



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

THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

LITTER MONITORING BODY

NATIONAL REPORT 2023

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1 OVERVIEW OF THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

TOBIN were appointed to function as the Litter Monitoring Body (LMB) by the Department of Environment, Climate and Communications for the period 1st of July 2023 to the 1st of April 2025, to continue the development of the National Litter Pollution Monitoring System (NLPMS).

Agenda 2030 is an international commitment for Sustainable Development to be achieved by 2030. It encourages countries to integrate 17 Sustainable Development Goals (SDGs) into planning and policy, on both a national and international level.

Ireland's Second National Implementation Plan for Sustainable Development Goals 2022-2024 has now been published and forms part of a series of consecutive Implementation Plans, each building on the previous iteration, to work towards achieving the SDGs.

The Irish 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 Consumption and Production**. 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.

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 2023 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 2023, 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;
- 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 2023, the LMB continued to provide training, where required, on the implementation of the NLPMS to local authorities.

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



Audit

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

- Cavan County Council;
- Clare County Council;
- Galway City Council;
- Leitrim County Council;
- Offaly County Council.

The Audit Report is available at www.litter.ie. 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 2023 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.



2 SYSTEMS SURVEY RESULTS SUMMARY FOR 2023

In 2023, 30 local authorities participated in the National Litter Pollution Monitoring System (NLPMS) Survey.

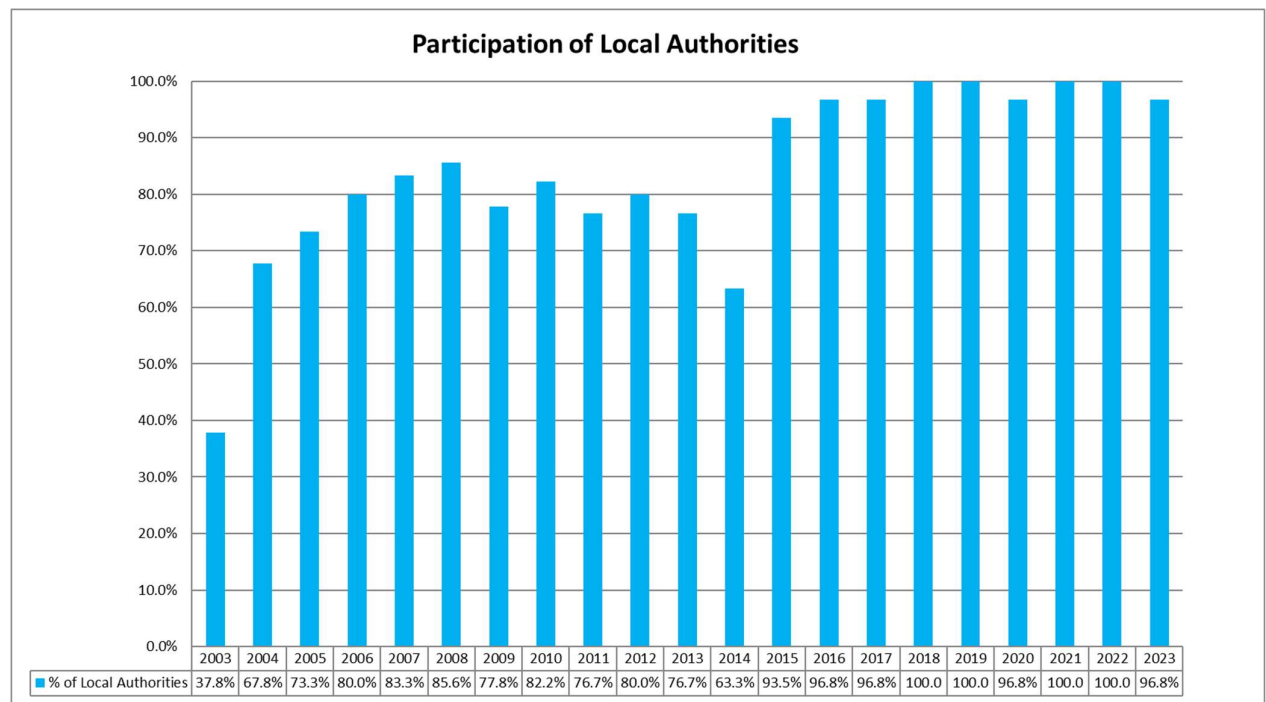


Figure 2-1 Participation of Local Authorities 2003 to 2023

Figure 2-1 shows the percentage of local authorities that have participated in the System annually since 2003.

The 2023 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 2023, 5718 Litter Pollution Surveys (LPS) were undertaken nationally.

21.5% of areas surveyed were unpolluted (LPI 1) in 2023. The percentage of unpolluted (LPI 1) areas has decreased by 0.6%, from 22.1% in 2022.

56.8% of all areas surveyed in 2023 were slightly polluted (LPI 2), a decrease of 1.2% from 2022 (58%).

15.5% of all areas surveyed in 2023 were moderately polluted areas (LPI 3), a decrease of 1.5% on 2022 (17%).



5.8% of all areas surveyed in 2023 were significantly polluted areas (LPI 4), an increase of 3.3% from 2022 (2.5%).

0.5% of all areas surveyed in 2023 were grossly polluted areas (LPI 5), an increase of 0.2% from 2022 (0.3%).

What are the main constituent elements of litter pollution?

Cigarette related litter (45.6%), packaging items (19.9 %), food related litter (9.9%), sweet-related litter (8.3%), paper items (6.1%), miscellaneous litter (5.5%), deleterious litter (2.5%) were the main litter constituents identified nationally.

What are the main causes of litter pollution?

Passing pedestrians (42.3%), passing motorists (20.2%), retail outlets (8%), gathering points (6.3%), places of leisure/entertainment (4.1%), fast food outlets (4.6%), schools/school children (4.3%), bus stops (3.2%), fly-tipping/dumping (2.4%), bring banks (1.8%), refuse collection/presentation (0.9%) and bank ATMs (0.6%) were identified as the main causative factors of litter nationally.



3 HOW LITTERED IS THE COUNTRY

The 2023 dataset is obtained from 5718 LPS.

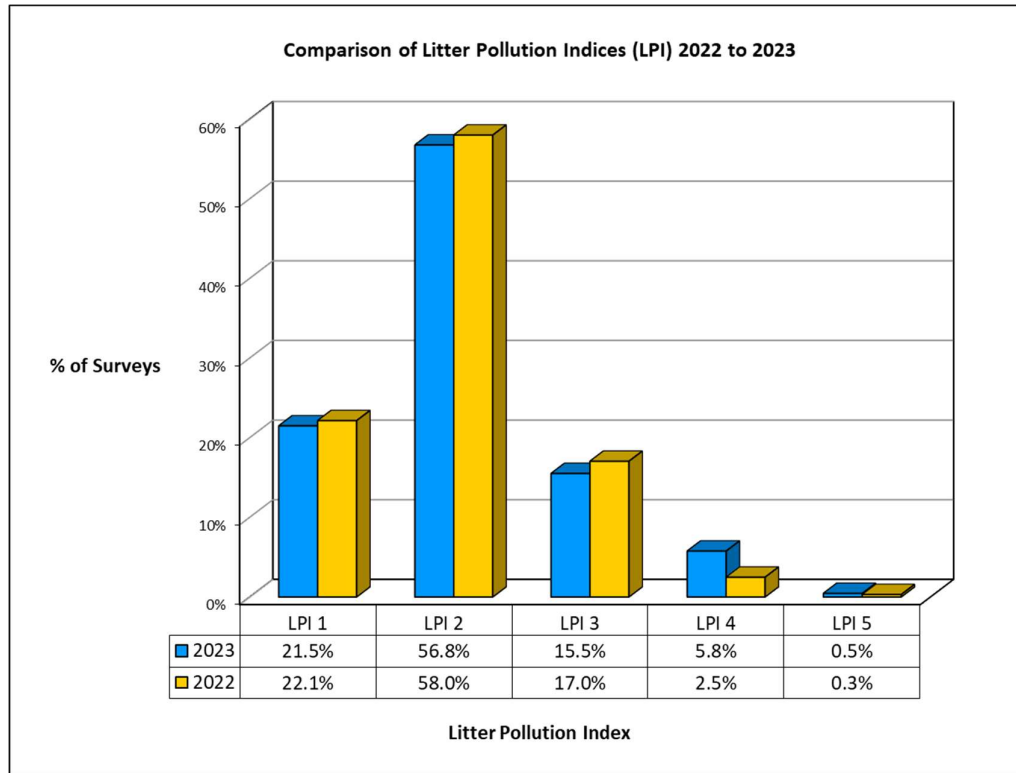


Figure 3-1 Comparison of Litter Pollution Indices (LPI) 2022 to 2023

Figure 3-1 compares the 2022 and 2023 LPI results.

The NLPMS results indicate that the percentage of unpolluted (LPI 1) areas has decreased from 22.1% in 2022 to 21.5% in 2023. A comparison of the results from 2022 to 2023 indicates that the percentage of slightly polluted (LPI 2) areas has decreased from 58.0% in 2022 to 56.8% in 2023.

The percentage of moderately polluted areas (LPI 3) has decreased from 17.0% in 2022 to 15.5% in 2023. The percentage of significantly polluted areas (LPI 4) has increased from 2.5% in 2022 to 5.8% in 2023. Grossly polluted areas (LPI 5) increased by 0.2% from 0.3% in 2022 to 0.5% in 2023.

The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined has decreased by 1.8% from 2022 to 2023, thus demonstrating that there has been an increase in litter pollution from 2022 to 2023.



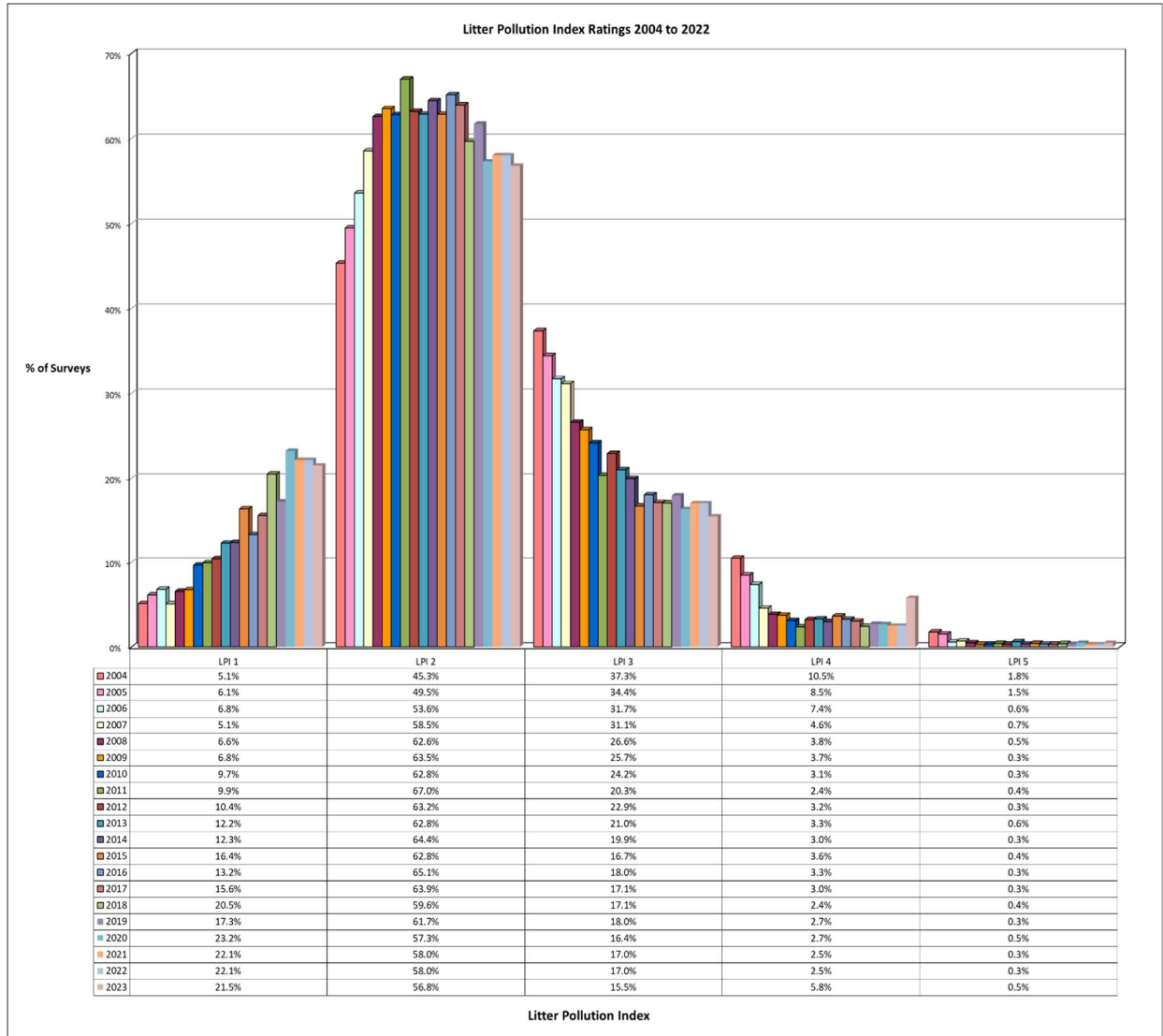


Figure 3-2 Litter Pollution Index 2004 to 2023



Figure 3-2 illustrates the Litter Pollution Index (LPI) ratings from 2004 to 2023. The percentage of unpolluted (LPI 1) areas has increased from 5.1% in 2004 to 21.5% in 2023 (an increase of 16.4%). The percentage of slightly polluted (LPI 2) areas has increased from 45.3% to 56.8% between 2004 and 2023 (an increase of 11.5%). The number of recorded moderately polluted (LPI 3) areas has shown a steady decrease between 2004 (37.3%) and 2023 (15.5%), with an overall decrease of 21.8%. The number of significantly polluted (LPI 4) areas has decreased from 10.5% in 2004 to 5.8% in 2023 (a decrease of 4.7%). The number of grossly polluted (LPI 5) areas has decreased from 1.8% in 2004 to 0.5% in 2023 (a decrease of 1.3%).

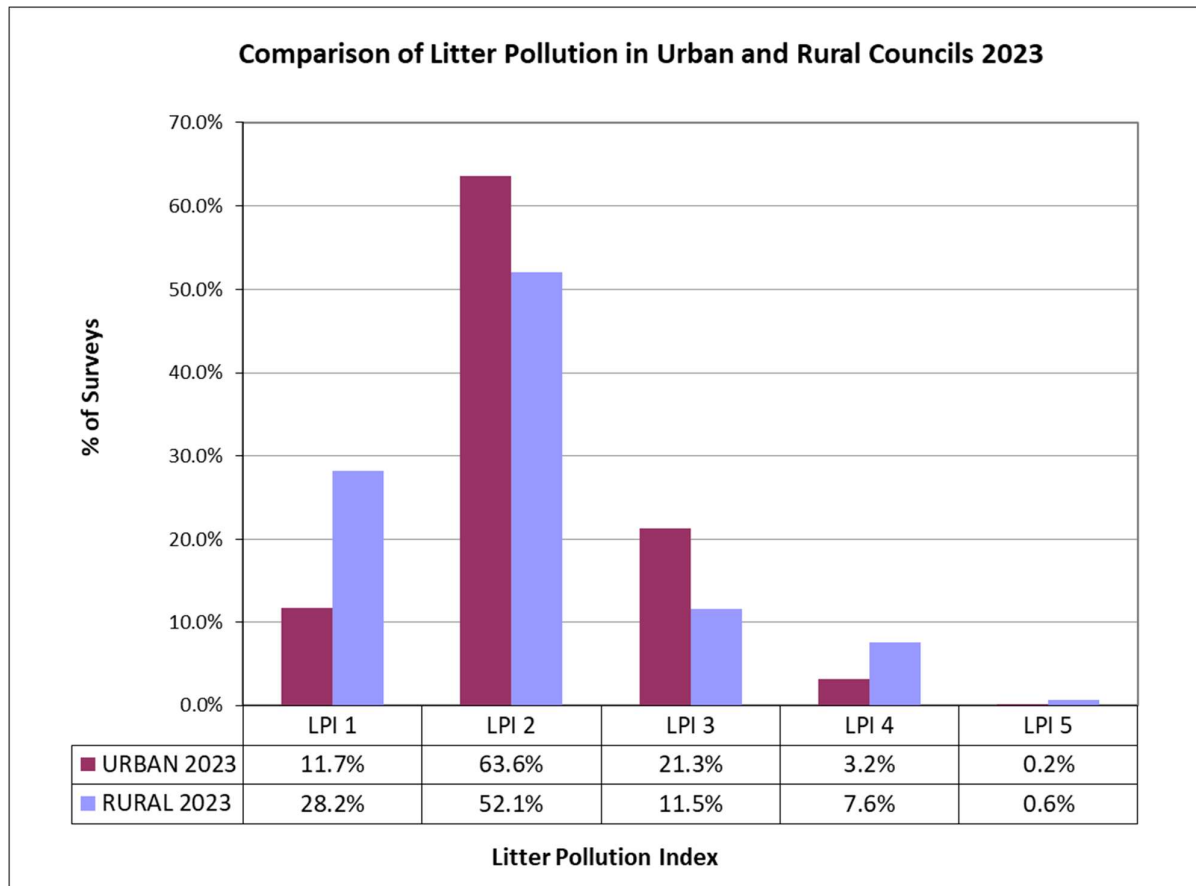


Figure 3-3 Comparison of Litter Pollution within Largely Urban and Rural Areas in 2023

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

In 2023, 11.7% of urban areas and 28.2% of rural areas were unpolluted (LPI 1). The percentage of slightly polluted areas (LPI 2) experienced in urban areas is 63.6%, and in rural areas is 52.1%. The percentage of moderately polluted (LPI 3) areas experienced in urban areas is 21.3%, with 11.5% experienced in rural areas. The percentage of significantly polluted (LPI 4) areas is 3.2%

² For the purpose of this Report urban local authorities include Cork City Council, Dublin City Council, Dún 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.

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



in urban areas and 7.6% in rural areas. The percentage of grossly polluted (LPI 5) areas in urban areas is 0.2%, with 0.6% experienced in rural areas.

Please refer to Figures 6-4 and 6-5 for further comparison of urban and rural litter pollution data from 2022 to 2023.



4 WHAT ARE THE MAIN CONSTITUENT ELEMENTS OF LITTER POLLUTION

Local authorities also conducted 1575 **Litter Quantification Surveys (LQS)** (or item counts) in 2023 to determine the composition of litter in their areas. A breakdown of the main constituents of litter pollution is highlighted in Figure 4-1 below.

Litter Composition across all Local Authority Types, 2023

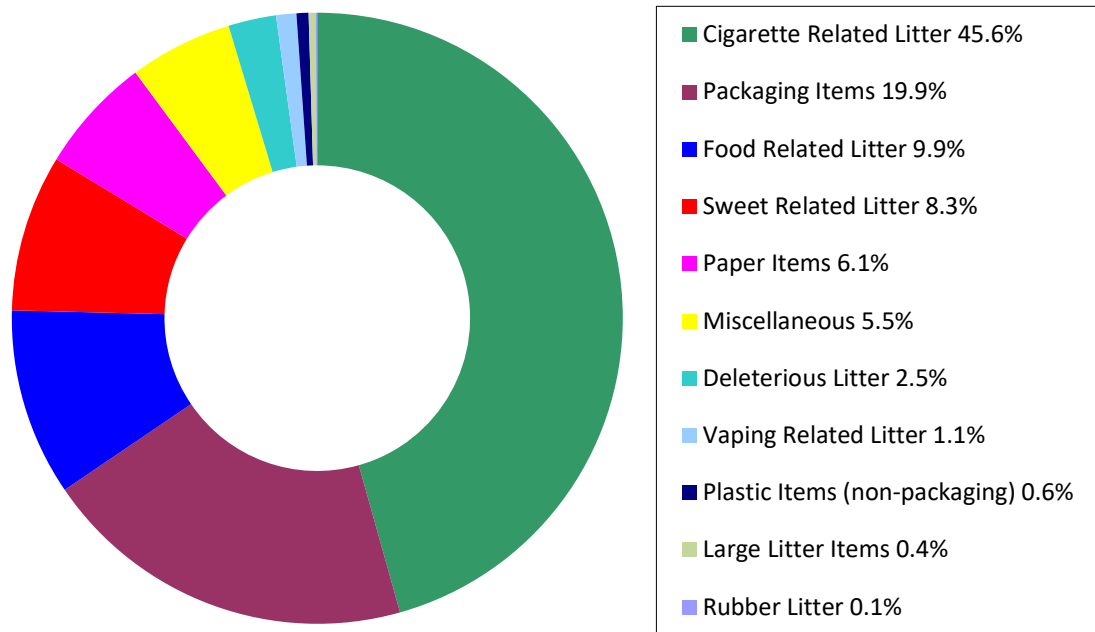


Figure 4-1 Composition of Litter in 2023 Broken Down into Main Categories

From the data in Figure 4-1 it can be seen that:

- **Cigarette related litter (45.6%)** continues to constitute the highest percentage of litter in the locations surveyed – this is comprised mainly of cigarette ends which constitute 42.6% of all litter items nationally.
- **Packaging litter (19.9%)** is the second largest component of national litter pollution recorded. A number of new litter items were added to this category in 2023 to account for the growing use of Single Use Plastics. Bottle caps (2.3%), bottles (1.7%), beverage cans (non-alcoholic) (1.4%), beverage cans (alcoholic) (1.3%), bags and wrappers (1.2%), drink lids (1%), beverage bottles (alcoholic) (1%) and beverage bottles (non-alcoholic) (1%) and drink cups – cold (0.8%) are the main litter items in this category.
- **Food related litter (9.9%)** 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 2023.



- **Sweet-related litter (8.3%)** is the fourth largest category of litter pollution recorded. Sweet wrappers (plastic/foil) (4.5%) are the largest litter component in the sweet-related litter category in 2023 and is the third largest litter component nationally.



4.1 COMPARISON OF LITTER QUANTIFICATION SURVEYS (LQS) 2022 – 2023

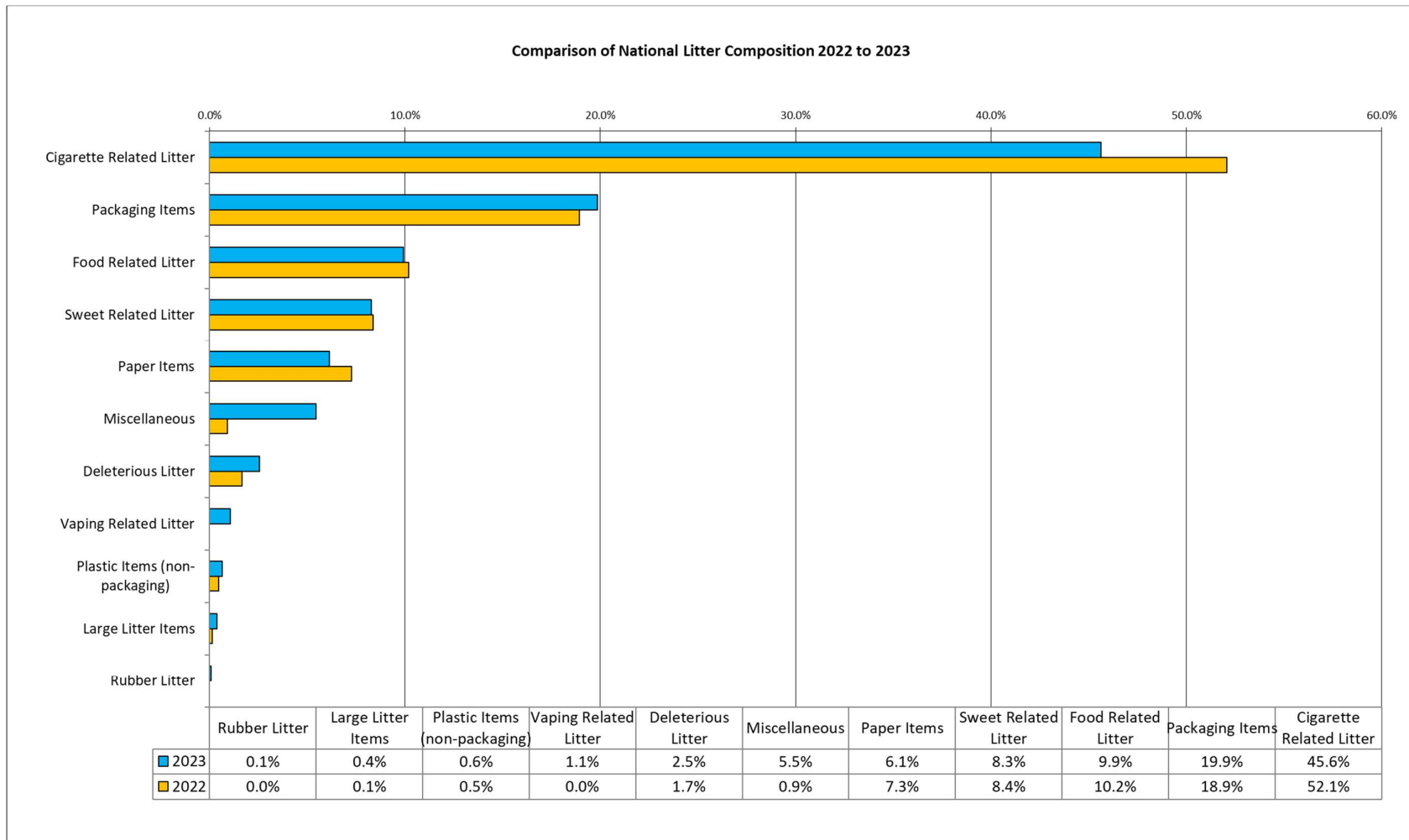


Figure 4-2 Comparison of National Litter Composition from 2022 to 2023



A comparison of the results of LQS conducted in 2022 and 2023 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 decreased by 6.5% since 2022.
- The percentage of packaging items increased by 1% since 2022.
- The percentage of food related litter has decreased by 0.3% since 2022.
- The percentage of sweet-related litter items decreased 0.1% since 2022.
- The percentage of paper items decreased by 1.2% since 2022.
- The number of items recorded as miscellaneous litter has increased by 4.6% since 2022.
- The percentage of deleterious litter has decreased by 0.8% since 2022.
- The percentage of plastic items (non-packaging) increased by 0.1% since 2022.
- There has been an increase in large litter items by 0.3% since 2022.
- Rubber litter and vaping litter were categories added this year.

Table 4-1 on the following page details the composition of litter in 2022 and 2023.

The greatest percentage change in litter composition is in the cigarette related litter which has decreased by 6.5% since 2022. The next biggest change was miscellaneous litter items which increased by 4.6% since 2022 and paper items followed decreasing by 1.2% in 2023, the decrease in paper items can be attributed to a 0.6% decrease in receipts and 0.5% decrease in tissue litter found in 2023. Refer to Appendix C for “Details of Litter Composition from 2022-2023 according to Local Authority Type”.



Detailed National Litter Composition	2023	2022
Cigarette boxes and wrappers	1.3%	2.1%
Cigarette ends	42.6%	49.1%
Cigarette papers	0.6%	n/a
Matchboxes and lighters	0.3%	0.2%
Matches	0.8%	0.7%
Bags and wrappers	1.2%	1.6%
Drink cups - cold	0.8%	
Drink cups - hot	0.6%	1.6%
Drink lids	1.1%	1.4%
Disposable cutlery - plastic	0.2%	n/a
Disposable cutlery - non plastic	0.1%	n/a
Food containers - plastic	0.1%	n/a
Food containers - non plastic	0.1%	n/a
Plates - plastic	0.0%	n/a
Plates - non plastic	0.0%	n/a
Straws - plastic	0.3%	n/a
Straws - non plastic	0.2%	n/a
Beverage Bottles - Alcoholic	1.0%	0.9%
Beverage Bottles - Non-alcoholic	1.0%	0.8%
Jars and other containers	0.1%	0.3%
Beverage Cans - Alcoholic	1.3%	1.0%
Beverage Cans - Non-alcoholic	1.4%	1.5%
Food cans	0.1%	0.1%
Lids (e.g. from bottles, jars)	0.4%	0.4%
Metal drums	0.0%	0.0%
Tin foil (not sweet wrappers)	0.4%	0.5%
Nitrous oxide cannisters	0.0%	n/a
Foil balloons	0.0%	n/a
Other metal litter items	0.1%	0.2%
Aeroboard	0.1%	0.1%
Bags	0.4%	0.4%
Boxes	0.3%	0.2%
Cardboard	0.5%	0.6%
Drinks cartons	0.8%	0.5%
Other paper packaging	0.8%	0.7%
Bags - shopping bags	0.6%	0.4%
Bags - other (e.g. fertiliser)	0.1%	0.1%
Bubble-wrap	0.4%	0.1%
Bottles	1.7%	1.9%
Bottle Caps	2.3%	2.4%
Plastic film	0.4%	0.5%
Plastic sheeting (e.g. silage)	0.0%	0.1%
Blister packs (e.g. tablets)	0.0%	n/a
Other plastic packaging	0.7%	0.6%
Bread/ biscuits	0.1%	0.3%
Chewing Gum	8.6%	8.6%
Remnants of confectionery food items	0.4%	0.5%
Fast-food remnants	0.3%	0.2%
Fruit/ vegetables	0.3%	0.3%
Other food items	0.2%	0.2%
Straws	0.3%	0.8%
Lollipop Sticks (wooden/plastics)	1.8%	1.5%
Crisp Bags	1.7%	1.4%
Sweet Wrappers (plastic/foil)	4.5%	4.7%
Bank slips	0.3%	0.3%
Flyers and posters	0.2%	0.1%
Letters, envelopes and cards	0.1%	0.0%
Magazines/ brochures	0.1%	0.1%
Newspapers	0.1%	0.2%
Receipts	1.4%	1.9%
Tickets (e.g. bus, lottery)	0.6%	0.9%
Tissues	2.2%	2.7%
Other paper items	1.1%	1.0%
Miscellaneous Litter Items	5.5%	0.9%
Dog fouling	1.1%	1.3%
Feminine hygiene products	0.1%	0.0%
Municipal Hazardous Waste (e.g. paint, solvents)	0.0%	0.0%
Nappies	0.3%	0.1%
Needles and syringes	0.0%	0.0%
Disposable gloves	0.1%	n/a
Wet wipes	0.4%	n/a
Facemasks	0.2%	n/a
Cotton buds	0.1%	n/a
Other deleterious items	0.3%	0.2%
E-cigarettes (cigalikes)	0.1%	n/a
Pod vapes	0.1%	n/a
Vape pens	0.1%	n/a
Box vapes	0.3%	n/a
Vaping packaging - cardboard	0.2%	n/a
Vaping packaging - plastic	0.1%	n/a
Vaping packaging - metal	0.1%	n/a
Refill cartridge	0.1%	n/a
Battery	0.0%	n/a
Other	0.1%	n/a
Plastic items	0.6%	0.5%
Balloon sticks	0.0%	n/a
Appliances (e.g. fridge)	0.0%	0.0%
Furniture	0.0%	0.0%
Household refuse in bags	0.2%	0.1%
Scrap cars	0.0%	0.0%
Other large items	0.1%	0.1%
Tyres	0.1%	n/a
Rubber balloons	0.0%	n/a

Table 4-1 Detailed National Litter Composition 2022 to 2023



5 WHAT ARE THE MAIN CAUSES OF LITTER POLLUTION?

The breakdown of causative factors nationally in 2022 and 2023 for all local authorities is presented in Figures 5-1 and 5-2. It can be seen from these figures that the relative ranking of causative factors is similar from 2022 to 2023, with the greatest difference occurring between passing pedestrians (an increase of 1.2%), places of leisure/entertainment (a decrease of 0.8%) and schools/school children (an increase of 0.7%).



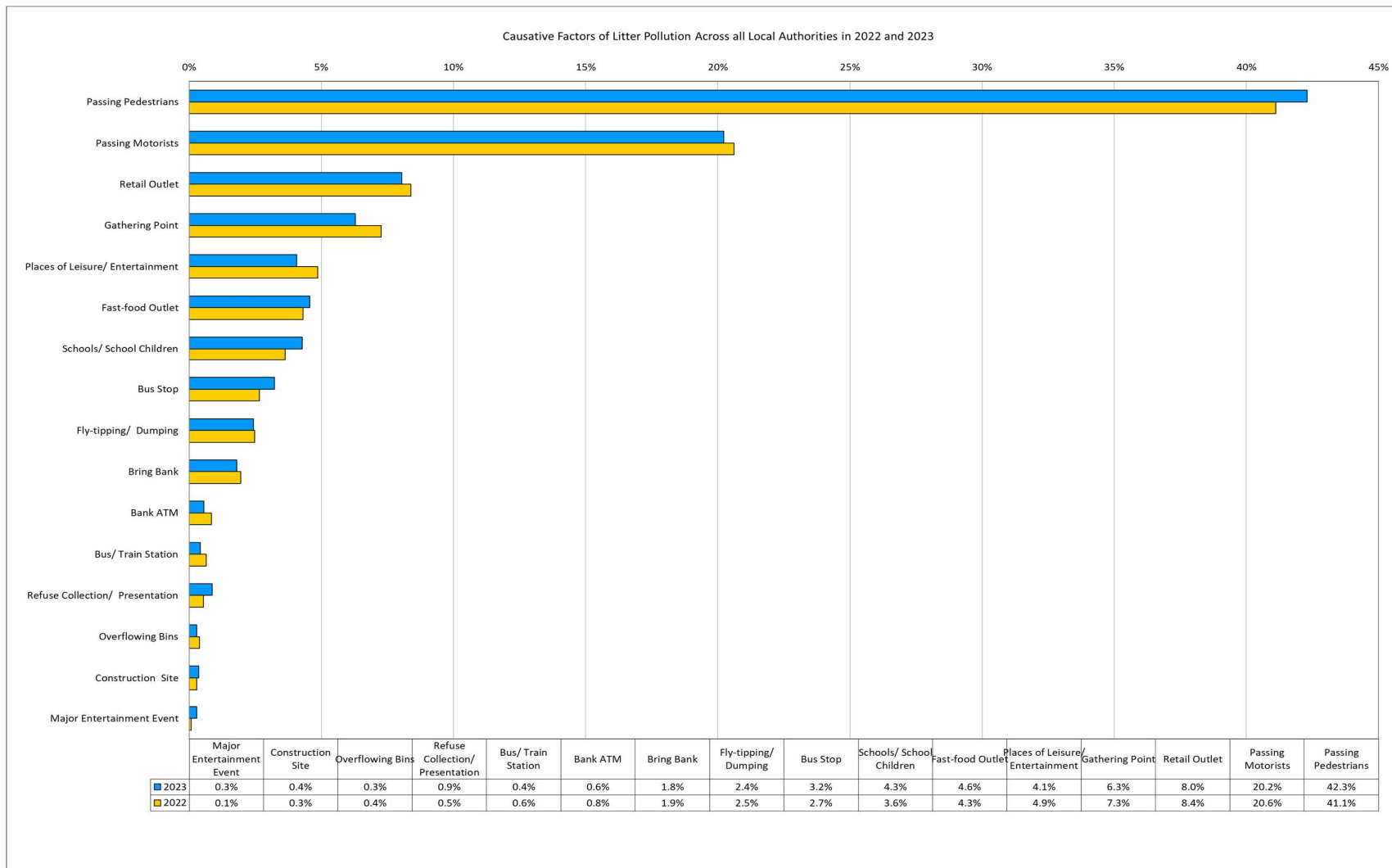


Figure 5-1 Causative Factors of Litter Pollution across all Local Authorities in 2022 and 2023



Figure 5-1 illustrates that:

- Passing pedestrians continue to constitute the greatest single causative factor of litter pollution, accounting for 42.3% across all local authorities in 2023.
- Passing motorists are the second largest causative factor accounting for 20.2% across all local authority types in 2023.
- Causative factors that have increased from 2022 to 2023 include passing pedestrians (from 41.1% to 42.3%), fast-food outlet (from 4.3% to 4.6%), school/school children (from 3.6% to 4.3%), bus stop (from 2.7% to 3.2%), refuse collection/presentation (from 0.5% to 0.9%), construction site (from 0.3% to 0.4%) and major entertainment events (from 0.1% to 0.3%).
- Causative factors that have decreased from 2022 to 2023 include passing motorists (from 20.6% to 20.2%), retail outlet (from 8.4% to 8%), gathering point (from 7.3% to 6.3%), places of leisure/entertainment (from 4.9% to 4.1%), fly-tipping/dumping (from 2.5% to 2.4%), bring bank (from 1.9% to 1.8%), bank ATM (from 0.8% to 0.6%), bus/train station (from 0.6% to 0.4%), overflowing bins (from 0.4% to 0.3%),

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 5-2.



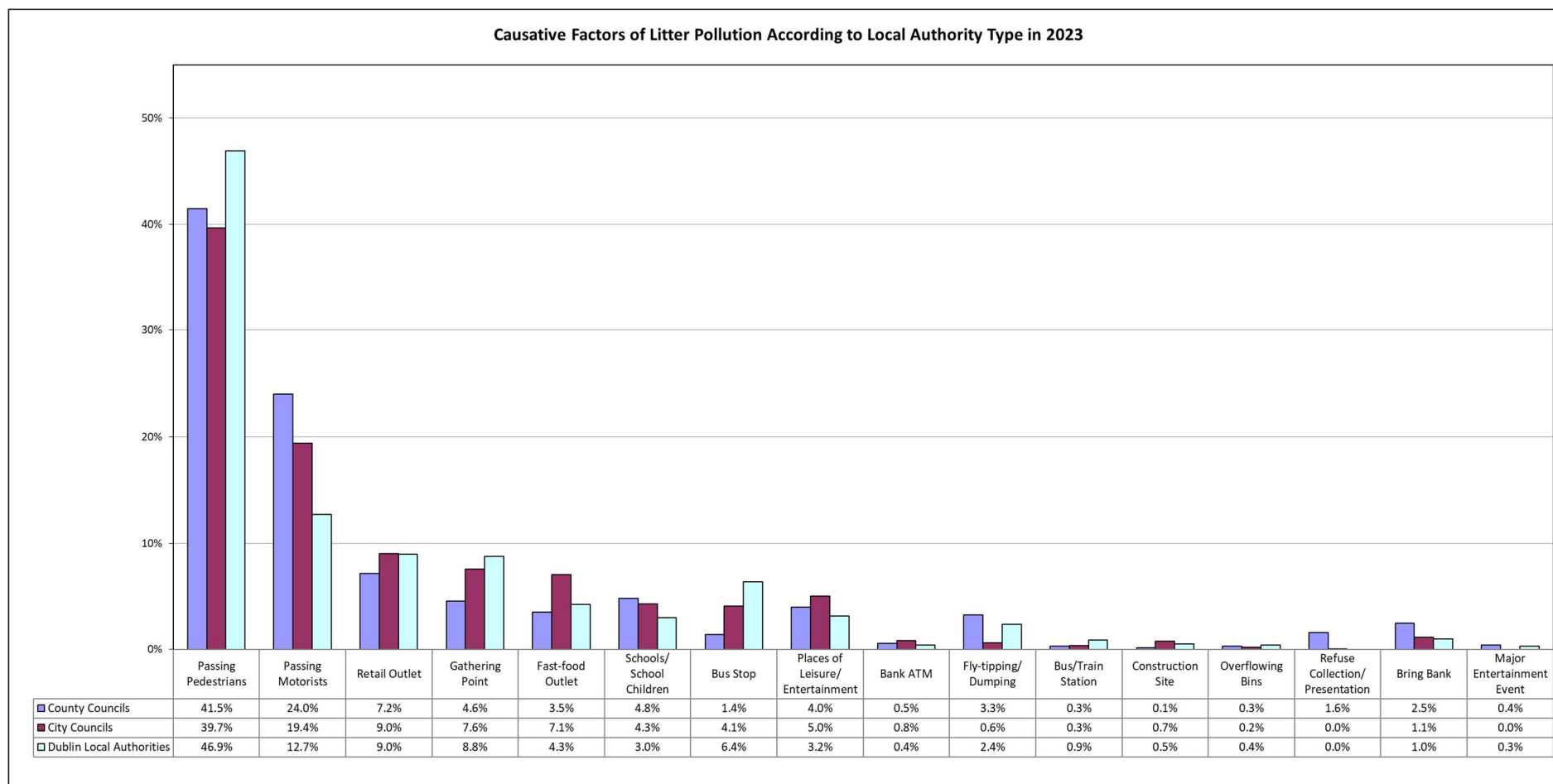


Figure 5-2 Causative Factors of Litter Pollution According to Local Authority Type in 2023

*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.



The national results for 2023 show that passing pedestrians are the most significant cause of litter pollution within all local authority types. It is also clear from Figure 5-2 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 2023 show that the contribution of passing motorists, schools/school children, fly-tipping/dumping, refuse collection/presentation, bring banks and major entertainment events are greater in County Councils than in other local authority types.

Retail outlets, fast-food outlets, places of leisure/ entertainment, bank ATMs and construction sites are more significant causative factors in City Councils than in other local authority types.

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

The data in Figure 5-2 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 46.9% of causative factors in Dublin Local Authorities, 7.1% greater than City Councils at 39.7% and 5.3% greater than County Councils. Passing Motorists are the most significant causative factor in County Councils at 24%, 0.6% greater than City Councils and 11.3% 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 2022 and 2023 graphs under each litter pollution index (on the same page) to facilitate the comparison of the 2022 and 2023 results.



6 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 30 local authorities have been returned to the Litter Monitoring Body (LMB) and analysed for 2023 – a list of local authorities is detailed in Appendix A.

Comparison of the 2023 LPS data for the different categories of local authorities is examined in Figures 6-1, 6-2, 6-3 and 6-4.

6.1 COMPARISON WITHIN DUBLIN LOCAL AUTHORITIES

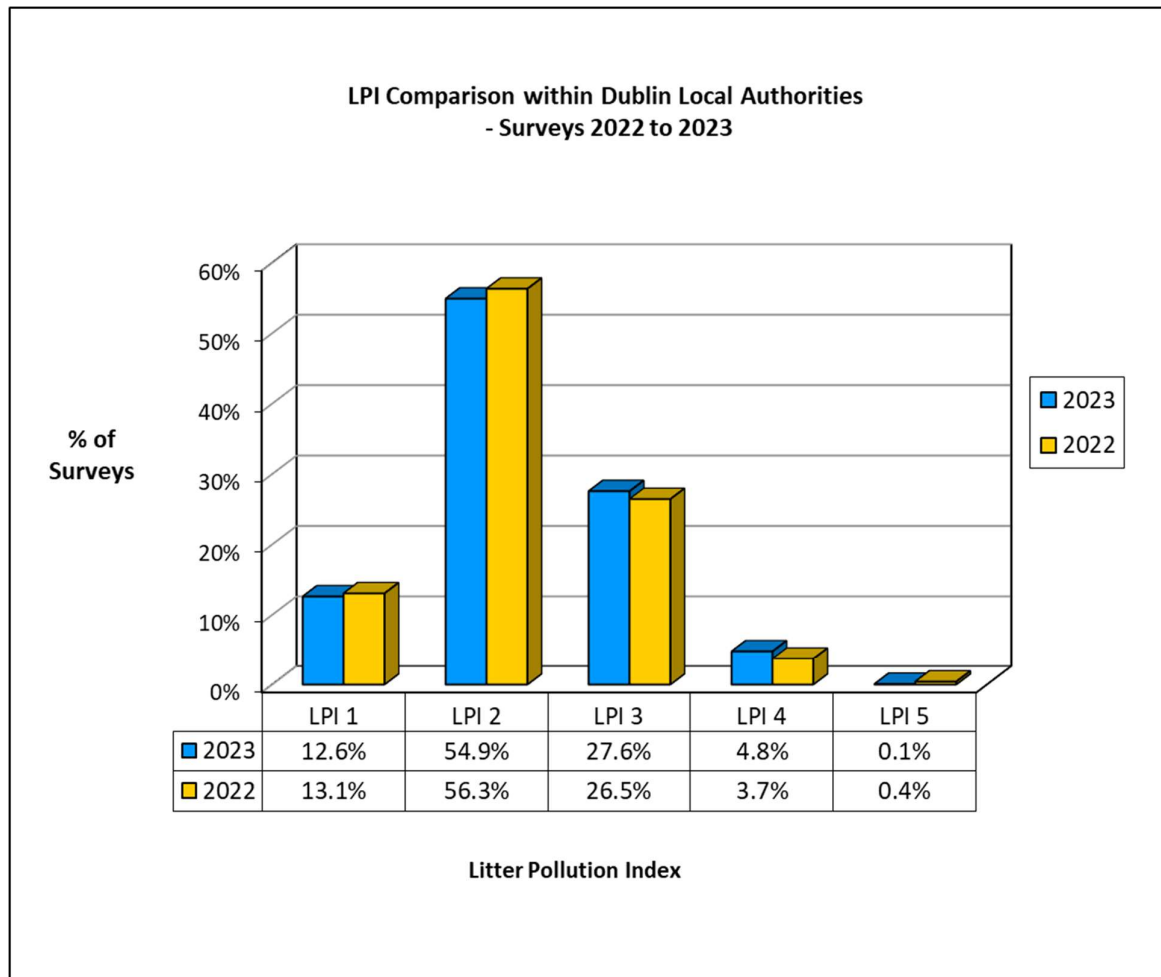


Figure 6-1 Comparison of Litter Pollution within Dublin Local Authorities 2022 to 2023

In comparing the litter pollution data for Dublin Local Authorities, Figure 6-1 illustrates the following:

- The percentage of unpolluted (LPI 1) areas decreased from 13.1% in 2022 to 12.6% in 2023. This constitutes a decrease of 0.5%.
- Slightly polluted (LPI 2) areas decreased from 56.3% in 2022 to 54.9% in 2023. This constitutes a decrease of 1.4%.



- Moderately polluted (LPI 3) areas increased from 26.5% in 2022 to 27.6% in 2023. This constitutes a 1.1% increase.
- Significantly polluted (LPI 4) areas increased from 3.7% in 2022 to 4.8% in 2023. This constitutes a 1.1% increase.
- Grossly polluted (LPI 5) areas decrease from 0.4% in 2022 to 0.1% in 2023. This constitutes a 0.3% decrease.

The litter pollution rating results indicate that the levels of litter pollution remained largely homogeneous between 2022 and 2023. The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas both respectively, decreased. The percentage of unpolluted areas decreased by 0.5% while the percentage of slightly polluted areas decreased by 1.4%. The percentage of moderately polluted (LPI 3) and significantly polluted (LPI 4) areas both increased by the same percent, 1.1%. The percentage of grossly polluted (LPI 5) areas decreased by 0.3% in 2023.



6.2 COMPARISON WITH COUNTY COUNCILS

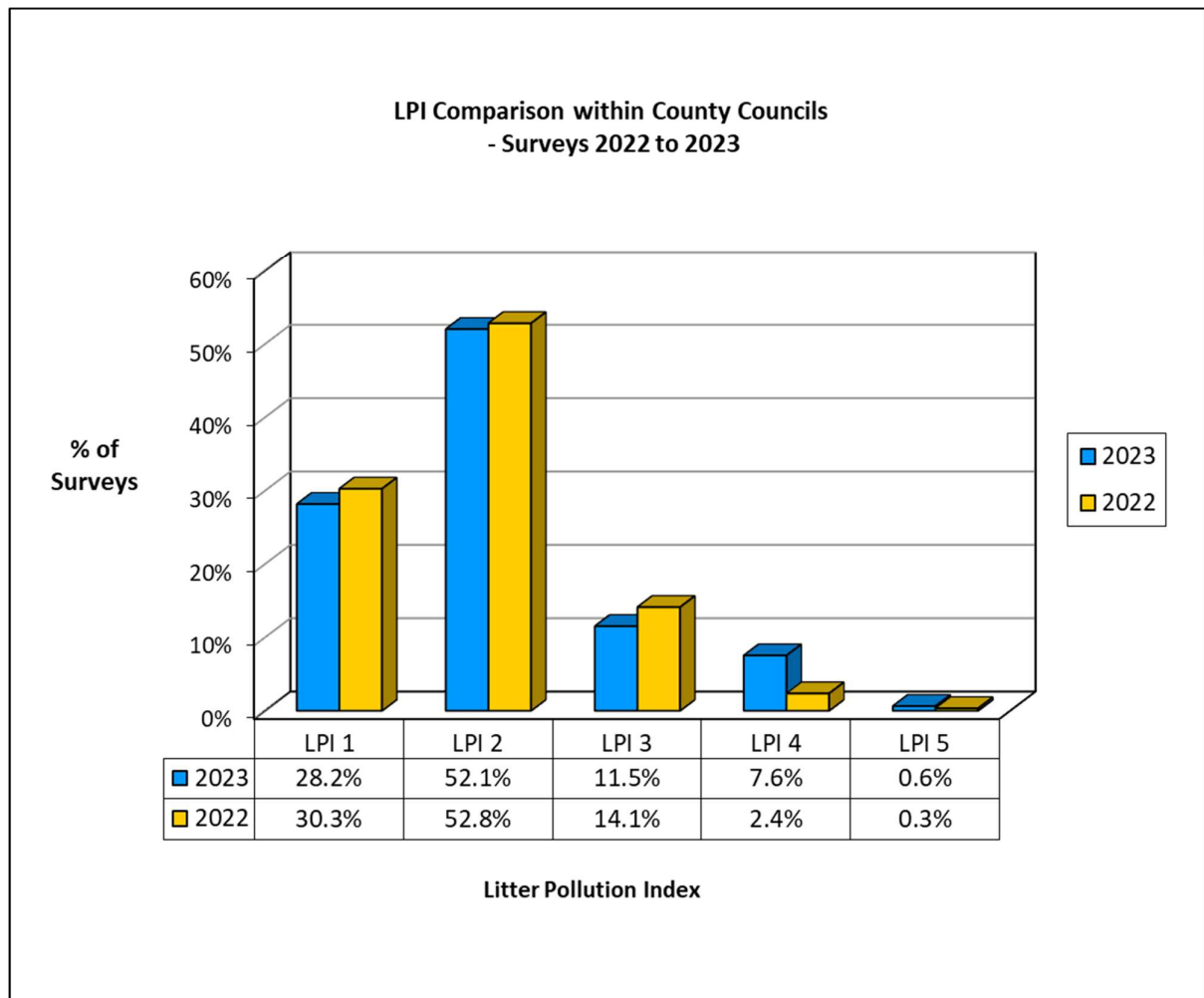


Figure 6-2 Comparison of Litter Pollution within County Councils 2022 to 2023

In comparing the litter pollution data for County Councils, Figure 6-2 illustrates the following:

- The percentage of unpolluted (LPI 1) areas decreased from 30.3% in 2022 to 28.2% in 2023. This constitutes a decrease of 2.1%.
- Slightly polluted (LPI 2) areas decreased by 0.7%, from 52.8% in 2022 to 52.1% in 2023.
- Moderately polluted (LPI 3) areas decreased by 2.6%, from 14.1% in 2022 to 11.5% in 2023.
- Significantly polluted (LPI 4) areas increased by 5.1% from 2.4% in 2022 to 7.6% in 2023.
- The percentage of grossly polluted (LPI 5) areas increased by 0.3% from 0.3% in 2022 to 0.6% in 2023.
- The litter pollution rating results indicate that the levels of litter pollution increased within County Councils between 2022 and 2023. There was a reduction in presence of unpolluted (LPI 1) and slightly polluted (LPI 2) areas, representing a combined reduction of 2.8%. The presence of moderately polluted (LPI 4) and grossly polluted (LPI 5) increased collectively by 5.4%. The percentage of moderately polluted (LPI 3) areas decreased by 2.6%.



6.3 COMPARISON WITHIN CITY COUNCILS

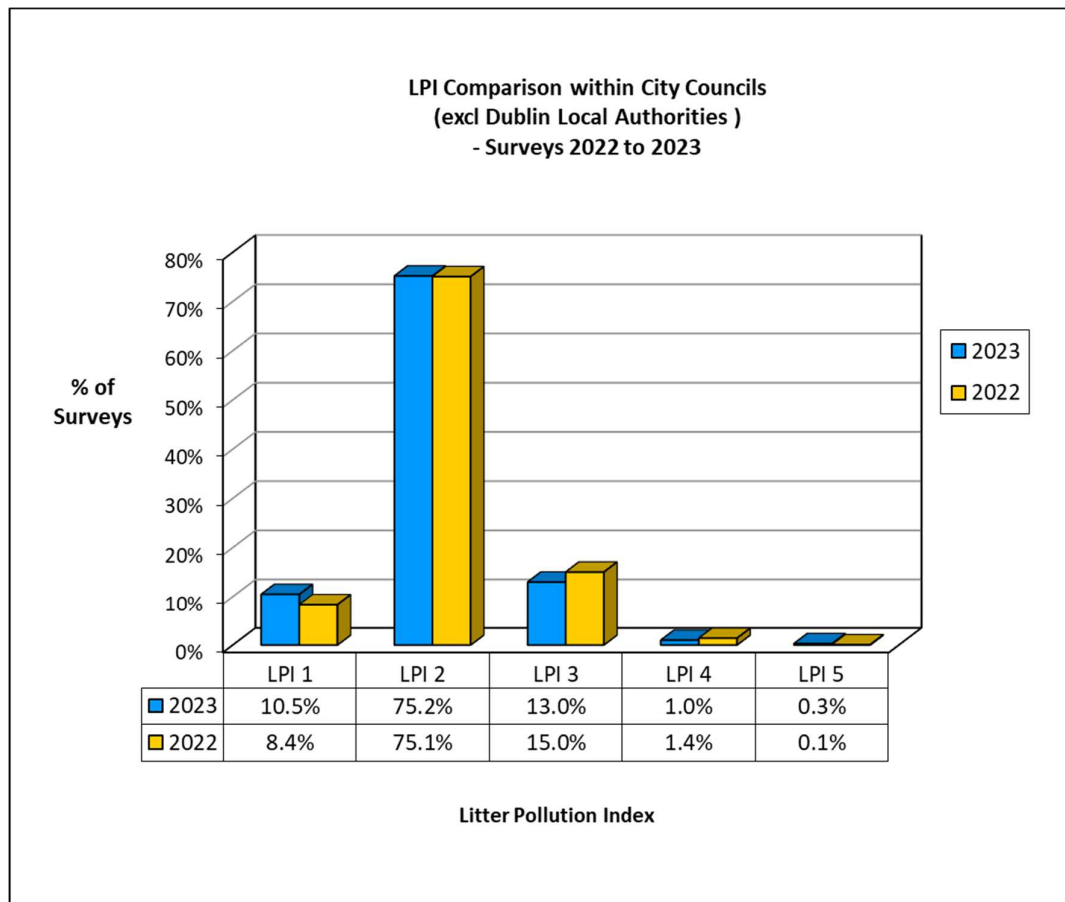


Figure 6-3 Comparison of Litter Pollution within City Councils 2022 to 2023

In comparing the litter pollution data for City Councils, Figure 6-3 illustrates the following:

- The percentage of unpolluted (LPI 1) areas has increased from 8.4% in 2022 to 10.5% in 2023. This constitutes an increase of 2.1%.
- Slightly polluted (LPI 2) areas have increased very slightly by 0.1%, from 75.1% in 2022 to 75.2% in 2023.
- The percentage of moderately polluted (LPI 3) areas has decreased by 2%, from 15.0% in 2022 to 13.0% in 2023.
- Significantly polluted (LPI 4) areas have decreased from 1.4% in 2022 to 1.0% in 2023. This constitutes a decrease of 0.4%.
- The percentage of grossly polluted (LPI 5) has increased by 0.2% from 0.1% in 2022 to 0.3% in 2023.
- These results indicate an overall decrease in the levels of litter pollution in City Councils from 2022 to 2023. The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas, when combined, show an increase of 2.2% from 2022 to 2023, while the areas of moderately polluted (LPI 3) and significantly polluted (LPI 4) decreased by 3.4% when combined.



The percentage of unpolluted (LPI 1) areas decreased in Dublin Local Authorities and County Councils from 2022 to 2023 but increased in City Councils.

The percentage of slightly polluted (LPI 2) areas decreased in Dublin Local Authorities and County Councils but increased very slightly in City Councils 2022 to 2023.

The percentage of moderately polluted (LPI 3) areas decreased in City Council and County Council areas but increased in Dublin Local Authorities 2022 to 2023.

The percentage of significantly polluted (LPI 4) areas increased in Dublin Local Authorities and County Council but decreased in City Council areas from 2022 to 2023.

The percentage of grossly polluted (LPI 5) areas decreased in Dublin Local Authorities and increased in City Council and County Council areas from 2022 to 2023.



6.4 COMPARISON WITHIN URBAN AND RURAL AREAS⁴

Figures 6-4 and 6-5 provide a comparison of litter pollution in rural and urban areas from 2022 to 2023.

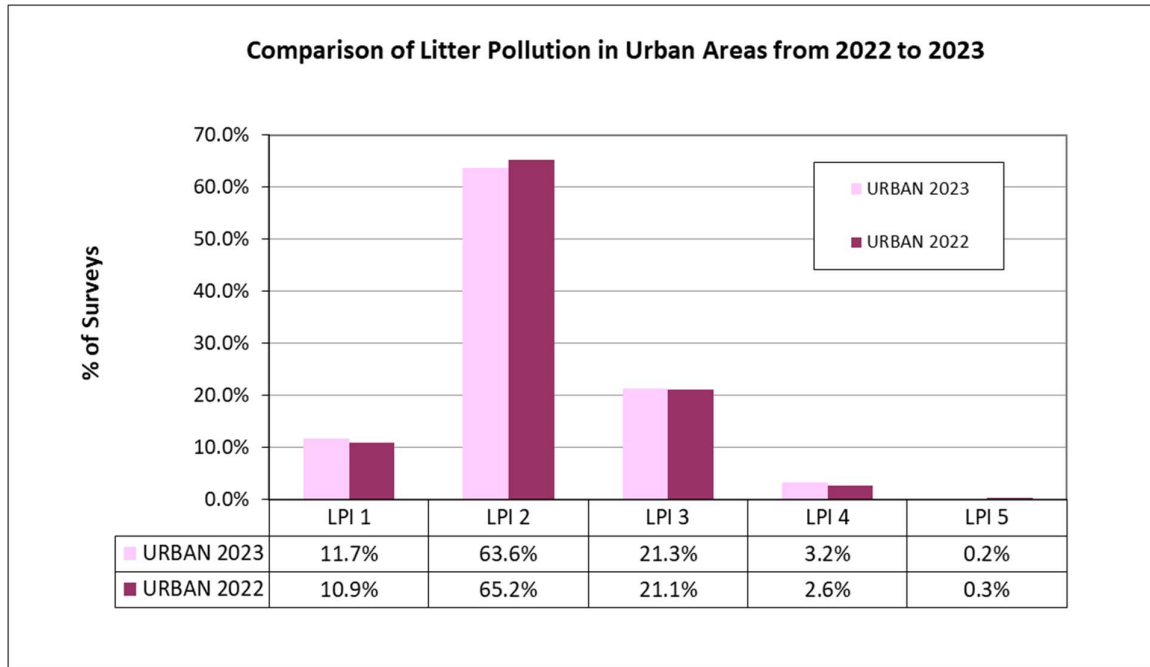


Figure 6-4 Comparison of Litter Pollution in Urban Areas from 2022 to 2023

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.



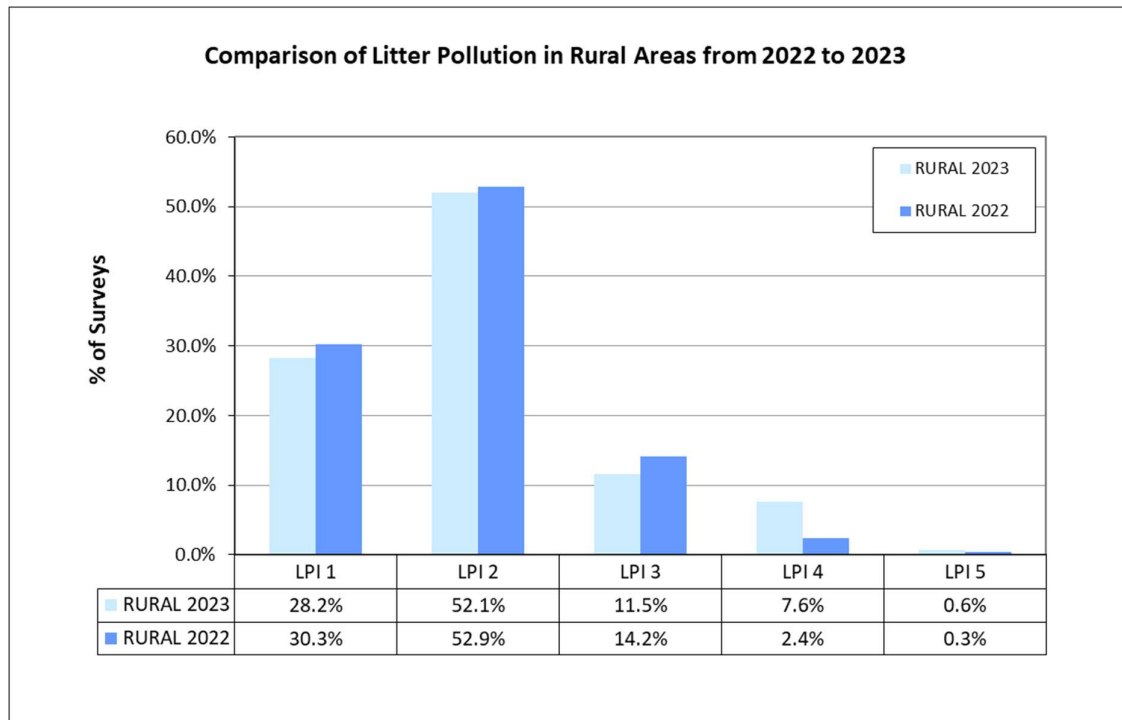


Figure 6-5 Comparison of Litter Pollution in Rural Areas from 2022 to 2023

The percentage of unpolluted (LPI 1) areas in urban areas has increased by 0.8%, from 10.9% in 2022 to 11.7% in 2023. The percentage of slightly polluted (LPI 2) areas has decreased by 1.6% from 65.2% in 2022 to 63.6% in 2023. Moderately polluted (LPI 3) areas have increased slightly by 0.2%, from 21.1% in 2022 to 21.3% in 2023. Significantly polluted (LPI 4) areas have increased slightly by 0.6%, from 2.6% in 2022 to 3.2% in 2023. Grossly polluted (LPI 5) areas have decreased slightly by 0.1%, from 0.3% in 2022 to 0.2% in 2023.

In rural areas, the levels of unpolluted (LPI 1) areas have decreased by 2.1%, from 30.3% in 2022 to 28.2% in 2023. The percentage of slightly polluted (LPI 2) areas has decreased by 0.8%, from 52.9% in 2022 to 52.1% in 2023. Moderately polluted (LPI 3) areas have decreased by 2.7%, from 14.2% in 2022 to 11.5% in 2023. Significantly polluted (LPI 4) areas increased by 5.2% from 2.4% in 2022 to 7.6% in 2023. Grossly polluted (LPI 5) areas have increased by 0.3% from 0.3% in 2022 to 0.6% in 2023.

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) areas increased by 0.8% while the percentage of slightly polluted (LPI 2) areas decreased by 1.6%. This indicates that there has been a slight increase in litter pollution from 2022 to 2023.

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



7 ANALYSIS OF SPECIFIC COMPONENTS OF LITTER

7.1 CIGARETTE RELATED LITTER

The percentage of national litter represented by cigarette related litter has decreased from 49.1% in 2022 to 42.6% in 2023, a decrease of 6.5% (see Table 4-1 and Figure 7-1). Cigarette related litter continues to be the largest component of litter nationally in 2023.

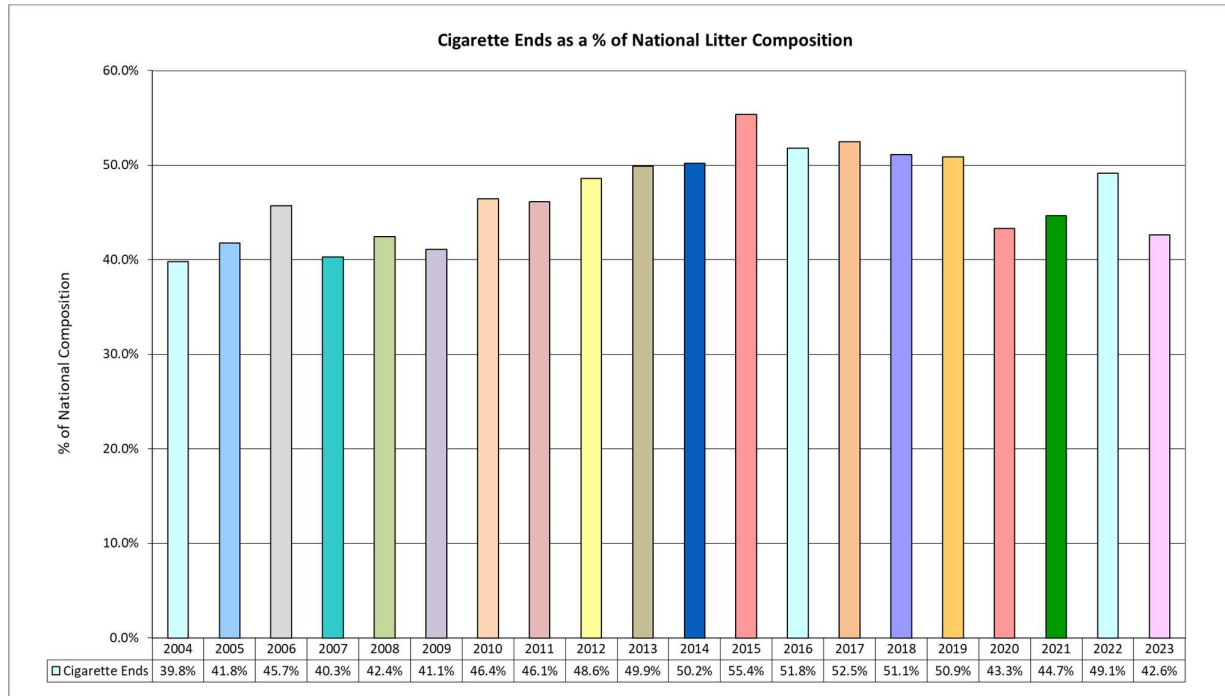


Figure 7-1 Cigarette Ends as a Percentage of the National Litter Composition



7.2 CHEWING GUM LITTER

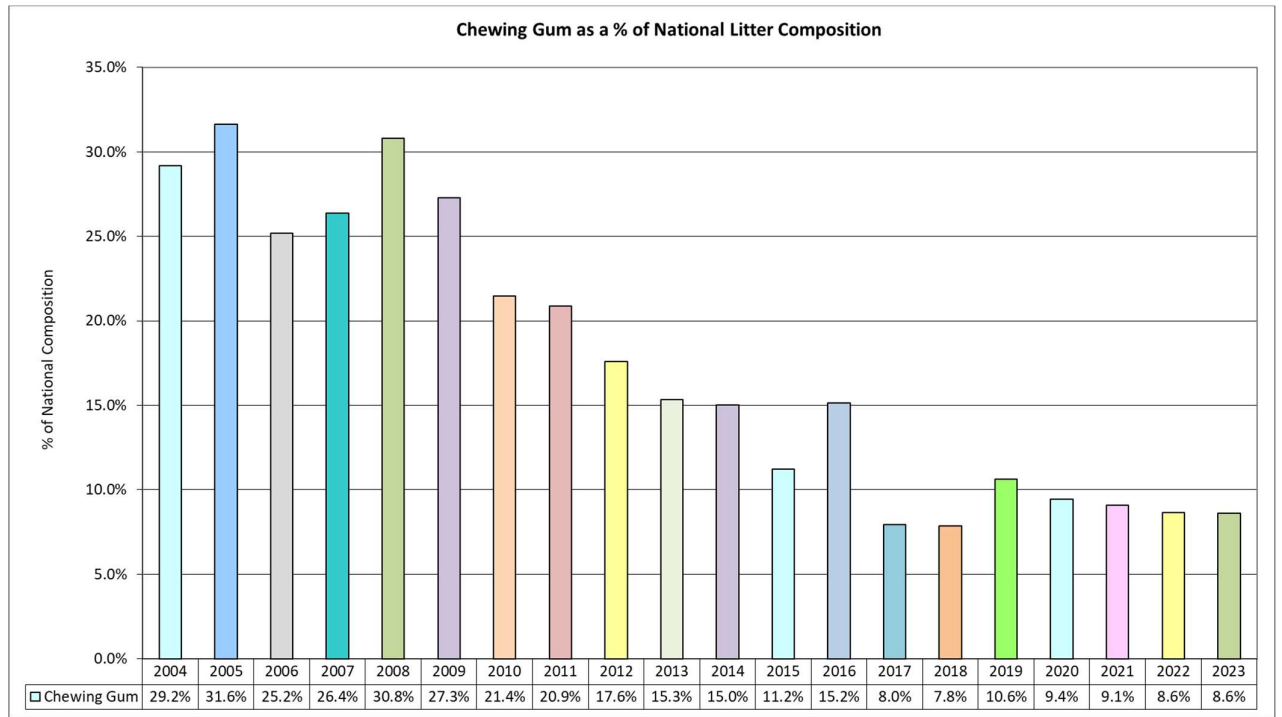


Figure 7-2 Chewing Gum as a Percentage of the National Litter Composition

Food related litter, and specifically chewing gum, continued to be a noticeable component of litter nationally in 2023. Figure 7-2 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 2023 (8.6%) has remained the same since 2022.



7.3 SWEET RELATED LITTER

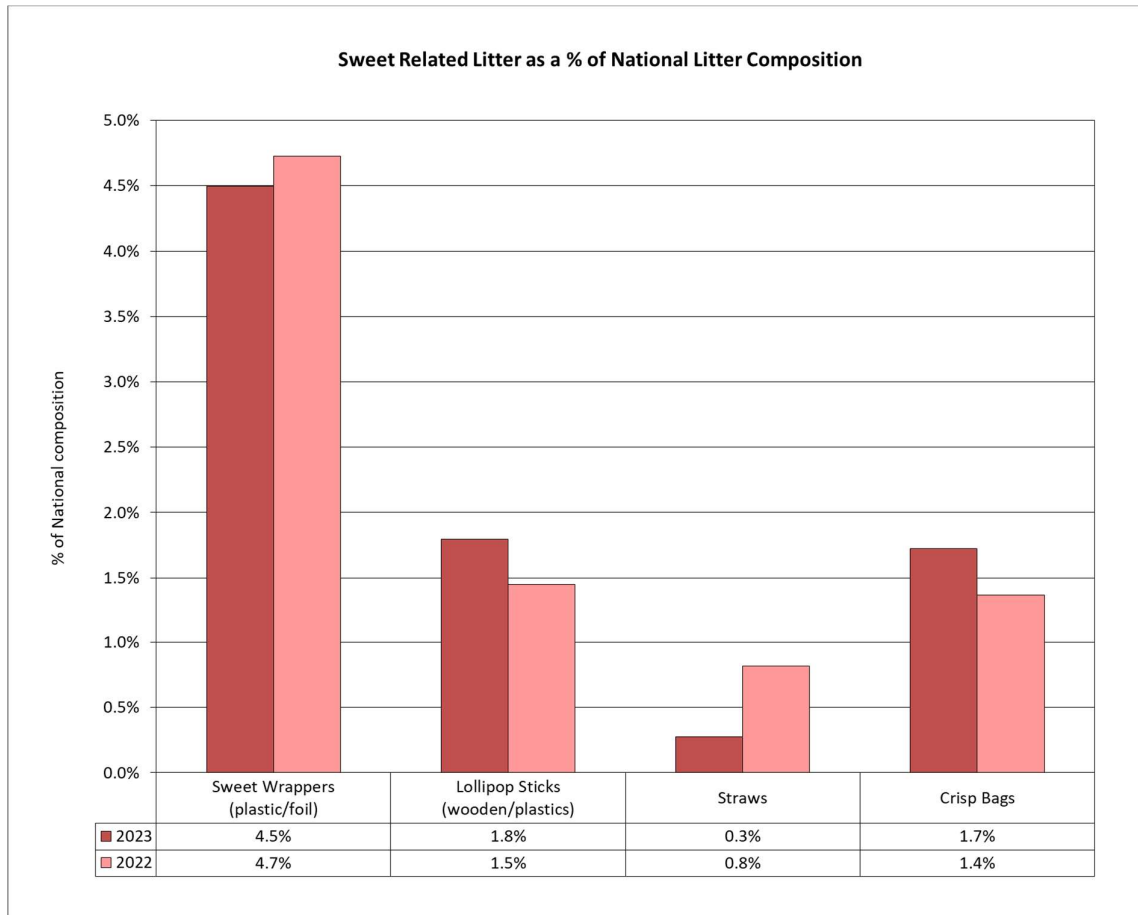


Figure 7-3 Sweet Related Litter Analysed 2022 to 2023

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 2022 and 2023 are presented in Figure 7-3 above. Sweet-related litter, as a component of national litter, decreased slightly from 8.4% in 2022 to 8.3% in 2023 (a decrease of 0.1%). The results in Figure 7-3 illustrate that sweet wrappers (plastic/foil) are the highest component of litter in the sweet-related litter category (4.5%). The quantity of lollipop sticks (wooden/plastic) has increased slightly by 0.3% in 2023. Straws have decreased by 0.5% in 2023. Crisp bags also contribute to the sweet-related litter category and have increased by 0.3% from 2022 to 2023.



7.4 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.

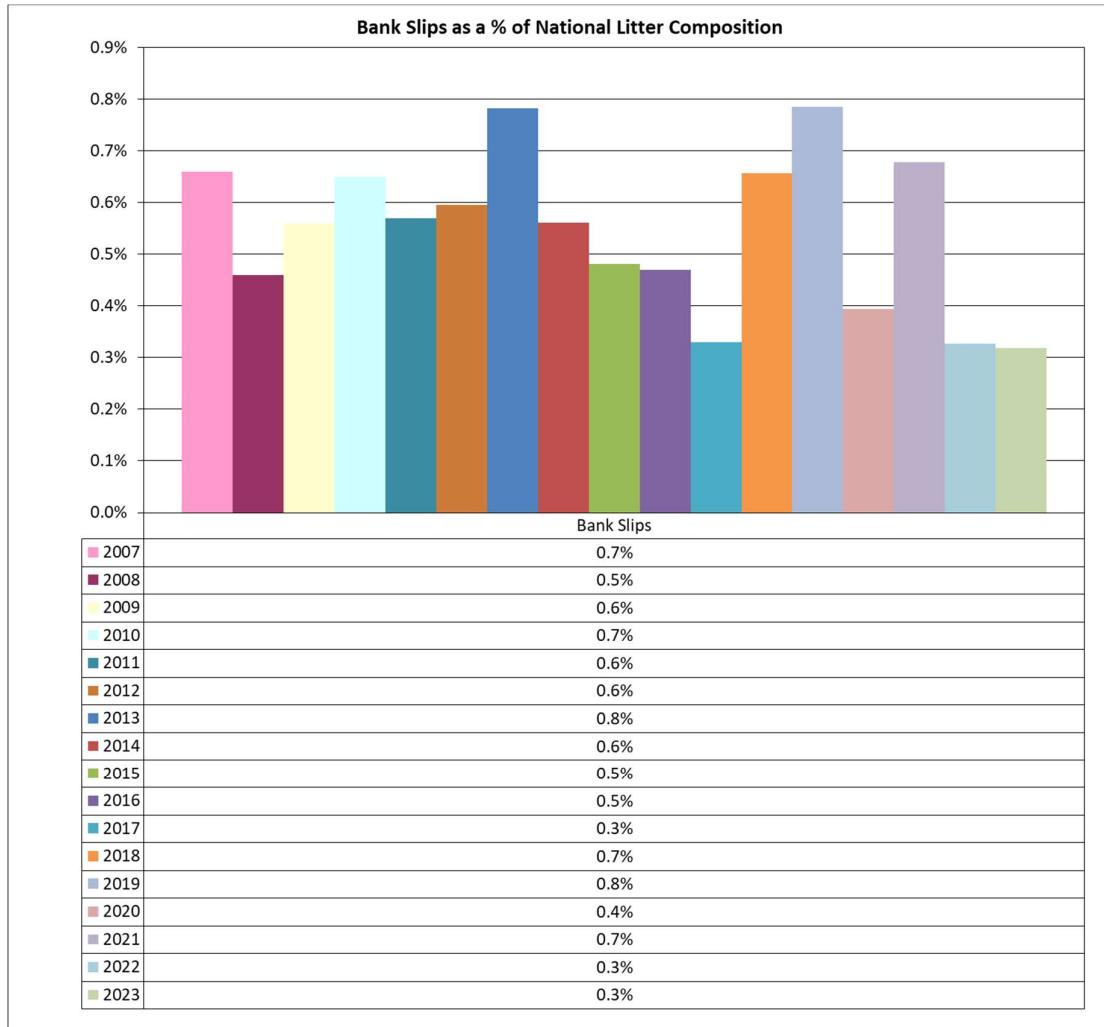


Figure 7-4 Bank Slips as a Percentage of the National Litter Composition

Figure 7-4 illustrates that bank slips, as a percentage of the national litter composition has remained the same since 2022 at 0.3%. The NLPMS will continue to monitor the impact of this protocol.



7.5 PLASTIC SHOPPING BAGS

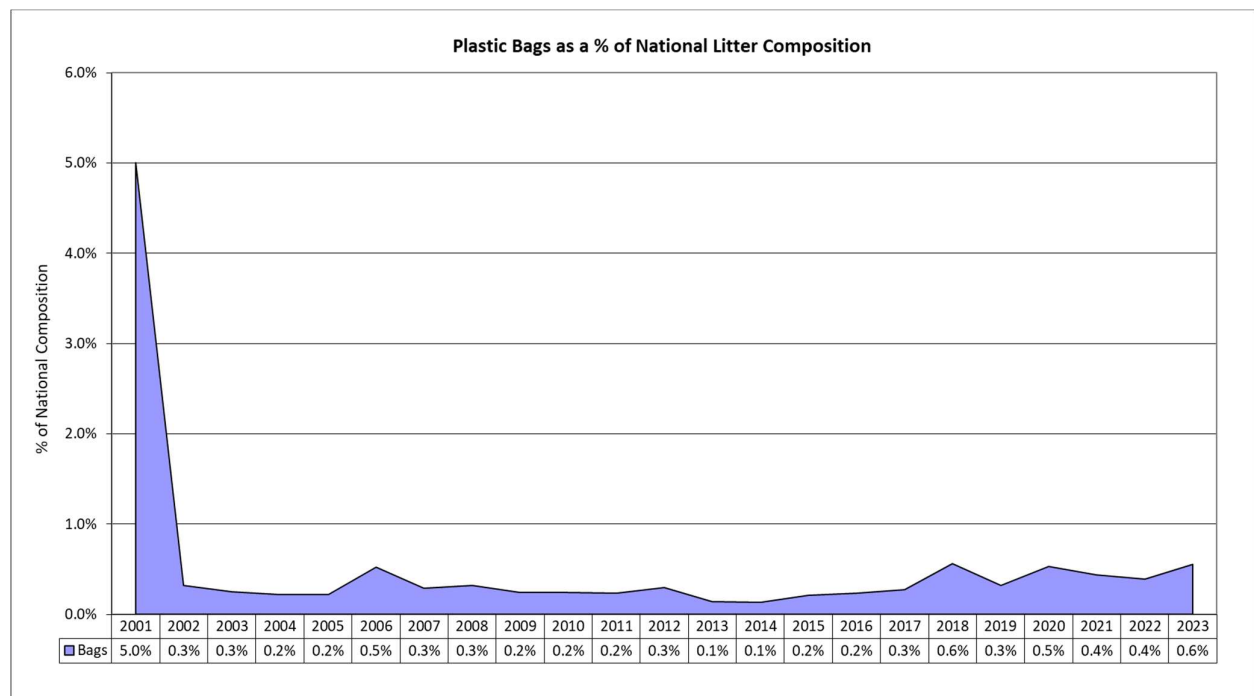


Figure 7-5 Plastic Shopping Bags as a Percentage of the National Litter Composition

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 7-5 above illustrates the percentage of shopping bags as a percentage of the National Litter Composition from the period mid-2001 to 2022. The 2023 results show that the percentage of plastic shopping bags, as part of the National Litter Composition, has decreased since 2001 however in 2023, the percentage of plastic shopping bags recorded in the NLPMS surveys increased slightly by 0.2% in 2023. The NLPMS will continue to monitor the level of plastic bag litter in Ireland and the impact of this levy.



8 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.
- The NLPMS will continue to monitor rubber litter and vaping litter which were new litter categories added in 2023.



9 CONCLUSION

As a result of the Local Government Reform Act, 31 local authorities exist in Ireland. In 2023, 30 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 2022 to 2023.

The percentage of cigarette related litter, food related litter, sweet-related litter, paper litter and deleterious litter recorded in the 2023 surveys, have increased since 2022. Packaging items, miscellaneous litter items, plastic litter items (non-packaging) and large litter items have increased since 2022.

The national results for 2023 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 2023 show that the contribution of passing motorists, schools/school children, fly-tipping/dumping, refuse collection/presentation, bring banks and major entertainment events are greater in County Councils than in other local authority types.

Retail outlets, fast-food outlets, places of leisure/ entertainment, bank ATMs and construction sites are more significant causative factors in City Councils than in other local authority types.

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

The 2023 national litter monitoring system results indicate that the percentage of unpolluted (LPI 1) areas has decreased from 22.1% in 2022 to 21.5% in 2023.

A comparison of the results from 2022 to 2023 indicates that the percentage of slightly polluted (LPI 2) areas has decreased from 58.0% in 2022 to 56.8% in 2023.

The percentage of moderately polluted areas (LPI 3) has decreased from 17.0% in 2022 to 15.5% in 2023. The percentage of significantly polluted areas (LPI 4) has increased from 2.5% in 2022 to 5.8% in 2023. Grossly polluted areas (LPI 5) increased by 0.2% from 0.3% in 2022 to 0.5% in 2023.

The percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas combined has decreased by 1.8% from 2022 to 2023, thus demonstrating that there has been an increase in litter pollution from 2022 to 2023.

Analysis of specific components of litter in 2023 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 2023 remained the same at 8.6%. 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 2023, the percentage of plastic shopping bags recorded in the NLPMS surveys increased slightly by 0.2% in 2023.

The degree, composition, causes and trends in litter pollution identified and discussed in this report are representative of the national picture in 2023, and will continue to be monitored into 2024.

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 2023



Litter Quantification Survey (LQS) Results

LQS results for 30 local authorities were returned to the LMB and analysed for 2023. These are detailed in Table A.1.

Table A.1 Local Authorities that Submitted Litter Quantification Survey Results for 2023

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
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



Litter Pollution Survey (LPS) Results

LPS results for 30 local authorities were returned to the LMB and analysed for 2023. These are detailed in Table A.2.

Table A.2 Local Authorities that Submitted Litter Pollution Survey Results for 2023

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
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



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.



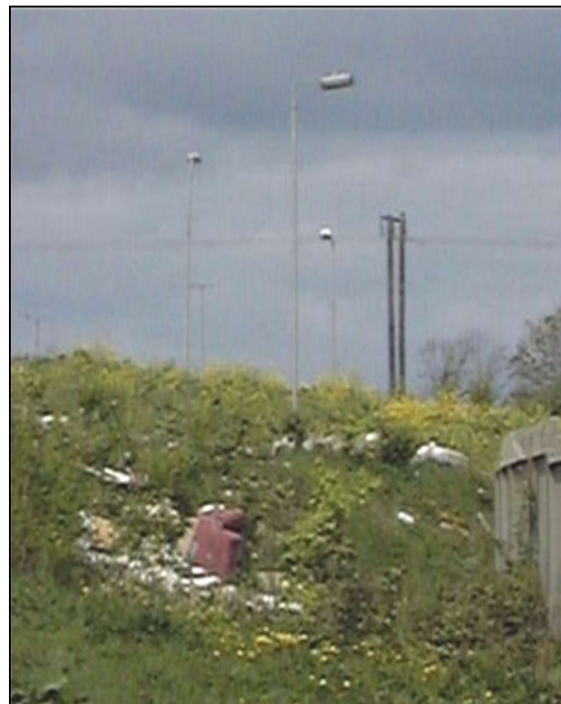
Area Cleanliness Rating 3 (Moderately Polluted)

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



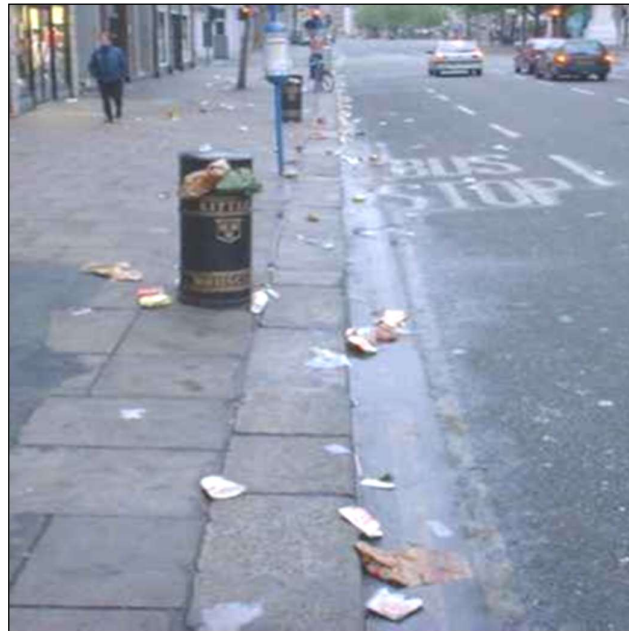
Area Cleanliness Rating 4 (Significantly Polluted)

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 2022 – 2023 ACCORDING TO LOCAL AUTHORITY TYPE



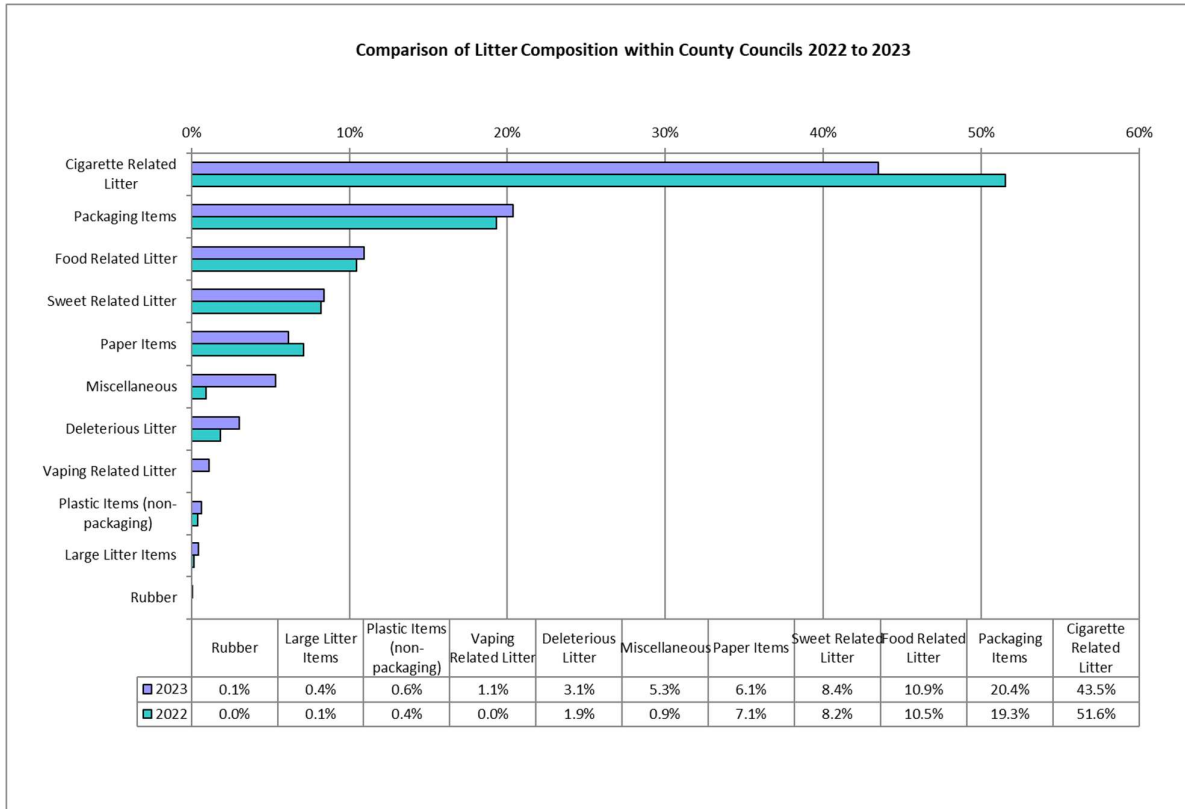


Figure C.1 Comparison of Litter Composition within County Councils 2022 to 2023

Figure C.1 compares the results of LQS within County Councils from 2022 to 2023. The main observations are that the percentage of cigarette related litter and paper items have decreased from 2022 to 2023. The remaining categories; packaging items, food related litter, sweet-related litter, miscellaneous litter items, deleterious litter, plastic items (non-packaging), large litter items have all increased from 2022 to 2023. Rubber litter comprised 0.1% and vaping related litter comprised 1.1% within County Councils in 2023.



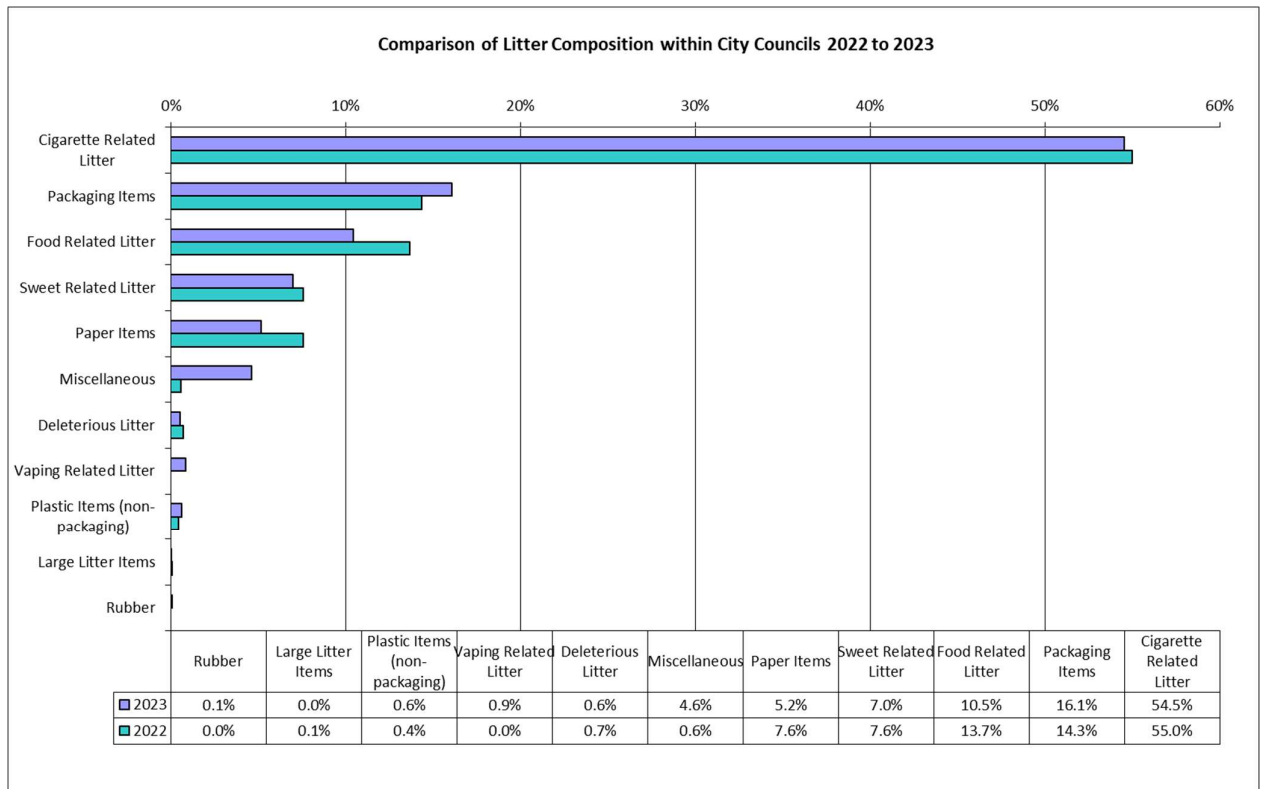


Figure C.2 Comparison of Litter Composition within City Councils 2022 to 2023

Figure C. 2 shows that within City Councils the percentage of cigarette related litter, food related litter, sweet-related litter, paper items, deleterious litter and large litter items have all decreased from 2022 to 2023. Packaging litter and miscellaneous litter items decreased from 2022 to 2023. Rubber litter comprised 0.1% and vaping related litter comprised 0.9% within City Councils in 2023.



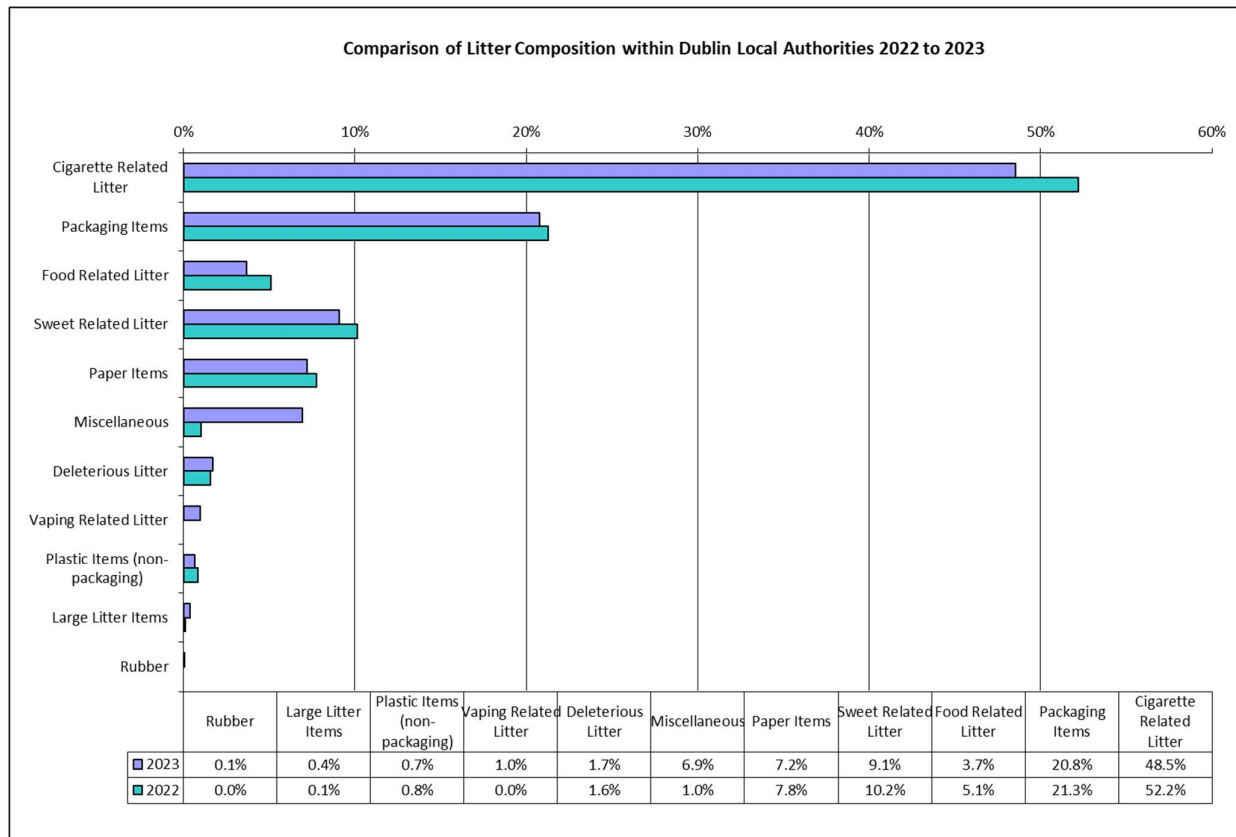


Figure C.3 Comparison of Litter Composition within Dublin Local Authorities 2022 to 2023

Figure C. 3 shows that within Dublin Local Authorities the percentage of miscellaneous litter, deleterious litter and large litter items have increased from 2022 to 2023. Cigarette related litter, packaging litter, food related litter, sweet-related litter, paper items, and plastic items (non-packaging) have all decreased from 2022 to 2023. Rubber litter comprised 0.1% and vaping related litter comprised 1% within Dublin Local Authorities in 2023.

Cigarette related and paper litter decreased in County Council, City Council and Dublin Local Authority areas in 2023.

Packaging items decreased in Dublin Local Authorities but increased in City and County Councils.

Paper litter items decreased in County Councils but increased in Dublin Local Authorities and in City Councils.

Miscellaneous litter increased in County Council, City Council and Dublin Local Authority areas in 2023.

Food related and sweet related litter increased in County Council but decreased in Dublin Local Authorities and in City Councils.

Deleterious litter decreased City Councils but increased in Dublin Local Authority and in County Council areas in 2023.



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



In categories LPI 2, 3 and 4, for 2023, passing pedestrians constitute the most significant causative factor of litter pollution, while in category LPI 5 fly-tipping/dumping and passing pedestrians jointly constitute the most significant causative factors. 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 2023 passing pedestrians constitute 44.6% of all causative factors in category LPI 2, slightly polluted areas; this percentage decreased to 36.2% for moderately polluted (LPI 3) areas and to 34.4% for significantly polluted (LPI 4) areas. Fly-tipping/dumping and passing pedestrians both constitute and 21.2% of all causative factors for grossly polluted (LPI 5) areas.

Passing motorists constitute 21% of all causative factors in slightly polluted (LPI 2) areas; this decreases to 17.8% in moderately polluted (LPI 3) areas, then increases to 19.3% in significantly polluted (LPI 4) areas and decreases to 15.2% in grossly polluted (LPI 5) areas, becoming the third most significant causative factor in LPI 5 areas.

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.



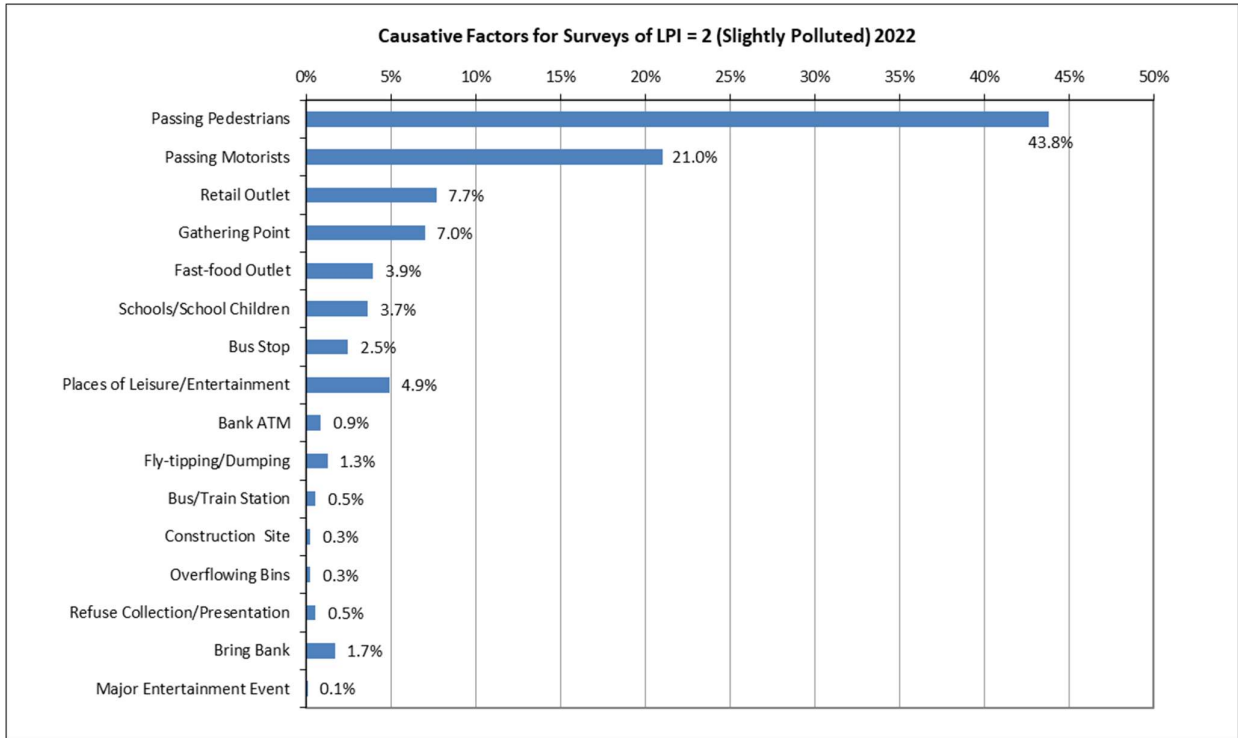


Figure D.1 Causative Factors of Litter Pollution within Litter Pollution Index Category 2, 2022

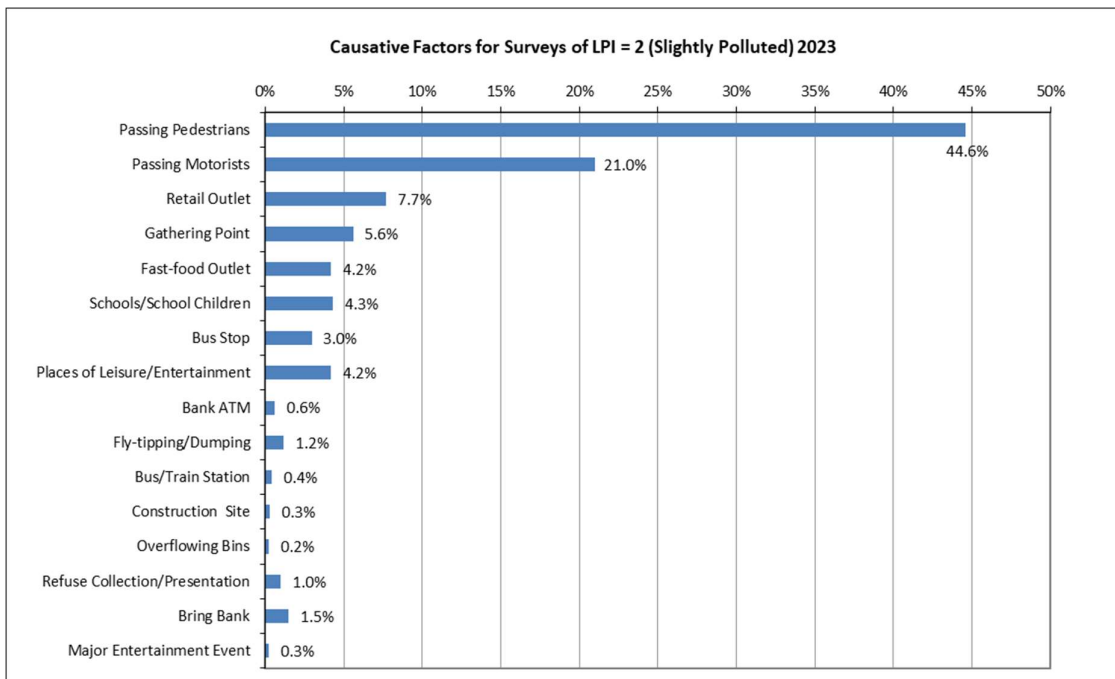


Figure D.2 Causative Factors of Litter Pollution within Litter Pollution Index Category 2, 2022



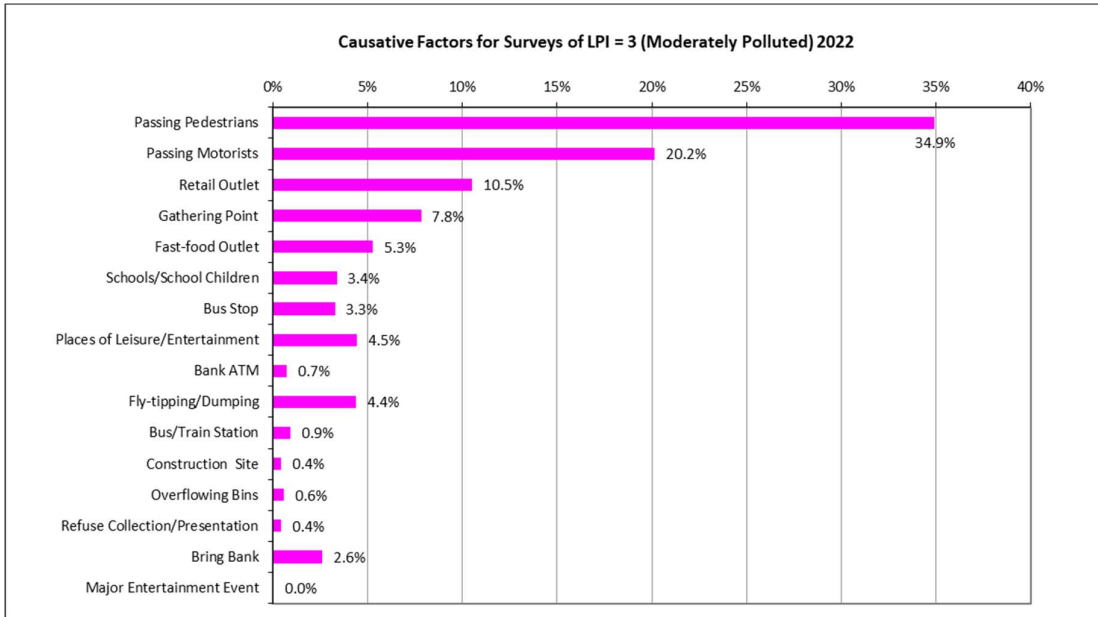


Figure D.3 Causative Factors of Litter Pollution within Litter Pollution Index Category 3, 2022

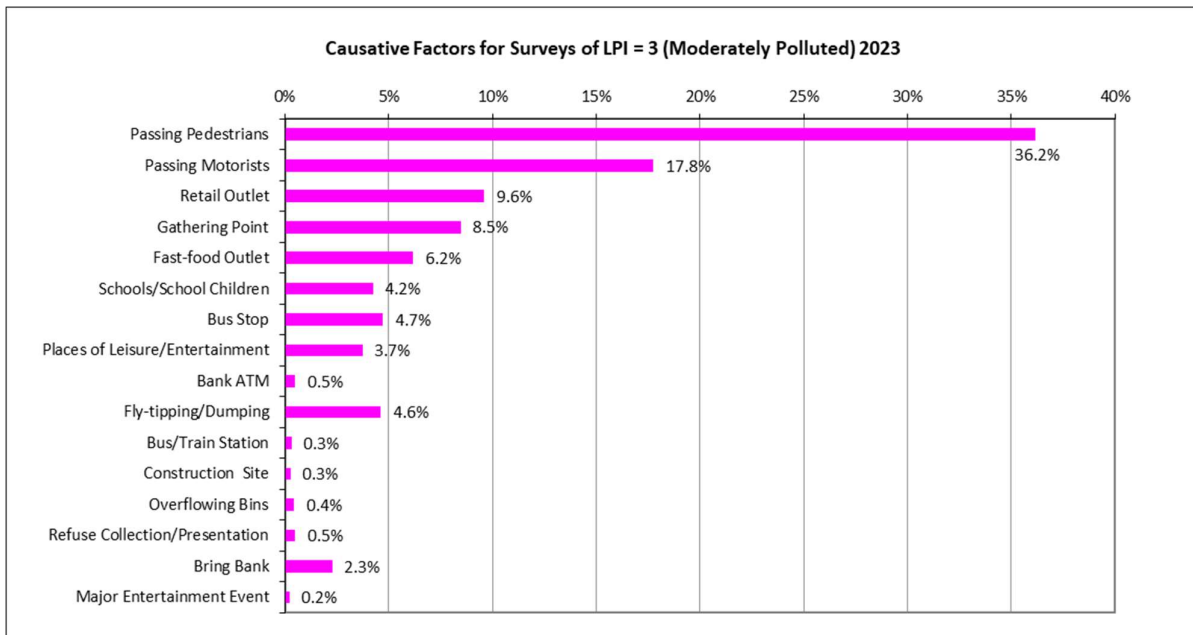


Figure D.4 Causative Factors of Litter Pollution within Litter Pollution Index Category 3, 2023



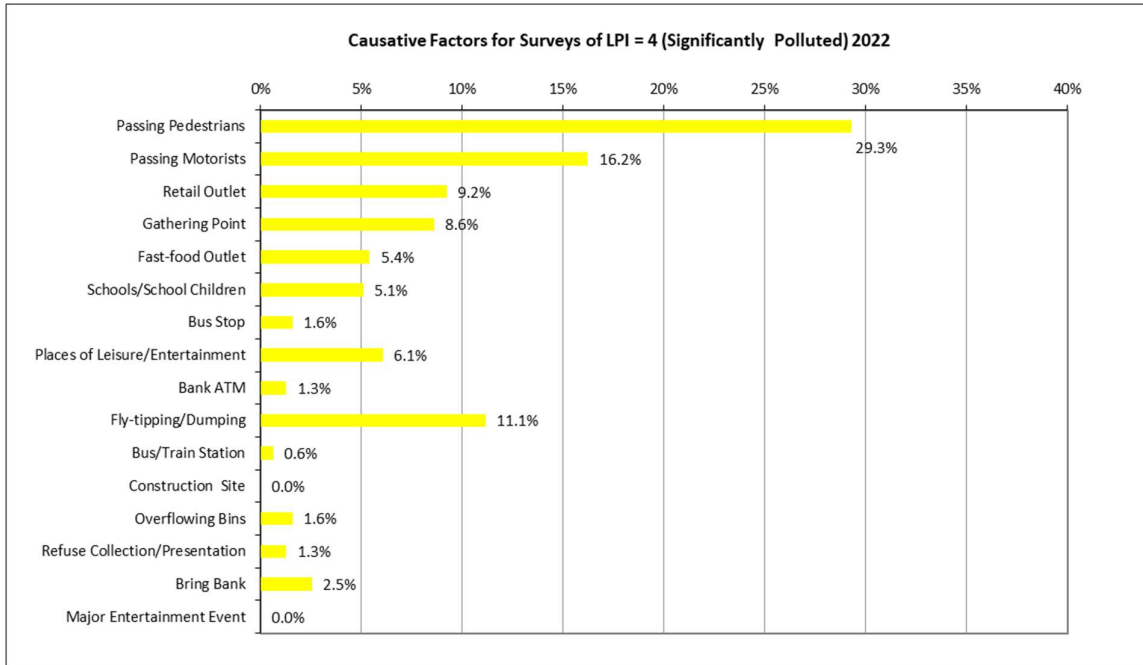


Figure D.5 Causative Factors of Litter Pollution within Litter Pollution Index Category 4, 2022

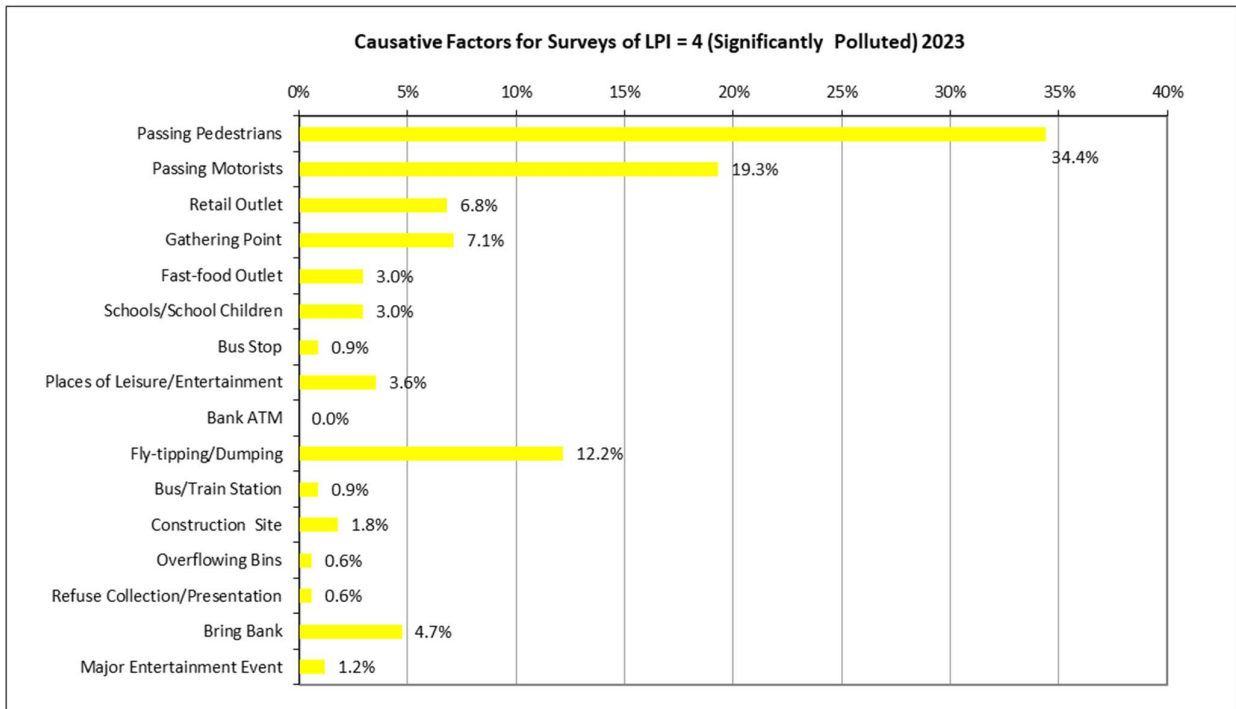


Figure D.6 Causative Factors of Litter Pollution within Litter Pollution Index Category 4, 2023



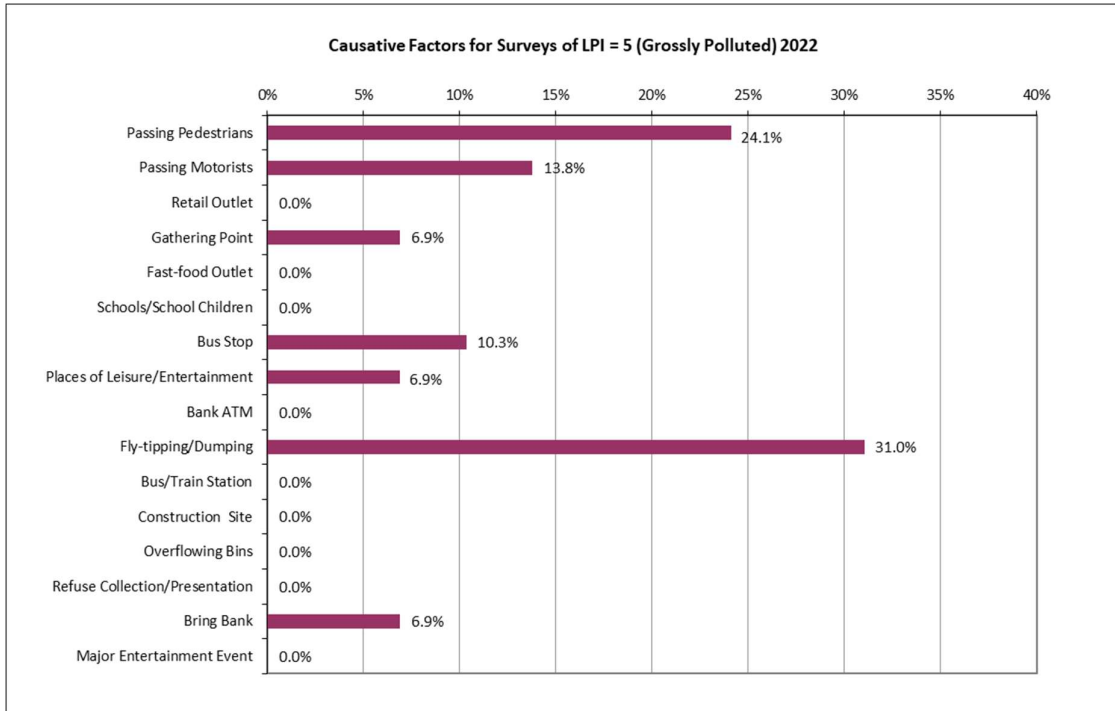


Figure D.7 Causative Factors of Litter Pollution within Litter Pollution Index Category 5, 2022

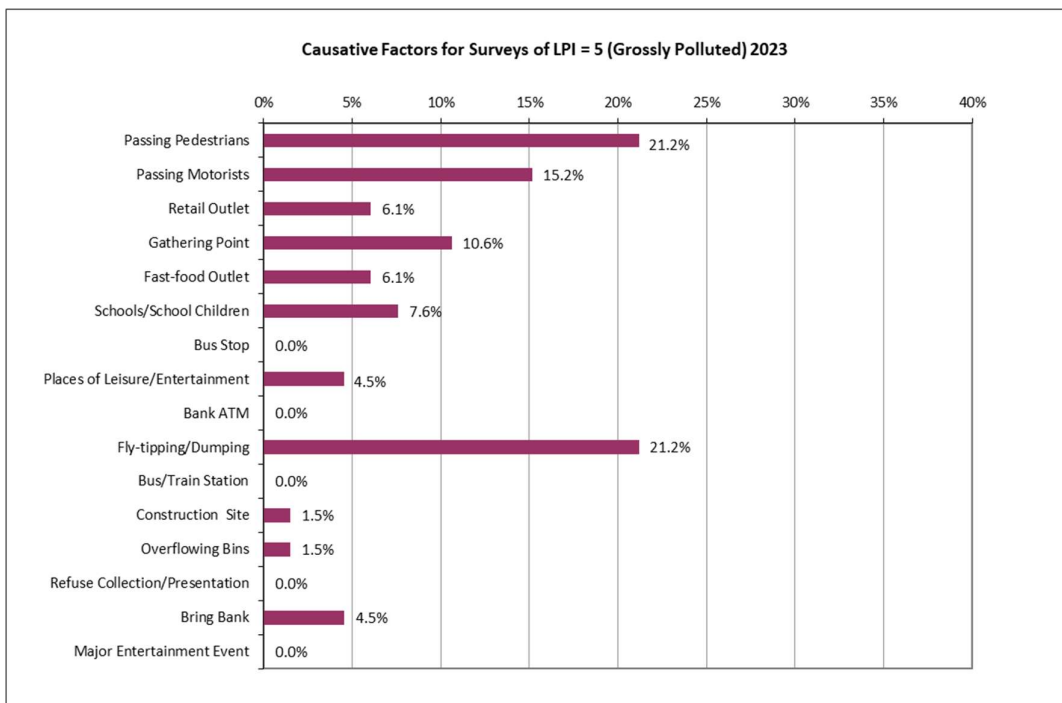


Figure D.8 Causative Factors of Litter Pollution within Litter Pollution Index Category 5, 2023



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



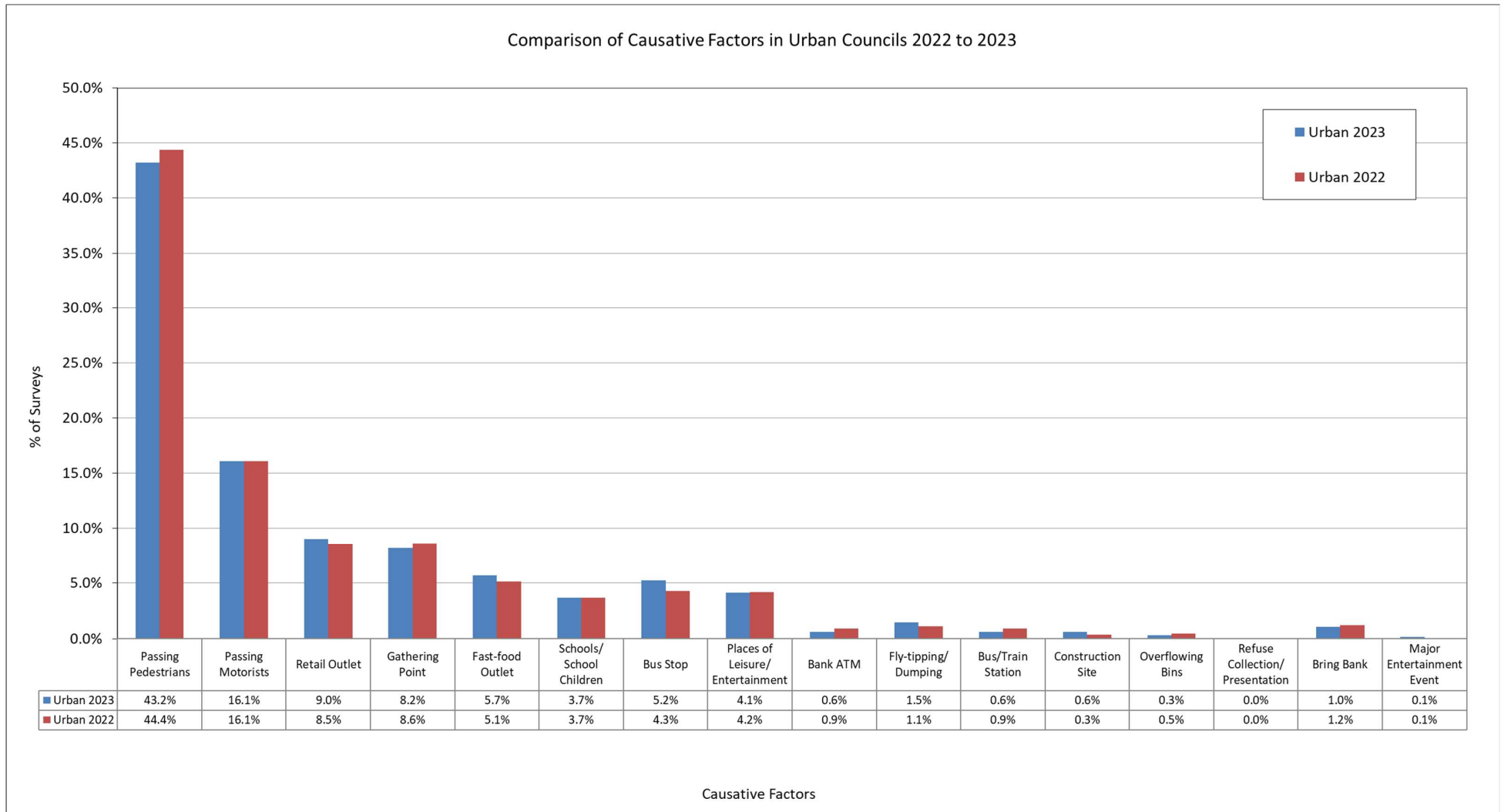


Figure E. 1 Comparison of Causative Factors in Urban Councils, 2022 to 2023



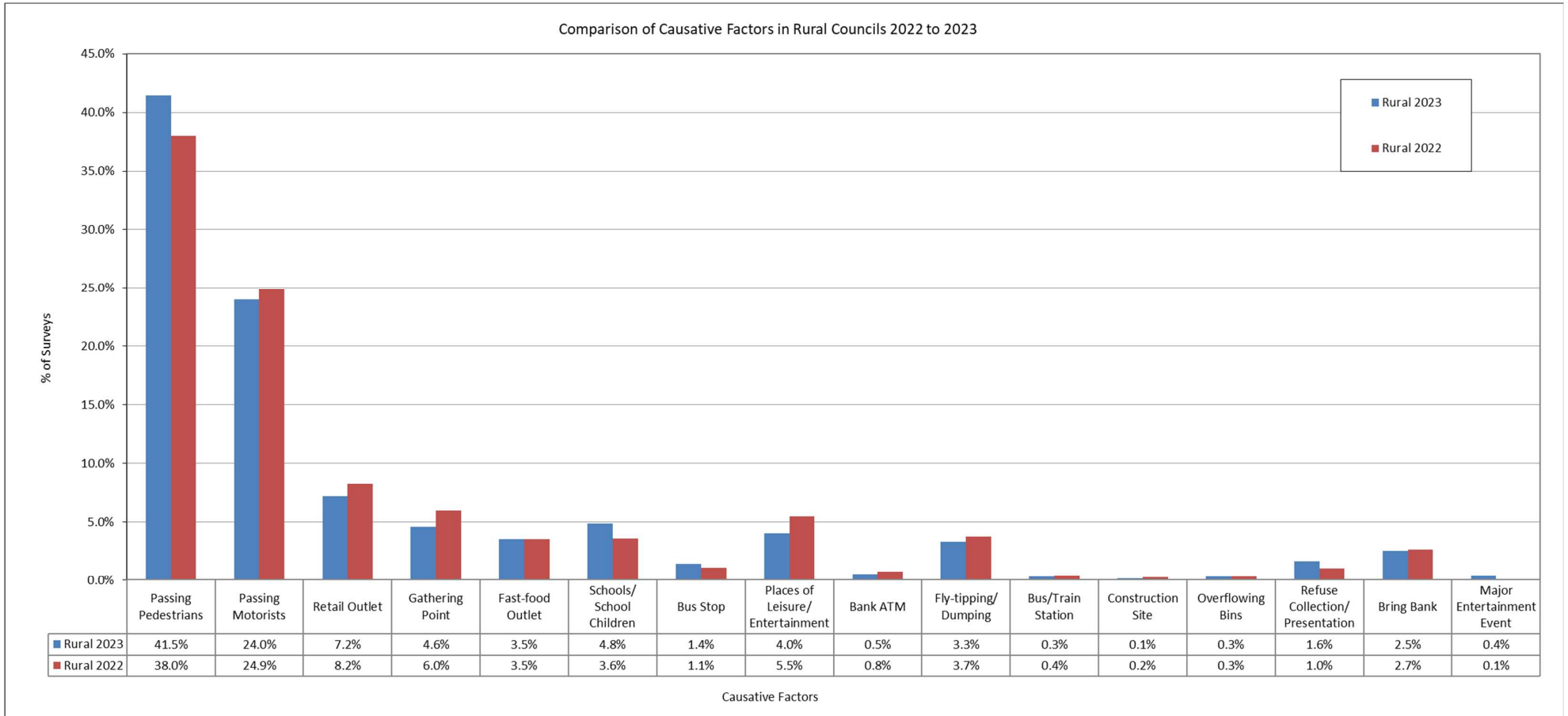


Figure E. 2 Comparison of Causative Factors in Rural Councils 2022 to 2023



Figures E.1 and E.2 compare the causes of litter within urban and rural local authorities from 2022 to 2023.

In 2023, passing pedestrians are the single greatest cause of litter in both urban and rural areas; this is similar to previous yearly results.

Retail outlet, fast-food outlet, bus stop, fly-tipping/dumping and construction site have all increased as causes of litter pollution in urban areas from 2022 to 2023.

Passing pedestrians, gathering points, places of leisure/entertainment, bank ATM, bus/train station, overflowing bins and bring banks have all decreased as causes of litter pollution in urban areas from 2022 to 2023.

Levels of litter pollution in urban areas from passing motorists, schools/school children, refuse collection/presentation and major entertainment events have remained the same in 2023 as recorded in 2022.

In rural areas, passing pedestrians, schools/school children, bus stops, refuse collection/presentation and major entertainment events all increased as causes of litter pollution from 2022 to 2023.

Passing motorists, retail outlets, gathering points, places of leisure/entertainment, bank ATM, fly-tipping/dumping, bus/train station, construction site and bring bank have all decreased as causes of litter pollution from 2022 to 2023.

Levels of litter pollution in rural areas from fast food outlets and overflowing bins have remained the same in 2023 as recorded in 2022.



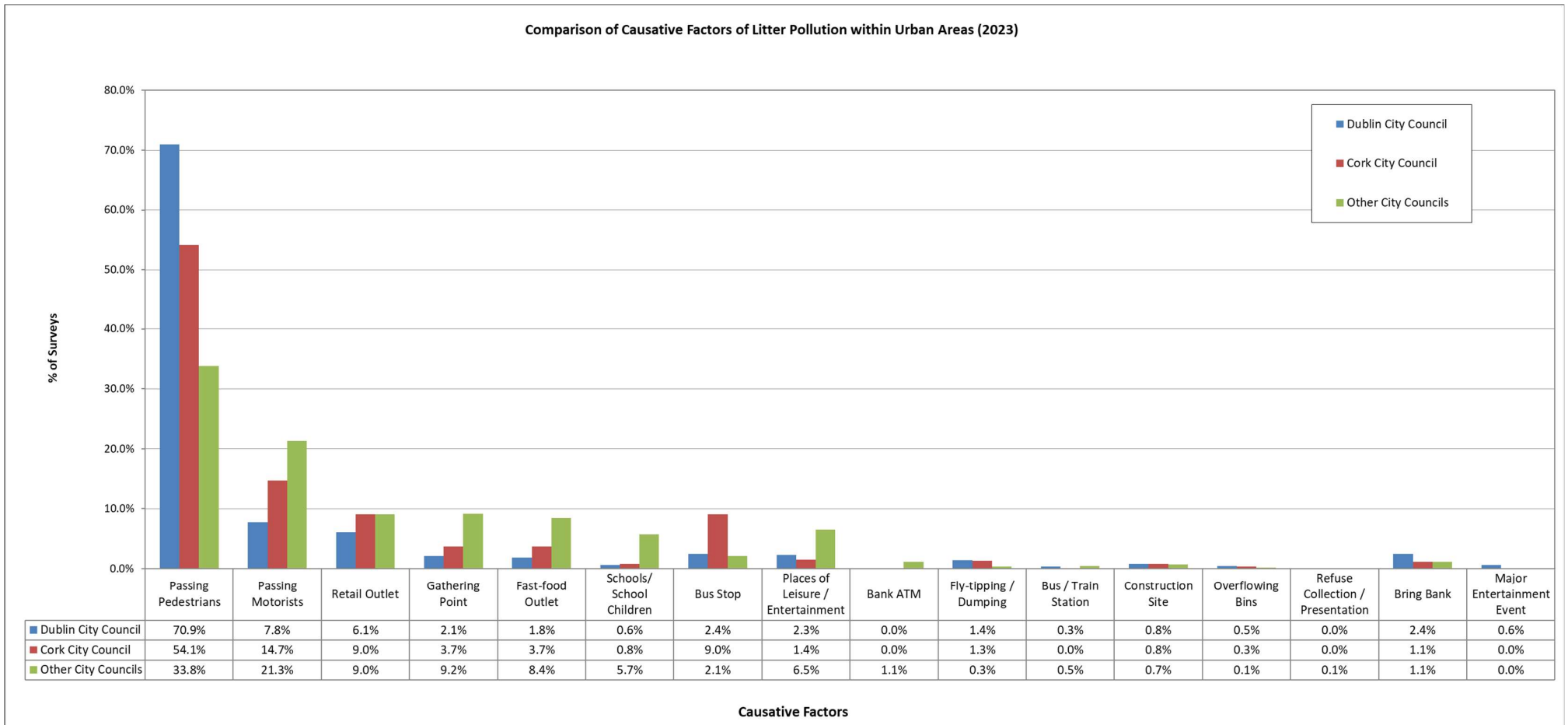


Figure E.3 Comparison of Causative Factors of Litter Pollution within Urban Areas 2023



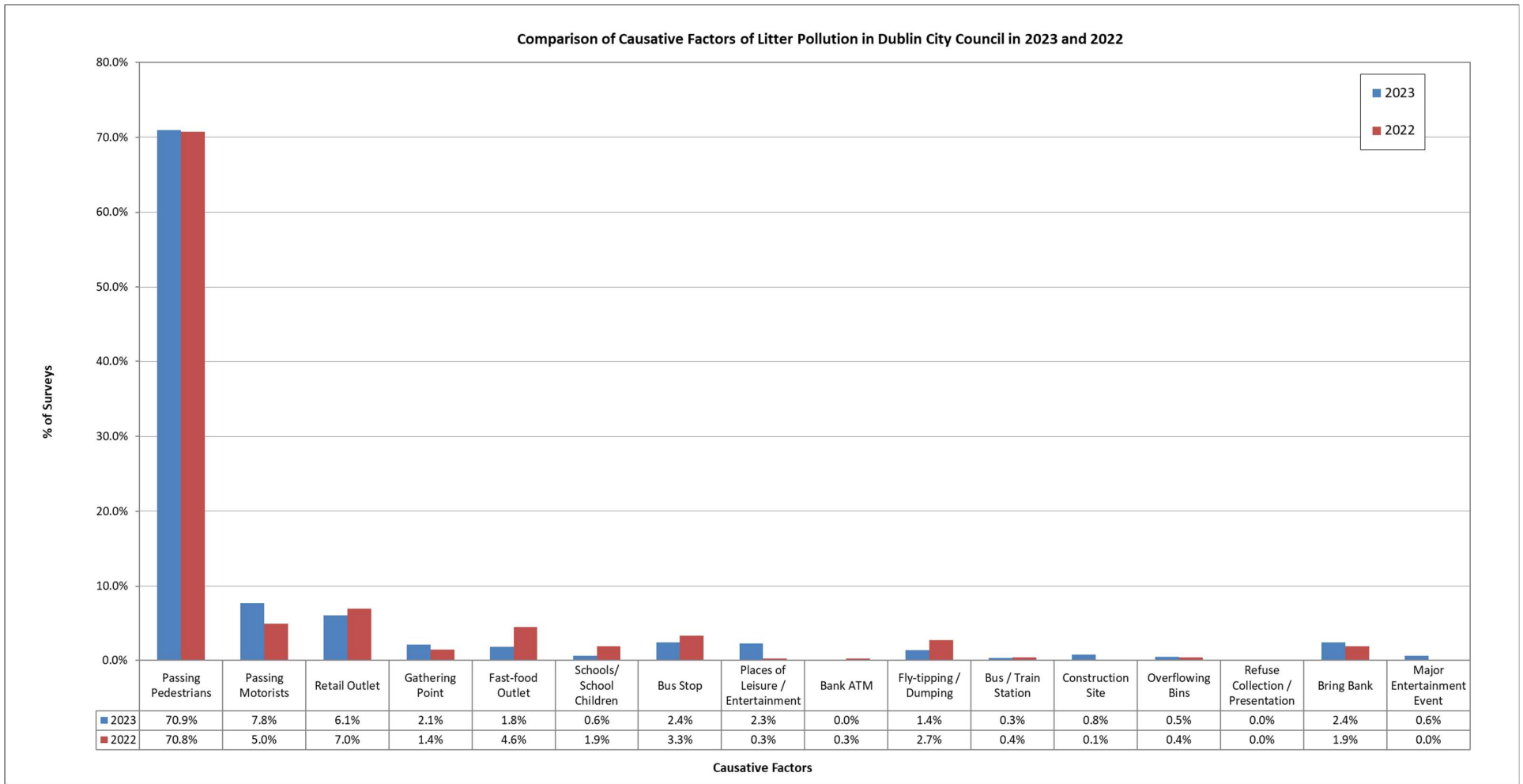


Figure E.4 Comparison of Causative Factors of Litter Pollution within Dublin City Council 2022 to 2023



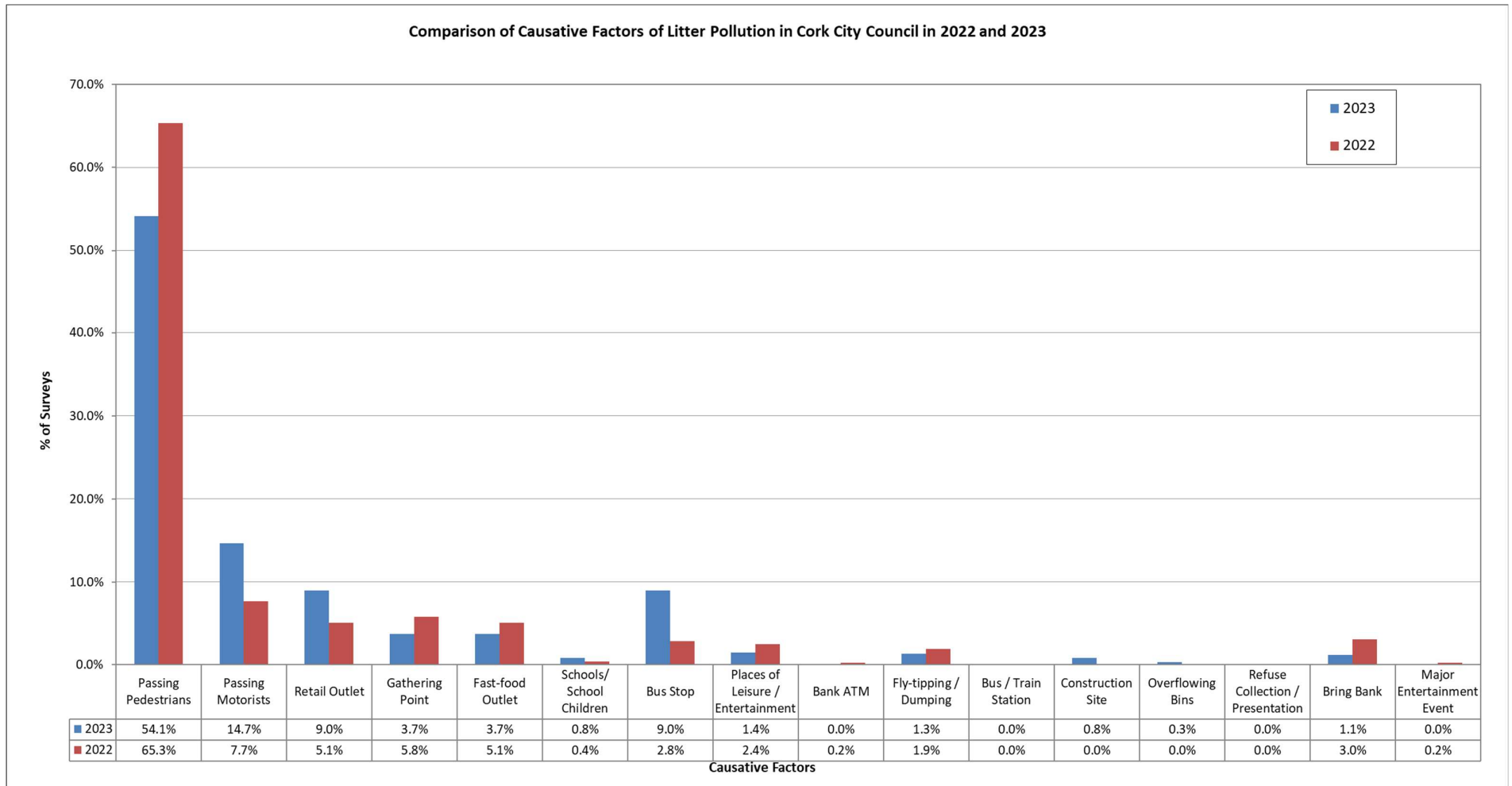


Figure E. 5 Comparison of Causative Factors of Litter Pollution within Cork City Council 2022 to 2023



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, bring banks and fly-tipping/dumping are more significant causative factors of litter pollution than in the other urban categories. Bus stops are more significant causative factors of litter pollution in the 'Cork City Council' category than in the other urban categories. Passing motorists, gathering points, fast-food outlets, schools/school children, places of leisure/entertainment and bank ATMs 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 motorists, gathering points, places of leisure/entertainment, construction sites, bring banks and major entertainment events have all increased as causative factors in comparison to 2022. For further detail, please refer to Figure E.4.

In the Cork City Council area in 2023, litter from passing motorists, retail outlets, bus stops, construction sites and overflowing bins all increased as causative factors in comparison to 2022. For further detail, please refer to figure E.5.



