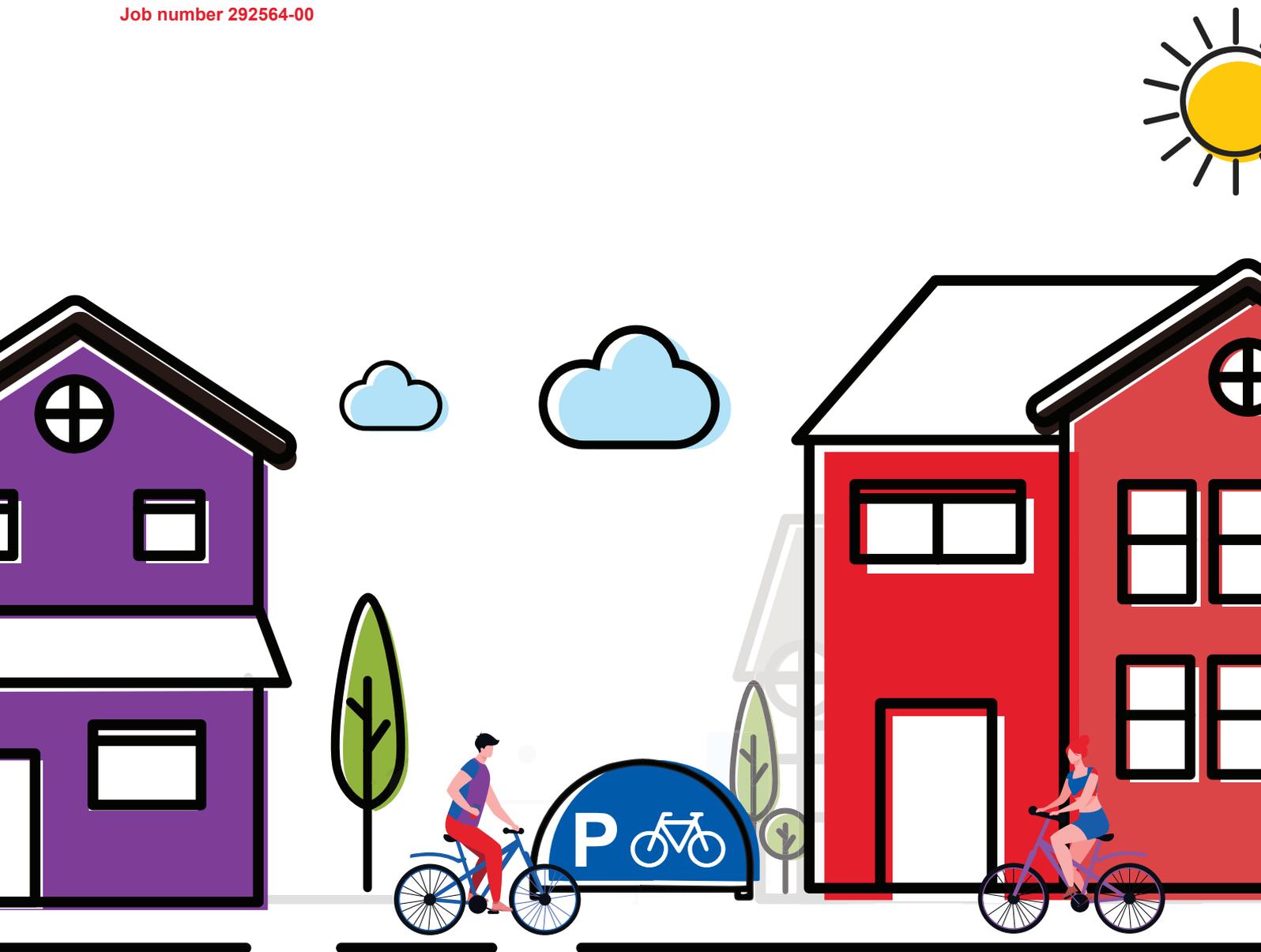


# Review of Dublin City Council's BikeBunkers Scheme

Reference: 292564-00\_LS\_RP\_0003

Issue | 04 July 2023

Job number 292564-00



# Document Verification

**Project title**            Review of Dublin City Council's BikeBunkers Scheme  
**Document title**  
**Job number**             292564-00  
**Document ref**            292564-00\_LS\_RP\_0003  
**File reference**

| Revision    | Date       | Filename           |                                                                |                   |                    |
|-------------|------------|--------------------|----------------------------------------------------------------|-------------------|--------------------|
| Draft 1     | 28/03/2023 | <b>Description</b> | Draft                                                          |                   |                    |
|             |            |                    | <b>Prepared by</b>                                             | <b>Checked by</b> | <b>Approved by</b> |
|             |            | <b>Name</b>        | Lana Salameh & Naomi Kloostra                                  | Steven Wyer       | Tiago Oliveria     |
|             |            | <b>Signature</b>   |                                                                |                   |                    |
|             |            | <hr/>              |                                                                |                   |                    |
| Draft 2     | 22/05/2023 | <b>Filename</b>    |                                                                |                   |                    |
|             |            | <b>Description</b> | Draft                                                          |                   |                    |
|             |            |                    | <b>Prepared by</b>                                             | <b>Checked by</b> | <b>Approved by</b> |
|             |            | <b>Name</b>        | Lana Salameh                                                   | Steven Wyer       | Shane Dunny        |
|             |            | <b>Signature</b>   |                                                                |                   |                    |
| <hr/>       |            |                    |                                                                |                   |                    |
| Final Draft | 31/05/2023 | <b>Filename</b>    |                                                                |                   |                    |
|             |            | <b>Description</b> | Final Draft                                                    |                   |                    |
|             |            |                    | <b>Prepared by</b>                                             | <b>Checked by</b> | <b>Approved by</b> |
|             |            | <b>Name</b>        | Lana Salameh                                                   | Steven Wyer       | Shane Dunny        |
|             |            | <b>Signature</b>   |                                                                |                   |                    |
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| Issue       | 12/06/2023 | <b>Filename</b>    | 120623_292564-00 Review of DCCs BikeBunkers Scheme_Issue.docx. |                   |                    |
|             |            | <b>Description</b> | Issue                                                          |                   |                    |
|             |            |                    | <b>Prepared by</b>                                             | <b>Checked by</b> | <b>Approved by</b> |
|             |            | <b>Name</b>        | Lana Salameh                                                   | Steven Wyer       | Tiago Oliveria     |
|             |            | <b>Signature</b>   |                                                                |                   |                    |
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| Issue       | 04/07/2023 | <b>Filename</b>    | 040723_292564-00 Review of DCCs BikeBunkers Scheme_Issue.docx. |                   |                    |
|             |            | <b>Description</b> | Issue                                                          |                   |                    |
|             |            |                    | <b>Prepared by</b>                                             | <b>Checked by</b> | <b>Approved by</b> |
|             |            | <b>Name</b>        | Lana Salameh                                                   | Steven Wyer       | Tiago Oliveria     |
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# 1. Executive Summary

Arup has been commissioned by Dublin City Council (DCC) to review the BikeBunkers Scheme in Dublin City. This review looks into the current status of the scheme and its initial trial, national and local policies and guidance for bike parking facilities, international case studies for best practices, options and recommendations for next steps.

The BikeBunkers scheme originated as part of the Council's BETA projects in 2015. There are 12 units currently deployed in Dublin City. The units are located within the city centre of Dublin (the area defined by the Royal and Grand canals) in quiet residential neighbourhoods where housing typologies consist of terraced houses with limited space for storing bikes conveniently. Some of these neighbourhoods include Stoneybatter, the Liberties, Portobello and Broadstone. The current units are occupying spaces previously used for on-street car parking in areas where a low demand for car parking permits was determined.

The overarching aim of the BikeBunkers scheme is to provide safe and secure bike parking solutions for urban residents who have limited space to store their bikes conveniently indoors. The scheme aligns with the overall objectives of DCC to incentivise a modal shift towards more sustainable transport. It recognises that a modal shift from private motorised travel to cycling is beneficial for providing a healthier and safer environment through the reduction of traffic congestion, noise pollution and improving air quality in the city. This goes hand in hand with curbing the immediate repercussions of climate change as the accelerating impact of greenhouse gas emissions in Ireland is more evident than ever and require a transformational shift towards climate resilient cities.

In support of this review, a user survey was conducted in January 2023 to get a better understanding of the impact the existing BikeBunkers have on users and any issues they face, analysis of different relevant international case studies as well as an interview with the owner of Bike Lockers, which is a scheme that tackles bike parking needs at train stations and other journey destinations in the city. In addition, a stakeholder workshop hosted by the Council and Arup was held on 8 March 2023. The workshop was attended by one of the current users and relevant local authority stakeholders for various discussions and brainstorming sessions to address the challenges faced during the implementation of the scheme to help better inform its future. The workshop was conducted by Ton Kooymans from the Dutch Bike Parking Academy and member of the Dutch Cycling Embassy with 35 years of experience in the field of bicycle parking.

Key findings from the review include:

- There is a need to ensure any lessons learned from the pilot are brought into the procurement and implementation process for the wider scheme.
- Whilst national and local planning and transport policies give great prominence to increasing opportunities for journeys to be made by active travel and cycling there is no explicit requirement to provide residential cycle storage and little detail about minimum standards.
- Lack of safe, secure, covered, accessible and conveniently located cycle storage is a barrier to owning and using a bicycle.
- The demand for such solutions in compact residential neighbourhoods where indoor storage space is an issue is high.
- The overall experience of the users who took part in the survey has been positive and indicative of a strong demand for future expansion.
- Identifying locations with high demand is the first steppingstone for a wider rollout.
- Operational framework model deemed most suitable for Dublin is the publicly funded / owned, publicly planned but privately maintained and operated through a sustainable mechanism influenced by a preliminary market consultation.

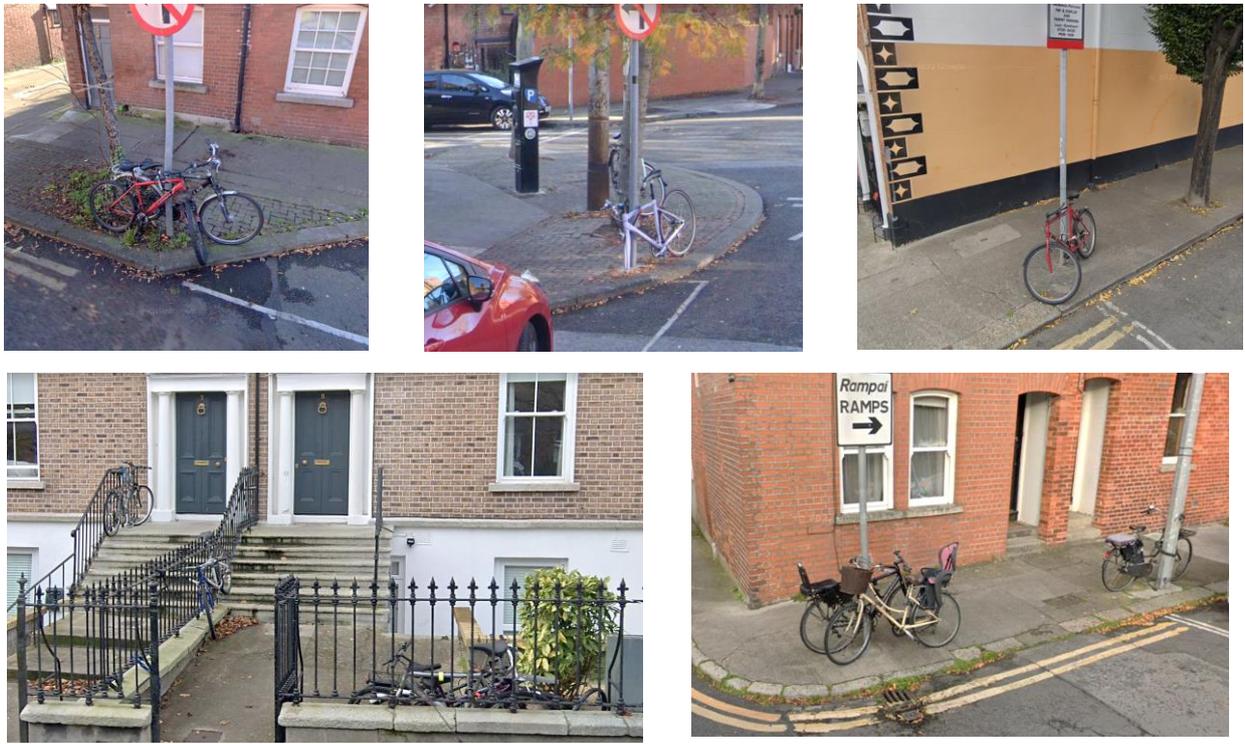
- Considered design of the units is important to deliver both users' needs and to remove any obstacles deterring users from using the provided facilities.
- Policy recommendations include strengthening national policy and guidance including the development of minimum standards for residential cycle storage and address kerbside strategies with more stringent parking policies.
- DCC should encourage grassroots community initiatives to take charge of the existing BikeBunkers if the scheme fails to expand due to insurmountable cost, delivery or operational issues. It also should consider replacing the existing BikeBunkers with on-street Sheffield bike racks as a long-term solution in the future to accommodate some of the demand.

## 2. Introduction

### 2.1 Background

As demand for better cycling infrastructure grows to meet the increasing numbers of cyclists in Dublin, the need to provide more suitable parking solutions become more crucial. The majority of existing bike parking facilities tend to focus on locations related to journey destinations and neglect the needs of the users at their homes. This report focuses on BikeBunkers as a viable solution tackling the long-term bike parking needs of the users, where they can store their bikes conveniently, safely and away from the impacts of weather. Convenience and security are crucial when providing bike parking facilities.

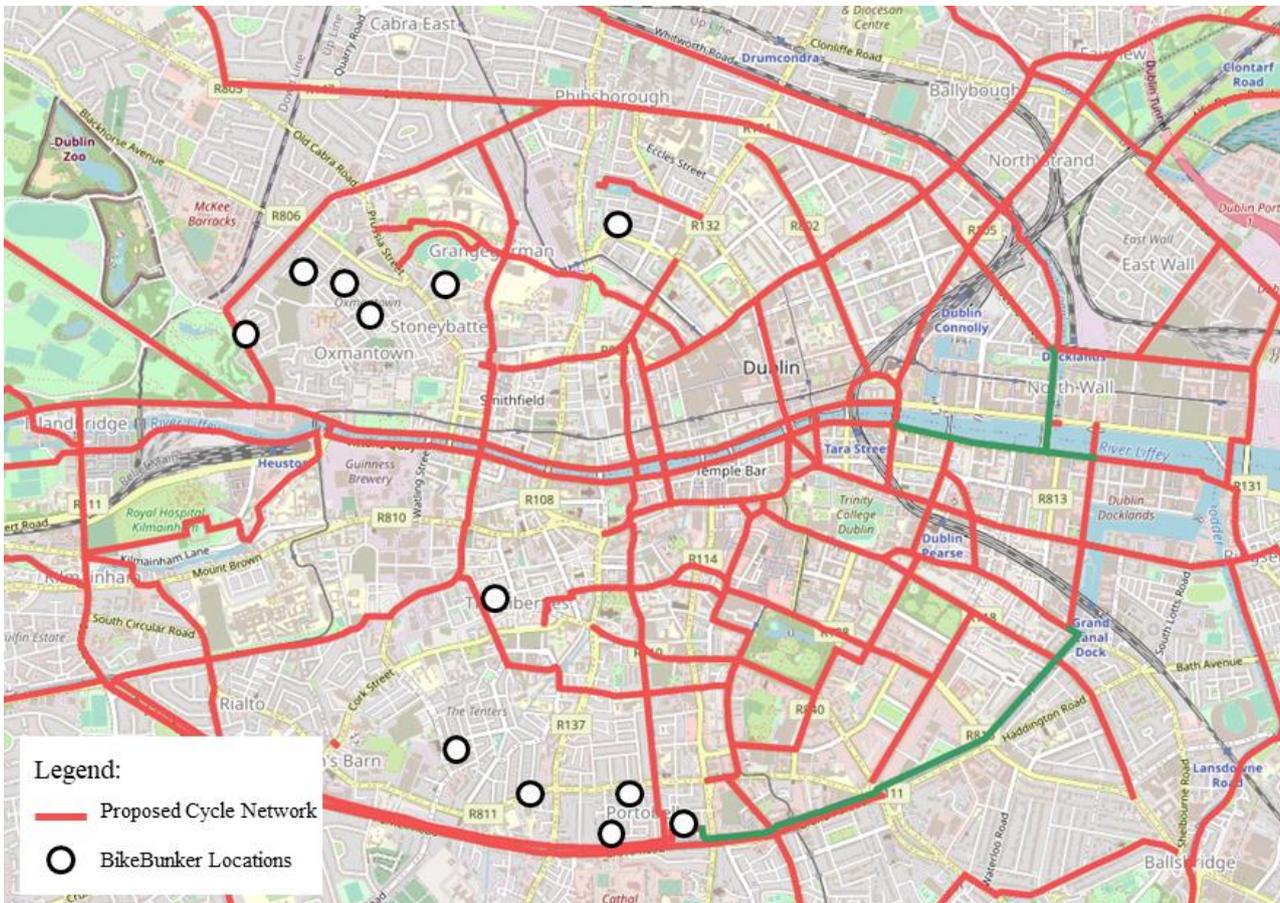
Long-term bike parking solutions for residential neighbourhoods have a great potential in encouraging more cycling and promoting a mode shift in Dublin, when provided appropriately. Often, in urban environments, residents do not have garden or indoor storage space suitable for storing bicycles. Storage space requirements and risks of thefts and vandalism might deter users from buying a bike while some residents will resort to locking their bikes against lamp posts and street signs as well as in private spaces outside their residence as shown below in the different examples in Figure 2.1. This behaviour adversely affects the streetscape's function and aesthetics. Obstructed footpaths and poorly locked bikes hinder ease of permeability for pedestrians and increase trip hazards overall where pedestrian movement is limited due to narrow footpaths in these areas. It is also unsafe as bikes left like this are vulnerable to theft and vandalism.



**Figure 2.1 Examples of bikes locked in Dublin**

## **2.2 Policy and Guidance**

With the increased and improved provision of cycling infrastructure in Dublin, using the bike as a primary mode of transport has become increasingly attractive for many of its residents. This adds pressure to the existing bike parking facilities within the city. Figure 2.2 shows DCC’s proposed cycling network in relation to the current BikeBunkers locations (see Appendix A for further analysis).



**Figure 2.2 DCC Proposed Cycling Network**

The following section outlines the current national, regional, local policies and guidelines in relation to bike parking (see Appendix B):

### 2.2.1 National policies and guidelines

Current national policies acknowledge the numerous positive benefits of cycling and creating cycle friendly environments in cities. The National Policy Framework, in particular, emphasises the need to provide attractive viable home solutions for everyone that integrates safe and convenient alternatives to the car which is contingent on ensuring accessibility to adequate cycling infrastructure including bike parking facilities. The National Development Plan highlights the allocation of investments and funds towards active travel infrastructure in Ireland showcasing a strong commitment from the government to encourage the use of cycling.

The National Cycle Framework continues to emphasise the importance of developing a cycling culture in Ireland. It sets out an objective that recognises the need to provide secure bike parking facilities and developing a national guidance policy for bike parking to support that. The National Cycle Manual highlights the integral role bike parking plays at journey destinations in supporting the existing cycling infrastructure and affirms that the absence of adequate bike parking facilities has often proven to deter from cycling. It presents some key basic design functions as well that all bike parking facilities should include, such as protection from theft, falling over and the weather as well as convenience as a necessity at the residential neighbourhood scale.

Other design manuals such as the Urban Design Manual, highlight the critical need for providing adequate residential bike parking as it helps influence their sustainable transport choices and increases the modal share of cycling. According to the Urban Design Manual, bike parking should be secure, provided communally and located immediately adjacent to the homes of users.

### 2.2.2 Regional and local policies

The *NTA Greater Dublin Area Transport Strategy 2022-2042* recognises the important role secure bike parking plays with a well-integrated cycle network. It highlights how the availability of cycle parking at the

beginning of the user journey as well as its end can highly influence one's decision to cycle. The following measure is important to highlight:

**Measure CYC5:** *It is the intention of the NTA to deliver, through the statutory planning process and liaison with relevant stakeholders, high quality cycle parking at origins and destinations, serving the full spectrum of cyclists including users of non-standard cycles.*

As for the *Dublin City Development Plan*, the document outlines a set of objectives regarding bike parking facilities as it recognises the need for adequate provision to transform the quality of life for the users of the city. It encourages the co-operation with key agencies and stakeholders to provide high quality facilities that can accommodate parking for cargo bikes as well. The plan also indicates an intention to eliminate 'Free' on-street parking by different strict provisions throughout the city and one of the tools indicated in the objectives mentions the provision of 'new cycle parking'.

## 3. BikeBunkers Timeline

In October 2013, the Council's BETA team held a public workshop in collaboration with 'City Intersections', an urban forum for the city of Dublin. This workshop gave the public the opportunity to provide the Council with an overview of pressing issues and items that are deemed necessary to be addressed in the city. Solutions for bike parking near homes emerged on top of that list from this workshop.

The first stage of a BETA Project explores the value of a solution before deciding whether a general citywide solution is deemed necessary. This mechanism gives the opportunity to see if it's a good idea and how will city users react to it. The second stage of a BETA Project revolves around understanding whether and how the "good idea" can actually be delivered citywide. This represents the current 12 BikeBunkers provided as a 'Minimal Viable Service' in order to explore questions of delivery.

### 3.1 Trial Stage

Initially, the trial was referred to as the Bike Hangar project. During the trial stage, the Council's BETA team's aim was the public's reaction to the scheme and make a decision on taking it a step further in development. In order to do that, a trial period took place between January 2015 and May 2015 (5 months) following a public call looking for a household to trial the unit. Cyclehoop Ltd. were the suppliers of the first unit installed on John Dillon Street inside the canal borders of Dublin City.

The location was chosen based on the low occupancy of its car parking provision, low rate of through traffic and proximity to the DCC's offices on Wood Quay for operational and maintenance purposes. The unit was used by 6 participants from 4 different households.

The outcomes of the trial indicated a generally positive experience with no significant impact on mode shift noted and no significant impact was acknowledged by local residents who were not using the service. The trial unveiled a large demand for such solutions in compact residential neighbourhoods. Interest in the scheme indicated a large demand for this solution from the city centre to the inner suburbs. It also highlighted that distance to the nearest unit and pricing were key considerations for potential users. Initial demand consisted of 91 expressions of interest after the end of the trial period. All expressions of interest were located within a 5.5km radius from the city centre.

### 3.2 Minimal Viable Service (MVS) Pilot Stage

After the success of first stage of the Bike Hangar project, where demand for the service was demonstrated, a decision to take it into the next stage of the BETA project was made. 9 new shelters from three different private providers were deployed. The intention behind this approach was to provide DCC with a larger amount of information about potential users and to identify key learnings regarding site selection and deployments while still providing a benefit to city inhabitants.

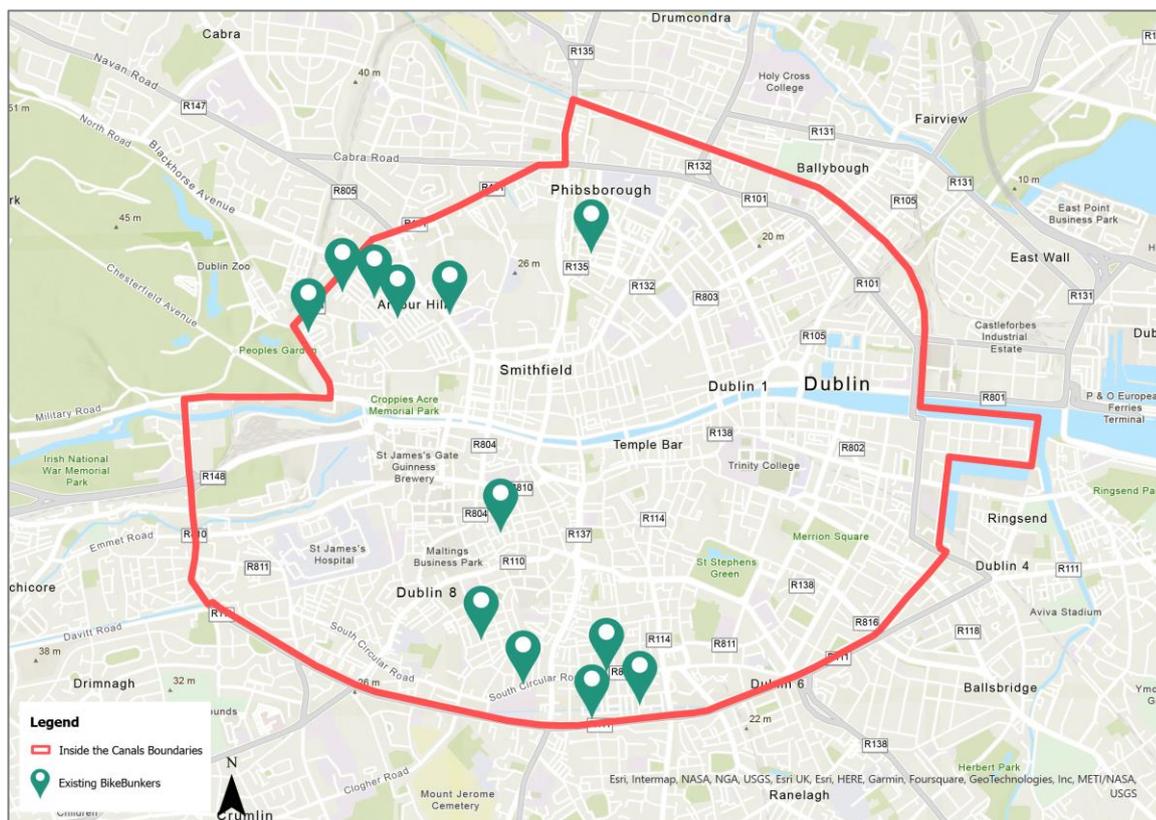
During this stage, a rebranding of the service took place, where the name ‘BikeBunkers’ was used as part of the marketing. This decision was made based on learnings that the term ‘bunkers’ was found to reassure users of the safety of the units in other cities.

A website was created that gave users the option to express their interests. This gave an indication of demand for future deployments to DCC. The scheme was operated by two DCC personnel who undertook a wide range of operational tasks including managing payments and keys, customer service and liaising with non-users.

There are currently 12 BikeBunkers deployed around Dublin city. The project was adopted DCC’s Transportation Department in May 2018 and then transferred to DCC’s Micromobility unit in 2022.

### 3.2.1 Current locations

The initial phase of the scheme has focused on the city centre of Dublin, in particular the area inside the canals, where the demand was deemed highest according to applicant numbers. They are also within a reasonable distance of DCC offices so are more easily operated and maintained. Figure 3.1 shows the study area and DCC’s administrative boundaries.



**Figure 3.1 Map of DCC boundaries with BikeBunkers Pilot Locations**

The neighbourhoods where the BikeBunkers are currently deployed are mainly characterised by a dense housing typology of terraced houses and flats with no adequate indoor space for bike storage, Figure 3.2 shows examples of residential streets where bunkers are installed.



**Figure 3.2 Examples of BikeBunkers on Terraced Streets in Dublin (@Google Maps)**

The current locations have been selected based on the following criteria developed by the BETA project and Department of Transportation as part of the MVS learnings, these include:

1. Catchment area of no more than 200m from the applicants’ households.
2. Located on quiet residential streets.
3. Occupy on-street car parking or empty road spaces. If not available, installation can extend to footway space, but only as a last resort.
4. Located away from residents’ doors and windows. Gable ends of houses are typically used.
5. Located away from low rear walls and preferably under adequate street lighting for security measures.
6. BikeBunkers opening to be directed towards footpath rather than onto the roadway. Footpath width should be able to accommodate enough space for users to open and close the bunker.
7. Positioning of the BikeBunkers should consider the sensitivity of its location within architectural conservation areas and proximity of protected structures.

DCC’s Parking Enforcement Officers were also consulted when assessing most suitable locations to deploy a new BikeBunker unit. Units were deployed on streets in which demand for car parking permits was relatively low. For example, there is only demand for 75% of available car parking permits on Oxmantown Road in Stoneybatter.

### 3.2.2 BikeBunker types

The units installed since the start of the scheme are of three different types. Section 3.2.4.4 of this document presents a more detailed review from the current users regarding various aspects of the design and usage. The three types of BikeBunkers currently installed are shown in Table 1, with the pros and cons of each considered.

**Table 1 Existing BikeBunker Types**

| Type                | Existing Photo                                                                      | Pros                                                                                                                                                                                                                                                                                                                | Cons                                                                                                                                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type 1: Bike Hangar |  | <ul style="list-style-type: none"> <li>• Local distributor for Cyclehoop</li> <li>• Fits 6 cycle parking spaces in half a car parking space</li> <li>• Perforated sides allows for less obtrusive aesthetics</li> <li>• Modular parts ensure easy repair and upgrade</li> <li>• 10-year limited warranty</li> </ul> | <ul style="list-style-type: none"> <li>• Door handling issues due to weight of doors</li> <li>• Locks require occasional maintenance due to weather and rust</li> <li>• Door opens upwards and blocks view during locking and unlocking</li> <li>• Litter and dirt can gather underneath</li> <li>• Space inside is limited</li> </ul> |

| Type                   | Existing Photo                                                                     | Pros                                                                                                                                                                                                                                                                                                                                                                                                | Cons                                                                                                                                                                                                                                                                             |
|------------------------|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        |                                                                                    | <ul style="list-style-type: none"> <li>Ancillary accessories such as planters are available</li> <li>Available in other colours and can be locally branded</li> </ul>                                                                                                                                                                                                                               | <ul style="list-style-type: none"> <li>No room for easy handling of bikes</li> </ul>                                                                                                                                                                                             |
| Type 2:<br>Fietshangar |   | <ul style="list-style-type: none"> <li>Fits 6 cycle parking spaces in half a car parking space</li> <li>Perforated sides allows for less obtrusive aesthetics</li> <li>Modular and upcyclable</li> <li>At least 25 years of technical service life</li> <li>Available in other colours</li> </ul>                                                                                                   | <ul style="list-style-type: none"> <li>International supplier (Fietshangar from the Netherlands)</li> <li>Door handling issues from weight</li> <li>Locks require occasional maintenance due to weather and rust</li> </ul>                                                      |
| Type 3:<br>Velo-Store  |  | <ul style="list-style-type: none"> <li>Width is smaller than other units</li> <li>Hard to identify function inside due to exterior design</li> <li>Door opens by sliding inwards which reduces risk of head injuries</li> <li>Replacement components are readily available, and the units have been designed to allow easy cleaning under and around</li> <li>Available in other colours</li> </ul> | <ul style="list-style-type: none"> <li>International supplier (Cyclehoop from the UK)</li> <li>Offers only 4 spaces inside in half a parking car space</li> <li>Exterior used give a bulky aesthetics, is difficult to open and metal tends to warp if pushed against</li> </ul> |

### 3.2.3 Value of service

The current rental charge for one BikeBunker space is €100 for a 12-month period. This price is based on the following costs to DCC:

- General administration and operations.
- The loss of car parking space revenue, a residential parking permit costs €50 per annum or €80 for two years.
- The purchase price of the BikeBunker which amounts to approximately €4,800 (assume 10 year design life).
- Insurance and public liability costs.
- Installation cost.
- Maintenance and cleaning services.

### 3.2.4 User survey

A recent user experience survey was conducted where 55% of the current users responded to various questions relating to the value of the scheme, pricing, usage and their overall experience with the scheme. The overall experience of the users who took part in the survey has been positive and indicative of a strong demand for future expansion. It was found that most interest in the scheme was generated as a result of users seeing them located in their neighbourhood. The survey showed that 36% of the respondents only became aware of the scheme when BikeBunkers were installed on their streets and seeing signs on the street regarding the scheme.

Other means by which users became aware of the scheme included social media and word of mouth. These results correspond with the information found from the expressions of interest data where the highest demand is generated in areas where the BikeBunkers are currently deployed. 88% of respondents indicated that they would recommend the BikeBunkers service to others.

#### *3.2.4.1 Occupancy*

The BikeBunkers are fully occupied. 65% of users are using one space per household and 35% are using two spaces per household. The level of usage responses show that 80% of users tend to use their space on most days, 16% tend to use it at least once a week while only 4% use the service on rare occasions.

#### *3.2.4.2 Value of the scheme*

The users were also asked to indicate the important factors that have brought value to their usage of the scheme. These factors were ranked from most important to least important as follows:

1. Freeing up space inside or outside their residence (e.g. in a hallway or backyard);
2. Helping to protect their bicycle from damage or theft;
3. Helping to protect their bicycle from the weather;
4. Greater convenience (easier or quicker to access your bicycle).

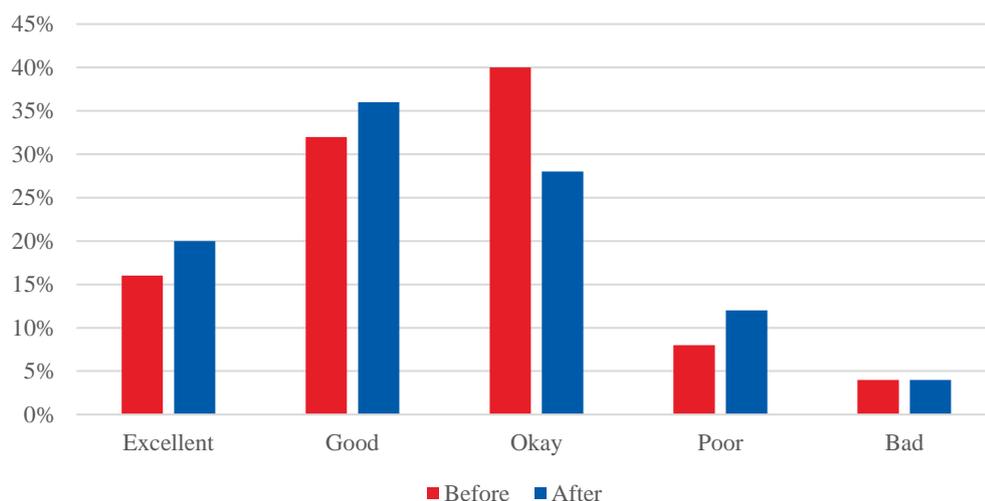
The respondents were also asked to provide their perception of the price before and after using the service. Overall, the perception has been deemed mostly positive, especially in comparison to the car parking permit prices and views generally didn't change dramatically. As shown in

Figure 3.3 below:

- Before using the service, 48% felt the service would be “excellent” or “good” value. This increased to 56% once they had actually used the service.
- Before using the service, 40% felt the service would be “okay” value. This reduced to 28% once they had actually used the service.
- Before using the service, 12% felt the service would be “poor” or “bad” value. This increased to 16% once they had actually used the service.

Having experienced the service, 84% of users felt the service to be of satisfactory, good or excellent value. In addition, 80% said that they would renew their space(s) at the same price, and 12% saying that they would not renew. Further to this, 88% of users said that they would, or already had, recommended the BikeBunkers service to others.

### Perception of Price - Before and After Using the Service



**Figure 3.3 Perception of Price**

48% of respondents have responded that the scheme has encouraged them to cycle more than before while 44% have indicated no change to their current usage but emphasised the improved convenience in using their bicycle more. However, 8% of the users indicated that they cycled less after getting the space as some see it as a deterrent for shorter journeys due to the time it takes to lock and unlock their bikes. It is clear from the responses that the scheme provides an appreciated service for users and supports their mode shift away from the car.

#### 3.2.4.3 Location

The respondents were asked about the convenience of the location of BikeBunkers in terms of distance where most respondents' households were located within 200m radius, which equates to less than a 3-minute walk. 67% of the respondents said it was "very convenient", 17% said it was "convenient" while 16% said it was "acceptable". No respondents indicated any negative feedback towards the location.

The respondents were also asked to provide feedback from their community regarding the placement of the BikeBunkers. The responses were varied but mostly focused on a positive tone about its function while highlighting some negativity towards its aesthetics. Some examples of the feedback include:

- *"The neighbours I have spoken to have been very supportive of it. A couple of older neighbours thought it was ugly - but I asked if it was any uglier than a car and they agreed it was not."*
- *"A mix between enthusiasm and cynicism. There is plenty of parking since the introduction of paid parking, but I could imagine some resentment from the more car centric neighbours."*
- *"I know my neighbours thought it to be very ugly and also noisy. I think installing planters around the BikeBunkers would be helpful."*

The survey also inquired about the safety of the locations. 90% of respondents answered with no issues regarding the location while 10% advised of some concerns regarding usage at night. Visibility concerns were acknowledged too, so reflective stickers were used on the exterior of the Bunkers to ensure they are visible to road users at night-time.

#### 3.2.4.4 Onboarding and usage

The respondents were asked to detail their overall experience when it came to the onboarding process as well as the operational aspects of the BikeBunkers. The aspect of long waiting times due to lack of spaces was highlighted by some users while confirming a smooth process after being accepted for a space. No other issues were mentioned regarding the onboarding.

As for the physical features and usage of the BikeBunkers, the following aspects have been surveyed:

## Appearance

The appearance of the units received mixed feedback with the units from CycleWorks receiving 14% approval rate, Fietshangar received 22% while the Cyclehoop design was considered the most aesthetically pleasing with 64% approval from the respondents. Key issues with the design from CycleWorks was its bulky aesthetics and resemblance to a bin when compared to the other designs that had perforated side panels. Users also responded with suggestions for planters to surround the units to enhance its appearance as part of the urban realm.

## Opening and Closing

There was mixed feedback regarding the ability to open and close the BikeBunkers with ease. Majority of issues that were highlighted by the users involved the heaviness of the doors which means not everyone can easily use the bunkers. Other frequent problems that have occurred are regarding the lock's design where they were a bit tricky to use. Figure 3.4 below shows the Cyclehoop design while open.



**Figure 3.4 Opening the Cyclehoop BikeBunker Cyclehoop (©DCC)**

## Locking the Bike

The experience of locking the bikes inside the BikeBunkers was deemed difficult and uncomfortable by most users particularly if it was fully occupied in particular with the Cyclehoop and Fietshangar designs. Some suggestions indicated needing more space to manoeuvre between the racks to be able to lock the bikes with ease. Figure 3.5 shows the BikeBunker being locked using a key.



**Figure 3.5 BikeBunker Lock the Cyclehoop BikeBunker (©DCC)**

### Security

Most users answered positively regarding their perception of security from the BikeBunkers. There was one incident of theft at a bunker, but it had no impact on the usage after repairs were made.

### Maintenance

Due to the method of installation of the BikeBunkers, the space underneath allows litter to enter. Therefore, the users have highlighted the need to clean the inside of the bunkers every 3-12 months. Other notable problems have surfaced from anti-social behaviour such as graffiti and some damage to the exterior of the panels.

#### 3.2.5 Stakeholder workshop

A workshop was held on the 13<sup>th</sup> January, 2023 to gain a better understanding of the different views from stakeholders regarding the future of the scheme. The workshop was conducted in person using an open and collaborative approach to ensure that all stakeholders are fully involved in. Some of the points of discussion included:

- Concerns regarding the finite street space and how to mitigate that with the lack of sufficient footpaths space.
- Concerns regarding public liability due to any trip hazards situation when using the BikeBunkers.
- Consideration of Sheffield stands as an alternative solution to BikeBunkers.
- The use of future parking schemes plebiscites for non-car parking uses, such as BikeBunkers placement.
- Lack of provision for cargo bikes was identified as a problem due to lack of indoor storage space.
- The use of waste bag -wheelie bins- derogations areas to identify houses without off-street parking provision or houses without front gardens as potential candidate areas for BikeBunkers to be installed.
- Consideration of subsidies for families and unwaged households.

- The possible allocation of entire hangars for families with 4-6 bikes.
- The observations that feedback often focused on car parking impacts rather than benefits for bike parking.

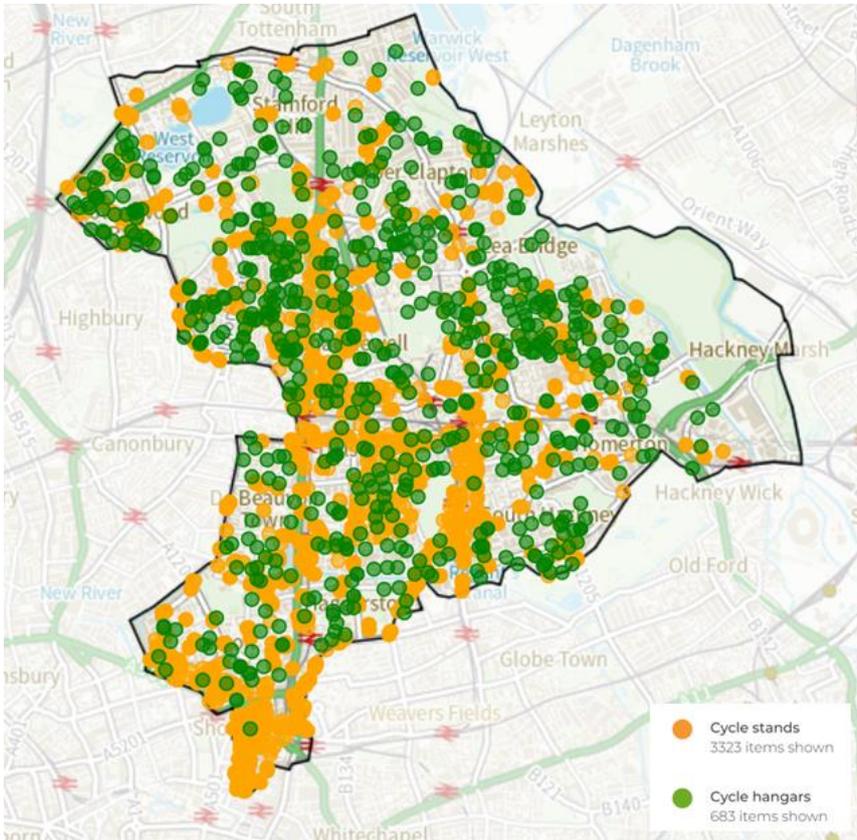
## 4. International Best Practice

### 4.1 London

For many Londoners, providing convenient and secure bike parking facilities in residential neighbourhoods has grown to become quite crucial for many of those living in older flats, terraced houses or high-rise buildings where space is at a premium and no dedicated bike parking facilities is available. Bike hangars have emerged to tackle these issues and proved successful in London. In over 25 boroughs, around 3,500 bike hangars have been deployed with a waiting list of around 60,700. These numbers continue to grow as the boroughs continue to roll out more to meet the demand. Demand exceeds supply in most boroughs, even ones with a great supply of bike hangars. Hackney has the highest density of hangars with 138 hangars per 100,000 residents where only 72% of the demand is met. As part of the Transport for London (TfL) bike parking implementation plan is to increase the supply of bike hangars, while working with local boroughs to target locations with the highest demand. The plan also emphasises the importance of providing bike parking in tandem with improvements to the cycle network as well.

The London Cycling Design Standards document highlights the efficiency of using a previously dedicated car parking space in areas with terraced households where space for cycle storage is limited. It highlights a set of considerations to follow when placing a bike hangar such as ensuring available spaces for registered users, administration of the access system, maintenance and operations costs, management of the facility and other.

Cyclehoop has been the main supplier throughout the United Kingdom for the bike hangars. Aside from being responsible for the installation and maintenance of the units, Cyclehoop has also attained complete responsibility for the process of application, payment, handing out the keys to the users through the use of their website rental portal. However, some boroughs like Hackney and Enfield Council ask users to apply through the council websites, where they are redirected to Cyclehoop's website. The prices throughout the boroughs vary. They range from as low as €13.80 / year in Enfield Council to €123 / year in Islington Council. A TfL-subsidised funding model was implemented for some locations which has helped to keep costs down in some cases and therefore encouraging initial take-up. Figure 4.1 below shows the map of Hackney Council with the currently deployed bike hangars in conjunction with the borough's existing cycle stands.



**Figure 4.1 Existing Bikehangars in Hackney Council (©Hackney Council)**

Islington Council have 408 bike hangars and intend to expand further with 102 more across its borough. The high rental cost has attracted a large number of complaints and therefore the pricing scheme is currently under review. Public consultation was also carried out for the 102 new hangar locations. The main objections revolved around car parking removal which was addressed by referring to policy documents and strategies, which emphasise the commitment to promote a modal shift from car to bicycle.

The responsibility for requesting the expansion of the scheme throughout the boroughs has also been partially handed over to the public and community groups in the residential areas. Cyclehoop’s website suggests the following to the applicants to speed the process: *“Your local authority needs residents to follow the below three steps; suggest a location, demonstrate demand and write to your local council.”* This was used to ensure the demand meets the needs of the cyclists near their residences.

## 4.2 Edinburgh

Edinburgh's bike parking policy is considered one of the most developed amongst Scottish local authorities and it is also the first local authority to initiate the bike hangar rental scheme on its streets. The first hangar was installed in 2014 as part of a pilot in response to difficulties with cycle parking in high density residential areas and while addressing requests from elected members and lobbying cycling bodies. The scheme experienced opposition in its past when the authority located cycle storage facilities in the rear gardens of tenements.

The success of the pilot of different types of hangars in five different locations led the Council to move forward with the scheme and following a procurement process for a private provider, it awarded a 5-year contract to Cyclehoop. There are now 108 bike hangars in Edinburgh with a further 72 still to be installed and plans to roll out a further 100. The scheme has a 99% occupancy rate and a waiting list that is three times the number of available spaces within the units.

Location criteria for bike hangars was determined based on number of requests in tandem with other factors like housing densities and proximity to existing infrastructure, however, this has led to provision mainly in affluent areas of the city leaving areas of higher levels of deprivation neglected. To counter this, determining future locations will also depend on Scottish Index of Multiple Deprivation (SIMD) data with additional weighting given to requests of interest.

As for funding of the scheme, the capital costs have been partly allocated from 'Places for Everyone' funds that are administered by Sustrans Scotland. This funding pays for 100% of design costs and up to 50% of other costs including purchase.

### 4.3 Glasgow

Glasgow is currently the only other Scottish city to have provided bike hangars for its residents. These are supplied by Cyclehoop. Over the last year 61 hangars have been deployed and there are currently another 70 being rolled out using a data driven methodology to identify suitable locations and to ensure an equitable distribution across its neighbourhoods.

Glasgow's bike hangars scheme came, in part, as a response to housing associations in tenemental areas of the city raising fire safety concerns about bicycles being stored in stairwells. There was also a growing concern amongst residents having to carry bikes up and down stairs, particularly heavy ones.

Noting the success from Edinburgh, Glasgow City Council decided to implement the scheme but managed to develop a different approach regarding identifying the best locations for the bike hangars which they call the Multi-Criteria Decision Analysis (MCDA). Phase 1 of the roll out targeted areas of high-density housing and invited residents to suggest locations for secure cycle shelters. Over 3,000 requests were received, which were then grouped within 100m of each other to identify a central point for a potential location for further expansion in Phase 2. The MCDA criteria to have informed the roll out of the 70 new bike hangars in Glasgow includes:

- Demand: Scored on the level of requests received for additional or new cycle shelters.
- SIMD (Scottish Index of Multiple Deprivation): Scored on where the location is in a SIMD area of Decile 1-5, where Decile 1 is the most deprived. This helps expansion into these areas.
- Household Density: Identifies higher household density areas, predominantly tenements or flats, where storage is an issue.
- Proximity: Provides an indication of where a proposed shelter is in relation to existing or planned cycle routes which will increase the uptake of active travel.
- Deliverability: Assessment on whether the unit can be installed with the minimal amount of additional ground works and within existing council powers.

Bike hangar occupancy in Glasgow averaged 95% in 2021. Damage and vandalism to hangars has been minor and infrequent, and almost negligible in the first 6 months of the scheme. Public reaction to the cycle hangars has been generally positive apart from objections to loss of parking spaces but these have not become significant barriers to deployment of hangars due to a supportive and pragmatic approach from the Council's Parking Team.

To address the waiting list and anticipated growth of the pilot approximately £600k of funding per year has been identified to continue the roll out of the project in financial years 22-23, 23-24 and 24-25. It is anticipated that this would yield approximately 120 units providing 720 secure parking spaces per year, a total of 360 units (2,160 spaces).

### 4.4 Brussels

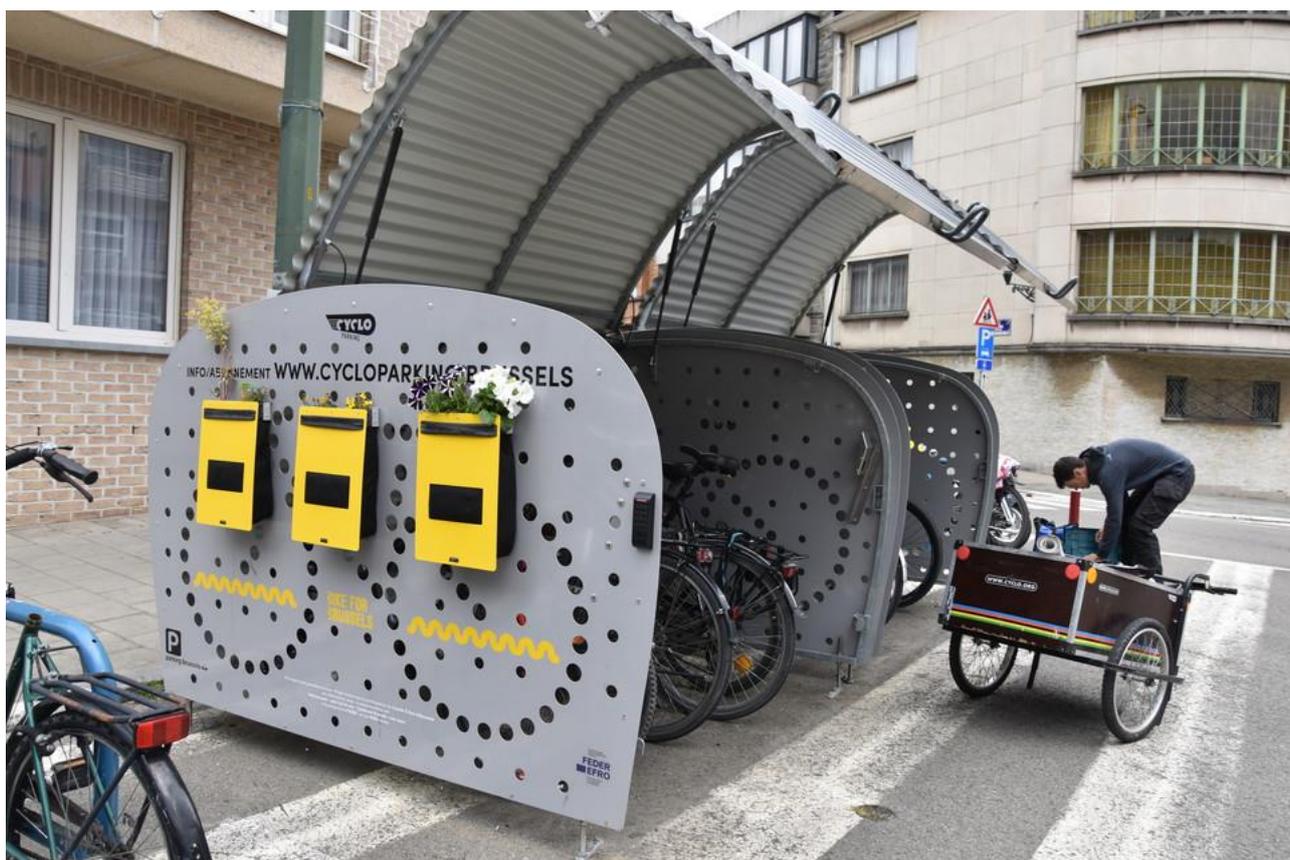
CycloParking Brussels is a program that aims to improve bike parking facilities in Brussels and promote cycling among all citizens, both current and future users by increasing the supply of secure parking spaces for bicycles by 30% per year. The program is currently being managed by the Brussels-Capital Region (BCR) and by the Brussels Regional Parking Agency, *parking.brussels*.

The project serves the residents of Brussels through a unique web platform tool that informs frequent cyclists where to find controlled-access parking spots near their homes or on their routes.

The tool reduces communication to a single point of contact, incorporates all subscription requests and further requests to install new facilities and allows users to report any technical problems faced. Via the interactive map, the Cycloparking team is able to analyse demand and carry out further research on cyclists'

expectations to the undertake placement of new boxes or seek other viable solutions for their needs. The price for a parking space for regular bikes is €15 / year across all its types of parking facilities. Requests for a space are prioritised for those who live within 200m radius from the bike box and then if there is no bicycle park within 200m, the system searches again within 350m and finally within 500m. The bike parking facilities incorporated on the platform include:

- Bike boxes accommodating 5 spaces, as seen in Figure 4.2 below.
- Large secure or open-access car parks.
- Bike and Ride lockers at Park and Ride bicycle parks installed in metro stations at the outskirts of the Region.
- Residential bicycle parking.



**Figure 4.2 BikeBox from CycloParking Brussels (©Cyclo.org)**

17 of the Brussels-Capital Region's communes are now included. The number of BikeBoxes to date have more than doubled from 303 in 2017 to 652 at the end of 2020. In addition, parking.brussels went into partnership with several private stakeholders to expand its services to car parks, train stations and ensure bike boxes for cargo bikes as well through its participation with the European project Cairgobike. The financing for the bike boxes was carried out by the regional parking agency parking.brussels as well as the central purchasing agency.

The CycloParking project in Brussels has been supported by the EU and the Brussels-Capital Region to the tune of 2.1 million euros from 2014-2020, 50% of which is financed by the BCR, while the remaining 50% comes from the European authorities.

As planned in the ERDF programme, from January 2021, the mission led initially by the non-profit organization CyCLO, was entrusted to parking.brussels, one of the main partners since the inception of the project. Parking.brussels is set to continue the CycloParking project for at least 5 years and to guarantee a comparable level of service. It will use the same web platform too put in place by CyCLO to manage subscriptions for the bike boxes, Park and Ride car parks and other bicycle parking facilities provided. The

CyCLO team supervised the parking.brussels team throughout 2020. CyCLO hopes that with the new management, the new CycloParking will continue to develop in consultation with users and relevant stakeholders to ensure a dynamic, open and a participatory approach in the future of sustainable transportation system in Brussels. One of the key relevant partners to the project is Mobility Brussels, and they have been responsible for developing the Bike Parking Masterplan to inform any future expansions regarding bike parking in the city.

## 4.5 Rotterdam

In Rotterdam, the municipality owns bike hangars and operates the scheme from its website to provide a solution for households that do not have their own storage space for bicycles. The bike hangar, Fietshangar, model used is suitable for placement in half a parking space and accommodates 4 bikes. It is designed with a round shape and transparent perforated sides as seen in Figure 4.3. When applying for 1 or more subscriptions to a space, a long waiting period is to be anticipated. There is a considerable waiting list and the number of bike hangars that can be placed is limited (a maximum of 80 per year). For every new bike hangar to be placed, a spatial and technical test must be carried-out on the basis of placement criteria.

The price for one space is €64.32 / year that can be paid in quarterly instalments, €16.08 / quarter. There are now more than 1,000 hangars in Rotterdam and the demand from the community remains high. The city foresees the deployment of hundreds more in the coming year as part of its commitment to creating additional space in the city for increasing bicycle traffic.



Figure 4.3 Bicycle hangar model by Heijmerink Wagemakers (@hwva.nl)

## 4.6 Summary

Long-term secure residential parking is an important facet of bike parking provision in many countries including countries with well-developed cycling cultures like the Netherlands. Examples of pro-active and successful approaches to providing cycle storage can be found in the UK as well as some parts of Europe like Belgium.

The common denominator of success in the aforementioned examples is the leadership and commitment taken up by local authorities, the well-developed local policies on cycle parking and the ability to enforce the provision of the facilities through statutory consents or regulation and finally the tools of operations and location identification when rolling out the scheme. A summary of the key lessons for each can be found in Table 2.

**Table 2 Case Studies Summary Table**

| City      |                   | Approx. Population            | Price of Service | Number of Spaces           | Operational Model                     | Key Lessons for Dublin                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------|-------------------|-------------------------------|------------------|----------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| London    | Hackney Council   | 259,100                       | €50.50/year      | 4,098 spaces               | Publicly owned and privately operated | <ul style="list-style-type: none"> <li>• Web-platform tool is available on Cyclehoop's website to express interest, process payments and other operational tasks required.</li> <li>• Strong local leadership has been key to ensuring the success of the scheme.</li> <li>• Public consultation was conducted to mitigate any issues related to placement of units.</li> </ul>                                                                                     |
|           | Islington Council | 216,589                       | €123/year        | 2,448 spaces               | Publicly owned and privately operated | <ul style="list-style-type: none"> <li>• Web-platform tool is available on Cyclehoop to express interest, process payments and other operational tasks required.</li> <li>• Public consultation was conducted to mitigate any issues related to placement of units.</li> </ul>                                                                                                                                                                                      |
| Edinburgh |                   | 554,000 (metropolitan area)   | €82.60/year      | 648 spaces                 | Publicly owned and privately operated | <ul style="list-style-type: none"> <li>• Full funding was covered by non-profit organisation.</li> <li>• Web-platform tool is available on Cyclehoop's website to express interest, process payments and other operational tasks required.</li> </ul>                                                                                                                                                                                                               |
| Glasgow   |                   | 1,861,315 (metropolitan area) | €82.60/year      | 366 spaces                 | Publicly owned and privately operated | <ul style="list-style-type: none"> <li>• Multi-Criteria Decision Analysis tool was key to its success by informing location choices better and more efficiently.</li> <li>• Web-platform tool is available on Cyclehoop's website to express interest, process payments and other operational tasks required.</li> </ul>                                                                                                                                            |
| Brussels  |                   | 2,500,000 (metropolitan area) | €15/year         | 3,260 spaces (end of 2020) | Publicly owned and operated           | <ul style="list-style-type: none"> <li>• Web-platform tool that incorporates different kinds of bike parking facilities including bike boxes.</li> <li>• Bike parking masterplan is available to inform future plans to expand the scheme.</li> <li>• Works closely with local businesses, community groups, and other key stakeholders.</li> <li>• Conducts audits of existing bike parking facilities to identify areas where improvements are needed;</li> </ul> |

| City      | Approx. Population            | Price of Service | Number of Spaces | Operational Model           | Key Lessons for Dublin                                                                                                                                                                                                                                                                                                                                      |
|-----------|-------------------------------|------------------|------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rotterdam | 1,018,000 (metropolitan area) | €64.32/year      | ~4,000 spaces    | Publicly owned and operated | <ul style="list-style-type: none"> <li>• Policy guidance regarding bike parking facilities for residential.</li> <li>• A yearly cap on how many units can be installed every year (a maximum of 80/year).</li> <li>• Spatial and technical tests are carried-out when placing a new hangar.</li> <li>• Fietshangar is the supplier of the units.</li> </ul> |

## 5. Recommended Operational Attributes

### 5.1 Approach to determining deployment locations

There has been considerable interest in obtaining BikeBunker spaces within the boundaries of the Grand and Royal canals, with approximately 2,368 applications received so far. This would require minimum 400 BikeBunkers (given each bunker would accommodate a minimum of 6 spaces and it will be triggered with 3 requests at minimum) to meet the demand. Figure 5.1 represents the overall expressions of interest applications to date. The current supply of BikeBunkers meets only 11% of this potential demand within the 200m walking catchment areas. Figure 5.2 presents lower scale map of the demand for the South of the city.

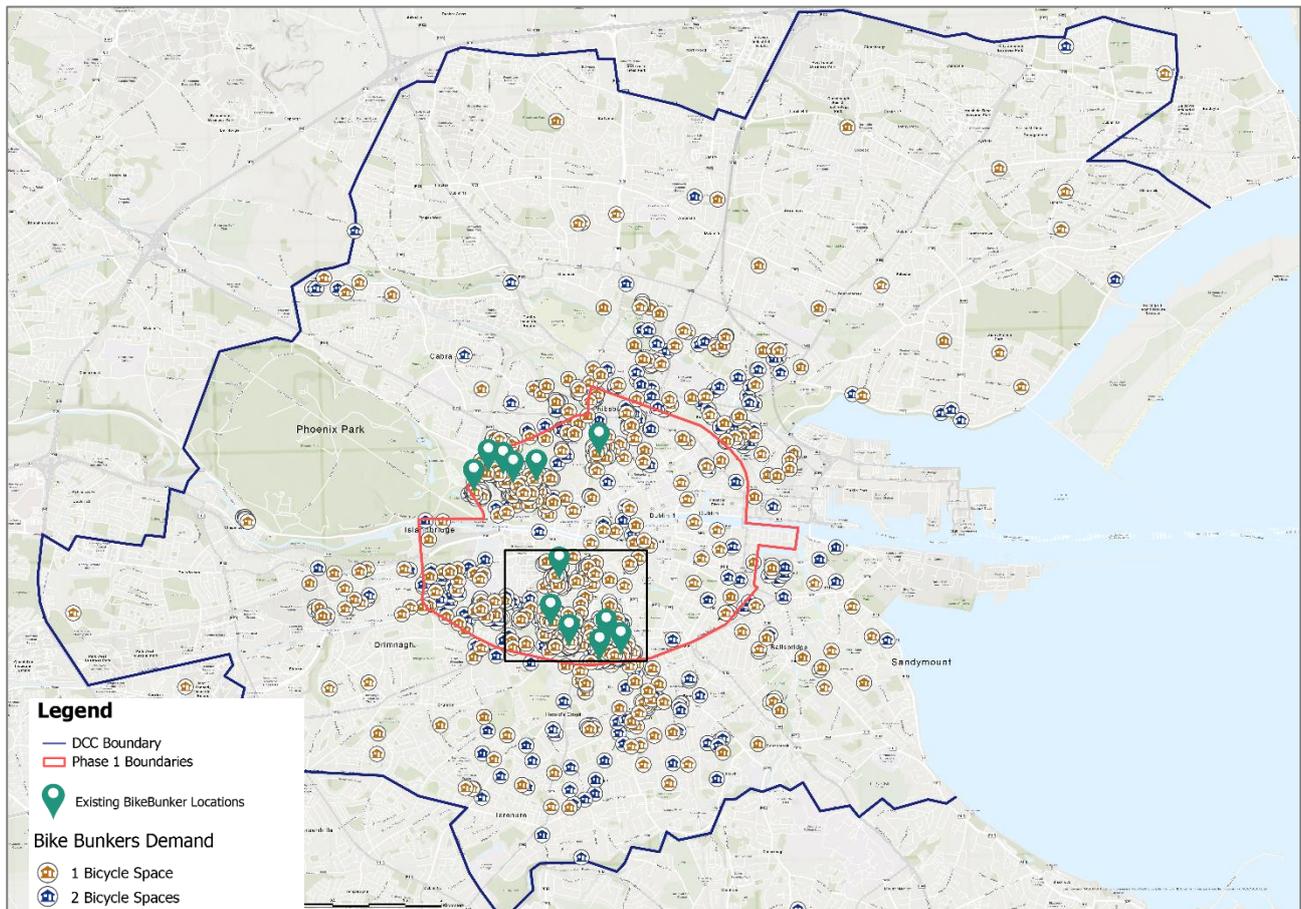
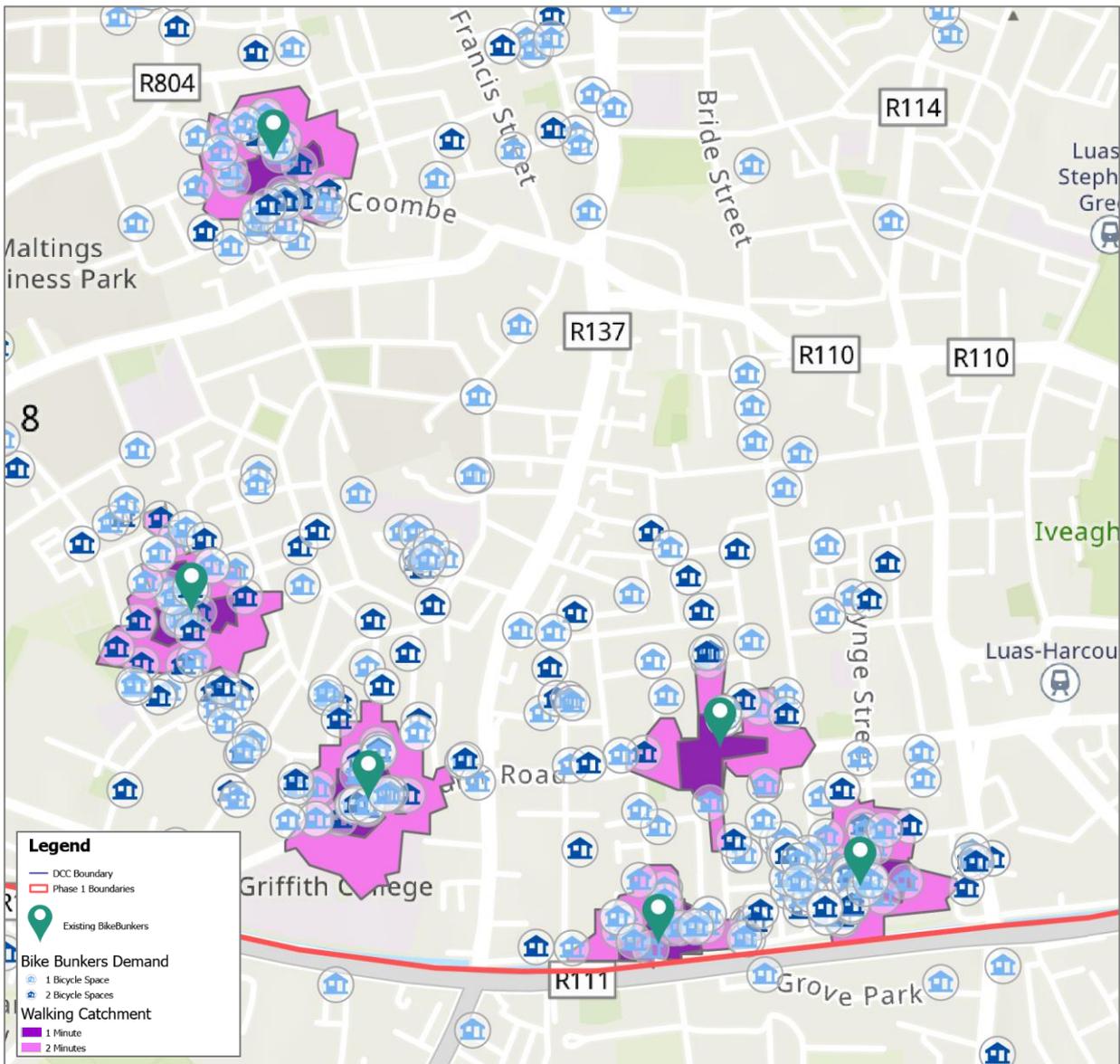


Figure 5.1 Expression of interest map



**Figure 5.2 200m Walking Catchment in the South side of the city in relation to the demand**

The data demonstrates a high demand. In order to meet this in a sustainable manner, a systematic roll out of the BikeBunkers needs to be committed to by DCC. Based on lessons learnt from the pilot and international case studies, together with an understanding of the scale of resources needed for the implementation and getting an understanding of demand, DCC should target a deployment of at least 300 BikeBunkers by 2026. This would be dependent on availability of capital funding from the NTA or another source. The identification of a sustainable financial and delivery model for ongoing operations and maintenance is also required.

Market consultation is recommended to gain further insight into the ability of the market to deliver the scheme. This would also identify operational model options that would appeal to the market as well as satisfy DCC’s requirements.

A systematic approach for deployments is required. Based on the learnings from the pilot and international best practice, the following approach for identifying deployment sites is recommended:

- Split the city into grids e.g. 100m\*100m.
- Identify demand within the grids through an expression of interest GIS-based online platform. Expressions of interest to collect data on location preferences – within 50 / 100 / 200m, adjacent to house, end of street only, etc.
- Review grids with high expression of interest for location feasibility.

- Deliver BikeBunkers where suitable street space is available.
- Offer alternative bike parking facilities such as Sheffield stands for areas with high demand to complement the deployment of BikeBunkers and offer a cheaper solution for users.

The current approach of deploying BikeBunkers within 200m of user residences may be difficult to achieve for the scale of deployment anticipated. To roll out an additional 300 BikeBunkers by 2026, less stringent criteria may be required. While the reallocation of car parking spaces to support sustainable modes of transport complies with current policies, it is important to consult with local residents to identify locations of car parking spaces serving elderly, mobility impaired or disabled users during the planning stage to avoid any issues.

## 5.2 Approach to Operations and Design Typology

DCC is currently responsible for the maintenance and operation of the scheme. However, after investigating international best practice, consultation with DCC, stakeholder workshops and interviews with other operators, some principles regarding the operational framework for an expanded scheme emerged. It appears that publicly funded, owned and planned but privately maintained and operated is the most suitable model for BikeBunkers in Dublin.

This would entail the funding of the scheme, purchase of the units and identifying locations to be carried out by DCC while maintenance and operations (including expressions of interest website and payment) would be carried out by a private company. Prior to tendering for such a role, it is recommended that DCC embark on a market consultation phase to take on supplier / operator feedback which can be used to increase interest in the subsequent tender. As various case studies have shown, the success of the scheme will be dependent on providing an attractive, secure and accessible online platform for interaction with users.

Unit design should take into consideration the various issues encountered by users during the current pilot, which is further discussed in the user survey conducted found in Section 3.2.4 of the report. The new design should ensure flexibility for installation and removal, consider accessories such as planters to improve its aesthetics amongst the streetscape and finally, consider future demand for irregular sized bikes such as cargo bikes and others.

# 6. Next Steps

## 6.1 Short-Term Recommendations

1. DCC should undertake a preliminary market consultation before tender procurement to cater for innovation, take on feedback and obtain a clearer picture of available products and operation services.
2. The tender and contract documents should be based on international best practice and take on lessons learnt from the pilot in Dublin and the market consultation process.
3. Identify locations to expand the scheme based on expressions of interest to address high demand areas first
4. Location criteria should be defined by DCC and other stakeholders and consider surrounding architecture and streetscape and ensure no car parking space is allocated away from disabled residents.
5. DCC roll out plans should follow a systematic approach aiming for a minimum quantity each year to meet the current and future demand.
6. As the expansion of the scheme progresses, DCC should consider promotional campaigns and information dissemination to inform the public of future plans.

## 6.2 Medium and Long-Term Recommendations

1. Continue to roll out the scheme as demand grows and consider repurposing underutilised units to other locations where demand has evolved.
2. Encourage further incentives for discounted prices for certain groups through government subsidies to encourage the use of the scheme.
3. DCC to work with different departments to provide specific objectives and guidelines in the City Development Plan for higher density developments to incorporate sheltered and secure bike parking.
4. Develop stringent policies regarding the removal of existing on-street car parking spaces and consider reviewing the prices of car parking permits through sustainable kerbside strategies.
5. Working with key stakeholders, further develop the concept of community mobility hubs in residential neighbourhoods where feasible. These mobility hubs would accommodate various sustainable mobility sharing schemes and parking facilities including BikeBunkers.
6. Open up applications for cargo bikes and other irregular sized bikes in areas where space is available.
7. Make use of crowd sourced suggestions to get a "real-time" gauge of cycle parking demand locations into the future.
8. In a scenario where the cost, delivery or operational issues become insurmountable, DCC should encourage grassroots community initiatives to take charge of the existing BikeBunkers if the scheme fails to expand. It also should consider replacing the existing BikeBunkers with on-street Sheffield bike racks as a long-term solution in the future to accommodate some of the demand.

## 6.3 Overall Recommendations

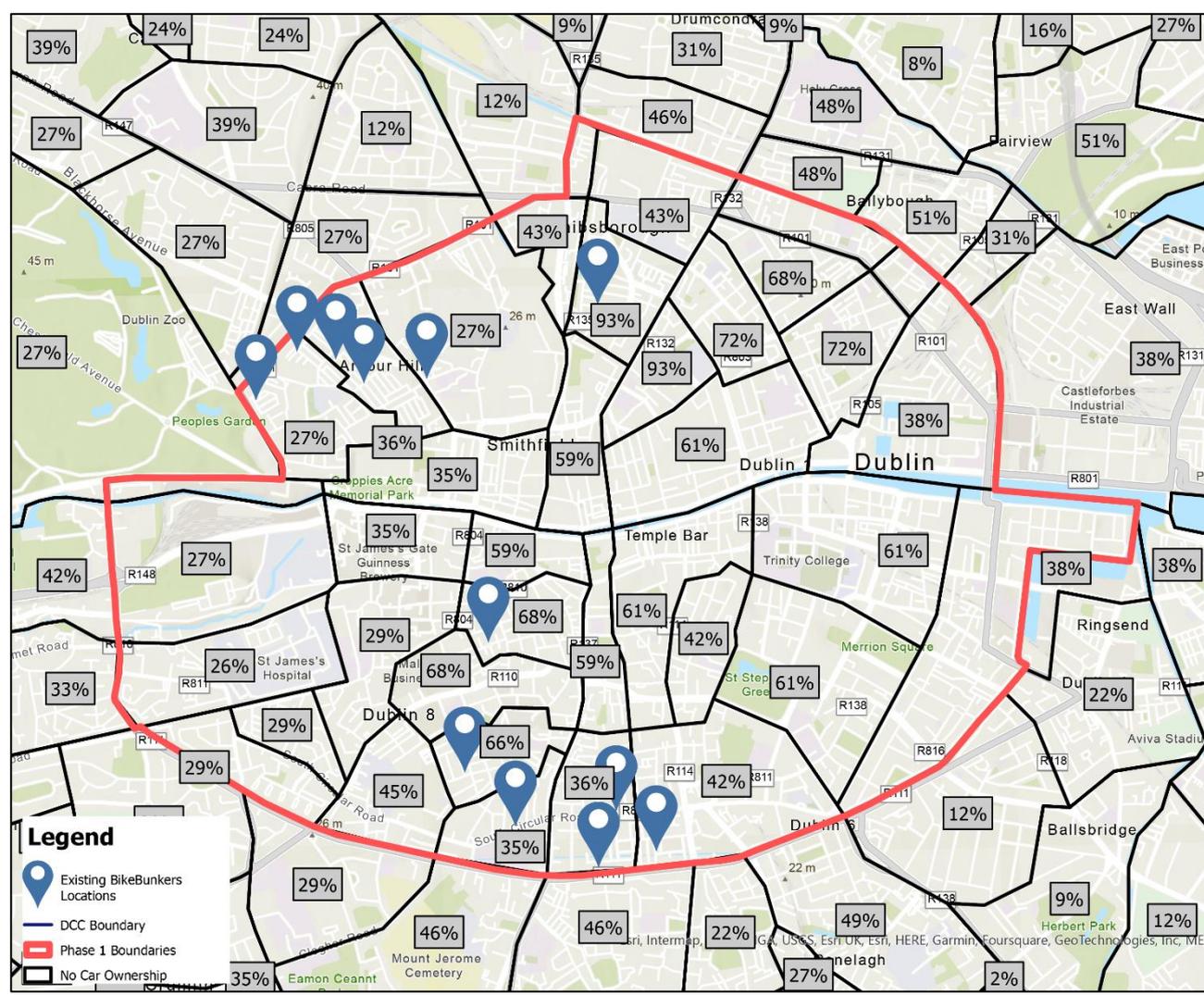
The pilot has shown that BikeBunkers have the potential to have positive impact on communities within Dublin City which emphasises a need to ensure any lessons learnt from the pilot are brought into the procurement and implementation process for the wider scheme. Both the interest demonstrated during the pilot and international case studies have indicated that there is significant demand for such services.

It is recommended that the scheme is expanded significantly. As mentioned above, the scheme may be operated and possibly deployed by private operators. Significant care should be paid to the development of tender documentation to ensure the procurement meets the requirements of DCC. While public works contracts may be able to cater for this, the use of alternative forms of contract should be explored.

# Appendix A

## Car Ownership and Bike Commuting Data

Figure 6.1, represents the percentage of households that don't own a car and illustrates a low demand for car parking permits on streets where BikeBunkers are currently installed and where future expansion is possible. Figure 6.2 represents the percentage of households that commute by bike. This data appears to support the case for utilising road space for bike parking instead of car parking spaces.



**Figure 6.1 Percentage of households that do not own a car**



# Appendix B

## Policy and Guidance

## Regional and Local Policies

### *Project Ireland 2040 - National Planning Framework (NPF), 2018*

The NPF is a national document responsible for providing high-level guidance for the strategic planning and development of the country in the next 20+ years to support sustainable growth. It foresees a population growth of at least 235,000 in Dublin by 2040 making it even more critical for the city's development towards sustainable travel patterns for its residents.

The document acknowledges the numerous positive impacts of creating more cycle friendly urban environments, such as enhancing the air quality and public health and creating economic value by appealing to a skilled workforce.

In relation to community development, the document emphasises the need to provide attractive viable home solutions for everyone and this is contingent on ensuring accessibility to adequate cycling infrastructure including bike parking facilities.

***National Policy Objective 27:*** *Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments and integrating physical activity facilities for all ages.*

### *Project Ireland 2040 - National Development Plan (NDP), 2018*

The NDP is a national document responsible for outlining large-scale expenditure on national infrastructure, which aims to deliver the largest and greenest projects ever in Ireland with making active travel a key strategic investment priority. Thus, programmes like the National Active Travel Programme have seen a significant increase in its budget as part of the government's commitment to encourage the use of cycling and other active travel modes. The increased budget hopes to help support the delivery of new and improved cycling infrastructure by 2025.

### *National Sustainable Mobility Policy Action Plan, 2022-2025*

The National Sustainable Mobility Policy is accompanied by an action plan that is set to improve and provide further expansion of infrastructure related to sustainable mobility across Ireland. The policy aims to reduce distances travelled by private vehicles by 10% in 2030 and ensure the delivery of at least 500,000 additional journeys by active travel or public transport. One of the main actions corresponding to secure cycle parking is aimed at city centres and transport hubs mainly is as follows:

***Action 41:*** *Develop and commence implementation of a programme for secure bicycle parking in key towns and cities plus transport hubs. 1,000 secure bicycle parking spaces implemented by 2025.*

### *Smarter Travel: A Sustainable Transport Future (last update in 2022)*

This national policy document, covering a period from 2009-2020, sets out 49 actions which aim to 'reverse the current unsustainable transport and travel patterns and reduce the health and environmental impacts of current trends and improve our quality of life'. The overarching actions relating to cycling infrastructure in particular include:

- *Actions to reduce distance travelled by private car and encourage smarter travel;*
- *Actions aimed at ensuring that alternatives to the car are more widely available, mainly through radically-improved public transport service and through investment in cycling and walking;*
- *Actions aimed at strengthening institutional arrangements to deliver targets.*

These actions are to be taken to ensure that Ireland's future population growth and the demands inherent in this growth is underpinned by sustainable travel and transport. The Government set out the following key targets to be achieved through these actions:

- *500,000 more people will take alternative means to commute to work to the extent that the total share of car commuting will drop from 65% to 45%;*

- *Alternatives such as walking, cycling and public transport will be supported and provided to the extent that these will rise to 55% of total commuter journeys to work;*
- *The total kilometres travelled by the car fleet in 2020 will not increase significantly from current levels; and*
- *A reduction will be achieved on the 2005 figure for greenhouse gas emissions from the transport sector.*

### *National Cycle Policy Framework, 2009*

This national policy sets out specific objectives along with individual, integrated actions aimed at ensuring that a cycling culture is developed in Ireland. The vision is that *“all cities, towns, villages and rural areas will be bicycle friendly. Cycling will be a normal way to get about, especially for short trips.”*

Cycling contributes to improved quality of life and quality of the public realm, a stronger economy, and an enhanced environment. The policy framework looks to develop a culture of cycling in Ireland where trips by bike will increase from 7.6% to 10%. In support of these targets, the document sets out this following objective:

**Objective 7:** *“...provide secure parking for bikes” which entails the provision of “well-located, plentiful sheltered and secure parking facilities”.*

Other relative policies include:

**Policy 7.1** which indicates the need for a national guidance policy for cycling parking to advise on the best options for different locations and to have it incorporated in future development plans. This policy is to be implemented by the Department of Transport and Department of Housing, Local Government and Heritage.

**Policy 7.7** which proposes developing a strategy tackling bicycle theft and vandalism. This strategy is likely to include: *“recommendations on the need to develop a national register / database of bikes, publications aimed at cyclists advising them on how to / where to lock bikes, specific policies dealing with abandoned bicycles etc.”*

### *National Cycle Manual, 2011*

The National Cycle Manual (NCM), published by the National Transport Authority in 2011, provides guidance relating to all facets of cycling. It presents a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes regarding the bike including bicycle parking. The NCM highlights in Section 5.5 the integral role bike parking plays at journey destinations in supporting the existing cycling infrastructure. It affirms that the absence of adequate bike parking facilities has often proven to deter from cycling. It highlights the benefits of bicycle parking and contributions to:

- *“Promoting Modal Shift: enhancing the facilities near the residential areas could increase the uptake of cycling;*
- *Improving the quality of cycling facilities: shows a considerate approach for the cyclists and their needs;*
- *Improving the quality of urban spaces: better parking facilities would reduce the usage of poles and railings in residential neighbourhoods“*

The NCM also provides an overview of the key characteristics to be considered at various locations to determine the most appropriate parking facilities for journey destinations. With regards to residential neighbourhoods, it sees convenience as essential for frequent cyclists highlighting that access to the bike would preferably be away from living areas and rather to have them stored outdoors when applicable.

Finally, the NCM presents the following as key basic design functions that all bike parking facilities should accommodate:

- *“Supporting the bicycle from falling over;*
- *Protecting it against theft;*
- *Allowing the cyclist room to position/ lock / unlock the bike;*

Other considerations include:

- *“Lighting;*
- *Protection against the weather;*
- *Ease of access.”*

#### *Design Manual for Urban Streets (DMURS), 2019*

The Design Manual for Urban Roads and Streets (DMURS), published by Department of Transport, Tourism and Sport and the Department of Environment, Community and Local Government (2019), provides guidance relating to the design of urban roads and streets. It presents a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to networks and individual streets.

DMURS introduces cycle parking as street furniture with the purpose of enhancing the streetscape and public realm of the area and therefore must be considered as part of the overall design of the street. It highlights that if designed well it can bring a sense of place and function value to its location.

#### *Urban Design Manual, 2009*

This manual acts as a companion reference on best practice for the implementation of the Guidelines for Planning Authorities on Sustainable Residential Development in Urban Areas. It illustrates the criteria for sustainable residential development in both new locations and within existing urban areas. The National Spatial Strategy definition of sustainable development priorities maximising ease of access to the bicycle which will in turn aid in promoting cycling as a primary mode of transport.

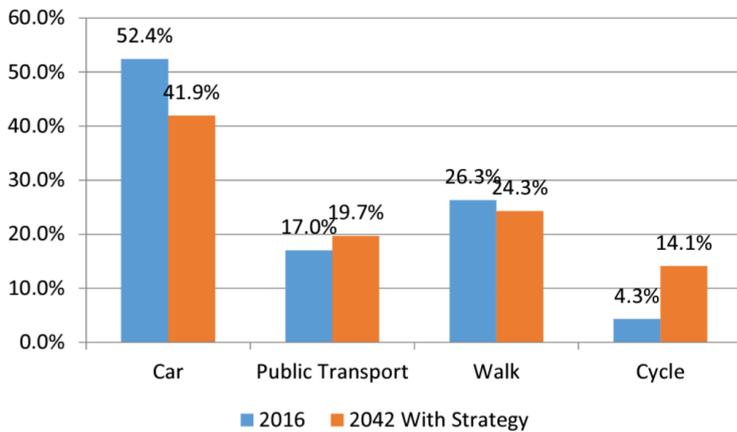
The design of the street layouts for residential developments needs to consider the movements of pedestrians and cyclists, where assessment of location and amount of parking for bikes is essential. The design manual highlights the critical need for providing adequate residential bike parking to residents, to help influence their sustainable transport choices and increase their cycling mode share. And in that regards, the manual recommends the following:

*“They should be secure, overlooked, provided communally and of good quality materials. Where possible, cycle storage facilities should be provided in or immediately adjacent to the home in recognition of their relative ease of theft and vandalism compared with the car”.*

#### **Regional and Local Policies**

##### *Draft Transport Strategy for the Greater Dublin Area (GDA) 2022-2042*

The Transport Strategy for the GDA emphasises the important role secure and safe cycle parking plays in a well-integrated transport system conducive to a cycle friendly environment. It also recognises the importance of behavioural change and highlights the NTA’s keenness to integrate it into their policies. Behavioural change investments generally entail promotional campaigns and information dissemination as opposed to infrastructural interventions. The following graph presents future targets for all modes for Metropolitan Dublin as indicated in the strategy.



**Figure 6.3 24hr Mode Share for Metropolitan Dublin 2016 and Future Targets in 2042 (©DCC)**

Chapter 11 of the document is fully dedicated to cycling and personal mobility vehicles including bike parking. It highlights the importance of the availability of cycle parking at the beginning and end of user journeys and how they can influence the decision to choose to cycle. Following measure is relative to the scheme:

**Measure CYC3:** *It is the intention of the NTA to deliver, through the statutory planning process and liaison with relevant stakeholders, high quality cycle parking at origins and destinations, serving the full spectrum of cyclists including users of non-standard cycles.*

*Dublin City Development Plan, 2022-2028*

In alignment with the Development Plan’s intentions to increase the attractiveness of cycling as a sustainable mode of transport in the city and emphasise the important role cycling provides in transforming the quality of life for the users of the city, providing quality cycle parking facilities comes to the forefront of the agenda. This is outlined briefly in the following objectives:

**SMT012- Cycle Parking Spaces:** *To provide publicly accessible cycle parking spaces, both standard bicycle spaces and non-standard for adapted and cargo bikes, in the city centre and the urban villages, and near the entrance to all publicly accessible buildings such as schools, hotels, libraries, theatres, churches etc. as required.*

**SMT013- Design Standards for Cycle Parking in Developments:** *To prepare, within two years of the adoption of the Plan, a comprehensive guide setting out design standards and requirements for cycle parking in developments.*

**SMT014- Cycle Parking Facilities:** *To promote and facilitate, in co-operation with key agencies and stakeholders, the provision of high-density cycle parking facilities, as well as parking for cargo and adapted bicycles at appropriate locations, taking into consideration the NTA’s GDA Cycle Network Plan, and Dublin City Council’s Public Realm Strategy.*

The Plan also indicates an intention to eliminate ‘Free’ on-street parking by different strict provisions throughout the city and one of the tools indicated in the objectives mentions the provision of ‘new cycle parking’. One of the principles of locating the units depends on the removal of on-street parking in some of the residential neighbourhoods.