling (with ITS methods).
- Workflow between political decision makers and administration/ successful administrative structures.
- Socio economic assessment methods of cycling investments.

Overview of the cycling solutions of the CCs

The next figure provides an overview of two types of solutions:

1. Cornerstone solutions in the cycling trajectory experienced by the CCs. The FCCs are required to pick from and implement these according to their approaches, needs and stages of development.
2. Innovative solutions that will be developed and rolled out by the CCs, thanks to HANDSHAKE. These can serve as a source of inspiration, especially for the more advanced FCCs.

CC	Historical cornerstone solutions	HANDSHAKE innovative solutions
Amsterdam	AMS 1 - National cycling planning and standards	AMS 13 - Wider and higher capacity bike lanes, smaller car lanes. New division of road space: cyclists on main road during peak period
	AMS 2 - Policy framework for separate cycling lanes and priority for cyclists at intersections	AMS 14 - Connection of cycling network residual missing links. Assessment of new North/South cycling bridge investment over the IJ river

	AMS 3 - Creation of complete and quality network for cycling, with traffic calming measures	AMS 15 - ICT system for cycle traffic flows improvement and cycling prioritisation at intersections
	AMS 4 - Progressive reduction of car parking supply	AMS 16 - Assessment of the effect of campaigns on cycling behaviour: the new way of cycling
	AMS 5 - Progressive land use densification and integration of mixed-uses, cycling integration with other modes, particularly with the train (e.g. cycling parking at stations, on-board access)	AMS 17 - Smart mobility and cycling: app to find free bike parking places at intermodal hubs
	AMS 6 - Progressive extension of main cycling network to the regional and national level	AMS 18 - Bicycle parking solutions that are space-effective and/or multifunctional: test flexible use of parking places
	AMS 7 - National bike-sharing system at train stations	AMS 19 - Assessment of new comfy cycling routes (experience by cyclists, speed, safety, etc.)
	AMS 8 - Progressive priority given to cycling in traffic	
	AMS 9 - Progressive reduction of car mobility on the main cycling network, with creation of car and bike networks	
	AMS 10 - Systematic improvement of cycling parking facilities and high-quality public spaces	
	AMS 11 - Socioeconomic assessments of investments in cycling	
	AMS 12 - Appointment of a cycling Mayor	
Copenhagen	CPH 1 - Infrastructure standards for cycling lanes and intersection design	CPH 11 - User-driven prototype tests as an innovative method to develop new concepts for campaigns, way finding solutions and bicycle parking
	CPH 2 - Bicycle bridges and super cycle highways	CPH 12 - Intelligent solutions for dynamic street lighting, right turn warning lights, data collection and flexible way finding
	CPH 3 - Integration of cycling with other transport mode (e.g. bike access in regional trains, metro and taxis)	CPH 13 - Customised traffic modelling tools developed to calculate bicycle traffic capacity and flow
	CPH 4 - Intelligent signal management	CPH 14 - Behavioural change via nudging and smart data
	CPH 5 - Modelling of cycling traffic	CPH 15 - Bicycle parking solutions that are space-effective and/or multifunctional
	CPH 6 - Expansion of cycling facilities via urban development by regulations in municipal plans and co-financing by private developers	CPH 16 - Socioeconomic assessments of investments in cycling
	CPH 7 - Differentiated networks of dedicated cycling infrastructure with specific standards (e.g. separated cycling lanes, regional super cycle highways, green cycle routes)	
	CPH 8 - Socioeconomic analyses	
	CPH 9 - Systematic assessment of cyclists' satisfaction	
	CPH 10 - Systematic assessment of safety perception vs actual traffic safety (e.g. in intersection design)	
Munich	MUN 1 - Cycling marketing, promotion and campaigning for behavioural change (i.e. cycling image for emotional identification, contests & challenges, users' involvement)	MUN 4 - Awareness campaigns to improve traffic safety (temporarily closing and visually highlighting a crossroad to visualize hazardous areas)
	MUN 2 - Road safety awareness campaigns	MUN 5 - Improving comfort and service for cyclists (e.g. by installing air pumps and self-service stations)
	MUN 3 - Mobility education for families, children and young people	MUN 6 - Web-based reporting tool to locate danger areas (objective and subjective) and damages to cycling facilities

Our Future Cycling Capitals

HANDSHAKE works with 10 FCCs that have been selected based on to their explicit commitment[5] to:

[5] See Letters of Commitment in the Annex.

- **Steer and deliver cycling transformation**. This is substantiated by: i) the existence of a strategic vision in which cycling already plays a central role, ii) strong political support, iii) local staff who are willing to cooperate in an international environment, and who are determined to deliver on their objectives in HANDSHAKE.
- **Embrace and execute the innovative transfer programme** designed by the project in order to foster a cost-effective roll-out and scaled-up deployment of cycling solutions after project termination. In HANDSHAKE, the solutions will be implemented in specific (or multiple) urban areas as appropriate in each follower city.
- **Identify and invest the necessary co-funds required for change**. Although cycling-based policies and solutions typically require relatively small-scale investments, effective change still requires access to adequate levels of funding. HANDSHAKE will provide a portion of these funds; the rest will be locally generated by cycling budgets already in the pipeline (see next table).

Because of the high profile of our CCs, the innovative nature of the transfer approach, and the booming appeal of cycling in general, HANDSHAKE has attracted widespread interest across Europe. Given the demanding nature of the chosen approach and the budget constraints of the MG-4.1-2017 Call, we decided to limit participation to 10 cities, making sure to guarantee a reasonable **geographical and socio-cultural balance**.

The many other cities that expressed interest in joining the project will nevertheless have access to the knowledge, findings and guidance produced by HANDSHAKE, as will the cities around the world that are keen on pushing cycling forward. Exposure will be ensured by the **dissemination component** of the project, which will be rich in news, events and publications (see WP5 in the work programme for details), as well as by collaboration with other **channels** that the project partners can leverage, including ICLEI's global network, the Dutch and Danish Cycling Embassies, the German Cycling Federation, relevant EU and non-EU networks (e.g. POLIS, ENERGY CITIES, EUROCITIES, NATCO, EPOMM), and other relevant EU projects in H2020 and INTERREG (Bicy, Bike2work, Civitas Flow, Civitas Trace, Cycle Cities, Pasta, Presto, Ptp-Cycle, Xcycle).

The inspiration and transfer process

Building cities that are increasingly more sustainable, efficient, equitable and resilient is a daunting task, one that requires searching for innovative solutions for appropriate customisation and replication. City and community leaders, including politicians, transport and urban planning professionals seek inspiration and guidance from other cities' successes and learn from their failures.

The consortium's vast experience in knowledge transfer projects indicates specific methods and processes that consistently provide successful results. With HANDSHAKE, we pledge to deploy a coherent knowledge transfer programme using proven methods previously applied in national and international contexts.

The novelty of the approach lies in the fusion of **several transfer-conducive components** into a **single logical sequence** that accompanies cities through a phased work programme in which holistic assessment and social engagement play a major role. As mentioned above and as is further illustrated in Section 1.4 (Ambition), we offer cities the possibility to work with methodologies and cycling solutions that are being used across Europe in advanced settings. Specifically, HANDSHAKE is designed to enable cities to:

A. Assess the local **cycling conditions**, and build and/or validate a cycling vision accordingly, with the assistance of Amsterdam, Copenhagen and Munich. This means taking into account urban conditions, key objectives, expected barriers and opportunities.
B. Appraise the **alternative scenarios** available to tackle the identified objectives; gauge ex-ante (with Bikenomics) local determinants, expected impacts, social costs and benefits, as well as the opportunities and limitations of the various possible approaches; and select the solutions and business models to be transferred accordingly. In doing so, the CCs will compare approaches and solutions and the FCCs will be able to draw from the vast body of knowledge produced by decades of practice in the CCs, as well as state of art information supplied by SURF Cycling Futures, the Dutch Cycling Embassy, the Danish Cycling Embassy, the German Cycling Federation.
C. Receive **hands-on inspiration and capacity** through a variety of tools, including: immersive study tours in Amsterdam, Copenhagen and Munich, and immersion symposia in the FCCs. The immersive study tours will be modelled on the PeopleforBikes[6] blueprint to combine multi-modal experiential travel (train, bus, bike, foot),

[6] The PeopleForBikes Coalition and Foundation is a US-based non-profit that includes executives from top companies in the bicycle industry and influencers with extensive experience in bicycle advocacy, which aims to make cycling better for everyone. One of the most successful tools used by PeopleforBikes is the study tour blueprint, which conceptualises an approach and contains practical suggestions and lessons learned for maximizing the value of study tours. The blueprint has been successfully used in the Netherlands (https://b.3cdn.net/bikes/22a3174488300478f0_mlbr486gz.pdf).

professional networking and knowledge exchange with peers, hands-on site visits, bike rides, and facilitated debrief sessions to frame a rolling conversation about how to make and manage change in the home city; and facilitation of the transfer process by applying the Transition Management approach. They are expected to assist in overcoming lock-in mobility dynamics, stimulating change and acceptance, and accelerating cycling transformations, and will include interactive workshops and engagement tools (as detailed in WP3).

D. Adapt and roll out the selected **cycling solutions** in the target implementation area of each FCC. This activity will be sustained by the previous inspiration and by continuing mentorship from the CCs, as well as by support from the project specialists. With the mentorship scheme, Amsterdam, Copenhagen and Munich will both give and receive, enriched by their access to different cultures, planning traditions and problem-solving perspectives.

E. Deliver **Cycling Action Plans** in each FCC in view of post-project scale-up across the rest of the urban areas. This activity, which includes critical aspects such as governance, social engagement, financial plans and timelines, feeds previous ones and is supported by the CCs.

It is worth noticing that the illustrated transfer approach is **customisable** depending on local circumstances. Each component will be **modulated in intensity** based on the needs of the FCCs, their prior experience and current capacity, target objectives and available resources. The initial assessment phase will determine the course of action in each FCC, with a definition of both the sequence of steps and the timescale.

City	Popul.	Modal share	Lanes (km / %)	Cycling plan	Cycling budget (€/person)	Bike sharing	Dedicated cycling office	Safety campaigns	Awareness campaigns
Bordeaux	760.956	8%	1,125	Plan Vélo Métropolitain	23	Y	8 employees	Y	Y
Bruges	118.053	45%	135	Bicycle plan	0,5	Y	1 bicycle manager	Y	Y
Cadiz	123.948	1%	13,3%	Framework agreement	0	N	N	Y	Y
Dublin	553.165	6%	15%	Cycle Network	10	Y	Promotion officer	Y	Y
Helsinki	629.512	10%	30%	Cycling plan	15	Y	1 Coordinator 3 employees	Y	Y
Krakow	762.448	4,3%	14,5%	2 documents	8,5	Y	3 offices (infrastructure, plans & maint., soft measures)	Y	Y
Manchester	541.300	2,4%	6,5%	Cycling Strategy	11,3	Y	2 offices (infrastructure and active travel)	Y	Y
Riga	641.423	N.A.	6%	Cycling Dev Concept	0	N	N	N	Y
Rome	2.877.215	1%	3%	Cycling Plan	3	N	Cycling office	Y	Y
Turin	886.837	3%	15%	Bicycle Master Plan	2	Y	Bicycle Office	Y	Y

Cycling in Bordeaux - France

Main cycling challenges

Bordeaux is convinced that it is necessary to support cycling modal share without limiting involvement in HANDSHAKE to the Mobility Department (technicians + representatives). The city needs to spread this vision to people who are in charge of infrastructure and ensure that they are considering the cycling aspects in all the projects that have to manage.

Objectives and expectations

The political willing is very strong and Bordeaux wants to turn their political vision into reality. This ambitious programme needs to be following by acts and thank to HANDSHAKE the city is going to do it in the best conditions. The political vision is the first step and Bordeaux has it; now they are going to the second step with the best CCs.

Bordeaux needs to get the right argument and **be sure that the political vision is followed by acts** (cycling planning). In addition to improve and expand its cycling network, the main projects the city wants to develop are an educational cycling lane, massive cycling parking facilities and a revised guide on cycling planning with new standards. HANDSHAKE will offer the opportunity to learn from the CCs about **costs, key implementing milestones**

and best practices. Thanks to Bikeconomics they will be able to assess the costs and benefits and the costs of the projects to know the investment cost the city needs to mobilize.

Cycling in Bruges - Belgium

Main cycling challenges

The fact that Bruges is a UNESCO-protected world heritage city poses challenges for urban development and for infrastructural investments in the city centre. For example, road infrastructure in this historic city is not comfortable because of cobble stone requirements, there are also missing links in the bike network and in the connection to the hinterland. Nevertheless, Bruges is already the number one bike city in Flanders, which means there is a need to invest in bike infrastructure, along with education, awareness raising and sensitization (regarding road safety, bike parking opportunities, less car use).

Objectives and expectations

Bruges sees HANDSHAKE as an opportunity to push cycling in Bruges to the next level. Thanks to the support and knowledge exchange of the CCs, Bruges will be able to take innovative steps within a shorter time frame. Bruges intends to identify missing links and to adjust intersection. Apart from that, the city plans to implement a bicycle bridge, but also to gain further knowledge for construction and know-how on communication strategies.

Cycling in Cadiz - Spain

Main cycling challenges

The city is convinced that using the bicycle as daily transportation can only bring benefits, and so they have started to build the first kilometres of bike lanes. Cadiz knows it will have to fight social resistance (users, local shops, restaurants, leisure and commercial activities) and it is concerned about how to change people's relation to the main mode of transport in the city, the private car.

Objectives and expectations

Cadiz's main objective is to gain knowledge and experience in three areas:

- Education and awareness campaigns.
- Traffic modelling to prevent side effects in other areas of the city, resulting in an adequate transition towards a better city and avoiding negative repercussions in the other modes (mainly pedestrians and public transport).
- Intelligent traffic systems and other Smart mobility solutions (for parking, bicycle prioritization, navigation, environment, improvement in safety and comfort, tourism, etc.).

Cycling in Dublin - Ireland

Main cycling challenges

Dublin had a target of having a mode share for cycling of 15% by 2017 and instead the mode share in 2017 is 6% therefore it has fallen short of its targets. While this represents a tripling in cycling over the last numbers of years it still does not meet its targets.

A lot of big cycling infrastructure is being delayed due to difficulties in getting consensus between cycling campaigners, politicians and the City Council on what type of cycling infrastructure is need and locations for. This has in turn delayed and continues to delay some badly needed cycling infrastructure where funding is available to implement. This will become more and more of an issue as funding for cycling infrastructure is greater than that which at present can be spent.

Objectives and expectations

Dublin would therefore like to use this project to:

- Be able to apply the knowledge and experience of the frontrunners to achieve consensus on cycling infrastructure in the Dublin context.
- Assist the elected members to better understand the importance of cycling as a transport mode.
- Provide the tools and experience for a better more fruitful public engagement process around cycling infrastructure.
- Bring our experience from the EU Flow project to multi modal modelling for cycling infrastructure.

Cycling in Krakow - Poland

Main cycling challenges

Cycling in Krakow is getting more and more popular, although **people still consider car ownership to be an indicator of success** and also do not appreciate the full value of cycling (such as its health, social and economic benefits). The Cycling Capital cities were also in this situation once, and yet managed to adopt cycling as a main form of transport.

Objectives and expectations

The City intends to improve cycle parking and to provide high-quality spaces. This goes hand-in-hand with awareness-raising and education campaigns, which is Krakow's main focus. The city will also look at **socioeconomic assessments** of investments in cycling and the perceived feeling of safety, along with actual **traffic safety**. Public-private collaborations focusing on the **promotion of cycling** is a further solution the city wants to implement.

Cycling in Helsinki - Finland

Main cycling challenges

Helsinki needs to be able to **build its infrastructure faster and more efficiently**. This is the main area of focus, which they are looking to improve by learning from the best.

Objectives and expectations

Helsinki (Finland) will mainly focus on prioritising **bike traffic**, adding **cycle parking, planning cycle highways**, and updating traffic signal management in favour of cyclists. This will help the city **streamline and accelerate its transformation** and become one of the best cycling cities in the world.

Cycling in Manchester - UK

Main cycling challenges

Manchester is already implementing an ambitious package of cycling investments. However, more work is needed to maximise and fully exploit the future opportunities that will **encourage and enable more residents and visitors to utilise cycling for their everyday trips**. Manchester is looking to learn from other cities' experiences and initiatives, to aid in the ongoing implementation and development of our active travel goals.

Objectives and expectations

The City of Manchester plans to further invest in cycle parking solutions and to make cycling smarter, for example, by using apps. Differentiated networks of dedicated cycling infrastructure with specific standards, and integrating cycling in multimodal solutions such as e-bikes, cargo-bikes, and MaaS are further solutions the city wants to work on. Apart from these hard measures, soft measures like awareness-raising campaigns, including the testing of new concepts for such campaigns, are key measures to be transferred.

Cycling in Riga - Latvia

Main cycling challenges

Latvia, and its capital city, Riga, has **no deep-seated traditions for active cycling** and most people do not use the bicycle as their everyday transportation mode. That said, an understanding of the link between cycling and green and healthy living is increasing among inhabitants. At the moment, the greatest challenge is the **lack of good, well-connected, safe cycling infrastructure**. Smart planning of the cycling network and its missing links is urgently needed for the city. **Awareness raising is necessary for all groups of road users** (drivers, bicyclists, pedestrians and public transport users), to teach them the principles of mutual understanding and safe road movement.

Objectives and expectations

Riga hopes the project will teach them to apply **innovations and wise planning strategies** to create **practical and safe cycling route networks**. They want to be able to introduce accurate planning of cycling traffic and networks and to plan the missing links for cycling routes, mostly in the city centre, which is currently overloaded with cars. Using several modelling variants would help the city find the most appropriate solution.

Cycling in Rome - Italy

Main cycling challenges

The lack of cycling culture and proper infrastructure, added to the influence of decades of car-oriented policies by local authorities, has led to one of the **highest car ownership rates in Europe** (630 cars per 1 000 inhabitants) and one of the **lowest cycling rates** (1%). The intensive use of private vehicles is responsible not only for **environmental costs**, but also **economic losses**, since Roman citizens lose 135 million hours in commuting.

Objectives and expectations

The new administration's intention is to place cycling high on their political agenda and develop and implement an integrated policy on cycling. The aim is to make Rome a more liveable place for residents and tourists by investing in bike lanes, intermodal solutions, bike parking and awareness-raising campaigns. Rome has a huge potential for sustainable urban mobility to tap into. **Cycling** is definitely an **investment in health and productivity,** and the city sees the HANDSHAKE project as an opportunity to break down its cultural barriers.

Cycling in Turin - Italy

Main cycling challenges

Cycling in the city of Torino is growing steadily, despite the lack of large investments. The mostly **car-oriented mobility**, build up in decades of **street design planning,** is now shifting to a more balanced modal mix.

The city has one of the highest levels of car ownership in Europe, which means that public areas are congested by residents' cars, making it hard to find space for separated bike lanes. The city approved its strategic cycling mobility plan in 2013, with the objective of 15% bike modal share by 2020.

Objectives and expectations

Turin will draft a traffic calming manual and a bicycle master plan, taking into account Bikenomics, infrastructure standards for **cycling lanes**, **intermodality**, a real-time monitoring **system and intelligent solutions** for dynamic street lightning. The city will also carry out **campaigns for behavioural change, education for families, children and young people**, and bicycle-friendly solutions for mass events.

Overview of the cycling solutions for the Future Cycling Capitals

The next figure provides an overview of: i) the **mentorship scheme**, ii) the **immersion tool** (IST = Immersive Study Tour or IS = Immersive Symposium), iii) the **transferred cycling solutions** for each FCC by the cornerstone policy categories for a sound cycling strategy.

City	Mentor	Immersion	Planning, Regulations & Standards	Infrastructure & Services	Modelling & Assessments	Awareness & Communication
Bordeaux	AMS	IS with CPH, AMS, MUN	AMS2, AMS8, AMS9	AMS3, AMS10, AMS14, CPH1	AMS11, CPH8	MUN3
Bruges	AMS	IS with CPH, AMS, MUN		AMS3, AMS14, CPH2		MUN3
Cadiz	MUN	IST in MUN	AMS1, AMS15, CPH4	AMS3, CPH1	CPH5, CPH10	MUN2, MUN3
Dublin	AMS	IS with CPH, AMS, MUN	AMS3, AMS8, AMS15, CPH12	AMS4, AMS18		CPH14
Helsinki	CPH	IS with CPH, AMS, MUN	AMS8, CPH4	AMS10, CPH2, CPH7		
Krakow	MUN	IST in MUN		AMS10, CPH10	AMS11	MUN1, MUN2, MUN3, MUN4
Manchester	CPH	IST in CPH		CPH7	CPH11, MUN6	CPH14
Riga	CPH	IST in CPH	AMS8, AMS9, CPH4	CPH7	CPH5	MUN2
Rome	AMS	IST in AMS	AMS5	AMS3, AMS10		MUN1, MUN3, CPH14
Turin	AMS	IST in AMS	CPH3	AMS3, AMS18	AMS11, CPH5	

Methodology

The work programme rolled out by HANDSHAKE rests on the following methodological architecture:

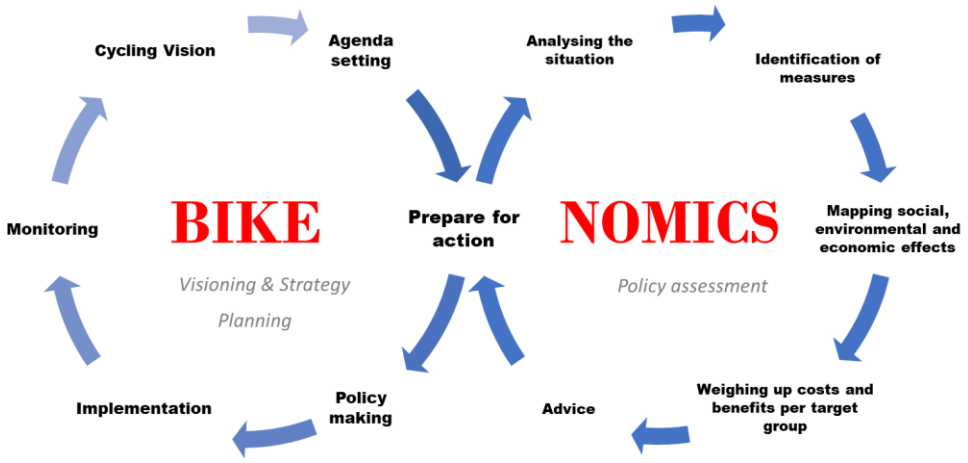
Work programme section	Empowering methodology
Prepare for action (WP1)	Bikenomics
Action in the Cycling Capitals (WP2)	Innovation hunting
Action in the Future Cycling Capitals (WP3)	Immersive study tours and Immersive symposia Transition management
Monitor, assess and compare (WP4)	Bikenomics
Share and disseminate (WP3, WP6)	UN-Conferences, Agape Lunches, World Cafès

Bikenomics: Evaluation & monitoring methodology

The need to invest "the right way". Unlike the past, European cities are becoming increasingly aware of the multiple benefits of cycling compared to the relatively low investment costs. As a result, budget for bicycle plans and projects is rapidly growing. Despite this positive trend, both in countries that have a long bicycle planning tradition – such as the Netherlands and Denmark – and in those that have a more recent cycling history, projects are not regularly evaluated in a comprehensive way[7]. This has led to inadequate and sometimes inefficient allocations of resources with ineffective and, sometimes, negative results. In some contexts, for instance an increase in the supply of infrastructure has not been met by the expected increase in demand. This is the case for Italy that, despite the doubling of the number of kilometres of bicycle paths since 2008, the modal share has been stagnating[8]. On the other hand, cities such as Amsterdam are knowing a rapid increase in the number of bicycle trips but current infrastructure is unable to cope with the rising demand, causing bottlenecks and unsafety situations[9]. In addition, and similarly to other domains, evaluation in bicycle plans and projects tend to come at a too late stage of the process when (potentially sub-optimal) decisions have already been made. Hence, many of the potentials benefits of cycling may either be hindered or even fail to materialise when investments are not thoroughly appraised before and after the implementation. We need a way to invest, "the right way".

HANDSHAKE has the ambition to maximize the positive socio-economic and environmental impacts of different cycling solutions compared to their costs by appraising, testing, monitoring and evaluating transferred solutions during all stages. Given the diversity of solutions and contexts of applications, the methodology must be flexible enough to adapt to local needs and to be able to capture a wide variety of impacts, that include both quantitative and qualitative effects on different domains and target groups. For these reasons, HANDSHAKE experts propose a beyond state-of-the-art **"Bikenomics"** methodology to support cities in every step of the process: from problem framing, definition of alternatives, selection of efficient and effective measures and monitoring. This is a comprehensive approach that draws from previous successful experiences of application in The Netherlands and integrate cross-national best practices. It combines standard welfare analysis techniques – such social cost-benefit analysis and economic impact assessment – with other qualitative and quantitative methods to provide the partner cities and the European Commission with rational and holistic insights about the welfare effects and social impacts of Handshake in multiple socio-cultural, organisational, economic and environmental domains. Furthermore, by assigning a weight (in monetary values as much as possible), local city decision-makers and cycling leaders will be able to test, optimise and justify in a rational way pro-cycling solutions. Ultimately, Bikenomics will enable the identification and selection of solution that are both effective (in terms of dealing with the problem and reaching local goals) and efficient (in financial terms) for each context of application by yielding policy-relevant information that can be used by decision-makers to gain insights about the effects of their measures but also as communicative tool to support ambitious decisions.

Bikenomics framework. The Bikenomics methodology supports cities in crafting visions, strategy-making and planning but also in the assessment of plans and measures in an iterative way. See a representation below.



[7] See van Wee & Borjesson, 2015

[8] See Legambiente (2017), https://www.legambiente.it/sites/default/files/docs/rapporto_la_bi_ci.pdf

[9] See SVOW (2015), https://www.swov.nl/sites/default/files/publicaties/rapport/r-2015-21.pdf

HANDSHAKE particularly focuses on the **6 main steps** of the assessment cycle (the right part of the framework):

1. Analyse the situation and problem definition.
2. Identify the measures.
3. Map the social, environmental and economic effects.
4. Weigh up costs and benefits per target group.
5. Analyse social cost-benefits.
6. Advice on the measures to implement.

- Step 1. Analysis of the situation and problem definition. The first step of the assessment cycle entails the reconstruction of the state of affairs (baseline) for each city and the business-as-usual scenario (which represents the departing situation and benchmark against which the effects of the project will be compared). In this phase, both qualitative and quantitative aspects of the demand and the supply are addressed. It considers, for example, some common mobility characteristics of the trip (such as trip structure, modal share, distance, and experience of the trip) and network characteristics (such as length of the infrastructure, availability of parking spots) as well as its quality defined by indicators of directness, coherence, comfort (objective and subjective) safety, competitiveness (vs other modes) and homogeneity (see the monitoring paragraph for a list of indicators). The analysis does not stop at infrastructural aspects but also addresses organisational and planning aspects. By organisational impacts, it scrutinises, in particular, the governance and planning capacity of a city. We define **governance capacity** as a *key set of conditions that enable to find effective and dynamics solutions for governance challenges*. In line with Koop et al (2017), the key conditions or indicators that suggest a capable or less capable governance structure are the presence of an ambitious cycling vision & strategy, strong top-down and bottom-up support, strong leadership, transparent processes and information, clear responsibilities, integration between policy fields, capacity to involve local entrepreneurs and stakeholders, and capacity to mobilise funds. These are briefly described in the table below:

Governance capacity	Description	Operationalisation
Cycling Vision & Strategy	Presence of a cycling strategy with a well-defined and shared problem definition, ambitious vision and goals, effective and efficient measures, transparent and clear implementation plan but also with a good margin for flexibility, experimentation and change.	1 – 5 (where 1. Lack of a specific plan, 5. Strategic plan with all conditions fulfilled).
Political priority	Level of priority and ambition in the local transport agenda and degree of political attention towards the issue of cycling, as well as strong leadership.	1 – 5 (where 1. Lack of attention – full awareness and high level of ambition).
Sense of Urgency	Degree of awareness among citizens and relevant stakeholders about the issue of sustainability in transport which leads to active public demand to undertake action and invest in solutions (such as cycling).	1 – 5 (where 1. No urgency and even resistance towards measures to promote cycling, 5. Active bottom-up support and strong attention)
Transparency	Transparent processes and procedures as well as the extent to which information is made available to the public and in an understandable format.	1 – 5 (where 1. Indicates a lack of transparency. 5 full transparency and accountability).
Stakeholder inclusion	Degree of involvement of relevant stakeholder, clarity in responsibility division and presence means to facilitate participation.	1 – 5 (where 1. Limited and restricted participation to decision-making. 5 – Transparent involvement of committed partners)
Entrepreneurship	Degree of engagement of local (cycling) entrepreneurs in plan formation and governance, and level of trust between public and private sector.	1 – 5 (where 1. Sense of distrust and public-driven governance, 5. Space of innovation and financial and non-financial "protection" of cycling entrepreneurs)
Policy integration	Extent to which objectives and strategies of different policy field are integrated to enable a multi-disciplinary and holistic approach.	1 – 5 (where 1. Highly compartmentalised objectives and lack of integrated strategy, 5. Strong integration between policy fields and common language, vision and means).
Financial capacity	Presence of a budget, capacity to gather and attract additional resources from a wide variety of streams both nationally and internationally (such as parking policy, regional subsidies, National, EU subsidies).	1 – 5 (where 1. Lack of financial resources and ability to mobilize funds. 5. Sufficient budget for ambitious projects and ability to mobilise resources from different

		streams.

On the other hand, we define **planning capacity** *the capacity to identify, test and implement integrated cycling solutions based on measured and well-informed decisions*. Whereby measured and well-informed it is meant the practice of evaluating all available solutions based on a holistic understanding of the problem, using good quality information and finalising decisions based on evidences gathered from experiments and pilots. Finally, it underlies the importance of an integrated approach between transport and other fields (such as land-use planning etc.) and the knowledge and use of innovative technical instruments.

Planning capacity	Description	Operationalisation
Data availability & quality	Availability of data on bicycle mobility, data collection methodology used, infrastructure to collect data and quality of data (such as frequency of data collection, etc.). Data transparency and easily understandable and usable for a broader public.	1 – 5 (Where 1. Data scarcity and poor quality, 5. Comprehensive data is present, not only traffic data but also scenarios, reports and different methods are used to support long-term decision-making choices).
Monitoring & Evaluation	Extent to which monitoring systems are adequate in recognising problematic situations, identifying trends and future developments. In addition, extent to which policies are evaluated in ex-ante and ex-post using both technical and socio-economic and political criteria with assumptions that are open for questioning and possibly changed.	1 – 5 (Where 1. Absence of systematic (and clear) monitoring and evaluation tools & procedures. 5. Adequate smart monitoring and evaluation dashboards are present that enable decisions based on rational-analytical criteria but also flexible assumptions).
Technical and design competence	Extent to which design and technical knowledge is tailored to address the needs of cyclists.	1 – 5 (Where 1. Lack of specific competence, cycling draws from existing expertise which are mainly car-oriented, 5. Cycling-oriented technical and design competences are present, consolidated and figure among international best-practices).
Experiment-driven approach	Extent to which a city has experience with pilots and living-labs to constantly test and learn new solutions.	1 – 5 (Where 1. Lack of experience. 5. City with vast pilots and living labs experience).
Holistic approach	Extent to which bicycle planning is approached drawing from multiple perspective, backgrounds, methods and tools given its transdisciplinary and interconnection with multiple fields (environment, mobility, health, economy, etc.).	1 – 5 (Where 1. Cycling is addressed only from a technical-engineering perspective, 5. Multiple backgrounds and expertise benefit bicycle planning).
Planning integration	Extent to which cycling is perceived as a tool to address other planning and policy fields such as spatial planning, environmental policy, economy, health etc (horizontal integration). In addition, local cycling plans are also vertically integrated with other regional or provincial plans.	1 – 5 (Bicycle planning is relegated to a single department and not vertically integrated, 5 – Bicycle planning is both horizontally and vertically integrated).

Results of the mapping of the organisational situation (planning and governance) are illustrated by means of a spiderweb diagram showing values from 1 to 5 (see the impact section for the results of this proposal phase). The reason for keeping the two issues separated is because different stakeholders are usually interested in either one or the other domain. While politicians usually are more interested in strengthening their governance capacity, city officials might be more interested in their planning capacity.

For the standard problem analysis technique, traffic and mobility data available from the municipality is utilised (and an advice is given on how to collect additional relevant information for the analysis). For the organisational analysis, qualitative interviews, policy document analysis and workshops are used. For the operationalisation and validation of the framework, the evaluator compiles a checklist and a self-evaluation form is given to a city. The results of both are peer-reviewed by the HANDSHAKE Advisory Group to triangulate the evaluation and ensure a transparent scoring. The assumption is that the degree of capacity is given by a high score in all indicators. On the basis of the analysis, a problem definition is established. Although often taken for granted, this is a fundamental step as many cities tend to jump directly to a solution without first adequately analysing what problem they are trying to solve and for what stakeholders something is a problem.

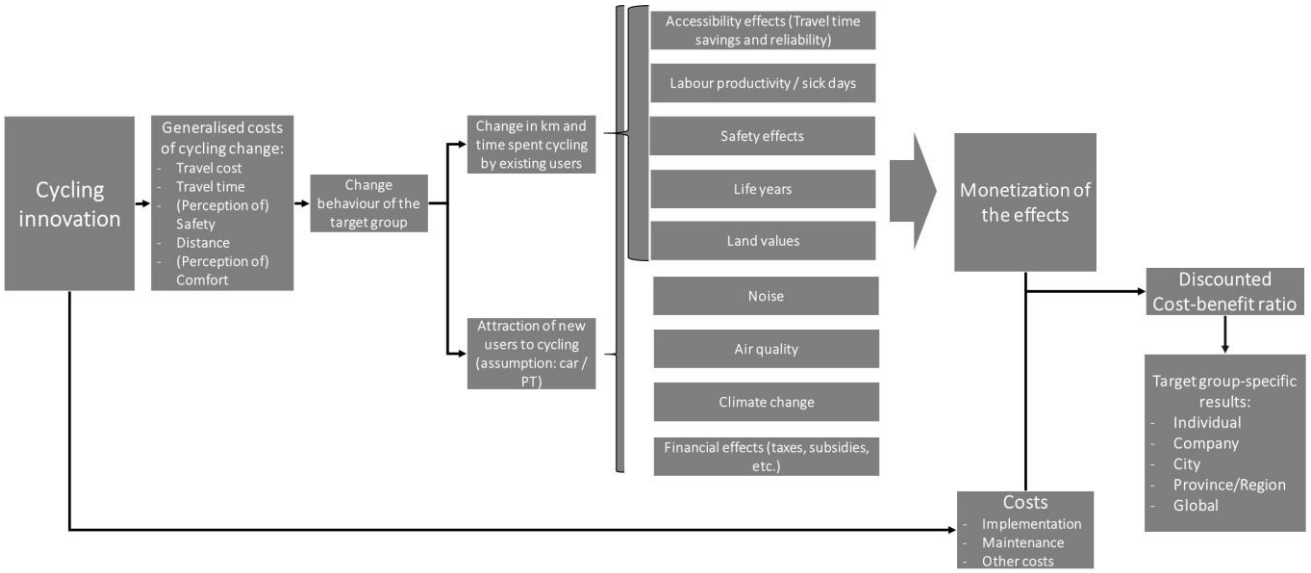
Please note that at the current stage, this step has already been partially made. The analysis will be further deepened and the problem narrowed down for each specific context at the start of the project. Some cities have already specified

the most pressing issues, while others have yet an unclear problem definition and will therefore actively supported in this activity.

- Step 2. Identification of measures. Once the problem and the necessary improvements have been defined, the next step is to identify a set of innovative solutions by drawing from the vast pool of social and technical innovations made available by the 3 Cycling Capitals and tailor them to address local issues. The necessary activities and inputs for the implementations of each measure will also be scrutinised. Activities are all the procedures and processes needed to select, implement, finance cycling solutions in the city (such as public meetings, workshops, political deliberations etc.). Inputs: refer to all the financial (investment costs, maintenance costs, operational costs etc.) and non-financial resources (human resources, time, energy, material resources, knowledge, technology etc.) needed to implement selected cycling innovations. Finally, target groups and scope of the analysis are also to be determined in this phase.

Please note that some cities have already defined some priorities during our preparations, other cities have to clarify what measures to experiment.

- Step 3 and 4. Mapping effects and weighing up costs and benefits. For each alternative, intended (and potential unintended) effects are mapped. Effects relate to both short-term and long-term impacts of each pilot. To clarify a distinction is made between technical and social innovations. While **technical innovation** refer to all those physical measures that have **a direct influence on mobility** (such as the installation of ITS for cycling, smart cycling infrastructures, green wave, bike share systems, etc…), **social innovation** regard all those organisational measures (i.e. how the planning process is structured, what governance arrangements are formed, what information systems are used, how data is collected etc.) that shape the way a city plans for cycling or addresses governance issues and thus have only an indirect impact on mobility. For each measures, outcomes and impacts are determined. Outcomes are the direct effect of a particular measure on either 1) the generalised costs of transport (travel time, cost, speed, distance, etc.) and 2) the physical environment. or 3) behaviour of a target group. Impacts, on the other hand, are the product of the behaviour change of the specific target group as the result of changes in generalised costs of transport or the physical environment. Impacts are measured on society, the economy, the global environment and the governance structures in the defined area and temporal scope. Effects, whenever possible, are quantified and translated into monetary terms. These are then compared to the investment costs using the methodology developed by DECISIO for the Dutch Ministry of Infrastructure and the Environment and in line with the EU cost-benefit analysis methodology[10]. The process of comparing the alternatives is done in a participatory way and assumptions can be revised and object of discussion.



[10] Decisio (2012). Social cost-benefit analysis of cycling:

http://www.fietsberaad.nl/library/repository/bestanden/Decisio_Social%20costs%20and%20benefits%20of%20bicycle_Summary.pdf

Note: this is in line with the EU CBA Guidance (2014 EC (2014). Cost-benefit analysis guidance: http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf

Qualitative effects such as organisational impacts are mapped and quantified using a mix of qualitative and quantitative methodologies.

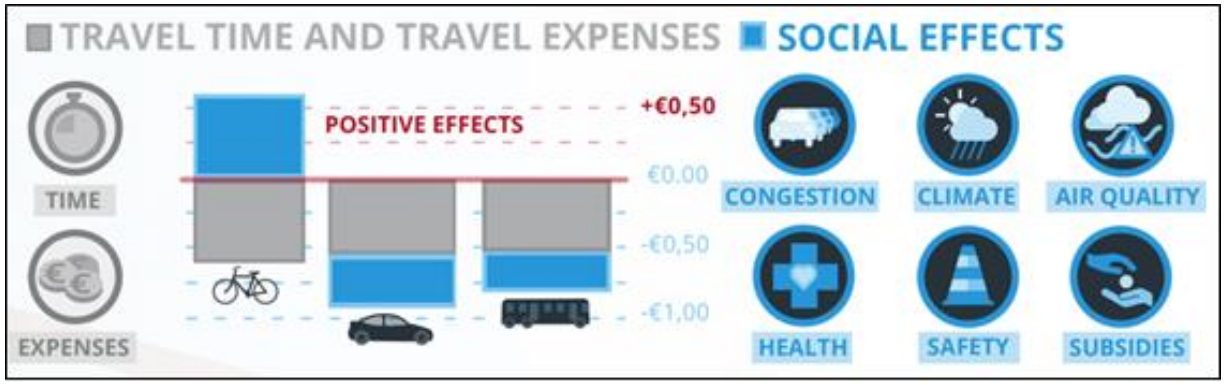
- Step 5. Advice. During the final stage, HANDSHAKE experts provide an expert judgement on the intervention by taking into account not only the output of the (ex-ante) evaluation (cost-benefit ratio or cost-effectiveness) but also on the basis of political feasibility, value acceptability and technical feasibility. The advice is presented in the form of a report to be handed in to each city and will be input of the ex-ante evaluation deliverable. Additional advice is provided with regard to data, organisational aspects and planning and design aspects.

Monitoring. After the decision and the implementation, cities are monitored during the implementation phase and supported in collecting data and filling specific knowledge gaps. Towards the end of the project the baseline is compared to the current situation. Important to note is that given the The full list of indicators is the following:

City and regional governance		
Cycling Vision	Strenghten a multi-modal and long-term cycling vision	Qualitative description
Stakeholder inclusion	Promote bottom-up, decentralised and interactive governance approaches in cycling	Qualitative description
Transparency	Promote transparent and rational decision-making processes	Qualitative description
Flexibility	Enable spaces for social innovation and experimentation	Qualitative description
Awareness and learning mechanisms	Increase awareness about cycling and develop learn-by-doing mechanisms	Qualitative description
Financial viability	Develop capacity to mobilise diverse funds resources	Qualitative description
Competences	Promote integral approaches	
Management	Promote uncertainty-oriented management	Qualitative description
	Enhance evaluation capacity	Qualitative description
Implementation capacity	Enhance financial operations	Qualitative description
	Develop technical and design capacity	Qualitative description
Knowledge integration	Promote holistic planning approaches	Qualitative description
Planning integration	Increase horizontal and vertical integration	Qualitative description

The adopted methodology has already been successfully implemented in the Netherlands, as shown in the next info box.

The Bikenomics methodology has been utilised to apprise the effects of over 21 mega bicycle projects and the economic effect of 2 bicycle strategies in Utrecht and Amsterdam. Cities have been supported in gaining full understanding of the problem and in scanning ideal measures. In addition, by weighing and comparing the benefits against the costs of each alternative, Dutch municipalities have been able to maximize the social return on their investment. The methodology has been used during the planning phase of new bicycle highways, tunnels, bridges and to perform social business cases of bicycle parking and bike depot.



Hunting innovation

Innovative cycling solutions, like other sustainable mobility solutions, are truly innovative only when proved effective over the long run. That means delivering results that improve the quality of life of people, partaking in a cohesive approach to sustainability, and doing so by ensuring scalability and financial self-reliance. Granted that innovation is a **relative concept**, for the diverse cultural and socio-economic conditions of urban contexts considerably affect the dynamics of innovation penetration, we believe that our CCs present us with a gold mine of cycling innovation, often ignored by the same CCs. Our partner, the SURF-SCF project, has been tasked by the Dutch authorities to unearth cycling-related innovations in the Netherlands in terms of accessibility, equality,

health, liveability, as well as in terms of institutional dynamics, entrepreneurial strategies, governance and socio-spatial conditions for the flourishing of cycling (and walking).

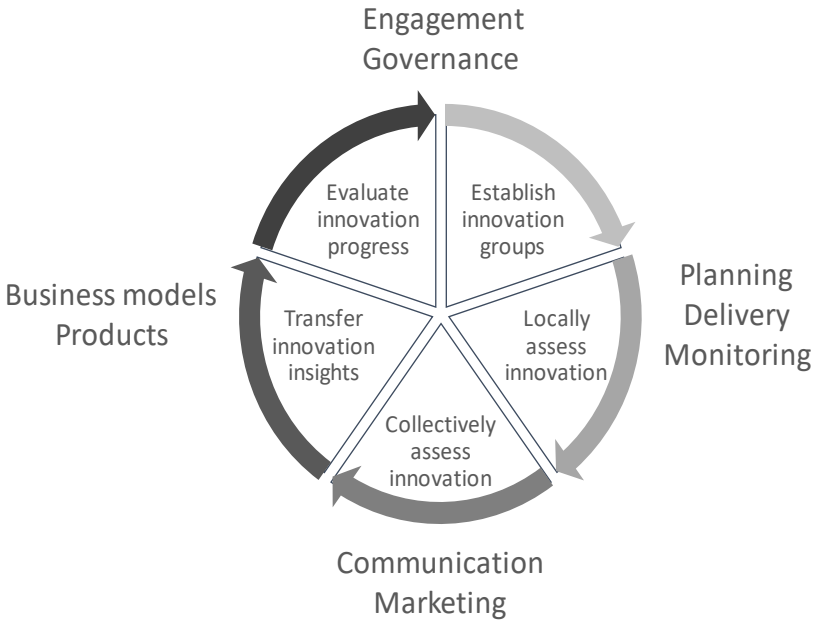
HANDSHAKE is also interested in contributing to tracking where, when and how innovation happens, so as to foster the effectiveness of policy transfer. By innovation we mean the processes that enable new ideas, products and services to emerge and support visions and policies. Our approach seeks innovation in a few main areas:

- Engagement and governance innovation: efficient organisational methods are critical in private businesses but also in the public domain, where they are often overlooked. Workplace organisation as well as external relations are needed to capture the energy and inventiveness of society, to work with other organisations and citizens, and ultimately change the "silo syndrome" that hampers public authorities. Involving stakeholders in the policy process is believed to lead to more complete problem-framing and wider acceptance of solutions, even though effective engagement processes are not fully known. Understanding innovative engagement and governance practices/ladders/instruments has the potential to accelerate processes and enable visionary and entrepreneurial actors to successfully co-produce innovations in the field of urban mobility, and to increase the acceptability of potentially controversial measures. Moreover, entrepreneurial agents may directly and positively influence local communities' perception of cycling, thereby indirectly enhancing the capacity of the city administration and city leaders to communicate and persuade.
- Planning, delivery and monitoring innovation: this area is strictly linked with the one above as it enables governances to harvest the crops of improved planning, delivery and monitoring procedures, software and hardware, which can substantially empower effective policy deployment.
- Communication and marketing innovation: Being able to communicate with constituencies and customers, receiving and passing along clear messages, is half the challenge of a policy maker and an entrepeneur. Developing a vision is critical, but communicating it is equally important. The innovation areas addressed above are crucial for attaining success and provide considerable support to marketing and communication. Because the latter are complex and expensive domains, cities frequently ignore them or provide them with limited resources. In HANDSHAKE, however, we will make sure that the effective and innovative approaches and techniques used in our CCs are unearthed and traced.
- Business models and product innovation: Mobility measures are increasingly seen as products or services that need to be carefully designed, marketed and improved in quality overtime. This applies not only to privately run services, which in the MaaS era continue to emerge, but also to public services. Both types of services require adequate market demand, viable technologies and approches, and financial sustainability, in view of expansion and take-up within cities and in other cities. Understanding the business model and the innovative dimension of succesful cycling solutions thus becomes an important step on the road to transferability.

To keep the exercise manageable and useful within the timeline of HANDSHAKE, we will use the categories above to frame the innovation-seeking process that will take place in WP2. Here the experts of the CCs will be brought together, locally and then collectively, to reflect on the main innovations that have enabled them to deliver on their mobility vision. This information will be channelled to the FCCs as they get ready to transfer their solutions.

The process will be repeated for the innovative solutions to be piloted through HANDSHAKE, thereby producing innovation insights by the end of the project.

Our approach connects innovation hunting with evaluation, in that the novel approach of WP4 seek to detect progress in most of the innovation areas highlighted above and namely through the evaluation of critical dimensions such as: city and regional governance, economic vitality, planning and delivery capacity. The above figure wraps the innovation cycle used by HANSDHAKE.



Immersive Study Tours methodology

Local leaders with a clear vision for better neighborhoods and streets often struggle to articulate their vision in a way that convinces colleagues, constituents and stakeholders to embrace change. A well-designed and implemented study tour can reframe the conversation and have a profound impact on policy direction. Study tours are inspiring, but converting that inspiration into strategic actions must be built into the design of the tour. The below methodology describes the curation process for a study tour for one FCC in three sections: before, during, and after the study tour. FCC delegations to CCs have the opportunity to engage in a full-length study tour (4.5 days) that is described below. As detailed in the description of WP3, this format will only be applied to the FCC in most need of an immersive study tour (Cadiz, Krakow, Manchester, Riga, Rome and Turin), while more advanced FCCs (Bordeaux, Bruges, Dublin and Helsinki) will benefit more from a different format (the Immersive Symposia), which has been identified as an intensive on-site workshop in which policy makers and experts from the CCs will travel to the FCCs to address specific issues to discuss with their FCC peers.

Before the Tour → Designing a successful study tour takes **painstaking attention to detail.** Hotels, meals, transportation and other logistics are thoughtfully chosen and meticulously arranged. Speakers and local hosts are professional and well-prepared, with content that is relatable and relevant to the unique needs of each study tour delegation. Hands-on biking and walking tours are well-paced, safe, and showcase examples that spark the imagination and inspire joy. The formal agenda and informal interactions create an experience that is both personally and professionally transformative.

- Step 1: identify study tour staff. For an ideal delegation of 12-13 participants, 3 staff are suggested. One staff member focuses on the content or story, one on facilitation (debriefs), and one on logistics and operations. An additional "special mission" staff member can be incredibly helpful in times of need. All staff members must know their role and responsibilities. Staff must understand their role as "curator" of a learning experience: study tour staff do not have "the answers" and are not part of the delegation.
- Step 2: identify the delegation captain. Behind every successful study tour is a well-connected, visionary individual (or duo). This person is not arranging the agenda or logistics, rather, they serve as the ringleader. This person is politically savvy, with deep and diverse relationships across the city. They think tactically about the dynamics of action and leadership in their community. This person strategises the invitation list and defines goals and outcomes from the tour. They also play a central role in continuing the momentum after the tour.
- Step 3: confirm dates. Time of year is crucial for a study tour. Holidays, big events and vacation season must be avoided. For the CCs the ideal time is between late April until June, and then September until October.
- Step 4: strategically invite delegates. A deep understanding of local power dynamics is required to make the best choices for an effective delegation and the delegation captain helps with this. The most successful study tours are organized around a real-life opportunity at home (i.e. a specific project) and delegates are strategically selected not only for their individual roles but also for their synergies and potential alliances with other participants. The delegation should be a mix of professional backgrounds and it is often most effective to invite people who have not fully embraced bikes. Typically, local government staff and officials form the backbone of a delegation (the more influential, the better). The only requirements for participation are to be open to new ideas, to have influence in transportation and/or urban quality issues, and to have a strong desire to be proactive about making their city a better place. There are six basic archetypes of study tour participants:
    - Elected/appointed officials (mayors, city councillors) and their key staff.
    - Executive public agency staff (public works, transportation directors and commissioners).
    - Technical and implementation staff (planners, designers, engineers, project managers).
    - Community leaders (non-profits, educators, neighbourhood associations, advocates).
    - Business leaders (Chambers of Commerce, business improvement districts, business owners, visitor and tourism groups, real estate developers).
    - Local funders (foundation staff, philanthropists).

  Delegations may even include participants who are physically unable to ride a bike, but for whom the experience of being part of the study tour delegation is too valuable to miss. It can be a rewarding adventure for an enthusiastic but non-cycling delegate to navigate without two wheels. A combination of public transportation, taxis, walking, cargo bikes or tandems, and pedi-cabs serve 95% of mobility needs and give that delegate a unique perspective that other participants won't have. This will require more resources, but it's entirely possible with preparation and a positive attitude.

- Step 5: start logistics planning. Planning the study tour coincides with the previous steps and will continue until execution. Key logistic confirmations include: hotels, meeting venues and restaurants. Choosing the right venues impacts the overall experience of the study tour. Proximity, atmosphere, and authenticity are all factors for venues. Study tour delegates, like most travellers, want to feel like they are experiencing the "real" version of the city. Logistics planning tips are found in the Appendix.
- Step 6: design the agenda. The most challenging part of study tour planning is creating the right agenda. To find the right balance, study tours use the 30/30/30 rule:
    - 30% Meeting: Meeting with experts from the public, private, and non-profit sectors is a direct way for best practices to be shared and for delegates to network directly with their counterparts in other cities.
    - 30% Experiencing: The feeling of comfort, belonging and joy while riding a bike in a mature cycling city is the most transformative aspect of study tours. This time cannot be short changed. The simple act of traveling to meetings and meals by bike adds to the experience.
    - 30% Processing: Creating time and space for thoughtful processing is critical. This occurs in mealtimes but also group debriefs. One hour at the end of each day digesting the day's events and discussing how it applies to work back home is essential. One staff member should plan to facilitate the daily debrief.
    - The other 10% is reserved for unstructured exploration. Encourage delegates to get out in the city on their own. It's empowering to navigate a city alone. The joy of discovery is one of the most rewarding outcomes of travel — allow it to happen!
- Step 7: participant preparation meeting. Provide information early to participants about how and when to buy plane tickets and other practical information. Organize a pre-trip meeting 2-4 weeks in advance of the trip to disseminate information and to begin the conversation that will take place during the study tour. This meeting is informal and presents an opportunity for the delegates to meet each other, to go over the agenda.
- Step 8: confirming speakers and guides. Bonding with peers from other cities in personal, direct exchanges is what makes a study tour different from a conference. The agenda will include meetings with local experts. Study tour staff should meet (or at least call) with each speaker to debrief them on the delegates, their city's needs, policy priorities and local challenges or power dynamics. It's important that their story is well-prepared, well-understood and clearly articulated. The study tour staff and all speakers should align on all expectations (meeting venues, A/V and computer needs, food/beverage, duration, etc).
- Step 9: mail delegates final agenda, delegate dossier, and practical information. Create a dossier of delegate and staff photos with short biographies. Write a comprehensive document with all relevant and practical information. The agenda should include meeting times, venues, locations, speakers, and a short blurb for each agenda item. This package of information (all 3) is sent one week before the study tour.
- Step 10: prepare process plan & align study tour staff. With a complete agenda, prepare a minute-by-minute process plan, including a communications protocol. All staff should know their role every minute of the study tour, for example, who is leading/sweeping rides, introducing/wrapping up speakers and meetings, and who is facilitating debriefs. All rides are scouted by the study tour staff.

During the Study Tour → The following is a model study tour agenda for the project:

- Day 1: setting the scene. The welcome reception is crucial, as it is the time to create an atmosphere of trust in order to encourage frank conversations. It should occur in the late afternoon and last no more than an hour. Choose a comfortable, private space (with good food) either at their hotel or a short walking distance. Delegates introduce themselves and their personal objectives for the tour. A brief primer on practical and cultural must-knows about the host city is key. This is also the appropriate time to set expectations for punctuality, participation, bike ride etiquette, social media during the tour and other ground rules. A shakedown ride immediately follows. The route is a modest distance (about 45 minutes) and introduces local traffic rules. Study tour staff can assess the bicycling skills of each delegate and give participants the first opportunity to ride in a group. The route starts on quiet streets with basic cycling skills like stopping, starting, signalling, and turning. For experienced riders, these skills may be remedial but it's important to start slow and together as a group to build the confidence for less-experienced riders. The route has 2-3 stops, where the ride leader shows the group typical infrastructure. This ride can serve as a route to a pre-arranged dinner venue that is very close to the hotel. Dinner is relatively quick (but not rushed). Once study tour staff are finished eating, they announce reminders for the next morning and leave the venue, to encourage group bonding

without their presence. It's also important for study tour staff (and possibly the delegation captain) to debrief the day alone, confirm the next day's agenda and make any necessary adjustments.

- Day 2-4: facilitating the learning process. With a well-crafted agenda and detailed process plan, the primary task during the study tour are to gracefully keep to the agenda and allow the delegates the time and space necessary for their own learning and group bonding. End of day **group debriefs** are the primary activities that enable inspiration to be converted into action. For this reason, it is important that these sessions are prioritized. This is where the return on investment for the study tour will be realized. The need for facilitation varies group to group. It's generally better to err on the side of formality and make sure that everyone has a chance to participate. Posing a question can kick off the debrief. Early in the tour, it can be a general reaction to the day's meetings, presentations, or bike rides. What was the most important thing you saw/heard/experienced today? As the tour progresses, they tend to be more tactical discussions about issues back home. What did you see/hear/experience that can be applied to Project X in your community? Staff take notes and document key points made in the debriefs, to be shared privately amongst the delegation. Keep it simple: delegates use sticky notes to capture one key idea.
- Day 5: setting the stage for strategic action. On the final day of the tour, allocate up to 4 hours for a **comprehensive debrief** of the week and **strategic action planning**. The goal of this final session is for the delegates to identify the specific steps to take upon their return home, individually and collectively. A formal meeting space with white boards, post-it notes, is a supportive environment. This ensures the tools for **group collaboration**, but more importantly it helps set a tone of professionalism and focused productivity.

  The debrief begins with an acknowledgement that changing a city is a daunting task for an individual. One of the keys to success in study tours is guiding participants to arrive at what actions they can take as individuals in their unique professional and personal roles. This framework is helpful for thinking about how to make change, by boiling down big transitions to simple, immediate actions. Taking this time also to acknowledge that sustaining momentum can be difficult when busy people return home to full inboxes and multiple demands on their attention, but offer tools to help. Encourage a post-trip communications protocol and scheduling a reunion event so that delegates can provide each other with support and accountability after the tour.

  The next task for this meeting is every delegate individually **identifying the strategic actions** that they will complete in three-time frames: one week, in 3 months, and in 6 months. Encourage identifying actions that are tangible and achievable in the short-term. The delegation might be focused on a priority project they wish to advance collectively, and identifies how each delegate can contribute from their unique individual position in city leadership. The actions can be as simple as making a phone call or as ambitious as introducing new legislation or policy. Thinking both short and long term allows for broader visions to be articulated, but keeping focus on realistic actions within a 6-month time frame helps keep it tactical and specific. The formality of the goal setting will vary depending on the culture of each group, but it's important to capture the state of mind of the final day of the study tour to remind delegates later. Individuals then share their goals with the entire group, while staff take detailed notes.

After the Tour → At the end of a successful study tour, the level of enthusiasm for taking action for a better city will be at its peak. But upon returning home, the realities of busy schedules and slow progress will cause an inevitable ebb in momentum and focus. However, a few tactics can be employed to help **keep delegates engaged and inspired after the trip is over.**

- Sustaining momentum after the trip. Within one week after the tour, prepare an email with a link to a Dropbox folder (or other) with group photos, presentations and stories. Encourage delegates to share presentations and reports summarizing their learnings of the tour. Make it as easy as possible to share photos, ask questions, or simply express gratitude for the experience.
- Following up. Between 4-8 weeks after returning is a good time to reunite the delegation and check in on actions taken since returning. Gathering for a meal, bike ride, or other social event is perfect. Continue to track actions taken, realizing that many of the most courageous steps might have been new opportunities that weren't identified on the final day of the tour. It's helpful to refer to goals that were set during the final debrief sessions, but be careful about applying too much pressure or shame if those goals aren't met. Keeping a positive, trusting atmosphere is more important. It's the process of intentional goal setting, not the content, that matters most for sustaining momentum. Often, the most useful outcomes of the study tour are personal and very difficult to measure.

Transition Management methodology

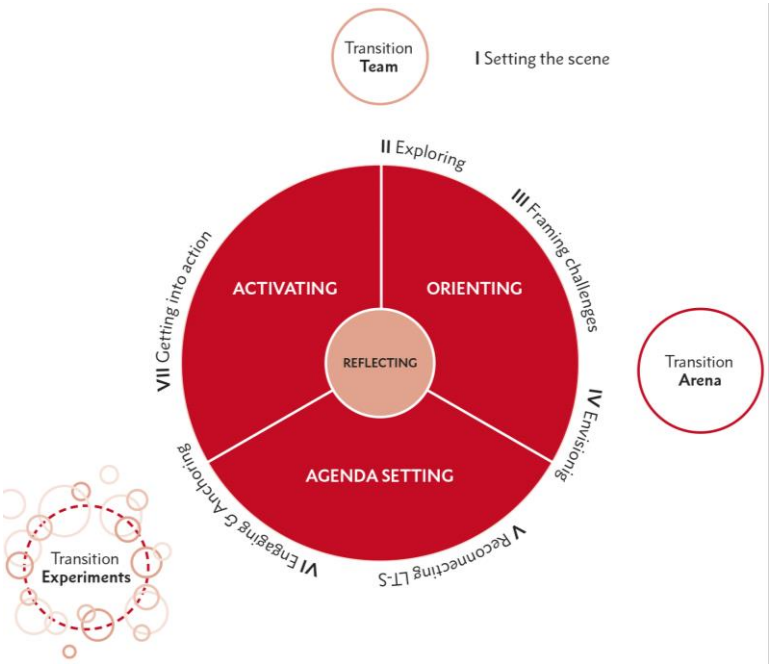
Transition management is an innovative governance approach to address persistent problems that are complex in nature and require the intervention of a wide range of societal actors in reflexively formulating, implementing and monitoring non-linear solutions. The underlying argument is that these problems are firmly rooted in the very structure of our societal systems, which implies that marginal changes (i.e. optimizing existing practices) cannot be effective and will lead to suboptimal outcomes.

Transition management therefore advocates fundamental change, a 'transition', in order **to treat the root causes of persistent problems rather than their symptoms**. Unlike what its name would suggest, the approach is less about managing than about influencing transitions through the creation of spaces for searching, learning, and experimenting. In this way, transitions can be influenced, supported and accelerated by playing into existing dynamics and **embracing complexity as an opportunity** rather than as something to ignore or control.

Transition management processes are therefore aimed at addressing persistent problems within complex societal systems. Any such process involves four types of interventions in order to bring about change. Though these categories do not exist in a fixed sequence and may overlap at times, they help conceptualize the range of actions that take place during a transition management process:

- Orienting, which involves positioning oneself vis-à-vis societal developments, challenges and actors.
- Agenda-setting, which focuses on creating a shared sense of ownership for a sustainable future.
- Activating, which consists of experimenting with a shared vision through projects and small-scale activities.
- Reflecting, which takes place throughout the entire cycle and acts as the primary means for learning.

A transition management process then unfolds through a series of specific steps intended to guide the process (see figure below[11]), which bring together a group of individuals as part of a transition arena – the setting within which they will explore the local system and its actors, before framing the problem that they seek to address and envisioning a sustainable future. The arena participants then work on reconnecting the long and the short-term through transition pathways, and start to experiment through local actions, while also attempting to spread their vision and to connect it to broader agendas.



In the context of HANDSHAKE, transition management offers a unique approach to ensure both effective knowledge transfer and the rapid scaling of cycling solutions in the FCCs. As noted above, transition management focuses on the formation of visions for systemic change that are evolved through the participation of societal actors, and based on which concrete pathways and actions are developed and implemented. This method will therefore enable the **creation of holistic cycling visions** and linked concrete approaches, which consitutes one of the project's primary strategic objectives. Transition management also supports the objective of **fostering a multidisciplinary planning culture** by departing from a multi-actor system analysis and collectively evolving solutions that are adaptive, reflexive and suited to the idiosyncracies of the local context. In addition, transition management is concerned with the **upscaling and acceleration of societal transitions** towards sustainability and is based on extensive scientific work in the area of sustainability transitions studies; this approach will contribute extensive knowledge regarding the co-shaping and co-steering of transitions, as the HANDSHAKE project aspires to do.

[11] The Transition Management Cycle and its Activities (Transition management in the urban context: guidance manual. DRIFT, Erasmus University Rotterdam, Rotterdam, 2014.)

Stimulating more contacts and more sharing

Sharing and/or generating contacts/ideas/know-how will be further fostered throughout all main project events by the adoption of particularly engaging meeting formats capable of eliciting the most out of each participant.

Inspiring Agape lunches. Lunch sessions where a host – expert in cycling policy – invites you and your table companions to an inspiring discussion topic. Next to the social effects of sharing a lunch, the professional lead talk gives a deepening experience.

Idea Labs and Inspirational workshops. 5-minute presentations of professionals in a speed dating formula guarantee interaction and well lead debates. The exchange of knowledge and insights in an open but safe lab or workshop environment triggers the participants to think about local bicycle policies, its barriers and questions and inspires to new ideas.

Unconferences. Unlike a normal conference the topics to be discussed are not decided in advance. There are no fixed presentations or sessions to choose from. Topics to be discussed and explored are chosen by the participants present at the start of the un-conference. Participants choose their role for the further agenda of the day: listening, presenting, taking notes, researching, leading a debate. In this way an un-conference touches upon all topics the participants from the CC's and FCC's are currently working on, struggling with, want to explore. This methodology finds its strength in the knowledge and expertise from the group and how to activate and share that knowledge.

1.4 Ambition

Effectively transferring cycling solutions to 10 FCCs is a very ambitious objective, especially considering it took our 3 CCs several decades to reach the conditions they enjoy today. The wealth of experience and knowledge Amsterdam, Copenhagen and Munich hold should thus be transferred using an approach that maximises learning potential and accelerates the take-up process, thereby enhancing the social, environmental and economic benefits. HANDSHAKE's novel approach nestles in a comprehensive and sequential transfer cycle supported by a number of tools and approaches that have a track record of national and international success and are highly innovative in such a large EU implementation context. At the same time, HANDSHAKE takes advantage of the presence of 3 world famous cycling cities to further explore innovative processes and solutions.

- It challenges 3 champion cities that have traditionally been regarded as amicable contenders to join forces to push the frontier of knowledge and inspire others. Both CCs and FCCs feel that they will enormously benefit from such an ambitious exchange of best practice, which will enable them to gain new perspectives on the implementation of cycling policies, planning tools and rolled out solutions. This will build internal capacity, with city officials and stakeholders, at a rate that without HANDSHAKE would require a much longer period and higher costs. Furthermore, HANDSHAKE will provide CCs and FCCs with strong arguments and a powerful backing to be leveraged with local politicians when discussing the future of our cities.
- It provides a platform for a seamless and facilitated exchange of information on practice, evidence, innovative solutions and business models that will simultaneously empower the 10 FCCs and enable Amsterdam, Copenhagen and Munich to reflect on and fine--tune their own approaches.
- It leverages state-of-art knowledge on research, implementation and innovation expected to further empower urban planning and design approaches that prioritise cycling and people-centred spaces. This information will be made available through synergies with projects such as SURF-CF (the University and the City of Amsterdam are partners and ensure smooth synergies). The SURF-SCF project will endow HANDSHAKE with a better understanding of the impacts of active modes innovations in terms of accessibility, equality, health, liveability, and decreasing emissions when socially well embedded, as well as the institutional dynamics, entrepreneurial strategies, governance and socio-spatial conditions for the flourishing of cycling and walking.
- It allows our CCs to consolidate an innovative measurement system to assess the quality of cycling innovations.
- It employs the innovative Bikenomics methodology, an innovative methodology to optimise the socioeconomic efficiency of cycling solutions by weighing the impacts of solutions and supporting decision makers in testing, optimising and justifying their policy decisions. The tool provides a Dashboard with insights on behaviour and preferences, expected return of investment of alternative interventions, effective communication and behavioural change strategies. Applying Bikenomics to the domain of active modes, the project will enable policy makers in the take up cities to appraise ex-ante the cycling determinants, simulate holistically the expected impacts, assess social costs and benefits, gauge opportunities and limitations. Bikenomics supports local decision-makers in their ambitious projects by providing solid and scientifically sound arguments.

- It employs Transition Management (successfully used under different forms and denominations in several front running municipal and regional contexts, and formalised in a European context by the MUSIC, InContext and ARTS projects, in which ICLEI was a partner) to influence the **direction and pace of societal change** towards sustainability. In HANDSHAKE transition management will be used to stimulate transition and initiate mobility transformations according to the following phased sequence: a) orienteering, to analyse and position the city in the context of current societal developments and challenges, b) setting the agenda, to foster the creation of a shared sense of ownership for the city's sustainable future, thereby allowing actors to integrate it with their own agendas, c) kicking-off the agenda, to translate the vision into action through setting the concrete solutions, and d) fostering a culture of learning-by-doing and doing-by-learning.
- It employs a professional, world-class format of Immersive Study Tours meant to inspire city leaders to imagine new **visions** and then channel that energy into **championing change** back home. Study tours will offer take up cities with a thorough immersion in the CCs ecosystems and will then follow up after the tours to track the actions taken, provide continued support and assess goal achievement.
- It provides a stimulating **exchange environment** for professionals from all 13 cities by involving participants in creative and interactive sessions that have proved rewarding in other projects. Tools Methods will include among others Agape Lunches, Un-Conferences, Idea Labs and World Cafes. By using such innovative methods, lively discussions and dialogues that really matter take place. These methods have the benefit of inspiring, focussing and energising participants, avoiding the negative dynamics that traditional frontal presentations instil. Discussion and idea labs where high-level experts exchange ideas and discuss solutions and failures in a trusted environment are appreciated and set the ambition to learn from each other.
- It establishes a direct relationship between the FCCs and the CCs by introducing a mentoring scheme. This system is used as a method for the **informal and formal transmission of knowledge** and tips, and for the much-needed work of inspiration and guidance that only peers can afford to each other. The goal is to open personal and professional channels that the mentoring and mentee staffs can use with confidence and ease, without fearing the approach or shying away from asking questions that may be deemed inappropriate or silly.

2. Impact

2.1 Expected impacts

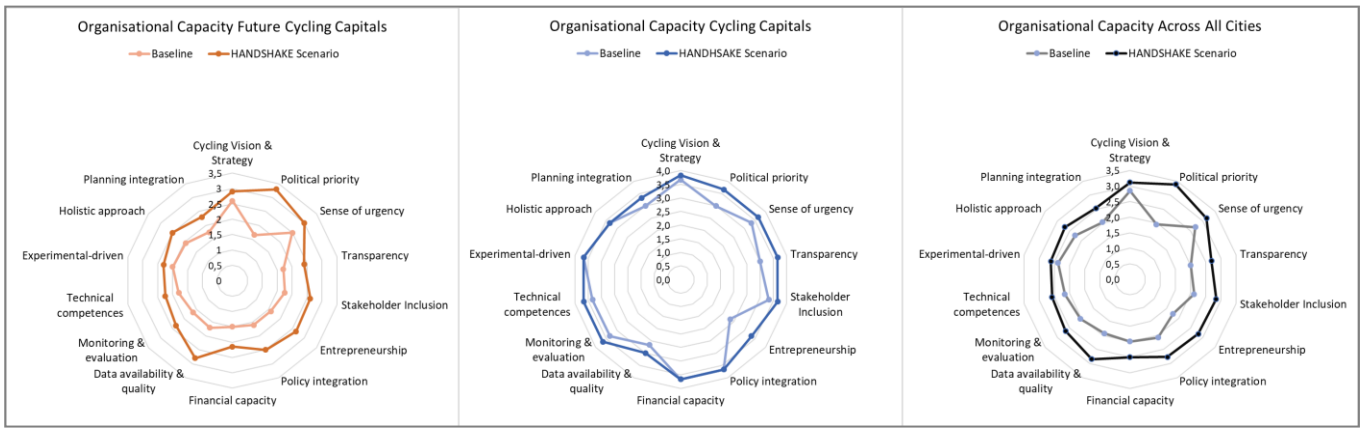
As aforementioned, HANDSHAKE has the headline objective to promote an **effective take up** of integrated cycling solutions from 3 CC to 10 FCC. In doing so the project seeks to achieve the following direct and indirect impacts:

- Promote of a **modal shift** to cycling by making cycling more **attractive, safe, convenient** and **appealing**.
- Use cycling as a critical **land-use** and **congestion-relief tool**, thereby creating a **higher quality** and **socially friendlier** urban space.
- Contribute to **public health** by reducing **pollution** and fostering **physical** and **mental well-being**.
- Foster **economic growth** through the creation of urban spaces that are **commercially appealing**.
- Support the growth of **work productivity**.
- Inspire **cohesive cycling visions**, **integrated** and **effective planning**.
- Enhance **organisational** and **technical know-how**.
- Foster a **multidisciplinary planning** culture and a **systematic evaluation** practice.

Our preliminary assessment of HANDSHAKE suggest that the overall impact of the project will be significant in both the short-term (**2022 project horizon**) and the long-term (**2030 horizon**). A Business as Usual scenario (**BaU**) has also been considered as a further benchmark.

Enhancing planning and governance capacity

The main direct benefit of the project will be the strengthening our cities' organisational capacity as result of the intense knowledge transfer enabled by HANDSHAKE. In particular, we seek to enhance **governance structures** and **planning competences** as well as improve **internal knowledge**. During the proposal phase, CCs & FCCs have identified critical issue areas to be improved and specific groups to be targeted by the project. To appraise the potential impacts, we developed a framework with scoring indicators that was administered to our cities for self-evaluation and definition of realistic expectations. The findings show clear gaps and large opportunities for improvement (see figures below).



From this preliminary analysis, we know that cities will benefit in almost all areas. However, there are some specific domains in which critical improvement will be more substantial (see table below).

Org. area	Indicator	BaU	HANDSHAKE 2022	Diff.
Governance capacity	Cycling Vision/Strategy	2,8	3,1 (1 to 5)	+9%
	Political priority	2	3,4	+73%
	Sense of urgency	2,7	3,2	+17%
	Transparency	2	2,7	+35%
	Stakeholder Inclusion	2,1	2,8	+25%
	Entrepreneurship	1,8	2,8	+59%
	Policy integration	2,1	2,8	+33%
	Financial capacity	2	2,5	+25%
Planning capacity	Data availability & quality	1,9	2,8	+48%
	Monitoring/evaluation	2	2,7	+30%
	Technical competences	2,2	2,6	+20%
	Experimental-driven	2,4	2,6	+10%
	Holistic approach	2,3	2,7	+19%
	Planning integration	2	2,5	+25%

On the **governance side**, the level of political support and awareness of main stakeholders about cycling has been judged as critical. Despite the growing attention towards bicycle mobility, only a small part of governments recognizes its importance. Thus, the issue is hardly a top priority and there is unwilling to substantially change the status quo. One of the reasons mentioned is the fact that the positive impacts and large benefits are largely underestimated (or ignored). By employing powerful tools such as Bikenomics to show the economic benefits of cycling and the immersive study tours, it is believed that a strong image / priority shift will be promoted **(+73%).** Cities have thus expressed the willing to involve important city leaders and delegates to the project as well as important national stakeholders such as the national cycling embassies. Political support is, at the end of the day, the seed to any successful transition. Another critical area regards the involvement of local cycling entrepreneurs. At the present time, cities hardly involve entrepreneurs during the planning and decision-making phase. Handshake is believed to fill this important gap by providing an important space for niche development and radical innovation emerging from society and the market **(+59%).** Finally, critical will also be the improvement in the area of policy integration **(+33%).** Especially in FCC, cycling tends to be considered just as a transport issue and thus limited to a specific planning department (either transport or environment, below for planning impacts). Many FCC have therefore found important to start looking at cycling also as a health, environmental, economic and social policy tool and thus update existing agendas. The knowledge exchange will be thus fundamental to learn how other cities (especially CC) have dealt with such integration. Limited, on the other hand, is the impact on cities' cycling vision & strategy and financial capacity **(+9% and +25%,** respectively). While the financial contribution of HANDSHAKE will be crucial for the learning process, it limits the scope of available options to test and implement. Finally, cities have already ambitious plans, visions and goals for cycling, hence the project will contribute to this aspect in a limited way. Nevertheless, the opportunity to network and get to know what other cities are doing with be fundamental to exchange new ideas and find new solutions to reach those visions and goals.

On the **planning side**, the two most critical aspects regard 1) the availability and quality of data; 2) the monitoring and evaluation skills. In this proposal phase, it was already evident that cities presented some difficulties in gathering and providing the adequate data needed to perform the quantitative evaluation. At the present time, some basic traffic data is present to fit specific demands but this is limited to specific years / locations and it does not provide a clear picture of the cycling situation. Cities, in general, are aware of what is needed for planning and monitoring activities but data is sometimes not readily available. There are often protocols for accessing information or it is spread across different departments / stakeholders. In addition, datasets may be difficult to comprehend for non-expert as information made available may be very technical. In some cases, cycling data is

reported on policy documents and difficult to extract for other uses. Finally, CC have noted that there is a lack of standard of data collection and indicators used for cycling across cities. This, sometimes, does not allow to adequately compare performances across cities. The contribution that HANDSHAKE will bring to this issue is believed to be substantial (+48%) as the reconstruction of the baseline, the monitoring and evaluation will push cities to adopt the same standard.

Another area of improvement will be **monitoring & evaluation**. Currently FCCs and CCs to some extent lack smart monitoring systems and those in place are not regularly updated. The implementation of cycling infrastructure (or other measures) is only sometimes based on the output of monitoring systems. The available systems provide limited information for reactive interventions but do not inform decision-makers and planners about the underlying processes and potential socio-economic effects. Evaluation, on the other hand, is limited regarding both frequency and quality. Plans are rarely evaluated and sometimes using inconsistent (or even ad-hoc criteria). HANDSHAKE expects to substantially fill this void given the broad expertise provided by the consortium **(+30%).** Project exchanges will boost the knowledge of traffic models for cycling, enabling more fact-based decisions.

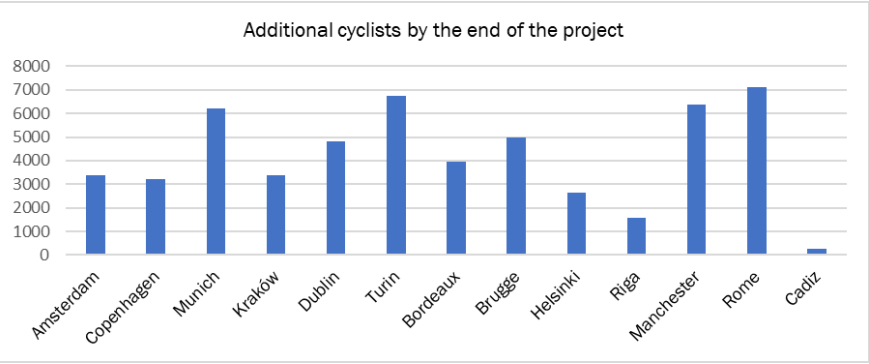
FCCs and CCs believe that the exchange of good practices will also enhance **technical and design skills**. Both Amsterdam and Copenhagen have developed cutting edge methodologies for infrastructure design, such as the Desire Analysis Tool and the "Puccini" methodology, that have become milestones of bicycle planning. FCCs in particular have mentioned a serious gap in this specific competence which will be filled thanks to HANDSHAKE.

Another point of improvement regards the exchange of practices with regard to the **experimental approach** to cycling. Our CCs are known for their vast experience with urban experiments. This is an approach that is sometimes uncommon for FCC which, on the other hand, have a very rigid planning system which does not allow for flexibility and uncertainty-oriented approaches. FCCs have expressed their interest to learn more from CCs about responsibilities and financial consequences of experiments. On the other hand, CCs wish to learn more from each other and exchange their best-practices.

To a lesser extent, HANDSHAKE will also influence FCC and CC planning approach towards a more **integral and holistic** one by making sure that cities select multiple types of measures (supply management, demand management and land-use management) but also approach problems and solutions from different perspectives (not only from an engineering, architecture perspective but also from a sociological, anthropological, etc. perspective). This is not often done as cities usually tend to approach bicycle planning from a very technical standpoint without taking into account other qualitative and organisational variables[12].

Overall transport and socio-economic and environmental impacts

HANDSHAKE expects to positively impact urban mobility bringing about circa **€6.100.000** of net socio-economic benefits. To calculate this impact, we have estimated the modal shift that will occur thanks to the additional **650 km of cycling infrastructure** (ranging from low-cost "traffic calmed areas" to high quality bicycle highways), the over **250 additional bicycle parking facilities** as well as the experimentation of **ITS for cycling** (such as "green-waves" for cyclists). Our preliminary assessment estimates a structural shift of circa **60.000** people to cycling (conservative) while circa **150.000** existing cyclists will see their conditions improved[13].



The number of additional cyclists is distributed across cities as shown below.

Once determined the size of the target group, we estimated the number of trips/day and distance. This has been done by means of surveys, interview with FCCs and CCs, and statistical analysis[14]. Simple estimates have been

[12] https://www.researchgate.net/publication/314177418_Travelling_together_alone_and_alone_together_mobility_and_potential_exposure_to_diversity

[13] Estimates based on location of the intervention, geographical area affected and time horizon to reach the full effect. Preliminary surveys have been used in combination with simple modelling techniques such as the EC-funded Urban Transport Roadmap-Tool and peer-reviewed using using Meta-studies such as Litman (2017) as well as interviews with policy-makers.

made when no data could be found. In particular, we looked at the population between 15-64, assumed to be the one more active, average per capita trips and mode share to obtain the values for each city (from Eurostat, 2017; OECD, 2017 and using national statistical database, in some cases report studies available). On average, people across all cities uses the bike for 0,5 times a day for circa 291 days a year and make on average 1,16 km per day (with great variation across cities). In the BaU scenario and assuming no or minimum intervention, this amount will grow in 2022 to about 0,51 times a day and the number of kilometres to 1,45 km/day[15]. In the HANDSHAKE scenario, it is assumed that the sum of all interventions will additionally influence the number of trips and distance as selected pilots aim particularly at improve the level of comfort, safety, directness, cohesion and homogeneity of the cycling infrastructure. Based on previous experiences and evidences from the scientific literature (in particular the project EVIDENCE), we estimated an average of **0,3% - 1,5%** increase in the number of trips after the implementation (ca. 1 year after the start of HANDSHAKE).

Mobility development		
Baseline (2016-2017)	**Business-as-usual (2022)**	**HANDSHAKE Scenario (2022)**
0,5 trips/day	0,51 trips/day	0,67 trips/day
1,16 km/day	1,45 km/day	1,49 km/day

On the basis of these figures (modelled precisely for each city, as shown in the Annex), we calculated that the project would generate an additional **11 million bicycle trips** (and **23 million cycled km**) by the end of the project. In addition, this would also increase cycling levels across the population indirectly influenced, bringing about an additional 9 million trips, for a total of **33.2 million bicycle kilometres** generated by the end of the project (2022). Using these figures, we have calculated the social impacts of the project in terms of monetary benefits over the value of the EU contribution. Assuming our calculation right (again conservative), HANDSHAKE would be a positive social business case with a **Benefit-to-Cost ratio of about 2:1**, as exemplified below.

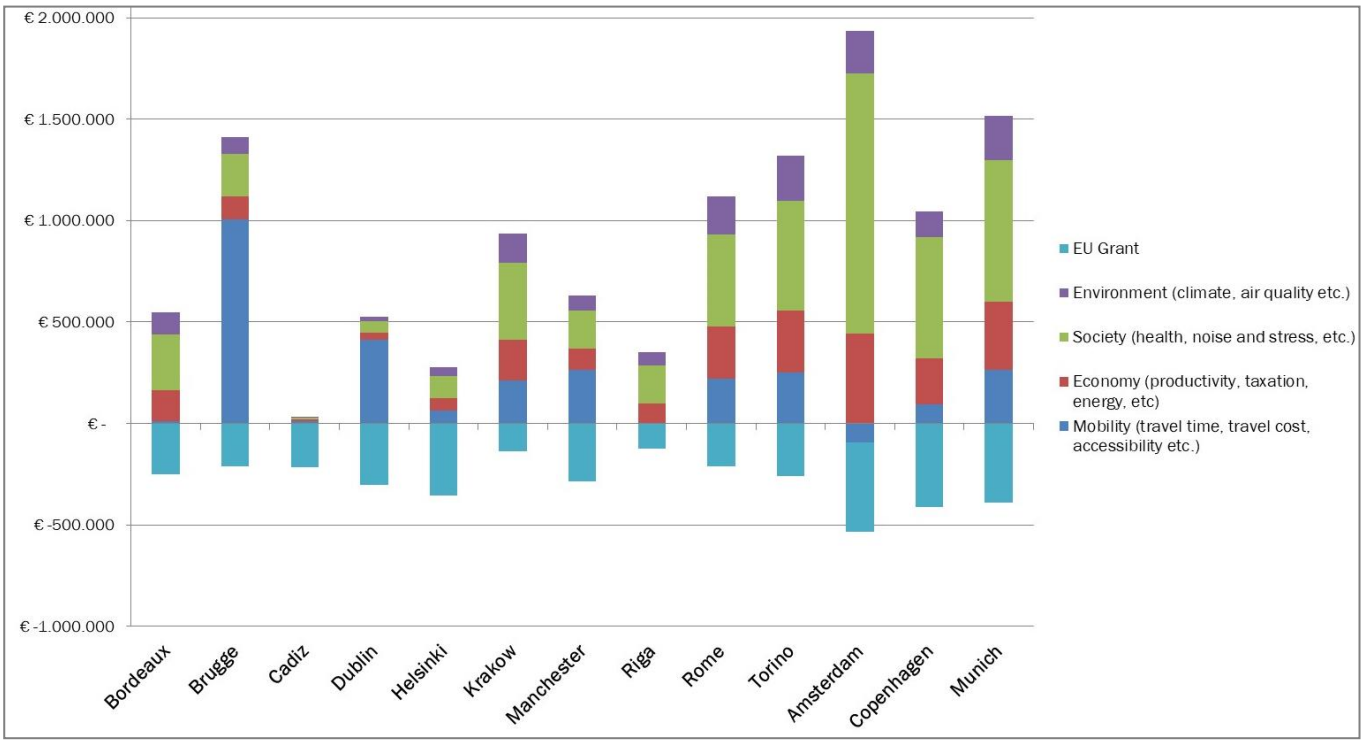
Costs	**Amount**	**Description and assumptions**
EU Grant for HANDSHAKE	***€ - 4.859.094***	Value of the contribution requested. Adopting the EC point of view, this represents a cost.
Travel and vehicle operating costs	***€ - 1.663.625*** *(Economic benefit to the cycling industry)*	Costs to buy a bicycle, equipment, maintain the bicycle and (sometimes) park the bicycle. From a social point of view this adds up to the cost of trip but it indirectly represents a benefit for the bicycle-related industry We have estimated an average of €0,05-€0,07/km (based on DECISIO,2012) for every additional km generated.
Taxation (excise, parking etc.)	***€ - 349.361***	Avoiding the car makes saves money in parking tariffs and excise, this is a private benefit. But seen from a societal / government point of view, this represents a direct financial loss (i.e. depending on the case this may be a private cost). We have estimated circa €0,015 for all additional new cyclists (DECISIO,2012) assuming that 70% would come from car.
Accessibility & lower congestion	***€ 3.501.707*** *(0.5 million hours of congestion/year avoided)*	Modal shift to cycling has a positive impact on traffic and congestion. Based on the type of project cities estimated the effects on the time to complete one trip. Estimates varied from about (0 to 5 minutes per trip). We have taken an average of 2 minutes per bike trip instead of driving. The value of time in the literature ranges from €5 to €30 per hour depending on the trip (CE Delft, 2011; EC, 2014). We have used a very conservative estimate of €8, - per hour to

[14] Existing data from municipalities has been particularly combined with the study by COWI "Support study on data collection and analysis of active modes use and infrastructure in Europe" (2017) supporting this information.

[15] The business as usual scenario is reconstructed assuming mobility as a function of socio-economic (population growth, economic dynamics), land-use (type of urban environment and urbanisation rate) as well as patterns of mobility dynamics (vkm trends). Forecasting reports have been used such as Eurostat (2017) for population dynamics, OECD: IT Transport Outlook (2017) for transportation outlook, ESPAS (2015) for global trend scenarios, and additional data from World Bank (2017) and EMTA (2015). Triangulating this data with municipalities' estimates gives about 0,7% yearly growth rate for car use, 3,5% for public transport, and 3% for non-motorised mobility. An average of 2,5% to estimate the BAU scenario for cyclists whenever data was lacking for specific cities. Conservative estimates have been used in this phase.

			incorporate potential uncertainties.
	**Reliability of travel time**	***€ 875.427*** *(109 thousand hours of delays/year)*	Travel time reliability measures the consistency or dependability in travel times, as measured from day-to-day and/or across different times of the day. The less traffic the more reliable become time schedules. The usual approach is to use 25% of the travel time saved. For existing cyclists, the "rule of half" is applied.
	**Energy savings**	***€ 1.355.660*** *(Ca. 1,2 mln. of litres/year)*	Avoiding car saves energy and money. Every 100 km, ca 5liters of fuel are used (CE Delft, 2011; EC, 2014). Based on the total number of km we have calculated the fuel saved. This has been multiplied by the average EU cost of fuel, discounting it for the excise (Eurostat, 2017).
	**Health benefits**	***€ 4.990.876*** *(Value of 2 – 3 lives saved)*	Cycling reduces cardio vascular diseases, improves mental health and well-being, bringing substantial healthcare savings. Based on the additional km cycled and the size of the target group, we estimated the reduced risk of mortality using WHO (2014) estimates. This value has been applied to the population to calculate the reduced number of deaths/y (about 2-3 a year). The Value of Statistical life of €2.3 million was derived. Alternatively, €cent 0,096 per km was used to verify. Indirect benefit to existing cyclists.
	**Traffic safety**	***PM*** *(Expected 1-2 less crash a year per city)*	Among the measures under scrutiny by FCC and CC there are pilots to increase the safety levels. Cities have estimated that 1-2 lives per city could be saved. However, these have not been counted as the evidences on traffic safety are not yet fully known empirically. In the NL for instance an increase in cycling also results in an increase in accidents among cyclists themselves.
	**Productivity**	***€ 1.330.900*** *(Expected additional 4.750 working days/y of productivity)*	Cycling improves labour productivity by reducing absenteeism (1.3 days a year for a minimum of 18 km of activity a week) (TNO, 2010; DECISIO, 2012). For existing cyclists the "rule of half" is applied. To calculate the value, we have estimated, based on Eurostat (2017) and SETIS (2015), the average number of trips that occur to reach 18 km (ca 15%), adjusted by BAU scenario. Assuming an average productivity rate € 35/hour (x8h work). This make about €364 a year per worker.
	**Cleaner air**	***€ 1.506.288*** *(circa, 155 kg PM10, 4.542 kg NOx, 22 kg SO2 less every year)*	Reduced damage from air pollution by avoiding car use. We used the values from CE Delft (2017) and EC (2014). Traffic produces an average of 0,0065g of PM10, 0,19g of NOx, and 0,00096 of SO2 per km. Values range between €0,05 till €34. We have estimated ca. €0,04km.
	**Noise avoidance**	***€ 2.391***	Cycling produces virtually no noise. Every new cyclist avoids ca €0,001 per km. Used km costs from the literature see DECISIO (2012)
	**Climate Change**	***€ 7.173*** *(-3.706.000 kg CO2)*	Shifting from motorised transport virtually eliminates CO2 emissions that contribute to climate change. Every km travelled emits about 155 g of CO2 (average bus and car, CE Delft, 2011) which is value about €0,057 per kg.
Total (discounted 5%/year)		***+ € 6.379.373/year***	

The next figure shows the distribution of benefits and costs across HANDSHAKE cities:



The next table provides a glance of the estimated impacts per city.

Impacts per city					
City	Indicators	Baseline 2017	BaU 2022	Handshake Scenario 2022	Net benefits
Bordeaux	Yearly shifted trips to cycling	-	-	+0.1 mln (3.951 add. cyclists)	**€ 299.895**
	Bike trips/day	0,2	0,2	0,26	
	Bike km/day	1,2 km	1,49 km	1,54 km	
Bruges	Yearly shifted trips to cycling	-	-	+1.3 mln (5000 add. cyclists)	**€ 1.139.008**
	Bike trips/day	0,7	0,71	0,92	
	Bike km/day	0,7 km	0,87 km	0,90 km	
Cadiz	Yearly shifted trips to cycling	-	-	+0.04 mln (241 add. cyclists)	**€ -269.115**
	Bike trips/day	0,5	0,53	0,66	
	Bike km/day	0,8 km	0,99 km	1,02 km	
Dublin	Yearly shifted trips to cycling	-	-	+1,2 mln (4.832 add. cyclists)	**€ 154.612**
	Bike trips/day	0,7	0,71	0,92	
	Bike km/day	0,2 km	0,25 km	0,26 km	
Helsinki	Yearly shifted trips to cycling	-	-	+ 0.3 mln (2.642 add. cyclists)	**€ -86.266**
	Bike trips/day	0,3	0,32	0,40	
	Bike km/day	0,66 km	0,82 km	0,84 km	
Krakow	Yearly shifted trips to cycling	-	-	+ 1 mln (4.370 add. cyclists)	**€ 488.229**
	Bike trips/day	0,6	0,61	0,71	
	Bike km/day	1,4 km	1,74 km	1,79 km	
Manchester	Yearly shifted trips to cycling	-	-	+0.9 mln (6.369 add. cyclists)	**€ 328.279**
	Bike trips/day	0,4	0,41	0,54	
	Bike km/day	0,5 km	0,62 km	0,64 km	
Riga	Yearly shifted trips to cycling	-	-	+0.1 mln (1.567 add. cyclists)	**€ -64.602**
	Bike trips/day	0,3	0,3	0,4	
	Bike km/day	1,8 km	2,23 km	2,30 km	
Rome	Yearly shifted trips to cycling			+1.12 mln (7.100 add. cyclists)	**€ 1.047.497**
	Bike trips/day	0,4	0,41	0,53	
	Bike km/day	1,8 km	1,9 km	1,95 km	
Turin	Yearly shifted trips to cycling			+1,3 mln (6.734 add. cyclists)	**€ 1.013.655**
	Bike trips/day	0,5	0,51	0,66	
	Bike km/day	1,4 km	1,74 km	1,78 km	

Amsterdam	Yearly shifted trips to cycling	-	-	+1 mln (3.400 add. cyclists)	€ 1.031.589
	Bike trips/day	0,76	0,77	0,97	
	Bike km/day	2,6 km	3,2 km	3,3 km	
Copenhagen	Yearly shifted trips to cycling	-	-	+0.8 mln (3.227 add. cyclists)	€ 573.286
	Bike trips/day	0,7	0,75	0,92	
	Bike km/day	1,6 km	1,98 km	2,05 km	
Munich	Yearly shifted trips to cycling	-	-	+1.4 mln (6.222 add. cyclists)	€ 1.321.861
	Bike trips/day	0,55	0,58	0,66	
	Bike km/day	1,2 km	1,49 km	1,54 km	
Total	**+ € 6 mln of net benefts** (benefit cost-ratio 2:1) discounted at 5%/year				

Estimation methodology and assumptions

This preliminary estimation of the impacts of the project has been possible thanks to the strong commitment and cooperation of the 13 cities and WP Leaders in the past months. This has seen, in the first place, a round of self-assessment carried out by each HANDSHAKE city and guided by WP leaders and included in the Stage1 proposal. Secondly, the self-assessment has been reviewed through a workshop held in Rome during which cities further narrowed down the scope of their interventions. On the basis of the workshop, ISINNOVA and DECISIO have reviewed the evaluation framework and indicators to include a broader array of effects. Thirdly, a survey has been send out to cities to collect preliminary qualitative and quantitative data about the baseline and expected effect. Specifically, cities have been requested to answer to questions regarding the current situation (modal share, trips, travel times and qualitative information regarding perception of safety and comfort as well as internal municipal organisational capacity), the type of intervention, the scope of the intervention (geographical scope, time to reach the full effect and target groups), expected effects (both in term of traffic impacts, safety impacts, environmental impacts, economic impacts and organisational impacts). In addition, further questions have revolved around cities' ambitions, motivations and potential (perceived and objective) barriers. The information provided by the cities has been thoroughly reviewed by DECISIO. Gaps in the information have been integrated with a further desk research (using, in particular, statistical databases of Eurostat, OECD, World Bank and EEA) and triangulated and validated by means of peer-review conducted by ISINNOVA and two rounds of teleconferences with cities. Finally, an economic estimate has been performed on the performance of the project compared to the value of the subsidy.

The traffic forecasting and the estimation of quantitative effects has made use of a mix of tools including trend analysis, quick-scan traffic simulation and micro-economic modelling. Among the tools used is worth mentioning AIMSUN and the EC-funded Urban Transport Roadmaps Tools which is specifically tailored for the scoping phase. The information provided by the city and reviewed by HANDSHAKE expert was used as input to the models. The output of the models has been reviewed by a team of experts of WP Leaders and confronted with the estimations provided by the cities to produce realistic scenarios. Whenever information was not available this has been reconstructed using secondary sources. For instance, some cities had difficulties in providing information regarding traffic volumes. This have thus been reconstructed by looking at the population between 15-64, estimating the average trips per person per year and using modal share information to reconstruct the values. Traffic growth in the baseline scenario has been based on reference economic, population and commuting traffic growth scenarios. Environmental effects we have taken into account average carbon emissions, distribution of fuels, market penetration trends of electric vehicles and rate of substitution. Variation in the travel distance has been used as input to calculate health and productivity benefits. Estimation of such variation comes from scientific literature review and studies performed in another EU-funded project EVIDENCE.

Please note that the broad assessment exercise that we conducted while preparing this proposal (whose details are visible in the Annex) revealed some enlightening findings, including the challenges most cities face when appraise the effects of their projects. This experience was however valuable, for our 13 cities were exposed to the nuances linked with a thorough evaluation process and appreciated the importance of conducting rigorous data collection.

2.2 Measures to maximise impact

a) Dissemination and exploitation of results

HANDSHAKE will deliver the expected impacts of H2020-MG4.1, achieving a high leverage factor based on a strong commitment to preparing and implementing integrated cycling solutions successfully developed by our 3 CCs to 10 highly committed FCCs and further to a wider audience of cities interested in cycling planning and innovation.

In addition, HANDSHAKE will contribute to developing practical and replicable tools and methodological approaches to support preparation, including a comprehensive body of knowledge and guidance for further European take up applicable to a large target audience of policy makers, practitioners and academics.

The project impacts will be generated through the involvement of various stakeholder groups, which include politicians, practitioners, cycling experts, businesses, NGOs, citizens, and through the development of comprehensive knowledge, transfer-conductive methods and tools and peer environment.

HANDSHAKE will create innovation capacity and integrate new knowledge into the cycling development community, through an innovative approach: the fusion of several transfer-conducive components into a single logic sequence that accompanies cities through a phased work programme in which holistic assessment and social engagement play a major role.

To maximise the project´s impact, HANDSHAKE will implement actions according to two core strategic elements: an efficient and comprehensive communication and dissemination strategy, and a forward-thinking exploitation strategy that will facilitate and encourage the use of its innovative products far beyond the project's end.

Communication is high on the EU research agenda. Citizens want to know how the money is spent, and decision-makers need proof that the research policies are worth the money spent and should be continued. The ultimate goal of a project's communication is to conduct various activities that will bring its research to the attention of as many relevant people as possible. HANDSHAKE Communications Strategy will clearly outline the systematic approach to reaching out and communicating to its target audience and raising the profile of the project.

Dissemination

In its dissemination, HANDSHAKE will ensure that each target audience (see below) is made aware of the project´s products and outputs throughout its duration. Utilising the consortium's impressively wide variety of contacts, the project will reach out to various stakeholders with tailored messages, ensuring that communication activities target their respective interests.

<table>
<tr><th>Audience</th><th>Composition</th><th>Involvement</th></tr>
<tr><td>PRIMARY</td><td>HANDSHAKE audience list</td><td>This group consisting of the Cycling Capitals and Future Cycling Capitals will receive all HANDSHAKE information, with a particular focus placed on outcomes, reports and new publications.
They will be included in the project's core communication channels, but will also be targeted via other channels e.g. Linked In, Twitter, etc.
They will be part of the joint exchange, study tours, symposia, conferences, meetings, Agape Cafes, meetings.</td></tr>
<tr><td colspan="3">Communication and dissemination for the primary target group: the European cities, CCs and FCCs. Objectives:
Present successful forward-looking cycling programs and tools and the benefits of transferring them from the 3 CCs to the 10 FCC;
Facilitate the adaptation of the cycling concepts to national and local circumstances and planning practice;
Obtain the political support and the local level support;
Support the creation of the right conditions for the successful knowledge transfer and implementation of the adapted measures for enabling cycling accessibility, attractiveness, competitiveness, safety and for rebalancing the modal share for cycling;
Build capacity by exchanging experience between CCs and FCCs;
Motivate them to start planning;</td></tr>
<tr><td>SECONDARY</td><td>Central government representatives and national policy-makers</td><td>They will receive all project core information, with a focus on national conditions.
Regular information, invitations to the experience meetings, e-updates, newsletters, conferences, final publishable reports.</td></tr>
<tr><td colspan="3">Objectives:
Present successful cycling supporting programs;
Facilitate the adaptation of the innovative cycling concept and solutions, the knowledge and guidance developed within the project to national circumstances and planning practice;
Obtain the support for a national cycling framework mobility.</td></tr>
<tr><td>TERTIARY</td><td>General contacts of ICLEI members + of all partners of the consortium</td><td>They will receive general information related to the project. They will be invited to engage and to further distribute the information.
Regular information, invitations to the experience meetings, e-updates, newsletters, conferences, final publishable reports.
Direct mailings, website, advertorials in professional publications.</td></tr>
</table>

Objectives: • Obtain their support in planning and implementing cycling policies in cities. • Provide them with the necessary tools to assist cities in cycling policy development and implementation, in embracing and executing the innovative transfer programme. • Involve them as expert trainers for the cities' representatives.		
Other initiatives	General contacts of ICLEI members + of all partners of the consortium	Through e-updates, websites, meetings & trainings.
Objective: • Cooperate with other cycling and not only horizon 2020 / Civitas initiatives • Provide input to other news sources and vice versa, stay in contact with ELTIS & SUMP Platform		

A list of European cities and mobility experts, as well as contacts from other mobility related initiatives the consortium partners are involved in will be developed. To create this list and to detect possible gaps (e.g. at national level) an extensive stakeholder/contacts mapping will be conducted as part of the communication strategy. The aim is to include about 500 contacts and to grow over the project´s lifetime. To create this list and to detect possible gaps (e.g. at national level) an extensive stakeholder/contacts mapping will be conducted as part of the communication strategy.

In addition to this centralised online dissemination, HANDSHAKE will also work closely with consortium partners to spread its message. CCs, for example, are forerunners and role models and will act as (national) multipliers.

HANDSHAKE partners will also promote the project and its products within their respective organisations, alerting colleagues working on similar projects and striving for inter-project promotion and possibly more significant collaboration. All partners will be made fully aware of their dissemination duties during the project´s lifetime and will be guided by the lead partner for communication (ICLEI). ICLEI will make it easy for partners to engage in dissemination and promotion activities, providing them with ready-made communication products such as presentations and videos, but also supporting them in developing their own communication materials.

Exploitation

From the beginning of the project, the exploitation of results will be strategically embedded in the project´s activities. Two Work Packages, WP5 and WP6, have been formulated to directly tackle this task, ensuring that exploitation is set in as a key element of the project. A forward-thinking exploitation strategy will be in place that will be used as a living document over the project´s lifetime. At the end of the project the successful exploitation process of HANDSHAKE will focus on the headline items highlighted in Section 1.1.

The project will strive to create strategic partnerships with other ongoing European initiatives, such as the CIVITAS Research and Innovation Actions on Sustainable Urban Mobility Plans (SUMP) (the three SUMP projects: PROSPERITY, SUITS and SUMPs-Up, PROSPERITY and SUITS), which aim to bring knowledge and best practice examples of SUMP processes and implementation together, and aim to act as a knowledge platform for cities.

ELTIS is also considered to be a strategic multiplier. Through ELTIS, HANDSHAKE products will find a platform with an already-established audience. HANDSHAKE will furthermore connect to European initiatives in other fields (e.g. city development and energy policy), such as the Covenant of Mayors and the SMART Initiatives.

The table below provides a summary of the expected exploitation intention of the main types of consortium partners: city, academia, research partners and city network (see WP6 for details on the exploitation strategy).

Organisation Type	Exploitation Intention
Cities	The 13 cities participating in HANDSHAKE (Amsterdam, Bordeaux Metropole, Bruges, Cadiz, Copenhagen, Dublin, Helsinki, Krakow, Greater Manchester, Munich, Riga, Rome and Turin) will use the project results in order to enhance sustainable mobility in general, cycling in particular, and to increase the quality of life in the cities. The HANDSHAKE outcomes will be disseminated through networking activities and meetings where transport and mobility are key topics. These platforms and channels allow technicians and decision makers from the partner cities to exchange good practices and exploitation of project results and will therefore lead to a European-wide dissemination of HANDSHAKE. These activities will encourage the take-up of HANDSHAKE results by an even wider range of cities across Europe and enhance the creation of a legacy beyond the project's lifetime.
Academia	The partner from academia (Urban Cycling Institute) aims to engage with new ideas, the overall research framework and researchers in similar or connected fields which will in turn provide added value to their students, PhDs, and the university or research institute as a whole. This partner will publish the HANDSHAKE results at high-tier conferences and journals, thus, the international

	scientific visibility of HANDSHAKE will be ensured. Furthermore, the University of Amsterdam has productive relationships with partners and clients in industry, the European Commission, the United Nations, the World Bank, national and local governments in different parts of the world, as well as with partners at other academic institutions across Europe and beyond. These, and further, partnerships will be used to disseminate and exploit HANDSHAKE project outcomes.
Research partners and City Network	Transport and mobility, and in particular research, consulting and education in the field of sustainable mobility and cycling, and creating a cleaner, safer and more efficient mobility system is the core business of the four research partners of HANDSHAKE (ISINNOVA, Mobiel 21, Velo Mondial and Decisio) and the city network (ICLEI). HANDSHAKE's objectives enable these partners to enlarge their business branch of new visions on cycling innovations. With these new skills, they will be able to provide their customers with further innovative approaches to foster sustainable urban mobility and increase their ability for future research and development activities nationally as well as internationally in the field of sustainable mobility and new participatory planning and governance approaches. As these partners also closely work with cities and national governments, HANDSHAKE will assist in creating a better understanding amongst policy makers about the potential impacts their strategies on cycling have. Using the experience and involvement in several EU-funded projects safeguards a wide dissemination and exploitation of results to transport experts, transport responsible public authorities as well as public transport providers and associations across Europe.

b) Communication activities

HANDSHAKE generates interesting and valuable information that will be converted into technical papers, reports and scientific publications. The project leaders will ensure that the latter are open source publications, which will be made available on the HANDSHAKE website. The HANDSHAKE knowledge will also be promoted in more attractive, easy-to-digest formats, such as brochures and fact-sheets, ensuring that the content is made accessible to stakeholders and the general public. To make end-users aware of relevant materials, HANDSHAKE will publish them on its project website, as well as on related online resources such as ELTIS and CIVITAS. It will also take advantage of all available partner communication channels to achieve further dissemination.

HANDSHAKE will utilise both classic project communication channels, such as a regular newsletter and a project-website, with dynamic social media approaches, setting up a presence on Instagram for example. A thorough and systematic strategy will guide all communication activities, and will ensure that the following communication measures are implemented at a minimum:

- Development and maintenance of the HANDSHAKE website, creation of social media channels including Facebook (50 posts/year), Twitter (100 tweets/year) and LinkedIn (40 posts/year) accounts.
- Development and maintenance of Instagram and YouTube channels.
- Production of blog posts, videos, sets of photographs and podcasts.
- Dissemination of 2.000 leaflets and postcards, as well as the e-versions; distribution of 8 e-newsletters.
- Representation at over 20 mobility project conferences and workshops.
- Provision of a press corner with at least 6 press releases for local and European media.
- Organisation of 1 public event in each city and 1 final HANDSHAKE conference.
- Support other partners in their dissemination efforts.

All communication messages will be tailored for different target audiences. The HANDSHAKE communication and dissemination efforts will particularly be focused on cities and countries included in the project via the CCs and the FCCs. Translation and interpretation of relevant messages and outputs will be used to ensure that the project outcomes are accessible for everyone.

Data protection and management

HANDSHAKE will collect personal, non-sensitive data through publicly available resources. Based on the collected data, potential participants will be contacted using the 'opt-in' e-mail method. The target audience will be provided with the opportunity to unsubscribe from the database at any time. Unsubscribed contacts will be immediately and permanently removed from the database.

All relevant issues of IPR have been discussed among the consortium during the proposal phase and it was agreed to develop a Consortium Agreement (CA). The fine tuning and detailed formulation will happen within the first months after the project start. It has already been decided to base this upon the DESCA 2020 model Consortium Agreements specifically developed by the EU.

- Input: On input knowledge provided to the project the consortium partners will ensure that all existing knowledge that is required for proper execution of HANDSHAKE will become available to all relevant partners. The provisions on protection of intellectual property will be established in detail in the Consortium Agreement. It will specify conditions (e.g., non-disclosure, confidentiality) on how existing knowledge that belongs to a consortium partner (e.g. software, hardware, etc.) will become available to the other consortium partners.
- Output: Concerning output generated by the project IPRs on the results of the project will be protected by an Exploitation Agreement signed by the consortium via the Consortium Agreement. The agreement, in alignment with the policies and context for EU funded projects, specifies how and under which terms and conditions beneficiaries get access to existing and created intellectual property owned and generated by other beneficiaries and also specifies the terms and conditions of access to such intellectual property in case of exploitation beyond the scope and duration of the project. The agreement will cover the specification of the types of intellectual properties, handling of different types of intellectual properties, mechanisms to identify and to brand intellectual properties, and definition of the roles of the beneficiaries and the individual usage rights of the intellectual properties. In particular, it will regulate: identification, confidentiality and ownership of project results, ownership of pre-existing know-how and refinements thereof, knowledge property transfer, access rights to and licenses for use of project results, and dissemination strategy for restricted results.
- Open access strategy for publications: For maximising the impact of the projects activities, the consortium will publish its outcomes in documents, press releases, conference papers, journals and/or book chapters. The consortium is convinced that an open strategy will help not only other projects to benefit from the results of HANDSHAKE but will also lead to a better exchange with others which will in return be of benefit for the project. As such, the project will follow an open access approaches for all its publications. For this purpose, two main principles will be taken into consideration, depending on the concrete publication:
  - Open access publishing | Gold open access: An article is immediately provided in open access mode.
  - Self-archiving | Green open access: The published article or the final (peer-reviewed) manuscript is archived by the author – or a representative – in an online repository before, after or alongside its publication. Access to this article may sometimes be delayed ('embargo period'), as some scientific publishers may wish to recoup their investment by selling subscriptions and charging pay-per-download/view fees during an exclusivity period.
- Open access strategy for knowledge: The principal interface for knowledge access, both internally (within the consortium) as well as externally, will partly be achieved through the HANDSHAKE website which will contain two main areas:
  - Public area: This part of the website will be available to everybody (public) and the primary goal is to inform about the project and to disseminate research results. It will give access to a section where public deliverables can be downloaded. In addition, several features such as an option to subscribe for an e-mailing list for the e-update, upload related events, will become available. If applicable, other features, such as surveys can be hosted here as well.
  - Internal area / Exchange Hub: This part of the website will only be available to registered consortium partners, and will contain confidential deliverables, working documents, list of contacts, internal log files from monitoring (includes planning) and functionalities to post, read and edit documents.

3. Implementation

3.1 Work plan — Work packages, deliverables

Work starts with a preparation phase (WP1) stretching from M1 to M12. This phase allows cities to assess the local conditions according to cycling favourable factors such as:

- Institutional setting (governance).
- Spatial, infrastructure and mobility setting.
- Socio-cultural and behavioural context.
- Economic context.

This phase also allows cities to deep-dive into the CC-inspired cycling solutions they pre-identified as the most appropriate for the local needs, in order to quantify and appraise their socio-economic benefits and accordingly identify and prioritise the list of solutions to be rolled out in HANDSHAKE. This is enabled by the use of Bikeconomics.

WP1 is also responsible for setting up the CCs-FCCs **mentoring programme** as well as the **cooperation programme** to be ran by the CCs. **Equity and gender requirements** will also be identified in order for cities to address them n WP2 and WP3, under the monitoring of WP7.

The work programme then **gets the cities into action** through **WP2** and **WP3** for the CCs and FCCs respectively. These WPs are at the heart of the project as they sustain the effective transfer of solutions into the FCCs and the further innovation of cycling in the CCs. The activity runs from M13 to M42, thereby informing all other WPs with insights, knowledge and evidence, especially in terms of:

- Embedding a cycling vision in the overall urban vision.
- Delivering and running a local governance.
- Defining and delivering an entrepreneurial strategy.
- Identifying and conceptualising working cycling business models.
- Identifying and conceptualising innovation in smart infrastructure and services, sharing options, nudging.

While WP2 and WP3 deliver action and produce information, **WP4** is tasked with **assessing, monitoring and comparing results**. This complex activity is tackled in an innovative way thanks to the availability of the Bikenomics evaluation tool. Cities will be able to not only evaluate classic mobility impacts (i.e. traffic safety, health, air quality, congestion), but to understand progress in crucial policy areas that are often overlooked and that are in fact absolute determinants when trying to promote change and affect people's life quality. These include:

Quality of travel experience	Wellbeing	Economic vitality
Quality of urban space	Social safety	Healthcare costs
Business and entrepreneurship	Land value	City and regional governance
Stakeholder inclusion and transparency	Financial viability	Planning and implementation capacity
Awareness and learning mechanisms	Competences	Knowledge and planning integration

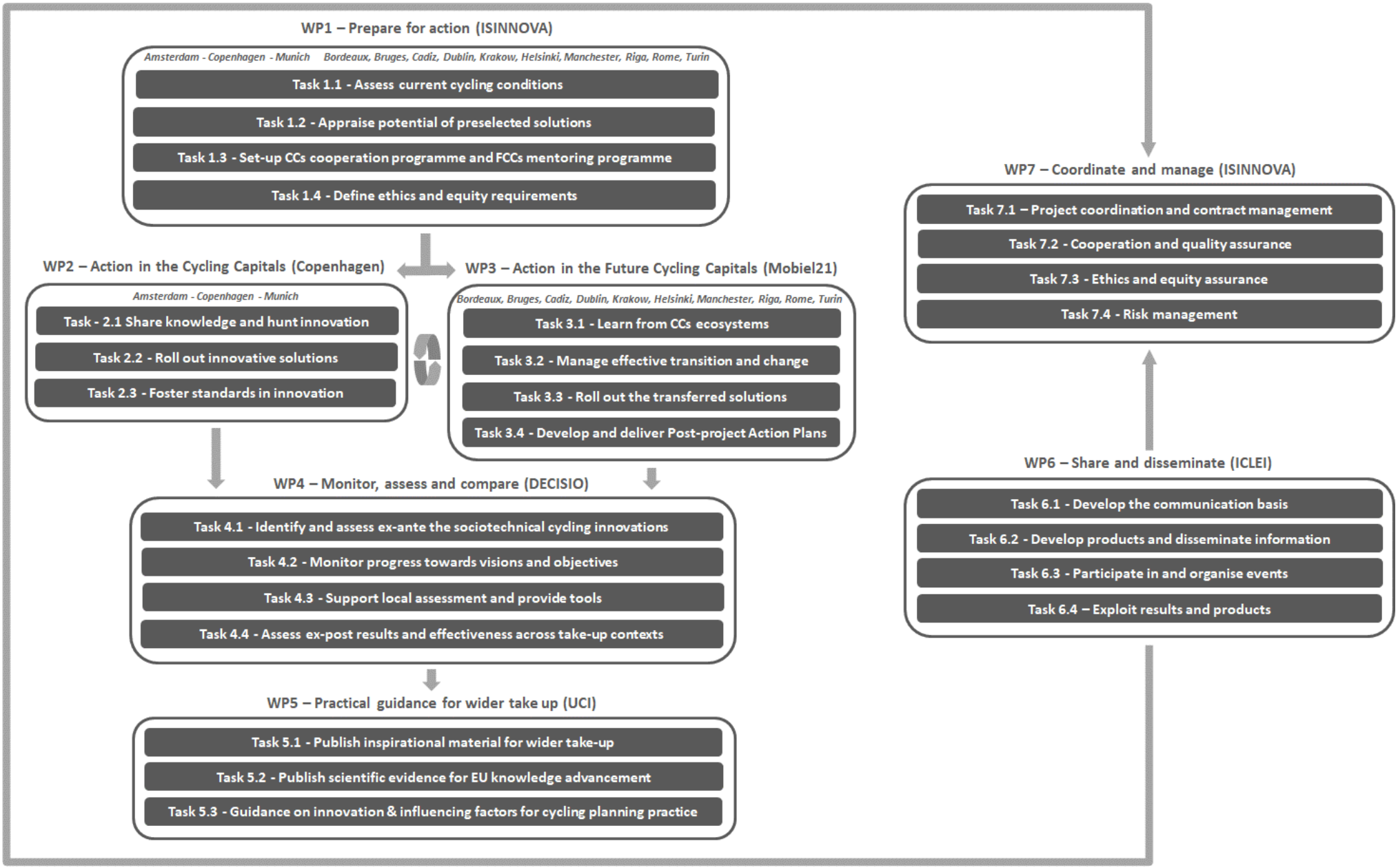
Importantly, WP4 is also to perform a **comparative analysis** across the diverse urban cultural and socio-economic contexts represented in HANDSHAKE in order to provide lessons for WP5 and WP6 to communicate and disseminate widely.

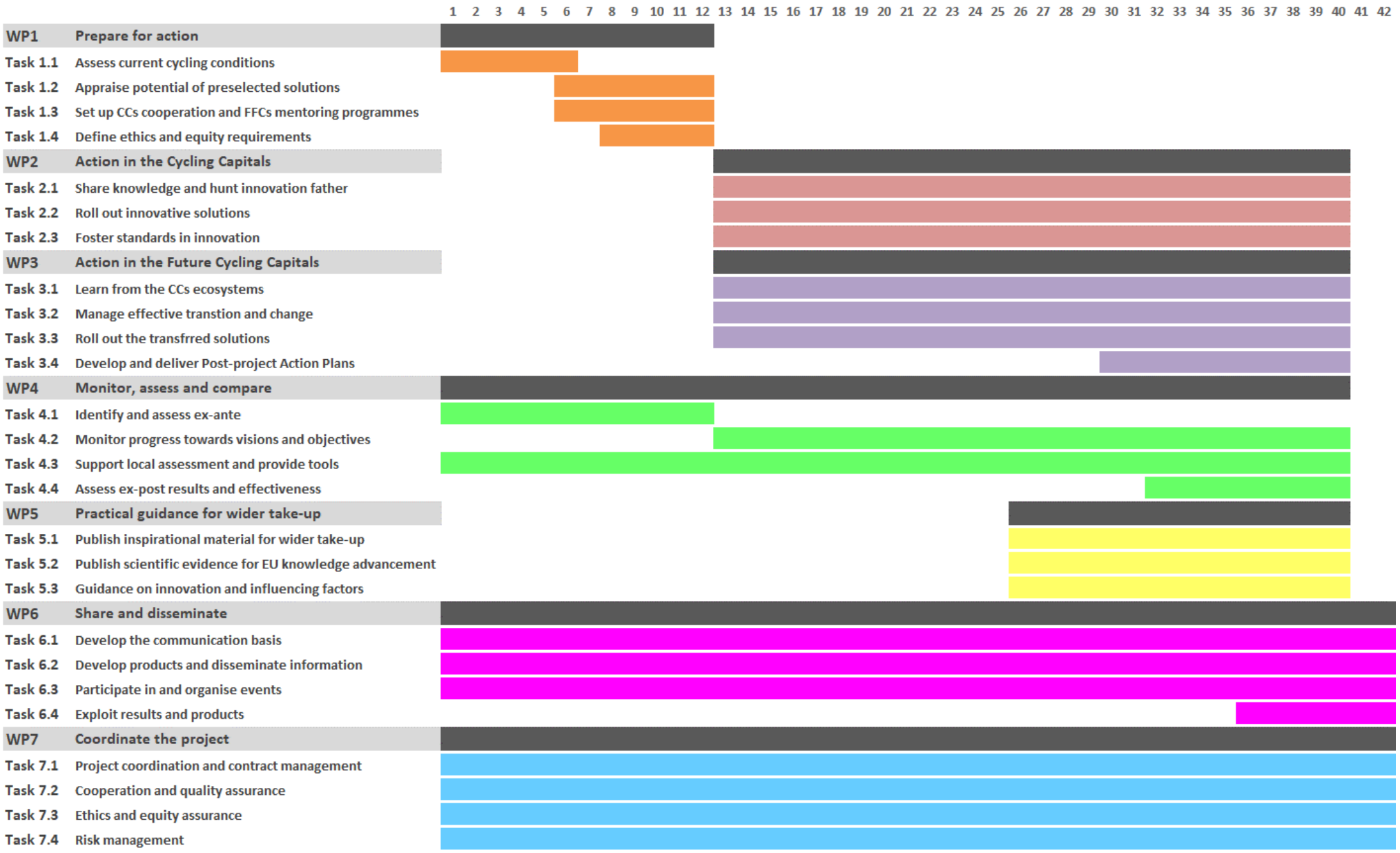
WP5 represents **HANDSHAKE's commitment** to bolster cycling innovation take-up in a wider European context and expectedly beyond Europe. Cycling continues to attract growing interest and investments for its proven ability to deliver sustainable mobility while at the same time moulding more human-friendly urban spaces. That is what enthusiastically attracted to HANDSHAKE the cities that are partner of our group and the many that could not be directly taken on board. For them and the many others eager to learn more on cycling innovation we pledge to harvest a number of **legacy products** to be released by the end of the project. These outputs will tell the HANDSHAKE story transparently presenting the results yielded by our transfer approach and accordingly issuing transfer guidance based on our accomplishments and shortcomings. We will employ an array of media ranging from large circulation e-booklets, videos and infographics, as well as evidence-based papers expected to inform both the scientific and practitioner community.

WP6 tenders to the more classical but equally valuable activity of **dissemination and communication** in order to reach as wide as possible an audience with updates on our actions, events and results. WP6 relies on strong links with all major national and international networks active in sustainable urban mobility, including connections with key cycling projects running in parallel. These synergies and long-standing relationships are expected to accelerate the circulation of information and in turn allow HANSDHAKE to capture opportunities suitable to improve our action. True to the innovative nature of HANDSHAKE, WP6 will employ engaging methods and formats to foster internal communication and elicit valuable insights, including Agape Lunches, UnConferences, World Cafès.

WP7 oversees the execution of the entire work programme and tenders to the satisfaction of all partners as well as that of the European Commission. Coordinating and managing a project of this scale and ambition requires **leadership and commitment**, both from the project coordination team and the partner organisations. We believe that these qualities are attested by the narrative of this proposal and the qualifications illustrated in Section 4. We are at the same time aware of the risks ahead of us, which we tried to meticulously appraise in the appropriate risk section. As repeatedly stressed in this document, transferring cycling innovation is a highly ambitious endeavour in itself, for it infringes upon established mindsets and habits. Our cities are nevertheless ready to cope with the inevitable setbacks in order to initiate an irreversible change process that will affect the quality of life of people for years to come.

The next 2 figures show the work streams (flow chart) and their time sequences (Gantt chart).


WP1 – Prepare for action (ISINNOVA)
Amsterdam - Copenhagen - Munich
Bordeaux, Bruges, Cadiz, Dublin, Krakow, Helsinki, Manchester, Riga, Rome, Turin
Task 1.1 - Assess current cycling conditions
Task 1.2 - Appraise potential of preselected solutions
Task 1.3 - Set-up CCs cooperation programme and FCCs mentoring programme
Task 1.4 - Define ethics and equity requirements
WP2 – Action in the Cycling Capitals (Copenhagen)
Amsterdam - Copenhagen - Munich
Task - 2.1 Share knowledge and hunt innovation
Task 2.2 - Roll out innovative solutions
Task 2.3 - Foster standards in innovation
WP3 – Action in the Future Cycling Capitals (Mobiel21)
Bordeaux, Bruges, Cadiz, Dublin, Krakow, Helsinki, Manchester, Riga, Rome, Turin
Task 3.1 - Learn from CCs ecosystems
Task 3.2 - Manage effective transition and change
Task 3.3 - Roll out the transferred solutions
Task 3.4 - Develop and deliver Post-project Action Plans
WP4 – Monitor, assess and compare (DECISIO)
Task 4.1 - Identify and assess ex-ante the sociotechnical cycling innovations
Task 4.2 - Monitor progress towards visions and objectives
Task 4.3 - Support local assessment and provide tools
Task 4.4 - Assess ex-post results and effectiveness across take-up contexts
WP5 – Practical guidance for wider take up (UCI)
Task 5.1 - Publish inspirational material for wider take-up
Task 5.2 - Publish scientific evidence for EU knowledge advancement
Task 5.3 - Guidance on innovation & influencing factors for cycling planning practice
WP7 – Coordinate and manage (ISINNOVA)
Task 7.1 – Project coordination and contract management
Task 7.2 - Cooperation and quality assurance
Task 7.3 - Ethics and equity assurance
Task 7.4 - Risk management
WP6 – Share and disseminate (ICLEI)
Task 6.1 - Develop the communication basis
Task 6.2 - Develop products and disseminate information
Task 6.3 - Participate in and organise events
Task 6.4 – Exploit results and products


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42
WP1 Prepare for action
Task 1.1 Assess current cycling conditions
Task 1.2 Appraise potential of preselected solutions
Task 1.3 Set up CCs cooperation and FFCs mentoring programmes
Task 1.4 Define ethics and equity requirements
WP2 Action in the Cycling Capitals
Task 2.1 Share knowledge and hunt innovation father
Task 2.2 Roll out innovative solutions
Task 2.3 Foster standards in innovation
WP3 Action in the Future Cycling Capitals
Task 3.1 Learn from the CCs ecosystems
Task 3.2 Manage effective transtion and change
Task 3.3 Roll out the transfrred solutions
Task 3.4 Develop and deliver Post-project Action Plans
WP4 Monitor, assess and compare
Task 4.1 Identify and assess ex-ante
Task 4.2 Monitor progress towards visions and objectives
Task 4.3 Support local assessment and provide tools
Task 4.4 Assess ex-post results and effectiveness
WP5 Practical guidance for wider take-up
Task 5.1 Publish inspirational material for wider take-up
Task 5.2 Publish scientific evidence for EU knowledge advancement
Task 5.3 Guidance on innovation and influencing factors
WP6 Share and disseminate
Task 6.1 Develop the communication basis
Task 6.2 Develop products and disseminate information
Task 6.3 Participate in and organise events
Task 6.4 Exploit results and products
WP7 Coordinate the project
Task 7.1 Project coordination and contract management
Task 7.2 Cooperation and quality assurance
Task 7.3 Ethics and equity assurance
Task 7.4 Risk management

Work packages descriptions

Work package number	1	Lead beneficiary				ISINNOVA	
Work package title	Prepare for action						
Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN
PM per participant	6	3	3	3	3	3	3
Participant number	8	9	10	11	12	13	14
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	
PM per participant	3	3	3	3	3	3	
Participant number	15	16	17	18	19		
Short name of participant	M21	Velo Mondial	DECISIO	ICLEI	CADIZ		
PM per participant	3	1	4	2,5	3		
Start month	1			End month	12		

Objectives

The objective of WP1 is to prepare the ground for the transfer of the cycling solutions. This phase entails understanding the current state of affairs in order to identify existing assets and gaps, strengths and weaknesses, barriers and opportunities. WP1 is also the occasion to set up the cooperation and control mechanisms that will accompany and sustain the transfer process throughout the project.

Description of work

WP1 brings together all 13 HANDSHAKE cities in a **preparatory phase** lasting 12 months and acting as a springboard for the execution of the entire work programme. Although the proposal phase allowed for a good investigation of current facts and dynamics, cities feel that the innovative nature of HANDSHAKE's activities require a systematic review of the cycling state of affairs, spanning from operating governance and prevailing mindsets, to infrastructure and services. This analysis, conducted according to a common methodology across all cities, will provide a comprehensive **reference picture** and essential information on the **priority needs** of each city. It will accordingly allow the project to **design and structure** a **tailored capacity building** and **transfer programme** that will see the collaboration of our CCs and FCCs.

Task 1.1 – Assess the current cycling conditions (M1-M6, Leader: ISINNOVA)

This task guides cities in the execution of a thorough **survey of the existing conditions** according to a number of key determinants:

- Cultural readiness of institutions, citizens and stakeholders.
- Socio-economic, environmental and legal/regulatory circumstances and trends.
- Vision, plans and forward-looking activities.
- Governance and engagement.
- Planning integration.
- Assets in terms of existing infrastructure and services, existing and future funding.
- Economic potential of cycling.

The systematic analysis of Task 1.1 will leverage available data and will execute ad-hoc surveys (through face-to-face interviews and focus group meetings depending on local viability) on the basis of **common guidelines** issued by the leaders of Task 1.2 and Task 4.1 at M2. This preparatory activity in fact serves as a benchmark also for our evaluation activities, de facto establishing an assessment baseline scenario. The tight delivery pace of these guidelines is made possible by the in-depth work that ISINNOVA and DECISIO conducted during the conceptualisation of HANDSHAKE and by their respective extensive curriculum in cycling solutions assessment.

The resulting information will provide an accurate mapping of frameworks conditions that will be stored in a knowledge database to inform the activities of Task 1.2 and Task 4.1.

Task 1.2 – Appraise the potential of pre-selected solutions (M6-M12, Leader: DECISIO)

Task 1.1 allows the expert team of HANDSHAKE to assess the areas in which cities require the most transfer of capacity. This assessment is made by leveraging two complementary sources:

1. The collective expertise of our cycling experts, spanning over 20 years, which produced headline methods and tools used in Europe and beyond in cycling planning, including Velo.Info, BYPAD, Enabling Cycling Cities

(CIVITAS) and Bikenomics. This asset supplies a holistic vision of cycling planning requirements.
2. The collective expertise of our CCs, which affords the assessment with hands-on experience and a peer valuation of strengths and weaknesses. Each CC will also cross-assess the state of affairs of the other CCs in order to provide and receive inspiration for further improvement.

The resulting assessment will input to the work of Task 1.2 providing a sense of direction and indications where capacity and financial investment should be made. The in-depth appraisal will accordingly be made by each individual city with the support of Bikenomics. Using the reference pre-selected cycling solutions, as shown in Section 1.3 and in Task 3.3), cities will assess their **socio-economic potential** by:

- Defining activities, inputs and target groups of the target solutions.
- Appraising impacts by weighing, monetising and comparing the effects against the costs (determine the value for money).
- Defining the priority of solution implementation within HANDHSAKE and after the project.

The headline output of Task 1.2 is the precise definition of the solutions to be rolled out in WP2 (CCs) and WP3 FCCs), as well as the indication of the areas in which inspiration and capacity building will be most needed. This Task also feeds the scenario building of Task 4.1.

Task 1.3 – Set-up CCs cooperation programme and FCCs mentoring programme (M6-M12, Leader: Mobiel 21)

In order to pave the way for collaborative action in WP2 and WP3, Task 1.3 sets out to establish the required **methodological** and **organisational framework**. This is achieved by developing a set of headline tools and methods by M12 and namely:

- **Methodology and practical guidance for an effective transfer and transition strategy**, including the use of transition management (main author: ICLEI).
- **Methodology and practical guidance for immersive study tours and symposia** (main author: Velo Mondial).
- **Framework for a CCs collaborative system and a FCCs mentoring system** (main author: Mobiel 21).
- **Methodology and practical guidance for evaluation and monitoring** (main author: Decisio).
- **Time plan for cycling solutions learning, transferring and rolling out** (main author: Mobiel 21).
- **Helpdesk, suggestions and FAQs** (main author: Mobiel 21).

These outputs are the foundations of our transfer approach and will be thoroughly addressed with the cities in dedicated workshops held at the Kick-off meeting in M1 and during the during the 2nd General Assembly in M7.

Another key supporting tool deployed by Task 1.3 is the **online exchange hub**, developed by ICLEI and managed by Mobiel 21. The hub is an online collaboration platform supporting and facilitating the work of the cities involved in the project through a private, tailored working space. Cities will have the possibility to plan and manage an effective transfer strategy, request and receive support from CCs and experts throughout the project, keep track of all activities, store files, follow discussion threads, and monitor the progress of their work.

The idea of the exchange hub was employed by the CIVITAS 2020 CSA project CIVITAS SATELLITE, after being first tested by CIVITAS CAPITAL, and is now used by all CIVITAS 2020 IAs and RIAs. This hub is not suited for sharing information and discussing publicly, as this is the function of the public website and the events rolled out by WP6. Thus, it is only accessible by project partners. The hub will be handled, continuously monitored and improved by WP3 (see Task 3.1).

Task 1.4 – Define ethics and equity requirements (M8-M12, Leader: ISINNOVA)

For those with privilege, cycling can be liberating, a lifestyle choice, whereas for those living in the fringes of society cycling is not a realistic choice (due to unconducive cultural or infrastructural conditions), or on the contrary an often-oppressive necessity. Ignoring these invisible cyclists skews bicycle improvements towards those with choices. Following suit on the findings of relevant studies and researches conducted in the US (Bicycle Justice and Urban Transformation, 2016), Netherlands (Transport Justice: Designing fair transportation systems, 2016) and Europe (Mind-Sets project, H2020), Task 1.4 provides the cities with guidance while negotiating the subtleties of cycling pertinent ethics considerations, developing a questionnaire for the assessment of social justice, cultural diversity, behavioural psychology and privacy. The assumption is that reshaping planning practices and built environments is not enough to increase bicycle usage. From an ethnographic and sociological perspective, cities who want invest on cycling should also consider how road users create meanings in mobility and how “human infrastructure” encourages or discourages cycling.

The findings of this task will inform the transfer strategy of each city and set out requirements to be considered in the roll out of the solutions. Task 7.3 will monitor how cities tender to these requirements, while Task 4.4 will

incorporate ethics consideration in the final assessment of transfer effectiveness.

Deliverables

WD1: Guidelines for the assessment of cycling conditions (M2)

D1.1: State of affairs and definition of solutions in 13 Cities (M12)

D1.2: Transfer framework and guidance (M12): D1.2.1: Methodology and practical guidance for an effective transfer and transition strategy; D1.2.2: Methodology and practical guidance for immersive study tours and symposia; D1.2.3: Framework for a CCs collaborative system and a FCCs mentoring system; D1.2.3: Methodology and practical guidance for evaluation and monitoring; D1.2.4: Time plan for cycling solutions learning, transferring and rolling out; D1.2.5: Helpdesk, suggestions and FAQs

D1.3: Ethics and equity requirements (M12)

Work package number	2	Lead beneficiary			Copenhagen
Work package title	Action in the Cycling Capitals				
Participant number	1	2	3	4	
Short name of participant	ISINNOVA	CPH	AMS	KVR	
PM per participant	2,5	27,5	26	26	
Start month	13			End month	40

Objectives

This work package aims to facilitate an efficient cooperation between the CCs in order to bolster knowledge share and acquisition, innovation and inspiration, both across the CCs and toward the FCCs. WP2 thus seeks to:

- Ensure knowledge sharing on cycling best practice, incorporating physical, methodological and organizational factors.
- Detect and capture innovation in the above dimensions.
- Roll out innovative pilot solutions to further extend the benefits of cycling, in view of transferring and upscaling them.
- Bring European cities together and strengthen the European cycling network with shared cycling knowledge.
- Further establish Amsterdam, Copenhagen and Munich as world champions in the domain of cycling.

Description of work

WP2 fosters cooperation, knowledge share development across the CCs, according to the insights produced by WP1. HANDSHAKE provides Amsterdam, Copenhagen and Munich, cities that have previously mostly worked on their own toward perfecting cycling policy, with an unprecedented opportunity for **high-level mutual learning** and **peer networking**. The CCs will take part in and host study tours, workshops and webinars through which their cycling experts will roll out and monitor innovative pilot solutions based on cycling programmes already approved and in line with their specific policy priorities. The lessons learned through HANDSHAKE will be compared in order to ascertain with a **larger base of evidence** what works and what does not, why, and how policy making can accordingly be improved. These lessons will also provide **valuable and hands-on tips** for cities interested in becoming successful cycling capitals.

Task 2.1 – Share knowledge and hunt innovation (M13-M40, Leader: Copenhagen)

Knowledge share and networking will be promoted through a number of channels, including the use of the exchange hub, tele-conferences, webinars, physical dedicated meetings at General Assemblies, and ad-hoc **exchange trips**. The actual effectiveness of each channel will be assessed en-route and according to the value placed on them the CCs will decide which one(s) should be most utilised to yield cost-effective results.

The CCs consider mutual exchange trips as particularly relevant, for nothing like a well organised direct meeting is capable of triggering innovation. Accordingly, WP2 will oversee the organisation of these trips:

1. Copenhagen: the study trip in Copenhagen will include a general introduction to the plans, strategies and goals of cycling in the City of Copenhagen. An excursion on bicycle infrastructure will be done including segregated cycle tracks, Green Cycle Routes, Super Cycle Highways, bicycle parking, bicycle and pedestrian bridges. The study trip will also include innovative ITS-solutions such as dynamic information signs to

overcome congestion on cycle tracks, intelligent street lighting to increase safety and traffic signal regulation to give cyclists a better flow. Copenhagen is hosting the ITS World Congress 2018 in September which will be combined with the exchange trip.

2. Amsterdam: The foundation of the Amsterdam study tour will include the different tiers of cycle infrastructure, intersection design and treatment, bicycle parking solutions, and data collection. The study tour will also include an overview of the latest mobility plan and policy programme, plus the innovative pilot projects that have emerged. Urban design, land use, and housing development will also be topics covered.
3. Munich: the study trip in Munich will give a general overview over the urban cycling policy and activities such as guidelines, objectives, structure and processes. It will also include a bike excursion on lights and shadows of cycling in Munich (bicycle infrastructure, local bike rental system, cycle lanes, soft measures etc.). A further focus will be set on our marketing and communication campaign "Radlhauptstadt München". The study trip will include participation in one of the major events organised by the City of Munich.

The exchange trips will also provide a springboard for ensuing knowledge share activities, for the involved *politicians*, *policy makers*, *advisors*, *researchers* and *administrative staffs* will be able to leverage the personal and professional connections built during the trips to push forward bilateral cooperation and projects.

The other key ambition of Task 2.1 is to involve the above cycling movers and shakers into a comprehensive hunting for innovation, according to the methodology illustrated in Section 1.3. This query, steered by ISINNOVA, seeks to strengthen the awareness of the cycling innovation nuances, for the very CCs are often not fully privy of the innovative elements connected with their cycling accomplishments. This activity, which strongly interrelates with the findings of our partnering SURF SCF project, will in turn feed the FCCs in WP3, expectedly accelerating the transfer process deployed thereby.

Task 2.2 – Roll out innovative solutions (M13-M40, Leader: Munich)

This task allows the CCs to develop, pilot and monitor innovative solutions in order to further enhance their cycling policies and push innovation under their existing cycling programmes. These solutions may range from measures that change cycling behaviour, work to improve cycle modelling, to new solutions in bike parking. The solutions that will be rolled out adhere to the specific local policy objectives of Munich, Copenhagen and Amsterdam and are based on the common themes defined in Task 2.1. This allows to compare results (SWOT type of analyses) between cities and derive common lessons for upscaling and transferability. These results will also be very useful to inspire the FCCs.

Amsterdam

AMS 13: Wider and higher capacity bike lanes, smaller car lanes. Amsterdam wants to increase cycling speeds. It's getting more crowded by increasing demand for cycling infrastructure. With reconstructions Amsterdam gives more space to cyclists and less to cars. Within HANDSHAKE Amsterdam wants to pilot new divisions of road space: cyclists on main road during peak period. What are the consequences for speed and traffic safety?

AMS 14: Connection of cycling network residual missing links. Amsterdam plans for new cycling infrastructure to facilitate increasing demand. It is continuously trying to update and improve planning practices. We need information about how to improve cycling modelling, cycling data collection (to fit the model) and update cost benefit assessment methods. Within HANDSHAKE we want to test new methods available at other cities and apply this to a practical case study: the new North\South cycling bridge or tunnel.

AMS 15: ICT system for cycle traffic flows improvement and cycling prioritisation at intersection. Amsterdam wants to realise constant speeds for cyclists to keep traffic flowing. Within HANDSHAKE Amsterdam pilots an innovative ICT system with heat sensors that predicts cycling demand at busy intersections. Information is used to manage traffic lights and improve cycling speeds.

AMS 16: Assessment of the effect of campaigns on cycling behaviour: the new way of cycling. The city wants to affect cycling behaviour to ease stress levels and make cycling more comfortable. Many cyclists in Amsterdam indicate that they experience stress while cycling. Amsterdam wants to introduce new campaigns (the new way of cycling) that improve stress levels and create a safer feeling. Assessment of campaigns is needed to understand effectivity and possibly modify campaigns.

AMS 17: Smart mobility and cycling: app to find free bike parking places at intermodal hubs. Bike parking is a key policy issue in Amsterdam. ICT developments create new possibilities but need testing. Amsterdam tests an app to find free bike parking at intermodal hubs (e.g. Central Station). This should reduce search times.

AMS 18: Bicycle parking solutions that are space-effective and/or multifunctional. Bike parking is an important policy issues. Amsterdam is looking for bicycle parking solutions that are space-effective and/or multifunctional. They want to test flexible use of parking places. At certain times of the day parking places may be used by freight traffic, but during the rest of the day it may be used by bike parking (e.g. unload zones at Gerard Douplein).

AMS 19: Assessment of new comfy cycling routes. Amsterdam wants to increase cycling speeds. It's getting more crowded by increasing demand for cycling infrastructure. With reconstructions Amsterdam gives more space to cyclists and less to cars. New cycling routes where cars and cyclists are mixed (like Sarphatistraat) will be evaluated on speed and safety levels to be upscaled within the city. Lessons should also be relevant to be transferred to other cities within HANDSHAKE.

Copenhagen

CPH 11: User-driven prototype tests as an innovative method to develop new concepts for campaigns, way finding solutions and bicycle parking. In Copenhagen every fourth trip by car is less than 5 km. There is a big potential to move more of these trips to bicycles, public transport or walk. Copenhagen has done a project targeting car drivers which included user-driven prototype tests to develop new concepts for campaigns, way finding solutions (e.g. the app "I Bike CPH") and enhancing bicycle parking in new urban areas.

CPH 12: Intelligent solutions for dynamic street lighting, right turn warning lights, data collection and flexible way finding. The City of Copenhagen has an ITS program developing intelligent street lighting, right turn warning light and variable message signs for flexible way finding. Furthermore Copenhagen will be hosting the ITS World Congress 2018. The conference and ongoing project will be integrated and further developed in HANDSHAKE so other cities can learn and benefit from the ITS projects in Copenhagen.

CPH 13: Customised traffic modelling tools developed to calculate bicycle traffic capacity and flow. Copenhagen is developing a traffic model that integrate cyclists and estimates streams of cyclists through specific corridors in the city. Furthermore Copenhagen has developed a traffic model for intersections (CyKap) that is currently being tested and implemented. Copenhagen wants to test the traffic models and share knowledge with other cities that are working with traffic models. The learning points from the test can be transferred to other cities.

CPH 14: Behavioural change via nudging and smart data. The behaviour of cyclists is an ongoing topic that will be addressed in HANDSHAKE through the use nudging and smart data to guide cyclist safely through the city.

CPH 15: Bicycle parking solutions that are space-effective and/or multifunctional. Bicycle parking is an important policy issue in Copenhagen. However, establishing extra bicycle parking facilities is complex in a city with pressure on urban space. Copenhagen has been testing multifunctional parking at stations and at schools where bicycle parking is very much needed during the day but settles down at night leaving room for example parked cars. Copenhagen wants to further test and upscale space-effective and multifunctional bicycle parking.

CPH 16: Socioeconomic assessments of investments in cycling. Copenhagen has built 10 new bicycle and pedestrian bridges since 2014. With HANDSHAKE it will use Bikeconomics to measure the value of bridges and other large infrastructural project for cyclists. As cycling investments in Copenhagen generally have large return in investments the data can be used to push for further investments in infrastructure in Copenhagen. Furthermore, other cities can be inclined and inspired to invest in larger infrastructural cycling project.

Munich

MUN 4: Awareness campaigns to improve traffic safety (temporarily closing and visually highlighting a crossroad to visualize hazardous areas). As there are still many accidents involving cyclists that occur at crossroads and T-junctions, different kinds of awareness campaigns shall contribute to improve traffic safety, e.g. by temporary street closures, marking certain crossroads to visualize hazardous points or by social media activities and cooperation with the local police department.

MUN 5: Improving comfort and service for cyclists (e.g. by installing air pumps and self-service stations). In addition to measures to improve cycling infrastructure, service activities play an important role to make urban cycling more attractive. Installing air pumps and self-service-stations contributes to enhance comfort of cyclists.

MUN 6: Web-based reporting tool to locate danger areas (objective and subjective, emotionally) and damages to cycling facilities. Cyclists in Munich shall actively support to make their daily cycling routes safer by making their needs and emotional impressions visible. In this way, politics and administration gain a better insight in daily traffic situations and are able to use this knowledge to improve continuously the conditions for cyclists.

Task 2.3 – Foster standards in innovation (M13-M40, Leader: Amsterdam)

This task sees the CCs exchange practice towards the co-building of **high quality standards** for cycling innovations. While preparing this proposal the 3 cities acknowledged their mutual interest in key policy and research themes that can be best addressed not simply by exchanging knowledge, but by thoroughly joining forces in developing prospective tools and methods capable of enhancing the quality of cycling provisions. We thus speak of **standards in innovation**, a novel model that the CCs believe can be best experimented through an inter-city collaboration. The activities will focus on these headline areas:

- New ways of collecting cycling data, particularly through the use of ITS.
- Role of bike sharing in improved policy making.
- Inclusion of cycling in transport modelling.
- Quality innovation in bike parking and in inducing behavioural change in cycling.
- Socio economic assessment methods of cycling investments.
- Optimising administrative structures to enable development and strengthen cycling.

Deliverables

D2.1: Cycling innovation: evidence and conceptualisation, how to push cycling to the next level, faster (M40)

D2.2: Stories and lessons from the deployment of the CCs solutions (M40)

D2.3: Standards in innovation for quality cycling (M40)

Work package number	3	Lead beneficiary			Mobiel21	
Work package title	Action in the Future Cycling Capitals					
Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN
PM per participant	6	5	7,5	3,5	26	27	27
Participant number	8	9	10	11	12	13	15
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	M21
PM per participant	27	27	27	27	27	27	13
Participant number	16	18	19				
Short name of participant	Velo Mondial	ICLEI	CADIZ				
PM per participant	4	4	27				
Start month	13			End month		40	

Objectives

The aim of WP3 is to facilitate the transfer of innovative cycling solutions from the CCs to the FFCs (the short-term goal), and to provide concrete roadmaps for the implementation of future solutions (the long-term goal).

The main objectives of WP3 are:

- Provide the FCCs with the capacity necessary to successfully transfer cycling solutions.
- Effectively transfer the selected innovative cycling solutions.
- Foster a cultivate a long-lasting cycling-friendly planning culture and urban climate.

Description of work

WP3 guides the FCCs through the articulated process of capacity building and solutions transferring. The transfer strategies and actions are buoyed by the tools and methods presented in Section 1.3 and accompanied by a continuing process of knowledge share, mentoring and learning. WP3 is defined by the concept "sharing and learning" and by the awareness that the changes entailed by cycling innovation are considerable and are likely to be met by both enthusiasm and opposition.

WP3 acts as a broker between the knowledge and the hands-on experience supplied by the CCs and the expert team of the project, and the concrete needs of the FCCs, in line with the strategies and actions defined in WP1.

Task 3.1 – Learn from the CCs ecosystems (M13-M40, Leader: Mobiel21)

Our 10 FCCs, Bordeaux, Bruges, Cadiz, Dublin, Helsinki, Krakow, Manchester, Riga, Rome, Turin will be thoroughly exposed to the ecosystems of our 3 CCs through a number of conduits, as shown below.

→ Immersive Study Tours

The novel format of the Immersive Study Tours will be used in **3 tours** each involving 2 FCCs. These are the cities in most need of an inspirational deep-dive into advanced cycling environments, which will travel to the respective mentoring CCs. The **study tours scheme** unfolds as follows: 1) Cadiz and Krakow → Munich, 2) Manchester and Riga → Copenhagen, 3) Rome and Turin → Amsterdam. Each travelling delegation will consist of politicians, policy makers, technicians, business community, neighbourhood representatives and NGOs. As presented in Section 1.3, our immersive study tour model is unlike any classic tour conducted in intra-national or transnational knowledge exchange initiatives. The novelty resides essentially in these unique elements:

- The travelling delegations do not include only staffs of the local authorities (people that may be defined as those most privy of cycling technicalities and nuances, as well as those already "sold" to cycling change. Travelling with them will be carefully identified stakeholders, which have a layman understanding of mobility and cycling, and are influential representative of sector of society that will inevitably be affected by cycling policy. These agents, which can be defined of **change** or of **opposition**, are equally valuable players in the final success equation and need to be exposed to the experiential immersion that our tours entail.
- The adopted blueprint combines multi-modal experiential travel (train, bus, bike, foot), professional networking and knowledge exchange with peers, hands-on site visits, bike rides, and facilitated debrief sessions to frame a rolling conversation about how to make and manage change in the home FCC.
- Depending on the determined quality criteria to which the FCCs align, FCCs will be matched to the length and depth of a study tour, opting for example, a shorter, more intense format or with peers from other FCCs.
- Our blueprint veers away from the prevailing practice "organise and run the tour, and then let's hope for the best…". Whether intentional or constrained by resource scarcity, this approach is ultimately ineffective both in terms of built capacity, return of investment and actual change. The immersive study tours are painstakingly organised **before, during and after the tour,** to enhance the benefits of the mission and to follow up on the results of the seeding.

The assumption behind our approach is that nothing like a personal and collective experience such as the one we describe is able to deeply affect the mindsets of participants and trigger change once back home. The process needs to be nurtured and thus the inclusion of a post-tour component. Months or years of internet surfing or conferences attendance have a **fraction of the impacts** these tours have. Travelling to a neutral ground, an awe-inspiring ground (which is often labelled as "**unrepeatable at home**" because of supposedly unmodifiable cultural or infrastructural constraints), with fellow citizens coming from very different walks of life and often strongly biased despite the lack of information and understanding, proves a **positively disruptive** experience, one that binds the travelling community and that forces each participant to reflect once back at home.

This is why HANDSHAKE place the level of attention, and dedicates the amount of human and financial resources shown in the budget, into this **pivotal** moment of **change inspiration**. The immersive study tours are led by the highly-experienced staff of Velo Mondial, which is tasked with the following actions:

- Preparation of a methodology (in Task 1.3).
- Introduction to the model through a dedicated workshop with FCCs and CCs during the Kick-off meeting.
- Power training workshop on the methodology with tour facilitators of Copenhagen and Munich (Velo Mondial will directly handle those taking place in Amsterdam).
- Adaptation and customisation of different study tour agendas for FCCs to use.
- Calls with each FCC delegation caption; proposal of matching and bilateral agreement.
- Comprehensive review and feedback of study tour agendas.
- Depending on need and availability, lead/mediate the final strategic workshop.
- Follow up on progress after the tour, with the assistance of the facilitators.

The next table provides a glance of the tasks foreseen by each immersive study tour.

Task	Responsible partner
Study tour preparation	
Identify study tour staff for each CC	CCs
Provide 4-hour training to CC study tour staff on study tour methodology, curation, execution	Velo Mondial (VM)
Create templates of agendas	VM
With CC study tour staff, identify FCC delegation captain	FCCs and CCs
Facilitate FCC delegation leader to identify a list of potential delegates	VM
Facilitate FCC delegation leader to identify local projects that the study tour can influence	VM
Determine, match FCCs to duration and format of study tour, based on the above quality criteria	VM
Before the Study Tour	
Confirm dates	FCCs and CCs

Strategically invite delegates	CCs (FCC supports)
Start logistics planning	FCCs and CCs
Design the agenda	FCCs and CCs + VM
Review and feedback of the agendas	FCCs and CCs + VM
Participant preparation meeting	CCs (FCC supports)
Confirming speakers and guides	FCCs
Email delegates final agenda, delegate dossier, and practical information	FCCs
Prepare process plan & align study tour staff	FCCs + VM
During the Study Tour	
Day 1: Setting the scene	FCCs
Day 2-4: Facilitating the learning process	FCCs
Day 5: Setting the stage for strategic action	FCCs
After the Tour	
Sustaining momentum after the tour	CCs (VM supports)
Following up through reports and communication brokerage among delegations/hosting staffs	VM + local leader
Assessment of change, needs for further information/capacity	VM + local leader

→ Immersive Symposia

The Immersive Symposia offer an intensive, three-day immersion in the 4 advanced FCCs (Bordeaux, Bruges, Dublin, Helsinki), with similar steps and formats to the immersive study tours. The main difference between the symposia and the immersive study tours is that the symposia see custom-tailored expert delegations from the 3 CCs travel to each FCC to provide ad-hoc expertise and advise on topics previously identified.

The Symposia will offer Parallel Sessions where delegates split up into smaller groups for expert meetings, tours, and excursions. Once again, daily group debriefs are just as important: the larger group gathers to teach and learn from each other about their experiences each day. The final day should include at least a 2-hour Action-planning briefing, allowing each city delegation to discuss their strategy for action when they return home.

→ City Mentoring

A cornerstone element of the transfer approach is the mentoring system enacted by the project, whereby each FCC establishes a direct relationship with a **mentoring CC**. This system, which has been designed with the advice of our cities in Task 1.3, is used as a method for the informal and formal transmission of knowledge and tips, and for the much-needed work of inspiration, exhortation and comforting that only peers can afford to each other. The goal is to open personal and professional channels that the mentoring and mentee staffs can use with confidence and ease, without fearing the approach or shying away from asking questions that may be deemed inappropriate or silly. The scheme of mentoring will be overseen by Mobiel 21, which has been working alongside cities across Europe for decades. It will act as a facilitator in this exchange process, making sure that the needs and wishes of the FCCs always find adequate answer in the availability of the CCs. Task 1.3 will have made sure that all the specifics in terms of key roles, channels and procedures are in place and well understood prior to Task 3.1 kick-off.

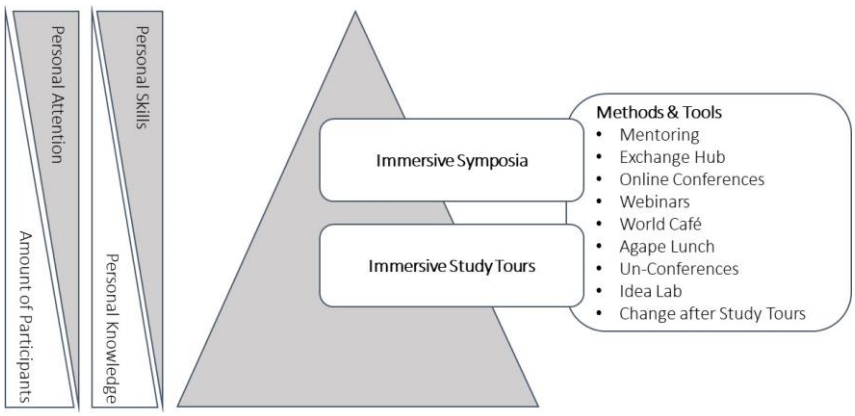
The **mentoring scheme** is organised as follows: 1) Amsterdam → Bordeaux, Bruges, Dublin, Rome and Turin, 2) Copenhagen → Helsinki, Manchester and Riga, 3) Munich → Cadiz and Krakow.

→ Other Inspiration Tools

Change is fostered by the employment of additional instruments, both virtual and physical, which provide learning opportunities as well as mutual inspiration and support. Our expert team has used a variety of innovative models to steer engagement, enthusiasm and pro-action, including **World Café**, **Agape Lunches**, **Un-Conferences** and **Idea Labs** (the exact mix will be defined at project outset and assessed in progress based on outcomes and participants' feedback).

These are formats that make it possible for groups to have conversations about the issues that really matter, in a relatively short period of time, and in a stress-free environment. Furthermore, these methods inspire, focus and energise participants, avoiding the negative dynamics that traditional frontal presentations instil. While these blueprints have already been shared with our cities and tentatively agreed upon, we will **custom tailor** the sequence of events as we progress based on the needs, the topics and the user feedbacks.

The figure below recaps how Task 3.1 plans to leverage skills, increase capacity and inspire change.



Task 3.2 - Manage effective transition and change (M13-M40, Leader: ICLEI)

Effective transition and change is a core aspect of the project. And it needs to be well prepared! Capacity building and sustainable transfer of innovative cycling solutions are built upon a **concrete strategy for transfer and transition management**. Therefore, HANDSHAKE will define a strategy custom-tailored for each FCC based on interviews, observation and analysis of the CCs ecosystems and solutions, as illustrated in WP1. This strategy will define the management of transition, a key governance step aimed at facilitating and accelerating sustainability transitions through a process of visioning, learning and experimenting. In its application, transition management seeks to bring together multiple viewpoints and multiple approaches in a **transition arena**. The latter enhances the likelihood of an effective knowledge transfer and the rapid take-up of cycling solutions.

The assumption for adopting this approach is that despite sustainable transport being firmly on the research agenda and in the *paper plans* of many cities, measures to foster cycling are often implemented:

- On an ad-hoc basis.
- Lacking strategic focus and adequate capacity (both human and financial).
- With limited understanding of the game-changer role of cycling in terms of mobility and space use.
- With limited understanding of the profound role of urban and regional policies and their interaction with national policy.
- With limited understanding of the social and political implications of the adoption of a true bicycle culture.

Cities are increasingly seeking to learn from experiences elsewhere when planning programmes of sustainable transition management. This project applies insights from the cycling policy field to the field of transition management to explore a 'learning relationship' between the CCs and the FCCs around cycling policy.

The CCs cycling revitalisation bears all the hallmarks of effective transition management (as illustrated in Section 1.3), that have been initiated and guided through local transport policies as part of a long-term visions of sustainable mobility. The approach essentially rejects the neutral transfer between contexts of best practice knowledge and aims at examining specificities.

As illustrated in Task 1.3, ICLEI will organize a workshop for the CCs and FCCs on transition management, training the cities on the methodology. The workshop will also provide an initial setting for the cities to be understand the online exchange hub, which provides tools to plan and manage effective transitions, along with guidance materials, including guidelines, frameworks and hands-on examples prepared by the consortium and external authors. Specifically, the cities will be advised on how to establish **transition arenas** locally, how to collectively develop transition visions and backcasting pathways to reconnect the future situation with the present one, and how to engage societal stakeholders (in particular local changemakers) in localised experimentation processes to accelerate transition processes.

Each city will appoint a **transition leader** that will work in close contact with ICLEI. ICLEI, with the assistance of ISINNOVA and Decisio, both experienced with transition management, will monitor and guide the cities throughout the duration of WP3 in relation to this process and support cities in implementing innovative and participatory governance approaches. This work will be linked to WP4 and its evaluation tasks (Task 4.1).

Task 3.3 - Roll out the transferred solutions (M13-M40, Leader: Mobiel 21)

This task rolls out **43 innovative cycling solutions in the FCCs, inspired by and transferred from the CCs**. The ambitious work at hand builds upon the transfer strategy identified in WP1 and is supported by the intensive programmes ran by Task 3.1 and Task 3.3.

Each solution of each FCC is synthetically described below, using a **reference code** and showing the **deployment**

span (marked by a →). Please note that in order to offer technical assistance and a helpdesk to the FCCs, Mobiel 21 will act as the main contact point for all cities, and will filter questions and needs in view of either i) answering directly, or ii) connecting the FCCs with the right contact person or departments in the CCs or with the most suitable expert active in HANDSHAKE (including the experts of our Advisory Group, which, as shown in Section 3.2, will support HANDSHAKE with expertise and peer contacts). The exchange hub will be the main platform to help the FCCs negotiate the many resources made available to them by the project.

Bordeaux

BRD 1 (AMS 10 → 2018-2020) Bordeaux doesn't have enough higher capacity cycling parking and they intend to create a massive parking in "Brazza" neighbourhood in 2020. Through HANDSHAKE they would like to be trained on that subject in 2018, in order to be able to plan the creation of a massive parking with the best solutions in the best conditions.

BRD 2 (AMS 11, CPH 8 → 2019-2020) The objective is to set up a clear list of indicators to measure the effects of the cycling policy. The city need is to convince with figures inhabitants and politicians on the benefits of cycling in order to say "the use of cycling costs X €, and the use of a car costs X€." (taking into account accident cost, public health issues etc.).

BRD 3 (AMS 2, AMS 3, AMS 8, AMS 9, CPH 1 → 2019-2020) Bordeaux Métropole has at disposal a guide on public area planning which is the reference for the road system designers. For 2018, they would like to update the cycling planning part on the basis of new standards that they could learn through HANDSHAKE Solutions (AMS 2-3-8-9 / CPH1). The objective must be to create wider and higher capacity bike lanes and smaller car lanes.

BRD 4 (MUN 3 → 2018-2021) Bordeaux seeks to create an educational cycling lane in 2020, possibly through a public private partnership. For now, costs have not been estimated, nor the necessary space, the role of each public and private player.

BRD 5 (AMS 14 → 2020-2024) The city identified the missing links in the cycling network. Once the CCs will have implemented this solution in HANDSHAKE, Bordeaux will liaise to learn from the results, tools developed etc.

Bruges

BRG 1 (AMS 3 → 2020-2021) Throughout the city centre and surrounding suburbs they are confronted with a busy ring-road, that, at first hand, seems unsolvable mobility puzzles for cyclists. From a progressive point of view, Bruges is sure that with the help of the leading city, they can design better conditions on these roads and solve some mobility dilemma's in favour of the cyclists without touching on the mobility flow.

BRG 2 (AMS 14 → 2019-2021) Bruges is completely surrounded by a lush green cycling tangential on the inner ring-road alongside the canal, profiting from the medieval fortified structure of the town. On the real ring-road however – on the other side of the canal – heavy traffic and busy intersections completely cut the city centre from the attached suburbs. 3 cyclists were killed on these intersections during the last 2 years. To minimize conflict, Bruges wants bicycle bridges that de-connect cyclists from crossing the ring-road. The first bicycle bridge will set the standard for others to follow.

BRG 3 (CPH 2 → 2019-2021) This solution is connected with the previous one and the city needs also technical support, engineering advice, and suggestion on how to cope with UNESCO for building the bridge.

BRG 4 (MUN 3 → 2019-2021) The city is collecting data from 4 general counts of modal split per year. They want to specify in the domain of collecting data of cyclists, and how to use this data for communication planning. The goal is the 'turning point' where cyclists (and pedestrians) control the public domain and motorized traffic is outnumbered. Bruges, as the cycling capital in Belgium has this opportunity to reach that stage.

Cadiz

CDZ 1 (AMS 1 → 2019-2022) In the PMUS action plan, the city includes the development of a joint Ordinance of mobility to regulate not only motor vehicles management but it also includes the management of the pedestrian, cycling, public transport, etc. mobility; thus, it gets more adapted to European mobility regulations and ordinances. Therefore, the development of a Bicycles Municipal Ordinance, which is pending elaboration, would be of interest.

CDZ 2 (AMS 3, AMS 15, CPH4, CPH5 → 2018-2022) In PMUS action Plan, GM14 action includes the elaboration of the "Director of Bicycles Plan". This master plan, which is pending elaboration, collects "Safety measures for cyclists" among its strategic lines of action.

It is necessary to define traffic-calming areas in combination with motorized and non-motorized transport modes

and to include intelligent signalling and traffic lights for cyclists in the network.

CDZ 3 (CPH 1 → 2019-2022) Cadiz master plan, which is pending elaboration, collects among its strategic lines of action a "Cycling Network Planning". This is the perfect occasion to learn from Copenhagen about infrastructure standards for cycling lanes and intersection design

CDZ 4 (CPH 10 → 2018-2022) One of the city's objectives is to promote participation and mechanisms of communication among the involved agents. The aim is to create a mobility website to be used for citizens' assessment, publication of data and results of studies and mobility projects carried out in the city, surveys, etc.

CDZ 5 (MUN 2, MUN 3 → 2018-2022) Gaining knowledge from Munich experience, Cadiz wants to establish two programmes: i) for publicity and training in schools to educate children in developing a new culture of sustainable mobility and safety/security; ii) for senior citizens to carry out awareness campaigns specific for this age range since accident data shows the vulnerability of people older than 60. The city wants to learn how to create a "Mobility Classroom" with an activities area (pending location), where different activities and courses of education and training on road-safety, respect for the environment and new sustainable mobility guidelines for families, children and young people can be held.

Dublin

DBL 1 (AMS 3 → 2018-2022) Primary cycle network in Dublin is to be built out over next number of years. Difficulties with lack of road space, resistance to change among Elected Members and lack of strong support from the public for the necessary changes are the main challenges where the city can be helped.

DBL 2 (AMS 15 → 2017-2021) The city has already four trials in operation for collection of cycle data, all new and upgraded signals now incorporating cycle detection. Dublin needs assistance with determining where Bicycle priority should be deployed, as they already use bus and tram priority at traffic signals.

DBL 3 (AMS 4, AMS 18 → 2018-2021) Cycle parking is a problem in the City centre with not enough space on street or on footpaths. They are aiming to increase cycle parking in the city with increased investment over the next number of years.

DBL 4 (CPH 12 → 2018-2021) Public Lighting infrastructure in Dublin is being upgraded to incorporate "Smart" applications, Cycle data collection is underway ay on a trial basis and some changes for Bicycles at traffic signals have been incorporated.

DBL 5 (CPH 14 → 2017-2020) Use of data for Original Destination for cyclists as well as providing better feedback to the City Council is underway but so far utilizing this data for "nudging" is not factored in and experience in how to use this data and how to influence user behaviour would be extremely useful.

Helsinki

HEL 1 (AMS 8 → 2018-2022) The city declared they have a lot to learn when it comes to giving cyclist priority in traffic. There are efforts made already but there is room for improvement. Learning from Amsterdam on how they did it and what has worked/not worked will accelerate the process and make Helsinki a better cycling city.

HEL 2 (AMS 10 → 2018-2022) Helsinki is developing cycle parking every year by building more parking racks. They also had a map-based questionnaire for citizens, where they collected data for further planning. The city still have a long way to go and they especially need more insight into big parking hubs. How to make them in a cost-efficient way and mistakes to avoid are things they could learn from Amsterdam.

HEL 3 (CPH 2, CPH 7 → 2018-2022) Helsinki has a network plan for cycle highways and they are building it piece by piece. They need better knowledge of specific engineering solutions and insights in how Copenhagen managed to build their network and what are they doing now.

HEL 4 (CPH 4 → 2018-2022) Traffic signal management is rarely cycle friendly in Helsinki, even though they plan it themselves. There is also not that much knowledge in the matter and they would stand to benefit greatly from the experience from Copenhagen.

Krakow

KRA 1 (AMS 10 → 2018-2020) The demand of parking spaces is becoming more and more high in the city and the number of parking facilities is already growing. Krakow wants to learn from Amsterdam how to create high-quality public spaces improving systematically the cycling parking system.

KRA 2 (AMS 11 → 2018-2022) Socioeconomic assessments of investments in cycling is completely an untouched aspect, so it would be very interesting for the city to investigate on them and to have another argument for cycling promotion and cycling infrastructure extension (I believe this argument may be a vital one, especially e.g.

for decision – makers).

KRA 3 (MUN 2, MUN 4, → 2020-2022) Awareness campaigns to enhance traffic safety is something very important for Krakow and could accompany other campaign actions that the city is dealing with at the moment. The number of cyclists in the city is growing and traffic safety is becoming more and more problematic issue.

KRA 4 (CPH 10 → 2018-2020) Systematic assessment of perceived feeling of safety as well as actual traffic safety (e.g. in intersection design). Presently the city does not focus at all, especially systematically, on this theme, though it corresponds to the overall issues of safety mentioned in other solutions.

KRA 5 (MUN 1, MUN 3 → 2020-2021) As promoting and campaigning themes are in the field of Krakow daily actions they are willing to find out more and more about it and they are open to test new solutions and ideas. Mobility education for families, children and young people is crucial in the city vision. They have already quite some experience in this field but they want to deepen it (as well as share their experience with other partners)

Manchester

MCS 1 (CPH 7 → 2018-2022) Greater Manchester has embarked on a programme of delivering more 'dutch-style' segregated cycle lanes within the region (Oxford Road Segregated Cycle Way just completed) and wants to learn more on how the networks of dedicated cycling infrastructure had been developed in Copenhagen.

MSC 2 (CPH 11, CPH 14 → 2018-2022) The city is very interested in influencing behavioural change via credit/debit, reward/fine systems and gamification to encourage more people to cycle. Also, as part of Cityverve they are keen to continue to set Open Innovation calls on cycle challenges They can learn on this field from Munich and Copenhagen experiences.

MSC 3 (MUN 6 → 2018-2022) Manchester is interested in providing real-time feedback on cycle conditions to assess the feeling of road safety. This is why they are interested in knowledge share with Munich to improve traffic safety learning how the city addressed this issue.

Riga

RIG 1 (AMS 8, AMS 9, CPH 7 → 2018-2022) Concerning the reduction of car mobility, Riga wants to create a detailed action plan on how to ensure that progressive priority is given to cycling transport. Firstly, it is necessary to make a logical car and bicycle route network, not to burden additionally the already overloaded transport network. Secondly, new, wise and innovative solutions would be necessary to apply within Riga city, taking into account the current street planning.

RIG 2 (CPH 4, CPH 5 → 2019-2021) Concerning cycling traffic modelling and intelligent signal management, there are no such activities held in the city and the issue is very urgent. Though there are already some privileges and separate street light system set up on the cycling paths ensuring some additional safety to cyclists, a lot of additional work is required to make the cycling network integrated to all the road system.

RIG 3 (MUN 2 → 2018-2022) Riga is aware that it is not only important to keep on with the campaigns or annual events already done by the city, but there would be a need for having some new and innovative ideas on how to create and anchor cycling traditions into everyday agenda.

Rome

ROM 1 (AMS 3 → 2019-2023) Rome is already working on over 50kms of brand new bike lanes as well as three 30km/h zones to be implemented (ideally) in a 3-year time. Such projects are aimed at both traffic calming and cycling safety measures and the work done by Amsterdam is a fundamental point of reference.

ROM 2 (AMS 5, AMS 10 → 2019-2022) Rome has allocated a dedicated budget to invest in intermodality actions such as multimodal hubs at main train/metro stations, as well as new parking facilities at public schools and offices. The city wants to learn how Amsterdam dealt with parking facilities and cycling integration.

ROM 3 (MUN 1 → 2019-2021) As highlighted in the Urban Cycling Plan recently approved, the city wants to invest on awareness campaigns and cycling marketing to facilitate a behavioural change. Thanks to the EU PASTA project, the city has already experimented the success of targeting campaigns (2000 users reached).

ROM 4 (CPH 14 → 2019-2022) Thanks to the European Cycling Challenge Rome has experienced the so called 'gamification approach'. The approach of the ECC revealed to be a good gamified tool to motivate people to use the bicycle in daily commuting. Rome wants to learn more how to design gamification.

ROM 5 (MUN 3 → 2019-2022) Rome has followed and supported several #biketoschools initiatives endorsing the core values of such campaigns due to the high cultural meaning targeting youngsters. Many were also the occasions were the Administration promoted the #biketoschooldays events. The city wants to invest more on

these initiatives learning from Munich experience.

Turin

TUR 1 (AMS 3, AMS 18 → 2019-2021) In order to have a quality cycling network the first step for the city of Turin is to make an analysis of the different types of bike lanes, shared and separated already built in the city and ask for help and suggestion on how to improve and complete them. In addition, it is necessary to realize a traffic calming manual for the city in order to have all the possible options available according to the national road law. It's also required to update the street design manual to have a standardized approach about creating the right subdivision for the different modes of transportation, active mobility, public transport and private motorized with particular attention on intersection, updating the bicycle master plan guidelines.

TUR 2 (AMS 11 → 2019-2021) The socioeconomic assessment of investment in cycling is something very urgent and never used in the past. Learning from Amsterdam will help the city to use it as tool for decision making at political level and in the in the planning process. With this know how the city will be able to evaluate the economic benefit for the city consequent of investing on cycling infrastructures and services.

TUR 3 (CPH 3 → 2019-2021) Intermobility is a theme that is mandatory for Turin's future sustainable mobility; in order to enforce the use of bicycle joint with public transport, P+R and special fares policies need to be achieved, seasonal tickets to bring the bike in the train need to implemented. It's also necessary to make an analysis of actual and future demand about public bike parking in correspondence of the metro and tram stops, and in the whole city to enforce the use of the mix of bikes + urban public transport. It's under development the implementation of two bike parking into the two main train stations. These analyses are mandatory to meet quality standard for bike parking and a correct planning for the bike parking in the whole city. The idea is also to address the taxis cooperatives in order to get some of them providing bike racks.

TUR 4 (CPH 5 → 2019-2021) The city needs to setup a real-time monitoring system with wireless sensors. At the moment, the only figures are derived from interviews and with daily monitoring campaigns, insufficient to model data. Data is needed to build the first cycling traffic model and to draw a complete picture of the bicycle modal share of the city. The analysis of actual and future demand is part of the traffic modelling of the city.

Task 3.4 – Develop and deliver post-project Action Plans (M30-M40, Leader: ISINNOVA)

This task ensures that the HANDSHAKE legacy is fully **exploited** and **scaled-up** in each FCC by means of post-project cycling action plans that will detail how the solutions transferred during the project will keep being rolled out after HANDSHAKE terminates.

The FCCs, which have **already committed to such plans** when joining HANDSHAKE as shown in the annexed Letters of Commitment, will provide the specifics of post-project implementation with reference to:

- Solutions to be executed, with reference to enabling plan.
- Roadmap and timescale of execution.
- Funding sources for execution, with reference to funding lines and amounts.
- Key players involved in the deployment.
- Description of the foreseen governance and the transition management activities.
- Other details to be agreed if necessary.

These post-project Action Plans are also meant to help to cultivate a cycling-friendly planning culture, and to further inform the respective Sustainable Urban Mobility Plans (SUMPs).

Deliverables (brief description and month of delivery)

D3.1: Concrete strategy and roadmap for transfer and transition management (M16)

D3.2: Report on the inspiration and transfer process (M40)

D3.3: Facts and lessons from the transferred solutions (M40)

D3.4: Post-project Action Plans (M40). It includes: D3.4.1: City of Bordeaux + D3.4.2: City of Bruges + D3.4.3: City of Cadiz + D3.4.4: City of Dublin + D3.4.5: City of Helsinki + D3.4.6: City of Krakow + D3.4.7: City of Manchester + D3.4.8: City of Riga + D3.4.9: City of Rome + D3.4.10: City of Turin

Work package number	4	Lead beneficiary	DECISIO
Work package title	Monitor, assess and compare		

Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN
PM per participant	7,5	4	4	4	4	4	4
Participant number	8	9	10	11	12	13	16
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	Velo Mondial
PM per participant	4	4	4	4	4	4	0,5
Participant number	17	18	19				
Short name of participant	DECISIO	ICLEI	CADIZ				
PM per participant	13	0,5	4				
Start month	1			End month		40	

Objectives

The overall aim of this work package is to monitor and evaluate with ex-ante appraisals and ex-post assessments the outputs and impacts of the socio-technical cycling innovations promoted by HANDSHAKE. This will be accomplished by using Bikenomics, a comprehensive methodology and a tool useful to provide cities and the European Commission with a holistic understanding of the **welfare effects and social impacts** of HANDSHAKE in multiple **socio-cultural, organisational, economic and environmental domains**. The analyses of WP4 will also contribute to reach other strategic or secondary aims and objectives of our work programme, and namely:

- It will support the cities in identifying both efficient and effective transferable innovations, as already illustrated in WP1 (Task 1.2).
- It will guide in both identifying useful and relevant data collection methodologies (Task 4.1 and Task 4.2).
- It will strengthen the evaluation capacity of our partner cities, providing evaluation guidance and practical insights also to other cities via the WP5 legacy outputs.
- It will provide powerful and convincing facts and figures (expressed in monetary terms as much as possible) about the effects of transferred cycling innovations. This will support the ambitions of local visionary cycling leaders in cities worldwide (disseminated through WP5 and WP6).

Description of work

Task 4.1 – Identify and assess ex-ante the socio-technical cycling innovations (M1-M12, Leader: DECISIO)

In alignment with Task 1.2, this task supports cities in the identification of both efficient (in terms of cost-allocation) and effective (in impact terms) socio-technical cycling innovations on the basis of local **conditions**, **needs**, **priorities** and **goals**. A dedicated evaluation workshop will be conducted during the Kick-off meeting (see Task 1.3) to illustrate the employed methodology and the functionalities of Bikenomics, and to guide cities in the optimisation of solutions choice. In particular, Decisio, assisted by ISINNOVA, will assist the 13 cities as follows:

- Identifying useful cycling data as well as data collection methodologies.
- Establishing a baseline scenario (as partially done at the proposal stage) and a "do-minimum" scenario.
- Defining a vision and goals (together with WP1, Task 1.2 and Task 1.3).
- Identifying packages of measures and transferable cycling innovations (with Task 1.2).
- Defining activities, inputs (human, material and financial resources) as well as target groups of the innovations necessary to successfully transfer, translate and implement innovative solutions to the local context and their alternatives. This activity will also input into the work of transition management (Task 3.2).
- Defining a spatial and temporal scope of the analysis.
- Perform an ex-ante evaluation comparing the benefits against the implementation costs, including expected / intended direct and indirect effects and potential unintended impacts.

The measures and innovations studied during the workshops will account not only for technical and financial feasibility but also for their political feasibility and potential for cultural impact in the local context. Assessments will focus as much as possible on measurable quantitative impacts but also on qualitative impacts. Assumptions and effects of the innovation of different domains will be object of the initial workshop, and if necessary through individual webinars (1 per city). The WP leader and participants will support city officials to understand the outputs of the model and explain how to use them during the decision-making process to gain public support. Besides the ex-ante appraisal per city, a global report with headline facts and figures about the "Cycling State of Affair in Europe" will be produced by using collected data from the cities as well as the outcomes of the evaluation workshop and webinars.

Task 4.2 – Monitor progress towards visions and objectives (M13-M40, Leader: DECISIO)

After the identification of efficient and effective solutions to be transferred, cities will be constantly monitored in their achievement towards the objectives. Moreover, cities will be supported in data collection and in coordinating evaluation whenever there is a lack of technical expertise. A mid-term report will be issued where the baseline indicators will be compared with the updated situation. This step will provide useful information to city officials and the project partners about the transfer and (potential upscaling level) of the cycling innovations in the cities. The report will contain not only updated indicators but also suggestion on how to improve.

Task 4.3 – Support local assessment and provide tools (M1-M40, Leader: DECISIO)

DECISIO will support cities in calculating the **economic value** of the effects of cycling in the cities. These research projects will be included in HADNSHAKE's evaluation methodology. This is an activity of both relevant **scientific** and **practical relevance** as little is known about the economic significance of cycling in different contexts. DECISIO's role will be to coordinate local research and provide methodological support.

Task 4.4 – Assess and compare ex-post results and effectiveness across take-up contexts (M32-M40, Leader: DECISIO)

This task will conclude the evaluation work by collecting final data from the 13 cities to enable the ex-post assessment. This evaluation will address both the concrete outputs of the project as well quantitative and qualitative impacts of the piloted (CCs) and transferred (FCCs) solutions. By assessing results and comparing solid figures emerging from different contexts, HANDSHAKE will be able to inform policy makers worldwide and provide practitioners with a set of "lessons learned" grounded in practice.

As a whole WP4 will generate an unprecedented **body of evidence** that will be generously exploited both through our WP5 and WP6 and through the mediation of HANDSHAKE's many outlet channels, which include the members of our Advisory Group as well all primary national and international networks concerned with cycling and sustainable mobility in general.

Deliverables (brief description and month of delivery)

D4.1: Evaluation plan with ex-ante impact assessment (M12)

D4.2: Mid-term monitoring report (M24)

D4.3: Results, lessons learned and comparisons (M40)

Work package number	5	Lead beneficiary			UCI	
Work package title	Practical guidance wider take-up					
Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN
PM per participant	5	1	1	1	1	1	1
Participant number	8	9	10	11	12	13	14
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	UVA-UCI
PM per participant	1	1	1	1	1	1	8
Participant number	15	16	17	18	19		
Short name of participant	M21	Velo Mondial	DECISIO	ICLEI	CADIZ		
PM per participant	2	4	4	2,5	1		
Start month	26			End month		40	

Objectives

WP5 seeks to draw both **policy and scientific-relevant insights** about the key drivers that enable an effective take-up of cycling solutions by studying and assessing the way in which HANDSHAKE's knowledge exchange and transfer approach affected the standardised planning practices of our FCCs. Through WP5 we intend to:

- **Provide inspirational and motivational materials for the wider community of cities** interested in taking-up the knowledge, solutions and approaches rolled out by HANDSHAKE.
- **identify the strategies** used by policy entrepreneurs **to promote bicycle policies** in different contexts and to develop recommendations on how to empower these actors to strengthen municipal ambitions.

- Collect in a unique **guidance document** the **lessons learned on innovation & influencing factors** for cycling planning practice, as emerging from the **entire work programme** of HANDSHAKE.

Description of work

Task 5.1 – Publish inspirational material for wider take-up (M26-M40, Leader: Velo Mondial)

Success stories and shortcomings from our CCs and FCCs will be captured by engaging politicians, policy advisors to the cities, policy executors, stakeholders and residents in order to offer the interested audience with a complete and multi-faceted as possible a viewpoint on what cities are likely to face when introducing socio-technical cycling innovations.

Local materials will be used, ranging from interviews with the relevant actors, TV, Radio and paper clippings, before and after pictures of realised actions, advise for future actions. This will be made available in the format of **e-booklets**, **short videos** as well as **animated infographics** allowing information to be integrated as it becomes available, possibly **also after the end of HANDSHAKE**.

In order to visually represent the progress performed by our cities Task 5.1 will use the cycling policy rating system developed in Velo.Info (bronze, silver, gold and platinum) to measure the level of cycling policy at the beginning and the end of the project, based on the assessments of WP4. This status will be substantiated with info stemming from HANDSHAKE and will published as a separate magazine as well as a chapter of the e-booklets mentioned above.

Cities worldwide will be invited to also fill in the questionnaire and suggest how they would envision status improvement in the future. Together with the results of the FCCs (Task 3.3 and Task 4.4) this will be added to the website of HANDSHAKE in the exploitation phase, possibly to serve as a reference self-sustaining cycling platform (in the most optimistic scenario) or incorporated by other cycling platforms interested in acquiring the wealth of information produced by the project. Either way, we conceive the deployment of an annual ranking system purely meant to stimulate and encourage cycling progress in a non-competitive manner and to showcase cities' ambitions, plans and achievements.

Task 5.2 – Publish scientific evidence for EU knowledge advancement (M26-M40, Leader: UCI)

The aim of this task is to collect data from FCCs and CCs following the methodology developed in Task 4.1 and build baseline scenario about the "**state of the bicycle planning practice in Europe**". This will make use of interviews, policy documents, workshops using KJ system's diagrams and material gathered by other WPs as input. The reconstructed planning practice will be the subject of an academic publication and the basis of a practice-oriented report expected to inspire change in cycling planning practices worldwide. These publications will address two main topics:

1. **Role of policy entrepreneurs in bicycle policy innovation**: Over the last two decades, cycling has re-emerged in the political agendas of many countries around the world as a viable and sustainable mobility practice. Little is known about the mechanisms of emergence, scale up and integration of this "novelty" into existing dominant socio-technical systems. In a hostile or challenging political climate, mainstreaming an innovation is an up-hill battle. One way is to mobilise this process through "policy entrepreneurs" - defined as "advocate[s] willing to invest resources – time, energy, reputation and money – to promote a position in return for anticipated future gains" (Kingdon, 1995). Little evidence supports the idea that policy entrepreneurs have had a critical role to play in highly complex and car-centric contexts enabling the innovation chain, and HANDSHAKE is a unique opportunity to closely study 13 major cities. This research aims to unravel the role of policy entrepreneurs and other agents of change in exploiting opportunities to promote policy that encourages the use of bicycles. Understanding their strategies and role allows to fill a knowledge gap in literature. In addition, it provides relevant policy information regarding how to empower policy entrepreneurs and exploit their innovative power to achieve change. This publication will be authored by Decisio.
2. **Policy tourism**. The travel of local officials and experts to other destinations which have implemented policies that are of interest to the visitors is increasingly becoming a "critical means of circulating best practice" (Cook, 2008). Study visits have become a "standard tool" for the exchange of policy practice and knowledge (Hudson & Kim, 2014). Within a professional context, these trips are debated for their merit, value, and effective use of time and financial resources. Although there is no question that these trips occur, little empirical research has studied the variables or effects of such experiences on decision maker learning, subsequent policy reform or formation, or strategic capacity to innovate or make systemic change. This

research will empirically study, long-term, various actors involved in policy learning processes (study tours). The study not only examines the study tours taking place in HANDSHAKE but also in other EU projects (e.g., CYCLEWALK) to unpack the role of study tours and to unravel variables of the study tour that foster or hamper "successful" policy transfer and implementation. Such empirical evidence would greatly benefit future EU Commission projects which rely on study tours as a method of knowledge exchange and learning. This publication will be authored by UCI.

Task 5.3 – Guidance on innovation & influencing factors for cycling planning practice (M26-M40, Leader: ISINNOVA)

The different streams of action deployed by HANDSHAKE will enable us to identify **key factors** influencing planning practices and enabling effective take-up. By analysing the adopted *transfer strategies*, the *inspirational activities* and the *transitioning approaches*, the *innovative business models*, and the *baselines* with the *post-project situations*, Task 5.3 will publish a **legacy guidance document** wrapping up all critical learning areas, cultural and political drivers and ways in which planning practice shifts have occurred. We expect this final publication to be inspiring, complete, easy to read, with scores of practical tips, photos, charts and numbers.

Deliverables

D5.1: Inspirational guidance for wider take-up (M40)

D5.2: Scientific publications (M40)

D5.3: Guidance on influencing factors for cycling planning practice and innovation (M40)

Work package number	6	Lead beneficiary				ICLEI	
Work package title	Share and disseminate						
Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN
PM per participant	3	2	2	2	2	2	2
Participant number	8	9	10	11	12	13	15
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	M21
PM per participant	2	2	2	2	2	2	4
Participant number	16	18	19				
Short name of participant	Velo Mondial	ICLEI	CADIZ				
PM per participant	2	11	2				
Start month	1			End month		42	

Objectives

The overarching objective of WP6 is to develop, implement and monitor a detailed strategy for communication, dissemination and exploitation in order to support ongoing and extensive knowledge transfer aimed at increasing cycling solutions through innovative pathways for evidence-based policymaking. The main objective is to raise awareness of HANDSHAKE and its activities, whilst also publicising and promoting its products. The specific objectives are to:

- Develop a clear **strategy** on communication, dissemination and exploitation.
- Create **communications materials** and digital and social media channels.
- Facilitate the development of HANDSHAKE **products**.

Description of work

The overarching objective of WP6 is to develop, implement and monitor a detailed strategy for communication, dissemination and exploitation in order to support ongoing and extensive knowledge transfer aimed at increasing cycling solutions through innovative pathways for evidence-based policymaking. The main objective is to raise awareness of HANDSHAKE and its activities, whilst also publicising and promoting its valuable products.

This WP6 provides a complementary communication strategy. The other WPs are also largely on communication – on local, national and European level, through management, transfer component, immersive study tours or the transition management component. The complementary communication strategy will make the communication,

dissemination and motivation in the whole HANDSHAKE project even more effective and will thus achieve a high motivation of cities to implement innovative cycling policies and to promote supporting national programs.

Task 6.1 – Develop the communication basis (M1-M42, Leader ICLEI)

→ Communications strategy

An in-depth **communication, dissemination and exploitation strategy** will outline HANDSHAKE's systematic approach to reaching out and communicating to its target audience. It will map the best dissemination and communication channels for each target group, as well as the actions it wants them to take. Following an audience analysis, the strategy will define the project's audience and present the channels best suited to reach them. It will contain key messages, visual identity guidelines, responsibilities, and a timetable of dissemination activities. The strategy will include the **editorial guidelines** to be applied across printed and online publications. As part of this task, an attractive, modern, and clear visual identity will be created that reflects the ambition of HANDSHAKE and the messages it wants to send. This will be applied across our platforms and products.

→ Digital and social media channels

The home of HANDSHAKE will be its **website**. Content will be created and maintained by ICLEI. The website will display news, results, events, and activities related to the project. Particular care will be taken to ensure that all content is easily accessible and clearly presented on mobile devices, such as smart phones and tablets. The website will also link to CIVITAS Horizon 2020 projects and ELTIS. Guides, reports, and other materials requiring EC approval will be added as soon as this has been given.

HANDSHAKE will utilise social media channels, such as Facebook, Twitter, LinkedIn, and YouTube, alongside other digital methods – such as videos, photographs, and audio clips - to communicate project results and activities. Methods and channels will complement one another. Twitter will be used to send concise announcements regarding major project news; Facebook will contain articles from implementation cities exploring the impact of project measures in their cities; questions and any recorded discussions will be posted into the dedicated HANDSHAKE LinkedIn group to stimulate debate; and YouTube will host videos created for the project.

HANDSHAKE will also look to harness the reach of existing social media channels created by other mobility projects, many of which – ELTIS, SOLUTIONS, various CIVITAS projects, PASTA, and European Mobility Week – are already maintained by consortium partners. Their networks form a captive audience receptive to the topics of cycling and sustainable mobility in general.

→ Communication materials

This task will produce traditional communication materials such as leaflets, postcards and banners/roll-ups, which will be developed as part of the overall visual identity. Postcards and leaflets will be made available in English and a number of other European languages that will be later on decided upon, within the project's lifetime. For the final language selection, the needs of Consortium Partners will also be taken into account.

These materials will be distributed at external events and HANDSHAKE's own knowledge transfer events (WP3), and given to consortium partners and the implementation cities to raise awareness in their respective Member States. They will provide further information on the project and strengthen brand recognition among stakeholders, whilst also prompting readers to visit the website through a QR code/and or short website address. More than 2000 leaflets and postcards will be distributed over the course of the project.

A biannual e-newsletter will update stakeholders on project activities, events, and results. HANDSHAKE will also seek to include information on project activities in the newsletters of existing mobility projects, such as the ELTIS Mobility Update and CIVITAS Newsletter MOVE. Vertical Response (VR), an online marketing tool, will disseminate the newsletter. The extensive amount of collected by VR will also enable in-depth analysis of the newsletter's reach. Readers will be able to share its content easily over social media.

Task 6.2 – Develop products and disseminate information (M1-M42, Leader ICLEI)

→ Schedule and production of results publications

WP leaders will write a number of publications summarising the outcomes and outputs of their activities. This task will include the creation of a **publications schedule**, outlining what materials are to be produced and when. It will also provide detailed information on format and layout. Selected publications will also be translated into other languages (depending on the purpose of the publication). The material foreseen includes:

- A PowerPoint project presentation to be used at all events. Its content will be regularly updated.
- A high-quality project brochure.

- A "glossy" final report including presentations of the implementation cities. This will be a digested version of D5.3 and other key project reports to be translated into various languages.

Other project publications items, depending on each WP will be developed and widely promoted. The consortium will define further specific publications and materials, including target groups, in the Dissemination, Communication, and Exploitation Strategy.

→ Media engagement: traditional and specialist outlets

Engaging with both general and more specialised media outlets represents a prime opportunity to raise awareness around the project and its activities and enhance HANDSHAKE's impact at the local level. To facilitate this, HANDSHAKE will devise local dissemination plans with each of the cities. These will outline project events and milestones of possible interest to the media, alongside the methods for communicating this news. Interviews (either written or recorded), opinion pieces, and press releases represent possible approaches. This process will involve building relationships and collaborating with the cities' press/public affairs teams. Their knowledge of (and possible connections within) the local media will enable them to act as multipliers. A press release will be sent at the beginning of the project to specialist online and print publications to inform mobility practitioners about the project, its objectives, and its activities. This will also be distributed to local and regional media to raise awareness amongst citizens. A press release will be disseminated at the end of the project outlining HANDSHAKE's key achievements. If appropriate, content will be tailored to local contexts. All major press releases will be sent to other European urban mobility projects and the European Commission.

Throughout, HANDSHAKE will advise on the content of releases and, if necessary, assist with their composition. However, cities will be responsible for their distribution. The project will also look to have feature articles placed in specialist transport magazines, such as Thinking Highways and Thinking Cities, or on newer digital platforms focused on cycling, like Bike Citizens.

Task 6.3 – Participate and organise events (M1-M42, Leader ICLEI)

This task will schedule and monitor the occasions during which HANDSHAKE will attend events and conferences that take place during the European political calendar and in which HANDSHAKE can be relevantly promoted. Attendance at these events will be divided among project partners, with ICLEI selecting the most appropriate events over a 12-month cycle. Events promotion will not be limited to those events for which HANDSHAKE is covering travel, for other synergetic travel budgets may be leveraged.

Within some of the WPs, HANDSHAKE is planning a number of workshops and meetings. Some will be open to a wider audience, such as the workshops of Task 1.3. These events will be used as promotion opportunities, with participants receiving additional information about the project and opportunities for getting involved.

HANDSHAKE will also organise a final conference at which its headline results and accomplishments will be presented. A selection of mobility experts and representatives from local government and civil society will be invited to take part in a panel debate discussing the project and any themes that have emerged over its duration.

Task 6.4 Exploit results and products (M36-M42, leader: ICLEI)

An Exploitation Strategy (D6.5) will set out how awareness raising related to and promotion of the adoption of the HANDSHAKE products will take place beyond the lifetime of the project. This task will proactively seek to engage and collaborate with existing EU projects, such as ELTIS and CIVITAS, which could provide platforms for hosting HANDSHAKE's outputs.

Deliverables

D6.1: Communication, dissemination and exploitation Strategy (M3)

D6.2: Editorial guidelines (M3)

D6.3: Communication materials (M6)

D6.4: Post-Project exploitation strategy (M40)

Work package number	7	Lead beneficiary				ISINNOVA
Work package title	Coordinate and manage					
Participant number	1	2	3	4	5	6	7
Short name of participant	ISINNOVA	CPH	AMS	KVR	BM	BRUGGE	DUBLIN

PM per participant	14	2,5	1,5	1,5	1	1	1
Participant number	8	9	10	11	12	13	14
Short name of participant	GMK	HEL	TfGM	RCC TD	RSM	MS TO	UVA-UCI
PM per participant	1	1	1	1	1	1	1
Participant number	15	16	17	18	19		
Short name of participant	M21	Velo Mondial	DECISIO	ICLEI	CADIZ		
PM per participant	2	1	2	2	1		
Start month	1			End month		42	

Objectives

WP7 seeks to ensure:

- Technical coordination of the project, including continuous appraisal of the appropriateness and effectiveness of the chosen approach versus the set-out objectives, and adjustments to best cater to new conditions and/or opportunities.
- Project and Grant Agreement (GA) management, including financial & legal management, reporting tasks, production and quality review of all deliverables, supervision of the amendment procedures, coordination of sub-contracting, so as to ensure effective delivery of project objectives within time, cost and resource constraints, with high quality standards.
- Internal and external project representation, including contacts with the EC and all relevant stakeholders.
- Management of risks (see Table 3.2b) and apply contingency measures.

All activities related to the operative management, dissemination and exploitation will take place for the duration of the project.

Task 7.1 Project coordination and contract management (M1-M42, Leader: ISINNOVA)

The coordination of the project lies with ISINNOVA (Project Coordinator, PC), which ensures:

A timely and quality production of deliverables and other relevant documents.

- A smooth coordination of all activities, and a seamless communication within the consortium.
- An appropriate level of consistency and integration of all project streams.
- An accurate activity planning, including the timing, scheduling, allocation of roles and resources.

The PC chairs the Steering Group, a collegial body comprising all HANDSHAKE's WP leaders. The SG provides suitable venue for the discussion of problems and opportunities facing the project, and for the exchange of operational and technical aspects relating to knowledge, progress and outputs produced by the work packages.

SG meetings take place twice a year in conjunction with the General Assemblies. The project will also benefit from the support of an Advisory Group, composed by 4 external experts, which will meet 2 times during the project lifetime in combination with General Assemblies, and through phone conferences whenever needed.

This task also deals with all contractual and administrative issues required by HANDSHAKE, which the PC will oversee with the collaboration of all partners. The main goals are to:

- Ensure the day-to-day monitoring of the project implementation and the compliance of progress with the original work-plan.
- Establishing, finalising and managing all contractual arrangements arising from the progressive implementation of the Workplan including preparation and submission of the Amendment requests.
- Draft, enforcement and maintenance of the Consortium Agreement.
- Coordinate and support the preparation of deliverables and periodic reports, including financial statements.
- Administrating the financial resources of the project, in conformity with the rules and procedures set out by the Commission to this effect, and, in particular, ensuring that all payments, including reimbursement of travel and other expenses, are promptly forwarded to all involved,
- Supervising the organisation and implementation of the coordination meetings and other events planned throughout the lifetime of the project.

A Kick-off meeting will be organised not later that month two to validate the various steps of the work programme and reach full consensus about how the project will be delivered, the deadlines and milestones and the roles and responsibilities of each partner.

Following this meeting, detailed minutes will be communicated to all partners; to serve as the record of all decisions taken and as the primary reference that will guide project development.

A Consortium Agreement will be signed between all partners at the outset of the project in order to supplement contractual provisions as necessary, notably specifying provisions to regulate possible conflicts or default cases.

Task 7.2 – Cooperation and quality assurance (M1-M42, Leader: ISINNOVA)

This task ensures the high-quality standard of all project outputs according to the following procedure:

- All deliverables, output and periodic reports to be reviewed and approved by the PC.
- A dedicated internal quality control mechanism to be adopted according to the provisions of the Consortium Agreement to ensure the top dissemination quality for all the key deliverables intended to foster wider post-project take-up (WP5 deliverables).

The task will also:

- Guarantee liaison and interactions with the EC.
- Ensure that timely and effective communication is maintained within the Consortium, between the Consortium and the EC, as well as between the Consortium and external bodies not involved in the project as partners.

The internal and external relationships will be assured throughout the project by the PC will accordingly establish and maintain all relations among partners that are required for the timely implementation of the Workplan and will ensure that the consortium is continuously kept updated concerning the progress of each activity. The PC will also act as a bridge between partners and the EC.

Task 7.3 – Ethics and equity compliance (M1-M42, Leader: ISINNOVA)

This task will monitor compliance with the requirements set by Task 1.4 according to a procedure to be defined by the task leader ISINNOVA in agreement with the 13 cities. We will accordingly provide a thorough analysis of the issues addressed and the measures taken to ensure compliance with the ethical standards of H2020.

We foresee to report on the procedures and criteria that will be used to identify/recruit action participants and provide information on the informed consent procedures that will be implemented for the participation of humans, including justification for their participation. Templates of the informed consent forms and information will also be submitted on request. Details on incidental findings policy will be provided, as well as copies of ethics approvals for the action with humans.

Another key area is the provision of detailed information on the procedures that will be implemented for data collection, storage, protection, retention and destruction and confirmation that they comply with national and EU legislation. Information on the implemented informed consent procedures in regard to the collection, storage and protection of personal data will be submitted on request. Copies of opinion or confirmation by the competent Institutional Data Protection Officer and/or authorization or notification by the National Data Protection Authority will also be submitted (which ever applies according to the Data Protection Directive (EC Directive 95/46, currently under revision, and the national law). If the position of a Data Protection Officer is established, their opinion/confirmation that all data collection and processing will be carried according to EU and national legislation, will be submitted. Justification must be given in case of collection and/or processing of personal sensitive data. Templates of the informed consent forms and information sheet will be submitted.

Task 7.4 - Risk management (M1-42, Leader: ISINNOVA)

As fully detailed in Section 3.2.2, a project of this organisational and implementation complexity, and extended time duration requires appropriate risk management. Urban environments are volatile and deviations are physiological. Accordingly, this task ensures that a risk registry and management plan is prepared to identify and update critical risks and deploy mitigation actions. The PC is in charge of maintaining and monitoring the registry and to swiftly enact the necessary measures to address and solve risks as early as possible, linking risk assessment and contingency actions to process evaluation, further to consultation with the Steering Group.

Deliverables

D7.1: Project handbook (M3)

D7.2: Data management plan (M6)

D7.3: Periodic report - year 1 (M14)

D7.4: Periodic report - year 2 (M28)

D7.5: Final report (M42)

Table 3.1b: List of work packages

Work package	Work Package Title	Lead Participant No	Lead Participant Short Name	Person-Months	Start Month	End month
WP1	Prepare for action	1	ISINNOVA	56,5	M1	M12
WP2	Action in the Cycling Capitals	2	CPH	82	M13	M40
WP3	Action in the Future Cycling Capitals	15	M21	312	M13	M40
WP4	Monitor, assess and compare	17	DECISIO	73,5	M1	M40
WP5	Practical guidance for wider take-up	14	UVA-UCI	36,5	M26	M40
WP6	Share and disseminate	18	ICLEI	46	M1	M42
WP7	Coordinate and manage	1	ISINNOVA	38,5	M1	M42
				645		

Table 3.1c: List of Deliverables

Deliverable	Deliverable name	WP number	Short name of lead participant	Type	Diss. level	Delivery date (in months)
D1.1	State of affairs and definition of solutions in 13 Cities	1	ISINNOVA	R	PU	M12
D1.2	Transfer Framework and Guidance	1	ISINNOVA	R	PU	M12
D1.3	Ethics and Equity Requirements	1	ISINNOVA	R	PU	M12
D2.1	Cycling innovation: evidence and conceptualisation, how to push cycling to the next level, faster	2	CPH	R	PU	M40
D2.2	Stories and lessons from the deployment of the CCs solutions	2	KVR	R	PU	M40
D2.3	Standards in innovation for quality cycling	2	AMS	R	PU	M40
D3.1	Concrete strategy and roadmap for transfer and transition management	3	M21	R	PU	M16
D3.2	Report on the inspiration and transfer process	3	M21	R	PU	M40
D3.3	Facts and lessons from the transferred solutions	3	M21	R	PU	M40
D3.4	Post-project Action Plans	3	ISINNOVA	R	PU	M40
D4.1	aluation plan with ex-ante impact assessment	4	DECISIO	R	PU	M12
D4.2	Mid-term monitoring report	4	DECISIO	R	PU	M24
D4.3	Results, lessons learned and comparisons	4	DECISIO	R	PU	M40
D5.1	Inspirational guidance for wider take-up	5	Velo Mondial	DEC	PU	M40
D5.2	Scientific publications	5	UVA-UCI	R	PU	M40
D5.3	Guidance on influencing factors for cycling planning practice and innovation	5	ISINNOVA	R	PU	M40
D6.1	Communication, dissemination and exploitation strategy	6	ICLEI	R	PU	M3
D6.2	Editorial Guidelines	6	ICLEI	R	PU	M3
D6.3	Communication materials	6	ICLEI	DEC	PU	M6
D6.4	Exploitation strategy	6	ICLEI	R	PU	M40
D7.1	Project handbook	7	ISINNOVA	R	CO	M3
D7.2	Data management plan	7	ISINNOVA	R	CO	M6
D7.3	Periodic report- year 1	7	ISINNOVA	R	CO	M14
D7.4	Periodic report- year 2	7	ISINNOVA	R	CO	M28
D7.5	Final report	7	ISINNOVA	R	CO	M42

3.2 Management structure, milestones and procedures

The general objective of the project coordination and management is to ensure that project goals are achieved in full, and possibly exceeded, within time, cost and resource constraints. Effective project coordination is essential, especially in large projects. The complex nature of multinational consortia is both an asset and a potential risk, as it confronts different backgrounds and approaches to work. The adopted management structure is simple but complete, and it features:

- A **Project Coordinator** (PC);
- A **Steering Group** (SG);
- A **General Assembly** (GA);
- An **Advisory Group** (AG);
- 6 **WP Leaders** (WPL).

ISINNOVA, as Project Coordinator, will be the sole intermediary between the Partners and the EC, retaining all formal/contractual responsibilities. The detailed assignment of tasks is illustrated below and in WP7.

Role and responsibilities of the involved parties

→ Project Coordinator (PC - ISINNOVA)

ISINNOVA has long-standing and proven experience in the management of large EU funded projects, and can thus guarantee a smooth and efficient implementation of all project activities, whether administrative, financial or technical. ISINNOVA will assume the full responsibility for project management in all aspects as stated by the EC contracting rules, involving in HANDSHAKE qualified staff combining technical, managerial and administrative expertise. The team will be responsible for:

- Ensuring that the project Workplan is implemented according to the provisions of the Description of Work, with particular regard to compliance to the planned schedule and resources use.
- Draft, enforcement and maintenance of the Consortium Agreement.
- Liaison and interactions with the European Commission, for which the coordinator will be the exclusive counterpart, unless differently requested by the EC itself.
- Ensuring that information is smoothly and effectively flowing within the Consortium and between WPs.
- Administrating the financial resources of the project, in conformity with the rules and procedures set out by the Commission to this effect, and, in particular, ensuring that all payments, including reimbursement of travel and other expenses, are promptly forwarded to all involved.
- Overseeing any ethics, gender and equity issue that may arise in the course of project implementation.
- Ensure the day-to-day monitoring of implementation and compliance of progress with the original work-plan.
- Coordinate and support the preparation of deliverables and periodic reports, including financial statements.
- Supervising the organisation and implementation of the coordination meetings and other events planned throughout the lifetime of the project.

→ Steering Group (SG)

The Steering Group (SG) is the primary governing body with, full responsibility for the operational management of the project. The SG will provide strategic guidance to the project, including:

- Monitoring the effective implementation of the Project including the scientific supervision of all actions.
- Identification of criticalities and approval of contingency plans.
- General quality control on, and formal approval of, project deliverables.
- Implementation of red flag procedures.
- Taking decisions on contractual and financial matters (i.e. major changes of work, resources, responsibilities).

The membership of the SG comprise the work package Leaders of the project and it is chaired by the PC. Representatives of other partners will be invited to attend the SG meetings, as required. Decisions will be taken by simple majority with a casting vote held by the PC. The SG will meet regularly (7 times over the lifetime of the project) or at any other time when necessary. During SG meetings, the progress of each WP and Task will be reviewed and the project schedule will be updated to reflect possible deviations. The PC will ensure that all relevant documents pertaining to the PSG are promptly circulated among all partners. Each SG meeting will be followed by detailed minutes to be circulated with the full HANDSHAKE partnership for comments.

→ General Assembly (GA)

The General Assembly (GA) brings together representatives of all project partners once a year to strengthen personal and professional relationships, obtain a privileged update on project progress, issues and opportunities, share experience and participate in dedicated project events. Chaired by the Project Coordinator, the meetings of the General Assembly are also an occasion for formal and informal bilateral meetings between partners, between partners and the Project Coordinator and Manager. The first and last meetings of the General Assembly are also the springboard for wider reach events such as the Kick-off and Final Conference.

→ Advisory Group (AG)

HANDSHAKE will utilise the support and expertise of an Advisory Group (AG), whose main contribution will be:

- Monitor the progress of the workplan implementation, assess the scientific value of the project achievements and their innovative contents with respect to the international state of the art, and suggest, as appropriate, re-orientations of specific tasks and methodologies;

- Contribute to the establishment of a network of specialists with the twofold objective of (i) ensuring the scientific debate on the main issues developed within HANDSHAKE, and (ii) ensuring that the advances achieved by HANDSHAKE are widely and promptly disseminated within the scientific world.

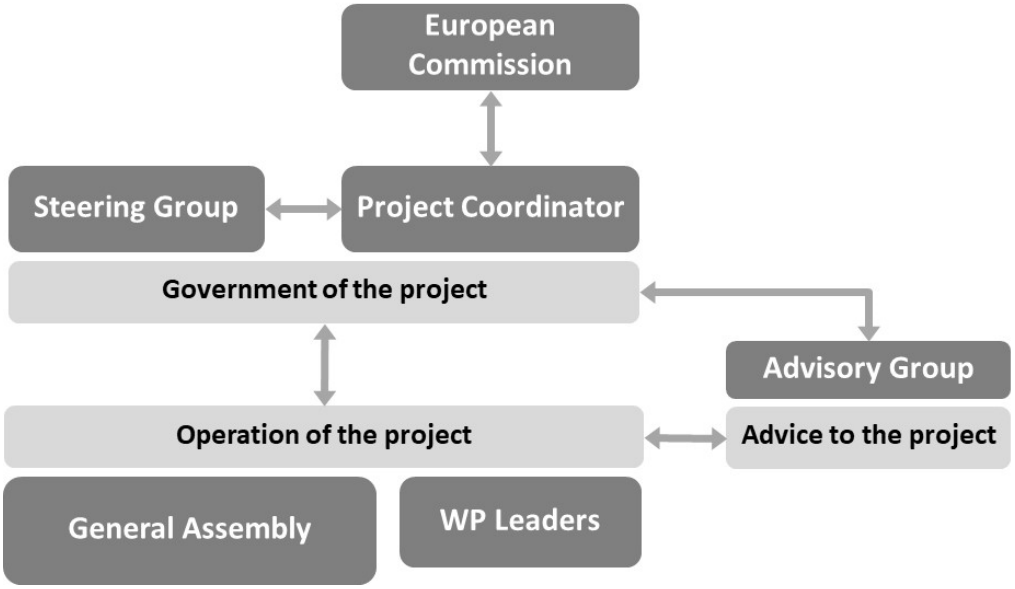
The AG includes: **Miriam Borsboom** (Dutch Cycling Embassy), **Marianne Weinreich** (Danish Cycling Embassy), **Burkhard Storkthe** (German Cycling Federation), and **Rob Raven** (SURF-SCF project).

→ Work package leaders (WPL)

WPLs will be appointed for each of the Project WPs. WPLs are specifically responsible for ensuring that the implementation of the WP is consistent with the overall Workplan and with the other project components. This entails, in particular: i) the continuous monitoring of the implementation of the Tasks within the WP, ii) keeping the SG regularly informed of progress made in the WP, and timely informing the PC of any problems arising therein, and iii) ensuring that the interactions between the WP and other project WPs and Tasks are consistent with the specifications included in the Workplan.

Role	Ordinary meeting	Extraordinary meeting
Steering Group (SG)	Every 7 months + 3-monthly calls	When necessary at the request of the PC or another partner
General Assembly (GA)	Every 7 months	When necessary at the request of the PC or another partner
Advisory Group (AG)	Twice during the project	When necessary by conference call at the request of the PC

The next is an overview of the management structure.



→ Management of knowledge, intellectual property and innovation related activities

The project will use the project web-site to manage and provide adequate access to knowledge within and beyond the project team. Intellectual property issues are dealt with as shown in Section 2.2, with specific provisions made in the Consortium Agreement as and when required.

→ Quality control

All project deliverables will be subject to internal peer review before final delivery. Quality control will be overseen by the SG quality review system that will assign to partners not involved in the drafting of the deliverable the task of peer reviewing. Deliverable leaders will then be responsible for redrafting, adjusting, clarifying etc. ensuing from the quality review process. A standard template will be designed as the common format for quality reviewers. It will notably include provisions to evaluate:

- The technical approach adopted in the deliverable.
- The level of achievement with respect to the original objectives.
- The quality and relevance of the results illustrated.
- The clarity and quality of presentation, language and format.

Table 3.2a: List of milestones

Milestone number	Milestone name	Related WP	Due date (in month)	Means of verification
M1.1	Workshops on Transition Management, Bikenomics, Imm. Study Tours	1	M7	Minutes

M1.2	Exchange Hub goes live	1	M8	Up and running
M1.3	State of cycling conditions completed	1	M12	Deliverable
M1.4	Definition of solutions to be rolled out in 13 Cities	1	M12	Deliverable
M2.1	All CCs solutions being rolled out	2	M16	Up and running
M2.2	CCs begin their direct meetings to trigger and hunt innovation	2	M14	Minutes
M3.1	All FCCs solutions being rolled out	3	M16	Up and running
M3.2	Establishment of transition arenas in the FCCs	3	M16	Minutes
M3.3	Immersive Study Tours begin	3	M18	Minutes
M3.4	Immersive symposia begin	3	M18	Minutes
M3.5	Work starts on Post-project Action Plans	3	M30	Deliverable
M4.1	Webinars for Bikenomics begin	4	M8	Minutes
M4.2	BaU and ex-ante scenarios established	4	M12	Deliverable
M4.3	Mid-term results assessed	4	M24	Deliverable
M4.4	Ex-post results assessed	4	M40	Deliverable
M5.1	Contents and format of e-booklets, short videos, infographics defined	5	M30	Deliverable
M5.2	Contents and format of practical guidance document defined	5	M30	Deliverable
M5.3	Scientific evidence publications gathered	5	M36	Deliverable
M6.1	Website and social media go live	6	M6	Up and running
M6.2	Post-project exploitation begins	6	M36	Deliverable
M7.1	Kick-off meeting in Amsterdam held	7	M1	Minutes
M7.2	Consortium Agreement signed	7	M2	Document
M7.3	Advisory Group meets the consortium	7	M14-M35	Minutes
M7.4	Final Conference held in Rome	7	M42	Minutes

Critical risks for implementation

On methodological grounds, no major risk affects the implementation of the project, notably owing to the proven competence and expertise of the HANDSHAKE partners, their wide-ranging involvement in activities directly related to the subject matter, and their extensive knowledge of the state of the art. However, the HANDSHAKE team is aware that problems can always arise and has thus carefully assessed the risks associated with management, coordination and execution of the HANDSHAKE work plan, classifying their impacts as “Negligible”, “Marginal”, “Critical”, the occurrence probability as “Low”, “Medium”, “High” and indicating the relative mitigation measures.

Table 3.2b: List of risks

Type of risk	Description	Impact	Probability	Proposed risk-mitigation measures
Risks related to Management and Coordination				
1.Withdrawal of partner(s)	For unexpected reasons, also unrelated to the project, a partner could decide to discontinue the collaboration and leave the consortium	Critical	Low	The PC prepares a proposal for replacement/swap of activities, including possible partial or total reallocation to existing partners. A contract amendment is agreed with the consortium and EC
2.Communication	Misunderstandings, resulting from poor communication, can easily cause delay in the workplan and/or reduce the clarity of project functioning	Critical	Low	The PC checks access, facilities, reviews the communication procedures and channels, and designs the necessary adjustments (additional meetings, revised formats, more detailed minutes, etc.)
3.Coordination problems within WPs	Roles and duties within WPs not clearly assigned with delays to project activities	Marginal	Low	In case of coordination problems and implementation delays, the PC will contact the WP leaders to jointly identify a solution, possibly including (i) reallocation of responsibilities and resources, (ii) rescheduling of intermediate milestones and deliverables (in agreed with the EC), (iii) acknowledgment of the actual impossibility of achieving the original goal and identification of alternative courses of action (agreed with the EC)
4.Coordination problems across WPs	Since WPs are complementary and strongly interact, the delay in the deliverables flow of a WP could affect the time schedule of the other WPs and delay the entire project	Critical	Low	
5.Delayed or unsatisfactory deliverable	A deliverable not produced by the due date or with a satisfactory quality could delay	Marginal	Low	In case of prolonged delay or constant low quality of a deliverable, the PC will assign the task to another team/researcher, and modify the

	i) the linked activities and/or ii) the approval of the periodic activity reports			allocation of the EC contribution accordingly, in line with the provisions that will be set out in the CA

Type of risk	Description	Impact	Probability	Description
Risks related to the transfer and knowledge share aspects				
6. Data scarcity (WP1, WP4)	Issues related to data availability	Marginal	Low	This risk has already been mitigated by extensive work conducted during proposal phase for the estimation of impacts. Additional capacity will be built by WP1 and WP4
7. Finding sufficient participation to foster exchange (WP3)	FCCs no longer committed, owing to (e.g.) to changing the political climate, new responsible politician not interested in cycling innovations, or financial/staff shortages hampering cycling investments	High	Medium	The invitation processes will be monitored by the WP leader as one of the activities performed in a sequence of communication before the events
8. Finding sufficient commitment to foster exchange (WP3)	FCCs no longer committed to deploy solutions, transferred from a CC. For example, the policy of the respective city changed in a way that cycling innovation is not a priority anymore	High	Low	Commitment will be constantly monitored by the PC and WP leaders. Remedial plans will be developed in close cooperation with the FCCs
9. Disregarded HANDSHAKE inputs (WP2-3)	Municipal departments disregard the advices / lessons learnt / standards provided by HANSDHAKE	Marginal	Medium	Inform them regularly about our outputs and involve them in the immersive symposia
10. Lack of full partner support in project dissemination (WP6)	For a number of reasons, whether lack of capacity, knowledge or interest, the risk exists that consortium partners are unable to perform their dissemination duties to the full extent. Though unlikely, this could significantly limit the project's visibility and ability to engage with societal actors to achieve a broader impact	Marginal	Low	- Development of a communication plan with dissemination opportunities for each partner and clear guidance on project promotion - Offering promotional material for multiple channels, including social media, and constantly informing partners about new material available
11. Inability to disseminate sufficiently to end audiences/ stakeholders (WP6)	Target audience/stakeholders may not be well identified and the final products might not reach them effectively. Nothing interests a person more than being offered a potential solution to a problem. If this is not properly identified, our outputs might not be well received	High	Low	Start discussions with stakeholders/end users early in the project. Aggressive promotion of the project through social media and networking

As explained under WP7, HANDSHAKE foresees a specific task dealing with the risk management (Task 7.4). In fact, due to the project complexity and extended time duration an appropriate strategy addressing the project risks will be developed. ISINNOVA, as task leader, will ensures that a risk registry and management plan is prepared to identify and update critical risks and deploy mitigation actions. If necessary, it will enact the management measures to address and solve risks as early as possible, linking risk assessment and contingency actions to process evaluation, further to consultation with the Steering Group.

3.3 Consortium as a whole

HANDSHAKE gathers a group of **13 cities** and **6 expert organisations** that have demonstrated particular **enthusiasm** and **commitment** toward the project **concept** and its **objectives**. Building the consortium was a lengthy endeavour and one that proved at times difficult, for the subject at hand attracted considerable interest across Europe and we were forced to make tough decisions. The departing assumptions were:

- Team up the cities that are regarded as the front-running cycling champions in Europe. We did so by bringing the **cycling crown jewels** of Europe, Amsterdam and Copenhagen, to cooperate after decades of healthy competition. We integrated the team of what came to be known as HANDSHAKE's Cycling Capitals, with Munich, a city that in recent years has invested time and resources in exploring communication methods and

tools as effective **leverage of change**. The assembling of this group provided the project with the necessary body of experience and knowledge to funnel the concept and methodology that we had in mind.

- Team up at least 10 cities determined to embrace the transfer approach advocated by the project and set real cycling innovation in motion. As mentioned this was the **most complex task** for we encountered many cities eager to participate. We eventually selected our 10 Future Cycling Cities trying to balance out geographical and socio-cultural conditions, as well direct knowledge of the local staffs. The latter is a crucial factor in light of the challenges posed by the deployment of our ambitious work programme.
- Team up a group capable to provide **methodological soundness** and **operational leadership**. We did so by assembling a coalition of experts well reflecting the backbone components of the transfer approach we had in mind. Our collective experience on scores of national and transnational knowledge-transfer projects, told us that there are currently a number of methods and tools that have **individually proved their worth** but that have yet to come together into a **cohesive approach**. HANDSHAKE provided us the occasion to **tie the loose ends** and to build a process that we hope will prove inspirational and effective. As shown in Section 3.1, we successfully brought together the makers of Bikenomics, leaders in the Immersive Symposia, advocates of Transition Management and Innovation Hunting, and altogether organisations with an outstanding reputation in the research, innovation and communication arena in Europe.
- The consortium as a whole is also a strong and highly recognisable **nexus** for all that revolves around cycling. Our collective network of professional and personal relationships extends widely across Europe and well beyond it. This is an important factor in view of reaching one of our pivotal objectives, that is leveraging the knowledge and the practical insights produced by HANDSHAKE to trigger a **wide take-up** of cycling innovations. It is our intention to fully exploit the accessible cycling embassies, the national and international networks of city, researchers and stakeholders, the national and international projects concerned with sustainable mobility and cycling. Not only we seek to show how cycling innovations can change the case of our cities, we also want to provide a positive contribution to the consolidation of an **effective theory and practice of policy transfer**, by reporting on the successes and the shortcomings of the novel methods we applied. This field is driven by rather traditional and unsophisticated approaches, as if in the age of digital and dynamic communication knowledge transfers by itself by the simple touch of a keyboard. As policy transfer entails deep cultural modifications, this is not the case, and HANDSHAKE hopes to prove that by using a structured yet engaging process take up can be **accelerated**, **smoothened** and **economised**.

ISINNOVA, the PC, has been working in the research and innovation FPs of the EC for almost 20 years. By now it accounts for over 100 projects in which the institute acted either as coordinator or major contributor. In HANDSHAKE ISINNOVA seeks to channel its long-standing coordination capabilities, the expertise accrued in innovation hunting and results evaluating, and, importantly, the passion for working alongside cities in their quest for shaping more human friendly environments. ISINNOVA has coordinated many large city-driven international initiatives, and several of these addressed specifically cycling innovations, including Spicycles, Carma and VeloCittà.

DECISIO is one of the main research and consultancy companies in The Netherlands operating in the area of urban, transport, water and spatial economics. In twenty years of activity, it has successfully conducted over 900 assignments and projects in The Netherlands and abroad, and has developed Bikenomics, a standard methodology for Social Cost-Benefit Analysis to appraise the economic return on cycling investments. Effects of cycling on multiple dimensions (economy, environment and society) and actors (individuals, companies, governments) are mapped and measured in economic terms. This has been applied to over 30 cases of large infrastructural projects.

Mobiel 21 is an NGO committed to sustainable mobility. With a multidisciplinary team it inspires and activates people, groups, organisations and governments to thoughtfully consider their means of transport and transport habits. Mobiel 21 raises awareness and encourages behavioural change through research and by informing, educating and encouraging social action among several target groups. With more than 20 years of experience in local, national and European projects, Mobiel 21 uses applied research to feed its creative campaign concepts and project ideas, and analyses their impacts to make relevant policy recommendations.

ICLEI, Local Governments for Sustainability, is a worldwide association of local governments implementing sustainable development. ICLEI's mission is to build and serve a worldwide movement of local governments to achieve tangible improvements in global sustainability and environmental conditions through cumulative local actions. Today, ICLEI has more than 1.000 local government members, with around 160 in Europe. ICLEI has a strong multilingual information and communication team, experienced with Europe wide communication strategies. The team is also experienced in organising events and in the pan-European dissemination of successful

sustainable mobility strategies, through the CIVITAS, ELTIS, the European Mobility Week and the Urban Transport Roadmaps 2030.

Velo Mondial is a foundation that promotes sustainable mobility by focusing on CO2 emission reduction, climate change control, health promotion, sustainable development of economies and poverty relief. Its founder, Pascal J.W. van den Noort, is a conceptual thinker that has helped cycling become the 'hot mode of transport' it is today. Velo Mondial played key roles in high-profile cycling projects such as Velo.Info, Spicycles, and Civitas Mimosa.

UCI, the Urban Cycling Institute (University of Amsterdam), comprises academics from multiple disciplines who use cycling as a lens to more deeply understand a wide range of complex challenges of contemporary cities. Attention for this has been limited until recently and a more structured approach is needed to map these relations, understand best practices and foster reciprocal learning between research and practice. The mission of UCI is to (1) take a multidisciplinary approach to understanding intricate web of causes and effects of urban cycling; (2) to balance a critical academic stance with a pragmatic practice-oriented approach of developing and disseminating knowledge; and (3) to provide a fertile ground for sharing knowledge and learning about urban cycling on all levels of the academic curriculum.

3.4 Resources to be committed

HANDSHAKE reports €4.998.593,75 of total eligible costs with a requested grant of **€4.859.093,75**. Preparation (WP1) requires **9%** of total person months, the cycling actions (WP2 and WP3) amount to **61%**, evaluation (WP4) uses **11%**, dissemination and exploitation (WP5 and WP6) combine for **13%**, while management stands at **6%**.

The cities of HANDSHAKE combine for **74%** of total budget, with subcontract taking only 1,8% of the budget, thus keeping the build capacity well into internal municipal structures.

Table 3.4a: Summary of staff effort

	WP1	WP2	WP3	WP4	WP5	WP6	WP7	Total Person-Months per Participant
1 ISINNOVA	6	2,5	6	7,5	5	3	14	44
2 CPH	3	27,5	5	4	1	2	2,5	45
3 AMS	3	26	7,5	4	1	2	1,5	45
4 KVR	3	26	3,5	4	1	2	1,5	41
5 BM	3		26	4	1	2	1	37
6 BRUGGE	3		27	4	1	2	1	38
7 DUBLIN	3		27	4	1	2	1	38
8 GMK	3		27	4	1	2	1	38
9 HEL	3		27	4	1	2	1	38
10 TIGM	3		27	4	1	2	1	38
11 RCC TD	3		27	4	1	2	1	38
12 RSM	3		27	4	1	2	1	38
13 MS TO	3		27	4	1	2	1	38
14 UVA-UCI					8		1	9
15 M21	3		13		2	4	2	24
16 Velo Mondial	1		4	0,5	4	2	1	12,5
17 DECISIO	4			13	4		2	23
18 ICLEI	2,5		4	0,5	2,5	11	2	22,5
19 CADIZ	3		27	4	1	2	1	38
Total Person Months	55,5	82	312,0	73,5	38,5	46,0	37,5	645

Table 3.4b: 'Other direct cost' items (travel, equipment, other goods and services, large research infrastructure)

1/ISINNOVA	Cost (€)	Justification
Travel	€ 22.800	2 persons travel to 6 General Assemblies = 12.000 € 2 persons travel to 3 Immersive Study Tours and 2 Symposia = 12.400 € 2 persons travel to 3 CCs exchange = 2.400 €
Other goods and services	€ 26.500	Advisory Committee meetings = 10.000 € Catering and room renting for final conference = 6.500 € Publications = 4.000 € + Audit costs = 2.000 €
Total	**€ 49.300**	

8/GMK	Cost (€)	Justification
Travel	€ 25.200	2 persons travel to 7 General Assemblies = 14.000 €

		6 persons travel to 1 Immersive Study Tour = 11.200 €
Total	**€ 25.200**	

11/RCC TD	Cost (€)	Justification
Travel	€ 25.200	2 persons travel to 7 General Assemblies = 14.000 € 6 persons travel to 1 Immersive Study Tour = 11.200 €
Total	**€ 25.200**	

16/Velo Mondial	Cost (€)	Justification
Travel	€ 7.000	1 person travels to 7 General Assemblies = 7.000 €
Other goods and services	€ 30.000	WP5 publications - videos
Total	**€ 37.000**	

18/ICLEI	Cost (€)	Justification
Travel	€ 7.000	1 person travels to 7 General Assemblies = 7.000 €
Other goods and services	€ 22.000	Website = 5000 € + Visual identity and dissemination products = 5.000 € Printing of promotional materials = 7.000€ + Translations of materials = 5.000 €
Total	**€ 29.000**	

17/CADIZ	Cost (€)	Justification
Travel	€ 25.200	2 persons travel to 7 General Assemblies = 14.000 € 6 persons travel to 1 Immersive Study Tour = 11.200 €
Total	**€ 25.200**	