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Cleaner and better transport in cities

HANDSHAKE

State of affairs and definition of solution in 13 Cities

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Abstract

To supply information and stimuli supporting the process of capacity development and cycling solutions transfer in the Handshake cities (primarily through WP2 and WP3). Specifically, D1.1 contributes to shaping future plans and actions by:

1. Assessing the present cycling conditions of the 13 Handshake cities, with a focus on influencing factors such as planning practice, citizens culture and behaviour, urban infrastructure, the configuration of governance (all from the State of Affairs).
2. Drawing relevant information from the Evaluation Plan (D4.1).
3. Identifying collective and city-specific potential areas of cycling developments through transition management, mentoring processes and immersive study tours and symposia.

Project Partners

Organisation	Country	Abbreviation
Istituto di Studi per l'Integrazione dei Sistemi	Italy	ISINNOVA
Copenhagen	Denmark	CPH
Amsterdam	Netherlands	AMS
City of Munich, Department of Public Order	Germany	KVR
BORDEAUX METROPOLE	France	BM
City of Bruges	Belgium	BRUGGE
Dublin City Council	Ireland	DUBLIN
Municipality of Kraków	Poland	GMK
City of Helsinki	Finland	HEL
Transport for Greater Manchester	United Kingdom	TfGM
Riga City Council - Traffic Department	Latvia	RCC TD
Roma Servizi per la Mobilità	Italy	RSM
City of Turin	Italy	MS TO
Amsterdam University - Urban Cycling Institute	Netherlands	UVA-UCI
Mobiel 21	Belgium	M21
Velo Mondial	Netherlands	Velo Mondial
DECISIO	Netherlands	DECISIO
ICLEI European Secretariat	Germany	ICLEI
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TABLE OF CONTENTS

TABLE OF FIGURES

1. Introduction

1.1 Goals of D1.1

D1.1 reflects the findings of the **initial endeavour** of Handshake, which sought to systematically trace the **current cycling conditions** in all 13 partner cities. The investigation served multiple aims, including most notably:

A. Allowing the cities to thoroughly **self-assess** cycling conditions using a structured framework developed by ISINNOVA, reviewed and validated by the cities themselves and the Steering Group. This assessment provided cities with the unusual opportunity to look into cycling aspects that are often overlooked or not contextualised in the coherent and broader picture that the D1.1 questionnaire provides. In doing so, most cities had to leverage the knowledge of facts of multiple local officers coordinated by the local Handshake contact points. This fostered the sharing of knowledge and possibly the emergence of joint perspectives.

B. Providing the project, and specifically the work packages, with **reference inception information**, including insights as to the areas in which cities would require the most **transfer of knowledge and capacity** and where the most **room for improvement** could be found. In particular, D1.1 fed into:

- WP2 and WP3, with information on **strengths** and **weaknesses** as well as areas in which cities voiced their quest for specific **support**. The review of the questionnaires was thus geared to inform the shaping of the collaborative actions amongst Cycling Capitals and Future Cycling Capitals, and primarily including the installing of mentoring processes and procedures, topics and modalities for the organisation and execution of the immersive events (study tours and symposia) and the transition arenas.

- WP4, with a transversal review of the state of affairs in a range of cultural and process-related factors that, when coupled with the qualitative and quantitative data collection performed through the WP1 Pre Assessment Forms, as well as with the WP4 framework of indicators compiled in D4.1, will supplement the establishment of a project's complete **baseline** for **progress monitoring** and **final results evaluation**.

- WP5, with headline cultural and process-related items that will contribute to shaping the upcoming **cycling self-assessment system** (Task 5.1), which is projected to be largely based on the framework of cycling determinants identified in D1.1.

- WP6, with overall and comparative **findings** that will be translated in communication-savvy updates used for both internal (Exchange Hub) and external dissemination.

C. Allowing cities to **peek** into the other cities reflections and **compare** their own assessments with those of both frontrunning cities and cities more in line with their own

state of advancement, thereby identifying areas of improvement, inspiration and collaboration.

The information presented in this document was gathered through the administration of an-hoc **questionnaire** structured by ISINNOVA and reviewed by each city, so as to ensure relevance, completeness and deliverability.

The final template questionnaire, which is shown in Annex 1, addressed the following **key cycling areas**:

1. **Cultural readiness of institutions, citizens** and **stakeholders.** The prevailing sentiment toward cycling, as a result of culture, traditions, social and generational changes is an important insight we wish to gather to better gauge challenges and opportunities to be tackled and leveraged.

2. **Socio-economic, environmental** and **legal/regulatory circumstances** and **trends.** Likewise, and completing the reference background picture drawn by the previous area, here we seek to gather information on a number of contextual factors that play a vital role in supporting or thwarting cycling policies.

3. **Visions, plans** and **forward-looking activities.** While the above areas describe an ecosystem partaken by the entire local community, institutions, businesses and citizens alike, here we delve into the realm of institutional capacity, in the ability of politics and administrative authorities to have a long-term outlook, on cycling as on other urban issues, and to accordingly draw up strategies and plans acting both as symbolic and operational guiding instruments for the achievement of the embraced long-term view.

4. **Governance** and **engagement.** Intimately intertwined with the previous area is the capacity of local public authorities to engage, manage and steer urban governances, composed of the wide array of stakeholders interested in contributing to the making of cycling policies, whether because they feel they would benefit or suffer from them. Typically, these include on the one hand supportive associations and sometimes private citizens advocating for the environment, cycling and active mobility, safety and liveability, and on the other associations and private citizens opposed or with mixed feelings toward cycling, such as shop owners, residents' groups, freight couriers.

5. **Planning integration.** In association with point 3, this area tries to understand the level of integration between city departments somehow involved in cycling planning, whether because directly responsible or indirectly capable of facilitating or obstructing cycling uptake.

6. **Assets in terms of existing infrastructure** and **services, existing** and **future funding.** This area seeks to take a picture of the current cycling infrastructural and financial stock so as to gauge the starting endowment of each city, which, together with the previous "software" policy aspects, contributes to determine the profile of our cities.

7. **Economic potential of cycling.** This is a complex point that we sought to include despite the fact that cities, especially those still unexposed to the benefits of sound active mobility policies, are often oblivious to its meaning and magnitude. Because Handshake much believes in estimating and demonstrating the sizeable economic impacts cycling has on cities as a whole, both in terms of saved external costs (e.g.

environmental, safety and health costs especially) and direct revenues for large segments of society (e.g. businesses, real estate and tourism), we are interested in knowing the present level of awareness with regards to this crucial factor.

The questionnaire was **directly** and **independently** elaborated by each city, using local expert knowledge, face-to-face interviews and/or focus group meetings with relevant personnel, including policy makers, practitioners and technical experts. ISINNOVA supported the compilation process by clarifying questions, confirming the correctness of cities' interpretations, and requesting additional information in case of gaps and weak responses. This notwithstanding, the questionnaires display a physiological variability in the level of analytical depth, as a result of collaborative traditions, personal attitudes, cycling culture.

The full sequence of **13 compiled questionnaires** is presented in Annex 2.

1.2 Structure of D1.1

Handshake's initial findings presented in the next section have been produced by analysing **cross-city** and **city-specific** information as reported in the questionnaires. Please note that in order to draw overarching insights and synthesise them with the support of flow charts, D1.1 has taken the approach to translate information that was mostly **qualitative** into **quantified values**. This conversion entailed interpreting the individual self-assessments and translating them into a 10-point scale (from least to most advanced stage of development). Accordingly, we consistently used the method in the forthcoming paragraphs to illustrate trends and findings, giving each cycling determinant equal weight.

Furthermore, it shall be noted that all interpretations and quantifications have been duly revised and **validated** by the cities themselves, to ensure that no ambiguities or misrepresentations were reported. This said. We need to remark that the intention of the next section is to delineate **overall European trends**, accepting the fact that the information base had to be harmonised for statistical purposes, with inevitable simplifications.

Because the timescale of D1.1 nicely fits with the beginning of the activities of WP5, which took off with a project-wide reflection on the future Handshake cycling self-assessment system (part of Task 5.1), it was decided to adopt the **self-assessment framework** thereby produced for the presentation of the results of D1.1 (the self-assessment system was first introduced to the consortium and then addressed in ad-hoc table-style discussions at the General Assembly of Munich on 21-23 October 2019).

Accordingly, we structured the information produced by the questionnaires using the following self-assessment system-inspired reporting structure:

Cycling Area	Cycling Determinant
HARDWARE	Network quantity
	Network quality
	Cycling parking & other facilities
	Bike share
SOFTWARE	Education, marketing, communication
	Advocacy

	Political support
ORGWARE	Visions, plans
	Co-planning, partnerships
	Key planning synergies
	Structure, staff
	Dedicated budget
	Monitoring, evaluation, modelling
	Private vehicles access management
	Private vehicles parking cost, reduction
	Private vehicles traffic calming

Figure 1: D1.1 reporting structure

Hardware, software and **orgware** describe the essential **areas** for a sound cycling policy according to our knowledge. The respective charts display in the vertical axes the 10-point scale applied to the total of determinants included in each cycling area, and thus 0-40 (4x10) for hardware, 0-30 (3x10) for software and 0-90 (9x10) for orgware. Thus, the total per city is a maximum of 160.

Caution: *the next paragraphs illustrate the main findings from the analyses of the city questionnaires. As remarked, the 10-point scale has been adopted purely for **illustrational purposes,** by no means rankings of any sort are here intended. Handshake will build, test and deploy a cycling self-assessment system in WP5, with the objective of allowing city to self-assess their present cycling status and identify improvement areas. Charts show cities in alphabetical order. Each city has self-scored themselves, so whilst the charts highlight relative strengths within a given city, we do not advise directly comparing one individual city with another individual city on an absolute basis.*

2. Findings by key cycling areas

2.1. Cycling Hardware

The next figure shows the present state of the first essential component of cycling, which is generally referred to as the hardware. By this we consider the **extension of the cycling network** (the sum of cycling lanes, as identified and regulated by each city), the **quality of the network** (i.e. width, signals, priority, building standards, maintenance), the endowment in terms of **cycling-specific facilities** (i.e. parking and service primarily), and the availability of **bike-share services**. Please note that the consortium is still actively discussing how to best measure quantity and quality, a task that will be addressed while developing the final Handshake cycling self-assessment system.

Collectively, these features ensure the infrastructure and service provision for a sound cycling policy.
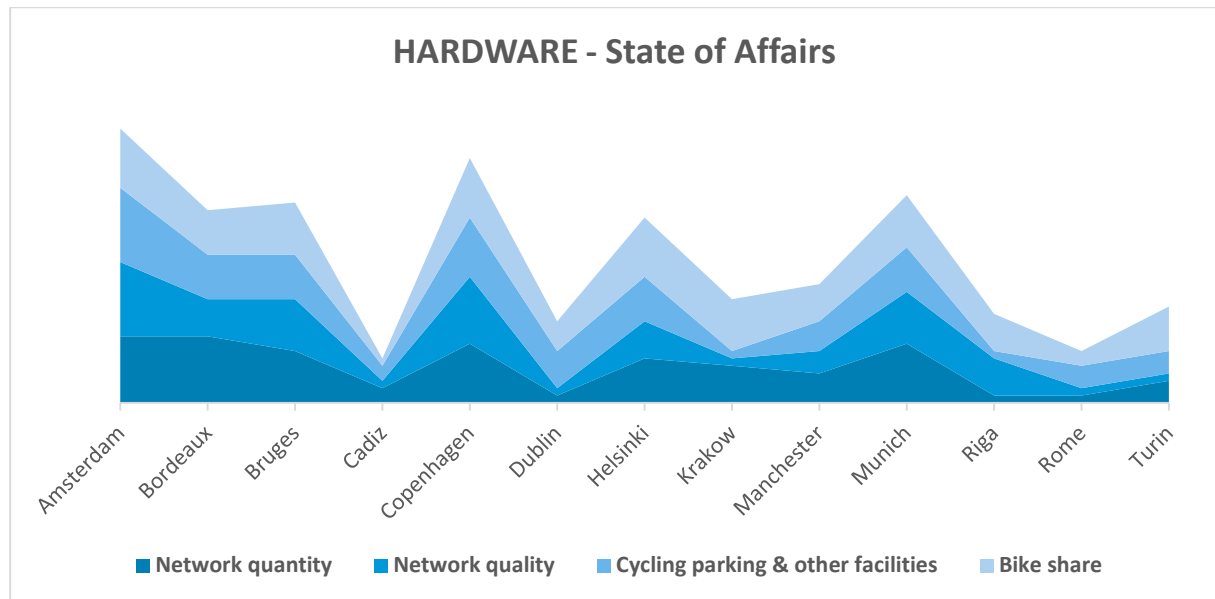
Figure 2: Hardware state of affairs (Max = 40)

The chart outlines a picture in line with that envisioned by Handshake at the time of consortium formation:

A. The three Cycling Capitals, Amsterdam, Copenhagen and Munich display advanced hardware provisions, with each feature of the area evaluated equally valuable and network's quantity and quality taking the lion's share.

B. The ten Future Capital Cities roughly split in two groups:

- Helsinki, Manchester Bordeaux and Bruges, which share intermediate to high hardware levels for all features, with most shortcomings connected with the quality of the network and bike share systems that have to yet find optimal settings.

- Cadiz, Riga, Rome, Turin, Krakow and Dublin, which share low to very low hardware levels for all features, and particularly critical conditions in relation to network quantity and quality.

The chart underlines the importance of investing in all the identified hardware features as they support in an integrated manner the deployment of safe, efficient and accessible cycling. It also confirms that cities aspiring to boost cycling need to particularly concentrate on building networks that are coherent, extensive and adhering to common and high-quality standards.

2.2. Cycling Software

The next figure illustrates the present state of the second essential component of cycling, which deals with the software aspects of cycling, or the intangible elements relating to the sphere of **communication, awareness, advocacy** and **political support**.
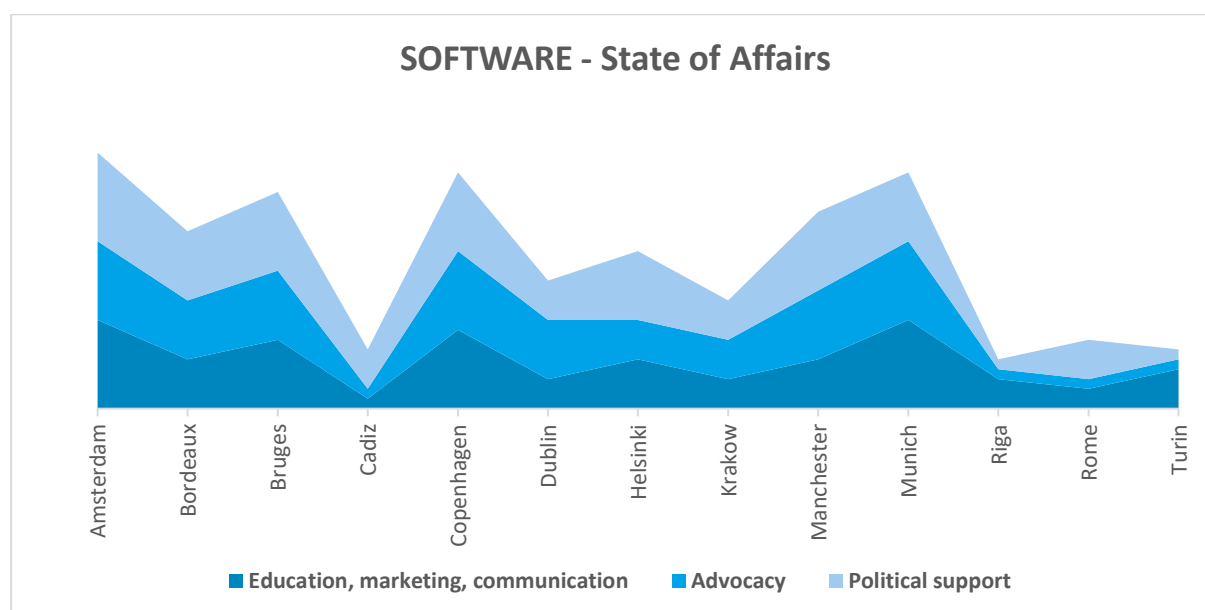
Figure 3: Software state of affairs (Max = 30)

Like for the hardware, we recognise similar patterns across the groups previously identified, with peaks for the Cycling Capitals and a group of advanced Future Cycling Capitals. The resulting picture is again one highlighting the importance of working on all "software" levels of cycling, with political support playing as expected an effective role. Several cities, especially those belonging to the least advanced group, still report inconsistent patterns of support received by political champions, and the inability to secure consistent backing across political cycles.

Advocacy is another sensible aspect, which tends to mature with the evolution of cycling policies. More advanced cities show a good degree of cooperation with local cycling associations, which are mostly concerned with incrementally fine-tuning the quality of the network and engaging an ever-growing base of users. Future Cycling Capitals that are further behind often struggle with sometimes confrontational advocates frustrated by the slow pace of cycling uptake, the lack of political courage and the limited budget allocations

Education, marketing and communication is comparatively the most harmonised feature, with most cities understanding the importance of investing in it, albeit proportionally to the priority assigned to cycling within the local mobility system (high in the Cycling Capitals, medium to low in the Future Capital Cities).

2.3. Cycling Orgware

The next figure shows the present state of the third essential component of cycling, which we label orgware and include a wide array of **organisational** and **capacity-related features.** As these are broad, it is helpful to sub-divide these into three broad categories ("3 Ps"):

- Planning (shown in shades of red);
- Providing funding, both staff and projects (shown in shades of blue);
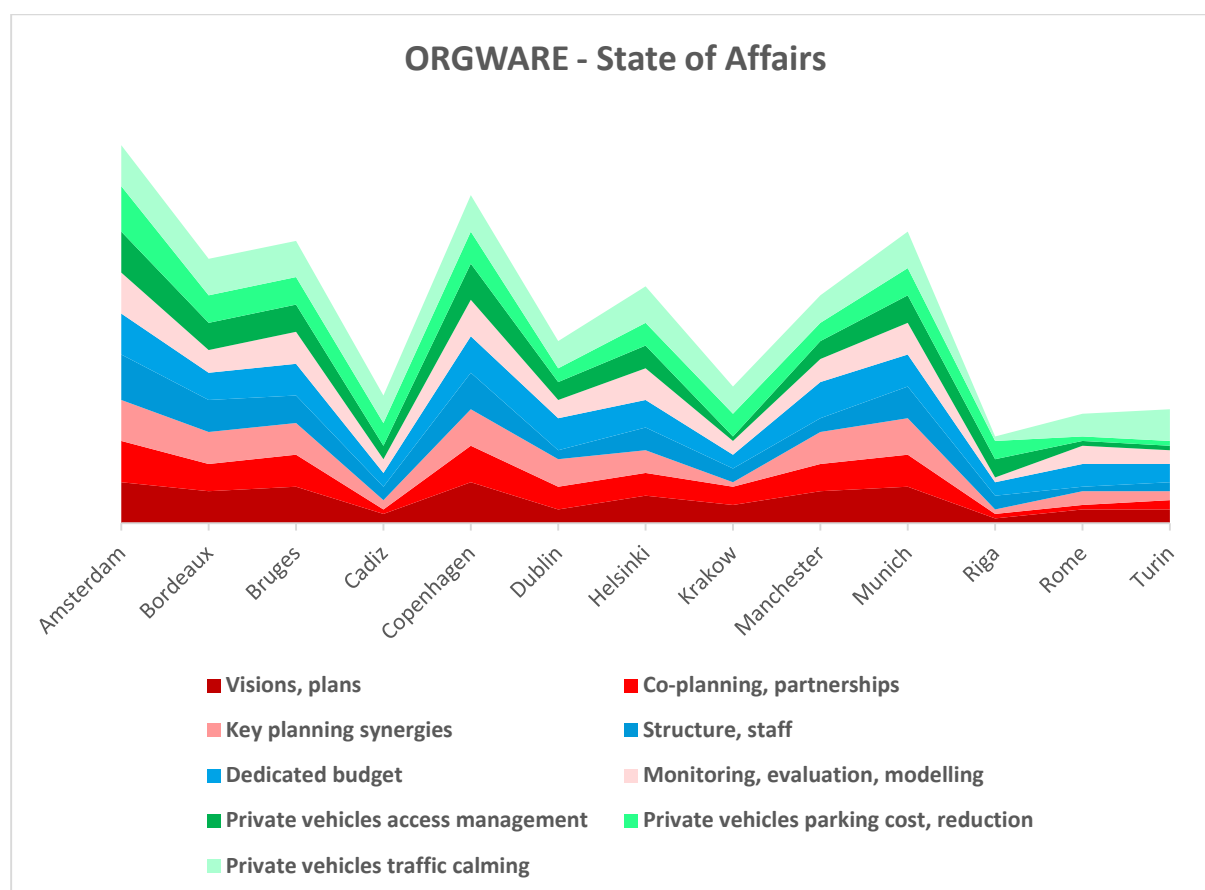- Private motor vehicle management (shown in shades of green).

Figure 4: Orgware state of affairs (Max = 90). Red = planning; Blue = providing; Green = private vehicle management.

Once more we see three groups of cities emerging, with the Cycling Capitals getting very close to the optimal levels and the Future Cycling Capitals splitting in two cohorts. The more advanced cities display consistent quality in all features.

In general terms, the least advanced cities still struggle with giving cycling adequate priority, and this is reflected in the limited structure capacity (both in terms of number of staff and specific competence), the marginal relevance given to cycling across concerned planning departments, and a lack of political decisiveness in limiting the role of the car.

All cities, including the Cycling Capitals, point out the need to elevate the evaluation culture in their administrative structures, as it allows to better define objectives, gauge costs and benefits, appraise amongst available options, assess impacts and fine-tune interventions.

2.4. Cycling areas across cities

The next figure shows the present state of affairs in relation to the self-assessed level of implementation by **cycling area**.
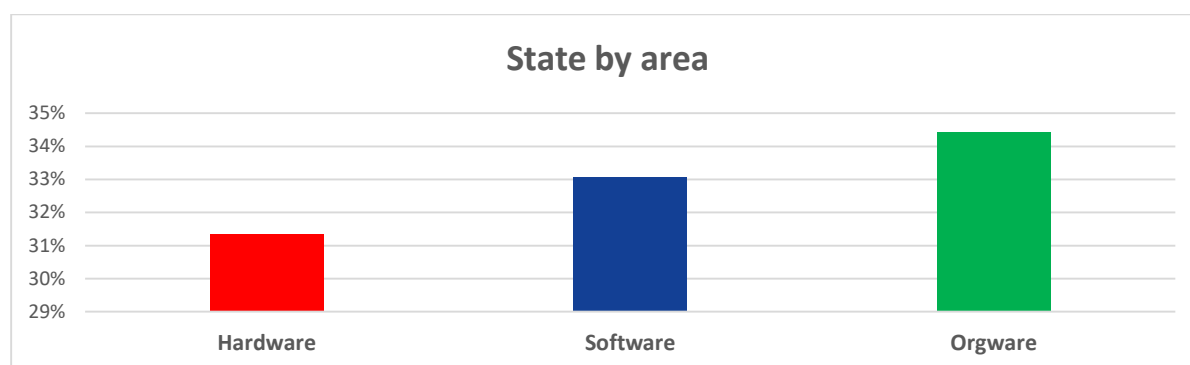
Figure 5: State of affairs by cycling area (note: % score shown)

The average results describe a situation in which cities essentially represent the three areas at similar states of advancement. As a whole, the **organisational aspects** seem those that have been best tackled by the thirteen cities, but when broken down (see Section 2.5), a more mixed story emerges, especially with reference to the rather different abilities to secure cycling budgets and implementing vehicle access regulations. **Hardware** also appears to be the most consistently challenging one. The latter consideration comes to no surprise considering the large presence of less advanced cities in the consortium, the higher costs of infrastructural interventions, as well as the extent of political leadership required by such investments.

2.5. Cycling determinants across cities

The next figure shows the present state of affairs in relation to the self-assessed development level by **cycling determinant** (the sum of all 13 cities' scores).
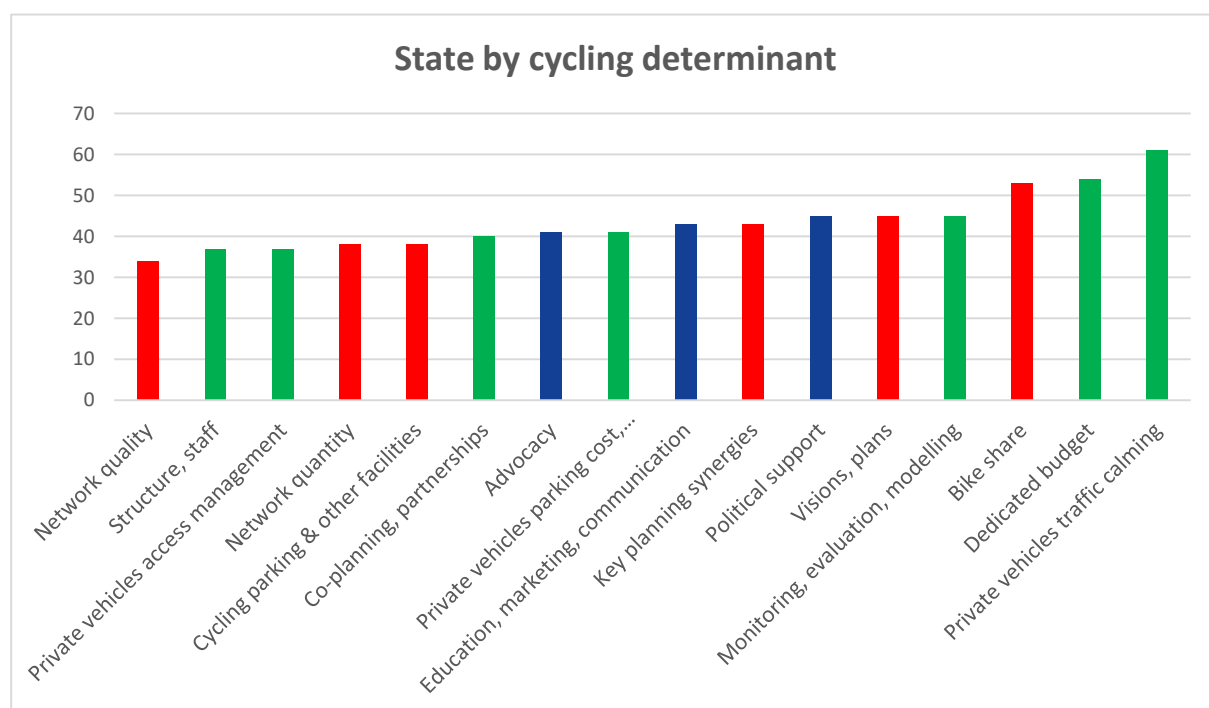

Figure 6: State of affairs by cycling determinant (Max = 160; max 10 points per 13 cities). Red = hardware; Blue = software; Green = orgware.

Here the differences are more markedly visible. In general, most issue can be traced with the **lack of network quality and quantity**, **insufficient capacity** in terms of **structure** and **staff**, complemented by **inadequate cycling facilities**.

This picture is somewhat at odds with the main assets reported by cities, which show a situation in which there is a **higher level of political support**, **presence of vision and plans**, **adequate availability of cycling budget**, and more **favourable regulations in terms of traffic calming**. Only three of the factors breach a total score of 50 (out of 160) across the contingent of cities, so as a group there is clearly progress to be made across the board, even on those relatively "strong" factors.

Even discounting the higher assessments provided by Cycling Capitals and the more advanced Future Cycling Capitals, these results seem to underline the need for additional capacity in the local planning structures, and, possibly, the need to push politicians to take a **more decisive and courageous role** in translating plans and declarations in concrete projects.

2.6. Highlights by city

The next are simple flash notes from the analysis of the individual city state of affairs. Full details can be found in Annex 1. For each city, some key areas of focus (filled in red on the graphs) are highlighted, with relatively strongly performing areas in green; an indicative threshold of 5/10 is employed, subject to some further refinement alongside the self-assessment system in WP5. Areas of specifically mixed impression are given in grey.

Cadiz

The archetypal aspiring city, Cadiz is a city in which personal movements are made on foot, due to its relatively small size and compact fabric. Cycling is thus seen as the ideal complement, hopefully replacing car trips. Presently (situation as of 2018) the city only has a rather incoherent cycling network formed by sporadic and disconnected lanes. Nowadays (2020) almost 70% of the planned cycling network has been built. The planned cycling network must be updated adding more km of bike lines. Besides building a cohesive network, Cadiz seems to prioritise the deployment of cycling parking and the launch of a bike share system, which to date is still missing. Awareness raising is another area in need of considerable investment, given the traditional lack of familiarity with cycling.
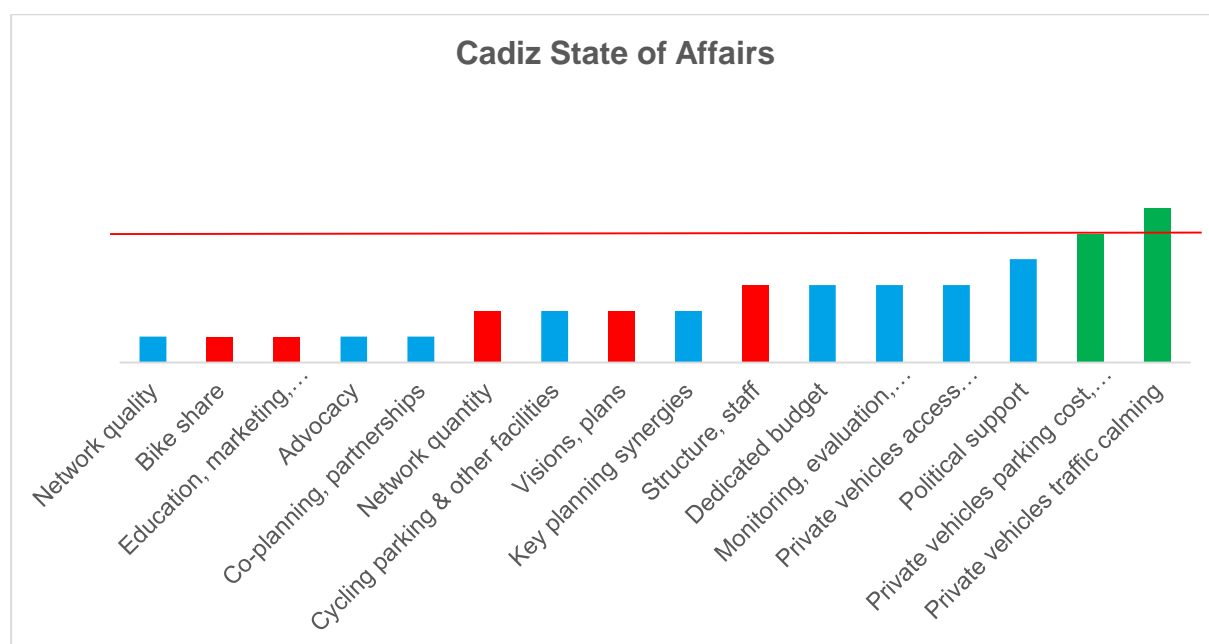
Figure 7: Cadiz state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

In order to push these ambitions forward, the city needs to structure a planning team, acquiring dedicated staff and specific expertise, which at the moment it completely lacks. Cycling also required a proper dedicated plan, which is at the moment mostly focused on hardware aspects only. These are all improvement areas that Cadiz brings into Handshake hoping to receive appropriate inspiration and assistance. On the upside, Cadiz reports having in place at least initial provisions in terms of private traffic regulation (both access and parking), which is a good passport to future cycling solutions. The city also indicates to have at least adequate cycling budget assigned over the next few years.

Riga

Unlike Cadiz, Riga appears to stress the need for more political support to empower a cycling and public transport vision, plans and solutions. Over the last twenty years the city has witnessed soaring flows of circulating cars and commercial vehicles, rendering sustainable mobility increasingly challenging. Accordingly, the population is still relatively insensitive to the merits of cycling, and particularly to its economic impacts, one of the aspects Riga in interested in promoting through Handshake with informative communication campaigns.

The key priority is thus building a sound cycling network, separating as much as possible cyclists and pedestrians and reconnecting the many loose infrastructural ends, as well as building the necessary cycling parking spaces. However this ambition largely depends on the ability to win political support over, a challenge that to date remains difficult given the limited understanding the prevailing local culture has of the manifold benefits cycling affords. This consideration goes hand in hand with the need to substantially elevate the awareness and planning abilities of the officers responsible for mobility planning.
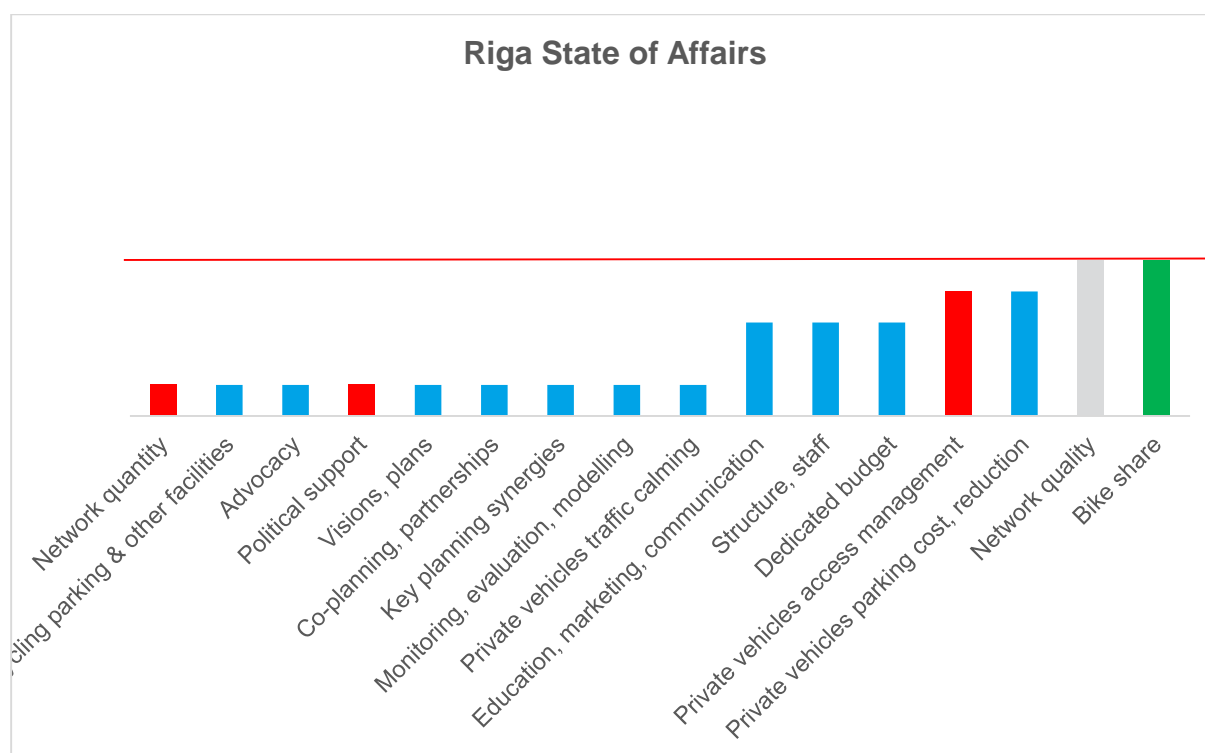
Figure 8: Riga state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Riga holds considerable potential for cycling success owing to a favourable urban fabric and function locations, which conjure up for a context that is compact and well-integrated with the peripheral areas, even beyond the municipal borders. Despite there being room for far greater levels of political support, Riga can also count on budget made available for cycling, which can hopefully be best used through the knowledge transfer received through Handshake. Currently addressed measures for traffic regulation, traffic calming and car parking charging are seen as other elements that could support to the initiation of an effective cycling policy. The presence of a satisfactory bike share system is also helpful in promoting the image of cycling.

Rome

The situation of Rome clearly indicates a lack priority assigned to cycling. While overtime occasional cycling lanes have been built, the overall picture shows a highly fragmented network with no coherent planning behind it. Quality is also low owing to the lack of maintenance and the scarce familiarity of other road users who frequently occupy the lanes. Another major gap in Rome is the lack of adequate staff (numbers of assigned officers and their cycling expertise) and the low profile that cycling still has in the mainstream mobility planning of the cities, where potentially relevant departments often ignore the needs of cycling. A final hurdle is represented by the insufficient decisiveness with which the city deals with private transport. Despite being the first European city to introduce automated access management, Rome is today showing the inability to free road and public space for cycling and sustainable mobility. This is clearly linked with frail political support and audacity.
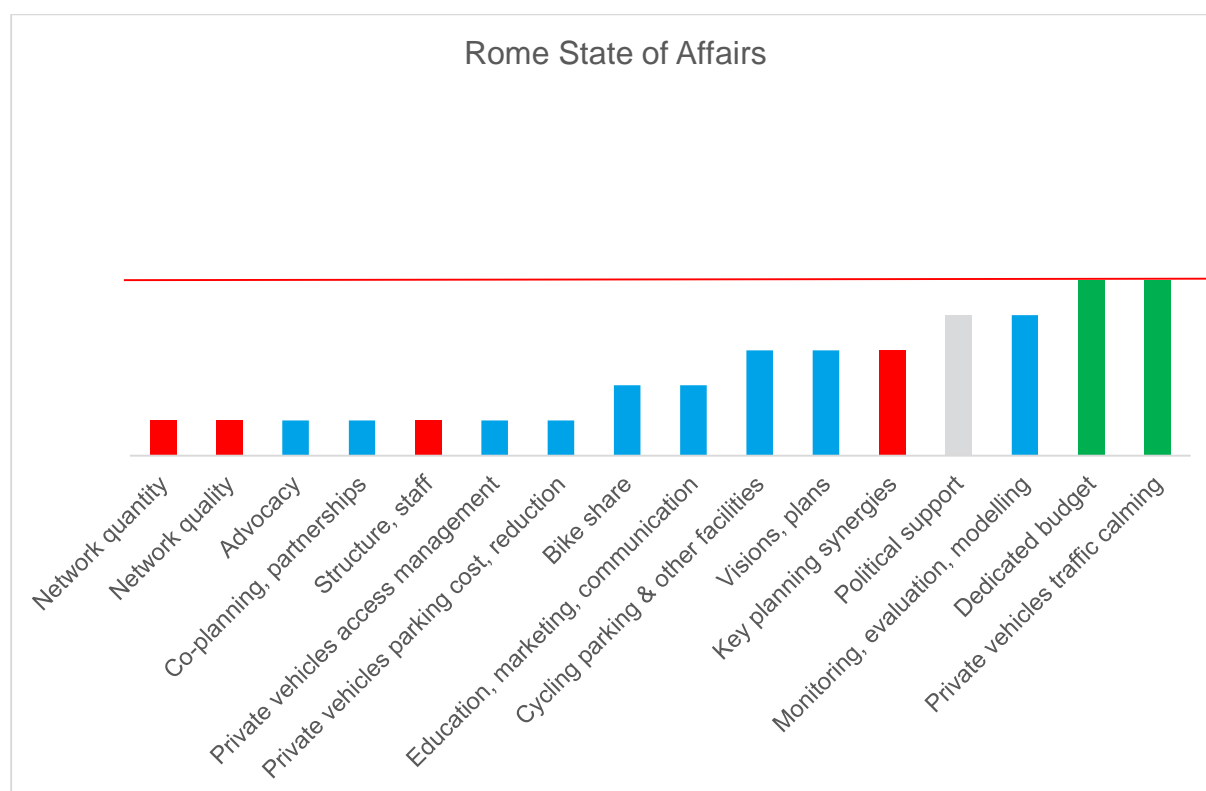
Figure 9: Rome state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

On the positive side, Rome is now able to rely on sizeable budget for cycling (and sustainable mobility in general), as well as plans that have been passed and foresee potentially game-changing cycling investments (like the GRAB, the prospective inner cycling ring lane). While the volatile political climate remains a perennial liability, the current administration is displaying support for cycling, although to date with limited levels of tangible effectiveness.

Turin

Like Rome, Turin needs to improve its infrastructure, building a cycling network in an urban fabric that is in many ways ideally suited for the task (large parts of Turin boat wide avenues in a grid-like pattern). It is however also a historic automotive city, a cultural and economic factor that clearly still takes a toll, with car-oriented trips always on the rise and citizens unwilling to change their behaviour This translates in traditionally low political support, today partly changing, and timid private transport averse policies. Recent administrations have however tried to partially revert the trend by adopting dedicated cycling plans and investing in modern cycling lanes, albeit few. Another weakness is the lack of adequate cycling parking, which is made difficult by the unwillingness of residents and businesses to free up parking space destined to cars. Turin also suffers from a lack of staff and limited cycling expertise. The budget, although secured for multiple years, seems diminutive compared to the size of the city.
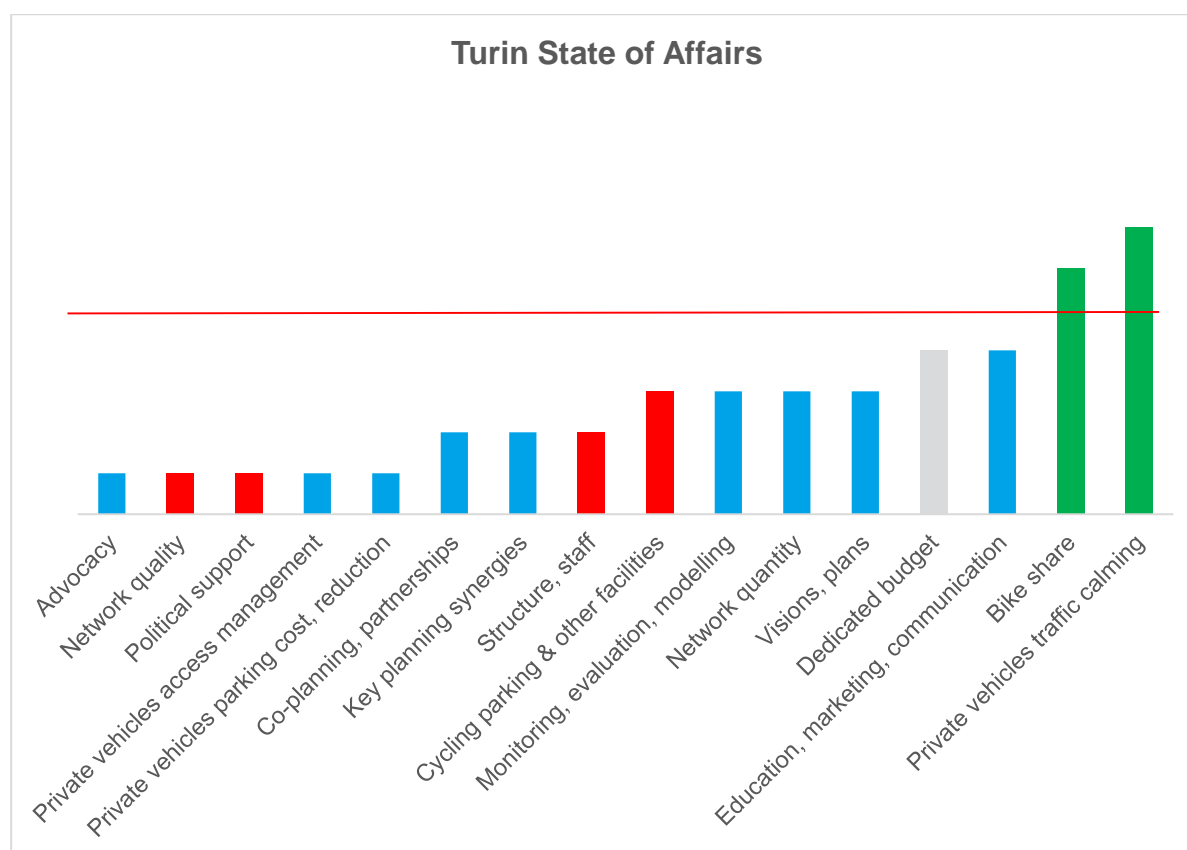
Figure 10: Turin state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Multiple bike share services and traffic calming efforts provide ground for renewed cycling efforts through Handshake. On the positive, Turin can also rely on renewed efforts toward traffic limited zones and pedestrian streets in the centre, as well as plans to enhance intermodality linking up with the local subway and metropolitan railway, which offer opportunities to create hubs and cycling parking spots. Awareness raising is another priority investment area that Turin seeks to push forward, especially in relation to the large population of students that is already displaying interest toward cycling and micro mobility.

Krakow

Although Krakow is a city in which the car is seen as a symbol of prosperity, independence and comfort, recent, albeit slow, changes begin to surface. Political backing is on the rise and supportive of plans and measures conducive to more sustainable mobility. Cycling is seen as a strong mobility alternative, with investments that have been made primarily in hardware, with a growing, although still scattered in some areas network, and with facilities such as parking and repair shops. Also interesting the deployment of the first pedestrian and cycling bridge, with another one in plans. Bike sharing used to be another strong asset for the city but unfortunately the system's operator terminated the contract few years earlier than expected, The regulation of car traffic and increasing provisions of traffic calming are still in place.
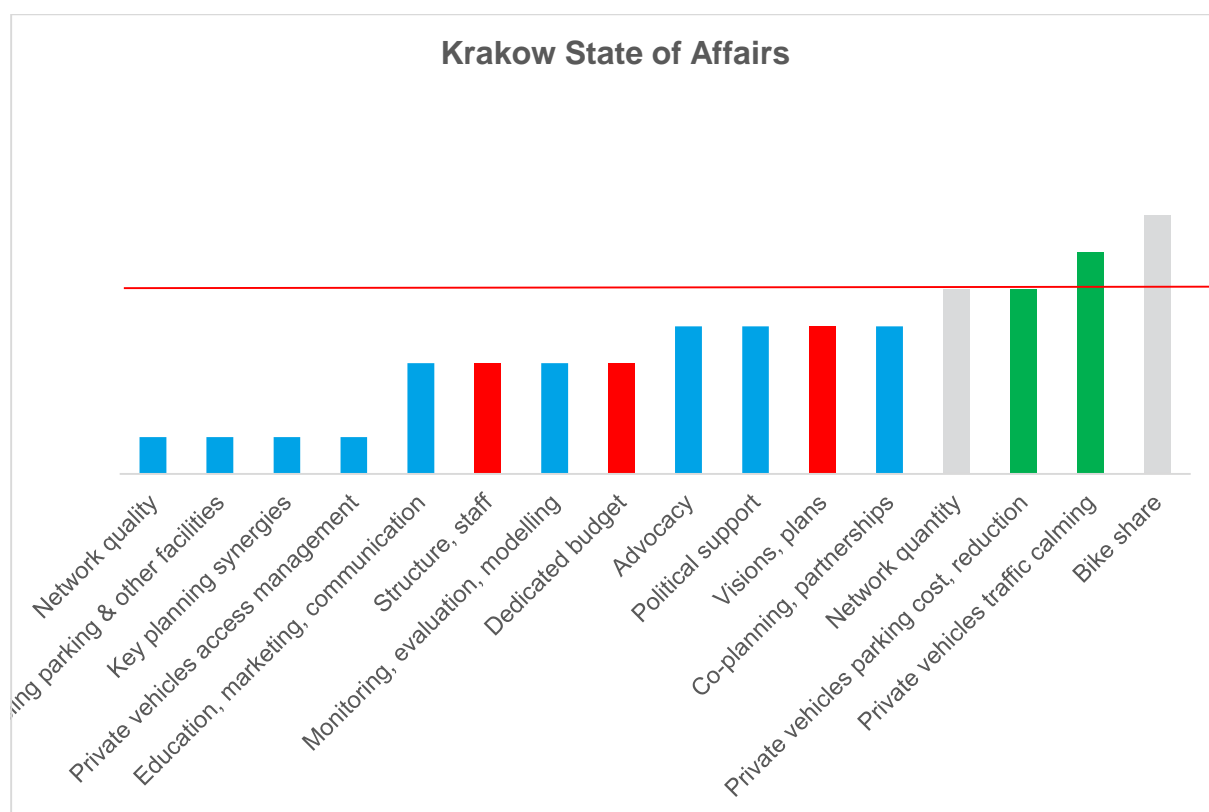
Figure 11: Krakow state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

At the same time Krakow reports the need for more coherent cycling plans, more emphasis and priority for cycling in order to speed up deployment, particularly of hardware, which is seen as then driver of success. Awareness raising is another topic of interest, as the local population still needs to be convinced of the merits of cycling, although specific campaigns are already targeting children as well as young (20-40 years old) citizens. The local cycling team is also under-resourced, both in terms of people power and capability to deliver. In this sense, Krakow feels that the declared cycling ambitions, today expressed publicly by supportive political leaders, need to be matched by adequate funding, which is to date missing.

Dublin

Despite numerous and vocal advocacy activity Dublin is still very much a motorised-centric city. Due to the lack of a subway in Dublin, the core city centre is mainly reliant on a bus network supported by trams for public transport which has made the reallocation of space for active modes harder to achieve. Despite citizen's concerns about cycling safety; media (traditional and digital) seem to shed an unfavourable light on cycling and although political support is present at a national and local level, it can waiver in the face of public objections to specific cycling projects. Despite the availability of the Greater Dublin's Area Cycle Network Plan, the previously mentioned difficulties continue to be regarded as the main challenge to proper cycling deployment, for politicians tend to follow the perceived public opinion and are currently mostly engaged in applying minor improvements to the current infrastructure, which is diminutive compared to the size of the city. Quality is also missing in the network, and the

Dublin's team hopes to receive through Handshake a template for high quality segregated cycle lanes as well as standards for the design of signalised intersections and guidance on optimal pedestrian/cyclist interaction. Another area of interest is that of awareness raising, for the local administrative structures lack a marketing and communication culture and hope to find in Handshake sources of inspiration.
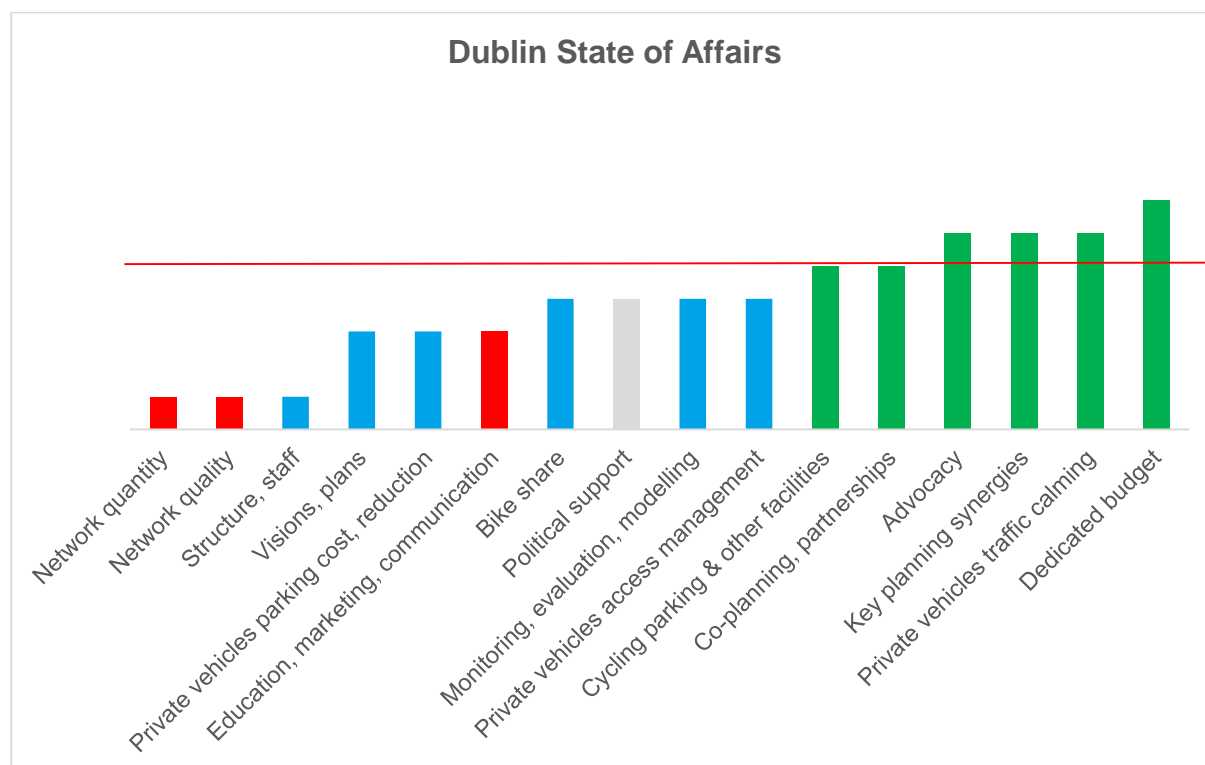

Figure 12: Dublin state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Solutions that Dublin can rely on include: traffic calming measures; parking facilities and plans for providing intermodality at transport links. Also noteworthy is the sizeable budget that has been made available for cycling over the next years, which could make a difference if coupled with additional political leadership. Advocacy groups could be a strong ally, although they are sometimes confrontational in light of the political hesitance at making bold decisions.

Helsinki

Helsinki is the classic example of an advanced Future Capital City in which existing and forthcoming conditions conjure up for cycling success. The city already possesses a number of quality features that should allow for prompt progress, also through the Handshake capacity building programme in which it partakes. Political support is present and expectedly sustained in time. A cycling vision is also in place, and is hinged upon five crucial tenets: safety, directness, cohesiveness, attractiveness and comfort. Today citizens feel that cycling conditions are still somewhat lacking one or more of these qualities, even though the most recent infrastructures do provide a preview of what the future could bring (see the first cycling super highways).

The planning culture is however still anchored on old principles and needs to be exposed to the new knowledge that Handshake will hopefully provide. In this sense the local network needs mostly improvements in terms of quality, reconciling loose ends, mixed used lanes, and improving directness. There is also a lack of common standards, which makes it difficult for the user to recognise patterns. All in all Helsinki is still suffering from too much priority assigned to cars, not only in traffic but also in funding. Another issue is communication, which to date has promoted a culture of fear in cyclists. Legislation also needs to be improved, as it currently does not forbid from parking cars on cycling lanes. It also "suggests" that cyclists or passengers on a bicycle should wear a helmet while riding. While penalty results occur, the provision has been discouraging some riders and influencing an unhealthy atmosphere on the topic of cycling safety, where the conversations often revolve around the helmet whilst leaving key implementations enhancing safety in the background.
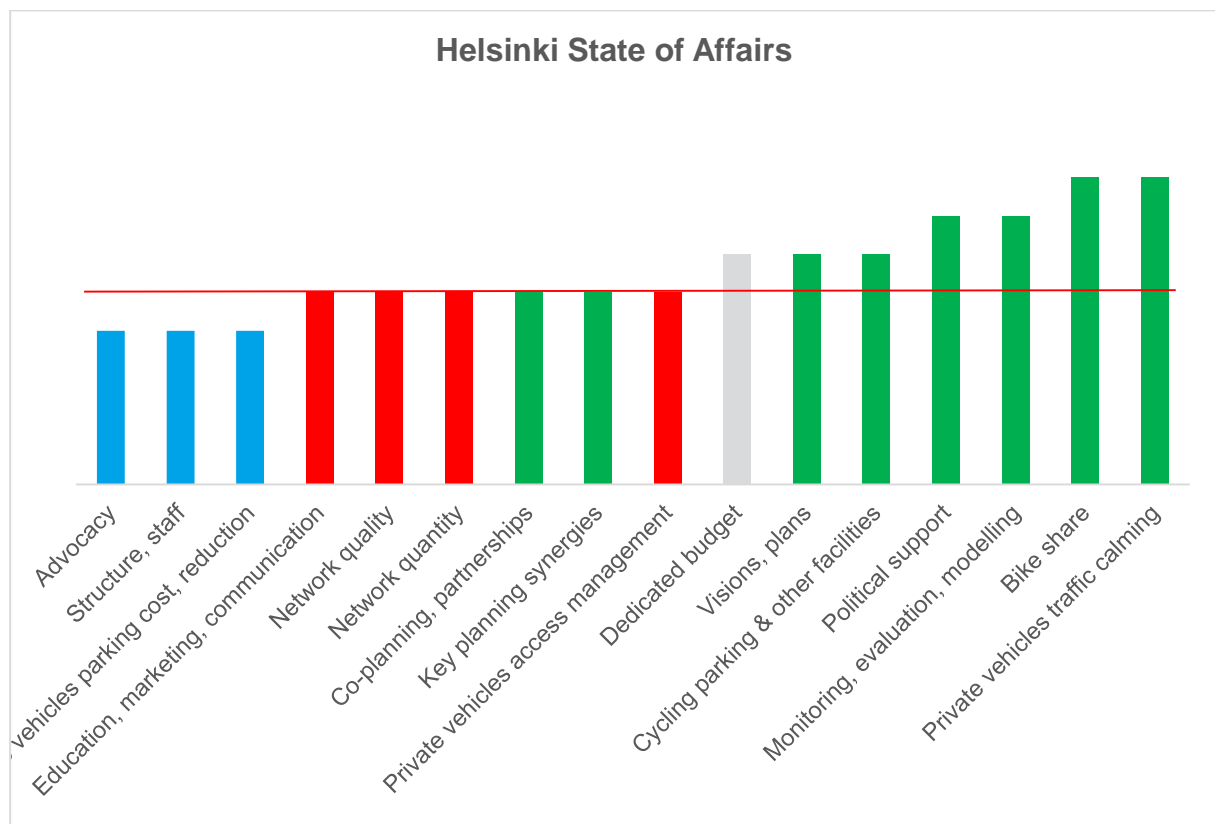

Figure 13: Helsinki state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Political support is however strong and consistent, as is the long history of planning for cycling. Helsinki's urban infrastructure (in the central areas particularly) provides an ideal environment for implementing cycling, with suitable population density, street fabric and street width. The low-density suburbs are on the other hand problematic, but the good public transport service could be used to create healthy intermodality, in conjunction with a redesigned regional traffic system. The recent bike share system is another asset, having proved to be a great success and ambassador for cycling. Cycling budget is secured on the long-term, but still considered misaligned with the declared city ambitions. Another important asset is the continuous monitoring and evaluation of cycling policies.

Greater Manchester

Despite being a compact and flat city, Greater Manchester has a road network that is traditionally unsuitable for safe cycling, resulting from a long history of prioritising cars over people. Recent developments have often not been planned to be public transport and cycling/walking oriented, leaving a legacy of relatively poor accessibility by non-car modes. Safety is thus a major concern for citizens, who are increasingly calling for more cycling and walking. Cycling facilities available tend to be either footways which are shared with pedestrians, or cycle lanes painted on the carriageway. These can often be quite narrow. Although some traffic-free cycle routes exist in the city, the overall network is far from comprehensive and is often unlit. In recent years, however, initial steps towards quality cycling infrastructure have been made, although sporadically, also helped by increased levels of awareness led by sport and leisure demands. Political support and funding however have not found continuity over the years, impeding the deployment of a coherent and long-term strategy.
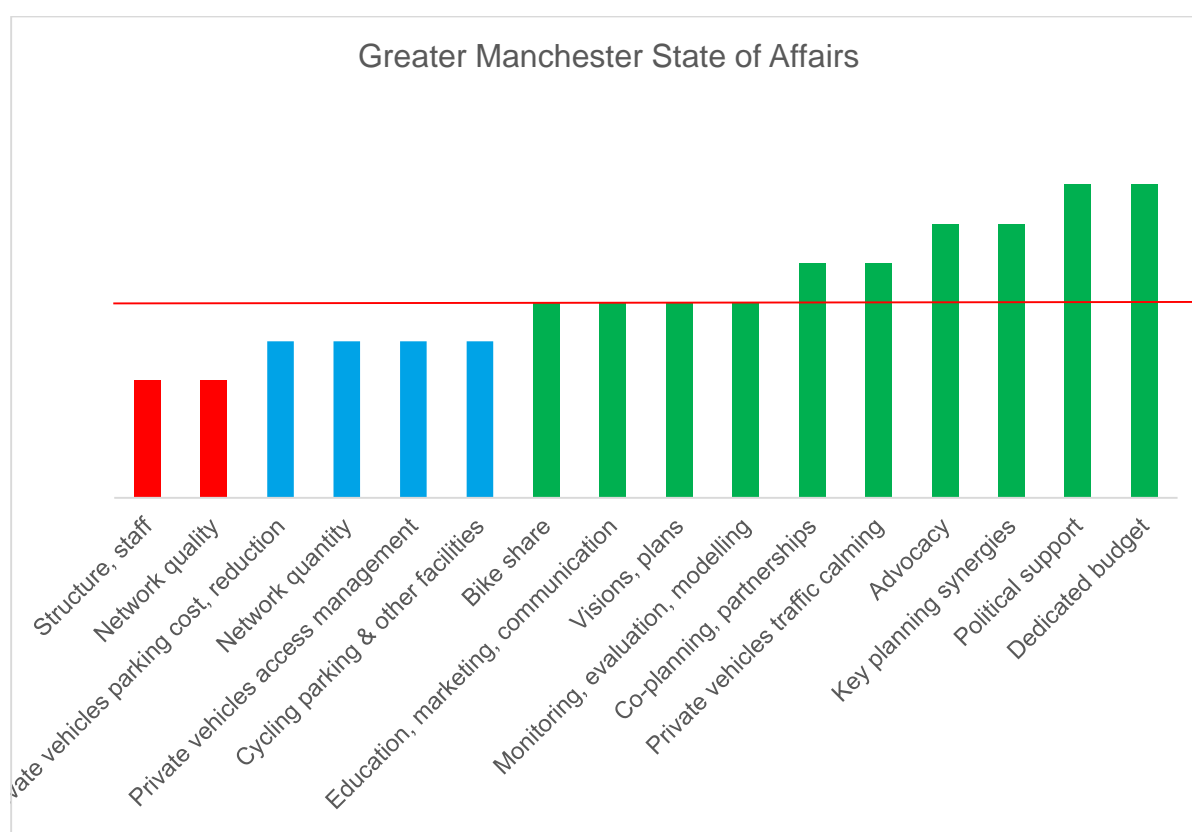

Figure 14: Greater Manchester state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Recently though, political leadership has been found, also building on public opinion and climate demands. Accordingly, the city has started to decisively push forward its vision on air quality, congestion, climate change and population health, also using cycling and walking to reach the intended outcomes. The goal is to deliver UK's first city region with a fully joined up cycling and walking network. A large budget has been allocated through successive years and involving numerous district authorities. In order to do so Greater Manchester requires additional technical capacity for its staff, guidance for applying quality to the cycling network,

including integrating the cycling network with the rapid transit network. Another area of interest is awareness arising and communication, which is required to convince the population that cycling is for many and not just for sports or leisure. These are the key fronts where Greater Manchester hopes to use Handshake as a springboard.

Bordeaux

Bordeaux is a Future Capital City that enters in Handshake with the ambition of stepping up its already ambitious cycling policy to become a full-fledged Cycling Capital. The city naturally possesses the main assets of a bike-friendly city: a relatively flat topography, an oceanic climate with mild winters and tempered summers, a green environment and a compact and historic built heritage. Over the last few decades a large cycling network has been built, with concurrent efforts in limiting car traffic and car access, including wide-spread traffic calming. However the quality of the cycling network still needs considerable improvement, mostly owing the few segregated lanes and the numerous loose links.
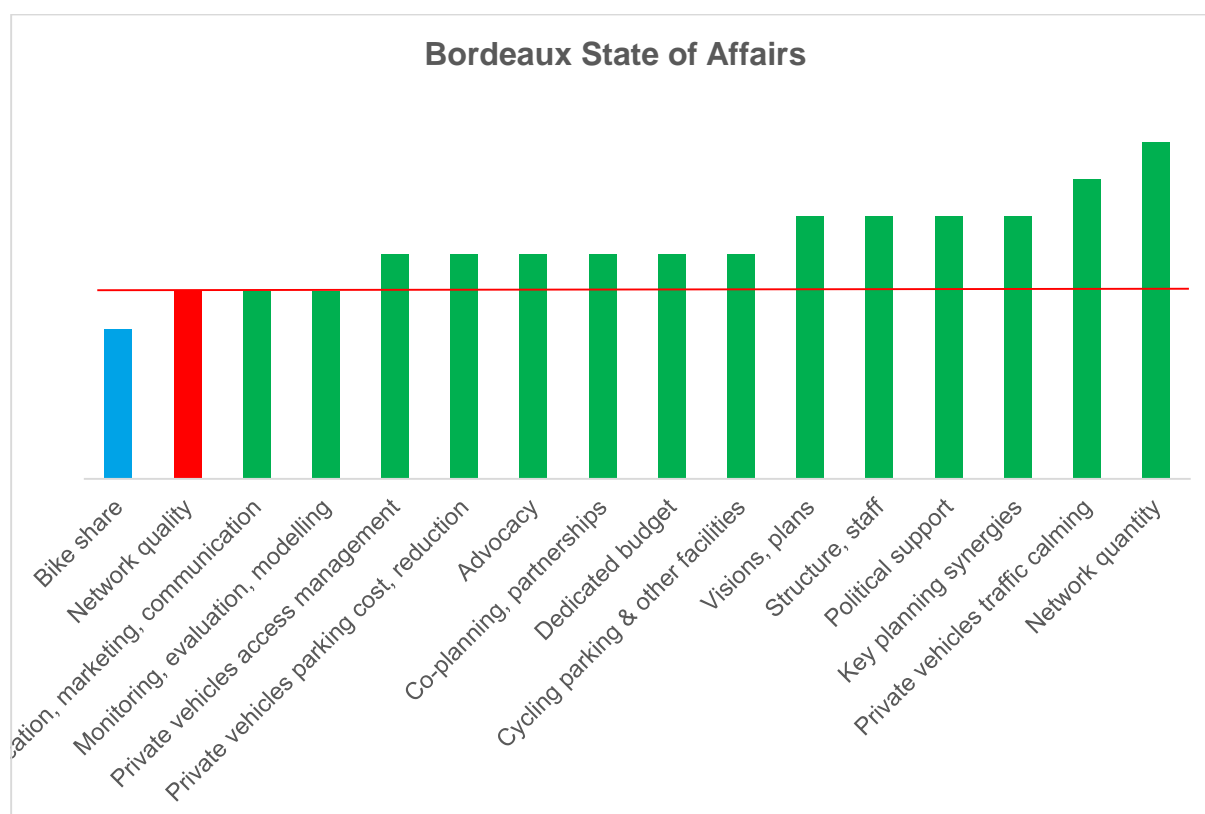

Figure 15: Bordeaux state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Building upon the continued political support and the rapid growth of cycling modal share, Bordeaux is now eyeing additional investment in quality and faculties, particularly with parking and additional bike share and loan services. Special efforts are required in the peripheral areas, which are currently not well connected and whose cycling lanes are still underused. Additional interventions are required, and demanded by the population, in the regulation of car

traffic, which despite recent cycling achievements still occupies most of the available road space.

Bruges

Bruges effectively acts as a cushion between the Cycling Capitals and Future Cycling Capitals shoulders, displaying in more than one areas stages of development that by all means belong to the former group. The city has enjoyed a traditional cycling-friendly atmosphere that initiated back in the 1970s, when it was decided that it is not the city that should adapt itself to the traffic flows, but the traffic flows to the city, identifying the two main tenets in liveability and safety. Since then political support for cycling has been growing, despite the national and regional levels still favouring motor transport, thereby creating a slight mis-match between the city centre and the more peripheral areas, including at the level of citizen's awareness. Building on this heritage, Bruges has been able to roll out most of the cycling determinants identified by Handshake, building an extensive and integrated network that includes or will soon include state-of-art infrastructure such as cycling bridges, ring lanes and roundabouts. Supporting regulation has been put in place, with car parking and access regulation in the centre and extensive traffic calming in the peripheries.
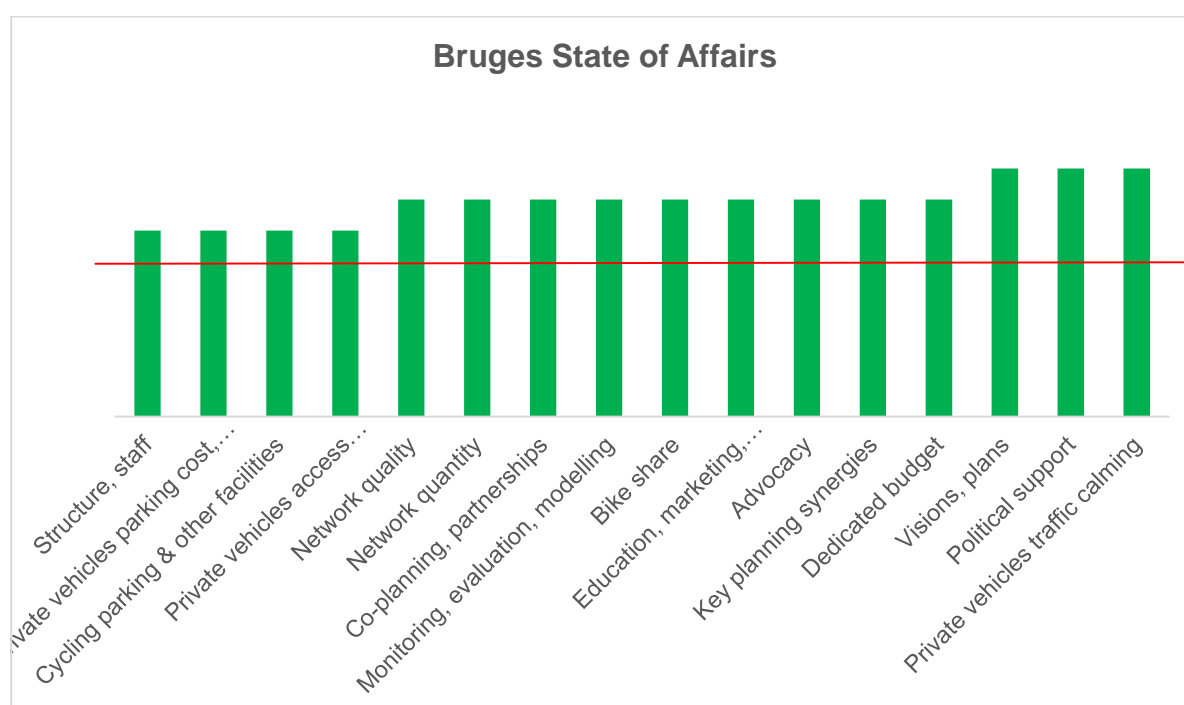

Figure 16: Bruges state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Among the most pressing interventions that Bruges seeks to push through also thanks to Handshake, are closing the missing links in the network, especially in fringe areas, passing stronger car parking regulation, and investing in a regional cycling plan. All ambitions that require more political courage and a greater sense of urgency.

Spotlight on State of Affairs in Bruges – A Long Time in the Making

> The City of Bruges has been inspired to reconstruct its story of 50 years of mobility planning, following the completion of the Handshake State of Affairs survey. This will be translated into a short English and Dutch publication which will be used to inspire other cities in Handshake as well as highlight some factors in the long cycleway to success in other cities.

Munich

Cycling in Munich is constantly rising in popularity and in all city areas. The population acknowledges that cycling is the most pleasant and efficient way to travel within a 5-km radius. This is the result of years of investments in the cycling network, which has been constantly improved in quality and expanded in quantity, enabling residents and tourists to travel through most of the city.

Munich has worked particularly with signposted routes, cycle-friendly and well-lit streets, including along parks and green areas or through the many traffic-calmed streets. Munich is also one of Germany's cycling front runners having has issued more than 80 bicycle streets and opening almost 400 one-way streets for contraflow cycling. All this is remarkable considering that Munich, like Turin, is a world-renowned automotive manufacturing city. Major and continued efforts have been placed on communication and marketing, an area in which Munich excels. Recently the city has launched pilot projects for the prioritisation of cyclists in bicycle streets and has established a new staff unit for bicycle traffic.

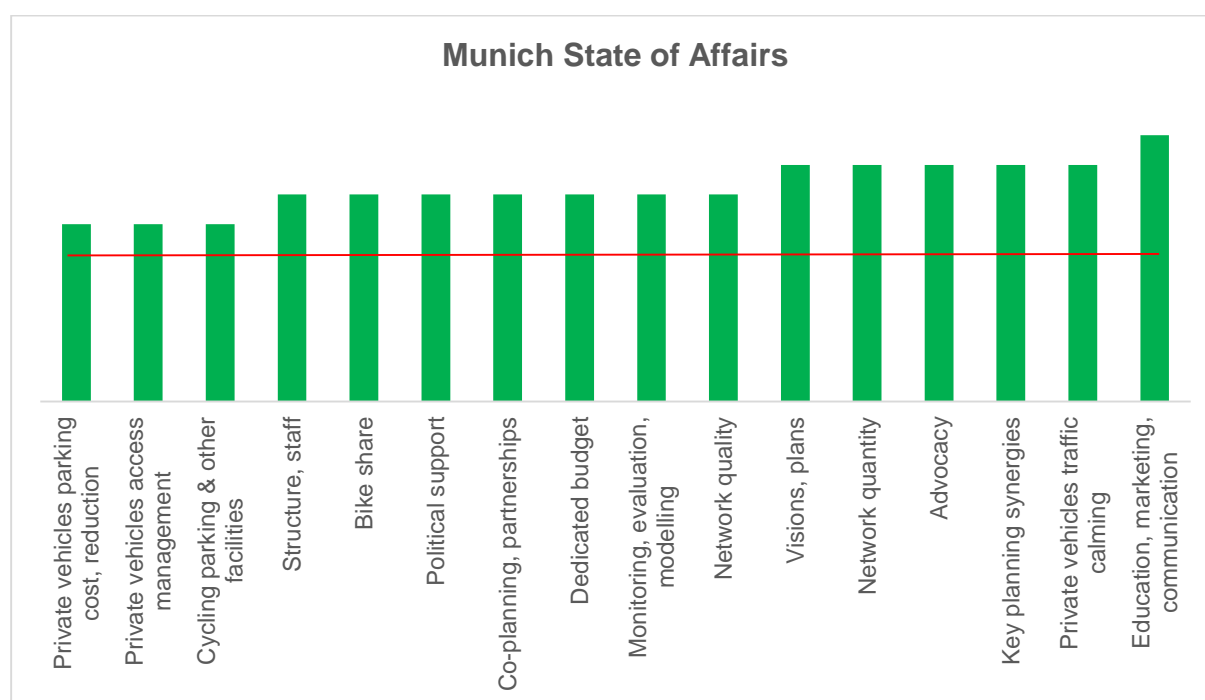**Figure 17: Munich state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.**

Munich reports needing even stronger political backing to further improve the network, both in quantity and quality, and upscale the front-running solutions aforementioned to more city areas. Additional multimodal solutions are also sought, as well investments in parking facilities,

parking mostly. Being a city in which the car is still very popular, more decisive regulatory measures for car access and parking are also a priority.

Copenhagen

Copenhagen is a city of cyclists, one of the world's best known cities for cycling, with bicycles that are seen everywhere throughout the city. The backbone of Copenhagen's widespread cycling culture is one-way cycle tracks on both sides of all major roads that physically separate cyclists both from cars and pedestrians by kerbs. The network is comprehensive, intuitive and protected, with cycling-friendly intersection design, publicly accessible bicycle parking, traffic signal optimisation, dedicated signage, public e-bike share and prioritised maintenance all year round.

The approach is holistic and seeks to provide an attractive cycling environment that covers all aspects of the cycling journey, making cycling the fast, easy and safe option for the broad population. Like in Amsterdam, the process started back in the 1970s and 1980s, building on an infrastructure and cultural heritage that was never cancelled by the car boom of the 1960s and 1970s. From then on, cycling gradually became more acceptable to society, and eventually mainstreamed. Stronger political support as of the mid 2000s accelerated investments and facilitated the establishing of a dedicated bicycle secretariat to implement a range of ambitious projects both in terms of infrastructure, behavioural change and organisational measures. Today regional cycle super highways are used primarily for long-distance commuting, while green cycle routes are popular for recreation.
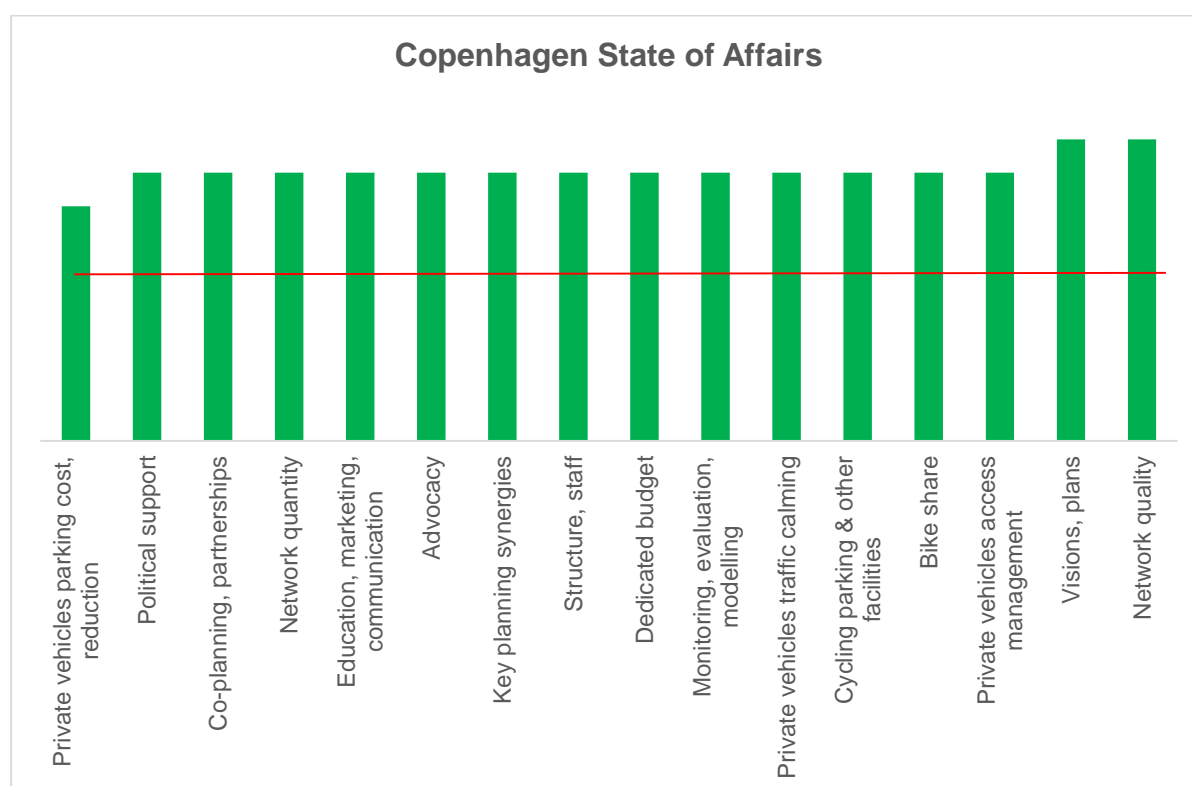

Figure 18: Copenhagen state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

Growing urbanisation, population growth, and ultimately the rising success of cycling are causing congestion on several busy cycling tracks, a positive problem that Copenhagen expects to tackle by widening congested cycle tracks and using intelligent signals. Another improvement area is cycle parking, particularly at crowded streets and at stations, which to date are at capacity. Working in Handshake and with Amsterdam especially is going to provide inspiration, thanks to the large Dutch-style facilities that the city is eyeing as part of the future solution. New technological mobility solutions from advanced traffic models, including shared micro mobility and autonomous vehicles, is another interesting but also challenging future possibility for cycling in Copenhagen. Finally, more stringent restrictions for car use, including road pricing, parking restrictions and speed limits, are considered necessary to meet the ambitious political goals to shift more car trips to cycling. But this is an area in which political leadership will have to demonstrate its worth.

Amsterdam

Amsterdam and bicycles are one thing, they have enjoyed a long-lasting love affair. In rain or shine, good times or bad, everyone here embraces the bicycle. Residents, visitors, tourists – they all use the bike as a favourite mode of transport. And the popularity of the bicycle keeps soaring. As a compact and flat city Amsterdam is an ideal playground for the bicycle, which has given back by supporting the creation of a sustainable, liveable, lively and economically vibrant environment. Cycling is an important source of jobs, commerce, design and manufacturing, repair shops and rental shops.

However, it was not always like this, as from the 1950s to the 1970s Amsterdam witnessed a shift to the motor, with cars that clogged streets and squares like in most other cities. In the early 1980s the city deliberately chose to stimulate the bicycle to turn itself into a safer environment and started what today is the most developed cycling network in the world, with ongoing jaw dropping investments that are already scheduled to continue in the years to come. Cycling has historically been accompanied by the entire array of supporting solutions identified by Handshake, starting with ever more stringent provisions to limit and slow down car traffic and to charge car parking, state-of-art bicycle parking facilities and maintenance services, bike share and rental systems, communication campaigns, advanced and rigorous modelling, monitoring and assessment tools and campaigns, regulations and standards that are to date a source of inspiration for the rest of the world. In this Amsterdam was helped by the decisive stance taken early on by the national level, which pushed cycling as a mobility solution across the country through national legislation.
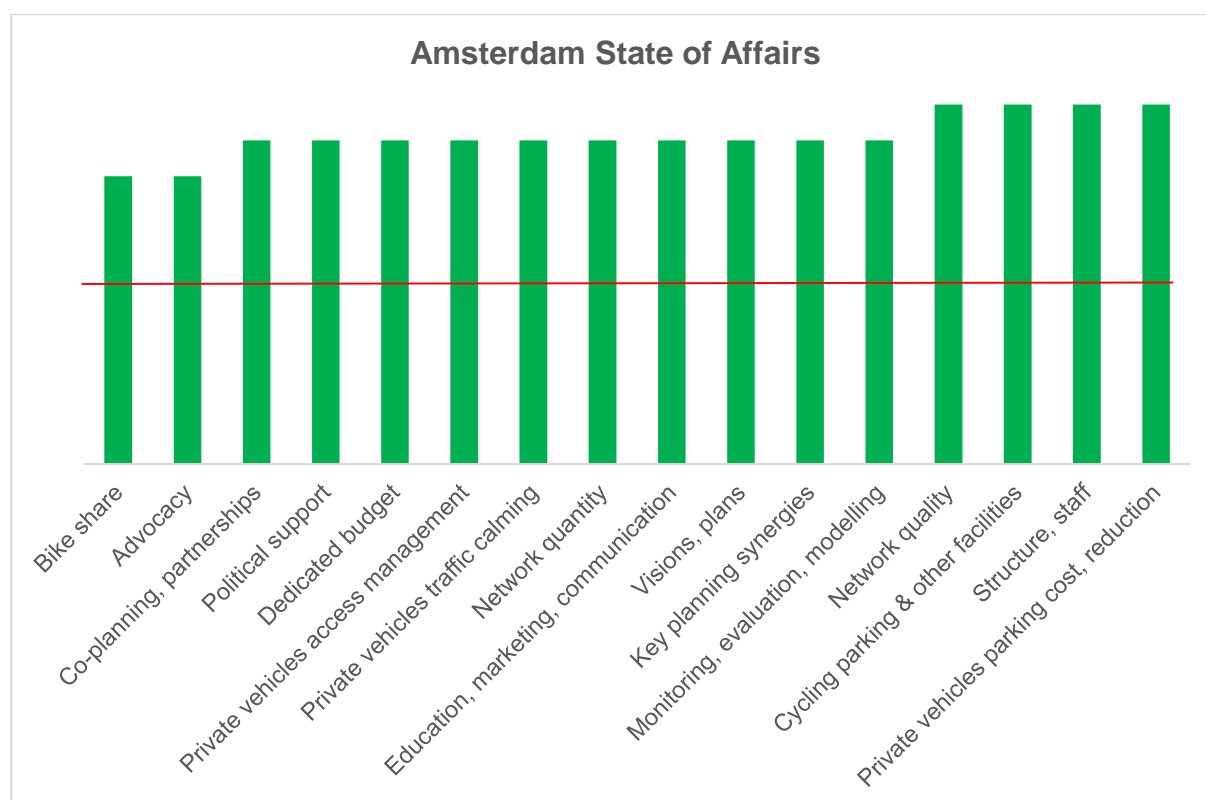
Amsterdam State of Affairs

Figure 19: Amsterdam state of affairs. Green = determinants above 5/10. Red = see text for specific narrative on issues; Grey = mixed picture.

The incredible success of cycling also poses real challenges to Amsterdam: cycling lanes and intersections are often congested, as are the parking facilities, the soaring number of bikes creates modal conflicts with both cars, trams, buses and pedestrians. These are all issues the city wants to improve on by adopting flexible tech-based approaches, investing on hardware expansion, further reducing the space available for car parking, strengthening public transport, and, hard to believe, encourage people to cycle even more, by assigning the bicycle a crucial role in rendering the city more accessible, attractive and safe.

3. Conclusions

This State of Affairs review and report highlights both the strengths and specific areas of need of cities in Handshake, whilst also making clear that imbalanced attention to or success in only specific areas is not the hallmark of a successful cycling city.

The Cycling Capitals of Amsterdam, Copenhagen and Munich set benchmarks for balanced achievement across hardware, software and orgware, as well as their constituent cycling determinants: these cities and their successes provide inspiration and set the goals for other cities to emulate. On the basis of the Cycling Capital's self-assessment, cities can also see how far they have to progress from the updated baselines they have set (in 2019).

In general, a score of 5 out of 10 seems to indicate that cities are satisfied with their performance in a particular area. Below this, obvious challenges are raised. At 6 out of 10 or

above, cities strive to be within touching distance of the Cycling Capitals' level of achievement; at least two of the Future Cycling Capitals consider themselves to be in this position.

For many cities, however, their strength across cycling determinants is imbalanced; one weak arm and one strong arm is a barrier to efforts to lift themselves up to the successful heights of the Cycling Capitals. The weak arm often manifests itself in orgware, where the challenges lie in finding, providing and directing the necessary funding to realise the political and planning priorities that have been identified.

Staffing is a critical issue. If there is an insufficient number of motivated, trained and staff members, then pivotal projects cannot be delivered quickly and successfully, even if they have a healthy budget, political support, and the highest design standards. Potential for cycling success therefore remains underexploited. It is up to Handshake to continue helping partners to build the case for well-resourced teams by making clear the rewards that staff investment in this area brings, as well as displaying the practical ways to build an effective delivery team and set of capabilities. Orgware is simply critical to success.

Many aspects of hardware and software are somewhat more straightforward for Handshake to share and help influence. They range from guidance on improving network quality (which can also be applied to infrastructure extensions as it emerges), to engendering greater political support (in part spurred on by Handshake activities), to continuing to highlight where spaces dominated by car traffic can be transformed. Handshake can also assist in the creation of more active spaces that encourage cycling. Knowledge is being exchanged in all these areas across cities and within cities through the transfer programme in WP3 and innovation activities in WP2.

Some cities face specifically acute issues in common areas, including dealing with private vehicle management (e.g. Rome, Turin and Krakow), co-planning and partnerships (e.g. Riga and Cadiz) and monitoring and evaluation (e.g. Krakow).

Handshake will continue to help cities with the key areas they have identified for improvement, and to deliver the changes in software, hardware and orgware in the balanced way needed to achieve their universally strong ambitions for cycling success.

This process will also inform a self-assessment system that will be available to cities outside of Handshake, as well as for Handshake cities to reconsider their performance at milestones during the project. In this way, the results gathered provide a useful benchmark for judging future levels of achievement and success.

On a closing note, we are happy to report that the self-assessment process required by the development of the State of Affairs has inspired Bruges to further deepen the historical evolution of the local mobility policies, to the point that the City Council in June 2020 decided to publish a Dutch and English version of a review of 50 years of mobility planning in Bruges. The publication will be shared with the Handshake cities and diffused through the Handshake website.

Annex 1 – State of Affairs Questionnaires (*confidential*)

Amsterdam

Rome

Turin

Bruges

Bordeaux Metropole

Dublin

Copenhagen

Greater Manchester

Helsinki

Riga

Munich

Cadiz

Krakow