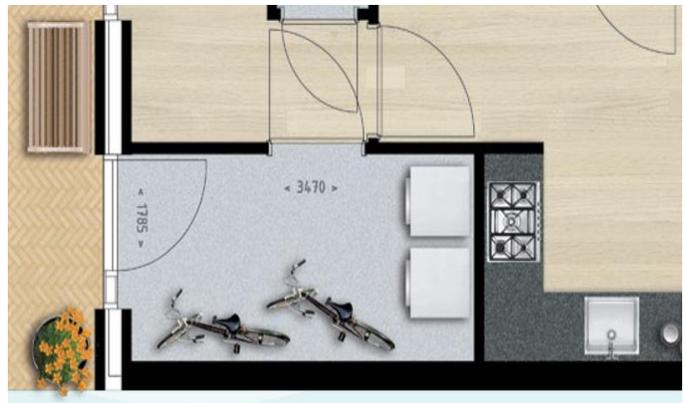
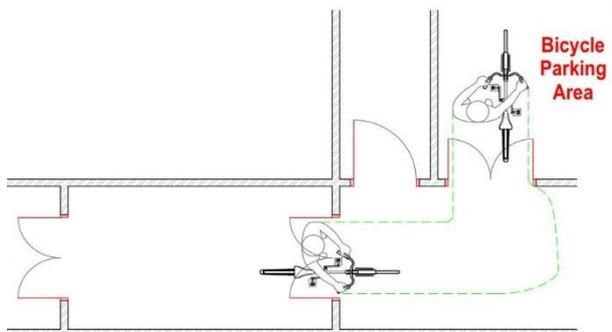


Pettycur Consulting Ltd

Residential Cycle Storage

Research for Cycling Scotland into the barriers and solutions to improving residential cycle storage in Scotland.



Executive Summary

Active travel - walking, wheeling and cycling - is key to delivering Scottish Government objectives for tackling climate change, improving air quality and creating more sustainable and better quality neighbourhoods. Cycling is one of the most efficient forms of active travel yet in Scotland the percentage of journeys under 5 miles made by bike is less than 2%. There are perhaps many reasons which can explain why the number of people who choose cycling as a means of everyday transport remains so low but lack of access to somewhere convenient, safe and secure to store a bicycle is one of the more basic and practical ones.

Cycling Scotland have commissioned this research from Pettycur Consulting Ltd to help understand the barriers to residential cycle storage in Scotland and what solutions might be implemented to improve and increase cycle storage provision. The research looked at provision of cycle storage both in existing residential areas (retrofitting) and in new developments, with a particular focus on affordable housing. Desktop research was carried out to identify and outline the relevant national and local policies, estimate the number of number of households in Scotland without access to somewhere suitable to store a bike, and to consider some successful approaches to providing cycle storage in the UK and Europe. Surveys of local authorities and housing organisations (local housing authorities and housing associations) were carried out and these were followed up with more in-depth interviews with a range of key stakeholders.

The main findings arising from the research are:

- Lack of safe, secure, covered, accessible and conveniently located cycle storage is a barrier to owning and using a bicycle.
- A third of Scottish households are likely to be living in accommodation where there is no access to somewhere safe and secure to store a bicycle. Households living in urban areas, particularly those in living in social rented and private rented housing, are more likely to be living in accommodation where there is nowhere suitable to store a bike.
- Retro-fitting cycle storage in existing residential areas is limited. Only two Scottish local authorities, Edinburgh and Glasgow, are involved in retrofitting cycle storage at scale. A number of housing associations have retrofitted cycle storage on some of their developments with support from the Social Housing Partnership Fund.
- Whilst national 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.
- Local planning policies and guidance are the most influential factors in determining the level and quality of cycle storage on new residential developments. There is significant variance in local planning policies and guidance amongst Scottish local authorities in respect of cycle storage with most only making cursory reference to provision and very few giving any detail about cycle storage standards.
- Leadership, particularly political leadership, is a key factor in ensuring the provision of cycle storage.
- Awareness and knowledge about good design in residential cycle storage is patchy as is awareness of existing technical design guidance. The differing needs of cyclists particularly those who use non-standard bikes or who are disabled are largely unrecognised.

- Cost is seen as a barrier to providing cycle storage. The provision of retrofitting cycle storage is largely dependent on receiving external financial support with the initial capital costs. In new developments the cost of cycle storage on its own is not that significant and but the cumulative effect of additional and enhanced standards in new housing, particularly affordable housing, will have a financial impact.

The research concludes with a number of recommendations that mainly focus on the following:

- Strengthening national policy and guidance including the development of minimum standards for residential cycle storage.
- Requiring local authorities to include more detail about both the quantity and quality of cycle storage in new residential housing and to develop plans for retrofitting cycle storage in existing areas of high-density housing.
- Providing increased financial support for cycle storage, particularly for retrofitting.
- Raising awareness, providing training and sharing knowledge and good practice about the need for and delivery of good quality residential cycle storage.

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Introduction

Background

Active travel, which includes walking, cycling and wheeling, has an increasing prominence in a wide range of public policies, from combating climate change, to transport, health and housing. Transport Scotland's website states that 'active travel is fundamental to the development of a sustainable travel network and a key priority for the Scottish Government. Yet for a substantial proportion of Scotland's population one of the most efficient forms of active travel – cycling – is not a practical option for the simple reason that they do not have anywhere to store a bike.

Residential cycle storage can be defined as a place or facility that is suitable for longer-term or overnight storage of a bicycle in that it provides protection from the weather, is secure, accessible, and conveniently located. For many households in Scotland access to such facilities does not exist due to the type of property they live in. Of the 2.6m residential properties in Scotland just over 37% or 980,290¹ are flats located in tenements, high-rises and apartment blocks and as such have no private outdoor space for sheds or garages where bikes may be safely stored. Although increasingly new build apartment and tenement blocks may provide communal bicycle storage facilities for the majority of households living in flatted accommodation access to safe, secure and accessible cycle storage is currently not available.

Cycling Scotland is the national cycling organisation that aims to 'establish cycling as an accessible and practical travel option for people across Scotland'. It does this through a range of activities including, campaigning, training, policy development and monitoring, running events and award schemes and providing advice and practical support to organisations to enable them to become more 'cycling friendly'. Practical support includes providing funding for projects that provide cycling facilities or promote and encourage people to start using a bike. The Social Housing Partnership Fund (SHPF) is one such source of funding which is delivered by Cycling Scotland and is a partnership project between Cycling Scotland, the Scottish Federation of Housing Associations (SFHA) and Living Streets. The SHPF has been set up to support projects that make it 'easier for residents living in social housing... to be healthier and more active through walking and cycling'. With 59% of social rented housing residents and 61% of private rented tenants living in flatted accommodation² the issue of lack of suitable residential cycle storage is perhaps more acute for those in rented accommodation than for owner-occupiers. This is reflected in the level of demand for secure cycle storage in the funding applications received by the SHPF where it is the most requested type of facility. Cycling Scotland have therefore decided to commission research into residential cycle storage to better understand the barriers to provision and what solutions are needed to increase and improve cycle storage not just in the social rented sector but across all tenures.

Research Aims and Objectives

The aims of the research are to produce a report that will be used to:

- inform Cycling Scotland's own policy development and that of the active travel sector more widely;

¹ statistics.gov.scot [Dwellings by type](#)

² Scotlands Census 2011

- influence the development of relevant national policy, including policy initiatives associated with the Scottish Government's *Housing to 2040* strategy and the National Planning Framework 4, to take account of the need for residential cycle storage;
- support the case for the allocation of resources for the provision of residential cycle storage.

The specific objectives for the research are:

- a) An estimate of the number of households without access to secure cycle storage.
- b) An assessment of the level of awareness of the need for cycle storage amongst local authorities, Registered Social Landlords (RSLs) and private developers and the extent to which this need is being actively addressed.
- c) Identification of the barriers to the provision of cycle storage facilities in existing housing stock and in proposed new residential developments.
- d) Recommendations on what actions are needed to overcome or remove barriers to cycling storage and to promote wider access to secure cycle storage provision across all tenures but with a particular focus on social rented housing.

Methodology

Outline

The methodology for the research is outlined in the table below:

Stage	Tasks	Purpose/Result
1. Understanding current provision and the policy and legislative context	<p>A desktop review of:</p> <ul style="list-style-type: none"> • relevant existing research; • relevant legislation, regulation, statutory guidance and government policy; • existing residential cycle storage provision in Scotland, the UK and Europe. 	<p>Research takes cognisance of any relevant previous research findings.</p> <p>The relevant legislation and policy are identified and its impact and opportunity potential are understood.</p> <p>An overview of existing residential cycle storage provision and the different approaches used.</p>
2. Quantifying need/shortage of provision	<p>Using data from Scottish Government housing statistical returns, the Census and Scottish Household surveys estimate the number of households without access to secure cycle storage.</p> <p>Conduct an online survey of local authorities to identify the following:</p> <ul style="list-style-type: none"> • Any existing or planned provision of residential cycle storage • Any evidence of local demand for residential cycle storage. • The level of awareness of the need for cycle storage e.g., in local planning policy and guidance, transport and housing strategies etc.... and any initiatives to provide or promote cycle storage facilities <p>Conduct an on-line survey of local authority housing services and RSLs to identify the following:</p> <ul style="list-style-type: none"> • Any existing or planned provision of residential cycling storage • Any evidence of local demand for residential cycling storage. 	<p>An estimate, based on property type (flats, tenements, high rise blocks) and tenure, of households who are likely to have no or limited access to secure cycle storage.</p> <p>Further quantification of need or demand.</p> <p>The level of awareness of the need for residential cycle storage amongst Scottish local authorities and RSLs is assessed.</p>

	<ul style="list-style-type: none"> The level of awareness of the need for cycle storage and any initiatives to provide or promote such facilities in existing housing stock or in new affordable housing developments. 	
3. Identifying barriers and solutions	<p>One to one interviews with a range of stakeholders to explore the barriers and solutions to residential cycle storage provision. Stakeholders include -</p> <ul style="list-style-type: none"> Local authorities (Planning, Transport and Housing), primarily urban and semi urban with a significant proportion of flatted and tenemental housing stock. RSLs particularly those Housing Associations with a significant proportion of flatted and tenemental stock. Cycling and active travel organisations (e.g., Sustrans, Spokes, Cycling UK) Cycle storage suppliers Residential housing developers and architects. 	<p>Identification of barriers to the provision of cycle storage in both existing and planned new residential housing.</p> <p>Issues and barriers that specifically affect social housing are identified.</p> <p>Identification of changes required to improve and increase access to cycle storage.</p>
4. Reporting	<p>Reporting outputs will include:</p> <ul style="list-style-type: none"> an estimate of households without access to secure residential cycle storage. an overview of provision in Scotland and comparison with residential cycle storage approaches elsewhere in the UK and in other countries. identification of barriers and challenges in providing cycle storage. recommendations to help overcome identified barriers and improve residential cycle storage provision 	<p>Report that meets the aims and objectives of the brief and is presented in a format that meets the requirements of Cycling Scotland.</p>

Desktop Research

Desktop research was undertaken mainly using on-line resources to understand the national policy context and map the policies that may have an impact on residential cycle storage

now and in the future. Desktop research was also used to review any previous research, although this was not a full literature review, and to identify successful approaches to cycle storage in the UK and in Europe and the policies that underpin them. The estimate of Scottish households potentially without access to suitable residential cycle storage was based on data from the 2011 census, Scottish Household Surveys, and Scottish Government statistics including those of the National Registers of Scotland and the Scottish Housing Regulator.

Surveys

Two on-line surveys were undertaken – one for local authorities only and the other for all Scottish Registered Social Landlords (RSLs - housing associations, housing co-operatives etc...) and local authority housing services.

Local Authority Survey - An invite to participate in an on-line survey was sent to active travel lead officers in all 32 Scottish councils using Cycling Scotland's mailing list. The purpose of the survey was to try and assess the level of awareness about the need for residential cycle storage and the extent to which local authorities were actively addressing the issue either through involvement in providing facilities or through planning and transport policies. It also asked respondents to identify any barriers to providing cycle storage and any solutions to help increase and improve provision.

Housing Survey – There are 155 RSLs³ and 32 local authority housing services. Of the 32 local authorities 26 are landlords of their own stock of council housing while 6, including Glasgow, have transferred their stock to housing associations but still retain a strategic responsibility for housing. These responsibilities include producing a Strategic Housing Investment Plan (SHIPs) which set out investment priorities for housing, particularly new affordable housing. Invitations to participate in the on-line survey were sent to as many RSLs and council housing authorities as possible via the membership mailing lists of the Scottish Federation of Housing Associations (SFHA), the Glasgow and West of Scotland Forum of Housing Associations (GWSF), the Association of Local Authority Chief Housing Officers (ALACHO) and the Scottish Housing Network's (SHN) Local Housing Strategy Forum. The questions in the survey aimed to find out if landlords had experienced any demand for cycle storage from tenants and residents of affordable housing, if they had provided or were planning to provide any cycle storage in their existing housing stock or in any new affordable housing developments. It also asked about barriers to cycle storage and potential solutions.

As some organisations could not access the online questionnaires both surveys gave the option to complete a Word version of the survey.

Interviews

Interviews were held with representatives of 21 different organisations (*see Appendix 1 – List of Interviewees*). These included Scottish housing associations, active and sustainable travel organisations, transport consultancies, architects and campaign groups from across the UK, architects, cycle storage suppliers, and transport, active travel and housing officers from Scottish local authorities. A mix of urban and semi-urban local authorities including those with large rural hinterlands were selected for interview with preference given to those where a minimum of 25% of all housing stock in the local authority area were flats. Similarly, RSLs were selected for interview in order to gain a broadly representative cross-section of the sector but with a preference given to those with a large proportion of flatted housing stock. Interviews lasted about 1 hour on average and broadly followed individual sector topic

³ [Scottish Housing Regulator- Stock Data All Social Landlords Dataset 2020-21](#)

guides whilst allowing flexibility to ask questions based on the interviewees experience and area of expertise.

Forming the Recommendations

Recommendations are based on the analysis of responses from the two surveys and the more in-depth interviews, and on examples of good practice and successful approaches to residential cycle storage provision identified during the course of the research.

Research into Residential Cycle Storage

Academic Research

A search on Google reveals that there is a profusion of academic research on different aspects of cycling but there is actually very little about residential cycle storage. A 2017 academic review of literature on cycle parking and its influence on cycling and travel behaviour⁴ found that the majority of studies focussed on the 'infrastructure necessary for the movement of bicycles – such as the impact of bike lanes and bike paths on cycling levels. By contrast bicycle parking had received little attention and even less for residential cycle parking which as the paper's authors observed is surprising given that bikes are parked the majority of the time and 'most commonly and for the longest duration parked at the residential location'. The review found a total of seven papers on residential cycle parking. The broad conclusions drawn from the review of cycle parking studies were that:

- high quality parking facilities (sheltered and secure) and convenient locations were, preferred by cyclists;
- bicycle parking 'appeared to be a determinant of cycling for current and potential cyclists' while a lack of parking or inadequate parking discouraged bicycle use;
- quality and convenience (ease of access and proximity) were associated with levels of bicycle use - more convenient and higher quality cycle parking facilities are associated with more bicycle use.

A 2008 piece of research carried out in Edinburgh into encouraging bicycle usage in residential neighbourhoods⁵ looked at the reasons behind the differing levels of cycling in neighbourhoods in the west of city. The research based on a survey of residents across four neighbourhoods identified that bike ownership was lower in neighbourhoods nearer to the city centre than those on the periphery of Edinburgh despite the city centre being the most frequent trip destination. The neighbourhood nearest the city centre, Dalry, has a high proportion of tenemental and flatted housing stock and lower levels of bike ownership despite the potential for shorter everyday trips to be made by bike, compared to Currie, a suburb on the outskirts of Edinburgh, where housing was predominantly detached. It also found that those respondents in Dalry who did own a bike were more likely to use it more frequently for daily trips than those in Currie. Among the conclusions reached by the research was that bicycle storage was problematic in areas of high-density housing with bicycle owning survey respondents in Dalry reporting that they kept their bikes in bedrooms, hallways, and chained to railings on common stairs whereas those in Currie stored bikes in a garage.

Other Research

There is also significant evidence from elsewhere on the effect that lack of access to residential cycle storage has on levels of cycling and bicycle ownership.

An on-line survey in 2012 by Life Cycle UK a charity that works to promote and encourage more cycling, found that of the 78 people who responded⁶:

⁴ [Bicycle parking](#): a systematic review of scientific literature on parking behaviour, parking preferences, and their influence on cycling and travel behaviour. E Heinen & R Buehler 2017

⁵ [Encouraging Bicycle Usage in Residential Neighbourhoods: Insights from Edinburgh](#). Dr Tim Ryley 2008

⁶ [Cycle Parking at Home](#) – Life Cycle UK 2012

- over half of respondents had nowhere dedicated to keep a bicycle where they lived
- one third said that accommodation restrictions had put them off owning a bike
- 60% had been put off renting accommodation due to lack of cycle storage
- One third reported that they or someone they knew had had a bike stolen from where they lived.

Much larger cycling surveys also reveal that storage is an important issue and that for a significant proportion of people, lack of suitable storage space is a barrier to owning and using a bike.

Cycling Scotland have commissioned longitudinal research into cycling - *Attitudes and Behaviours towards Cycling in Scotland*. There have been 3 waves of surveys using face to face interviews. the most recent being in 2021. The 2021 wave involved a sample of 1,029 people with quotas based on Scotland's demographic profile. Of all those interviewed:

- 38% had access to at least one adult bike
- 42% said having somewhere to store a bike was important as a motivation for using a bike
- 76% had somewhere convenient and safe to store a bike
- 20% said that they didn't have somewhere to store a bike mainly due to a lack of space.
- 31% rated lack of storage as either an important or very important factor in preventing them from cycling or using a bike more often for everyday journeys. ('Not practical', 'not feeling safe', 'the weather', and 'lack of cycling infrastructure' were the top four reasons preventing people from cycling.)

SUSTRANS **Bike Life** research programme is an on-going assessment of cycling in urban areas across the UK involving a demographically representative survey of residents in 17 city and other urban local authorities, including Edinburgh, Dundee and Inverness. The most recent Bike Life report that pulled together the 2019 survey results from all 17 areas showed that lack of cycle storage facilities either at home or at work was the fourth most frequent barrier to cycling given by survey respondents (21% of 16,923 respondents)⁷. Lack of bike storage was also the fourth most frequent barrier to cycling given by respondents in the individual Bike Life reports for Edinburgh⁸ (23% from a sample of 1,435 residents) and Dundee⁹ (22% from a sample of 1,339 residents).

Research by **Transport for London** (TfL), the strategic transport authority for London, found that 45% of households and 58% of Londoners do not have access to a bicycle and that the proportion of those without access to a bike was higher amongst those living in a flat and lowest amongst those living in a detached house¹⁰. Their research also found that over half of those surveyed were deterred from cycling due to a lack of cycle parking, while 25% of people who cycle, and 22% who don't are put off cycling, by fear of theft¹¹.

These findings are similar to those reported in a 2007 cycling survey carried out by New York City's Transportation Division¹². The survey found that a lack of cycle parking was the number two reason why people choose not to cycle and lack of safe secure places to park a

⁷ [Bike Life – Cities for People UK Report 2019](#)

⁸ [Bike Life - Edinburgh 2019](#)

⁹ [Bike Life – Dundee 2019](#)

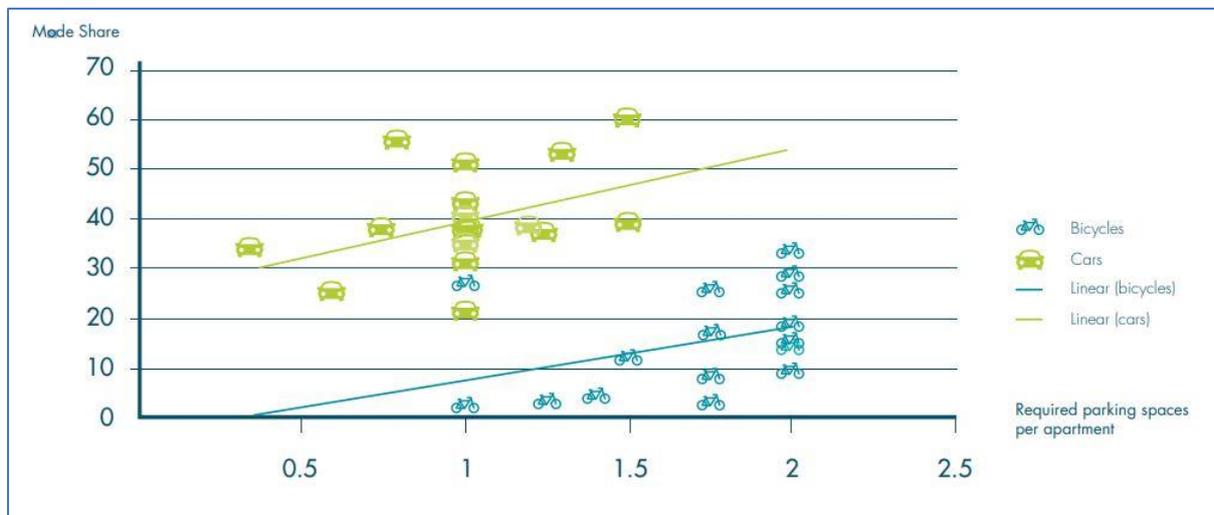
¹⁰ London Travel Demand Survey, 2015/16-2016/17

¹¹ Attitudes to Cycling, TfL, autumn 2017

¹² [New York City Bicycle Survey](#) – NYC Department of City Planning, Transportation Division

bicycle is a prime reason why current cyclists do not bicycle more and why non-cyclists do not start biking.

Conversely, whilst there is clear evidence that lack of secure cycle storage can be a disincentive to bike ownership and usage, there is also evidence that good levels of cycle parking correlate with increased levels of cycling. Research by the **European Cyclists Federation** (ECF) showed that cities with a higher cycle mode share of journeys tended to have a higher number of minimum bicycle parking spaces for residential apartment blocks¹³ (see *Appendix 2 – Correlation between parking spaces and modal share in European cities*).



Correlation between Bike and Car Residential Parking Spaces and Mode Share (Source: 'Making Buildings Fit for Sustainable Mobility' ECF 2018)

Conclusion

Research on residential cycle parking is limited and what there is mainly focuses on the impact that cycle parking has on attitudes and behaviour. What is clear from the available evidence is that the absence of cycle parking and badly designed and poorly located cycle parking has a negative impact on levels of cycling.

¹³ Kuster F. & Peters M. (2018) [Making Buildings Fit for Sustainable Mobility](#) – Comparing Regulations for Off-Street Bicycle and Car Parking in Europe – European Cycling Federation

How many households in Scotland are without access to residential cycle storage?

Estimating the number of properties without cycle storage.

One of the objectives of the research is to estimate the number of Scottish households without access to suitable residential cycle storage.

Suitable residential cycle storage can be defined as cycle storage that is:

- Covered - provides protection from the weather
- Secure – provides protection from theft and vandalism
- Safe – people do not feel vulnerable or at risk when using the facility
- Convenient – is located within the home or building or if it is an external facility it is located at or near the entrance.
- Accessible – can be easily accessed and does not require users to carry or lift bikes, navigate stairs or other obstacles.
- Inclusive – takes into account the differing needs of potential users.

For the purposes of trying to estimate how many households are likely not to have access to somewhere suitable to store their bicycle it is assumed that lack of cycle storage is an issue that predominantly affects people who live in flatted accommodation – that is high rise blocks, apartment blocks and tenements. Certain types of flatted accommodation such as cottage or four-in a -block apartments that have their own private garden ground where residents can have a shed or other enclosed storage unit for storing a bike. There are also certain house types such as terraces where private garden ground can only be reached through the house which can make access with a bike problematic, but these are difficult to both identify and quantify with any degree of accuracy.

According to the 2011 Census the population of Scotland was 5.1 million comprising of 2.37 million households, 864,225, or 36%, of whom lived in some form of flatted accommodation (just over 1.5m people)¹⁴. The proportion of households living in flatted accommodation varied according to tenure with 61% of households in the private rented sector living in a flat compared to 22% of owner-occupiers – see Table 1 below.

Table 1: % and number of households living in flats by tenure – based on 2011 Census

N= 2.37m	Tenure as a % of all households	% Living in flats	No. living in flats
% Social Rented	24%	59%	338,619
% Private Rented	14%	61%	198,221
% Owner Occupied	62%	22%	328,712
	Totals	36%	865,552

¹⁴ Based on the Census dwelling category 'Unshared dwelling: Flat, maisonette or apartment'

More recent figures on households, tenure and property or dwelling type are available although they are not directly comparable to the census data. The most recent figures from the National Records of Scotland (NRS) estimates that in 2020 there were 2.51 million households in Scotland¹⁵, an increase of 6% since 2010. This increase is due in part to a growth in population but also due to a rise in the number of smaller and single-person households. It is estimated that nearly a third (900,000) of households are single-person households.

The NRS data doesn't provide a breakdown of type of households by dwelling type, but the annual Scottish Household Survey (SHS) does. The most recent published SHS was for the year 2020 but due to Covid restrictions the sample size was smaller than in previous years and skewed towards more towards owner-occupiers. Due to the limitations of the 2020 SHS the 2019 SHS has been used to provide a more up to date estimate of the number of households living in flatted accommodation.

In 2019 the NRS estimated that there were 2,495,623 households in Scotland¹⁶ and according to the SHS for the same year 34% of households were living in flatted accommodation¹⁷. This would give a figure of 848,511 households living in flats which again using SHS data has been used to give a profile of households in flats by tenure in the table below.

Table 2 – Households living in flatted accommodation by tenure 2019

<i>Total H/holds = 2.495m</i>	H/holds by tenure		H/holds living in flats by tenure	
Tenure*	% (SHS)	Number	% (SHS)	Number
Owner-occupied	62%	1,546,900	19%	293,911
Social Rent	24%	598,000	54%	322,920
Private Rent	14%	349,000	64%	223,360
Totals		2,493,900		840,191

*SHS tenure classifications

On the basis of the 2019 data there appears to have been a reduction in the number of households living in flatted accommodation compared to 2011 although the figures are from different sources and so are not directly comparable. There also differences in the figures used in the 2019 SHS Annual Report and those in the associated SHS Excel Tables, possibly as a result of rounding up or down of both numbers and percentages. However, on the basis of both 2011 census data and 2019 SHS data it can be reasonably concluded that somewhere between 840,000 (33%) and 865,000 (34%) or over a third of all Scottish households live in flatted accommodation. This is supported by other Scottish Government data on dwelling type taken from the Assessors Portal which was last published in 2017. This showed that there were 2.6 million dwellings in Scotland, both occupied and vacant, of which 980,290 or 37% were flats.¹⁸

Differences in access to cycle storage by tenure

The figures also show that households in social housing and private rented accommodation are more likely to be living in a flat compared to owner-occupiers. Within the social rented sector there are differences between housing associations and local authorities with 54% of

¹⁵ National Records of Scotland – [Estimates of Households and Dwellings in Scotland 2020](#)

¹⁶ National Records of Scotland – [Estimates of Households and Dwellings in Scotland 2019](#)

¹⁷ Scottish Household Survey – [Annual Report 2019 Excel Tables](#)

¹⁸ statistics.gov.scot/housing/dwelling-by-type-2017

housing association homes being flats compared to 49% of local authority homes. In fact, the difference in type of dwelling in the social housing sector is probably greater than that reported by the Scottish Household Survey. The Scottish Housing Regulator (SHR) who regulates all RSLs and local housing authorities, collects detailed housing stock data annually from all social housing landlords. Stock data for 2020/21 showed that of 292,580 housing association dwellings 66% were flats compared to 54% of the 318,192 council houses.

The SHR data also provides a more detailed breakdown of different types of flats thereby enabling a more accurate estimate of those where residents are more likely to have difficulties accessing residential bike storage (see Table 3 below).

Table 3. Social rented flatted stock by type – 2020/21

	High Rise	Tenement	Flat - other/Maisonette	4-in a-block
Number	40,202	170,527	69,877	85,248
Flats as % of all stock	7%	28%	11%	14%

As discussed earlier, residents of four-in a-block properties are more likely to be able to have somewhere to store a bike other than inside their home, as these types of properties tend to have their own private garden ground. On this analysis 280,606 or 46% of social housing properties are unlikely to have somewhere suitable to store a bike.

As well as being more likely to live in a property that has no access to residential cycle storage compared to owner-occupiers, residents of social housing are less likely to own a car and therefore more likely to benefit from bike ownership especially as 77% of social housing residents live in urban areas where the potential to use a bicycle for short everyday journeys to work, school, shops and services is greater. According to the 2019 SHS, 56% of households living in social housing do not own a car compared to 13% amongst owner-occupiers they are also more likely to live in the 20% most deprived areas (77%) and have a household income of less £20,000 or less (60%) than households in other tenures – see table 4 below.

Table 4. Comparison of SHS Housing Characteristics by Tenure

Indicator (SHS)	Owner-Occupied	Private Rented	Social Rented
% H/holds in flatted dwelling	19	64	54
% H/holds without a car	13	44	56
% H/holds in urban areas	68	78	77
% H/holds in 20% most deprived areas	12	17	47
%H/holds with income of £20,000 or less	28	28	60

Cycle storage capacity should take account not just of the number of households but of the size of households as there may be more than one person in a household who has a bike or wishes to use a bike. Combining data from the 2011 census to profile households living in flats by household size and size of accommodation and updating it using data from the 2020 household survey on population and number of households it is possible to estimate the number of people living in flats. On this basis there are 405,201 households comprised of

two people or more who potentially require storage for more than one bicycle (see Table 5 below)

Table 5. Household size by tenure

Tenure	2020	No. of Households by Size				
	No. of Households	1 Person	2 Persons	3 Persons	4 Persons	5+ Persons
Social Rented	275,816*	160,563	65,407	29,007	14,222	6,618
Private Rented	209,685	93,000	75,479	25,683	10,838	4,683
Owner-occupied	347,722	174,459	112,765	36,382	18,217	5,899
All Tenures	833,222	428,022	253,651	91,072	43,277	17,201

*Excludes 4-in a-block properties

The prevalence of flatted accommodation isn't uniform across Scotland. High-density housing such as apartment blocks and tenements are more a feature of urban areas, particularly cities. Glasgow and Edinburgh have the highest prevalence of flats in their housing stock (all tenures) at 73% and 68% respectively followed by Aberdeen with 55% (see Table 6 below). In fact, of the 32 local authority areas only 10 of them have stock where flats comprise less than a quarter of all dwellings (see *Appendix 3 – Flats as a percentage of total housing stock by local authority*).

Table 6. Top 5 Council Areas by % of Flatted Housing Stock

LA Area	No. flats	% of all stock
Glasgow City	225,204	72.6
City of Edinburgh	168,500	67.8
Aberdeen City	64,514	55
West Dunbartonshire	23,074	51.2
Dundee City	37,594	50.5

Conclusion

It is difficult to estimate the number of households who do not have anywhere suitable to safely and securely store a bike as data about what properties have cycle storage does not exist. Instead, assumptions have to be made about what types of properties are least likely to have bike storage facilities or the potential to have somewhere to store a bike i.e. a garage or private garden ground. On that criteria flats, particularly tenements, high-rises and apartment blocks, can provide a reasonable basis for estimating households without access to bike storage. In Scotland over one-third of households live in accommodation where there is a high likelihood that they do not have anywhere to keep a bicycle other than in a close or stairwell or within their home.

Further analysis also shows that lack of access to bicycle storage impacts more on households in urban areas where the potential for everyday bike journeys is greatest particularly those households in the private rented and social housing sectors where the prevalence of flatted housing stock is significantly higher. Lack of access to residential cycle parking is more likely to affect those without a car and who are the most economically disadvantaged.

Finally, a simple count of households living in flats does not give a full approximation of the shortage of cycle parking spaces. While there has been a growth of single person households in recent years, nearly two thirds of Scottish households have two or more people each of whom are potential bicycle users. That means if, Scottish Government targets for significant reductions in car usage and increases in journeys by active travel, including cycling, are to be realised then cycle parking provision needs to increase significantly so that bicycle ownership and usage becomes a realistic option for everyone.

Policy Context

National Outcomes

In Scotland, planning, transport and housing are all areas where policy and legislation are devolved to the Scottish Government and Scottish Parliament. The Scottish Government has developed the National Performance Framework that overarches all devolved policy areas the purpose of which is to:

- create a more successful country
- give opportunities to all people living in Scotland
- increase the wellbeing of people living in Scotland
- create sustainable and inclusive growth
- reduce inequalities and give equal importance to economic, environmental and social progress.

To help achieve this purpose the Framework has eleven National Outcomes several of which could be said to have a direct or indirect relevance to the issue of residential cycle storage but the most pertinent are that people:

- value, enjoy, protect and enhance their environment;
- are healthy and active.

Progress in meeting the National Outcomes is measured using an extensive set of National Indicators. The two indicators that are perhaps most relevant concern physical activity and journeys made by active travel.

Physical Activity – *the percentage of adults meeting physical activity recommendations.* (Current guidance recommends that adults should be moderately active for 150 minutes per week.)

Based on 2019 data¹⁹ (the most recent currently available) 66% of adults meet the recommended level for physical activity, the same as in 2018. However, the indicator also shows disparity between areas based on levels of deprivation with 74% of adults in the least deprived areas meeting physical activity recommendations, compared with 54% of adults in the most deprived areas.

Journeys by active travel - *The proportion of short journeys less than 2 miles that are made by walking and the proportion of journeys under 5 miles made by cycling.*

Again, based on 2019 data, only 1.7% of journeys under 5 miles were made by bike (a 0.1% decrease compared to 2018) 47.6% of journeys under 2 miles were made on foot (a 4.6% increase from 2018). According to this indicator, short journeys by bicycle have been consistently at this level since 2012 as the graph below demonstrates. As with the physical health indicator there is a disparity between areas based on levels of deprivation with cycling used more often as a means of transport by households with an annual income of £50,000 where 7% cycle at least once a month compared to those with an income below £10,000 where only 2% cycle at least once a month²⁰.

¹⁹ <https://nationalperformance.gov.scot/measuring-progress/national-indicator-performance>

²⁰ [Scottish Government Equality Evidence Finder](#) – Transport & Travel



Source: National Planning Framework – National Indicator Performance

Planning

Planning policy at both national and local levels has a highly significant influence on the provision on all forms of cycle parking including residential cycle parking. Planning policy not only determines land uses but also the content and design of all types of development and what changes can or can't be made to individual properties.

National Planning Policy

The **Scottish Planning Policy** (SPP) sets out the Scottish Government's priorities for the planning system, and for the development and use of land, and as such is relevant to the preparation of local development plans, the design of development and decisions on planning applications and appeals.

The current SPP states in the section on 'Policy Principles' that the planning system should 'provide safe and convenient opportunities for walking and cycling for both active travel and recreation'. In the chapter on 'Connected Places' it states that development plans should 'promote opportunities for travel by more sustainable modes in the following order of priority: walking, cycling, public transport, cars.' and buildings should be accessible by foot and bicycle while 'cycle parking and storage should be safeguarded and enhanced wherever possible'.

The SPP sits alongside a number of other Scottish Government policy documents including the National Planning Framework and Designing Streets. The current National Planning Framework 3 (NPF3) issued in 2014 is a long-term spatial strategy for Scotland, and the Scottish Government's plans for development and investment in infrastructure. Local authorities are required to reflect national planning policy as expressed in the SPP and the National Planning Framework in their own Local Development Plans and planning policies.

Although NPF3 states that it is the 'spatial expression of the Government Economic Strategy it includes statements that promote and support active travel:

'Our vision is for pedestrian and cyclist friendly settlements and neighbourhoods support the vision in the Cycling Action Plan for Scotland.... A planned approach will be essential if we are to achieve our vision for 10% of all journeys by cycle safely and effectively.'

and

‘Our long-term ambition is a largely decarbonised transport sector in Scotland, and advances will bring about a revolution in the way we travel.... Planning will have a role to play in modernising our infrastructure and supporting this change.’

A new **National Planning Framework (Scotland 2045)**, - NPF4 – is, at the time of writing, proceeding through the Scottish Parliament following an extensive public consultation. NPF4 arguably has broader scope than its predecessor as it aims to ‘play a key role ... in addressing the climate and ecological emergency’. Sustainable travel including cycling, wheeling and walking all feature prominently throughout the document. The chapter on National Developments²¹ proposes a National Cycling, Walking and Wheeling Network to facilitate ‘the shift from vehicles to walking, cycling and wheeling for everyday journeys contributing to reducing greenhouse gas emissions from transport and is highly beneficial for health and wellbeing’.

The introduction to Part 3 of NPF4, ‘National Planning Policy’, starts off with a universal policy for Sustainable Places with an opening paragraph that states ‘to achieve a net zero, nature positive Scotland we must rebalance our planning system so that climate change and nature recovery are the primary guiding principles in all our plans and in all our decisions’. A place-based approach – that is a collaborative approach between stakeholders and local communities is required to ‘create liveable, healthier and sustainable places that improves lives and contributes to net zero and environmental ambitions. Development proposals ‘should be able to demonstrate how the six qualities of successful places have been incorporated into the design of the development’ including being **Well connected and easy to move around**. This quality is described as:

Maximising connectivity (including digital), easy to move around and reducing car dependency – by designing places for everyone for walking and wheeling, providing for active travel, step free transitions between public and private spaces, simple transitions from one form of transport to another and good public transport routes.

NPF4 also gives prominence to the concept of ‘**20 minutes neighbourhoods**’. These are neighbourhoods designed in such a way that people can meet the majority of their daily needs within a reasonable walk, wheel or cycle (within 800m) of their home’ and are being promoted as a means of ‘reducing the need to use unsustainable modes of transport’ and prioritising quality of life, reducing inequalities, and increasing health and well-being.

The proposed policy on Sustainable Travel and Transport states that the planning system should support development that ‘prioritises, walking, wheeling and cycling’ Specifically on cycle parking it requires that:

‘Development proposals should consider the need to supply safe and convenient cycle parking to serve the development, sheltered where possible, unless it can be demonstrated that existing nearby provision is sufficient. Cycle parking should, be more conveniently located than car parking serving the development. Flatted residential development should give consideration to the need to provide secure and convenient storage for a range of cycle types and sizes, depending on the type, location and accessibility of the development and the likely needs of the users.’

Designing Streets, published in 2010 is the Scottish Government’s policy statement on street design and together with *Designing Places* constitutes national planning policy on design and place making. *Designing Streets* is required to be either adopted by all Scottish local

²¹ National Developments are defined in the document as ‘significant developments of national importance that will help to deliver our spatial strategy’.

authorities or used as the ‘basis for local and site-specific policy and guidance’. The document refers to a street design hierarchy in which street structure sits at the top and pedestrians and cyclists should be considered before cars. In the chapter on integrated parking it states:

“Providing enough convenient and secure cycle parking at homes and other locations for both residents and visitors is critical to increasing the use of cycles. In residential developments, designers should aim to make access to cycle storage at least as convenient as access to car parking.”

- It does not give detailed design guidance but does refer to six key principles which apply to cycle parking in general. It does refer to the Department for Transport’s 2008 guidance on *Cycle infrastructure Design* (LTN2/08), for further detailed guidance although this will have been superseded by Transport Scotland’s own *Cycling by Design* guidance.
- *Cycling by Design* was originally published by Transport Scotland in 2010 and subsequently revised, updated and reissued in 2021. It provides detailed design guidance on cycle infrastructure, including parking, with the aim of ensuring ‘that cycling is a practical and attractive choice for the everyday and occasional journeys of all people’. It advises that long stay cycle parking that is ‘well-located, covered and secure’ should be provided in residential areas preferably internal to the building with access via a secure entrance that is well lit and overlooked’. Where internal cycle parking can’t be provided it advises that ‘the Planning Authority should consider a financial contribution to assist the developer or building owner in providing more long stay cycle parking, for example, cycle hangars conveniently located on the street’.
- *Cycling by Design* doesn’t suggest minimum requirements for the number of cycle parking spaces that should be provided but advises that designers should provide at least the minimum number specified in local planning policy.

Local Planning Policy

National planning policy feeds into local delivery primarily through **Local Development Plans** (LDPs). All 32 Scottish local authorities as well as the two national park authorities are required to produce development plans. LDPs are spatial plans that set out how land within the local authority area is to be used by identifying sites for housing and other developments as well as sites that should be protected and how any new or improved facilities and infrastructure will be provided. It should also address any shortfalls in affordable housing through an affordable housing policy which should include details of where developers are required to provide affordable housing as part of their overall development. Many local authorities will require developments over a certain size to have 25% affordable housing. These affordable housing obligations are often referred to as Section 75 agreements and usually involve either part of development site being handed over to an RSL to develop or alternatively a turnkey type of arrangement where completed houses are transferred by the developer to an RSL to own and manage.

LDPs should reflect the Scottish Governments planning priorities and objectives as articulated in the National Planning Framework and Scottish Planning Policy. LDPs are required to be reviewed and updated every five years, a process which is subject to extensive public consultation and Scottish Government oversight.

LDPs provide an overarching policy framework for decisions by local authorities on planning applications. Supplementary guidance provides more detail on the policies and proposals

within the LDP and can include detailed design guidance. Supplementary guidance has to be approved by Scottish Ministers after which it can be considered as adopted guidance thereby giving it a similar statutory weight as the LDP. Requirements on the provision of residential cycle parking will often be covered in supplementary guidance although the level of detail provided varies between different local authorities (*see Appendix 4 – Sample of local authority Planning Policy Cycle Parking Requirements*)

Local authorities can also produce non-statutory planning guidance which does not require ministerial approval and can cover matters not included in the LDP or new or emerging issues. Although it is not part of the development plan and is non-statutory it does have some authority and ‘may be a material consideration in decision making’.²²

Not all developments require planning consent from the local planning authority. Certain developments which are considered minor or non-contentious such as small alterations or extensions can be considered as permitted developments and therefore do not require a planning application. The Scottish Government recently revised householder **permitted development rights (PDR)** to include the erection of sheds for bike storage within the front and rear curtilages of a building, subject to certain restrictions, and of bike stores in the rear curtilage of tenements.

Transport

Transport Scotland

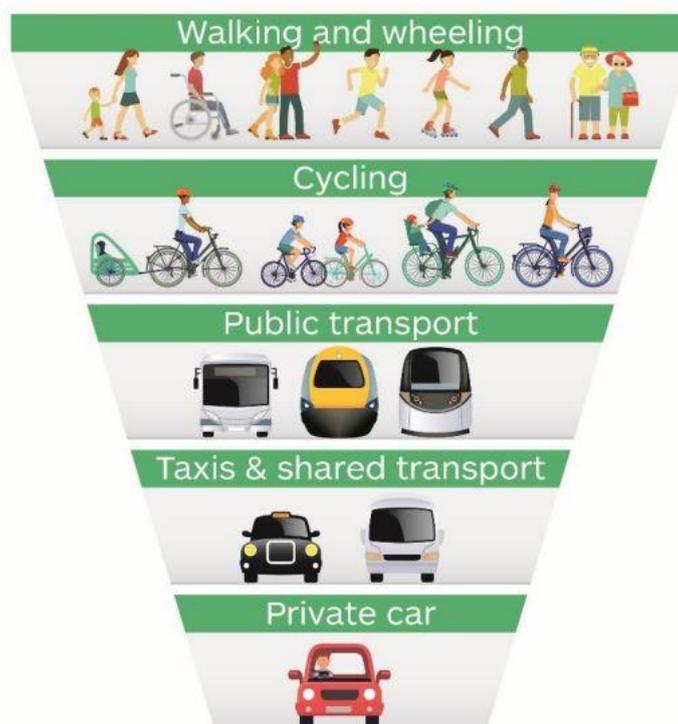
Transport Scotland, a national transport agency for Scotland, published the National Transport Strategy 2 (NTS2) in 2020. The aim or vision of the strategy is to ‘have a sustainable, safe and accessible transport system’ that will help ‘deliver a healthier, fairer and more prosperous Scotland...’. This is underpinned by four objectives with their own related outcomes. The four objectives are:

- Reducing inequalities
- Taking climate action
- Helping deliver inclusive economic growth
- Improving health and well-being

NTS2 outlines the policies that will be implemented to deliver these objectives all of which sit underneath an overarching Sustainable Travel Hierarchy (see image below). The Sustainable Travel Hierarchy seeks to embed in decision making the promotion of walking, wheeling and cycling over single occupancy private car use.

²² [Planning Circular 6/2013: development planning](#) Section 148

Prioritising Sustainable Transport



(Source: Transport Scotland – National Transport Strategy 2)

The measures to support active travel choices are outlined under the improving health and well-being objective although they are high-level and do not go into specifics. The strategy describes how embedding the Sustainable Travel Hierarchy will result in a transport system that will be ‘designed with sufficient walking and cycling options to help us become a healthier, more active and fitter nation’. It also states that a ‘collaborative approach will be encouraged to ensure all partners work together to make walking and cycling the most popular and preferred mode of travel... for short journeys’ before going on to discuss the role of planning and the creation of a planning system that will ‘discourage people from owning and using cars.’

More detail about specific measures to bring about the changes outlined NTS2 are contained in the **National Transport Strategy Delivery Plan (2020-22)**. These measures are mainly various funding commitments for active travel infrastructure and programmes for encouraging behavioural change, but it also includes a commitment to review and update *Cycling by Design by 2021*.

Transport Scotland have also produced an **Active Travel Framework** that has as its vision ‘a Scotland where walking and cycling are the most popular choice for the shorter every day journey’ and that this is a ‘realistic option for all local journeys as individuals’.

The Framework aims to deliver the following outcomes:

- Increase the number of people choosing walking, cycling and wheeling
- High quality walking, cycling and wheeling infrastructure is available to all
- Walking, cycling and wheeling is safer for all
- Walking, cycling and wheeling is available to all

- Delivery of walking, cycling and wheeling is promoted and supported by a range of partners.

The Framework acknowledges that in order for active travel to be available for all consideration needs to be given not just to infrastructure but also to facilities such as bike storage, and that factors such as gender, age, health status, disability, and socio-economic circumstances all influence levels of cycling and walking and therefore need to be taken into account. The Framework also contains a range of key indicators to measure progress towards achieving the active travel outcomes. For the purposes of this research the 'Household access to a bike' indicator is perhaps the most relevant as bike security and storage along with cost are recognised as factors that impact on ownership of a bicycle. The indicator which uses data from the annual Scottish Household Survey can also be broken down to according to income and deprivation levels. According to the most recent data for this indicator from 2019, 66.5% of households did not have access to a bike. It also showed that there are significant disparities in bicycle ownership based on income and deprivation (see Table 6 below).

Table 6. Bike ownership by income and SIMD deciles SHS 2019

Household Income	% h'holds without access to a bike	Scottish Index of Multiple Deprivation (Quintile)	% h'holds without access to a bike
Up to £10,000 p.a.	81	1 – most deprived	79
£10,000-£15,000	82	2 - most deprived	73
£40,000-£50,000	52	4 - least deprived	57
Over £50,000	38	5 – least deprived	55

Transport Scotland works with a number of Active Travel Delivery Partners as well as local authorities to deliver its active travel outcomes. Active Travel Delivery Partners include:

- Sustrans Scotland
- Cycling Scotland
- Cycling UK
- Living Streets
- Paths for All

Local Transport Policy

Transport Scotland sets overall transport strategy and reports to Scottish Ministers, much of the delivery lies with local authorities and to a lesser extent Regional Transport Partnerships. Local authorities set out their approaches to transport through Local Transport Strategies. These strategies set out policies and objectives for how local transport needs will be met in the light of national priorities and outcomes. This means that local strategies should also reflect the Scottish Government's environmental targets for reducing car usage and promoting and investing in active travel. Local transport strategies will often have other supporting documents that provide more detail on how specific transport policy objectives will be met such as active or sustainable travel action plans.

Housing

The final significant policy area that impacts on residential cycle storage provision is housing. The Scottish Government published *Housing to 2040* its first long-term strategy for housing. The focus of *Housing to 2040* is affordable housing and the delivery of an additional 100,000 affordable homes. However, it is also concerned with quality as well as

the quantity and makes frequent reference to the proposed new National Planning Framework (NPF4) and the concepts contained within it such as place-making and ‘20-minute neighbourhoods’. As part of this shift in how housing and places are designed it proposes the establishment of the **Place Based Investment Programme** which will provide £325m investment over five years (from 2021).

The strategy also proposes establishing a new **Housing Standard** that will apply to all tenures and address not only issues of disrepair but also minimum space standards and ‘future proofing of homes for our future population’. It commits to publishing a draft housing standard by 2023 and introducing legislation in 2024/25.

Local Housing Policy

Local authorities are also strategic housing authorities and are obliged to undertake a housing needs and demand analysis (HNDA). The HNDA provides an evidence base for understanding existing and future housing requirements and informs both the Local Development Plan and the Local Housing Strategy (LHS). A LHS is also a statutory requirement and sets out how the local authority will, with partner organisations, meet local housing need. The LHS in turn feeds into Social Housing Investment Plans (SHIP), a rolling five-year plan setting out priorities for investment in affordable housing by both the Council and local RSLs. SHIPs will also identify specific sites and the mechanisms for delivery such as those that will be provided through Section 75 agreements and those that will be developed directly by the Council or an RSL.

SHIPs are used as the basis for bids for affordable housing grant which subsidises the cost of constructing new affordable housing²³. The balance of construction costs are met by loans, (some organisations will also use money from their own reserves) with loan repayments being met from rental income. With the exception of Glasgow and Edinburgh who have been given responsibility for the administration of affordable housing funding in their areas, councils and RSLs apply to the Scottish Government for affordable housing grant on the basis of the minimum amount of subsidy required for the houses to be affordable and for the scheme to be financially viable. The grant requested is then compared to the affordable housing investment benchmark. Schemes where the grant requested is at or below the benchmark are usually approved while those in excess are subject to further value for money assessment. Recently the affordable housing investment benchmark has been reviewed and now includes additional ‘quality’ benchmarks (*see Appendix 5 – Affordable Housing Investment Benchmarks – Additional Quality Measures*) for additional items such as enhanced energy efficiency, ducting for electric vehicle charging points and balconies within flatted developments where private or communal outdoor space cannot be provided.

Conclusion

Residential cycle storage although only referred to briefly in the National Planning Framework lies in the interstices of three major policy areas – Planning, Transport and Housing. Major shifts in national policy in all these areas most notably with National Planning Framework 4 and Housing to 2040 present real opportunities to raise the profile of the need for good quality residential cycle storage and to influence future provision. The Scottish Government priority of tackling the global climate emergency and its ambitious target for reducing car kilometres by 20% has given increasing prominence to cycling as part of a modal shift from private car usage to more sustainable forms of travel in all three policy

²³ Affordable housing includes housing for social rent, mid-market rent and low-cost homeownership.

areas. This means that more consideration needs to be given to the fundamental, practical issues of bicycle ownership and usage including having somewhere safe and secure to park a bike in or near where you live. As Transport for London stated in evidence they gave on cycle parking as part of the development of the London Plan “Having the ability to securely park cycles at home is essential to enabling ownership and thus more Londoners cycling”²⁴. The same applies to Scotland if the aspirations for active travel articulated in NPF4, Housing to 2040 and the National Transport Strategy 2 are to be realised.

There is a potential to influence policy delivery particularly through the planned consultation on the proposed Housing Standard. Access to good quality bicycle storage could be one of the measures to be included in national housing standard. Similarly, there is a potential for cycle parking to be included as one of the additional quality measures the next time the affordable housing investment benchmark is reviewed. This would assist RSLs include cycle storage in new affordable housing developments. Encouraging both the Scottish Government and local authorities to be more explicit and unambiguous about what constitutes acceptable residential cycle parking both in terms of quantity and quality would help ensure a more consistent approach to provision in new residential developments.

²⁴ [TfL Cycle Parking – Part of the London Plan evidence base December 2017](#)

Residential Cycle Parking Policy – Examples of Best Practice in Europe and the UK

Europe

In 2018, while the UK was still technically in the European Union, the European Cyclists Federation (ECF) published a report²⁵ comparing how well member states implemented the European Commission's Energy Performance of Buildings Directive (EPBD) which required 'coherent policies for buildings, soft and green mobility and urban planning'²⁶. The report assessed compliance by comparing building legislation and regulations on off-street bicycle parking and car parking in member states i.e. minimum cycle parking requirements and maximum limits on car parking. Each member state was rated using the four categories in the table below:

	OFF-STREET BICYCLE PARKING	OFF-STREET CAR PARKING
Excellent	Minimum requirements are incorporated in national/regional legislation.	Maximum limits to the amounts of off-street parking provided are incorporated in national/regional legislation.
Good	National/regional framework legislation is in place requiring the local level to develop and implement specific standards.	Neither regulations nor guidelines at national/regional level; non-binding guidelines may exist.
Sufficient	Only non-binding guidelines have been developed at national/regional level. The local level is free to implement or not.	National/regional regulations require minimum amounts of parking; local authorities can deviate, e.g. through mobility management measures.
Insufficient	Neither any national/regional regulations nor guidelines are in place.	National/regional regulations require strict minimum amounts of parking.

The ECF assessment put the UK in the red category – 'insufficient'. France was the only country in the study that was rated as being 'Excellent' on both bicycle parking and car parking although levels of cycling are relatively low with only 5% of the population cycling on a daily basis²⁷. For the UK and other countries in the red, the ECF recommended that in order to turn blue (Good) they should 'adopt a legally binding framework at national level requiring local authorities to adopt specific parking regulations' and in areas where 'cycling was underdeveloped, legally binding minimum cycle parking requirements should be introduced'. The Netherlands and Denmark the countries with the highest levels of daily or short journeys by bicycle in Europe, 27%²⁸ and 26%²⁹ respectively, were assessed as

²⁵Kuster F & Peters M (2018) * ['Making Buildings Suitable for Sustainable Mobility – Comparing Regulations for Off-street Bicycle and Car Parking Regulations'](#) European Cycling Federation

²⁶ Article 8.8 - Energy Performance of Buildings Directive (EU 2018/844)

²⁷ [Usage of bikes as a means of transportation in France 2018](#) – Statista Research Department

²⁸ [Cycling Facts 2018](#) – Netherlands Institute for Transport Policy Analysis

²⁹ [Cycling Facts & Figures](#) – Cycling Embassy of Denmark

‘Good, rather than ‘Excellent’ because although they have national legislation or regulations that require local authorities to regulate cycle storage, they do not specify a minimum number of spaces.

(*Note: In 2021 the European Commission strengthened the EPBD by including a requirement for a minimum of two cycle parking spaces for every dwelling both in new residential developments and in residential buildings undergoing major developments.*)

Cycle Storage in the Netherlands

The Netherlands have had building regulations stipulating the provision of residential cycle parking in new homes since 1950, initially as local municipal regulations and then from 1992 as national regulations. Dutch building regulations detail specific requirements about the size, location and weather resistance for bike storage but in 2003 these requirements were removed which led to a reduction in the level and quality of cycle parking provision. Cycle parking requirements were reinstated into national building regulations in 2012 (see *Appendix 6 – Dutch building regulations for residential cycle parking*) following lobbying by cycling organisations. Although the regulations do not specify a minimum number of spaces, they do specify the dimensions that according to the Dutch Cycling Embassy are usually sufficient to accommodate three bicycles. Many newer Dutch houses now have internal cycle storage space as the images below illustrate.



Bicycle parking storage in a modern development in The Netherlands. The two doors in the middle open into bike storage rooms. Dutch building regulations require that residential cycle storage provides direct access on to a public road. The image below shows the internal layout.



In older pre-1950 properties that don't have dedicated cycle storage facilities residents can erect bicycle sheds in their garden, if they have one, without applying for a building permit.

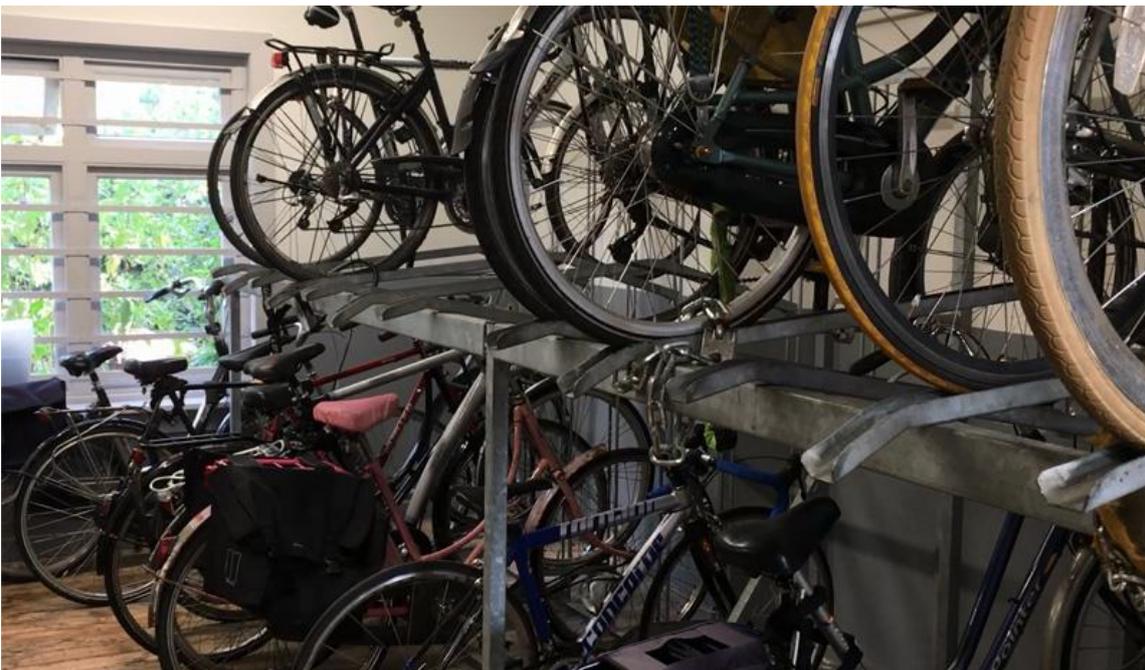
In older neighbourhoods where properties don't have garden ground rows of bikes parked out in the open, albeit it in cycle racks, is still a common site.



However, there is increasingly a range of options for communal secure covered cycle storage that can be found in these areas of older housing. In cities such as Utrecht and Amsterdam neighbourhood parking facilities sometimes known as 'fietsenstallingen' or 'buurtstallingen' are being developed by the city authorities. These are often located in empty buildings such as former shops and provide secure cycle parking for local residents for an annual charge of approximately 40 Euros.



Front of a neighbourhood cycle storage facility in Utrecht.



Limited space inside may mean use of two-tier cycle racks

Utrecht which incidentally has the highest percentage of trips made by bike amongst all Dutch cities, has 36 such facilities in older neighbourhoods providing 1,879 parking spaces.

On-street lockable cycle hangars are also becoming an increasingly popular storage solution while the Hague has been trialling automated bicycle carousels (see photo below). An evaluation of the carousel³⁰ found that there were high levels of satisfaction with the

³⁰ [M. Lelieveld, P. van der Zwet, and K. van Ommeren \(2020\)- Evaluation Vruchtenbuurt Bicycle Carousel](#) – Blog article on Dutch Cycling Embassy website

carousel amongst both user and non-user residents, with users reporting that they cycled more often or had bought a new bike since the carousel was introduced. However, capital costs were significant and had not been recouped even with full occupancy.



United Kingdom

Based on research into cycle parking policy and initiatives in Scotland and the UK and on interviews with Cycling UK (a membership based cycling service and campaigning organisation) Transport Initiatives(a transport planning consultancy specialising in sustainable transport particularly cycling), London, Cambridge, Edinburgh and Glasgow were identified as areas that provided examples of good practice in residential cycle storage policy and delivery.

London

Cycle parking policy in London is effectively split between the Mayor of London who has responsibility for transport in the capital, Transport for London (TfL) the integrated transport authority responsible for delivering the Mayors strategy and objectives, and the 33 London boroughs responsible for local planning, housing and roads.

The **London Plan 2021** the spatial development strategy for the city, includes a policy on cycling that requires development proposals to include appropriate levels of cycle parking which should be 'fit for purpose, secure and well-located' with a design and layout that complies with the *London Cycling Design Standards*, and caters for larger bikes and adapted bikes for disabled people. It also includes the following minimum cycle parking standards for residential developments³¹:

- 1 space per studio or 1 person 1 bedroom dwelling
- 1.5 spaces per 2 person 1 bedroom dwelling
- 2 spaces per all other dwellings.

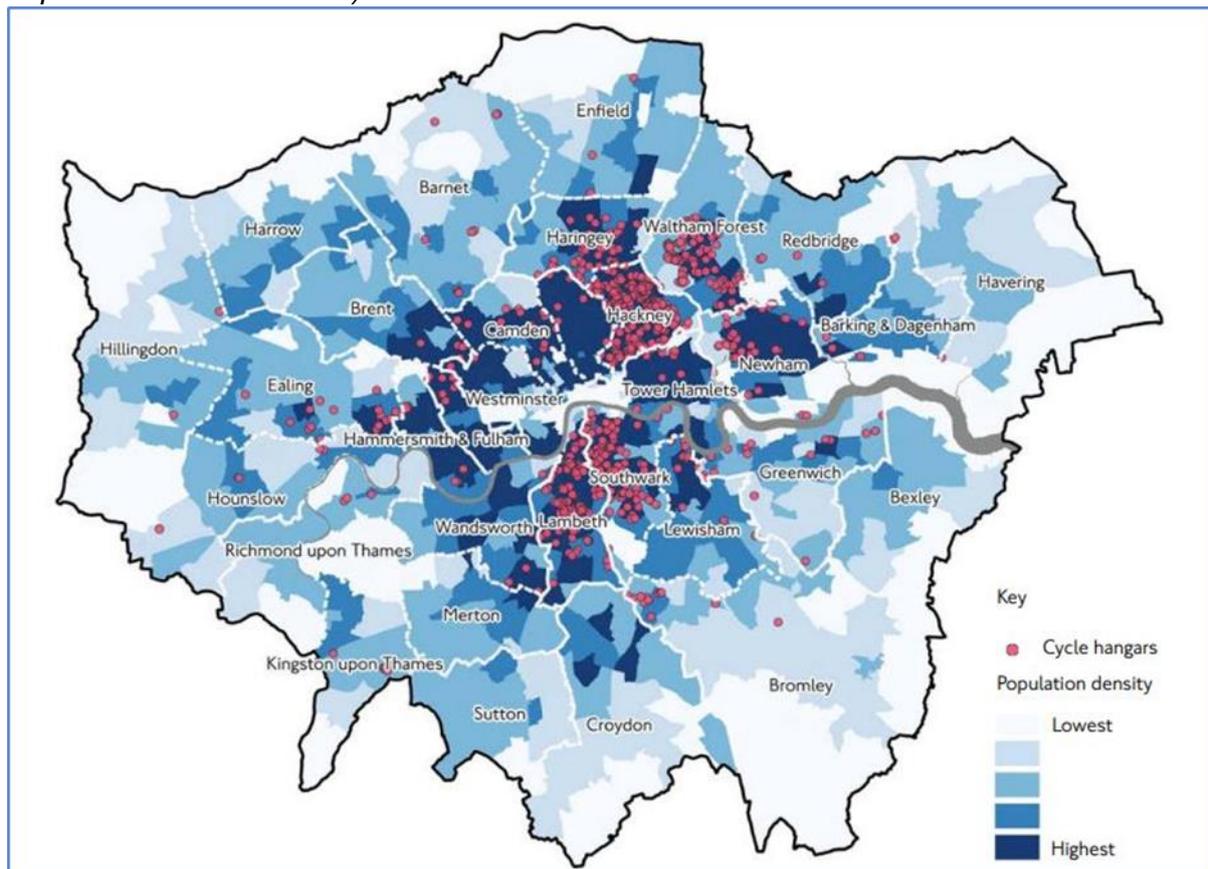
The **London Cycling Design Standards**, provides more detail on the quality of cycle parking and what constitutes acceptable provision. As well as requiring residential cycle parking to be covered, secure and located within a building or near the entrance it also requires ease of access by avoiding obstacles such as stairs, multiple doors, doorways less

³¹ [London Plan 2021](#) -Ch 10 Transport, Policy T5 Cycling

than 1.2m wide and narrow corridors. It also stresses that good quality cycle parking is a 'selling point' and that developers have much to gain and should 'be encouraged to approach the issue positively'.³²

TfL have also produced a **Cycle Parking Implementation Plan** to support the delivery of the Mayor's **Transport Strategy** which proposes to provide 'more secure and accessible cycle parking in residential areas and town centres and other key destinations'. When it comes to residential cycle storage the plan acknowledges that lack of it affects residents living in older flats or high rise blocks and that action is required. The key action it proposes is to roll out a further 1,400 cycle parking spaces within the first year of the plan (the Plan was published in 2019) in addition to those already committed. The main mechanism for retrofitting residential cycle parking is on-street cycle hangars and at the time the Plan was published TfL, in partnership with 25 London Boroughs, had already rolled out 1,185 hangars.³³ With each hangar accommodating six bicycles that equated to 7,110 secure, covered individual parking spaces. According to TfL's website there are now 10,000 spaces across 28 boroughs (for more information on how cycle hangar schemes work see Appendix 7). The cycle hangar scheme is targeted at areas of high density population where people are more likely to live in flats although as can be seen in the map below provision varies across London boroughs depending on the level of priority they give to residential cycle storage.

London population density and distribution of cycle hangars (source: Cycle Parking Implementation Plan – TfL)



³² [London Cycling Design Standards](#) – Ch 8 Cycle Parking

³³ [Cycle Parking Implementation Plan](#) – TfL(2019)

Cambridge

Unsurprisingly for the local authority with the highest rates of cycling in England (55.2% of its citizens cycle at least once a week³⁴), Cambridge has well developed policies on cycle parking with generous minimum standards for the number of parking spaces in residential developments dating back to 2006:

- 1 space per bedroom up to 3 bedroom dwellings
- 3 spaces for 4 bedroom dwellings,
- 4 spaces for 5 bedroom dwellings etc
- some level of visitor cycle parking, in particular for large housing developments³⁵

In 2010 Cambridge also produced one of the earliest and most detailed technical guides specifically on residential cycle parking – the *Cycle Parking Guide for New Residential Developments*. Although it doesn't address cycle parking for disabled cyclists or larger bikes such as cargo bikes it is still arguably the best technical guide on the subject of residential cycle storage in the UK.

Edinburgh

Edinburgh has perhaps the most well developed cycle parking policies amongst Scottish local authorities. It's current Local Development Plan contains clear policy statements on the requirement for residential cycle parking that make planning approval conditional on such facilities being included and their design complying with the standards set out in Council guidance. The standards for cycle parking set out in the *Edinburgh Design Guidance* are in the table below.

Number of rooms	Minimum spaces required
Studio/1 room	1 per unit
2 rooms	2 per unit
3 rooms	
4+ rooms	3 per unit
Non-standard bicycles**	20% minimum

*all habitable rooms except for kitchens and bathrooms

** requirement specified in C.7 Cycle Parking Design Manual

Alongside the *Edinburgh Design Guidance* the Council has also produce a more detailed design man Five of the fact sheets are concerned with cycling one of which - C.7 – lays out design principles for cycle parking both in new developments and for retro-fitting facilities in existing streets. The C.7 factsheet is probably the most thorough Scottish local authority cycle parking design guide and at least on a par with TfL's London Cycling Design Standards.

Edinburgh was also the first Scottish local authority to set-up an on-street bicycle hangar rental scheme. The first hangars were installed in 2014 as part of a pilot to address difficulties with cycle parking in the city's many areas of tenemental housing and in response to requests from elected members and lobbying by SPOKES (an Edinburgh and Lothians cycle cycling campaign group). Previous attempts at putting cycle storage facilities in to communal garden ground at the rear of tenements (back-greens) ran into problems with obtaining consent from owners in the tenements as well as questions about using public money to enhance privately owned assets. Additionally there were challenges with

³⁴ [Walking and Cycling Statistics: 2019](#) – Department for Transport

³⁵

accessibility as access to back-greens in many tenements involved residents manoeuvring bicycles up and down steps and through doors.

A successful pilot of different types of hangars in five separate locations led to the Council expanding the scheme and following a procurement awarding a 5 year contract to Cyclehoop the same firm that provides the cycle hangar scheme for most of the London boroughs. There are now 109 cycle hangars in Edinburgh with a further 72 still to be installed and plans to roll out a further 100. There is an average occupancy rate of 88% and high demand with a waiting list for spaces in existing hangars of over 300 people and over 200 requests for hangars at new locations.

Up until recently location of cycle hangars had been determined mainly on the basis of the number of requests, plus other factors such as housing densities and proximity to existing provision. That has led to provision being mainly located in more affluent areas of the city. However, determining future locations will also use SIMD data with additional weighting given to requests from areas with higher levels of deprivation.

The capital costs for Edinburgh's bike hangar scheme have been partly met from *Places for Everyone* funding which is administered by Sustrans Scotland. This funding pays for 100% of design costs and up to 50% of other costs including hangar purchase. Under the Edinburgh scheme £1 of the monthly £6 rental charge is ring-fenced for any major repairs not covered by Cyclehoop's routine maintenance such as car strikes (at the time of writing there had only been two reported cases of damage by cars)

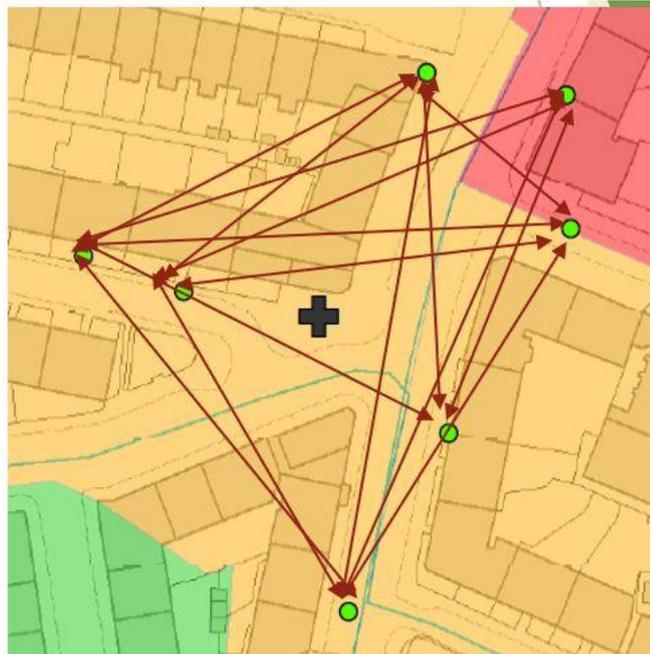
Glasgow

Glasgow is currently the only other Scottish local authority to provide an on-street bicycle hangar scheme again provided by Cyclehoop. In the space of just over a year it has deployed 61 hangars and is in the process of rolling out a further 70 using a data driven methodology to identify the right locations and to ensure an equitable allocation of hangars across all areas of high-density housing in the city.

The use of on-street cycle hangars was in part 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 awareness of the difficulties that residents were experiencing having to carry bikes up and down stairs particularly those with heavier bikes such as e-bikes.

Glasgow City Council initially trialled bike storage facilities in the back-greens of housing association tenements but ran into similar problems as those encountered in Edinburgh with difficulties in obtaining owners' consents in mixed tenure blocks and also with the accessibility of entrances into closes and backgreens. It was also found that in those tenements where cycle stores had been installed they were often used to store items other than bikes and were not necessarily leading to an increase in active travel.

Noting Edinburgh's experience with an on-street cycle hangar scheme Glasgow decided to go down the same route although they developed a different approach to identifying the best locations for 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 3000 requests were received which using GIS were then plotted by postcodes. This enabled requests to be grouped within 100 metres of each other to identify a central point and a potential location (see image below).



Source: Dr Collin Little, Sustainable Transport, Glasgow City Council

The following additional scoring criteria were then applied:

- SIMD data – requests from areas of higher deprivation received additional points
- Household density – targeting areas of tenemental housing and other flatted accommodation
- Proximity to existing cycle routes – as this represents potential for increased bicycle usage.

The MCDA methodology for Phase 2 which involves the roll out of a further 70 cycle hangars has been further developed so that cycle hangar space waiting list data is also used to assess demand and an additional 'Deliverability' criteria (any significant physical or technical issues with a location) has been added.

The results of an analysis of the phase one roll out have been very positive. Hangar occupancy averages 90% and is high in all areas including those with higher levels of deprivation. Demand, as measured by the number of people on the waiting list, has increased to nearly 1,500. Damage and vandalism to hangars has been minor and infrequent, barely reaching double figures 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.

According to Dr Collin Little from the Council's Sustainable Transport Team, the factors behind the successful phase 1 roll out have been

- Choosing the right location – those areas where cycle parking is difficult and where there is sufficient demand to justify the installation of a hangar.

- Using a range of data to choose both the right location and to be confident that the facility will be used.
- Trying to anticipate, avoid or mitigate any problems with a potential hangar location
- Knowing and using the relevant policies and guidance, particularly the Scottish Government's 'Designing Streets' to inform decisions on location and installation.

Conclusion

Residential cycle parking, or lack of it, is an issue in many countries including those with well-developed cycling cultures such as the Netherlands and Denmark. Examples of proactive and successful approaches to providing cycle storage can be found in the UK as well as in Europe. What they seem to share in common is leadership and commitment from local authorities, well-developed local policies on cycling and the ability to enforce the provision of cycle parking through statutory consents or regulations. The experience in the Netherlands illustrates the need for a statutory framework to ensure the provision of cycle parking either through national legislation or local regulation.

Issues and Themes

The main findings and issues that have emerged from the surveys and interviews have been grouped under a number of thematic headings. (A more detailed summary of the results of both the local authority survey and the housing survey can be found in Appendices 8 and

Attitudes

Attitudes towards cycling have a significant impact on provision of residential cycle storage. A number of those interviewed stated that local authorities who were positively engaged with active travel generally, and cycling particularly, tended to be more supportive of cycle parking both in terms of quantity and quality. This is supported by the experience of housing associations who nearly all say that provision of residential cycle parking in new affordable housing developments is very much dictated by local planning policies.

Others expressed the view that many planners, transport engineers and developers view cycling as a minority pastime and not as a sustainable means of everyday transport. They therefore fail to recognise the importance of providing the infrastructure that is needed to make journeys by bike an accessible and seamless experience from front door to destination. One local authority interviewee thought that there is hostility from both businesses and residents towards cycling and resentment towards giving public space or road space to cycling infrastructure. They felt that residents resented the loss of car-parking spaces while businesses viewed anything that might make accessing town centres by car more difficult as bad for business.³⁶

Leadership

Strong determined leadership by both local elected members and senior managers, within local authorities, is a critical to the effective provision of residential cycle storage whilst a lack of it can be a barrier. Gavin Rimmer, Business Development Manager at Cyclehoop, identified political leadership and support as a key success factor in rolling out bike hangar rental schemes. In Edinburgh, strong political support in the face of an initial wave of objections and negative press coverage to the roll out of on-street cycle hangars was a key factor in allowing the Cyclehoop scheme to proceed and expand. In other local authorities however, there can be an unwillingness to give over road space for cycle storage for fear of provoking an adverse reaction from residents and motorists. This is a fear that is often overstated and ignores the experience of local authorities in London and Edinburgh where, after an initial wave of objections, cycle hangars have become an accepted part of the streetscape and waiting lists for bicycle parking space are in the thousands. This fear of being seen to favour cycle parking over car parking can even extend to planning policy where there is a reluctance to move away from 100%+ car parking ratios in new developments and implement minimum standards for cycle parking provision.

The involvement and ownership of senior managers was also mentioned, with one local authority interviewee observing that the policy changes on issues like cycle storage need senior officer involvement to ensure implementation otherwise there is a tendency to default to the status quo.

³⁶ Research by TfL shows that cyclists actually stay longer and spend more in town centres than motorists - [TfL- Walking & Cycling -The Economic Benefits](#)

Car parking and cycle parking

As discussed above, car parking and cycle parking can be seen as being in conflict. There can be a reluctance to reduce car parking provision but on developments in towns where space is constrained, there needs to be a more pragmatic and balanced approach. Some local authorities still have parking standards that require 100% or 150% car parking ratios on residential developments, even on affordable housing developments where car ownership is low. One local authority interviewee acknowledged that while 100% parking might be justified in outlying settlements, this was not necessarily the case on developments in urban areas or near town centres where there is a greater potential for short active travel journeys and more access to public transport,

Planning policies that require one car parking space per dwelling can also put pressure on limited space particularly as developers will often want to maximise housing densities. One housing association gave an example where a developer could only find space for external cycle storage by reducing the number of parking spaces to below the minimum required by planning which meant that the number of houses on the development also had to be reduced to gain planning consent. Conversely, another interviewee said that planners in their local authority had an aversion to over-provision of car parking and would prefer developers to provide cycle storage or landscaping rather than see lots of empty car parking spaces.

A number of housing associations identified a lack of suitable space as a barrier to providing cycle storage both in existing and new affordable housing developments and are considering converting car parking areas into cycle storage facilities or approaching their local authority about converting on-street car parking bays into spaces for cycle hangars.

Examples were also given of where developers have preferred to provide cycle storage due to space constraints or because it is cheaper to provide than car-parking, and, depending on the local authority, it was seen as an advantage when it came to obtaining planning consent.

Policy

There were two schools of thought when it came to the role of national policy on cycle storage. One favoured a more prescriptive and directive approach to overcome local reluctance to provide adequate cycle storage and to ensure that it is taken more seriously by developers. A number of organisations were broadly supportive of National Planning Framework 4 but said that whilst it was positive in terms of active travel it lacked detail and they would like to see a clear set of national standards for cycle storage. Even in NPF4 there is not an explicit requirement for flatted residential development proposals to include cycle storage facilities, it only requires that proposals ‘should give consideration to the need to provide secure and convenient storage’ and that storage should be covered ‘where possible’. This ambiguous language contrasts to Dutch regulations where ‘a home must have a space to store bicycles protected from the weather’.

The other school of thought is that a more prescriptive national policy is not necessary and that it would risk councils, developers and housing associations defaulting to a national minimum rather than taking the initiative and developing solutions that were best practice and appropriate to the location and type of development. It was also pointed out that relying on changes in national planning policy is a long slow road as it would take quite a few years for the policies and priorities in NPF4 to filter down into local development plans and even longer for there to be tangible improvements.

Aside from planning policy, building regulations were also seen as potentially a suitable mechanism for ensuring a more consistent approach to residential cycle parking. In fact, SPOKES, the Edinburgh and Lothians cycling campaign group, had unsuccessfully argued

for the inclusion of residential cycle storage in the Scottish Government’s recent review of building standards. The Scottish Government’s *Housing to 2040* strategy was also seen as offering the opportunity to give cycle storage a higher profile, as it represented a shift away from quantity in affordable housing towards quality and sustainability.

Cycle Parking Standards

The cycle parking standards specified in local planning policies and supplementary planning guidance are perhaps the biggest determinant of the quantity and quality of residential cycle parking but as previously discussed these can vary greatly between different local authorities. The review of a sample of local authority cycle parking standards carried out as part of this research (see *Appendix 4*) illustrates the wide spectrum of local planning policies on cycle storage. At one end of the spectrum is Edinburgh with repeated references to cycle storage in, planning policies and design guidance, generous minimum provision per dwelling including spaces for non-standard bikes and a cycle parking design guide that, in the view of one organisation (not Edinburgh Council), is superior to the Scottish Government’s *Cycling by Design* guidance. At the other end of the spectrum are local authorities where cycle storage only receives a cursory mention and little or no detail as to what constitutes an acceptable level of provision. On the basis of this evidence there is a significant gap between the Scottish Government’s aspirations for planning and active travel found in the National Planning Framework and National Transport Strategy and the policies of local authorities.

Mark Strong from Transport Initiatives’ who were involved in developing Cambridge Council’s cycle parking design guide, thinks that many local authorities specify the ‘quantum but not the quality’ and use terms like ‘adequate’ without describing what that means. He, along with many others of those interviewed, advocates that cycle storage standards should be described in detail in supplementary guidance leaving no room for ambiguity or uncertainty. This also makes it easier for development management officers in planning departments, who are not necessarily equipped with expertise in cycle parking design, to assess whether a development proposal is compliant.

Even when there is a reasonable level of detail it does not always result in adequate cycle parking being provided. One local authority interviewee acknowledged that in the council’s own affordable housing developments the cycle parking was more appropriate for short-term visitor parking (i.e. it was not covered or secure) probably because the planning guidance on cycle parking was not statutory. In Edinburgh where there is plenty of detail about cycle parking standards, SPOKES felt that there is sometimes insufficient detail in development proposals to allow a proper assessment to be made as to whether they are in compliance.

Interestingly, the risk of over-provision of cycle parking spaces was mentioned by two interviewees. One local authority interviewee thought that in an area where rates of cycling were low there was a risk if the council were to increase the standard of creating lots of unused cycle parking spaces. This could be counter-productive leading people to question why cycle parking had to be provided. The other interviewee was from a cycling organisation and was more concerned with quality both in terms of design and on-going management than quantity which he felt was leading to a surfeit of unused cycle storage spaces. However, both acknowledged that if aspirations for the modal shift in journeys from car to active travel is to be achieved then cycle parking needs to be future-proofed and have the capacity to accommodate an increase in bike ownership and usage. (The DfT’s *Cycle Infrastructure Design* guide advises that in cycle parking ‘spare capacity should always be provided to cater for growth and turnover’)

Design

A number of the housing survey respondents had identified challenges in finding a suitable design for cycle storage particularly when space is limited as well as concerns about security and theft. The perceived lack of knowledge and awareness of good cycle storage design amongst planning officers and transport engineers was also commented on in interviews. In the interviews which included architects as well as local authorities and developing housing associations, there seemed to be a general lack of awareness of for the existence of technical and design guidance on long-term cycle storage.

There is in fact some very detailed and practical design guidance available including the Scottish Government's recently revised *Cycling by Design*, and the Department for Transport's *Cycle Infrastructure Design (LTN 1/20)* amongst others (see *Appendix 9 for list of useful design guides*). Yet other than active travel and cycling organisations there seemed to be little or no awareness of these resources. It may be that as was suggested by one interviewee, developers take their lead from local authority planning policy and guidance and very few of these mention or refer to national guidance and other technical design resources.

As previously discussed, many local authorities provide scant detail on the quality of cycle parking and this can lead to too much focus on quantity and not enough on ease of use, accessibility and the needs of different cyclists. This includes those with non-standard bicycles such as cargo bikes and tricycles, and those with limited mobility or a disability. One housing association complained of houses provided under a Section 75 agreement where bike racks were too close together making it difficult to manoeuvre bicycles in and out of parking spaces or of external bike stores being located too far away from residents homes. Others admitted that it hadn't occurred that some people might find certain types of bike storage such as two tiered racks, vertical racks and bike hangers too difficult to use.

There was also discussion in interviews about the ability to influence the design of residential cycle storage. Affordable housing provided under Section 75 agreements offer less opportunity to influence design as housing associations don't get involved until later in the development process by which time the design has been more or less finalised as part of the planning process. If it is land that is being provided through Section 75 then there is more opportunity to negotiate with the contractor on the design of cycle storage. One housing association said that they were developing a design brief that include more explicit requirements relating to sustainability which they hope will give more leverage in negotiations with developers and contractors.

Inclusiveness

The needs of disabled people appear to be overlooked because of assumptions that they do not use bikes even though the Equalities Act 2010 places a duty on public sector authorities to comply with the Public Sector Equality Duty in carrying out their functions. This includes making reasonable adjustments to the existing built environment to ensure the design of new infrastructure is accessible to all. In fact, according to research by Transport for London 67% of disabled people can cycle and 12% regularly or occasionally cycle compared to 17% of non-disabled people³⁷. A 2019 survey of 200 disabled cyclists by Wheels for Wellbeing, an inclusive cycling charity, found that while most owned a two-wheeled cycle that over a third were unable to store or park a non-standard bike because facilities were inadequate³⁸. In response to the invisibility of disabled people when designing cycling infrastructure, Wheels for Wellbeing produced its own *Guide to Inclusive Cycling* which includes a chapter on cycle

³⁷ TfL – Attitudes to Cycling 2017

³⁸ [Wheels for Wellbeing Annual Survey of Disabled Cyclists 2019/20](#)

parking and storage. Apart from the City of Edinburgh Council, reference to cycle parking for non-standard bikes and disabled cyclists wasn't evident in the review of the sample of local authority cycle parking policies carried out as part of this research. One possible reason for the absence of cycle storage provision for people with disabilities and impaired mobility may be due to its omission from Housing for Varying Needs guidance. Housing for Varying Needs was published in 1998 and forms part of the criteria for receipt of affordable housing funding for new house building by housing associations. It sets out good practice on the design of housing to achieve flexibility and suitability for people of all abilities. Chapter 7 is titled 'Access to Dwellings and Provision for Vehicles' and includes guidance on car parking whilst acknowledging that car ownership is 'likely to be below average' but makes no reference to bicycles. Given that Housing for Varying Needs is over 20 years old it is maybe not that surprising that no mention is made of cycle storage and if and when it is reviewed there may be an opportunity to correct this omission.

Transport Scotland's recently revised *Cycling by Design* guide only mentions the needs of disabled people in terms of a general requirement for cycling infrastructure to be accessible but does not provide any further detail. The DfT's *Cycling Infrastructure Design* guide has a section on inclusive cycling and includes specific advice on provision for disabled cyclists and a recommendation that 5% of cycle parking should be suitable for non-standard bikes to accommodate people with mobility impairments.

Greater cognisance of the needs of disabled cyclists in national guidance and in local planning and transport policies is needed to improve the inclusiveness of cycle storage provision and ensure that cycling can be accessible for all.

Cost

In the surveys cost was one of the most frequently mentioned barriers to providing cycle storage both in existing areas of housing and in new developments. Certainly retrofitting of cycle storage requires a significant capital outlay especially for smaller housing associations and even for local authorities if it is provided at scale. As well as the purchase of cycle storage units, installation may also require additional work such as, hard standing, construction of paths, and additional security measures such as enhanced lighting, and this can represent a not insignificant challenge to organisations who have little in the way of spare budget to invest.

On the evidence of the survey most retrofitting by housing associations has been with the assistance of external funding such as the Social Housing Partnership Fund, administered by Cycling Scotland (see *Appendix 10*). The cycle hangar rental scheme in Edinburgh received financial support from the Places for Everyone fund administered by Sustrans Scotland, while those in the London boroughs received funding from Transport for London. The tight financial constraints and budget pressures that most local authorities face means that any significant programme of retrofitting cycle storage will need to be supported by significant additional funding. The Scottish Government has significantly increased funding for active travel by an extra £34.5m in 2022/23 to nearly £150m and has committed to increase it to at least £230m or 10% of the total transport budget by 2024/25. There is a case to be made that some these additional resources should be used to increase the funding for retrofitting cycle storage.

Opinions about the cost of cycle storage in new developments is more mixed. Cost and the need for funding for cycle storage in new affordable housing was mentioned by 14 of the respondents in the housing survey. The reasons given for the cost of residential cycle parking being a barrier included:

- impact on housing densities i.e. space used for cycle storage means less houses would be built, and this creates potential risks to the financial viability of a development;
- impact on rent levels;
- cycle storage not being eligible for affordable housing grant;
- other competing priorities such as enhanced energy efficiency and fire safety standards;
- the cumulative financial impact of increasing quality and sustainability requirements plus rising building inflation on the ability to build new affordable housing.

However, in interviews it appeared that cost might not be such a significant barrier. Several respondents suggested that in the context of developments that cost several million pounds or more, the additional cost of cycle storage was proportionately not significant and could be managed, if necessary, by reducing costs elsewhere. It was also pointed out that where cycle storage is in effect a statutory planning requirement it has to be provided and budgeted for in the same way as other planning conditions or building regulations and is therefore not a matter for debate about cost. One housing association interviewee stated that in Section 75 agreements the price is often on a lump sum basis, and it is therefore the responsibility of the developer to comply with planning conditions within the agreed price.

Another respondent stated even though cycle storage did not attract affordable housing grant there were ways of overcoming this by working closely with architects on the design to absorb the cost into overall build costs such as integrating storage into the footprint of the building or by reducing car-parking space. A similar point was made when one housing association pointed out that the cost of cycle storage is difficult to separate out from other costs particularly when it was integrated into the building while another said that the cost of cycle storage wasn't something that was itemised separately when calculating rent levels.

Developers

Resistance from developers to providing cycle storage was mentioned by a number of respondents in the survey and in the interviews several active travel organisations had negative perceptions of developers and their attitudes towards designing developments that favour active travel. There was a perception that developers try to avoid or reduce cycle storage and cut costs partly driven by a desire to maximise housing densities but also by an unwillingness to do anything outside the 'norm' in residential development. However, in the interviews it became clear that this was not a view shared by everyone. A number of interviewees suggested that in their experience developers could be quite pragmatic and were happy to include cycle storage if it helped to get a development proposal accepted by planners. Depending on the planning policies of the local authority and the nature of the site that was being developed, cycle parking could be regarded as an 'easy win' as it was cheaper and easier to provide than car parking and would be received positively by planners. One of the firm of architects interviewed gave an example from Glasgow where the developer exceeded the Council's cycle parking standard and ended up making the development car free. This not only solved some of the challenges in developing a space constrained city centre site, but it was also seen as beneficial when it came to marketing the homes for sale. Another architect gave a similar example involving a build to rent development in Dundee.

The view was also expressed that increasingly developers regard cycle storage as a 'norm' in the same way as car parking. As one local authority interviewee commented "you wouldn't build a house without a roof why build one without cycle storage?"

One of the interviewees related a conversation with a developer in the north of England where he said that developers prefer certainty as uncertainty and lack of clarity results in wasting time and money in prolonged negotiations with planners - if he (the developer), is clear about what is required and to what standard it makes it easier to cost and plan a development.

Compliance and Enforcement

Ensuring that development proposals comply with cycle parking standards even when those standards are clearly articulated and described can be patchy. This is not only due to a lack of expertise or understanding about cycle storage but also because development management teams in local authority planning services are often under-resourced. Some interviewees think that planning officers may not have the capacity to properly scrutinise design proposals for developments or to check that developers actually deliver what was agreed. High caseloads may also make planning officers too ready to accept 'copy and paste' design statements that don't really address a council's own policies on issues such as sustainable transport and active travel. Lack of resources is also seen as making any serious attempt at enforcement against non-compliance very unlikely particularly if the non-compliance issue is cycle storage.

A couple of organisations referred to the establishment of Active Travel England, an executive agency established by the Westminster government to drive up standards in cycling and walking infrastructure in England. It will be a statutory consultee on all developments of more than 250 houses, and will be responsible for administering active travel funding, checking local authority active travel plans and ensuring that infrastructure is designed in accordance with, LTN120, the DfT's *Cycling Infrastructure Design* guide. It will also have the power to withhold active travel funding or demand that funding is returned for schemes that don't meet national standards or are not delivered on time. Whilst some active travel organisations thought that the setting up of Active Travel England could be potentially a very positive development there was also a concern that its role as statutory consultee on major housing developments might lead to issues such as cycling infrastructure receiving less scrutiny by local planning officers.

Management of Cycle Storage

Residential cycle storage needs to be actively managed. Management includes keeping storage in a good state of repair, the management of keys to ensure that access is only available to residents or users, and the removal of abandoned bicycles and rubbish including non-bicycle items. Bicycle storage that is not used for its intended purpose or that looks in poor condition will deter bike owners from using it. SPOKES argue that there needs to be a mechanism such as title deed or planning conditions or some form of regulation for ensuring that bicycle storage once built is properly managed and that remains as cycle storage in perpetuity.

Seeking feedback from residents on cycle parking facilities can also be useful, particularly if occupancy is low or bicycles continue to be kept in closes and stairwell. One of the housing associations interviewed had installed bike shelters on a number of their developments using SHPF grants. They are planning to carry out follow-up surveys and also to provide bike locks to encourage residents who might not be able to afford a good quality lock of their own to make use of the bike shelters to store their bicycles.

Although theft and vandalism were mentioned as concerns or potential barriers to providing cycle storage by a number of respondents in the surveys it was not raised as an issue in the interviews.

Knowledge sharing and training

It was apparent both in the survey responses and in the interviews that there is need for a sharing of knowledge and experience about providing cycle storage. This includes not only technical advice about different types of bike storage, best practice in design, help with preparing tender documents and assessing demand but also on ways to engage with the public and elected members and tackle preconceptions about cycling and cycling infrastructure.

There is also the need for more formal training and awareness raising about what constitutes good quality accessible cycle storage for planners, transport engineers and developers and housing professionals.

Recommendations

Residential cycle storage on its own will not lead to an increase in cycling or its modal share of travel but the ability to store a bike where it is secure and protected from the weather is such a basic prerequisite for bike ownership that without it cycling will remain out of reach for a significant proportion of people in Scotland. Based on the findings of the research the following actions to improve and increase the provision of cycle storage are recommended.

1. The Scottish Planning Policy and National Planning Framework should avoid ambiguity and be more explicit about the requirement for cycle storage in residential developments. It should also provide more detail on minimum standards for cycle storage both in terms of quantity and quality and require that all residential developments provide cycle storage that complies with these standards.
2. Revise 'Cycling by Design' to include minimum standards for the quantity of cycle storage on new developments and minimum standards in both quality and quantity for non-standard cycle storage.
3. Require all local authorities to include minimum cycle parking and maximum car parking provision in all new developments that take into consideration the potential for more journeys to be made by active travel.
4. Require local authority cycle parking standards to include provision for non-standard bikes and disabled cyclists.
5. Provision of cycle storage should be included in any updating of Housing for Varying Needs or replacement guidance.
6. Make access to active travel funding conditional on local authorities submitting active travel plans that comply with standards and national guidance for cycling infrastructure including cycle parking.
7. Require local authority Active Travel Plans to include proposals for retrofitting residential cycle parking in areas of high density housing.
8. Create a dedicated fund to support the retrofitting of cycle parking at scale.
9. Include access to residential cycle storage in the proposed new Housing Standard.
10. Include cycle storage as one of the additional quality benchmarks for investment in affordable housing.
11. Develop training courses for planners, transport engineers, active travel officers and housing managers on good design in residential cycle storage.
12. Work with the SFHA, CloH and other housing forums to raise awareness of the need for, and benefits of, well designed residential cycle storage.
12. Work with active travel organisations, SFHA, CloH and other relevant professional bodies such as RTPi, SCOTS etc... to promote and raise awareness of cycle parking design guides and other useful resources.
13. Look for opportunities to share best practice and knowledge in designing and delivering residential cycle parking in both existing residential areas and in new developments.

14. Develop information, communication and briefing materials that can be used to gain the support of elected members, residents and businesses in using road and other public space for cycling infrastructure and that addresses the economic as well as social and health benefits of investing in cycling.

15. Consult on the need for a national body to drive forward improved standards in the provision of active travel infrastructure.

16. Next Steps for Cycling Scotland:

- Consult with partners and other active travel organisations on the findings and recommendations in this report.
- Develop an action plan to take forward agreed recommendations
- Establish a steering group with partners to oversee implementation of the action plan.

Appendices

Appendix 1 – List of Interviewees

Name	Organisation
Ruth Brogan, Head of Housing and Community Regeneration	Bridgewater Housing Association
Callum Chomczuk, National Director	Chartered Institute of Housing Scotland
Jim Densham, Campaigns & Policy Manager Suzanne Forup, Head of Development	Cycling UK in Scotland
Roger Geffen, Policy Director	Cycling UK
Gavin Rimmer, Business Development Manager	Cyclehoop
Neil Quinney, Active Travel Project Officer	Dundee City Council
Dr Collin Little, Sustainable Transport	Glasgow City Council
Andrew Kennedy, Technical Manager	Hillcrest Homes
Andrew Strachan, Planner Frank McCabe, Architect Dakota Farmer, Architectural Assistant	Keppie Design
Stuart Hay, Director	Living Streets Scotland
Alice Turpie, Architect Willie Watt, Architect	Nicoll Russell Studios
Alex Miller, Housing Project Development Officer	North Lanarkshire Council
Campbell Hall, Affordable Housing Enabler	Perth & Kinross Council
Barbara Seel, Development Officer	Port of Leith Housing Association
Goff Cantley	SPOKES
Euan Renton	SPOKES
Michaela Jackson, Community Engagement Officer, Sustainable Travel	Stirling Council
Chris Brace, Network Delivery Manager	SUSTRANS Scotland
Joe Taylor, Senior Project Officer	SUSTRANS Scotland/ City of Edinburgh Council
Ruth Adam, Community Regeneration Manager	Thenue Housing Association
Mark Strong, Managing Consultant	Transport Initiatives
John Walker, Assistant Engineering Officer (Roads)	West Dunbartonshire Council

Appendix 2 – Correlation between parking spaces and modal share in European cities

CITY	COUNTRY	POPULATION	YEAR	WALK %	BIKE %	PT %	CAR %	BIKE PARKING	CAR PARKING
Sligo	Ireland	19199	2011	29	2	3	60	1	1.5
Utrecht	Netherlands	316000	2015	16.8	26.1	15.1	39.8	1	1
Glasgow	United Kingdom	592000	2017	23	3	36	37	1.25	1.25
Frankfurt (Oder)	Germany	58237	2013	31.9	3.9	13.5	50.7	1.4	1
Dresden	Germany	543825	2013	27	12	22	39	1.5	1.5
Odense	Denmark	176683	2016	20	26	4	38	1.75	0.75
Bergen	Norway	271949	2013	25	3	16	53	1.75	1.3
Zürich	Switzerland	402762	2015	26	8	41	25	1.75	0.6
Munich	Germany	1450381	2013	27	17	23	33	1.75	1
Darmstadt	Germany	143499	2013	28	17	17	38	2	1.2
Trondheim	Norway	181513	2017	23.7	9.1	11.9	55.4	2	0.8
Rostock	Germany	206011	2013	32.5	14.1	16.9	36.5	2	1
Freiburg	Germany	227000	2016	29	34	16	21	2	1
Karlsruhe	Germany	298000	2012	24	25	17	34	2	1
Nurnberg	Germany	506000	2017	22.8	13.2	22.6	41.4	2	1
Copenhagen	Denmark	591000	2016	19	29	18	34	2.8	0.35

The year is the year of the mode split analysis. Bike and Car Parking are minimum requirements in each city. Some of the cities regulate the number of car and bike parking spaces by area of living space instead of apartments; we use a conversion of: 70 m² = 1 apartment. Some legislation mandates designated area for bike parking instead of a number of spaces; we use a conversion of: 1.5 m² = 1 space. Some cities have zones with different regulations; in these cases we evaluated the central zone.

(Source: European Cycling Federation)

Appendix 3 – Flatted dwellings as % of all stock by local authority (2017)

Local Authority	No. of flatted dwellings	Flats as % of all dwellings
Glasgow City	225204	72.6
City of Edinburgh	168500	67.8
Aberdeen City	64514	55
West Dunbartonshire	23074	51.2
Dundee City	37594	50.5
Inverclyde	18959	48.8
Renfrewshire	37620	43.4
North Lanarkshire	50046	32.4
Argyll and Bute	15134	31.5
South Lanarkshire	45979	30.6
Falkirk	22239	29.9
East Lothian	13255	27.8
Scottish Borders	16163	27.8
Fife	48747	27.6
North Ayrshire	18470	27.2
South Ayrshire	15048	27.2
Clackmannanshire	6439	26.3
Stirling	10758	26
East Renfrewshire	9813	25.3
Perth and Kinross	18048	25
Angus	13968	24.8
East Ayrshire	14412	24.7
Midlothian	9364	23.3
West Lothian	17638	22.3
East Dunbartonshire	9623	20.7
Dumfries and Galloway	10720	14.3
Moray	6036	13.4
Highland	15698	13.3
Aberdeenshire	14702	12.5
Shetland Islands	1005	9
Orkney Islands	775	6.9
Na h-Eileanan Siar	745	5.1

Appendix 4 – Cycling storage and local authority planning policies

The following table is an analysis of a sample of local authority local development plan planning policies and guidance as published on council websites. The sample is taken from local authorities who participated in the research whose flatted housing stock was 25% or more.

Council	Pop.	% of Pop in Urban area	Flats as % of total housing stock	Residential Cycle parking LDP/Planning Policy requirement?	Supplementary Guidance	Detailed Cycle Parking Design Guidance?	Minimum requirement? Spaces	Disabled/non-standard spaces
Edinburgh	527,620	96.2	67.8	Yes	Yes - non-statutory Edinburgh Design Guidance	Yes – C.7 Cycle Parking part of Edinburgh Street Design Guidance	Studio/1 room – 1 space 2-3 – 2 spaces 4+ rooms – 3 spaces	20% of all spaces
Glasgow	635,640	99.6	72.6	Yes	Yes – SG11: Sustainable Transport	No – SG11 does not provide contain minimum cycle parking standards	1 space per unit	No
Fife	374,130	67.1	27.6	No	Yes – Appendix G: Transportation Development Guidelines	No	No	No
North Lanarkshire	341,140	82.5	32.4	No	Yes – Encouraging Cycling . Reference also made to SGs Designing Streets	No – Encouraging Cycling does include list of requirements	1 space per dwelling	No
South Lanarkshire	320,820	78.6	30.6	Yes – ‘new developments should safeguard & enhance... wherever possible’	No	No	No	No

Council	Pop.	% of Pop in Urban area	Flats as % of total housing stock	Residential Cycle parking LDP/Planning Policy requirement?	Supplementary Guidance	Detailed Cycle Parking Design Guidance?	Minimum requirement?	Council
Dundee	148,820	99.5	50.5	Yes	No	No	Flats - 'Secure indoor storage for bikes to be provided in accordance with the number of houses/flats being provided.' Houses – one secure space per house (unless garage is provided)	No
Stirling	94,080	53.2	26	No	Yes – Transport & Access for New Development	No	1 space per flat	No
West Dunbartonshire	88,340	99.4	51.2	No	Yes – West Dunbartonshire Council Parking Standards	No – refers to Scottish Governments 'Cycling by Design 2010'	Refers to minimum standards in 'Cycling by Design 2010' i.e. 1 space per dwelling	No
Perth & Kinross	151,910	32.7	25	Yes	No	No	No	No

Appendix 5 – Affordable Housing Investment Benchmarks – Additional Quality Measure

Additional Quality Measure	Benchmark (All based on 3-person equivalent)
Delivering homes to Section 7, Silver Level, of the 2019 Building Regulations in respect of Energy for Space Heating (i.e. full Bronze Level plus Aspect 2 of Silver Level). [1]	£2,000
Provision of balconies within flatted developments where the provision of private or communal outdoor space cannot otherwise be accommodated.	£4,000
Provision of space for home working or study – grant applicants would be expected to demonstrate that additional space is necessary to deliver this measure in order for this benchmark to apply i.e. it is not possible to incorporate within the design of the homes under current space standards.	£3,500
Ensuring that all new social and mid-market rented housing delivered through the Programme is digitally-enabled – when a tenant gets the keys to their home this would mean that they are able to arrange for an internet connection to ‘go live’ without the internet service provider having to provide additional cabling to the premises. From the outset these connections should utilise the best available technology and, where it is not possible for a gigabit capable technology to be provided immediately, the physical infrastructure should be installed to support retrospective deployment.	£300
Installation of ducting infrastructure for electric vehicle charge point connectors.	£500
Installation of automatic fire suppression systems.	£3,000
Installation of heating systems which produce zero direct emissions at the point of use.	£4,000

Appendix 6 – Dutch Building Regulations for Residential Cycle Parking

Section 4.5 Outside storage, new buildings

Article 4.30 Regulating article

1. *A home must have a space to store bicycles protected from the weather.*
2. *A home meets the requirement of paragraph 1 if the space is constructed according to the regulations in this section.*

Article 4.31 Availability, access and measurements

1. *A building with the main function of habitat must have -as a sub-function- a private lockable storage space of at least 5 square meters with a width of at least 1.8 meters and a height over this width of at least 2.3 meters.*
2. *Notwithstanding paragraph 1, the storage room may be shared, when the habitat function of the dwelling does not exceed 40 square meters and the storage space for each dwelling is at least 1.5 square meters.*
3. *The storage room has to be directly accessible from the public road or from a shared private area that gives direct access to the public road.*

Article 4.32 Rain resistance

The external construction of a storage space as described in article 4.31 has to be rain resistant according to the regulations of NEN 2778.

Appendix 7 - How do bicycle hangar schemes work?



(Photo: Cyclehoop)

Bicycle hangars provide enclosed, secure and weather-proof storage spaces for up to six standard sized bikes when fitted with a rack (larger non-standard bikes can be accommodated if the rack is removed) and are usually located on public roads in parking bays.

Cyclehoop are the biggest provider and operator of bicycle hangars in the UK with schemes across the UK including in London, Glasgow and Edinburgh. Local authorities purchase hangars at a cost of around £3,500 and also pay for installation costs – typically between £400-£500 – and the cost of any Traffic Regulation Orders (TRO) that might be required when making changes on a public highway. Normally users rent hangar spaces at a cost of £72 a year or £6 a month although some London boroughs have subsidised the rental charge so that the cost was similar to that for residential parking permits. The rental charge pays for the management and maintenance of hangars which is usually provided by Cyclehoop although some local authorities take on these functions themselves and this may affect the amount paid by the user. Management includes operation of a waiting list, allocation of spaces, and dealing with customer enquiries, complaints and reports from users and the public. The rental charge covers the costs includes two maintenance inspections a year with the local authority responsible for the cost of any reactive repairs.

According to Cyclehoop, there is an average occupancy rate in excess of 90% across all cycle hangar schemes in the UK with high demand for both spaces and additional hangars in all areas.

Gavin Rimmer, Business Development Manager at Cyclehoop advised that, based on his experience, the key factors that contribute to a successful roll out of an-street bicycle hangar scheme are the following:

- Political will and leadership are essential - as in nearly every location there is likely to be someone objecting to the loss of a parking space even where demand for hangars is high.

- Councillors and officers should bear in mind that a bike hangar takes up only half a parking bay so for the loss of one car parking space there is a gain of six cycle parking spaces, or 12 if two hangars are located in the one parking bay.
- If doing a pilot engage with local cycling groups to identify streets where there may be higher levels of support.
- Once a hangar is installed it will nearly always lead people requesting one for their area and this together with waiting list information can be used to identify the most suitable location for further bike hangar installation.

Appendix 8 – Summary of responses to Local Authority Cycle Storage Survey

The local authority survey was designed to try and gauge the level of awareness of the need for cycle storage by Scottish councils and the extent to which they were actively engaged in the issue. The survey comprised the following questions.

1. Are you aware of any demand for residential cycle storage e.g. from individual residents, local councillors, community groups, local active travel campaigning groups?
2. Has your local authority been involved in providing residential cycle storage?
3. Looking forward, does your local authority have any plans or initiatives to provide or support the provision of residential cycle storage?
4. Is the provision of residential cycle storage addressed or referenced in any Council strategies, policies, or guidance e.g. Local Transport Strategies, planning policy, design guidance etc...?
5. The Scottish Government recently amended Householder Permitted Development Rights (PDR) including changes that relate to facilities for bicycle storage. Are you aware if these changes to PDR have been implemented by the Council e.g. revised PDR guidance or advice to householders?
6. What do you see as the main obstacles or barriers to the provision of cycle storage for the Council and developers of new housing?
7. What actions or changes do you think are needed to facilitate improved and increased provision of residential cycle storage?

Only seven local authorities (see table below) responded to the survey. The responses received varied depending on the individual officer's own knowledge of cycle storage and the relevant Council policies, and the extent to which they consulted with other relevant services.

Local Authority	Population ³⁹	% Urban population ⁴⁰	% flatted housing stock ⁴¹
Dundee	148,820	99.5	50.5
East Dunbartonshire	108,750	88.5	20.7
East Lothian	107,900	44.9	27.8
Edinburgh	527,620	96.2	67.8
North Ayrshire	134,250	72.0	27.2
Shetland	22,870	0.0	9

³⁹ National Records of Scotland – Mid-2020 Population Estimates

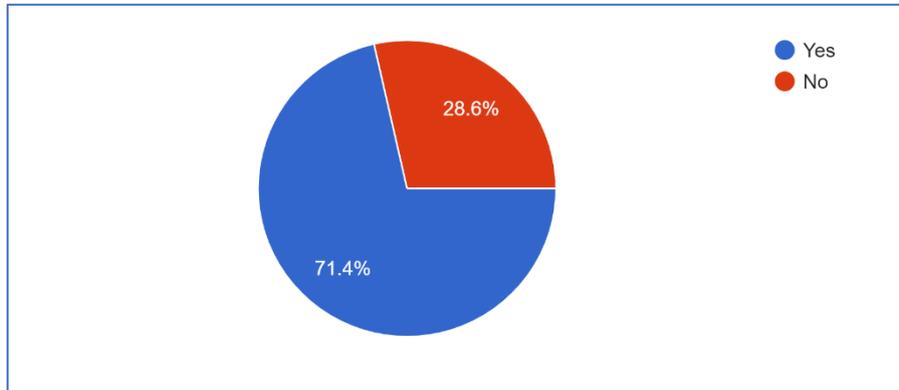
⁴⁰ [Scottish Government Urban Rural Classification 2016](#) – Classifications as follows: Large Urban Areas, Other Urban Areas, Accessible Small Towns, Remote Small Towns, Accessible Rural, Remote Rural. Figures used in the table are the percentage of the population that live in either a 'large' or 'other' urban area.

⁴¹ statistics.gov.scot/housing/dwelling-by-type-2017

Stirling	94,080	53.2	26
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Demand for cycle storage

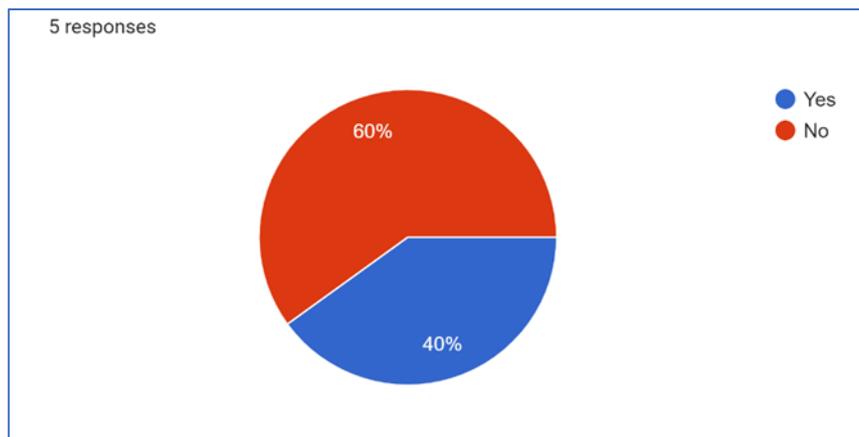
Five of the seven councils said they were aware of local demand for residential cycle storage.



One of the authorities, Edinburgh, operates an on-street cycle hangar scheme and had received over 900 emails from members of the public requesting a hangar while Cyclehoop who manage the hangars for the Council had over 1,200 names of people waiting for a cycle parking space. In the other local authorities demand has been more low key with requests from residents and elected members and in a couple of cases local active travel groups who have campaigned for cycle parking on social media or raised it in meetings with Council officers.

Involvement in providing residential cycle storage

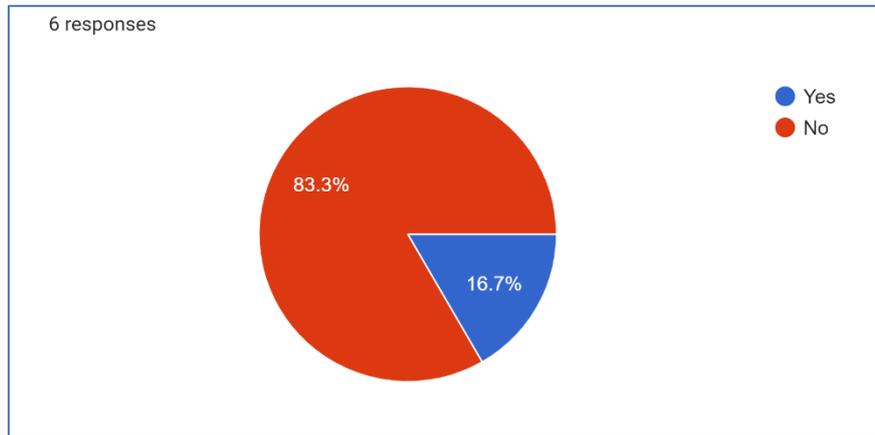
Only five of the seven local authorities answered the question about whether they were involved in providing cycle storage for residents and of those only two answered 'Yes'.



One of these authorities was Edinburgh which operates the Cyclehoop bike hangar rental scheme. The other authority mentioned residential cycle storage being provided in social housing developments possibly as a requirement of planning conditions.

Future plans for cycle storage

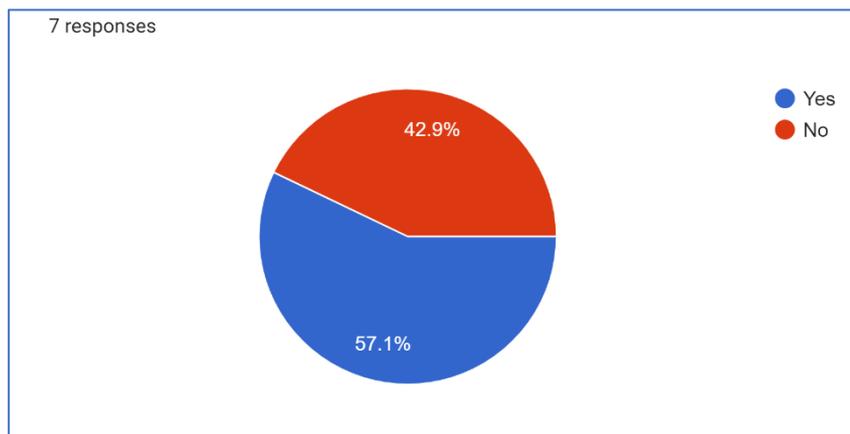
Of the six local authorities who answered the question on whether they had any plans to provide residential cycle storage in the future, only one, Edinburgh, answered 'Yes' as they were intending to expand the cycle hangar scheme.



However, the other respondents indicated that they may become more involved in cycle storage as they develop or review their local transport strategy or active travel plan while another referred to a master-planning exercise which may include cycle parking provision.

Strategy and Policy

All seven authorities answered the question about whether residential cycle storage featured in any strategies, policies or guidance but only four answered 'Yes'.



All four who answered 'Yes' referred to planning supplementary guidance and one also referred to the Council's Local Development Plan and its Cycling Strategy.

Permitted Development Rights (PDR)

Six local authorities answered the question about whether they were aware of the Scottish Government's changes to permitted development rights for bicycle storage, two of whom

said they were aware of the changes. One those who answered ‘Yes’ referred to new supplementary guidance that had recently been produced but this was concerned with cycle parking in new developments rather than permitted development rights. The other authority said they did not produce their own advice on PDR but used the Scottish Government’s guide.

Barriers to residential cycle storage

All seven respondents answered the question on what they saw as the barriers to providing residential cycle storage. The following barriers were identified

- Lack of policy on the issue although this might change with a new local transport and active travel strategy. (1)
- Costs associated with either installation or on-going management and maintenance. (3 respondents)
- Lack of resource or staff capacity to develop, implement and manage cycle parking. (2 respondents)
- Potential costs falling on tenants in social housing developments (1)
- Pressure on developers to maximise housing densities on a site and the resulting reluctance to give up space for cycle parking (1)
- Lack of suitable space for cycle storage in old, historic towns. (1)
- Lack of awareness of the need for good quality residential cycle storage amongst other relevant council services. (1)
- Time taken to put in place a TRO for on-street cycle storage (1)
- Resistance from residents to on-street cycle storage due to loss of car-parking space. (1)
- Lack of expertise amongst developers in designing, siting and installing bike storage. (1)
- Need for storage solutions appropriate to an island climate. (1)
- Lack of demand. (1)

Solutions

Policy and leadership

- Clear national standards
- Buy in at policy level and by ‘decision makers
- Making cycle storage a condition of planning consent.
- Stream-lined internal Council processes to allow speedier deployment of on-street cycle storage.
- Implementing on-street cycle storage including use of parking and loading bays where space is constrained on a development or in an area of existing housing

Resources

- Ringfenced budget for retrofitting in existing and local authority housing.
- Funding to purchase the infrastructure.

Advice and Expertise

- Advice for developers on siting and installing appropriate cycle storage.
- Knowledge sharing to help identify what works and avoid pitfalls.

Public Awareness & Engagement

- Increased public profile of active travel to make cycle storage a plus for developments.
- Developing public support for removing car parking spaces to facilitate installation of this type of storage.
- Support with public engagement to identify locations.

Links with other cycle parking

- Networks of secure storage – people will only demand good storage at home if they know there is secure storage in other locations e.g. train stations.

Comments on barriers to residential cycle parking

- Embedding in policy would help. Local Transport & Active Travel Strategy are being reviewed at present.
- With many of this local authority's towns long established and historic the main obstacles are identifying suitable land/areas within the public ownership that is in close proximity to the properties of the users.
- If retrofitting, residents' unwillingness to give what will be seen as potential car parking space for on street secure parking (e.g., cycle pods). • Cost of retrofitting on street secure cycle parking. • Awareness in LA Housing sections of the need for good cycle parking. • Administration of access rights to communal secure parking. • For developers, lack of expertise in designing, siting and installing appropriate cycle parking. • Available officers to carry forward cycle parking projects. • Budget.
- Requirement to identify capital costs for purchasing the cycle storage units. Units around £5k each. Potentially requiring investment of £200-300K depending on number of units procured. Potential issues with supply of storage units (post-pandemic). Lack of capacity to administer this type of scheme within any of the council departments who would be involved with this (assume scheme management would be provided by unit supplier). Staff capacity to carry out public engagement around identifying locations for these sites.
- Insufficient level of demand; additional cost through maintenance obligations falling on tenants; climate appropriate solutions for island areas;
- We operate in an area with very high land values and there is therefore pressure on developers to maximise the number of units delivered. Providing cycle storage for

flatted dwellings can consume a relatively large amount of land and restrict the number of units. There is therefore often resistance from developers to providing this.

- The main obstacle is time taken by the TRO process and waiting in line for other lengthy projects to finish to allow changes to be made to the roads.

Comments on solutions to providing residential cycle storage

- Buy in at policy level. Planning being involved in conditioning provision for new build.
- Given the limited space close to properties in the local authority: Introduce on road dedicated cycle parking spaces, this would in some instances removing vehicle parking spaces.
- For LA housing and retrofitting for existing housing • Ringfenced budget – otherwise it is dependent on adding it on to other projects. • Commitment from decision makers • Consideration of private car parking and loading for developers • Advice on siting and installing appropriate cycle parking. • Increased public profile of active travel making cycle storage a plus for developments
- Funding to purchase the infrastructure to support this. 2. Knowledge sharing to help identify what works and avoid pitfalls. 3. Support with public engagement to identify locations. 4. Developing public support for removing car parking spaces to facilitate instillation of this type of storage. 5. Planning conditions – allow developers to meet conditions by provision of this type of cycle storage.
- Clear national standards (i.e. Sheffield stand style rather than storage that secures the wheel). Networks of secure storage – people will only demand good storage at home if they know there is secure storage in other locations e.g. train stations.
- Actions to prioritise the provision of the units within the council so that it can be implemented more quickly and not get caught in administrative bottlenecks. Resources allocated to alleviate administrative delays. A streamlined TRO process.

Appendix 9 – Summary of Responses to Housing Organisations Cycle Storage Survey

The survey was sent to housing associations and local authority housing services. It consisted of 11 questions and was intended assess whether residential cycle storage was an issue that social housing landlords and local housing authorities were aware of and whether they had provided or were intending to provide facilities. The questionnaire focused on provision both in existing stock and in new build developments and also sought views on barriers to provision and potential solutions. The questions are listed below.

1. Is there or has there been any demand for cycle storage from your organisation's tenants and residents?
2. Has your organisation been involved in providing cycle storage for its tenants and residents?
3. Does your organisation have any plans to provide cycle storage in any of its existing housing stock?
4. From your organisation's perspective, what are the main barriers to providing residential cycle storage in its existing housing stock?
5. From your organisation's perspective what solutions and actions are required to enable the provision of cycle storage facilities in its existing housing stock?
6. Is your organisation intending to build any new affordable housing over the next 3 years?
7. Will the planned new affordable housing developments include any cycle storage provision for residents?
8. Will the planned new affordable housing include any other facilities to encourage or enable active travel?
9. From your organisation's perspective what are the main barriers to providing residential cycle storage in new affordable housing developments?
10. From your organisation's perspective what solutions and actions are required to enable the provision of cycle storage facilities in new affordable housing developments?
11. Does your organisation give any consideration to active travel generally and cycle storage specifically when preparing its SHIP, or assessing affordable housing development proposals from housing associations or Section 75 contributions from developers? (*This question was for local authority housing services only.*)

Survey invites were sent via the SFHA, the Glasgow & West of Scotland Forum, ALACHO and the Scottish Housing Network. Twenty-eight responses were received – eight from local authorities and 20 from housing associations. All the responding organisations had their own housing stock, and all had a proportion of stock that were flats ranging from 100% - Glasgow West Housing Association to 14% in North Ayrshire Council. In total flats accounted for 35% of all housing stock with *tenements* being the most prevalent form of flatted property followed by *other flats/maisonettes* at 24% and high rises at 15%. With the exception of City of Edinburgh Council, the housing associations respondents tended to have a higher proportion of flatted stock than local authority respondents

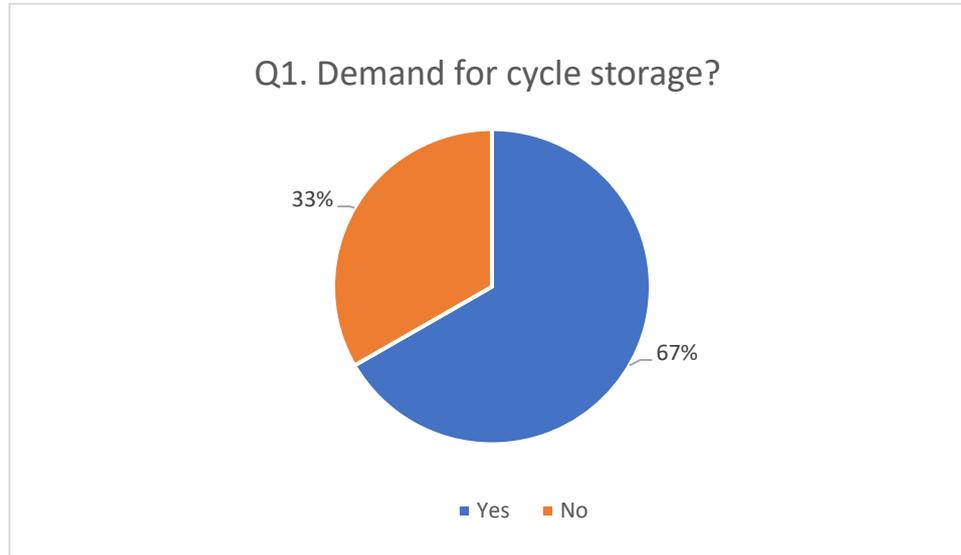
A profile of the responding organisations is in the table below.

Name of organisation?	Area of Operation	Stock	No. of flats excl. 4 in block	% Flats	High Rise	Tenement	Other flat/maisonette
Aberdeenshire Council	Aberdeenshire	13019	2458	19%	0	2354	104
Ayrshire Housing	North, South, East Ayrshire	1600	544	34%	24	412	108
Barrhead Housing Association	East Renfrewshire	947	461	49%	0	410	51
Bridgewater Housing Association	Renfrewshire	846	361	43%	0	359	2
City of Edinburgh Council	City of Edinburgh	20127	13875	69%	3016	10293	566
Cloch HA	Inverclyde	1371	711	52%	0	642	69
Craigdale HA	Glasgow	369	217	59%	0	185	32
Dunbritton Housing Association	Argyll & Bute, W. Dunbartonshire	979	365	37%	0	349	16
Fife Council	Fife	30597	9145	30%	697	6805	1643
Glasgow West Housing Association	Glasgow	1485	1483	100%	370	671	442
Glen Oaks Housing Association	Glasgow	1348	936	69%	0	862	74
Hawthorn housing Co-operative	Glasgow	364	217	60%	0	152	65
Hillcrest Homes	Aberdeen, Angus, Dundee, Edinburgh, Fife, PKC	6545	4401	67%	688	2457	1256
Home Group	Dumfries & Galloway, Edinburgh, Glasgow, Fife, Dundee	3925	1873	48%	162	1138	573
Manor Estates Housing Association	Edinburgh, Fife	1014	486	48%	0	410	76
North Ayrshire Council	North Ayrshire	12892	1823	14%	90	1474	259
North Lanarkshire Council	North Lanarkshire	36792	12220	33%	3945	0	8275
Oaktree housing assoc	Inverclyde	1793	1116	62%	46	1025	45
Paisley Housing Association	Renfrewshire	1239	929	75%	56	866	7
Perth and Kinross Council	Perth & Kinross	7760	2586	33%	138	2110	338
Pineview Housing Association	Glasgow	852	354	42%	0	251	103
Port of Leith Housing Association	Edinburgh	2492	2395	96%	532	1795	68
South Lanarkshire Council	South Lanarkshire	25012	8853	35%	1345	5484	2024
Spire View & Copperworks H.A.	Glasgow	557	359	64%	0	344	15
Thenue Housing Association	Glasgow	2974	1690	57%	0	1689	1
West Lothian Council	West Lothian	13997	2208	16%	0	1396	812
West of Scotland Housing Association	N & S Lanarkshire, N, E & S Ayrshire, Glasgow, E. Dunbartonshire, E. Renfrewshire	3517	1925	55%	0	1549	376

- 17 had noted some form of demand for cycle storage.
- 16 had provided or been involved in providing cycle storage and 11 planned to provide or potentially provide storage facilities.
- 22 were planning to build new affordable housing stock of whom 12 were intending to include some form of cycle storage provision, 8 were unsure and 3 had no plans to include cycle storage.
- 12 were also planning to include or link to other active travel facilities.

Demand

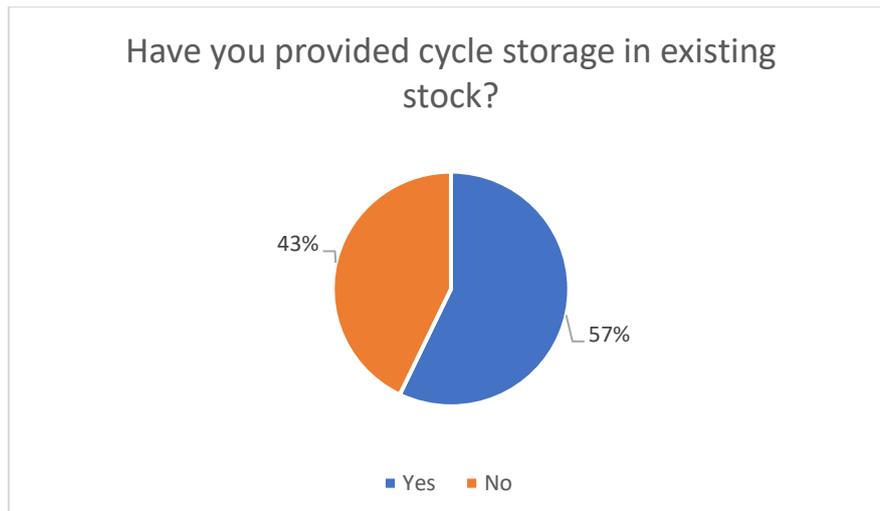
Sixteen or 67% of respondents indicated that they had experienced some form of demand for residential cycle storage. Housing Associations were more likely to have experienced some form of demand than local authorities- 50% from local authorities. This may be a reflection the higher proportion of flatted housing stock amongst housing associations.



Direct demand from tenants or residents was only cited by 4 of the 17 organisations who have experienced demand for cycle storage. More common was what might be described as 'latent demand' through bikes being left in closes, stairwells, and other communal areas. Bicycles being left on stairs and in closes was cited in 7 of the 17 responders to the question about demand for cycle storage. Other types of demand mentioned in the survey were local authority planning conditions and policies on active travel. One organisation also gauged demand by how well cycle storage facilities were being used when they were provided.

Involvement in providing cycle storage in existing stock

16 organisations said they had been involved in providing cycle storage in their existing stock – four of these were local authorities and 12 were housing associations. This included 5 organisations who had answered 'No' to the question about demand for cycle storage.



Eight of those who answered 'Yes' did so because they had provided cycle storage as part of new build developments.

Four had provided cycle storage in some of their existing stock via funding from the Social Housing Partnership Fund. Another two had also provided cycle storage in existing housing developments although they did not say how this was funded. Bike hangars and lockers were the most common types of cycle storage being provided. A further 3 stated that they were in the process of providing cycle storage facilities for existing housing stock. For new developments facilities ranged from internal bike stores for a block of flats to individual bike stores for terraced houses to external communal lockable cages or sheds.

One organisation reported that they had attempted to provide cycle storage facilities for their tenants but decided not to proceed due to unforeseen costs arising from the need to seek planning consent.

Another organisation has been looking at providing cycle storage at 4 blocks of flats but has run into delays due to Covid but also because of objections from owner occupiers.

Future plans to provide cycle storage in existing housing stock

Eleven organisations (7 housing associations and 4 local authorities) indicated that they were looking to provide cycle storage in the future. Two stated that future provision was dependent on the outcome of resident's surveys. Two indicated that cycle storage facilities might be included as part of individual estate improvement or regeneration schemes, three had on-going projects. One was looking at possibly converting bin stores while another was open to looking at providing facilities where feasible. Another organisation said although it was looking at providing storage, it was constrained by financial pressures and a desire to minimise rent increases.



Barriers to cycle storage in existing stock

When asked to identify the barriers to retrofitting cycle storage in existing housing stock), a range of different issues were raised. Cost and/or lack of funding was the most commonly cited issue. Costs of installation or ongoing maintenance were mentioned by 16 respondents. Several also mentioned costs in relation to perceived lack of demand for cycle storage.

The second most frequently mentioned barrier was a lack of space or suitable space. Space or lack of it was identified as a barrier by 13 organisations. Issues with security, vandalism and possible anti-social behaviour were mentioned by six organisations as were competing priorities for limited funding such as new kitchens and bathrooms or energy efficiency measures. Problems associated with mixed tenure blocks and seeking consent from owners or being able to cover owners share was mentioned by three respondents. The potential cost of tenants was also an issue cited by one organisation if the cost of installations or on-going maintenance was to be added to the rent or service charge particularly if they were not intending to own a bike.

Other potential barriers that were identified included, planning restrictions or restrictions in title deeds where the land or houses have been provided through a Section 75 agreement with a developer.

Solutions – existing housing stock

Actions to help with retrofitting cycle storage can be grouped under three broad headings:

Funding – the need for funding to help with the costs of equipment and installation. Several organisations mentioned that any funding package would need to take account of mixed tenure blocks and costs to owners, while others mentioned the need to avoid rent increases.

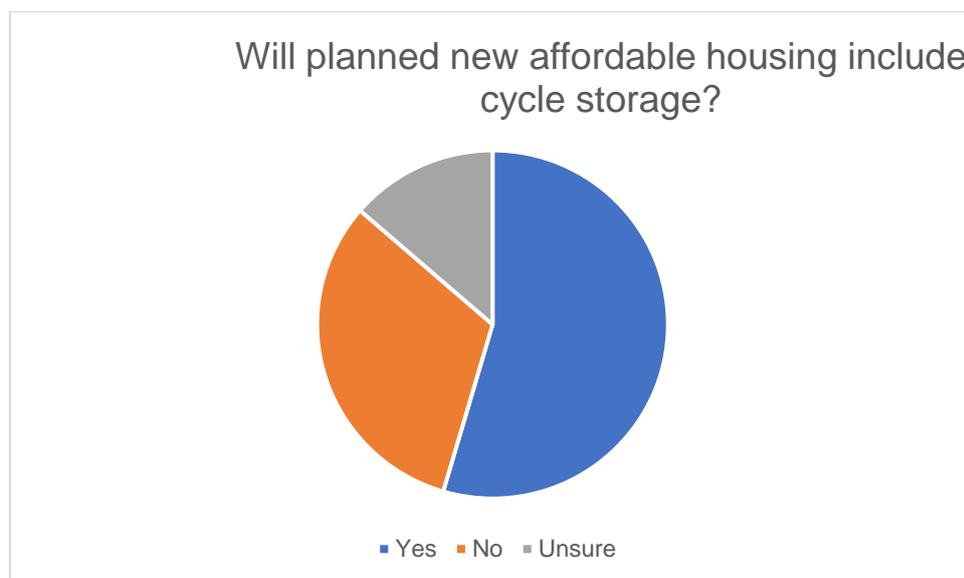
Land use – actions relating to use of land and space were identified by 10 respondents. Identified actions included reconfiguring and making better use of back-greens and other communal areas including car parking spaces and working with local authorities both to identify suitable locations and designs to avoid problems with statutory consents, and to look at using on-street parking bays where there is no other suitable space.

Assessing demand and raising awareness: Six organisations identified issues under this heading. These included a methodology for more accurately assessing or measuring demand, support for public engagement and raising awareness of the need for and benefits of cycle storage.

Other actions included innovative storage design solutions where space is limited, support for preparing briefs for suppliers, and amending legislation to remove the requirement for 100% agreement from owners to carry out work in mixed tenure blocks.

Cycle Storage in new affordable housing developments

Of the 27 organisations who responded to the survey, 22 had plans to build new affordable housing stock within the next three years. Of these, 12 indicated that that cycle storage could be provided in some or all of the new development while 7 were “Unsure” and 7 answered “No”.



All eight local authorities were planning to build new houses within the next 3 years of whom five indicated they intended to provide cycle storage two were unsure and one answered ‘No’.

Of the 5 who will include cycle storage as part of a new build developments, 4 are doing so because it is a requirement of the council’s planning policy or design guidance. In two cases, storage was not necessarily covered and seems to be more appropriate for short-term bicycle parking. One organisation didn’t make any reference to planning or active travel policy and stated that cycle storage was being considered in the form of bike racks but there were no plans to provide covered secured cycle parking.

Of the two local authorities who were unsure about cycle storage provision in their affordable housing developments, one gave the reason that there was no demand for it in flatted properties, but it would be considered on a case-by-case basis should this arise. The second council said they were in discussions with staff working on the Active Travel Strategy.

The one local authority that answered ‘No’ to the question about cycle storage in new affordable housing gave the reason that “generally all properties will have private gardens” and tenants could provide their own storage if required.

In response to the question about whether their new housing developments would include other types of Active Travel provision, 7 responded in the affirmative and one answered ‘No’.

Fourteen Housing Associations had plans to build or take ownership of new housing stock of whom seven said they would be including provision for cycle storage and five were unsure.

Six of the seven who said they would be providing residential cycle storage said they were doing so because it was planning condition and one said it was part of their own design brief and would be included in their Sustainable Policy Delivery Plan.

Of the 5 who were unsure only two gave reasons. One indicated that it was ‘normally the council that lead initiatives’, while the other said they had recently included bike storage in a new development but were unsure about future ones.

The only housing association that gave a ‘No’ response said it was because cycle storage had never been identified in any of its post-completion audits.

Barriers to cycle storage provision in new affordable housing developments

When asked to identify barriers to provision of residential cycle storage on new affordable housing developments, cost was mentioned by 14 of the 18 organisations who answered. Several also mentioned lack of funding or more specifically, that cycle storage costs are not eligible under the current affordable housing grant regime.

Space and land availability was identified as a barrier by six of the organisations. Several of the respondents referred to the need of achieving a certain level of housing density on a site in order for a housing development to be financially viable whilst keeping rents affordable. Cycle storage was seen as requiring space which might otherwise be used for housing as well as representing an additional cost which would need to be recovered through rent charges.

Resistance or a reluctance by developers to include cycle storage when affordable housing was being provided under Section 75 agreements was mentioned by two housing associations.

Two housing associations also referred to the additional costs they were incurring from requirement to meet further energy efficiency standards on new fire safety regulations while one mentioned that cycle storage was not a mandatory requirement under local planning policy or building standards and would therefore be regarded as non-essential. Other barriers identified included lack of demand and or difficulties in gauging demand, lack of guidance on design or specifications for cycle storage and the priority still given to car ownership.

Solutions to providing cycle storage in new affordable housing.

Sixteen of the 21 organisations with an affordable housing development programme answered the question about possible solutions and actions to enable cycle storage provision. Funding was identified by nine respondents. Three suggested that cycle storage should be a more explicit requirement in planning policy or building standards legislation with one suggesting this would assist over-coming resistance from developers.

Three organisations suggested more guidance and information about cycle storage including examples or visits to successful cycle storage schemes. One respondent referred to help in identifying cycle storage solutions appropriate to the type and size of accommodation and while another suggested planning requirements should take account of different size and types of bicycles (e.g., e-bikes, cargo bikes) and that the minimum number of storage spaces for household should be increased.

Better understanding of demand and user feedback, early consideration of active travel and cycle storage requirements early in the development process were also mentioned as actions that might support cycle storage provision in new build housing.

Strategic Housing Investment Plans (SHIP)

Question 11 in the survey was for local authorities only and asked if active travel generally and cycle storage specifically were given consideration when assessing affordable housing developments proposals for inclusion in Strategic Housing Investment Plans (SHIP). Seven local authorities answered the question of whom, two said active travel was given consideration in their respective SHIPs but not cycle storage specifically. Of the 5 who answered “No”, two said active travel items were addressed through their planning policy or would be considered later in the development process when detailed designs were being prepared. A third council indicated that active travel issues might be given consideration in the SHIP in the future in accordance with their Climate Change Active Plan.

Comments on barriers to retrofitting residential cycle storage in existing housing stock

- Space provision, cost and lack of demand to date.
- Other improvements had a higher priority and quite costly.
- Limited capital budget and more pressing priorities (i.e. EESSH2), the lack of use of existing storage facilities lack. no current demand from tenants. limited space
- Cost, availability of land, land issues (e.g. provision of lighting) suitability of sites, tenant consultation (due to Covid) etc.
- Space in rear courts. Mixed tenure ownership likely to impede.
- Safe storage.
- 1 Cost of provision 2 Budgetary limitations because of cost of living increases and the need to focus on rent affordability. The need to deliver savings 3 Increases in material costs and supply chain issues 4 Other priorities, for example energy efficiency measures 5 Mixed tenure estate – owner occupier buy-in.
- Planning permission is required by Inverclyde council.
- Space constraints. Cost. Bike theft/security (tenants don't trust communal cycle storage where they are reliant on others locking the storage facility and multiple users have access) Planning and/or Title constraints (some deeds of conditions from S75 developments forbid changes to common areas, or even external areas within our boundary). Balancing with requirement for pram/buggy and wheelchair storage. Ownership - we don't always have 100% ownership of a building and require all owners to consent to building work. Some of the reasons against the provision of bike stores we have received are: • “look at the age of me, I'm not going to be riding a bike, am I?” • Dirty bikes being pushed through the common areas and whose paying for extra cleaning? • Additional foot traffic out the back door into the garden (from a ground floor owner who looks over the garden). • “Why should I pay for something I'm not going to use?”.
- Funding.

- Cost, lack of demand, finding suitable space.
- Funding and location of storage.
- Space to locate cycle storage.
- Space & Cost.
- Cost.
- Demand versus cost.
- Demand, existing layout and configuration. Security concerns as well as away from houses. Potential vandalism.
- Retrofitting space not designed for cycle storage can be challenging, particularly with implications for fire and or access arrangements to the buildings. The council has a zero-tolerance policy on storage of personal items in communal areas for these reasons so cycle storage would need to be provided in a new, dedicated area which existing buildings predominantly do not have the space for.
- lack of space, maintenance of them – which department is responsible, – safety in some areas – will they attract ASB if expensive bikes in them, graffiti issues – complaints from other residents if blocking view.
- The main barriers: - Funding to install and maintain the storage units. The cycle storage will not necessarily be used by all tenants yet if the HA pays for it its coming from tenant money. Often better to demonstrate that external funding has been secured to cover the costs of install. - We must get 100% approval from owners for change of use of any area/space, this can be time consuming and can cause problems if just one owner occupier says no.
- Unable to cover cost and then owners' costs.
- Unsuitable locations / also mixed tenure tenements - who would pay
- Security concerns.
- Housing Repairs team has indicated space and security issues.
- Cost – The cost of providing the infrastructure in the back court area can be prohibitive if not met by external funding. We have a significant number of properties which could benefit from this but the cost of retrofitting them with cycle storage which is secure is large and is unlikely to be able to compete with other priorities for upgrading our stock to make them more energy efficient, or upgrades like new kitchens/bathrooms which are often more desirable to tenants. Space/Landscape – not all back courts have sufficient space, or there are barriers such as large slopes which make them unsuitable for storage options without significant preparatory work.
- Costs, space/location and approval of LA
- Possibly lack of resources to measure/asses where there is demand, put together a proposal and oversee delivery of a cycle storage project(s).

Comments on solutions to retrofitting residential cycle storage.

- Establishing suitable location and type of storage, funding route and establish demand.

- The grant allowed us to toa carry this work out much quicker than we would otherwise.
- Funding, support with preparing briefs for suppliers, list of approved suppliers, survey template to gather opinions
- Local authority freeing up roadside car parking provision for secure parking.
- Tenant buy-in.
- Provision of grant funding to install cycle storage facilities.
- A joined-up approach perhaps agreed designs with the council, so that the extra costs of getting planning permission are not incurred.
- Additional funding. Security and design of units. A statutory requirement or change in legislation to remove the 100% owner consensus requirement for cycle storage installations. We, and other RSLs, don't always have a majority ownership on existing buildings and are finding it difficult to obtain consent from other owners.
- Require sheltered cycle storage.
- At present we have no demand so do not anticipate providing cycle storage in our existing stock.
- Provision of funding and accessible areas.
- Re-configure backcourts and common areas.
- Access to suitable funding. Liaison with partners/local authorities in relation to locations/land use.
- For us to be able to access funding.
- Funding
- Improve demand, awareness raising and seek alternative solutions for areas with no land for cycle storage.
- Innovative storage solutions that take account of space limitations may be beneficial, alternatively access to grant funding to establish external storage options may also help increase the provision of storage.
- Smaller bike storage – or bike rails rather than actual storage units – wall mounted bike storage – community involvement in constructing them – more likely to take care of them – bike initiatives, budgets to maintain installed solutions.
- Funding to pay for storage equipment, shelters, toast racks, installation costs - Finding the right places to install them. The HA doesn't always own the land around the building, that can be owned by the council, which required joint working and takes time. - Good communication with tenants and owners to ensure everyone remains positive about changes being made. – particularly if potential bike storage units have been used for other purposes, even informally, in the past, this resistance needs to be overcome.
- Adequate funding which takes account of owners and a multi tenure solution.
- Funding package across tenures.

- If land/space can be identified, then bike shelter racks could be an option. Requires improved cohesive approach at a local and national level with provision of better information to the public.
- Solutions – sufficient funding, taking into account the fact that there are competing priorities which make it less likely to be funded by rental income and our desire to keep rental income as low as possible. Actions – Assuming sufficient funding we would have to take on a large program of work in the back courts of our properties to prepare these and make them suitable for installation
- Funding and a straightforward approvals process for siting of cycle storage areas
- Joining the dots with local authority's recently (Dec 21) published Climate Change Action Plan, making cycling and cycle storage provision a priority. Measurement of demand amongst residents. Measurement of access to private transport/assessment of available land for cycle store provision, to include surplus vehicle storage space.

Comments on barriers to providing residential cycle storage in new affordable housing developments.

- Funding and internal storage for cycles would be cost prohibitive.
- Limited budgets and other competing priorities (net zero heating systems, and Automatic Fire Suppression Systems), perceived lack of understanding from tenants about a wider carbon reduction programme.
- Land availability and competing cost priorities (e.g. we must ensure that the new build project is affordable, increasing new for new and improved energy efficiency measures, sustainability priorities, zero waste principles) Having to achieve all of this whilst making the new build project value for money and allowing us to charge affordable rents.
- Tenant buy-in.
- Not normally a space issue - this will be specific to each individual project, but there are cost implications if covered spaces are required.
- On S75 projects: developer's unwillingness to provide the required space in lieu of additional flat(s). Lack of dedicated funding to support the size and design of storage required/desired by tenants (ideally individual lockups).
- Space and costs.
- Lack of demand and tenants have private gardens.
- Space and cost.
- The added cost and the affect this will have on the rent.
- Space, ongoing maintenance & vandalism.
- Cost.
- Can impact on sites capacity and viability. Also issue with tenants being able to affordable a bike.

- Additional costs associated with design and build of storage areas that are not represented within the grant subsidy levels for local authorities.
 - Escalating building costs reduce the priority for what is seen as a non-essential - It is not a building requirement, so it's too easy to exclude
- S75 means developers do not want to pay to build, grant funding does not assist in that area.
- Budget constraints - the level of cycle parking requirement can seem excessive on occasions - this has an impact on cost due to size of cycle stores required.
- Finding a suitable location that is easily accessible, visible from properties, secure and safe.
- Planning consent and savings.
- A lack of definitive best practice guidance on what is best suited to size of site, house types etc., lack of data on demand and continued priority of private transport.

Comments on solutions to providing residential cycle storage in new affordable housing developments.

- Funding that reflects the cost of providing this.
- Mandatory requirement through either Planning or Building Standards legislation. Wider promotion of active travel as a viable option for all sectors of society.
- More information and briefing sessions to those working in new build developments, site visits to successful project promoting and enabling active travel etc. Separate funding to enhance cycling storage provision at new builds as opposed to providing the minimum to comply with planning regs.
- Dedicated safe storage solutions due to potential theft.
- A dedicated funding stream to support the delivery of cycle storage facilities given the extreme budgetary pressures currently being experienced.
- Additional funding. Pressure from planning/building standards on developers to provide suitable bike storage: Individual or a number of smaller stores preferable to large communal stores. Stores need to be accessible to all (hanging and stacking racks difficult to use by most and not suitable for e-bikes) and need to accommodate all types of bikes (including e-bikes, tandems, cargo bikes) as well as some mobility scooters. The ratio of bike storage spaces to flats needs to be increased. On S75 developments we are lucky to get 1 bike space per flat (and even then, usually only notionally on paper as the spaces are too tight and/or inaccessible); we need bike spaces to be a percentage of bed spaces in a development, otherwise a family will only have, at best, one space between them.
- Access to suitable funding.
- Consideration at design stage.
- Funding.
- Additional grant to support cycle storage would be helpful.

- Consideration should perhaps be given to understanding the demand for cycle storage within new build properties and ensuring active travel planning takes place. Additional funding or guidance on how this can be achieved may encourage this.
 - Make it part of the planning requirement for new build properties - Continue to encourage end user use so customer demand is high and continues to grow
- Government funding would assist HA to install at build point.
- Determining a suitable location that is easily accessible, visible from properties, secure and safe.
- Make it a planning condition, get SG/LA's planning on board.
- Clearer guidance on what is suitable in terms of type and size of storage relative to house types; better demand data and build in user feedback surveys to obtain useful data in what works/doesn't work in new build.

Appendix 10 – List of useful cycle parking design guides

[Active Travel Act Guidance](#) - Welsh Government (2021)

[Bicycle Parking Manual](#) – Danish Cyclists Federation (2008)

[C.7 Cycle Parking](#) — **Part C, Edinburgh Street Design Guidance** – City of Edinburgh Council (2021)

[Cycling by Design](#) – Transport Scotland (2021)

[Cycle Parking Guide for New Residential Developments](#) – Cambridge City Council (2010)

[Guide to Inclusive Cycling](#) – Wheels for Wellbeing (2017)

[London Cycling Design Standards](#) – Transport for London (2014)

[LTN 1/20 Cycle Infrastructure Design](#) - Department for Transport (2020)

[Standards for Public Cycle Parking](#) – Bicycle Association 2021

Appendix 11 – Social Housing Partnership Fund

The Social Housing Partnership Fund (SHPF) is a joint programme between Cycling Scotland, Scottish federation of Housing Associations, Living Streets Scotland and Sustrans Scotland. Funding is provided by Transport Scotland and administered by Cycling Scotland. The fund was established in 2019 and provides funding to registered social landlords, mainly housing associations and local authorities, to help them provide facilities that support and encourage walking and cycling by residents of social housing. The SHPF awards grants of upto and £25,000 per site primarily for capital expenditure on a range of facilities the most popular of which is cycle storage. In 2020/21 the SHPF provided £683,458 of funding to 29 different RSLs across Scotland. (Examples of the different types of cycle storage funded by the SHPF can be seen below and over the page.)

Cycling Scotland advise that cycle storage facilities should be:

- easy and straightforward for the intended user to access, either via a key, code or fob.
- located close to the intended users and if possible associated to specific residences allowing them to have a sense of ownership over the facilities and that they are convenient to use.
- located in an area that is well lit and feels safe for residents to use all year round - the amount of passive surveillance from surrounding properties should be taken into account.
- vandal proof to a high standard, robust and long lasting and ideally require little maintenance.

More information and guidance on how to apply can be found at

<https://www.cycling.scot/what-we-do/cycling-friendly/social-housing-fund>



Timber bike store, Scottish Borders – Eildon Housing Association



Combined store for bikes, scooters and baggies on Shetland – Hialtland Housing



Cycle hangar, Glasgow – New Gorbals Housing Association



Bike lockers in Paisley (left) installed by Paisley Housing Association and in Greenock (right) installed by River Clyde Homes



Caged bike store, Glasgow – Queen Cross Housing Association



Bike shelter, Erskine – Bridgewater Housing Association