



Caru Cymru Guidance: Binfrastructure

2022



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gymru'n wales
daclus tidy

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* This guidance is designed to support the campaigns and interventions as part of the Caru Cymru programme and provide advice to local authorities and other duty bodies to achieve a more consistent approach across Wales.

*Key audiences for this document include local authorities, Business Improvement Districts, Town and Community Councils, Registered Social Landlords, schools, businesses and other agencies interested in developing policies to promote the responsible disposal of litter.

The Caru Cymru approach

Caru Cymru is a collaboration between all 22 local authorities in Wales and Cardiff University to reach our shared vision of a beautiful Wales, cared for and enjoyed by all. Building on our many years of experience working in communities and schools and our expertise in behaviour change, Keep Wales Tidy has developed a unique approach to tackling local environmental quality issues at the local, regional, and national level.

Locally, we are working with partners to develop solutions in their areas, engaging with volunteer groups, schools, and businesses to foster pride and ownership of the spaces on their doorstep. Nationally, we are hoping to address some of the barriers to collaboration on the most persistent issues through the development of standardised messaging and interventions, based on positive and informative information, from litter to fly-tipping to plastic reduction. We aim to support our partners in creating an enabling environment across Wales to encourage people nationwide to 'do the right thing'.

This guidance is designed to support the project materials and provide advice to authorities to achieve a more cohesive approach to litter bins and other infrastructure so that it is more accessible and transparent for public dissemination.

Caru Cymru – Right Bin, Right Place

1. Bins alone do not reduce litter.
2. However, a lack of bins is a common excuse used by offenders for littering.
3. All public spaces of high footfall to have bins and recycling provision where possible (for example, high streets or shopping centres).
4. But we would caution against installing bins everywhere for every occasion – not least because this is onerous and costly for local authorities to manage.
5. There is some evidence that bins in laybys do attract litter and many local authorities have removed bins in these locations, but studies are inconclusive, and this is highly context dependent and should not be applied as a blanket rule.
6. Removal of bins to prevent misuse may disperse or exacerbate the problem.
7. Local Authorities should make efforts to get to know their bins and get a good understanding of how (or if) they are used through regular bin audits and a common bin strategy and decision-making framework.
8. These policies should be developed and shared with Council members who are often the source of bin requests.
9. These policies should be developed and shared with Council members who are often the source of bin requests.
10. Increasing the visibility of bins increases their use. They should not be designed to 'blend in' their environment but to stand out as much as possible.

11. As well as providing a means of disposing of waste, bins also provide good opportunities for messaging and awareness raising.
12. Many novelty bins exist and whilst they are successful in reducing littering, in order for this to be maintained, they need to refresh regularly to maintain the novelty element. Possibly as frequently as every 2 weeks in the case of, for example, ballot bins.
13. Innovation in bin design is increasing and becoming more commonplace. Whilst the capital costs of these can be expensive, they may increase efficiency costs over the long term.

What is binrastructure and why does it matter?

Binrastructure is about the provision of infrastructure for litter disposal. As well as general litter bins, there are also many other bins designed for specific types of litter. Portable products are also available, which allow people to dispose of their litter responsibly even when there isn't a conventional bin nearby.

Binrastructure is important because it helps people dispose of their litter responsibly. However, bins are only part of the solution to the litter problem. They are not appropriate for all locations and because of the money, time, and resources they require, it is neither practical nor realistic to provide them everywhere, so it is important that they are used as effectively as possible.

Litter matters to people because living or working in a littered area is not just unsightly but can have a huge impact on your physical and mental health. It can affect how much investment an area attracts or levels of antisocial behaviour and can even impact on local democracy. By increasing the quality of the areas where we live and work, we can create a Wales of thriving, healthy communities for people and wildlife. It is everybody's responsibility to dispose of their litter responsibly – a truly clean street is one that isn't littered in the first place.

This guidance does not cover other waste receptacles such as household waste and recycling wheelie bins/boxes or community waste sites. This paper mainly focuses on Local Authority bins in public places although it is important to note that they are not the only bodies which provide and maintain bins. Others include town councils, schools, registered social landlords, businesses, transport providers, beaches and other visitor destinations.

A consistent and evidence-based approach to bins is an important element of any strategy to tackle litter and waste. In interviews with local authorities carried out in 2018/19, Keep Wales Tidy identified vastly different approaches to dealing with litter across local authorities including bin provision and placement. Whilst there is no 'one size fits all' approach, the 'right bin in the right place' principle will support prevention aims as well as cleansing and maintenance activities.

Key Points

1. Bininfrastructure is about the provision of infrastructure for litter disposal and there are many different types.
2. Bins are important because they help people dispose of their litter responsibly, but they cannot be provided everywhere.
3. Litter really matters because it impacts on the environment, people and the economy and it's everybody's responsibility to disposed of their litter responsibly.

Public attitude towards bins

Bins play an important role in enabling people to do the right thing and are highly valued by the public. Keep Wales Tidy research shows that: ¹

- 25% of the Welsh population would consider littering when there isn't a bin nearby.
- 70% of the Welsh population would put litter next to or on top of a bin that was overflowing.
- 15% of the Welsh population would consider littering when a bin is full.
- 74% of Litterers in Wales don't think there are enough bins in public places.
- 25% of Litterers in Wales think there is no option but to drop litter when the bins are full.

There is clearly an aspect of expectation of bin provision amongst the public, and the perception of the bin is just as important in influencing behaviours. The lack of bins is often given as an excuse for littering and is particularly seen as a problem for cigarettes and other problematic items such as food, gum and dog fouling.² The closeness of a bin is an important motivator for binning litter³, which suggests the importance of bin placement/rationalisation as well as visibility.

As well as the need for sufficient bins, the need for regular cleaning, maintenance and emptying are also important factors. This makes them appealing to use and ensures that the contents don't end up as litter in the surrounding area, as bin cleanliness and the level of rubbish already in and around a bin has shown to impact littering levels.⁴

Keep Wales Tidy staff have seen vandalised bins, broken bins and others with their linings missing, that can all lead to areas becoming more littered as the bins themselves become part of the overall neglected feel of an area and can even become part of the problem they are aimed at addressing.

Many smokers tread on their cigarette ends to reduce the fire risk and are the reluctant to dispose of their cigarettes in a litter bin in case this resulted in a fire. Indeed, Keep Wales Tidy has observed smokers stubbing out cigarettes on bin stubbers and then just leaving the stumps there instead of putting them into the bin.

Although bins may not always be the solution and certainly will not solve litter by themselves, the public expectation of provision and levels of maintenance is an important element to consider.

Key Points

1. Bins play an important role and are important to the public, as the lack of bins is often given as an excuse for littering. However, placement, visibility and quality are equally important factors in perception and use.
2. Cleaning, maintaining and emptying bins are all important factors as they impact littering levels and could even exacerbate the problem they are trying to address.
3. Many smokers are reluctant to dispose of their cigarettes in a litter bin in case this resulted in a fire.

Local Authority Approaches

The Environmental Protection Act 1990 places a duty on local authorities and certain other bodies to keep land under their control clear of litter and refuse.⁵ There isn't a legal requirement to provide bins, but they are provided by all local authorities (and other bodies) in busy areas and in places that are susceptible to large influxes of litter and/or dog fouling to help comply with their legal obligations. This tends to include busy areas where there is high footfall such as retail areas, fast food outlets, schools, transport hubs and car parks. However, a recent local authority survey into bininfrastructure by the Association for Public Service Excellence, showed that of 46 UK wide responses *'Only 24% of respondents had a strategy or policy in place regards the types of litter bins to be used as well as clear criteria as to their locating. Many respondents generally placed litter bins out because of requests from the public or elected members or based on past historical need.'*⁶

The frequency of emptying the bins depends on how quickly they get filled, but this tends to vary from many times a day to once a week depending on location and cleansing schedules. Traditional local authority bins are susceptible to the effects of adverse weather conditions (e.g., wind or rain) and scavenging birds and animals, with litter scattering from bins that are 75% full or fuller.

Bins can be an expensive service for local authorities to provide as it not only involves procurement and installation but long-term maintenance and emptying. Fareham County Council states that *'It costs around £500 to replace an old bin and at least £200 a year to service the bin.'*⁷ In 2014, Gwynedd Council had 1,052 litter bins and 185 dog fouling bins and it costs the local authority £189,521.50 per year to empty the bins.⁸

Interviews with local authorities in Wales in 2018/19 demonstrated the many differences in approach and a lack of policies around bin provision⁹, although indications showed that many are increasingly opting to move bins rather than install new ones or in some instances, beginning to remove bins altogether to reduce costs.

Numbers of litter bins in local authorities in Wales range from 120 to 3600 with no correlation between population or size of the authority area.¹⁰ Areas of greatest bin density were often a result of a historic policy to grant bins whenever they were requested (usually by town councillors) although this policy is rapidly changing and almost every authority were in the process of undergoing a bin 'review' or had this as a future ambition. Some areas, as part of their review process, have removed bins from certain locations, such as laybys, due to the consistent and high level of misuse. A third of local authorities have bins in most laybys, while 52% have 'a few' in strategic locations, but whether bins in laybys help or hinder the roadside litter problem is a contentious issue¹¹ and to date, many trials to get to the bottom of this issue have been inconclusive.

Recent discussions with local authorities suggest that a small number have current bin policies¹², many authorities now refuse requests for new bin installation but will consider moving existing bins to a new location. Although this contributes to keeping bin provision 'at scale', it does not necessarily serve to make them more manageable. This is partly due to the need for staff resources to empty and maintain them, but also an increasing recognition that bins in themselves do not prevent litter unless correctly designed and situated in the right place. As many bin requests come from town councils or local members, there is a need to communicate this with local members and to bring them into the strategic litter prevention process.

Every local authority in Wales has struggled with contamination of street recycling bins in their area, and many have undertaken trials to this effect. A small number of areas install these bins as standard, despite the issues of contamination as they feel it is the 'right thing to do' although the majority only maintain a very small number of them in town centres.

Behaviour change in this area is complex, although one of the issues may be that current bin design does not align with household recycling infrastructure. Although certain levels of contamination should be expected, it is widely expected to increase recycling as much as is practicable and to send the right message to consumers. Most people have the intention of recycling, but this is not always supported by knowledge of materials. Therefore, any recycling bins should always exist alongside bins for general waste and should be complemented by clear signage making use of graphics and visual instructions to make it as easy as possible to be understood by all visitors and ages. The proposals within the proposed UK Extended Producer Responsibility scheme to provide better design labelling should help with these barriers by providing consistent information to the public on packaging material.

Research undertaken as part of a project to enhance street recycling in Swansea has shown that efforts to increase recycling 'on the go' can increase recycling participation as well as potential contamination as people want to do the right thing.¹³ This should be seen as a positive indication of behaviour, but studies have shown that the more options provided, the greater the levels of contamination will be. To reduce the risk of contamination, clarity over packaging materials accepted should be provided with clear labels on bins and the least amount of additional material options possible (preferably aligned to household recycling systems). Additional bins for specific items (such as cup bins) can increase the target material collection but can also serve to create a greater confusion around what is and is not recyclable. Some areas feel that bins are essential for use by the public, and the lack of lay-by bins has been raised as a cause for vehicle littering.¹⁴ Others take the view that the presence of bins attract more litter.

There is a tendency for people to dispose of their litter on top or near full bins. Examples including dog fouling bins as well as litter bins located in parks and on beaches (particularly when footfall is especially high such as during hot weather, bank holidays and festivals). Keep Wales Tidy has also seen evidence of this in relation to gum litter, an accumulation of which can often be seen around litter bins. Bins are also sometimes used to dispose of business and domestic waste, rather than for the disposal of small items by passers-by as they are intended.¹⁵ However, this behaviour should be considered carefully as it is likely that people who do this consider that it is not wrong or would not see this as littering. Removal of the bin which appears to be being misused may disperse a problem which is servicing key locations.

Projects looking at the impacts of bin removal have been trialled in London parks,¹⁶ Scottish laybys¹⁷ and in various locations across Hertfordshire,¹⁸ with varied results, suggesting that more research is needed.

Enforcement is one of several tools local authorities implement for dealing with the incorrect usage of bins. For more information on good practise in enforcement, our enforcement paper is available on our website under [Policy & Research](#).

Bin Design and Location

Binrastructure is a complex issue - it is not as simple as saying that bins are 'good' or 'bad'. They can help reduce litter in some environments, but their location and design are important factors which contribute to their effectiveness.

General good practice guidance is below:

The Right Bin in the Right Place

Design and Material

- Should not trap litter*
- Robust enough to resist vandalism and damage by vehicles*
- All bins within an area should be consistent, so that the same keys and bag sizes are required* and to avoid confusion (same colour and shape), and with appropriate labelling. However, they should not be designed to 'blend' into the environment.
- Large capacity bins are often cost-efficient with lower service costs*
- Uncovered bins tend to fill with water during heavy rain and are prone to spillage via wind and seagulls/vermin*
- Stubby on top* with ashtrays deep enough so that cigarette ends left there are not windblown onto the floor.
- Items of street furniture such as litter bins, CCTV cameras and road signs can be attached to the same post to minimise clutter and ease access and maintenance*
- Catch the attention of the public and easily identifiable.
- Litter bins tend to be black or grey, so they tend to blend into their surroundings. Increasing bin visibility increases their use,¹⁹ so it would be better for them to be highlighted with the consistent use of colour – using brightly-coloured bin wraps - as well as text (and logo, where appropriate). Where possible, consistent colours should be used within any one local authority area to denote the types of waste that can be accepted by bins. A suite of colours denoting different material types has been developed as part of the national Recycle Now brand and this is now widely used and recognised by the public.
- Bin opening should be small enough to discourage fly-tipping but big enough to accept normal litter items.
- Bin size should try to minimise the emptying frequency needed while discouraging illegal dumping. In the past, Cardiff has put out large bins (1100 litres) on Friday (emptied on Saturday morning) and Saturdays (emptied on Sunday morning) to keep litter from the night-time economy off the streets as much as possible.

- Recycling bins should have litter bins at either end to avoid contamination; and should have locked lids with holes in the lids the size and shape of the materials to be put in them.
- Bins should have signs overhead so that their location can be easily seen above a crowd.
- Some coastal local authorities (e.g., Anglesey and Conwy) have purchased bins with flap features to keep away gulls and vermin.
- Cast iron bins are costly to maintain in the longer term because they corrode in saline environments*
- Certain plastics are prone to arson*

Location

- Access should be easy for users and those emptying and maintaining*
- Optimum location: between 100 and 200m along the footway from the source of litter (e.g., fast food outlet)*
- Areas where smokers congregate e.g., entrances to office buildings, commercial properties and outside bus and train stations*
- Normal or dog fouling bins where high level of fouling is recorded e.g., parks, open spaces, and streets adjacent to these*
- Recycling bins usually take more space so would not be suitable as a replacement for all litter bins*
- Adjacent to public seating areas*
- Convenient and accessible to the public e.g., near ATMs and exits from large public venues.
- Specialist bins are required in specific locations, e.g., cigarette bins/features outside pubs.
- Animal-proofing will differ by location with coastal areas more likely to be troubled by seagulls and urban parks by foxes or rats.
- In areas where food is consumed within vehicles (near drive-thru outlets and takeaways) dedicated bins may be needed for those who do not wish to leave their vehicles.

Bins should be used in conjunction with other measures such as signage, cleansing, public participation, and enforcement. In addition, monitoring and evaluation is needed as each local circumstance could be different.

Sources:

*Keep Wales Tidy (2008) Designing for a Clean, Safe and Tidy Environment: A Good Practice Guide.

WRAP (2020) Right Bin in the Right Place <https://wrap.org.uk/sites/default/files/2020-10/WRAP-Right%20bin%20in%20the%20Right%20Place%20Final.pdf>

Bins for specific types of litter

Special bins have been developed for specific items of litter.

General Recycling Bins

Much of the litter that is found on our streets has a recyclable or reuse value. Therefore on-the-go recycling bins designed for common items such as cans and plastic bottles are often provided in high footfall areas such as town and city centres. There are often problems with these becoming contaminated (sometimes to the extent that the waste must be sent to landfill). Therefore, they should always exist alongside bins for general waste and should be complemented by clear signage.

Cup Recycling Bins

Most single use cups go to landfill, but recycling is possible it just requires cups to be collected separately. We use 7 million single use cups every day in the UK,²⁰ and a study in England has found that coffee cups are more likely to be binned than littered.²¹ Therefore, while cup recycling bins are currently very rare, there is a huge potential to do more in this area. Lessons can also be learned from other cup recycling projects which have recently taken place, such as Keep Wales Tidy's cups project with Cardiff Metropolitan University²² and Hubbub's #InTheLoop recycling-on-the-go campaign,²³ trialled in Leeds, Swansea, Edinburgh and Dublin. This is not only a good opportunity but also to businesses, who can provide these bins both inside and outside their stores. Costa introduced recycling points in stores in 2016, followed by a national cup recycling scheme in 2018.²⁴ However, it should be noted that increasing the uptake and materials for recycling can also lead to increased contamination as there is a lack of clarity about the recyclability of materials. It is hoped that labelling regulations proposed as part of the Extended Producer Responsibility changes in the UK will provide more opportunities for effective engagement on this issue. By 2024, it will become law that all outlets over a certain size serving takeaway coffee cups will have to provide bins for coffee cup recycling.

Dog Fouling Bins

Many local authorities in Wales provide dog fouling bins in popular dog walking areas. However, the costs associated with them are higher than general litter bins.²⁵ In the past, dog waste has been considered hazardous waste, requiring separate collection and treatment, but as it is no longer classified in this way more local authorities are reducing costs by allowing dog fouling to be disposed of in general litter bins.²⁶ Some Local Authorities choose to place signage on bins to make this known to the public. As part of the Caru Cymru initiative, Keep Wales Tidy in partnership with Local Authorities have used social marketing and behaviour change principals to highlight bins for use by dog walkers through the paw prints to bin campaign. The campaign which highlights the need to use a bin for dog waste through bright pink stencilled prints saw a reduction of 53.4% in the initial trial.

Cigarette Bins

Smokers look to dispose of cigarette ends rapidly and the placement of smoking bins is a key factor in reducing the number of littered butts. It is best to focus on areas which have a high footfall (such as town centres and transport hubs) or places where smokers congregate (like outside offices, at bus stops and outdoor seating areas). Suitable bins should always include a stubbing plate. Innovative cigarette bins, such as [ballot bins](#) have been designed in recent years. These display a question and two answers, with smokers voting by disposing of their cigarette ends in the slot below their chosen answer. Questions can be chosen to target certain demographics and can be easily changed. However, it is recommended that the questions are changed as frequently as every two weeks to maintain the novelty value. Another example is the [micro bin](#). Not only do these have aluminium liners and stubbing plates that are made primarily of repurposed materials, but they are easy to install and cost less than £10 each. More information on tackling smoking related litter can be found in our Smoking Litter Guidance on our website under Policy & Research.

Chewing Gum Bins

Micro bins can be used for chewing gum as well as cigarette ends. [Gumdrop](#) bins are small, bright pink chewing gum bins. Once filled, the bin and its contents get recycled into make 3 new Gumdrop bins as well as other products. 100 Gumdrop bins were installed as part of a six-month trial in Cardiff in August 2013.

Portable Infrastructure

These are products which have been designed to allow people to dispose of their litter responsibly, even when there isn't a conventional bin nearby. These provide a portable solution to litter that's more difficult to keep hold of.

Portable Ashtrays

Various designs of pocket ashtrays have been designed, including stubbies (some of which include also include gum wraps), ashcans and tins. These are not currently widely used. The tobacco industry has already made commitments, including to provide free portable ashtrays at the point of sale. They should not only be available but also prominently displayed at every point of sale of tobacco products and this should be a condition of their sale. Car ashtrays are also available as there are limited options for smokers to responsibly dispose of their cigarette ends while in vehicles.



Portable Gum Bins

Gumdrop 'on-the-go' are mini pocket bins that can be attached to key rings, which can hold up to 20 pieces of gum. They can then be recycled into various plastic products.



Car Bins

Reusable car bins are not currently widely used but provide a solution to the fact that many people litter from behind the wheel to prevent clutter or smell from vehicles (although to do this the design should include a lid). Keep Wales Tidy has worked with Cardiff-based creative Lisa broom to produce waterproof car bins made from recycled Keep Wales Tidy fabrics. In March 2018, Keep Wales Tidy joined forces with Wessex Garages, which offered free car bins to the first 200 customers purchasing vehicles with new 2018 number plates, proving what can be achieved with the support of the private sector. Keep Wales Tidy will be trialling the use of car bins with McDonalds as part of Caru Cymru. When asked how likely they were to keep using the bins, 49% said very likely, 33% said likely, 8% said neutral, 2% said unlikely and 8% said very unlikely.



Dog Fouling

'Dicky bags' (dog waste bag holders) are an innovatively designed bag which is made specifically for dog fouling bags to be carried. They reduce odour and can be attached to the body which can encourage owners to hold onto the bags until they find an appropriate bin.

Doo- keys and other portable bag carrying infrastructure are now available to dog walkers, these can all help alleviate the need for carrying dog waste bags encouraging owners to take their waste with them.



Behaviour Change Interventions

While litter bins are perhaps the most widely used methods for tackling litter, other interventions have also been used to increase their use.

Nudge interventions - which influence people through positive reinforcement - have successfully been used to encourage people to do the right thing. This work (led by Pelle G. Hansen) began in Denmark in 2011, when his students:²⁷

1. Distributed free caramels to pedestrians in the streets of Copenhagen and then counted the wrappers they could find littering the streets and placed in litter bins or bicycle baskets.
2. Placed green footprints on the ground leading to the litter bins.
3. Distributed more free caramels, repeated the counting exercise, and found that the footprints had resulted in a 46% decrease in littering (it is believed that social norms played a part on this result).

Keep Wales Tidy has used this idea to nudge dog walkers to bin bagged dog fouling or take it home by using **signage and pink pawprints to bins**. This led to a 53% reduction in dog fouling across 3 hotspot areas.²⁸ Similarly, Dogs Trust used signage, colour coded dog walking route markers and bin stickers to tackle the issue, which led to decreases of 38% and 40% in dog fouling respectively over two years.²⁹

Other efforts have focused on the fun theory, making it fun to use bins. Examples include:

- ['The world's deepest bin'](#) where a sound sensor was inserted into a bin, making it sound like it was extremely deep. This proved both a surprise and a novelty for users and significantly increased the amount of litter in the bin. During the experiment 41kg more litter was collected in the novelty bin compared to bins nearby, pointing towards the success of the 'fun theory'.
- ['Talking bins'](#) used by Keep Britain Tidy, which included celebrity voices, music as well as sounds effects such as applause and burping.

A Hubbub project using talking bins amongst other interventions to encourage the use of bins on Villiers Street in London found that over a course of 5 weeks the interventions decreased littering behaviour by 16%.³⁰

- Signage is an additional tool which can be used to encourage bin use. Signage on bins has been underutilised until now, but examples include those relating to crime, enforcement, and cost. Some local authorities have also used bins to display posters and messages designed by local children. Other use of signage may involve signposting to bins such as 'bin ahead' or direction/distance to next bin.

Keep Wales Tidy has created a [campaign toolkit](#) which features free resources for individuals, community groups, businesses and organisations to get involved with existing Caru Cymru campaigns.

Key Points

1. Nudge interventions - which influence people through positive reinforcement - have successfully been used to encourage people to responsibly dispose of their litter.
2. The public can be engaged by making it fun to bin litter, but 'novelty' bins need to be refreshed frequently to maintain high levels of use.
3. Simple signage can also be used as a tool to educate, raise awareness, and lead people to bins.

Messaging

Bins are often designed to blend into the environment, but this is the opposite to what is needed to promote their use. As well as enhancing the overall visibility, most bins are 'blank canvases' through which to apply messaging and raise awareness. Rather than common street infrastructure, they can be excellent focal points in an area which can gain interest and provide creative means of engagement.

Messaging specifically on bins or more widely about litter provides an additional opportunity to educate and prompt bin use. Until now, different local authorities have been using different messaging but as a national partnership initiative, Caru Cymru provides an ideal and unique opportunity to develop a consistent approach across Wales. There are several potential themes built on behaviour change research that could be used to develop messages around general littering:

- **Pride:** People care about their reputation and feel a strong connection to their future selves.³¹ A message could tap into the strong feelings of national pride that exist in Wales.
- **Guilt:** Messaging could play on the fact that there are strong feelings of guilt associated with littering compared with other antisocial behaviours.³²
- **Visibility:** Creating the feeling that people are being watched has been effectively used to change behaviour. Research shows that the people who decided to handle litter left at bus stops held on to the litter for twice as long in the presence of eyes.³³ Keep Britain Tidy's We're Watching You campaign (which used glow in the dark eyes on posters) has reduced dog fouling by up to 46%.³⁴
- **Peer pressure:** People are strongly influenced by the behaviour of others. This means that people are far less likely to litter when an area is clean compared to when they see litter around.³⁵
- **Education:** People are irrational and fast, automatic thinking dominates our decision making.³⁶ Therefore, highlighting the serious consequences of littering on communities, wildlife and the environment could help them to make more informed decisions on the actions they take. These should be easy to understand by using photographs and should emphasise specific and personal aspects which are relatable and engage with the emotions rather than general statistics.³⁷

Sub-messages could be more targeted to a specific behaviour and/audience as relevant to the location or litter/bin types.

Working in partnership can help gain wider reach and maximise the effectiveness of the messaging but the key call to action needs to be repeated across a variety of situations to sink in and become memorable.

Key Points

1. Visibility of bins is a key factor in their use and should not be designed to 'blend in' with the surrounding environment.
2. Caru Cymru provides a unique opportunity to develop messaging on litter and its responsible disposal which is consistent across Wales.
3. Behaviour change research should be used to underpin messages while sub-messaging could be more targeted to specific behaviour, locations, and litter/bin types.
4. Working in partnership can increase the reach of messaging and maximise its effectiveness.

Innovation

Being more innovative with bins can engage the public with bininfrastructure in more ways than the traditional bin, with advantages like ease of use, visibility, for the public whilst also saving time and reducing litter for local authorities. Some examples, but not an exhaustive list, of ways bins have been innovated are detailed below. These are good starting points for becoming bolder with bininfrastructure but considerations for suitability need to be made in each individual circumstance. It should be noted that the capital costs and maintenance costs are higher. Novelty bins, such as Ballot bins for example, will require refreshing regularly (as much as once a fortnight) to maintain the engagement with the 'novelty'.

Smart Bins

A 'smart bin' is named as such because they use technology and bin sensors to indicate fullness. Some will also crush the litter inside them to extend the time before the bin becomes full. The benefits of this are that the cleansing teams can be alerted when it needs emptying. Some of these bins are solar powered and use the energy created to compact litter and recycling further reducing the frequency they need to be emptied.

Smart bins in Porthcawl are also being made into novelty bins as their large stature and distinctive design initially confused some members of the public. The bins are now being decorated as aliens to encourage people to use them and to explain their use. This is an example of how approaching bin design holistically, considering innovation design and messaging is important to successful bininfrastructure.



Novelty Bins

Novelty bins are bins which use innovative design to encourage public use. The key to novelty is using creative concepts which can make disposing of litter correctly, interesting, or fun. One thing to be wary of when considering novelty bins is that the novelty of the initial excitement can wear off over time, so it is worth considering ways they can be updated and maintained. Currently they are often best utilised in visitor or tourist locations, but they can be successful elsewhere.

Examples of novelty bins are often found in locations with young people, but they have a wider appeal. Further research may be needed to see how well these bins work.

Animal-shaped Bins

Penguin bins were installed at Barry Island, where litter is fed to the penguins. Animal-shaped bins where children can 'feed' litter into the opening have been used in Caerphilly and Monmouthshire.



Basketball Bins

Basketball bins are being trialled in skateparks around Wales as part of the Caru Cymru scheme. Primarily aimed at young people these bins encourage correct litter disposal as it can be 'dunked' into the hoop shaped bin.



Fast Food Bins

Fast food bins have been installed in Blaenau Gwent follow a similar idea. The large bin openings allow for litter to be thrown in from car windows at the drive thru, encouraging those who are not inclined to leave their vehicles to dispose of waste properly.

Disco Bins

Disco bins which play music or other sounds when litter is disposed into them and glow in the dark bins were installed on beaches in Bournemouth, to deal with night-time litter and influx of leisure visitors in 2020 during the COVID-19 pandemic.

BBQ Bins

During the summer months, visitor locations such as beaches and greenspaces can find a high number of Barbeques are used. This can be problematic for litter as they are difficult to dispose of properly due to the fact, they take a long time to cool down - visitors often leave before the BBQ can be safely put into a normal bin. A BBQ bin is an innovative idea which provides fireproof bins designed especially for the hot and flammable waste created by disposable barbeques. These have been used on beachfronts in Swansea as shown in the picture below.



Wormery – Compost Bins

Wormery's are commonly utilised as compost bins for vegetables and garden waste the organic material is broken down in a controlled environment by worms and other critters. An innovative idea has been to have specific dog waste wormeries on rural sites and paths. These work on the same basis, if the dog waste is tied into a fully biodegradable bag the worms will take care of it all. The usage of compost created needs to be used carefully and away from food and children as the chemicals can be harmful.

There is also a dog poo-powered streetlamp in the UK. Where dog walkers deposit the dog waste into a hatch and turn a handle. The contents are then broken down by microorganisms in the anaerobic digester, producing methane to fuel the light, and fertiliser which provides another notable example of how innovative bins can turn litter from a burden into a resource.

Key Points

1. Innovation in bin design is increasing and can serve to encourage public use.
2. The purpose and location of a bin will determine the suitability of different designs.
3. Bin innovation is an investment, preparation and commitment to costs and upkeep is important for success in this area.

Community and Business Action

Appropriately placed litter bins play an important role in tackling littering issues. Given the costs involved in maintaining and emptying bins the public and business have a role to play in their management. All local authorities across Wales have mechanisms to in place for reporting damaged or overflowing/inadequate bins. Local Authorities should continue to make it easy for the public to report challenges and should have policies in place for dealing with matters swiftly when reported.

Spotlight on Powys County Council

Powys is a large county with bins spread across different areas. These stickers are being placed by the PCC Waste Awareness team on all street litter bins serviced by Powys County Council. The QR code allows staff and members of the public to easily report that a bin is overflowing, or is damaged, through the internet. In addition to this the initial installation of putting the stickers on the bins also enabled the Waste Awareness team to do an audit of the location, type, and condition of the bins throughout Powys.



Likewise, businesses, particularly those selling food on the go have a role to play in ensuring that there is adequate infrastructure in place to deal with any resulting litter and waste. Local Authorities have made adequate binrastructure and cleansing a part of licensing agreements particularly in relation to late night opening. There is evidence to suggest that branded litter can have a negative impact on businesses³⁸ this evidence can be used to facilitate discussion with businesses who may be responsible for litter.

Spotlight on Blaenau Gwent Fast Food with Businesses

In August 2021 Blaenau Gwent Council worked in conjunction with KFC to tackle accumulating fast-food rubbish in Ebb Vale.

The Local Environmental Quality Officer for the Local Authority initially approached the business to see if they would be willing to support their initiatives to tackle litter in the borough. Both KFC and McDonalds were approached due to the visibility of their packaging.

KFC agreed to purchase and trial target bins, which allow users to dispose of their waste from the car. Overall, the bin was found to decrease the amount of ground litter around the carpark. Prior to the installation of the bin 1.5 bags of ground litter were collected daily. The installation of the target bin reduced this to less than ½ bag of ground litter each day.



Key Points

1. Signage and QRs on bins can be used to involve local communities and report issues.
2. Businesses can collaborate on bins specific for the waste they create.
3. There is space for involving businesses in costs of bininfrastructure.

Monitoring and Evaluation

Consideration should be given as to whether the bins local authorities own and manage are serving their intended purpose. Many local authorities do not have set strategy for bin placement, removal and management and there are some who do not have full audits of their current bin provision. Only by monitoring and evaluating the use of bins can we ensure that they are working and not an inefficient use of funds. Where bins are removed because they are underused/damaged, continuous monitoring of the areas should happen to ensure there is no negative impact to the removal. Likewise, where bins are installed to manage a litter problem, monitoring should continue to ensure the bin placed is meeting the needs of those locally. New bins may need different messaging/apertures or other design features to encourage use.

For example, Monmouthshire County Council use a scoring matrix to assess suitability for the location of bins which is a useful way of ensuring effective bin placement.

Key points

1. A bin strategy, including a bin audit tool, can help identify the need for bins.
2. Successful bin placements require continued monitoring and evaluation.
3. Monmouthshire have implemented a matrix to use for all bin requests.

Appendices

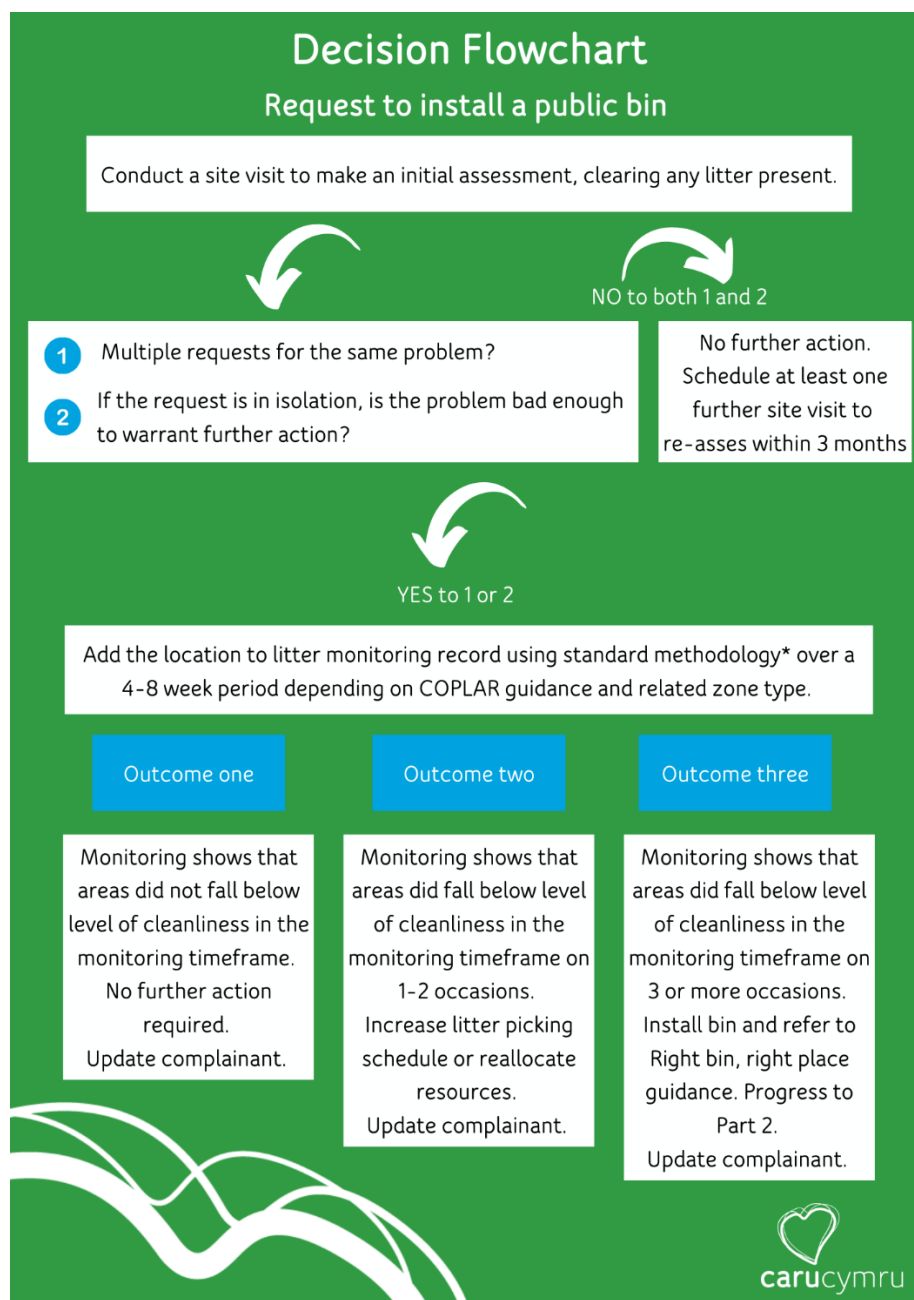
Caru Cymru – Right Bin, Right Place

1. Bins alone do not reduce litter.
2. However, a lack of bins is a common excuse used by offenders for littering.
3. All public spaces of high footfall to have bins and recycling provision where possible (for example, high streets or shopping centres)
4. But we would caution against installing bins everywhere for every occasion – not least because this is onerous and costly for local authorities to manage.
5. There is some evidence that bins in laybys do attract litter and many local authorities have removed bins in these locations, but studies are inconclusive, and this is highly context dependent and should not be applied as a blanket rule.
6. Removal of bins to prevent misuse may disperse or exacerbate the problem.
7. Local Authorities should make efforts to get to know their bins and get a good understanding of how (or if) they are used through regular bin audits and a common bin strategy and decision-making framework.
8. These policies should be developed and shared with Council members who are often the source of bin requests.
9. Increasing the visibility of bins increases their use. They should not be designed to ‘blend in’ their environment but to stand out as much as possible.
10. As well as providing a means of disposing of waste, bins also provide good opportunities for messaging and awareness raising.
11. Many novelty bins exist and whilst they are successful in reducing littering, in order for this to be maintained, they need to refresh regularly to maintain the novelty element. Possibly as frequently as every 2 weeks in the case of, for example, ballot bins.
12. Innovation in bin design is increasing and becoming more commonplace. Whilst the capital costs of these can be expensive, they may increase efficiency costs over the long term.

Bin Policy Template Example

Example Decision Flowchart – Request to install a public bin (Part 1)

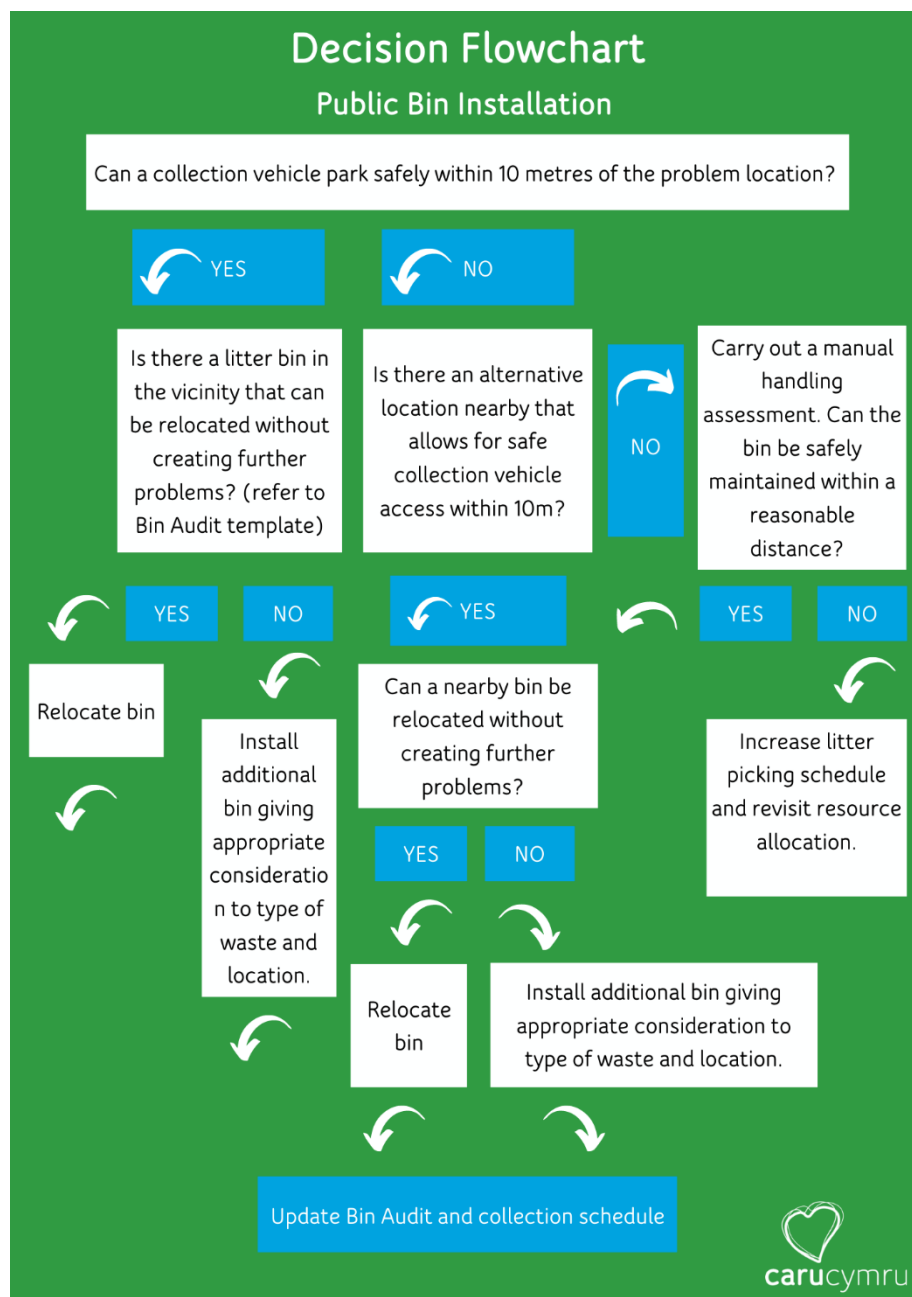
The purpose of installing a bin is to help to prevent a littering or dog fouling issue where other interventions or periodic cleansing is not sufficient to maintain an acceptable standard. Whilst bins alone cannot solve a litter problem and maintenance come at a public cost, they can help to tackle the issue if they are of the right design and the right place and are made visible to the public. Local Councils and Town and Community Councils often receive requests for public bin installation and this chart, along with monitoring data and a complementary bin audit can support the decision-making process.



* Methodology should be linked to current COPLAR Guidance. LEAMS methodology (or variation thereof) will help to assess cleanliness levels. Monitoring should take place at the same time (e.g., AM or PM) and same day each week. Daily monitoring could be considered for high intensity (Zone1) areas. Off-street locations (such as parks) should utilise a 50m2 transect area. Further advice on monitoring and guidance can be provided by Keep Wales Tidy.

Example Decision Flow Chart - Public Bin Installation (Part 2)

If the process in Part 1 has shown that a bin is required, move on to the decision chart below.



Pre-Installation Considerations

- Is the bin in the right place? Is it in close proximity to exits / entrances or natural footfall pathways?
- Does the bin stand out? Consider options for enhancing the visibility such as bright coloured bin wraps and/ or messaging.
- Is the bin on hard surface? Footprints to bins are a tried and tested technique but needs some low-cost maintenance to keep fresh.
- Is the litter of a specific type (e.g., smoking litter)? Consider advantages and disadvantages of item-specific bininfrastructure.
- Is the bin in an area where vandalism is likely? Consider bin design and material.

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