

An Roinn Comhshaoil, Aeráide agus Cumarsáide Department of the Environment, Climate and Communications

THE NATIONAL LITTER POLLUTION MONITORING SYSTEM



LITTER MONITORING BODY

SYSTEM RESULTS 2022

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Please Note: Individual percentage values illustrated in figures throughout this document are rounded and may, therefore, not total 100%.



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- 1. The Department of Environment, Climate and Communications; and
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OVERVIEW OF THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

TOBIN Consulting Engineers were appointed to function as the Litter Monitoring Body (LMB) by the Department of Environment, Climate and Communications for the period July 1st of 2022, to June 30th of 2023, to continue the development of the National Litter Pollution Monitoring System (NLPMS).

The Sustainable Development Goals - National Implementation Plan 2018-2020, published in April 2018, is the Government's response to the United Nations Sustainable Development Goals (SDGs) and Agenda 2030. Agenda 2030 encourages countries to integrate 17 SDGs into planning and policy, on both a national and international level. Work is underway on the development of the next Sustainable Development Goal National Implementation Plan which will set out arrangements for interdepartmental coordination and governance, stakeholder engagement and actions needed for further implementation of Agenda 2030.

The SDGs cover the three dimensions of sustainable development; economic growth, social inclusion, and the protection of the environment. They aim to address inequalities, economic growth, decent jobs, cities and human settlements, industrialization, oceans, ecosystems, energy, climate change, sustainable consumption and production, peace, and justice.

The Government's vision is for Ireland to fully implement the Sustainable Development Goals at home, and to contribute to their achievement internationally through our role as a responsible global citizen, so that no one is left behind.

The Government has adopted a 'whole-of-government' approach to SDG implementation at the national level, with the Minister for Environment, Climate and Communications leading on **SDG 12**, *Responsible Production and Consumption*. This SDG also includes issues such as responsible recycling, reducing all waste going to landfill sites and incinerator facilities, and the socially unacceptable issue of litter.

Of course, litter not only relates to **SDG 12**, but it also relates to **SDG 13** *Climate Action*, **SDG 14** *Life below Water* and **SDG 15** *Life on land*. As all of the SDGs are interlinked, an action like litter is far reaching in terms of environmental damage.

Local Authorities already play a key role in the area of recycling, waste collection and litter control. Carlow County Council in their capacity as one of Ireland's first SDG Champion Organisations has clearly linked the issue of litter into **SDG 12**.

Behavioural change will be a key driver in assisting Ireland to fully achieve all the SDGs and in particular change the damaging blight of littering across the country. Local Authorities through targeted messaging on the SDGs will play a pivotal role in this task.

In September 2020, the Government published A Waste Action Plan for a Circular Economy -Ireland's National Waste Policy 2020-2025. This is Ireland's new roadmap for waste planning and management. The circular economy can contribute to a number of Ireland's SDGs that



are relevant to litter including **SDG12** Responsible Consumption and Production, **SDG13** Climate Action, **SDG14** Life Below Water, and **SDG15** Life on Land.

The ambition for Ireland is a circular economy where waste and resource use are minimised; the value of products and materials are maintained through good design, robustness and repair; and when a product has reached the end of its life, its parts are recycled to create further useful products. The Plan addresses how we look at our resources more broadly, capturing and maximising the value of materials that may in the past have been discarded. The Plan also has an objective to support clear and robust institutional arrangements for the waste sector, including through a strengthened role for Local Authorities.

This System Results 2022 Report and the data gathered in its composition surveys allow for Local Authorities to gauge:

- The extent and the severity of litter pollution in each local authority area;
- The types, most likely sources and causes of litter pollution;
- The changes in litter levels from location to location and over time;
- The location of litter black spots; and
- The impact of new anti-litter measures.

Under the NLPMS, the **extent** and **severity** of litter pollution is measured using a Litter Pollution Index (LPI), which is on a scale of 1 to 5 as described below:

- 1. Unpolluted or litter free;
- 2. Slightly polluted;
- 3. Moderately polluted;
- 4. Significantly polluted; and
- 5. Grossly polluted.

Prescribed standards for each category of the LPI have been circulated to all local authorities in the form of area cleanliness rating photographs to ensure a consistent approach nationwide to measuring the extent of litter pollution in the surveyed areas. Examples of those photographs are contained in Appendix B of this report, together with an explanation of each LPI. They are also available via the litter website (www.litter.ie).

The area cleanliness rating¹ is then used in the calculation of the LPI for each survey location. The use of photographs ensures that area cleanliness ratings are consistently assigned by all local authorities. In 2022, the LMB continued to provide guidance to local authorities, thus ensuring that a consistent methodology for surveying is applied across the country to guarantee that reliable and comparable data is compiled.

A key feature of the national monitoring system is its focus on monitoring in areas that are polluted, or are likely to be polluted, i.e., where potential sources of litter are located. To this end, local authorities select the locations for their surveys using maps produced by specially designed Litter GIS software, as follows:

 40% in "high risk" locations (e.g., in town or city centres) where the concentration of potential litter sources is greatest;

¹ The Area Cleanliness Rating is determined using a visual inspection of the survey area and rating it according to prescribed standards.



- 40% in random potential litter generating areas chosen by the Litter GIS software; and
- 20% in locations chosen by local authorities, based on local knowledge of litter pollution.

Note that some local authorities do not have the resources to apply Litter GIS. In these instances, local authorities use local knowledge to select their 'high risk' and 'chosen' survey areas and then randomly choose 40% of their locations by identifying random areas on maps or by using the random function tool on Arc GIS.

Under the NLPMS, the **type** and **origin** of litter pollution is also measured by counting litter items while they remain on the ground. These surveys are called Litter Quantification Surveys (LQS). LQS are completed in the most heavily polluted areas (i.e., the clusters or 'black spots' identified by the Litter Generation Potential Maps) and as long after cleansing as possible to further increase the chances of a large sample size. The statistics obtained during the surveys are divided into several litter categories including, food, packaging, paper, and plastic.

Training

In 2022, the LMB continued to provide training, where required, on the implementation of the NLPMS to local authorities.

Audit

The LMB undertook audits of five local authorities to ensure that the system is being implemented as designed. The local authorities audited were:

- Cork City Council;
- Donegal County Council;
- Limerick City and County Council;
- Longford County Council; and
- Louth County Council.

The Audit Report is available at <u>www.litter.ie</u>. The audits have revealed that, for the most part, these local authorities are implementing the system correctly.

The LMB also completed additional 'spot check' audits on the 2022 results received, whereby photographs of survey locations received from local authorities are cross checked with the awarded LPI. These audits revealed that a very small number of local authorities were not assigning the correct area cleanliness rating to an area in all surveys.

These audits allowed for reassessments of Litter Pollution Surveys (LPS) in collaboration with the relevant local authority, and where necessary, to apply a revised determination of the LPI assigned to the area under study.

It is considered for future year's surveys that local authorities should continue to submit photographs with the LPS; this will allow the LMB to continually audit the System. The LMB is satisfied that the results outlined in this report are accurate and reflective of the country as a whole.



CHAPTER 1: SUMMARY SYSTEM'S SURVEY RESULTS FOR 2022



In 2022, 31 local authorities participated in the National Litter Pollution Monitoring System (NLPMS) Survey.

Figure 1-1 Participation of Local Authorities 2003 to 2022

Figure 1-1 shows the percentage of local authorities that have participated in the System annually since 2003.

The 2022 survey results provide reliable information on the extent, composition and causes of litter pollution in Ireland and facilitate analysis of any emerging trends in litter pollution. The results allow a full and more comprehensive comparison of year-on-year developments with regard to combating litter pollution.

This NLPMS report has set out to answer three key questions:

- 1. How littered is the country at local and national level?
- 2. What are the main constituent elements of litter pollution?
- 3. What are the main causes of litter pollution?



How littered is the country at local and national level?

In 2022, 5432 Litter Pollution Surveys (LPS) were undertaken nationally.

- 22.1% of areas surveyed were unpolluted (LPI 1) in 2022. The percentage of unpolluted (LPI 1) areas has decreased by 0.8%, from 22.9% in 2021.
- 58% of all areas surveyed in 2022 were slightly polluted (LPI 2), an increase of 0.7% from 2021 (57.1%).
- 17% of all areas surveyed in 2022 were moderately polluted areas (LPI 3), an increase of 0.1% on 2021 (16.9%).
- 2.5% of all areas surveyed in 2022 were significantly polluted areas (LPI 4), a decrease of 0.3% from 2021 (2.8%).
- Grossly polluted areas (LPI 5) remained the same at 0.3% in 2022.

What are the main constituent elements of litter pollution?

• Cigarette related litter (52.1%), packaging items (18.9 %), food related litter (10.2%), sweet-related litter (8.4%), paper items (7.3%) and deleterious litter (1.7%) were the main litter constituents identified nationally.

What are the main causes of litter pollution?

Passing pedestrians (41.1%), passing motorists (20.6%), retail outlets (8.4%), gathering points (7.3%), places of leisure/entertainment (4.9%), fast food outlets (4.3%), schools/school children (3.6%), bus stops (2.7%), fly-tipping/dumping (2.5%), bring banks (1.9%), bank ATMs (0.8%) and bus/train stations (0.6%) were identified as the main causative factors of litter nationally.



CHAPTER 2: HOW LITTERED IS THE COUNTRY?

The 2022 dataset is obtained from 5432 LPS.



Figure 2-1 Comparison of Litter Pollution Indices (LPI) 2021 to 2022

Figure 2-1 compares the 2021 and 2022 LPS results.

The NLPMS results indicate that the percentage of unpolluted (LPI 1) areas has decreased from 22.9% in 2021 to 22.1% in 2022.

A comparison of the results from 2021 to 2022 indicates that the percentage of slightly polluted (LPI 2) areas has increased from 57.1% in 2021 to 58.0% in 2022.

The percentage of moderately polluted areas (LPI 3) has increased slightly from 16.9% in 2021 to 17.0% in 2022. The percentage of significantly polluted areas (LPI 4) has decreased from 2.8% in 2021 to 2.5% in 2022. Grossly polluted areas (LPI 5) remained the same at 0.3% in 2022.

The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined has increased very slightly (by 0.1%) from 2021 to 2022, thus demonstrating that there has been a slight decrease in litter pollution from 2021 to 2022.





Figure 2-2 Litter Pollution Index 2004 to 2022



Figure 2-2 illustrates the Litter Pollution Index (LPI) ratings from 2004 to 2022. The percentage of unpolluted (LPI 1) areas has increased from 5.1% in 2004 to 22.1% in 2022 (an increase of 17.0%). The percentage of slightly polluted (LPI 2) areas has increased from 45.3% to 58.0% between 2004 and 2022 (an increase of 12.7%). The number of recorded moderately polluted (LPI 3) areas has shown a steady decrease between 2004 (37.3%) and 2022 (17.0%), with an overall decrease of 20.3%. The number of significantly polluted (LPI 4) areas has decreased from 10.5% in 2004 to 2.5% in 2021 (a decrease of 8.0%). The number of grossly polluted (LPI 5) areas has decreased from 1.8% in 2004 to 0.3% in 2022 (a decrease of 1.5%).



Figure 2-3 Comparison of Litter Pollution within Largely Urban and Rural Areas in 2022

A comparison of urban² and rural local authorities³ is presented above in Figure 2-3.

In 2022, 10.9% of urban areas and 30.3% of rural areas were unpolluted (LPI 1). The percentage of slightly polluted areas (LPI 2) experienced in urban areas is 65.2%, and in rural areas is 52.9%. The percentage of moderately polluted (LPI 3) areas experienced in urban

³ For the purpose of this Report rural local authorities include all other county councils (excluding Offaly County Council).



² For the purpose of this Report urban local authorities include Cork City Council, Dublin City Council, <u>Dún</u> Laoghaire-Rathdown County Council, Fingal County Council, Galway City Council, Limerick City and County Council, South Dublin County Council and Waterford City and County Council.

areas is 21.1%, with 14.2% experienced in rural areas. The percentage of significantly polluted (LPI 4) areas is 2.6% in urban areas and 2.4% in rural areas. Grossly polluted (LPI 5) areas are the same in both urban and rural areas at 0.3%.

Please refer to Figures 5-4 and 5-5 for further comparison of urban and rural litter pollution data from 2021 to 2022.



CHAPTER 3: WHAT ARE THE MAIN CONSTITUENT ELEMENTS OF LITTER POLLUTION?

Local authorities also conducted 1465 Litter Quantification Surveys (LQS) (or item counts) in 2022 to determine the composition of litter in their areas. A breakdown of the main constituents of litter pollution is highlighted in Figure 3-1 below.



Figure 3-1 Composition of Litter in 2022 Broken Down into Main Categories

From the data in Figure 3-1, it can be seen that:

- **Cigarette related litter (52.1%)** continues to constitute the highest percentage of litter in the locations surveyed this is comprised mainly of cigarette ends which constitute 49.1% of all litter items nationally.
- **Packaging litter (18.9%)** is the second largest component of national litter pollution recorded. Bottle caps (2.4%), bottles (1.9%), bags and wrappers (1.6%), drink cups (1.6%), beverage cans (non-alcoholic) (1.5%), drink lids (1.4%), beverage cans (alcoholic) (1%), beverage bottles (alcoholic) (0.9%) and beverage bottles (non-alcoholic) (0.8%), are the main litter items in this category.
- Food related litter (10.2%) is the third largest category of litter pollution recorded. Chewing gum is the single largest litter component in the food related litter category, and the second largest component nationally, comprising 8.6% of all litter recorded in the LQS conducted in 2022.
- Sweet-related litter (8.4%) is the fourth largest category of litter pollution recorded. Sweet wrappers (plastic/foil) (4.7%) are the largest litter component in the sweet-related litter category in 2022 and is the third largest litter component nationally.



3.1 Comparison of Litter Quantification Surveys (LQS) 2021 – 2022

Figure 3-2 below compares the results of the 2021 and 2022 LQS.



Figure 3-2 Comparison of National Litter Composition from 2021 to 2022



A comparison of the results of LQS conducted in 2021 and 2022 shows a relatively similar composition of litter. However, analysis reveals some differences in the relative quantities of certain components.

- The percentage of cigarette related litter has increased by 3.7% since 2021.
- The percentage of packaging items decreased by 1.5% since 2021.
- The percentage of food related litter has decreased by 1.0% since 2021.
- The percentage of sweet-related litter items decreased 0.3% since 2021.
- The percentage of paper items increased by 0.9% since 2021.
- The percentage of deleterious litter has decreased by 1.3% since 2021.
- The number of items recorded as miscellaneous litter has decreased by 0.1% since 2021.
- The percentage of plastic items (non-packaging) remained at 0.5% in 2021 and 2022.
- There has been a decrease in large litter items by 0.3% since 2021.

Table 3-1 on the following page details the composition of litter in 2021 and 2022.

The greatest percentage change in litter composition is in the cigarette related litter which has increased by 3.7% since 2021.

Packaging items had the largest decrease since 2021 (1.5%) and deleterious litter followed closely decreasing by 1.3%. The decrease in packaging item can be attributed to a decrease in several items in this category. The largest decreases included beverage bottles - alcoholic (0.3% decrease), beverage bottles - non- alcoholic (0.3% decrease), bags (0.3% decrease), bags and wrappers (0.2% decrease), beverage cans - alcoholic (0.2 % decrease), beverage cans - non-alcoholic (0.2% decrease), lids e.g., from bottles, jars (0.2% decrease) and boxes (0.2% decrease). In the deleterious litter category, dog fouling decreased by 0.6%, other deleterious items decreased by 0.5% and nappies decreased by 0.2%.

Refer to Appendix C for "Details of Litter Composition from 2021-2022 according to Local Authority Type".



		10 10/			
Cigarette Related	Cigarette ends	49.1%	Cigarette Related	Cigarette ends	44.7%
Litter	Cigarette boxes and wrappers	2.1%	Litter	Cigarette boxes and wrappers	2.0%
52.1%	Matches	0.7%	48.4%	Matches	1.4%
	Matchboxes and lighters	0.2%		Matchboxes and lighters	0.3%
Food Related Litter	Chewing Gum	8.6%	Food Related Litter	Chewing Gum	9.1%
	Dominante of confection on food	0.070		Dominante of confection on food	51270
10.2%	Remnants of confectionery food	0.5%	11.2%	Remnants of confectionery food	0.3%
	items			items	
	Other food items	0.2%		Other food items	0.5%
	Fast-food remnants	0.2%		Fast-food remnants	0.4%
	Bread/ biscuits	0.3%		Bread/ biscuits	0.5%
	Fruit/vegetables	0.3%		Fruit/vegetables	0.4%
Deckoging Itoms	Pattle Care	2,40/	Dackaging Itoms	Pottle Core	2 20/
	Bottle Caps	2.4%		Bottle Caps	2.3%
18.9%	Bottles	1.9%	20.4%	Bottles	1.8%
	Drink cups	1.6%		Drink cups	1.7%
	Drink Lids	1.4%		Drink Lids	1.5%
	Bags and wrappers	1.6%		Bags and wrappers	1.8%
	Beverage Cans - Non-alcoholic	1.5%		Beverage Cans - Non-alcoholic	1.7%
	Beverage Cans - Alcoholic	1.0%		Beverage Cans - Alcoholic	1 2%
	Beverage Caris - Alcoholic	0.0%		Beverage Caris - Alcoholic	1.2/0
	Beverage Bottles - Alconolic	0.9%		Beverage Bottles - Alconolic	1.2%
	Other paper packaging	0.7%		Other paper packaging	0.6%
	Beverage Bottles - Non-alcoholic	0.8%		Beverage Bottles - Non-alcoholic	1.1%
	Drinks cartons	0.5%		Drinks cartons	0.6%
	Plastic film	0.5%		Plastic film	0.6%
	Other plastic packaging	0.6%		Other plastic packaging	0.5%
		0.0%			0.570
	Cardboard	0.6%		Cardboard	0.7%
	Tin foil (not sweet wrappers)	0.5%		Tin foil (not sweet wrappers)	0.3%
	Bags - shopping bags	0.4%		Bags - shopping bags	0.4%
	Other metal litter items	0.2%		Other metal litter items	0.2%
	Lids (e.g. from bottles jars)	0.4%		Lids (e.g. from bottles jars)	0.6%
		0.10/			0.070
	Food cans	0.1%		Food cans	0.2%
	Aeroboard	0.1%		Aeroboard	0.1%
	Jars and other containers	0.3%		Jars and other containers	0.0%
	Metal drums	0.0%		Metal drums	0.0%
	Bags	0.4%		Bags	0.7%
	Boyor	0.3%		Poyor	0.1%
	Boxes	0.270		Boxes	0.4%
	Bags - other (e.g. fertiliser)	0.1%		Bags - other (e.g. fertiliser)	0.1%
	Plastic sheeting (e.g. silage)	0.1%		Plastic sheeting (e.g. silage)	0.1%
	Bubble-wrap	0.1%		Bubble-wrap	0.1%
Sweet Related Litter	Sweet Wrappers (plastic/foil)		Sweet Related Litter	Sweet Wrappers (plastic/foil)	
8.4%	Lollinon Sticks (wooden/plastics)		8.7%	Lollinon Sticks (wooden/plastics)	
0.470	Strows		0.770	Chrows	
	Straws			Straws	
	Crisp Bags	1.4%		Crisp Bags	1.7%
Paper Items	Tissues	2.7%	Paper Items	Tissues	2.0%
7.3%	Receipts	1.9%	6.4%	Receipts	1.5%
	Other paper items	1.0%		Other paper items	1.1%
	Tickets (e.g. bus lottery)	0.9%		Tickets (e.g. bus lottery)	0.6%
	Deale alian	0.3%		Deale alian	0.070
	Dank slips	0.5%			0.7%
	Newspapers	0.2%		Newspapers	0.2%
	Flyers and posters	0.1%		Flyers and posters	0.2%
	Letters, envelopes and cards	0.0%		Letters, envelopes and cards	0.1%
	Magazines/ brochures	0.0%		Magazines/ brochures	0.0%
Deleterious Litter	Dog fouling	1 3%	Deleterious Litter	Dog fouling	1 9%
Selections Enter	Municipal Hanandary Musta (s	2.070	Deleterious Littel	Municipal Heneral	1.570
1.7%	wunicipal Hazardous Waste (e.g.	0.0%	3.0%	wunicipal Hazardous Waste (e.g.	0.00
	paint, solvents)			paint, solvents)	0.0%
	Other deleterious items	0.2%		Other deleterious items	0.7%
	Feminine hygiene products	0.0%		Feminine hygiene products	0.2%
	Nappies	0.1%		Nappies	0.3%
	Needles and syringes	0.0%		Needles and syringes	0.0%
	Needles and symples	0.0%		Needles and symges	0.0%
	Other large items	0.1%		Other large items	0.1%
Laura Mar		0.404	Lawson Christian		0.1/0
Large Litter	Household refuse in bags	0.1%	Large Litter	Household refuse in bags	0.2%
Items	Appliances (e.g. fridge)	0.0%	Items	Appliances (e.g. fridge)	0.0%
0.1%	Furniture	0.0%	0.4%	Furniture	0.1%
	Scrap cars	0.0%		Scrap cars	0.0%
Missellan 0.00/		0.0%	Missellen 1.09/		0.0%
wiscenarieous 0.9%	wiscenaneous Litter Items	0.9%	wiscenarieous 1.0%	wiscellaneous Litter Items	1.0%
Plastic Items (Non-			Plastic Items (Non-		
packaging) 0.5%	Plastic items	0.5%	packaging) 0.5%	Plastic items	0.5%

Detailed National Litter Composition 2021 to 2022

Detailed National Litter Composition 2022

Detailed National Litter Composition 2021



Table 3-1

CHAPTER 4: WHAT ARE THE MAIN CAUSES OF LITTER POLLUTION?

The breakdown of causative factors nationally in 2021 and 2022 for all local authorities is presented in Figures 4-1 and 4-2. It can be seen from these figures that the relative ranking of causative factors is similar from 2021 to 2022, with the greatest difference occurring between passing motorists (a decrease of 1.8% in 2022), gathering points (an increase of 1.1% in 2022) and schools/school children (a decrease of 1.0%).





Figure 4-1 Causative Factors of Litter Pollution across all Local Authorities in 2021 and 2022



Figure 4-1 illustrates that:

- Passing pedestrians continue to constitute the greatest single causative factor of litter pollution, accounting for 41.1% across all local authorities in 2022.
- Passing motorists are the second largest causative factor accounting for 20.6% across all local authority types in 2022.
- Causative factors that have increased from 2021 to 2022 include overflowing bins (from 0.3% to 0.4%), refuse collection/presentation (from 0.4% to 0.5%), bring bank (from 1.7% to 1.9%), fly-tipping/dumping (from 2.2% to 2.5%), bus stop (from 2.6% to 2.7%), places of leisure/entertainment (from 4.1% to 4.9%), gathering point (from 6.2% to 7.3%), retail outlet (from 8.3% to 8.4%) and passing pedestrians (from 40.9% to 41.1%).
- Causative factors that have decreased from 2021 to 2022 include bus/train station (from 0.7% to 0.6%), school/school children (from 4.6% to 3.6%) and passing motorists (from 22.4% to 20.6%).
- Causative factors that have remained the same from 2021 to 2022 are major entertainment events (0.1%), construction site (0.3%), bank ATM (0.8%), and fast-food outlet (4.3%).

During the LPS, surveyors are asked for observations on the primary causes of litter pollution. Causative factors are expressed as a percentage of the total number of causative factors identified in all LPS. For each survey, there is usually more than one causative factor of the litter found, e.g., passing pedestrians, fast-food outlets and overflowing bins may all be contributing to litter pollution in a survey area.

The breakdown of causative factors found in each local authority type is presented in Figure 4-2.





*City Council results also include the Limerick and Waterford County areas (i.e., these local authorities are now known as Limerick City and County Council and Waterford City and County Council).

**County Council results exclude Limerick and Waterford.

Figure 4-2

4-2 Causative Factors of Litter Pollution According to Local Authority Type in 2022



The national results for 2022 show that passing pedestrians are the most significant cause of litter pollution within all local authority types. It is also clear from Figure 4-2 that passing motorists, retail outlets, gathering points, places of leisure/entertainment, schools/school children and fast-food outlets are considerable sources of litter across all local authority types.

Survey results from 2022 show that the contribution of passing motorists, flytipping/dumping, refuse collection/presentation and bring banks are greater in County Councils than in other local authority types.

Gathering point, fast-food outlets, schools/school children, places of leisure/ entertainment and bank ATMs are more significant causative factors in City Councils than in other local authority types.

Passing pedestrians, retail outlets, bus stops, bus/train station, construction sites and overflowing bins are more significant causative factors in Dublin Local Authorities than in other local authority types.

The data in Figure 4-2 indicates that the causes of litter pollution nationwide continue to remain relatively homogeneous, irrespective of local authority type. This is not unexpected, given that local authorities conduct their litter pollution and quantification surveys largely in areas where potential sources of litter (i.e., people) are located. The greatest differences between local authority types are passing pedestrians and passing motorists. Passing pedestrians account for 47.0% of causative factors in Dublin Local Authorities, 5.0% greater than City Councils at 42.0% and 9.0% greater than County Councils. Passing Motorists is the most significant causative factor in County Councils at 24.9%, 6.2% greater than City Councils and 11.6% greater than Dublin Local Authorities.

The homogeneous nature of the causative factors of litter pollution in Ireland is further illustrated by the ranking of these causative factors and the linking of them to the level of litter pollution in the locations surveyed – see Figures D.1 to D.8 in Appendix D. The percentage of causative factors varies with each category of LPI. The data is organised illustrating the 2021 and 2022 graphs under each litter pollution index (on the same page) to facilitate the comparison of the 2021 and 2022 results.



CHAPTER 5: ASSESSMENT OF LITTER POLLUTION DATA BY LOCAL AUTHORITY TYPE

This chapter focuses on comparative data for litter pollution across different local authority types. LPS results for 31 local authorities have been returned to the Litter Monitoring Body (LMB) and analysed for 2022 – a list of local authorities is detailed in Appendix A.

Comparison of the 2022 LPS data for the different categories of local authorities is examined in Figures 5-1, 5-2, 5-3 and 5-4.

5.1 Comparison within Dublin Local Authorities



Figure 5-1 Comparison of Litter Pollution within Dublin Local Authorities 2021 to 2022

In comparing the litter pollution data for Dublin Local Authorities, Figure 5-1 illustrates the following:

• The percentage of unpolluted (LPI 1) areas decreased from 17.3% in 2021 to 13.1% in 2022. This constitutes a decrease of 4.2%.



- Slightly polluted (LPI 2) areas increased from 51.9% in 2021 to 56.3% in 2022. This constitutes an increase of 4.4%.
- Moderately polluted (LPI 3) areas increased from 25.4% in 2021 to 26.5% in 2022. This constitutes a 1.1% increase.
- Significantly polluted (LPI 4) areas decreased from 5.0% in 2021 to 3.7% in 2022. This constitutes a 1.3% decrease.
- Grossly polluted (LPI 5) areas remained the same at 0.4% in 2022.
- The litter pollution rating results indicate that the levels of litter pollution remained largely homogeneous between 2021 and 2022. The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas both respectively, decreased and increased by similar percentages. The percentage of unpolluted areas decreased by 4.2% while the percentage of slightly polluted areas increased by 4.4%. The percentage of moderately polluted (LPI 3) and significantly polluted areas increased by 1.1% while the percentage of moderately polluted areas increased by 1.1% while the percentage of significantly polluted areas increased by 1.1% while the percentage of significantly polluted areas decreased by 1.3%. The percentage of grossly polluted (LPI 5) areas did not change in 2022.



5.2 Comparison within County Councils



Figure 5-2 Comparison of Litter Pollution within County Councils 2021 to 2022

In comparing the litter pollution data for County Councils, Figure 5-2 illustrates the following:

- The percentage of unpolluted (LPI 1) areas increased from 29.5% in 2021 to 30.3% in 2022. This constitutes an increase of 0.8%.
- Slightly polluted (LPI 2) areas decreased by 1.9%, from 54.7% in 2021 to 52.8% in 2022.
- Moderately polluted (LPI 3) areas increased by 1.1%, from 13.0% in 2021 to 14.1% in 2022.
- Significantly polluted (LPI 4) areas remained the same at 2.4% in 2022.
- The percentage of grossly polluted (LPI 5) areas remained the same at 0.3% in 2022.
- The litter pollution rating results indicate that the levels of litter pollution increased slightly, with a greater presence of moderately polluted (LPI 1 3) areas within County Councils between 2021 and 2022. While the percentage of unpolluted (LPI 1) areas



increased, by 0.8%, the percentage slightly polluted (LPI 2) areas decreased by 1.9% and the percentage of moderately polluted (LPI 3) areas increased by 1.1%. The percentage of significantly and grossly polluted areas did not change.



5.3 Comparison within City Councils



Figure 5-3 Comparison of Litter Pollution within City Councils 2021 to 2022

In comparing the litter pollution data for City Councils, Figure 5-3 illustrates the following:

- The percentage of unpolluted (LPI 1) areas has increased from 6.4% in 2021 to 8.4% in 2022. This constitutes an increase of 2.0%.
- Slightly polluted (LPI 2) areas have increased by 2.6%, from 72.5% in 2021 to 75.1% in 2022.
- The percentage of moderately polluted (LPI 3) areas has decreased by 4.5%, from 19.5% in 2021 to 15.0% in 2022.
- Significantly polluted (LPI 4) areas have increased from 1.3% in 2021 to 1.4% in 2022. This constitutes an increase of 0.1%.



- The percentage of grossly polluted (LPI 5) has decreased by 0.2% from 0.3% in 2021 to 0.1% in 2022.
- The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas, when combined, show an increase of 4.6% from 2021 to 2022.

These results indicate an overall decrease in the levels of litter pollution in City Councils from 2021 to 2022.

The percentage of unpolluted (LPI 1) areas decreased in Dublin Local Authorities from 2021 to 2022 but increased in County Councils and City Councils.

The percentage of slightly polluted (LPI 2) areas decreased in County Councils but increased in both City Councils and Dublin Local Authorities from 2021 to 2022.

The percentage of moderately polluted (LPI 3) areas decreased in City Council areas but increased in Dublin Local Authorities and County Council areas from 2021 to 2022.

The percentage of significantly polluted (LPI 4) areas increased in City Council areas but decreased in Dublin Local Authorities and saw no change in County Council areas from 2021 to 2022.

The percentage of grossly polluted (LPI 5) areas decreased in City Council areas and saw no change in Dublin Local Authorities and County Council areas from 2021 to 2022.

5.4 Comparison within Urban & Rural Areas⁴

Figures 5-4 and 5-5 provide a comparison of litter pollution in rural and urban areas from 2021 to 2022.

⁴ For the purpose of this Report urban local authorities include Cork City Council, Dublin City Council, Dun Laoghaire-Rathdown County Council, Fingal County Council, Galway City Council, Limerick City and County Council, South Dublin County Council and Waterford City and County Council. For the purpose of this report, rural local authorities include all other County Councils.





Figure 5-4 Comparison of Litter Pollution in Urban Areas from 2021 to 2022



Figure 5-5 Comparison of Litter Pollution in Rural Areas from 2021 to 2022



The percentage of unpolluted (LPI 1) areas in urban areas has decreased by 1.7%, from 12.6% in 2021 to 10.9% in 2022. The percentage of slightly polluted (LPI 2) areas has increased by 4.5% from 60.7% in 2021 to 65.2% in 2022. Moderately polluted (LPI 3) areas have decreased by 1.8%, from 22.9% in 2021 to 21.1% in 2022. Significantly polluted (LPI 4) areas have decreased slightly by 0.8%, from 3.4% in 2021 to 2.6% in 2022. Grossly polluted (LPI 5) areas have decreased slightly by 0.1%, from 0.4% in 2021 to 0.3% in 2022.

In rural areas, the levels of unpolluted (LPI 1) areas have increased by 0.8%, from 29.5% in 2021 to 30.3% in 2022. The percentage of slightly polluted (LPI 2) areas has decreased by 1.8%, from 54.7% in 2021 to 52.9% in 2022. Moderately polluted (LPI 3) areas have increased by 1.2%, from 13.0% in 2021 to 14.2% in 2022. Significantly polluted (LPI 4) areas remained the same at 2.4% in 2022. Grossly polluted (LPI 5) areas remained the same at 0.3% in 2022.

In urban areas the percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined have increased (by 2.8%) from 2021 to 2022 indicating that there has been a decrease in litter pollution. In rural areas the percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined have decreased from 2021 to 2022 (by 1.0%) indicating that there has been a slight increase in litter pollution.

Refer to Appendix E "Comparison of Causative Factors of Litter Pollution within Urban and Rural Local Authorities".



CHAPTER 6: ANALYSIS OF SPECIFIC COMPONENTS OF LITTER

6.1 Cigarette Related Litter

The percentage of national litter represented by cigarette related litter has increased from 48.4% in 2021 to 52.1% in 2022, an increase of 3.7% (see Table 3-1, page 14). Cigarette related litter continues to be the largest component of litter nationally in 2022.



Figure 6-1 Cigarette Ends as a Percentage of the National Litter Composition

Cigarette ends continue to be the biggest component of cigarette related litter. The percentage of cigarette ends, as a component of national litter, increased (by 4.4%), from 44.7% in 2021 to 49.1% in 2022 (Figure 6-1).



6.2 Chewing Gum Litter



Figure 6-2 Chewing Gum as a Percentage of the National Litter Composition

Food related litter, and specifically chewing gum, continued to be a noticeable component of litter nationally in 2022. Figure 6-2 above illustrates trends in chewing gum related litter since 2004.

Chewing gum has remained the single largest item of litter in the food related litter category and the second biggest component of litter nationally since 2004.

Chewing gum litter in 2022 (8.6%) had decreased by 0.5% since 2021.



6.3 Sweet Related Litter



Figure 6-3 Sweet Related Litter Analysed 2021 to 2022

Sweet-related litter, or sweet wrappers (plastic/foil) more specifically, continues to be a large component of national litter. The components of sweet-related litter between 2021 and 2022 are presented in Figure 6-3 above. Sweet-related litter, as a component of national litter, decreased from 8.7% in 2021 to 8.4% in 2022 (a decrease of 0.3%). The results in Figure 6-3, illustrates that sweet wrappers (plastic/foil), are the highest component of litter in the sweet-related litter category (4.7%). The quantity of lollipop sticks (wooden/plastic) has decreased slightly by 0.1% in 2022. Straws have decreased, by 0.3% in 2022. Crisp bags also contribute to the sweet-related litter category and have decreased by 0.3% from 2021 to 2022.



6.4 Bank ATM Receipts

The NLPMS is also used to assess the impact of a protocol to tackle litter generated by ATM advice slips which was announced in January 2007 by the then Minister for the Environment, Heritage and Local Government and then Irish Banking Federation (IBF) on behalf of the retail banking groups with ATM networks.



Figure 6-4 Bank Slips as a Percentage of the National Litter Composition

Figure 6-4 illustrates that bank slips, as a percentage of the national litter composition has decreased (by 0.4%) from 0.7% in 2021 to 0.3% in 2022. The NLPMS will continue to monitor the impact of this protocol.



6.5 Plastic Shopping Bags



Figure 6-5 Plastic Shopping Bags as a Percentage of the National Litter Composition

The NLPMS can be used as a tool to monitor the success of measures implemented to tackle specific issues. Prior to 2002, it was estimated that 1.3 billion shopping bags were issued annually. Because of incorrect disposal, many plastic bags ended up as a very visually intrusive form of litter pollution. Prior to the introduction of the NLPMS, it was estimated that plastic bags constituted 5% of litter. A plastic bag levy was introduced in March 2002 in order to tackle this issue. Results of the System indicated that plastic bags, as a component of national litter, responded positively and plastic bag litter began decreasing.

Between 2004 and 2006, levels of plastic shopping bags recorded by the System steadily began to climb again. The plastic bag levy increased, from 15c to 22c, in July 2007 in a further bid to reduce littering. The results of the System once again indicated that the measures were having a positive impact on littering; plastic shopping bags as a percentage of National Litter Composition reached an all-time low in 2014 (0.13%).

Figure 6-5 above illustrates the percentage of shopping bags as a percentage of the National Litter Composition from the period mid-2001 to 2022. The 2022 results show that the percentage of plastic shopping bags, as part of the National Litter Composition, has decreased since 2001. The NLPMS will continue to monitor the level of plastic bag litter in Ireland and the impact of this levy.



CHAPTER 7: ITEMS FOR FURTHER ATTENTION UNDER THE NLPMS

- The NLPMS will be used to continue to assess the impact of the protocol to tackle litter generated by ATM advice slips. This Protocol was announced in January 2007 by the then Minister for the Environment, Heritage and Local Government and the Irish Banking Federation (IBF) on behalf of the retail banking groups with ATM networks. The agreement currently operates between the Minister for Environment, Climate and Communications and the Banking and Payments Federation Ireland (BPFI).
- The NLPMS will be used to continue to assess the impact of the plastic bag levy, which was introduced in Ireland in March 2002, and which was increased from 15c to 22c in July 2007.
- The NLPMS will continue to monitor the level of cigarette related litter which is the largest litter component recorded nationally.
- The NLPMS will continue to monitor the level of chewing gum litter recorded which is the second largest litter component recorded nationally.
- The NLPMS will continue to monitor the causative factors of national litter pollution.



CHAPTER 8: CONCLUSION

As a result of the Local Government Reform Act, 31 local authorities exist in Ireland. In 2022, all 31 local authorities submitted their NLPMS survey results.

The constituent components and the causative factors of litter pollution nationally remain relatively constant across all local authority types from 2021 to 2022.

The percentage of cigarette related litter and paper litter recorded in the 2022 surveys, have increased since 2021. Packaging items, food related litter, sweet-related litter, deleterious litter and miscellaneous litter items recorded in the 2022 surveys, have decreased since 2021. The level of plastic litter items (non-packaging) has remained the same from 2021 to 2022.

The national results for 2022 indicate that passing pedestrians are the most significant cause of litter pollution for every local authority type in Ireland. It is also clear that passing motorists, retail outlets, gathering points, places of leisure/entertainment, fast-food outlets and schools/school children are considerable sources of litter across all local authority types.

Survey results from 2022 show that the contribution of passing motorists, flytipping/dumping, refuse collection/presentation and bring banks are greater in County Councils than in other local authority types.

Gathering point, fast-food outlets, schools/school children, places of leisure/ entertainment and bank ATMs are more significant causative factors in City Councils than in other local authority types.

Passing pedestrians, retail outlets, bus stops, bus/train station, construction sites and overflowing bins are more significant causative factors in Dublin Local Authorities than in other local authority types.

The 2022 national litter monitoring system results indicate that the percentage of unpolluted (LPI 1) areas has decreased from 22.9% in 2021 to 22.1% in 2022.

A comparison of the results from 2021 to 2022 indicates that the percentage of slightly polluted (LPI 2) areas has increased from 57.1% in 2021 to 58.0% in 2022.

The percentage of moderately polluted areas (LPI 3) has increased slightly from 16.9% in 2021 to 17.0% in 2022. The percentage of significantly polluted areas (LPI 4) has decreased slightly from 2.8% in 2021 to 2.5% in 2022. Grossly polluted areas (LPI 5) remained the same at 0.3% from 2012 to 2022.

The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined has increased very slightly (by 0.1%) from 2021 to 2022, thus demonstrating that there has been a slight decrease in litter pollution from 2021 to 2022.

Analysis of specific components of litter in 2022 resulted in the following observations:

• Cigarette related litter, and more specifically cigarette ends, continues to be the greatest component of litter nationally.



- Chewing gum continues to be the second largest litter component nationally. Chewing gum litter in 2022 (8.6%) had decreased by 0.5% since 2021. The NLPMS will continue to monitor the level of chewing gum litter recorded nationally.
- Monitoring of plastic shopping bags, as a component of national litter, has indicated the number of plastic shopping bags responded positively to the introduction and increases in the levy in 2002 and 2007, respectively. Monitoring by the System recorded an all-time low in the levels of plastic shopping bags in the environment in 2014, after which time the level has slowly increased. In 2022, the percentage of plastic shopping bags recorded in the NLPMS surveys remained the same as 2021 at 0.4%

The degree, composition, causes and trends in litter pollution identified and discussed in this report are representative of the national picture in 2022, and will continue to be monitored into 2023.

The LMB is satisfied that all local authorities are properly implementing the NLPMS. Local authorities will continue to be audited to ensure the System is being implemented as designed.



APPENDIX A

DETAILS OF LOCAL AUTHORITIES THAT CONDUCTED SURVEYS IN 2022



Litter Quantification Survey (LQS) Results

LQS results for 31 local authorities were returned to the LMB and analysed for 2022. These are detailed in Table A.1.

County Councils
Carlow County Council
Cavan County Council
Clare County Council
Cork County Council
Donegal County Council
Galway County Council
Kerry County Council
Kildare County Council
Kilkenny County Council
Laois County Council
Leitrim County Council
Longford County Council
Louth County Council
Mayo County Council
Meath County Council
Monaghan County Council
Offaly County Council
Roscommon County Council
Sligo County Council
Tipperary County Council
Westmeath County Council
Wexford County Council
Wicklow County Council
City Councils
Cork City Council
Galway City Council
Limerick City and County Council
Waterford City and County Council
Dublin Local Authorities
Dublin City Council
Dún Laoghaire-Rathdown County Council
Fingal County Council
South Dublin County Council

Table A.1Local Authorities that Submitted Litter Quantification Survey Results for 2022



Litter Pollution Survey (LPS) Results

LPS results for 31 local authorities were returned to the LMB and analysed for 2022. These are detailed in Table A.2.

County Councils
Carlow County Council
Cavan County Council
Clare County Council
Cork County Council
Donegal County Council
Galway County Council
Kerry County Council
Kildare County Council
Kilkenny County Council
Laois County Council
Leitrim County Council
Longford County Council
Louth County Council
Mayo County Council
Meath County Council
Monaghan County Council
Offaly County Council
Roscommon County Council
Sligo County Council
Tipperary County Council
Westmeath County Council
Wexford County Council
Wicklow County Council
City Councils
Cork City Council
Galway City Council
Limerick City and County Council
Waterford City and County Council
Dublin Local Authorities
Dublin City Council
Dún Laoghaire-Rathdown County Council
Fingal County Council
South Dublin County Council

Table A.2Local Authorities that Submitted Litter Pollution Survey Results for 2022



APPENDIX B

AREA CLEANLINESS RATING PHOTOGRAPHS



Area Cleanliness Rating 1 (Unpolluted)



This rating is only given to an area with no litter present i.e., the area may be freshly swept.





Area Cleanliness Rating 2 (Slightly Polluted)

This rating is only given to an area with small litter items present, i.e., not visually intrusive.







Area Cleanliness Rating 3 (Moderately Polluted)

This rating is given to an area with some large litter items present, i.e., visually intrusive.







Area Cleanliness Rating 4 (Significantly Polluted)

This rating is given to an area with large litter items present throughout the survey area.







Area Cleanliness Rating 5 (Grossly Polluted)

This rating is given to an area, which is heavily littered throughout the survey area, i.e., after an event such as a concert/ festival or a fly-tipping/ dumping incident.







APPENDIX C

DETAILS OF LITTER COMPOSITION FROM 2021 – 2022 ACCORDING TO LOCAL AUTHORITY TYPE





Figure C. 1 Comparison of Litter Composition within County Councils 2021 to 2022

Figure C.1 compares the results of LQS within County Councils from 2021 to 2022. The main observations are that the percentage of cigarette related litter and paper items have increased from 2021 to 2022. Packaging items, food related litter, sweet-related litter, deleterious litter, plastic items (non-packaging), large litter items have all decreased from 2021 to 2022. Miscellaneous litter items remained the same from 2021 to 2022.





Figure C. 2 Comparison of Litter Composition within City Councils 2021 to 2022

Figure C.2 shows that within City Councils the percentage of cigarette related litter, paper items and plastic items (non-packaging) have all increased from 2021 to 2022. Packaging litter, food related litter, sweet-related litter, deleterious litter, miscellaneous litter and large litter items all decreased from 2021 to 2022.





Figure C. 3 Comparison of Litter Composition within Dublin Local Authorities 2021 to 2022

Figure C.3 shows that within Dublin Local Authorities the percentage of cigarette related litter, paper items and plastic items (non-packaging) have all increased from 2021 to 2022. Packaging items, food related litter, sweet-related litter, deleterious litter, miscellaneous litter and large litter items have all decreased from 2021 to 2022.

Note: Cigarette related litter increased in County Council, City Council and Dublin Local Authority areas in 2022.

Packaging litter, food related litter, sweet-related litter, deleterious litter, and large litter items decreased in County Council, City Council and Dublin Local Authority areas in 2022.

Miscellaneous litter decreased in both Dublin Local Authority areas and City Council areas but remained the same in County Council areas during 2022.

Plastic items (non-packaging) increased in Dublin Local Authority and City Council areas in 2022 but decreased in County Council areas.



APPENDIX D

COMPARISON OF CAUSATIVE FACTORS OF LITTER POLLUTION WITHIN LITTER POLLUTION INDEX CATEGORIES



In categories LPI 2, 3 and 4, for 2022, passing pedestrians constitute the most significant causative factor of litter pollution, while fly-tipping/dumping constitutes the most significant causative factor in category LPI 5. Figures D.1 – D.8 illustrate that as the degree of litter pollution increases (and the LPI value increases), this causative factor becomes, for the most part, a less significant contributor to litter pollution. Accordingly, in 2022 passing pedestrians constitute 43.8% of all causative factors in LPI of slightly polluted (LPI 2) areas; this percentage decreased to 34.9% for moderately polluted (LPI 3) areas and to 29.3% for significantly polluted (LPI 4). Fly-tipping/dumping constitutes 31% of all causative factors for grossly polluted (LPI 5) areas.

Passing motorists constitute 21% of all causative factors in LPS of slightly polluted (LPI 2) areas; this decreases to 20.2% in LPS of moderately polluted (LPI 3) areas, then decreases to 16.2% in LPS of significantly polluted (LPI 4) areas. The second most significant causative factor in LPS of grossly polluted (LPI 5) areas is passing pedestrians, which constitute 24.1% of causative factors.

Passing pedestrians, passing motorists and retail outlets tend to be the main causative factors in LPI 2 and LPI 3 areas where as in LPI 4 and LPI 5 areas; passing pedestrians, passing motorists and fly tipping/dumping, increase as causative factors.



0.1%

Major Entertainment Event







Figure D. 2 Causative Factors of Litter Pollution within Litter Pollution Index Category 2, 2022





Figure D. 3 Causative Factors of Litter Pollution within Litter Pollution Index Category 3, 2021



Figure D. 4 Causative Factors of Litter Pollution within Litter Pollution Index Category 3, 2022





Figure D. 5 Causative Factors of Litter Pollution within Litter Pollution Index Category 4, 2021



Figure D. 6 Causative Factors of Litter Pollution within Litter Pollution Index Category 4, 2022









Figure D. 8 Causative Factors of Litter Pollution within Litter Pollution Index Category 5, 2022



APPENDIX E

COMPARISON OF CAUSATIVE FACTORS OF LITTER POLLUTION WITHIN URBAN AND RURAL LOCAL AUTHORITIES





Figure E. 1 Comparison of Causative Factors in Urban Councils, 2021 to 2022





Figure E. 2 Comparison of Causative Factors in Rural Councils, 2021 to 2022



Figures E.1 and E.2 compare the causes of litter within urban and rural local authorities from 2021 to 2022.

In 2022, passing pedestrians are the single greatest cause of litter in both urban and rural areas; this is similar to previous yearly results.

Gathering points, fast-food outlets, places of leisure/entertainment, overflowing bins and major entertainment events have all increased as causes of litter pollution in urban areas from 2021 to 2022.

Passing motorists, retail outlets, schools/school children, bank ATMs, bus/train station, construction sites, refuse collection/presentation and bring banks have all decreased as causes of litter pollution in urban areas from 2021 to 2022.

Levels of litter pollution in urban areas from passing pedestrians, bus stops, and flytipping/dumping have remained the same in 2022 as recorded in 2021.

In rural areas, retail outlets, gathering points, places of leisure/entertainment, bank ATMs, flytipping/dumping, refuse collection/presentation and bring banks have all increased as causes of litter pollution from 2021 to 2022.

Passing pedestrians, passing motorists, fast-food outlets, schools/school children, bus stops, overflowing bins and major entertainment events have all decreased as causes of litter pollution from 2021 to 2022.

Levels of litter pollution in rural areas from bus/train stations and construction sites have remained the same in 2022 as recorded in 2021.





Figure E. 3 Comparison of Causative Factors of Litter Pollution within Urban Areas, 2022



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Figure E. 4 Comparison of Causative Factors of Litter Pollution within Dublin City Council 2021 to 2022





Figure E. 5 Comparison of Causative Factors of Litter Pollution within Cork City Council 2021 to 2022



2023

Figure E.3 allows for comparison of the various causative factors of litter pollution between urban areas. The 'Other City Councils' category comprises results from Galway City, Limerick City and County Council and Waterford City and County Councils. Overall, the causes of litter pollution vary with each category of urban area.

In Dublin City, passing pedestrians, bus stops, and fly-tipping/dumping are more significant causative factors of litter pollution than in the other urban categories. Bring banks and major entertainment events are more significant causative factors of litter pollution in the 'Cork City Council' category than in the other urban categories. Passing motorists, retail outlets, gathering points, fast-food outlets, schools/ school children, places of leisure/entertainment, bus/train station, bank ATMs, construction sites and refuse collection/presentation are more significant causative factors of litter pollution in the 'Other City Councils' category than in the other urban categories.

In the Dublin City Council area, passing pedestrians, fast-food outlets, schools/school children, bus stops, fly-tipping/dumping, overflowing bins and bring banks have all increased as causative factors in comparison to 2021. For further detail, please refer to Figure E.4.

In the Cork City Council area, increases in litter from passing pedestrians, retail outlets, gathering points, fast-food outlets, places of leisure/entertainment, bank ATMs, bring banks and major entertainment events all increased as causative factors in comparison to 2021. For further detail, please refer to Figure E.5.

