The Urban Lab of Europe!

JOURNAL

PROJECT

CAIRGO BIKE - Clean AIR GO cargo BIKE

Brussels Capital Region, Belgium

TOPIC

Air quality

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Journal #2: Moving the City on Two Wheels

See on UIA website

Incorporating partner feedback, the second edition of the journal traces the progress of each challenge, documents enhancements, and outlines actionable steps forward, along with opportunities for replication, serving as a blueprint for similar initiatives in sustainable urban mobility.

The Cairgo Bike project in the Brussels Capital Region aims to promote the use of cargo bikes as a sustainable and efficient alternative for transporting goods and passengers. The project aligns with the region's focus on improving air quality, reducing car use, and enhancing urban mobility choices.

Creating a supportive ecosystem for cargo bikes

Through a user-centric approach, the project creates an ecosystem of services to facilitate the adoption of cargo bikes. This includes communication campaigns to raise awareness about the project and the benefits of cargo bike usage, coaching and testing programs for families and professionals, development of shared cargo bikes and bike-trailers, subsidies for purchasing cargo bikes and trailers by SMEs, and dedicated parking facilities.

Strategy and accessibility

The project stands out for its integrated and user-oriented strategy, combining various elements such as parking infrastructure, training, bike-sharing schemes, grants, and tools for measuring the impact of air pollution exposure. Online resources and tools provide easy access to information and solutions for potential users. Additionally, the project focuses on promoting cargo bikes not only for freight transport but also for integrating passenger transport within the urban space system.

Collaborative efforts

Collaboration is a key aspect of the project, with various partners contributing their expertise and resources. Government departments, companies, and associations work together to support different aspects of the project. The project is coordinated by the Brussels Capital Region, with involvement from the Mobility, Environmental, Economic and Employment Departments, and partnerships with organisations like BePark, Parking.brussels, Pro Velo, Remorquable, Urbike, and the Mobilise research group of the Vrije Universiteit Brussel (VUB).

Project outcomes and health benefits

The results achieved by the project include a successful test phase with over 600 participants, coaching and

training for organizations and individuals, provision of shared trailers and dedicated parking spots, and grants for purchasing cargo bikes for professionals. An environmental study highlights the health benefits of using bikes and cargo bikes in terms of reduced exposure to air pollution.

Lessons learned and future directions

The project has also provided valuable lessons from its implementation. Incentives, such as grants, have proven effective in promoting cargo bike adoption, particularly in a context without prior experience. However, continuous monitoring and adjustment of operational strategies are necessary, as the effectiveness of initiatives may change once subsidies end or are reduced. Identifying target groups and considering new ways of working and service provision planning can contribute to mainstreaming cargo bike adoption. A policy framework that combines incentives and regulations, supported by cost-benefit analysis and monitoring systems, can be effective. Additionally, tests and training programs have a significant impact on promoting the adoption of cargo bikes, and first-time adopters play a vital role as ambassadors within organizations and the wider community.

Overall, the Cairgo Bike project serves as a model for integrating sustainable transportation options and addressing environmental challenges in urban areas.

Challenges

This new edition of the journal, enriched by contributions from partners, tracks the development of each challenge, noting advancements and suggesting practical steps for further enhancement and potential replication in comparable urban mobility projects. It reflects on the key challenges as either cornerstones for effective project execution or potential barriers. This ongoing analysis underscores the dynamic nature of the project and its adaptability to changing circumstances.

Challenge 1: Leadership

The Cairgo Bike project faces the challenge of establishing effective leadership to drive its sustainable transportation initiative. The project benefits from robust political support, with three Ministers from the same political family (Groen/Ecolo - the Belgian Green Parties) overseeing the relevant policy areas. The administrative leadership enjoys a considerable level of autonomy, which is advantageous as the project focuses on incentivising behaviors rather than imposing prohibitions. The project management structure fosters cross-departmental cooperation between Brussels Mobility (BM), Brussels Environment (BE), and Brussels Economy and Employment (BEE) Departments. The project partners are assigned devolved responsibilities, and the management team plays a vital coordinating role.

Evolution with respect to the first period

During the initial phase of the project, the leadership structure remained stable without any significant disruptions or changes. The positive collaboration experiences between BM, BE, and BEE contributed to the

continued success of the project. The Management Committee, composed of key stakeholders, convened monthly to ensure project progress, address administrative matters, and make necessary adjustments.

Political support for the project has remained consistently high, providing a solid foundation for its advancement. The commitment from the three Ministers has been instrumental in maintaining focus and momentum towards achieving the project's goals. This unwavering support has enabled the project to navigate challenges effectively and overcome potential obstacles.

Next steps and opportunities for replication

The Cairgo Bike project employs a multi-tiered leadership model. This model combines political backing, autonomous administrative leadership, a cross-cutting project management structure, and a system of shared responsibilities with committed partners.

The excellent cooperation between BM, BE, and BEE, as well as with all project partners, continues to strengthen. This collaborative approach ensures the involvement and dedication of all stakeholders towards the project's success. The project aligns with the Good Move Regional Mobility Plan[1], which aims to encourage citizens and stakeholders to change their travelling habits based on their needs and constraints. This means that it also harmonises with the broader vision and aspirations of the Brussels-Capital Region.

[1] Good Move is the Regional Mobility Plan for the Brussels-Capital Region:https://mobilite-mobiliteit.brussels/en/good-move

Challenge 2: Procurement

The Cairgo Bike project faced challenges in public procurement, particularly in the acquisition of various types of cargo bikes for testing and training. Despite these challenges, the project recognised the importance of anticipating tendering needs to minimise potential delays. This risk was integrated into the retro-planning of activities, ensuring that the project could deliver results promptly.

The project primarily involved services rather than infrastructure, enabling the achievement of delivery results relatively early in the project lifecycle. However, the procurement process for services and goods still presented its own set of challenges, including navigating public procurement rules and procedures.

Evolution with respect to the first period

To mitigate potential delays, each public partner took steps to anticipate their tendering needs. By doing so, they aimed to minimise any disruptions that could arise during the procurement process. This proactive approach allowed the project to address any procurement-related issues promptly and ensure a smooth progression.

In addition, one more challenge identified relates to the inclusion of cargo bikes as requirements for procuring public services (see box below). The Sustainable Public Procurement Helpdesk of Brussels Environment initially expressed reluctance to include cargo bikes in the procurement requirements. However, after further discussions, a collaboration seems possible, indicating progress in overcoming this challenge.

How public authorities can reduce their carbon footprint via green procurement

Public authorities order a vast range of goods that are delivered to different public sector facilities or public spaces. For smaller and frequent deliveries, these authorities could require the use of cargo bikes in their agreements with suppliers. For instance, the delivery of stationery, small equipment, or documents could be efficiently carried out using cargo bikes. Moreover, electricians, plumbers, cleaners, carpenters, and locksmiths often visit public sites several times per week, using traditional vehicles for maintenance and repair of publicly-owned buildings. For jobs where the required tools and materials are relatively lightweight and compact, these professionals could use cargo bikes. Read more on https://www.polisnetwork.eu/wp-content/uploads/2019/05/BuyZET_Handbook.pdf

Next steps and opportunities for replication

For projects involving service procurement, it is essential to establish a robust retro-planning framework that considers potential delays and addresses them proactively. By identifying procurement requirements early on, projects can allocate sufficient time and resources to streamline the process and maintain project momentum.

Incorporating joint procurement strategies presents a significant opportunity to combine resources and needs,

potentially leading to cost efficiencies, better quality products, and innovative designs tailored to specific requirements. However, the implementation of joint procurement in the context of cargo bikes must consider the diverse contexts and specific needs of different stakeholders, such as local infrastructure, user preferences, and regulatory environments. Careful planning and open communication are key to navigating these complexities.

Challenge 3: Integrated cross-departmental working

The Cairgo Bike project benefits from an established tradition of cross-departmental collaboration, particularly involving the BM, BE, and BEE departments. Examples of integrated cross-departmental working in the Cairgo Bike project include the fund for purchasing cargo bikes for professionals, managed by Brussels Economy and Employment but drafted in collaboration with Brussels Mobility, while Brussels Environment conducted the study on the impacts of cargo bike usage on air quality. Moreover, Brussels Environment is responsible for the Low Emission Zone[1] of the Brussels Region, whereas Brussels Mobility oversees the implementation of the Good Move Plan. Furthermore, the Cairgo Bike project aligns with the objectives of the Shifting Economy, which is a regional policy emphasising cross-departmental collaboration to achieve ambitious transversal objectives[2]. This division of responsibilities necessitates constant operational coordination among various departments, supported by a clear political vision (as outlined in Challenge 1). As the project operates within a two-tiered governance system involving the Region and its 19 municipalities[3], maintaining a positive working relationship with the municipalities is also crucial. This collaboration is necessary to deliver testing and training opportunities at the neighborhood level.

One of the challenges in integrated cross-departmental working is staying informed about other public projects initiated by municipalities or regional bodies. By keeping up to date on these projects, the Cairgo Bike project can identify potential synergies and effectively communicate them in an integrated manner to the public.

Evolution with respect to the first period

The collaboration among BM, BE, and BEE, along with the participation of Brussels municipalities, has been positive. The participation of municipalities in the testing campaigns of Pro Velo and Urbike has fostered collaboration between the regional and municipal levels, particularly in the areas of transport and environmental-related actions. This positive engagement paves the way for future collaborations and strengthens the synergies among these actors. The project's distribution of individual exposure reports on atmospheric pollution to participants, including citizens and professionals, has sparked further interest in the issue and potential avenues for cross-departmental working.

However, sharing data across different departments can present challenges, particularly when the need for data sharing was not anticipated during the data collection phase. Once data is collected and consent is obtained, it can only be used within the boundaries of the agreements made with the respondents.

Next steps and opportunities for replication

To ensure effective integrated cross-departmental working, it is crucial to maintain strong communication channels and collaborations between the project partners, including BM, BE, and BEE. These partnerships should extend beyond the initial project period to foster ongoing cooperation and information sharing.

Furthermore, in future projects, partners should consider exploring mechanisms to facilitate the sharing of data across departments. It is crucial to proactively anticipate data collection requirements and establish protocols and frameworks that ensure structured, safe, and secure data usage.

The experiences and practices of the Cairgo Bike project provide valuable insights for future initiatives in integrated cross-departmental working. Projects can benefit from fostering relationships and collaborations among relevant departments and stakeholders. Furthermore, staying informed about other public projects and identifying potential synergies can lead to more comprehensive and integrated outcomes.

[1] https://www.lez.brussels/mytax/

[2] https://shiftingeconomy.brussels/

[3] The Brussels-Capital Region comprises 19 municipalities, each of these holding specific competencies in various domains, including mobility.

Challenge 4: Participative approach

The Cairgo Bike project embraces a participative approach by involving various stakeholders in its partnership

structure. The project has established a broader stakeholder group, including representatives from the cycle sector, SMEs, local community groups, and others. To ensure effective communication and information dissemination, a periodic Stakeholder News Bulletin has been introduced. This approach enhances engagement, ownership, awareness, and the potential for co-creation within the project. However, challenges remain in optimising communication management, leveraging stakeholder input, and maintaining engagement.

The project partners have focused on involving end-users and the local population in delivering individual actions, emphasising the importance of their experiences and feedback. Incorporating the end-user experience as a valuable input allows for potential adjustments to the project's direction if it proves beneficial.

Evolution with respect to the first period

- **Ensuring feedback collection**

During the first period of the project, valuable feedback from participants has influenced adjustments in project architecture. The collaboration between BE and Pro Velo has allowed for adaptations in the presentation of information data in individual reports to participants. BE provides detailed individual reports[1] to participants of the cargo bike trial, helping them understand their specific pollution exposure and encouraging the use of cargo bikes by highlighting the health benefits. These reports, enriched with data from log books they had to fill in and geo-localised measurements, compare pollution exposure across different transportation modes. This approach not only informs participants but also fosters community discussions about air quality and promotes a shift towards more sustainable transportation choices[2]. The communication and documentation shared with citizens before their bike trials have played a key role in addressing their concerns and ensuring compliance with General Data Protection Regulation (GDPR) requirements.

Cambio, a project partner, has included a series of specific questions about the Cairgo Bike project in their customer survey. This survey has provided insights into the interest of users in expanding the service to other areas. The raw data from the survey has been transmitted to the project's partner Mobilise-VUB for analysis, allowing for a better understanding of user preferences and potential opportunities for expansion.

- **Challenges in engaging external actors**

The partnership with STIB (Brussels Intercommunal Transport Company) to establish two electric cargo bike stations within the Brussels metro has encountered significant complications. The stringent safety rules and protocols associated with this endeavor have caused delays in the actual launch of the stations. While the technical work was fast complete, the validation of the installations remained pending for months.

Another challenge in the participative approach lies in engaging condominium owners to share common spaces, such as garages, to accommodate cargo bikes. As there is a pressing need to develop secure bike parking spaces, Parking.brussels has established the programme "Lend Your Garage to Your Neighbour"[3]. Brussels residents and local businesses are encouraged to convert their unused garages or ground floor spaces into secure bicycle parking for those who lack storage at their homes. However, there are security concerns, especially from co-owners worried about the frequent movement of unknown users. Encouraging their participation and overcoming their reluctance to share these spaces poses a difficulty that necessitates further attention and the implementation of innovative solutions.

Next steps and opportunities for replication

Capturing feedback from users throughout the project is essential for evaluating positive and negative experiences. This feedback can inform necessary adjustments to the project architecture and improve its overall effectiveness.

Economic incentives have proven to be useful in incentivising participation and capturing feedback. Examples include the Cairgo Bike grant for professionals, by the BEE department (up to 4,000 € for the purchase of a cargo bike or bike trailer), where answering a survey is a condition to receive the grant, as well as incentives such as experiencing the bike with Pro Velo, participating in training sessions with Urbike, or even winning cinema tickets with Parking Brussels. In the absence of direct incentives, leveraging existing channels, such as integrating project-related questions into existing surveys (such as the Cambio one), provided valuable feedback.

However, expanding the impact of the project beyond the typical user profile poses a significant challenge. The current user profile for cargo bikes predominantly consists of young parents, highly educated individuals with higher incomes, aged between their 30s and 40s, who are already cyclists or car owners. To achieve broader impact, it is crucial to reach a more diverse range of participants, ensuring the project's benefits extend beyond the usual suspects (further considerations are developed later in this paper under the challenges 6 and 7).

[1] The reports provide a comprehensive analysis of pollution exposure for various transport modes, including detailed maps of black carbon levels experienced during cargo bike and motor vehicle trips. They also show how pollution concentrations change over time and across different routes, and include average daily pollution levels for each transport mode as well as indoor pollution data for those who used the measuring device at home.

[2] https://www.uia-initiative.eu/en/news/cairgo-bike-focus-air-quality-black-carbon-exposure

[3] https://parking.brussels/fr/smart/cycloparking

Challenge 5: Monitoring and evaluation

Monitoring and evaluation play a crucial role in the Cairgo Bike project, focusing on measuring exposure to air pollution, assessing potential health risks for bikers, evaluating the impact of modal shift on air quality, and examining the conversion and permanent adoption of cargo bikes. The involvement of BE and the VUB in this task strengthens the project's ability to conduct indicator-based analyses. The goal is to provide end-users, both private individuals and professionals, with a comprehensive understanding of the data and empower them to make informed choices, such as opting for more active travel, healthier options, or routes with cleaner air. To facilitate project coordination and progress tracking, a Google Drive dashboard has been established where project partners can input their analysis of action progress and activities. A risk strategy has also been developed, identifying potential mitigation interventions.

Evolution with respect to the first period

BE has made efforts to prioritise popularisation, recognising the need to effectively communicate air quality-related information to the general public. The project aims to bridge the gap between scientific findings and public awareness.

Another challenge is measuring the outcomes of training sessions and testing for professionals, considering the time gap between testing and the decision to adopt cargo bikes. Strategies should be explored to track and evaluate the long-term impact of these interventions.

In terms of data collection, clear and concise instructions should be provided to participants to ensure the accuracy and quality of the collected information. The project gathered data from citizens and professionals using cargo bikes, who wore black carbon measuring devices for at least a week. There have been challenges in ensuring participants properly use and report with the devices. Some didn't use the devices consistently, and log book entries were often imprecise, requiring additional verification by Brussels Environment. However, as participants became more engaged, their interest in the results - particularly regarding air quality differences between transportation modes and indoor conditions - has grown, enhancing their commitment to providing accurate data.

Managing the diverse results from different project partners and analysing them in a coherent manner also poses a challenge. Selecting priority topics from the wealth of collected data for further scientific studies and papers is another crucial consideration.

Moreover, given personnel turnover, adapting to the work methodology of the previous individuals involved in the research is necessary to ensure a smooth continuation of the project. Survey fatigue and the risk of overwhelming participants with lengthy and repetitive surveys at various stages of the project should also be addressed, ensuring an optimal balance between gathering necessary information and respecting participants' time and engagement.

Next steps and opportunities for replication

Moving forward, the Cairgo Bike project can seize several opportunities for replication. Other initiatives seeking to monitor and evaluate similar projects can adopt the indicator-based analysis approach employed by BE and VUB. This approach focuses on both immediate and long-term impacts, encompassing environmental, behavioral, and perceptual changes. Key aspects considered are the reduction in transport-related air pollutants, the increase in cargo bike usage, the acceptance of cargo bikes as an alternative, and the long-term behavioral change. This evaluation scheme not only measures the direct outcomes of the project but also captures the broader shift in urban mobility culture, offering valuable insights for replicating the model in other contexts. Results are promising: a 2021 survey reveals cargo bikes represent 9.4% of total bike usage in Brussels. Furthermore, 68% of questionnaire respondents among participants in the project either use or plan to use a cargo bike, demonstrating growing mainstream acceptance, and 38% have already replaced car trips with cycling, indicating a significant shift in transportation habits.

Moreover, establishing efficient project coordination tools, such as the Google Drive dashboard, can streamline progress tracking and collaboration. Prioritising popularisation and effective communication of research findings

can enhance public engagement and awareness.

Challenge 6: Communicating with target beneficiaries and users

Communication is crucial in the Cairgo Bike project, requiring a significant effort. It goes beyond project promotion and aims to create a comprehensive cargo bike ecosystem. Effective strategies should consider different levels, channels, and target groups. The project received substantial media coverage in Belgian print media. At the local level, raising awareness, informing potential users, and encouraging participation were vital. To sustain momentum, engage more users, and share results, collaboration with municipalities and leveraging partner contacts and networks is essential. Sharing knowledge with other urban entities and involving Belgian cities in stakeholder meetings offer potential opportunities.

However, a challenge is diversifying the target audience. Reaching out to disengaged populations, unfamiliar with cycling or lacking environmental-friendly habits, is crucial for mainstream adoption. Organising public events has been challenging, resulting in low participation rates.

Evolution with respect to the first period

Efforts have been made to address the challenge of diversifying the target beneficiary audience. Suggestions include diversifying communication channels, such as using posters in local shops, schools, and associations catering to the currently disengaged population. Workshops held in these associations can also facilitate engagement. Taking the perspective of these individuals and conducting interviews can help understand their lack of interest and highlight the key advantages they would gain from transitioning to cargo bikes.

Furthermore, in Brussels, while Cycloparking[1] has established a strong reputation, people may not be aware of other similar services offered by actors like BePark[2] and Roofed[3]. Promoting alternative parking networks through Cyclomap[4] and the marketplace is necessary to increase awareness and encourage wider participation.

Some partners have acknowledged that they initially underestimated the importance of communication in attracting new members. Hiring dedicated staff for this task would have been beneficial. However, as the project progressed and professional conversions increased, along with participation in public events to promote the project, prospects became more accessible.

Cambio has adopted a targeted strategy to engage with its user base, consisting of 27,000 members in Brussels. This user base is diverse and extends beyond "daily cyclists." The feedback received thus far has been positive, indicating a demand for the services, albeit currently seasonal. Effective communication channels, such as email, newsletters, press releases, and LinkedIn targeting Belgian decision-makers, have been utilised to engage with the community and stakeholders.

In the case of Urbike services, by collaborating with organisations and involving various technical profiles, the project successfully attracted a diverse public in terms of origin and socio-economic backgrounds, with a particular emphasis on encouraging those who had not cycled for many years to participate.

Next steps and opportunities for replication

Recognising the importance of early and sustained efforts in communication and outreach is crucial. Allocating sufficient time and resources for engaging with the target audience, understanding their needs, and addressing any challenges or barriers they may face can significantly impact project success. These include finding successful communication channels to reach out to the non-usual cargo bike-interested population, incorporating their insights, and conducting more representative research. To address these challenges and seize opportunities, the following actions are suggested:

- Diversify communication mediums to reach a wider audience, such as using posters in local shops, schools, and associations frequented by the currently disengaged population.
- Organise workshops and events in collaboration with partner organisations, municipalities, and business centers to promote testing and raise awareness among the public.
- Conduct additional tests for families at specific locations during holiday periods to include individuals who were not previously selected for testing in their respective communities.
- Provide incentives and checks to support a high response rate for surveys, such as offering access to tests or discounts on cargo bikes.
- Collaborate closely with participants during the departure and return of bikes to establish a connection and encourage survey completion.
- Share success stories and positive outcomes through the Cairgo Bike website (https://www.cairgobike.brussels/en) and other communication channels to build trust and inspire others.
- Advocate for the inclusion of cargo bike delivery in specification clauses by regional administrations and support municipalities in implementing sustainable delivery practices.
- Use clear and distinct signage for all cargo bike-specific parking spaces or sites in order to ensure consistent and effective communication to users[5].

- Implement effective marketing strategies to increase acceptance and awareness of the Cairgo Bike project among the target audience.

[1] https://cycloparking.brussels/en

[2] *https://www.bepark.eu*

[3] https://www.roofed.be/?lang=en

[4] *https://veloactif.be/au-travail-a-velo/partage-ditineraires*

[5] *According to the Report on Parking strategy for cargo bikes in the Brussels-Capital Region:* https://parking.brussels/sites/default/files/Cycloparking/rapport_cairgobike_2022_en.pdf

Challenge 7: Upscaling

The Cairgo Bike project aims to create a cargo bike ecosystem and promote sustainable behaviour change. Initially, the project focused on engaging willing and informed individuals, such as the existing cycling community and environmentally conscious individuals. However, a key challenge lies in upscaling the project to engage a wider segment of the community and urban economy. This entails transitioning from capturing the involvement of the already interested to reaching out to and involving diverse segments of the population. Additionally, there is a need to ensure ongoing support and follow-up for target groups, both professionals and families, to sustain behaviour change beyond the project period.

Evolution with respect to the first period

The project has successfully contributed to creating a critical mass of cargo bike users in Brussels, including families and professionals. The free pilot testing approach has been instrumental in convincing larger organisations to experiment with cargo bikes, leading to successful adoption and integration into their daily operations. However, to continue the upscaling process, additional funding will be required, particularly to support families in purchasing cargo bikes. The project has also identified the need for ongoing support and follow-up for private partners to maintain their motivation and sustain their involvement.

Next steps and opportunities for replication

While there is demand for the service, it is still too early to determine the project's financial viability without subsidies. Additional financial efforts, both from public and private sources, are essential for sustaining and expanding the project, ensuring its long-term success.

The project faces challenges in convincing parking owners to invest in the required infrastructure, such as cameras and fences, which are crucial for the project's smooth operation. Without adequate funding for these capital expenditures, it becomes difficult to persuade parking owners to commit to the project, considering the potential return on investment.

One notable achievement of the project is the construction of 50 trailers. However, the local production of these trailers could not have been financed solely through subscription fees. Therefore, ongoing funds will be required to maintain the trailer fleet and effectively manage the service.

To further upscale the Cairgo Bike project and replicate its success in other urban contexts, the following steps and opportunities can be pursued:

- Seek additional funding to support families and companies in purchasing cargo bikes, ensuring affordability and accessibility.
- Emphasise the benefits and proven business case of cargo bikes to encourage professional stakeholders to continue their activities beyond the project period.
- Focus on diversifying the type of users through cargo bike sharing programs, expanding the reach and impact of the project.
- Consider cloud boxes, which are sort of online lockers for data storage and protection. Additionally, the Internet of Things (IoT) allows to connect bikes to the internet, to track their location and monitor their condition. The technology used for cargo bikes will evolve. By keeping up-to-date and adopting new tools, cargo bikes can be made smarter and more adaptable for diverse cities. .
- Mitigate the risk of vandalism by implementing measures such as choosing secure locations, using efficient lockers, incorporating GPS tracking, and reinforcing the security of trailers.

Challenge 8: Impact of Covid-19

Similar to many other organisations and initiatives, the project has faced unexpected difficulties due to the Covid-19 pandemic. The pandemic has introduced a range of challenges, including imposed or self-determined restrictions, reduced personal contacts, and disruptions in the supply chain. These factors have posed obstacles to organizing physical training sessions, events, and maintaining a seamless supply chain. The project's objective of establishing an active community could not be fully optimised through online means alone. The pandemic has also generated uncertainty about our way of life and mobility choices, potentially leading to a shift towards car usage due to fear of crowded public transport.

Evolution with respect to the first period

Some of the expected deliverables, such as physical training sessions and events, have been delayed or altered due to restrictions and safety concerns. Additionally, disruptions in the supply chain have caused delays in the construction of trailers and the delivery of certain equipment. These unforeseen circumstances have required the project team to navigate and adapt to the evolving situation while ensuring the project's objectives remain on track.

Next steps and opportunities for replication

In light of the impact of Covid-19, the following steps and opportunities have been implemented:

- Explore alternative methods for delivering training sessions and events, utilising online platforms or hybrid approaches that combine virtual and in-person interactions.
- Strengthen the resilience of the supply chain by diversifying suppliers or seeking local alternatives to mitigate future disruptions.
- Capitalise on potential positive trends resulting from the pandemic, such as a growing interest in active travel and a shift away from crowded public transport, to promote and reinforce the project's objectives.
- Conduct regular evaluations to gauge the long-term impact of the pandemic on mobility choices and health-related concerns, adjusting project strategies accordingly.
- Document the experiences and lessons learned during the pandemic to serve as a reference for replication in similar initiatives or future crises.

Recommendations

The Cairgo Bike project has undergone a journey of implementation, during which it has faced and overcome several challenges. These challenges have served as valuable learning experiences, enabling the project team to identify areas that require improvement and develop recommendations for enhancing the project's effectiveness. By addressing these key areas of concern, the project can optimise its impact and ensure long-term success.

The recommendations provided below have been derived from a thorough analysis of the challenges encountered and are aimed at guiding the project towards improvement and growth.

Challenge	Observation
Leadership Challenge level	• Seek and maintain strong political support for the project. • Establish a stable governance framework. • Implement an effective project management structure.
Public procurement Challenge level	• Anticipate tendering needs. • Navigate public procurement rules and procedures. • Include cargo bikes in procurement requirements.
Integrated cross-departmental working Challenge level	• Maintain positive working relationships with municipalities. • Stay informed about other (public) projects and identifying synergies. • Establish mechanisms for sharing data across departments.
Participative approach Challenge level	• Address complications in establishing partnerships with external organisations. • Ensure effective feedback collection and incorporating end-user experiences. • Expand project impact to a more diverse range of participants.
Monitoring and evaluation Challenge level	• Track and evaluate long-term impact of training sessions and testing for families and professionals. • Find a balance between gathering necessary information and respecting participants' time and engagement. • Replicate the indicator-based analysis approach.
Communicating with target beneficiaries and users Challenge level	• Engage with target beneficiaries beyond the "usual suspects." • Utilise local associations to reach disengaged segments of the population. • Share success stories through various communication channels.
Upscaling Challenge level	• Engage a wider segment of the community and urban economy. • Secure additional funding for sustainable expansion and support for families and professionals. • Convince parking owners to invest in necessary infrastructure.
Impact of Covid-19 Challenge level	• Strengthen the resilience of the supply chain. • Capitalise on positive trends and shifts in mobility preferences. • Evaluate the long-term impact of the pandemic on mobility choices.

Note of the author

This second edition of the Journal takes into account the previous one[1] as a starting point and follows a structured framework for each challenge, consisting of 1) a description of the challenge, 2) its evolution in

comparison to the first period of the project, and 3) the next steps and opportunities for replication.

To portray the nature and intensity of the challenges faced, inputs and feedback from the partners were collected and recorded in a table, allowing for the tracking of progress made compared to the status captured in the previous journal. These inputs were integrated with the information provided into the risk management table, which is regularly updated by the partners to ensure comprehensive monitoring and mitigation of potential challenges.

For each challenge, a detailed description is provided, outlining the specific issues and obstacles faced. The report then highlights the evolution of each challenge, showcasing the progress made and improvements achieved. It acknowledges the measures and next steps to overcome these challenges and enhance project effectiveness. Furthermore, the journal presents the next steps to be taken for each challenge, emphasising the opportunities for replication in similar projects or contexts. It provides valuable insights and recommendations to guide future initiatives in addressing these challenges.

Overall, the journal reports the effort of the project team's systematic approach to identifying, assessing, and addressing the challenges faced within the Cairgo Bike project. Through collaboration, data gathering, and risk management practices, the project has been able to effectively navigate these challenges and make substantial progress.

By considering the journal's findings and recommendations, stakeholders can leverage the project's experiences and lessons learned to optimise their own initiatives in promoting sustainable urban mobility and cargo bike adoption.

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[1] https://www.uia-initiative.eu/en/news/cairgo-bike-project-journal-ndeg-1

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