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DEPARTMENT OF THE ENVIRONMENT, HERITAGE  
AND LOCAL GOVERNMENT



# THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

## LITTER MONITORING BODY

## SYSTEM RESULTS

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## OVERVIEW OF THE NATIONAL LITTER POLLUTION MONITORING SYSTEM

The data produced by the National Litter Pollution Monitoring System surveys allow 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 national monitoring system, the **extent** and **severity** of litter pollution is measured using a Litter Pollution Index (LPI), which is a scale of 1 to 5 as described below:

1. Unpolluted or litter free
2. Slightly polluted
3. Moderately polluted
4. Significantly polluted
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 II to this report together with an explanation of each LPI.

The area cleanliness rating<sup>1</sup> is then used in the calculation of Litter Pollution Index for each survey location. The use of photographs ensures that area cleanliness ratings are consistently assigned by all local authorities. In 2005 the Litter Monitoring Body continued to provide training 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 determine 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.

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

The national monitoring system is therefore biased towards measuring the nature and extent of litter pollution in those areas most likely to be littered i.e. largely in urban areas.

Under the national monitoring system, 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. Litter Quantification Surveys are completed in the most heavily polluted areas (i.e. the clusters or hotspots identified by the Litter Generation Potential Maps) and as soon before cleansing as possible to further increase the chances of a large sample size. The statistics obtained during the surveys are divided into a number of litter categories including, food, packaging, paper and plastic.

In 2005 the Local Government Computer Services Board (LGCSB) continued to provide training on the GIS component of the national litter pollution monitoring system. The GIS system was further developed in 2005 with the introduction of the 'Litter Bin Phase', which allows local authorities to map the location of their litter bins. This information enables local authorities to ensure that litterbins are located in hot spot areas (areas with a high potential to generate litter). The LGCSB will continue to provide ongoing training on the GIS component of the national monitoring system in 2006.

The National Litter Seminar was held in the Tullamore Court Hotel on the 2<sup>nd</sup> of November 2005. This Seminar was attended by 72 representatives from all local authority types. The Seminar included presentations from the Litter Monitoring Body, the LGCSB, Cavan County Council, Meath County Council, Fáilte Ireland and An Taisce. Workshops were a key element of the Seminar allowing local authorities to exchange information and best practices on various aspects of litter management. One of the topics covered was a review of the national monitoring system, which resulted in the following changes and developments for the 2006 surveying period:

- ◆ The litter quantification survey form was updated to include a new category for sweet related litter, and the addition of bottle caps to the plastic packaging category and drink lids to the takeaway packaging category;
- ◆ The methodology for counting cigarette related litter and chewing gum was changed. Items will now be counted on a 50m stretch as opposed to a 10m stretch multiplied by 5; and
- ◆ In relation to planning the litter surveys, a Litter Pollution Monitoring Plan was developed to ensure that litter pollution surveys are undertaken at different times of the day, days of the week, months of the year and in a variety of location types.

In 2005, the Litter Monitoring Body undertook nine audits and spot-checks of local authorities to ensure that the system is being implemented as designed. The audits have revealed that local authorities are implementing the system correctly.



## CHAPTER 1: SUMMARY SYSTEM'S SURVEY RESULTS FOR 2005

This report is based on an analysis of data received from 66 local authorities. Results were submitted by 61 local authorities in 2004 and 34 in 2003. Survey results in 2005 were submitted by over 70% of local authorities, including data from all local authority types (i.e. county councils, city, town and borough councils). The survey results provide reliable information on the extent, composition and causes of litter pollution in Ireland in 2005 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 National Litter Pollution Monitoring System 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? and,
3. What are the main causes of litter pollution?

### How littered is the country at local and national level?

- ◆ 6.1 % of areas surveyed were litter free (LPI 1), this is an increase of 1.0 % on the 2004 results;
- ◆ 49.5% of all areas surveyed were only slightly littered (LPI 2), a 4.2% increase on 2004;
- ◆ The percentage of moderately polluted areas (LPI 3) has decreased by 2.9% on the 2004 results to 34.4 %;
- ◆ The percentage of significantly polluted areas (LPI 4) has decreased by 2% on the 2004 results to 8.5%; and
- ◆ Less than 1.5% of areas were grossly littered (LPI 5).

### What are the main constituent elements of litter pollution?

- ◆ Cigarette related litter (49%), food related litter (33%) packaging litter (12%) and paper litter (3%) were the main litter constituents identified nationally.

### What are the main causes of litter pollution?

- ◆ Passing pedestrians (35.6%), gathering points (12.7%), retail outlets (11.7%) and passing motorists (11.0%) were identified as the main causative factors of litter nationally.

## CHAPTER 2: HOW LITTERED IS THE COUNTRY?

The national monitoring system results indicate a slight improvement in litter pollution levels from 2004 to 2005. This improvement is a reflection of anti-litter action at national level and by local authorities. A comparison of the results from 2004 to 2005 indicates that the percentage of unpolluted (LPI 1) and slightly polluted (LPI 2) areas has increased. There is also a decrease in the percentage of moderately (LPI 3), significantly (LPI 4) and grossly polluted (LPI 5) areas.

The 2005 dataset is obtained from almost 4000 litter pollution surveys, an increase of approximately 25% on 2004. The improved trend is representative of the emerging pattern in litter pollution in Ireland.

Figure 2.1 below compares 2004 and 2005 litter pollution survey results:

- ◆ The most significant development in the 2005 litter pollution survey is an increase in unpolluted (LPI 1) areas from 5.1% to 6.1%.
- ◆ There is also a significant increase in the slightly polluted (LPI 2) category, from 45.3% in 2004 to 49.5% in 2005.
- ◆ The percentage of moderately polluted (LPI 3) areas account for 34.4 % of areas surveyed, a decrease of 2.9% on 2004.
- ◆ The percentage of areas classified as significantly polluted (LPI 4) has also decreased from 10.5% in 2004 to 8.5% in 2005.
- ◆ The percentage of grossly polluted (LPI 5) areas is slightly decreased from 1.8% to 1.5%.

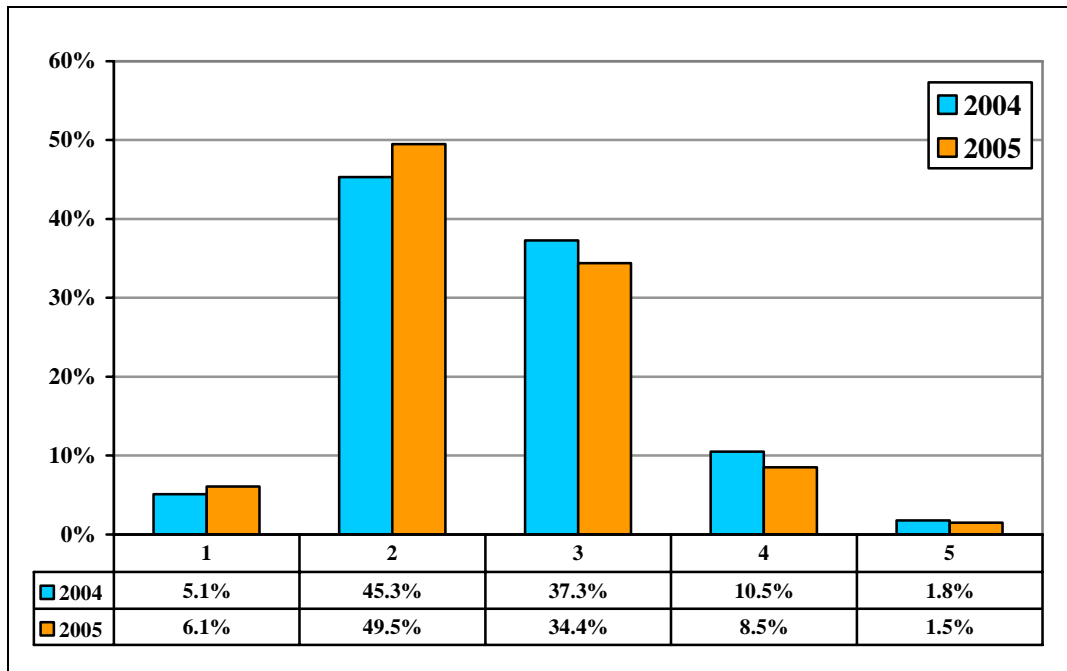


Figure 2-1 Comparison of Litter Pollution Indices (LPI) 2004 - 2005

A comparison of urban and rural local authorities on figure 2.2 below reveals a disparity in terms of the extent and severity of litter problems between these local authority types, with 9.8% of rural areas unpolluted (LPI 1) compared to only 4.0% in urban areas (however this figure is an increase of 2% on litter free urban areas in 2004).

Overall, there are more litter free areas in rural than urban areas. This may be as a result of denser populations and the concentration of potential litter generators in urban areas. There is little difference between the degree of severe pollution (i.e. significantly and grossly polluted areas) between urban and rural areas. This trend is similar to that identified in 2004. (See figure 5.5 and 5.6, p.27 for further comparison of urban and rural litter pollution data from 2004 to 2005.)

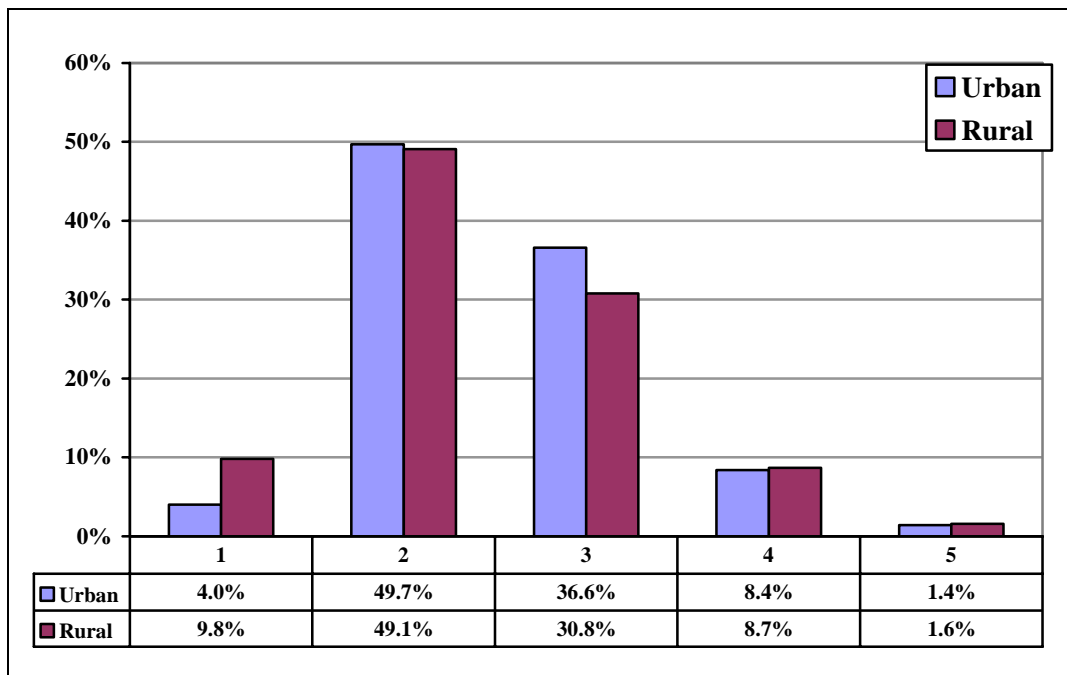


Figure 2-2 Comparison of Litter Pollution within Largely Urban and Rural Areas<sup>2</sup> in 2005

<sup>2</sup> Percentages are expressed to one decimal place and therefore totals for urban and rural local authorities may not add to exactly 100%.

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

Local authorities also carried out **litter quantification surveys** (or item counts) 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:

From this data below, it can be seen that:

- ◆ **cigarette related litter** continues to constitute the highest percentage (**49.39%**) of litter in the locations surveyed – this is comprised mainly of cigarette ends which constitute 41.79% of all litter items nationally;
- ◆ **food related litter**, at **33.18%**, is the second largest category of litter pollution recorded. **Chewing gum** is the single largest litter component in the food related litter category, and also the second largest component nationally, comprising **31.61%** of all litter recorded in the litter quantification surveys carried out in 2005,
- ◆ **packaging litter (11.91%)** is the third largest litter component of national litter pollution recorded.

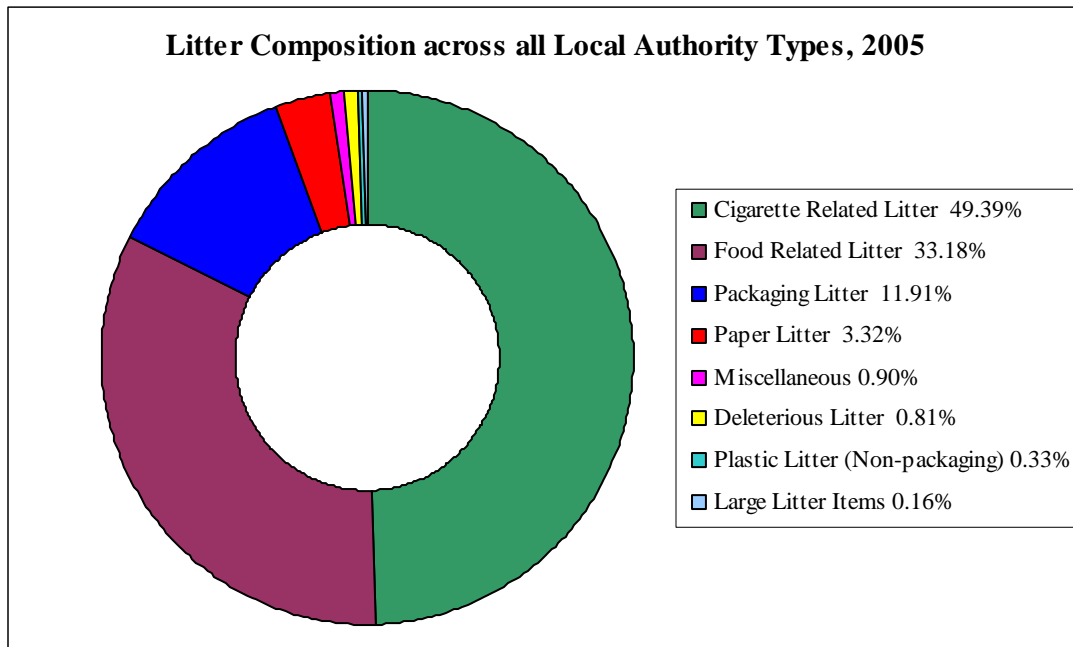


Figure 3-1 Composition of Litter in 2005 Broken Down into Main Categories

### 3.1 Comparison of Litter Quantification Surveys 2004 – 2005

A comparison of the results of Litter Quantification Surveys carried out in 2004 and 2005 shows a similar composition of litter. However, analysis reveals differences in the relative quantities of certain components. The percentages of cigarette and food related litter have increased and the percentages of packaging, paper and large litter items have decreased. There has been little change in the percentages of other litter categories. Table 3.1 on the following page details the composition of litter in 2005 and 2004.

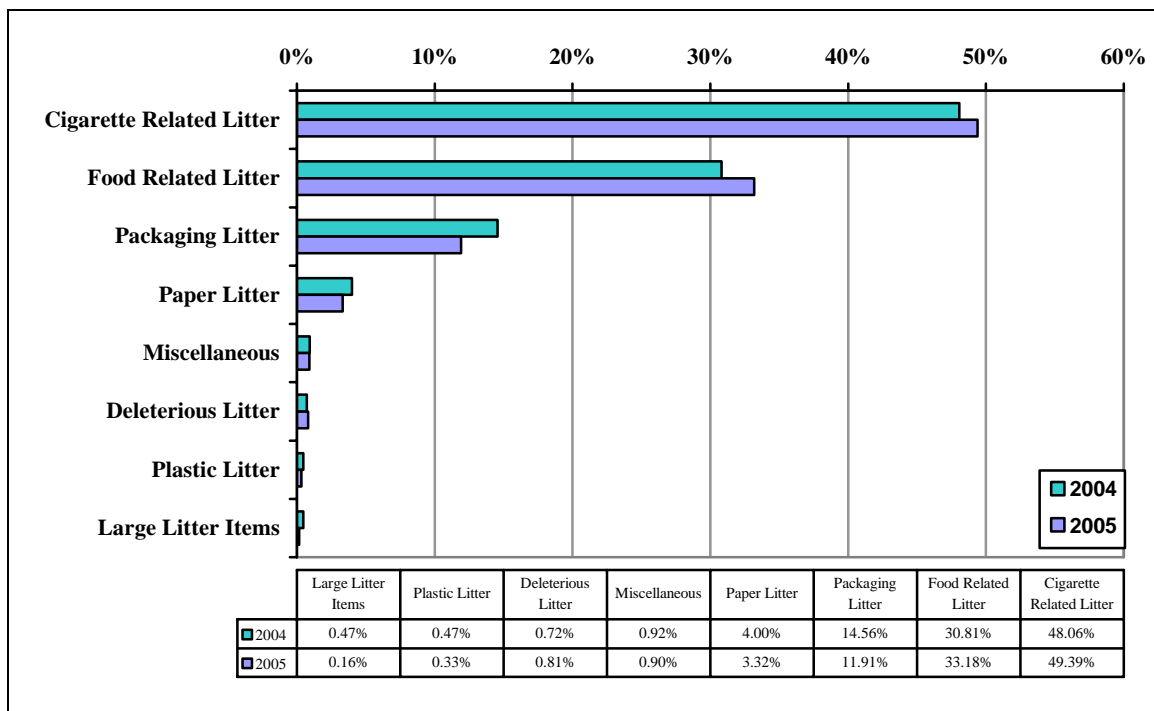


Figure 3-2 Comparison of National Litter Composition from 2004 to 2005

Detailed National Litter Composition 2005			Detailed National Litter Composition 2004		
<b>Cigarette Related Litter</b>	Cigarette ends	41.79%	Cigarette ends	39.80%	
	Matches	4.50%	Matches	4.57%	
	Cigarette boxes and wrappers	1.98%	Cigarette boxes and wrappers	2.51%	
	Matchboxes and lighters	1.13%	Matchboxes and lighters	1.18%	
<b>Food Related Litter</b>	Chewing Gum	31.61%	Chewing Gum	29.16%	
	Remnants of confectionery food items	0.81%	Remnants of confectionery food items	0.43%	
	Other food items	0.34%	Other food items	0.30%	
	Fast-food remnants	0.20%	Fast-food remnants	0.48%	
	Bread/ biscuits	0.12%	Bread/ biscuits	0.27%	
	Fruit/ vegetables	0.09%	Fruit/ vegetables	0.16%	
<b>Packaging Items</b>	Bags and wrappers (Takeaway packaging)	2.07%	Bags and wrappers (Takeaway packaging)	2.18%	
	Other paper packaging	1.34%	Other paper packaging	2.29%	
	Plastic Bottles	1.06%	Plastic Bottles	1.00%	
	Other plastic packaging	1.01%	Other plastic packaging	1.63%	
	Beverage Cans - Non-alcoholic	0.90%	Beverage Cans - Non-alcoholic	0.77%	
	Beverage Cans – Alcoholic	0.74%	Beverage Cans – Alcoholic	0.82%	
	Drink cups (Takeaway packaging)	0.70%	Drink cups (Takeaway packaging)	0.72%	
	Beverage Bottles – Alcoholic (Glass)	0.62%	Beverage Bottles – Alcoholic (Glass)	0.45%	
	Beverage Bottles - Non-alcoholic (Glass)	0.61%	Beverage Bottles - Non-alcoholic (Glass)	0.56%	
	Drinks cartons (Paper)	0.50%	Drinks cartons (Paper)	0.68%	
	Paper Bags	0.40%	Paper Bags	0.57%	
	Tin foil (not sweet wrappers)	0.30%	Tin foil (not sweet wrappers)	0.45%	
	Lids (e.g. from bottles, jars) (Metal)	0.24%	Lids (e.g. from bottles, jars) (Metal)	0.31%	
	Cardboard	0.22%	Cardboard	0.18%	
	Plastic Shopping Bags	0.22%	Plastic Shopping Bags	0.22%	
	Plastic film	0.19%	Plastic film	0.29%	
	Boxes	0.16%	Boxes	0.14%	
	Bubble-wrap	0.14%	Bubble-wrap	0.11%	
	Food cans	0.13%	Food cans	0.23%	
	Jars and other containers (Glass)	0.08%	Jars and other containers (Glass)	0.10%	
	Other metal litter items	0.08%	Other metal litter items	0.23%	
	Aeroboard (Paper)	0.06%	Aeroboard (Paper)	0.14%	
	Bags - other (e.g. fertiliser)	0.06%	Bags - other (e.g. fertiliser)	0.38%	
	Metal drums	0.04%	Metal drums	0.05%	
Plastic sheeting (e.g. silage)	0.03%	Plastic sheeting (e.g. silage)	0.06%		
<b>Paper Items</b>	Tissues	0.84%	Tissues	0.98%	
	Receipts	0.69%	Receipts	0.51%	
	Tickets (e.g. bus, lottery)	0.55%	Tickets (e.g. bus, lottery)	0.54%	
	Other paper items	0.44%	Other paper items	1.04%	
	Bank slips	0.42%	Bank slips	0.41%	
	Newspapers	0.13%	Newspapers	0.20%	
	Magazines/ brochures	0.10%	Magazines/ brochures	0.06%	
	Flyers and posters	0.10%	Flyers and posters	0.07%	
Letters, envelopes and cards	0.05%	Letters, envelopes and cards	0.20%		
<b>Miscellaneous Deleterious Litter</b>	Miscellaneous Litter Items	0.90%	Miscellaneous Litter Items	0.92%	
	Dog fouling	0.51%	Dog fouling	0.51%	
	Other deleterious items	0.13%	Other deleterious items	0.09%	
	Feminine hygiene products	0.09%	Feminine hygiene products	0.02%	
	Nappies	0.07%	Nappies	0.07%	
	Municipal Hazardous Waste (e.g. paint, solvents)	0.01%	Municipal Hazardous Waste	0.03%	
	Needles and syringes	0.00%	Needles and syringes	0.00%	
	<b>Plastic Items</b>	Plastic items	0.33%	Plastic items (Non packaging)	0.47%
		<b>Large Litter Items</b>	Household refuse in bags	0.12%	Household refuse in bags
	Other large items		0.02%	Other large items	0.06%
Scrap cars	0.01%		Scrap cars	0.02%	
Appliances (e.g. fridge)	0.01%		Appliances (e.g. fridge)	0.03%	
Furniture	0.00%		Furniture	0.02%	

Table 3-1 Detailed Comparison of National Litter Composition, 2004 – 2005

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

The breakdown of causative factors nationally in 2004 and 2005 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 2004 to 2005.

Figures 4.1 below illustrate that:

- ◆ Passing pedestrians continue to constitute the greatest single causative factor of litter pollution, accounting to 35.6% across all local authorities.
- ◆ Gathering points have continued to increase as a causative factor from 11.6% in 2004 to 12.7% in 2005. This trend has continued from 2004 and is most likely as a direct result of the Ban on Smoking in the Workplace;
- ◆ Retail outlets and passing motorists have decreased slightly as causative factors of litter pollution from 2004 to 2005;
- ◆ Other causative factors that have increased from 2004 to 2005 include places of leisure/entertainment (from 4.9% in 2004 to 6.4% in 2005), schools/school children (from 3.2% to 4.0%) and fly-tipping/dumping (from 1.0% to 1.9%).

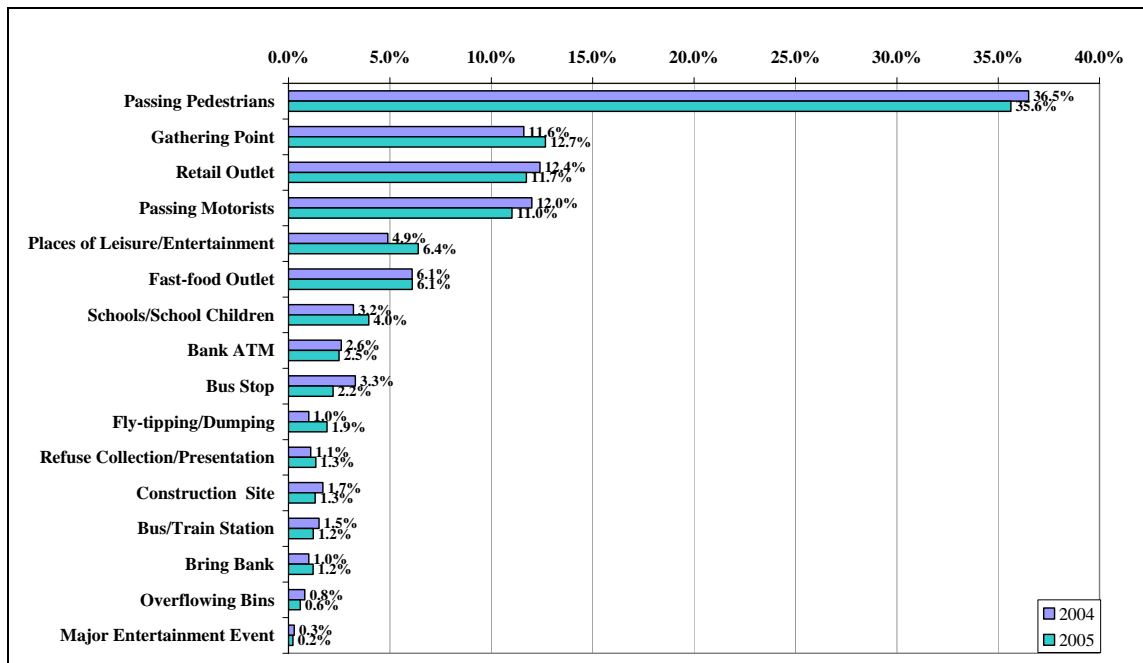


Figure 4-1 Causative Factors of Litter Pollution across all Local Authorities, 2005 compared to 2004



During the Litter Pollution Surveys, 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 Litter Pollution Surveys. 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 particular survey area.

The breakdown of causative factors found in each local authority type is presented in figure 4.2 on page 12.

The national results for 2005 show that passing pedestrians are the most significant single cause of litter pollution for every category of local authority. It is also clear from figure 4.2 that gathering points, retail outlets, places of leisure/entertainment, fast-food outlets and schools/school children are considerable sources of litter for all local authority types; gathering points and retail outlet are more significant causative factors in Dublin local authorities. Survey results to date show that the contribution of passing motorists to litter pollution is much greater in county councils than in other local authority types. It is also of note that refuse collection/presentation is a more significant cause of litter pollution in city councils than in other local authority types.

Figure 4.2 also illustrates that less significant causes of litter pollution in all types of local authority include major entertainment events, overflowing bins, bring banks, construction sites and bus/train stations. This is similar to trends identified in the 2004 and 2003 national litter pollution monitoring system results. This data indicates that the cause of litter pollution nationwide continues to remain relatively homogeneous, irrespective of local authority type. This is not unexpected, given that local authorities carry out their litter pollution and quantification surveys largely in areas where potential sources of litter (i.e. people) are located.

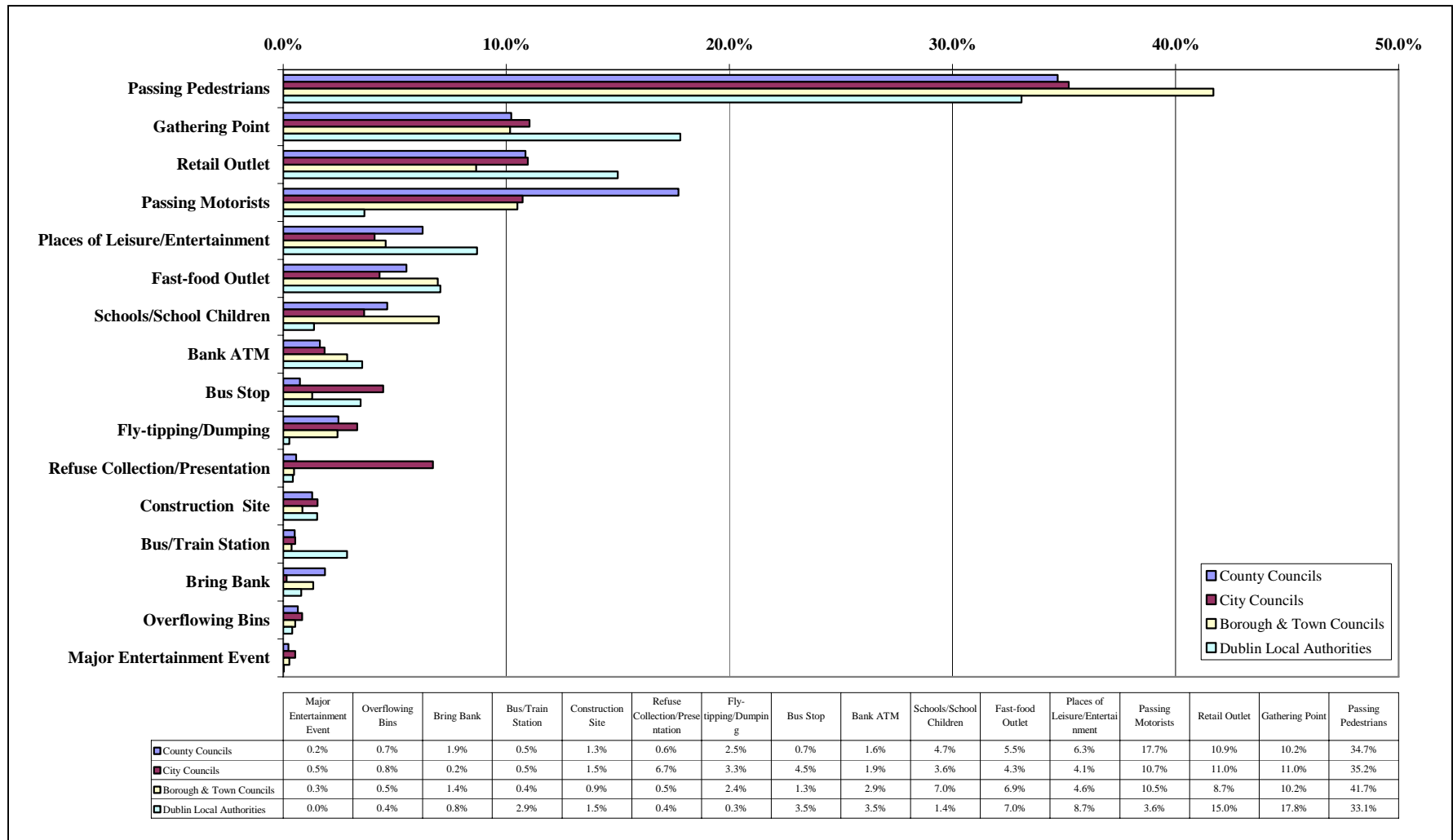


Figure 4-2 Causative Factors of Litter Pollution According to Local Authority Type in 2005<sup>3</sup>

<sup>3</sup> Percentages are expressed to one decimal place and therefore totals for each category of local authority may not add to exactly 100%.

The homogenous 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 4.3 to 4.10 on the following pages. The percentage of causative factors varies with each category of LPI. The data is organised illustrating the 2005 and 2004 graphs under each litter pollution index (on the same page) so that comparison of 2004 and 2005 results is easily made.

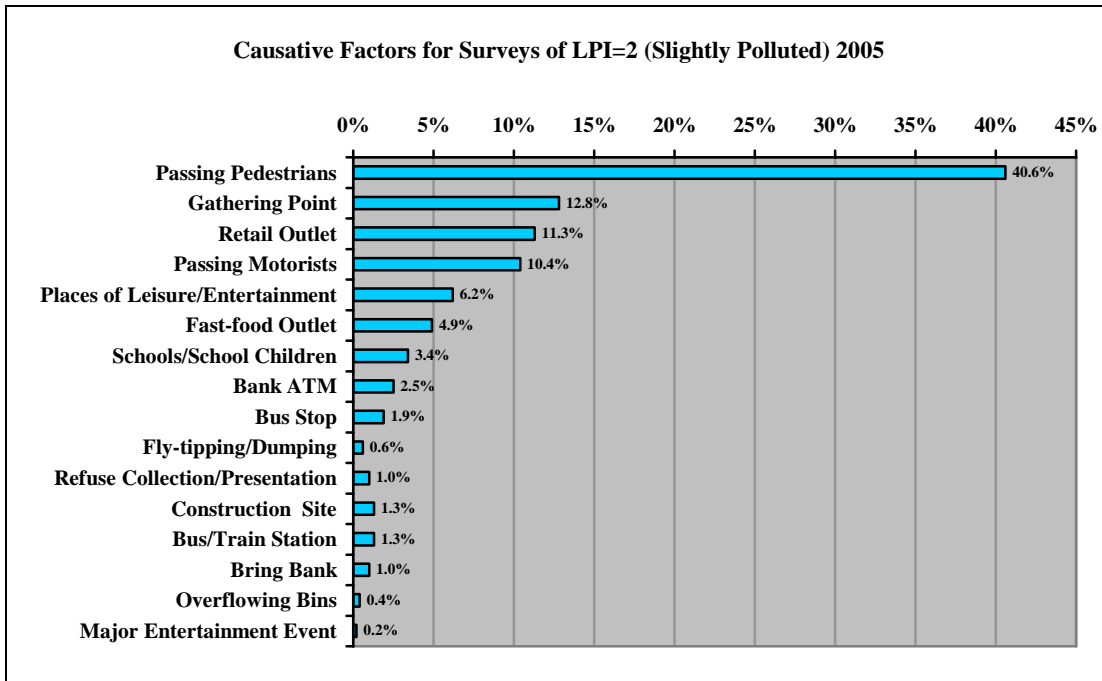


Figure 4-3 Causative factors of litter pollution within Litter Pollution Index category 2, 2005

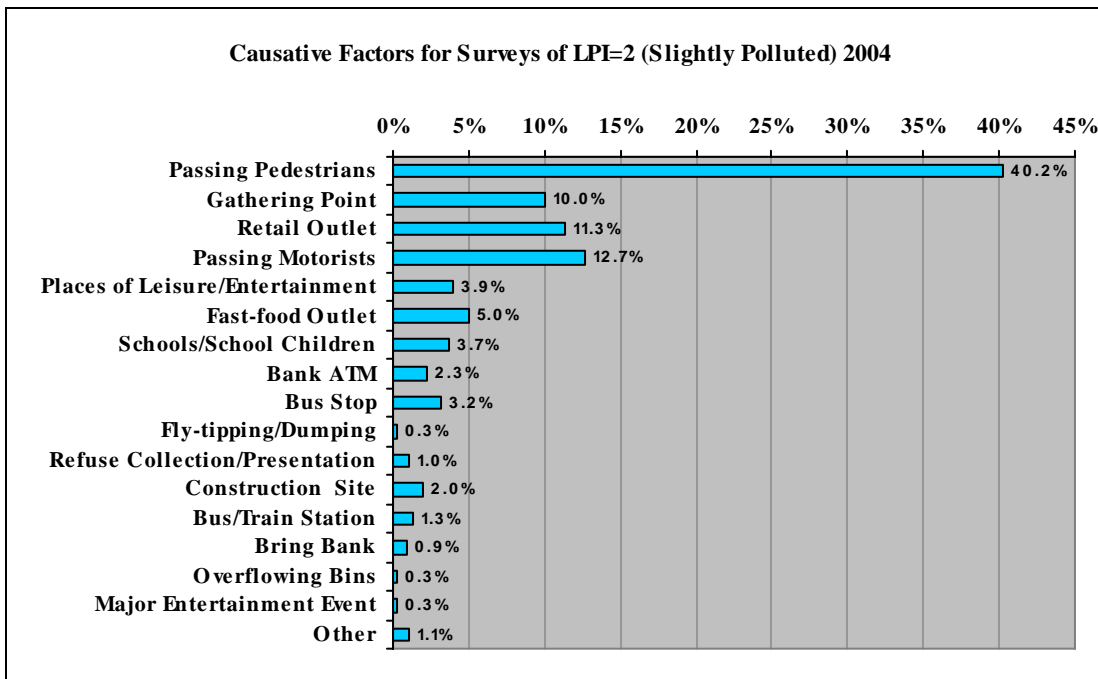


Figure 4-4 Causative factors of litter pollution within Litter Pollution Index category 2, 2004

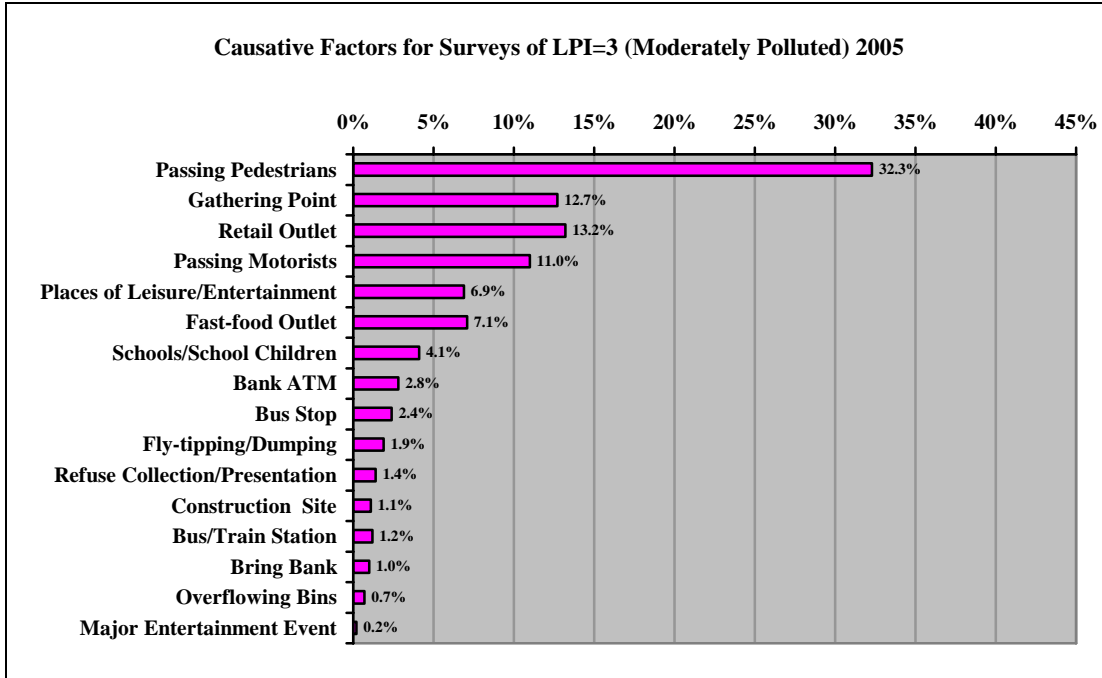


Figure 4-5 Causative factors of litter pollution within Litter Pollution Index category 3, 2005

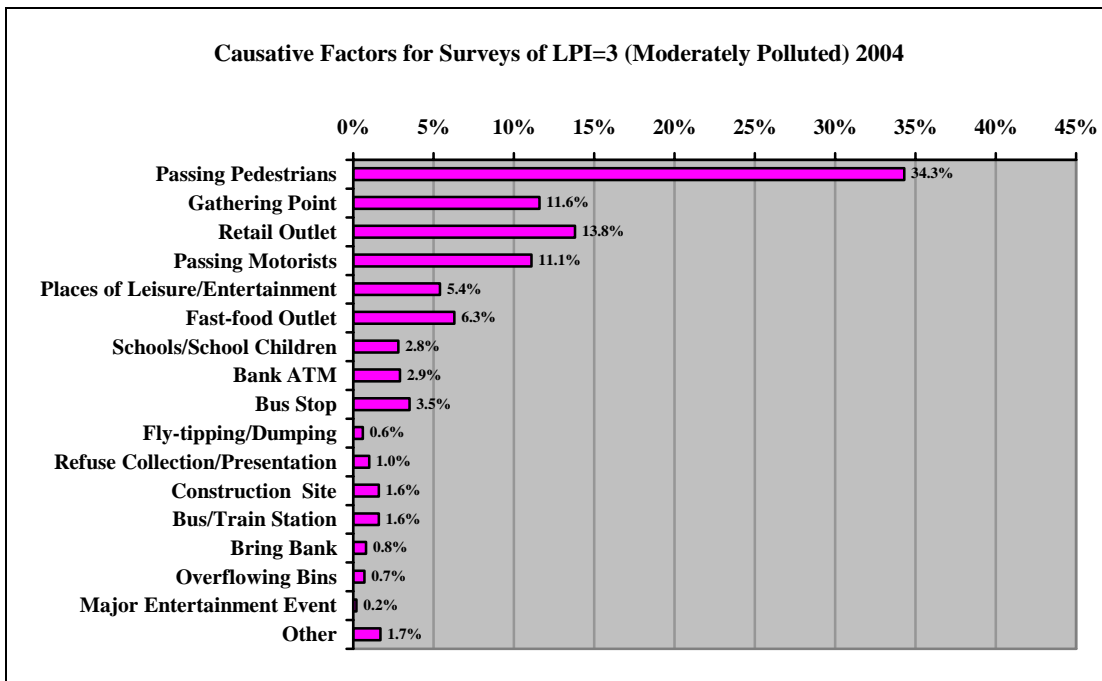


Figure 4-6 Causative factors of litter pollution within Litter Pollution Index category 3, 2004

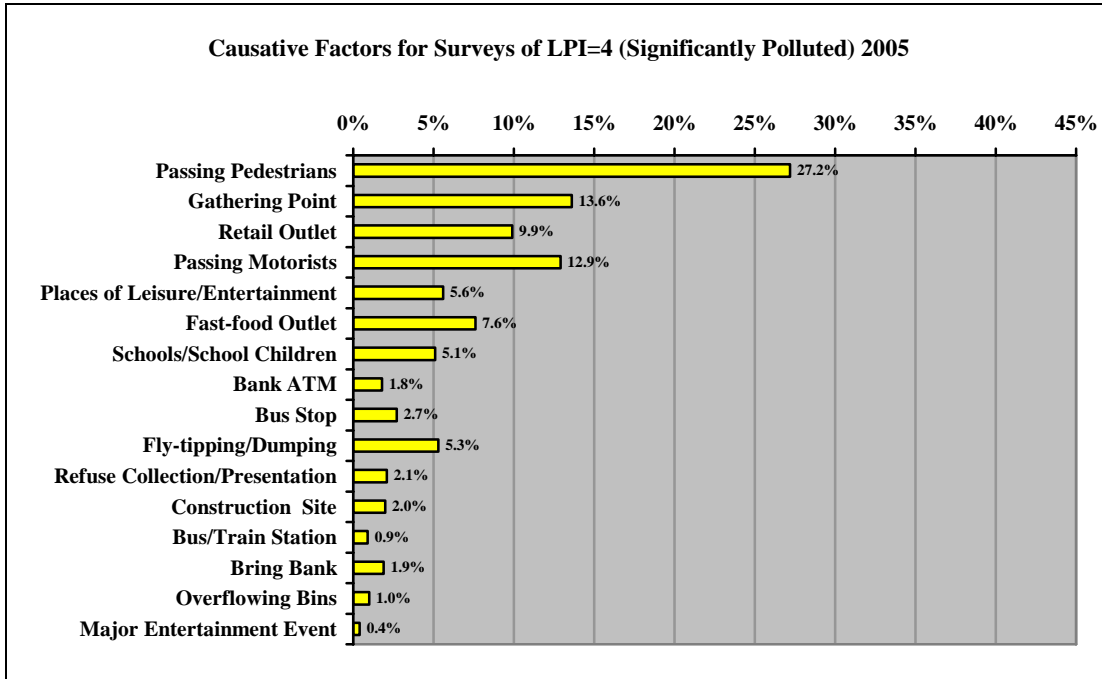


Figure 4-7 Causative factors of litter pollution within Litter Pollution Index category 4, 2005

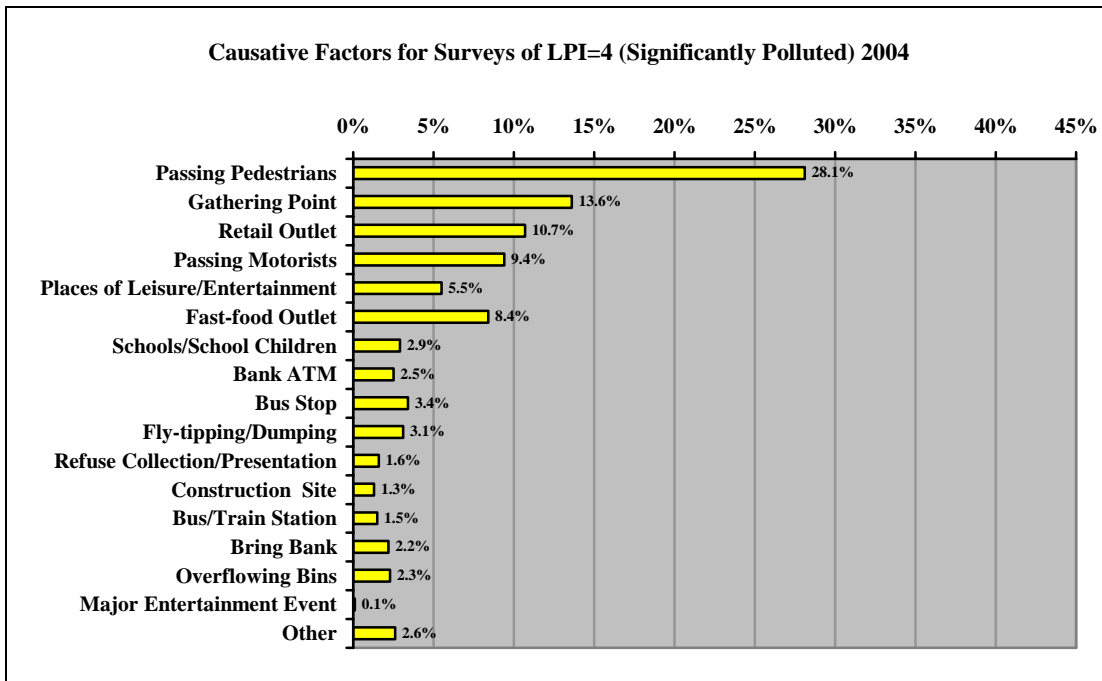


Figure 4-8 Causative factors of litter pollution within Litter Pollution Index category 4, 2004

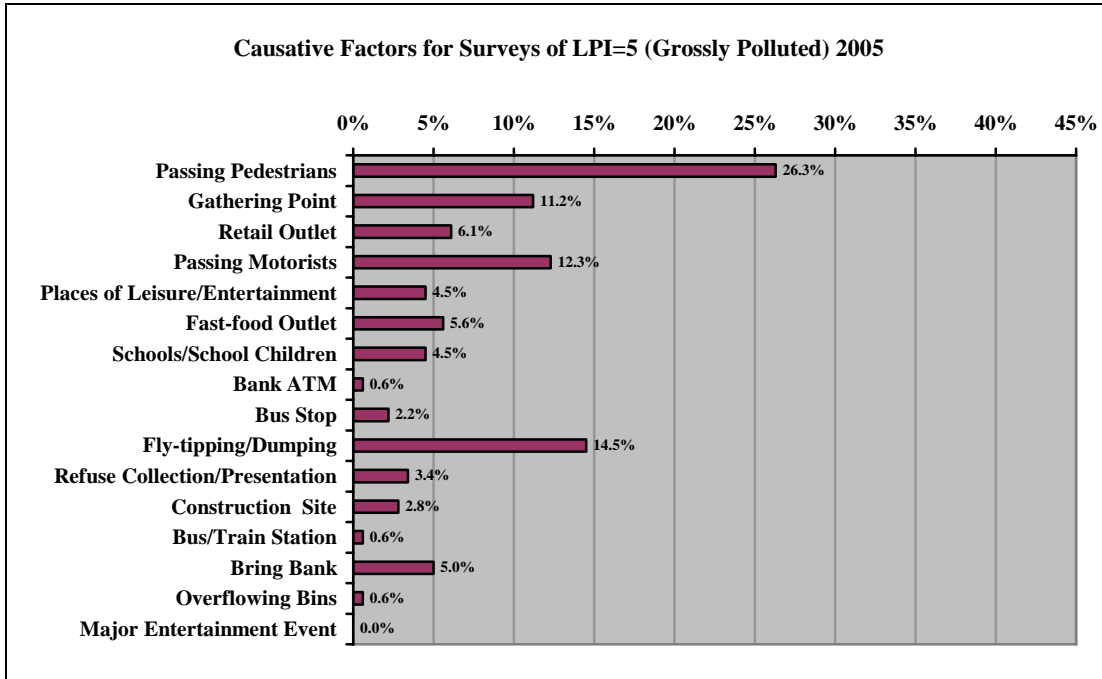


Figure 4-9 Causative factors of litter pollution within Litter Pollution Index category 5, 2005

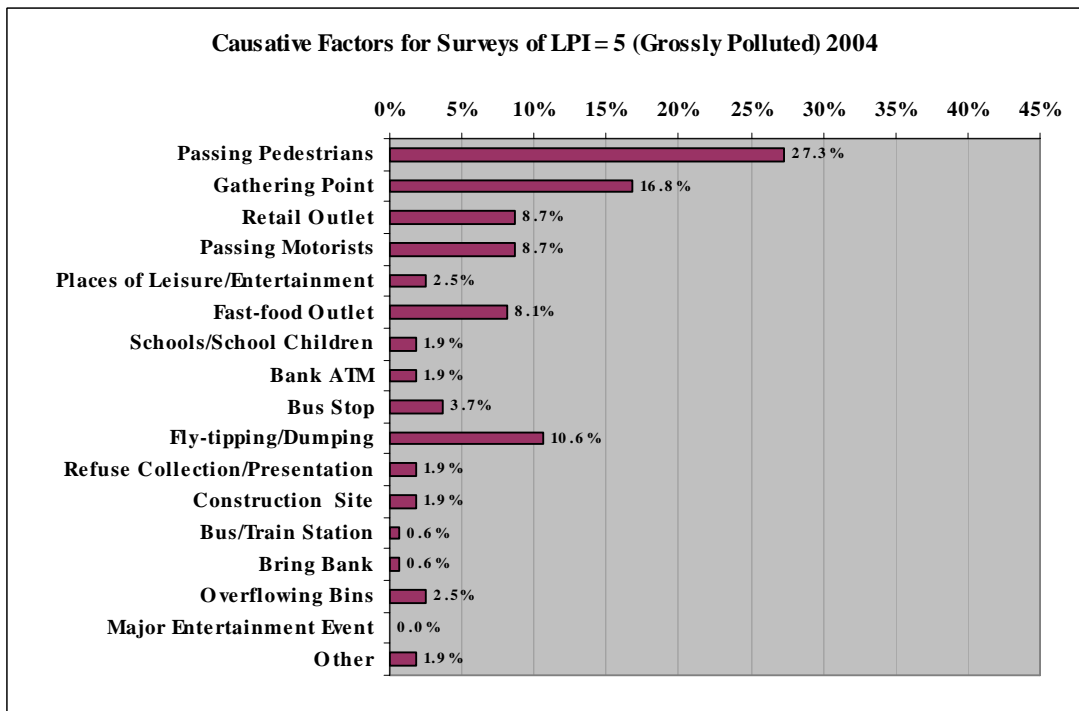


Figure 4-10 Causative factors of litter pollution within Litter Pollution Index category 5, 2004

In each category of LPI, passing pedestrians constitute the most significant causative factor of litter pollution. Figures 4.3 – 4.10 illustrate that as the degree of litter pollution increases (and the LPI value increases), this causative factor becomes a less significant contributor to litter pollution. Accordingly, in 2005 passing pedestrians constitute 40.6% of all causative factors in litter pollution surveys of slightly littered (LPI 2) areas; this percentage decreased to 26.3% as the severity of litter pollution in the surveyed areas reached the maximum ranking of grossly polluted (LPI 5). As the severity of litter pollution increases, other causative factors such as gathering points, retail outlets, passing motorists and fly-tipping/dumping become more predominant.

Fly-tipping, refuse collection/presentation and bring banks all increase considerably as causes of litter as the degree of pollution increases from slightly polluted (LPI 2) to grossly polluted (LPI 5). Fly-tipping in particular has increased as a causative factor in the moderately (1.9%) to grossly polluted (14.5%) categories from 2004 to 2005. It is considered that this may be following the introduction of pay-by-weight charges for domestic refuse in January 2005. This will be further examined in future surveys.

In the slightly and moderately polluted categories (LPI 2 and LPI 3 respectively), passing pedestrians, passing motorists, gathering points and retail outlets are significant causes of litter pollution. In the slightly polluted category (LPI 2), gathering points and places of leisure/entertainment increased as causative factors from 2004 to 2005. In the significantly and grossly polluted categories (LPI 4 and LPI 5 respectively), fast-food outlets, fly-tipping/dumping and bring banks contributed more to litter pollution than in other categories. **Fly-tipping increased significantly as a causative factor in these categories (LPI 4 and 5) from 2004 to 2005.**

Figures 4.11 (p.19) and 4.12 (p.20) compare the causes of litter within urban and rural local authorities from 2004 to 2005. Passing pedestrians are the single greatest cause of litter in both urban and rural areas; this is similar to the 2004 results. Figure 4.11 indicates that gathering points and places of leisure/entertainment have become more significant causes of litter pollution in urban areas from 2004 to 2005. Retail outlets, passing motorists and bus stops have decreased slightly. In rural areas, the causes of litter pollution are similar in 2004 and 2005. Passing pedestrians and passing motorists have decreased slightly from 2004 to 2005, however passing motorists continue to constitute a more significant cause of litter pollution in rural areas (17.7%) when compared to urban areas (7.2%). Fly-tipping and bring banks contributed more to the level of litter pollution in rural areas in 2005 than in 2004. Fly-tipping and bring banks as causative factors of litter pollution were also more significant in rural areas than urban areas in 2005, see figures 4.11 and 4.12.

Figure 4.13 (p.21) allows for comparison of the various causative factors of litter pollution between urban areas of varying size and population. The ‘Other City Councils’ category comprises results from Galway, Limerick and Waterford City Councils. Overall, the causes of litter pollution vary somewhat with each category of urban area. Passing pedestrians are more significant in the ‘Other City Councils’ and Town and Borough Councils categories than in Cork or Dublin City Councils. Gathering points and retail outlets are more significant in Dublin and Cork City Councils than the other categories of urban areas; places of leisure/entertainment and bus/train stations contribute more to litter pollution in Dublin City Council.



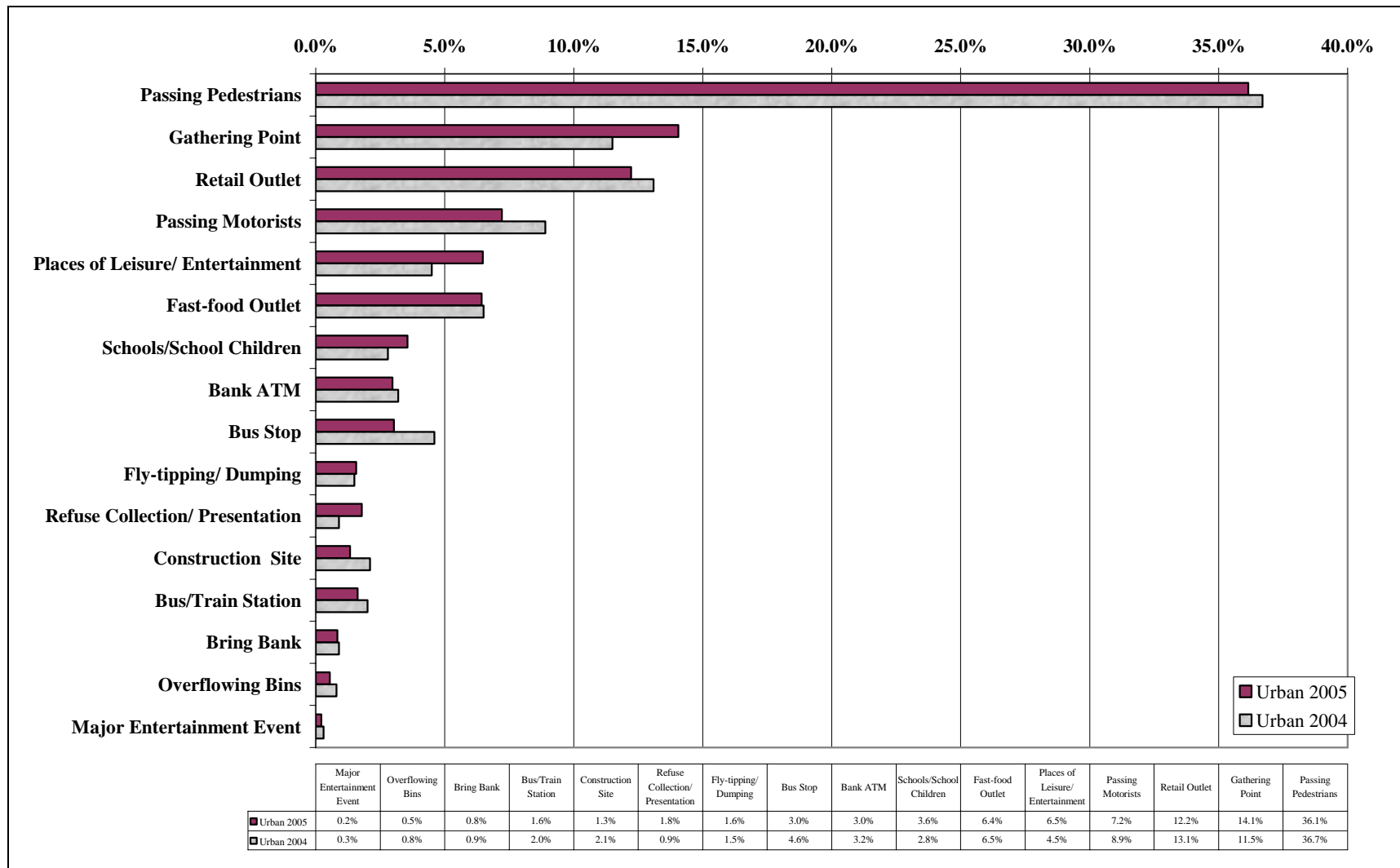


Figure 4-11 Comparison of Causative Factors in Urban Councils, 2004 – 2005

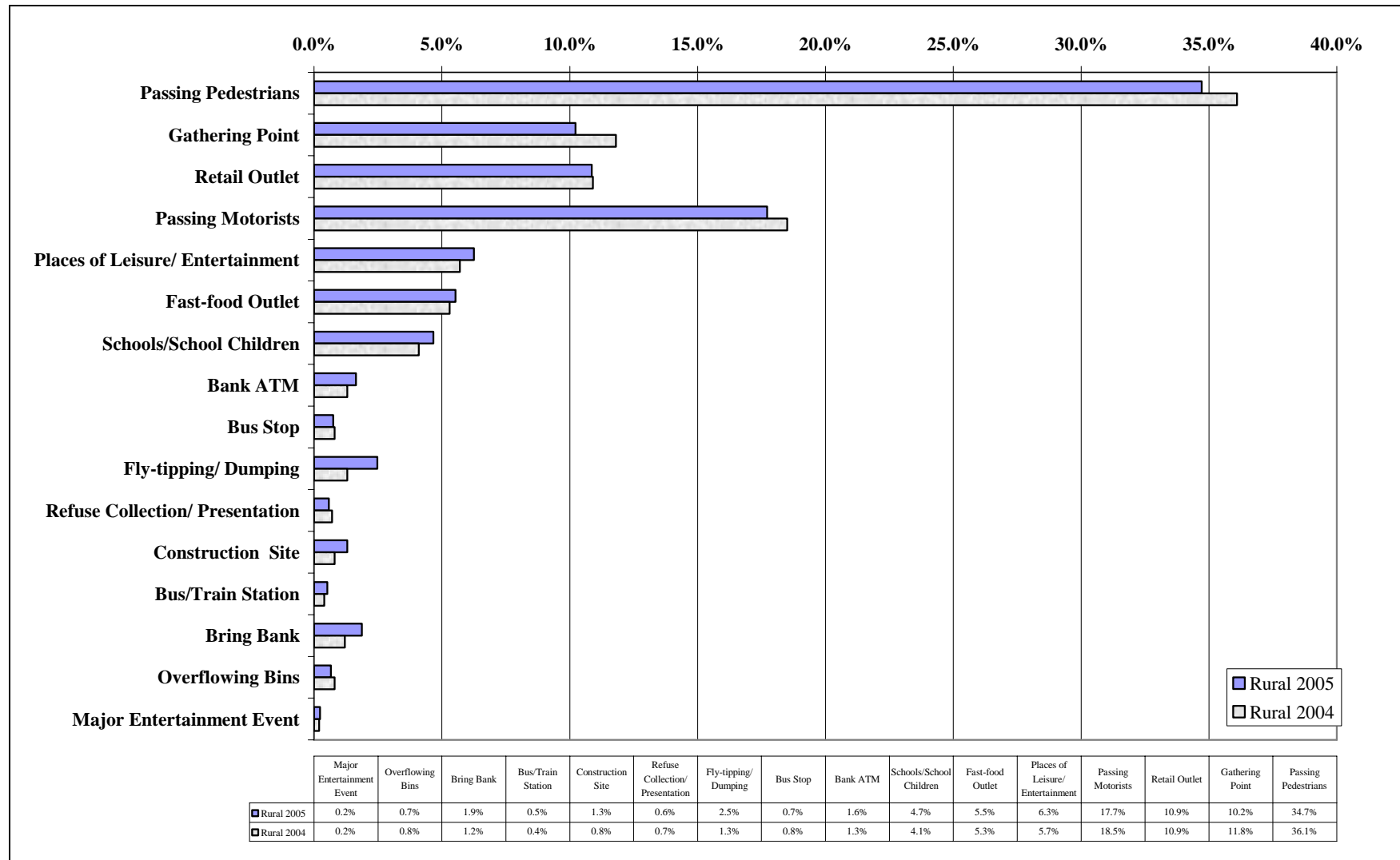


Figure 4-12 Comparison of Causative Factors in Rural Councils, 2004 – 2005

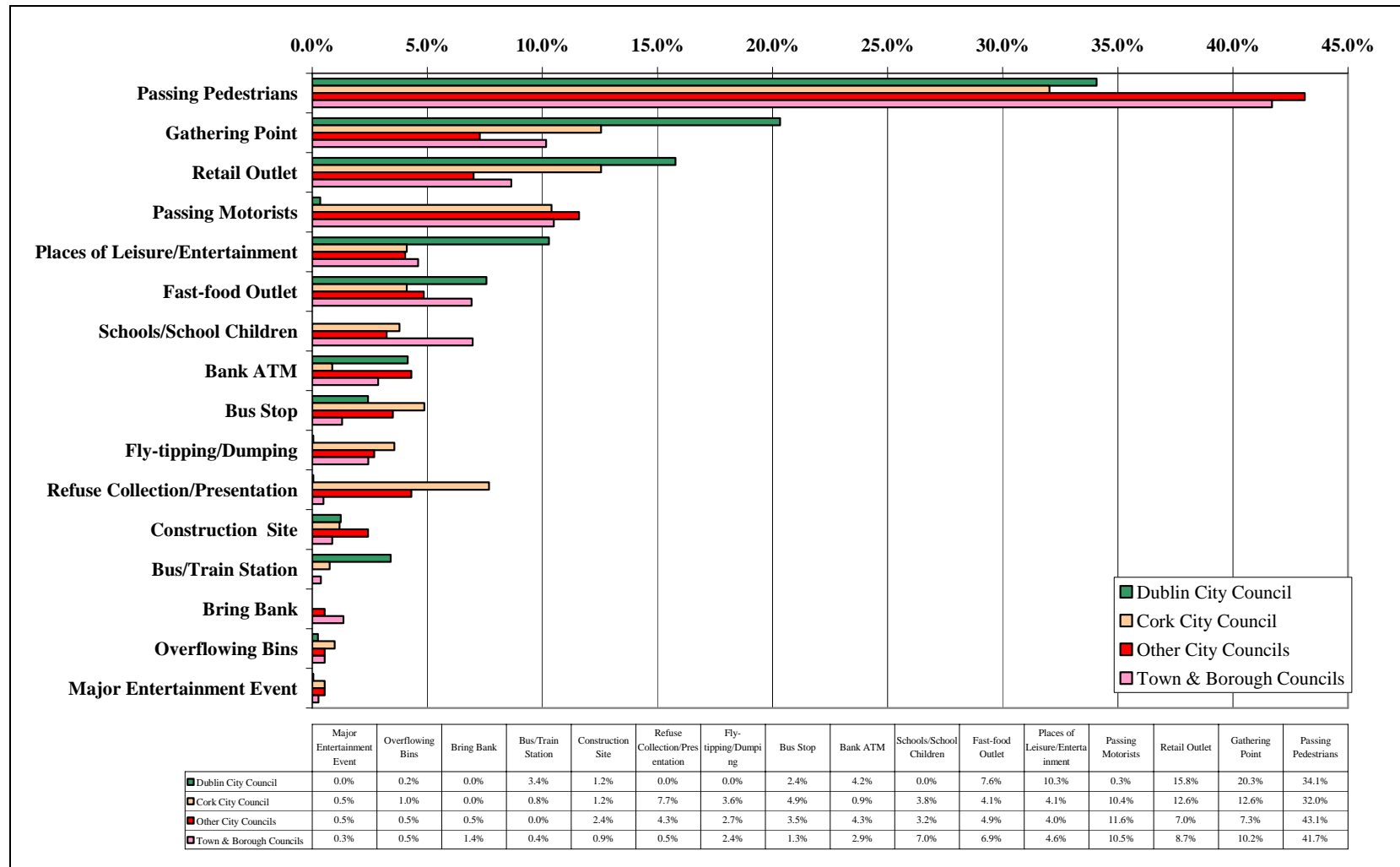


Figure 4-13 Comparison of Causative Factors of Litter Pollution within Urban Areas<sup>4</sup> (2005)

<sup>4</sup> Percentages are expressed to one decimal place and therefore totals for each category of local authority may not add to exactly 100%.



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

This chapter focuses on comparative data for litter pollution for the different local authority types. Litter Pollution Survey results for 57 out of 90 local authorities have been returned to the Litter Monitoring Body and analysed for 2005 - those local authorities are detailed in Appendix I.

Comparison of the 2005 litter pollution surveys 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

In comparing the litter pollution data for Dublin local authorities from 2004 to 2005, it is clear that despite a very small decrease in the percentage of unpolluted (LPI 1) areas (from 2.2% in 2004 to 2.0% in 2005), there has been an overall improvement in litter pollution in this type of local authority. The percentage of slightly (LPI 2) and moderately (LPI 3) polluted areas has increased and the percentage of significantly (LPI 4) and grossly (LPI 5) polluted areas has decreased. This improvement reflects the national trend in litter pollution.

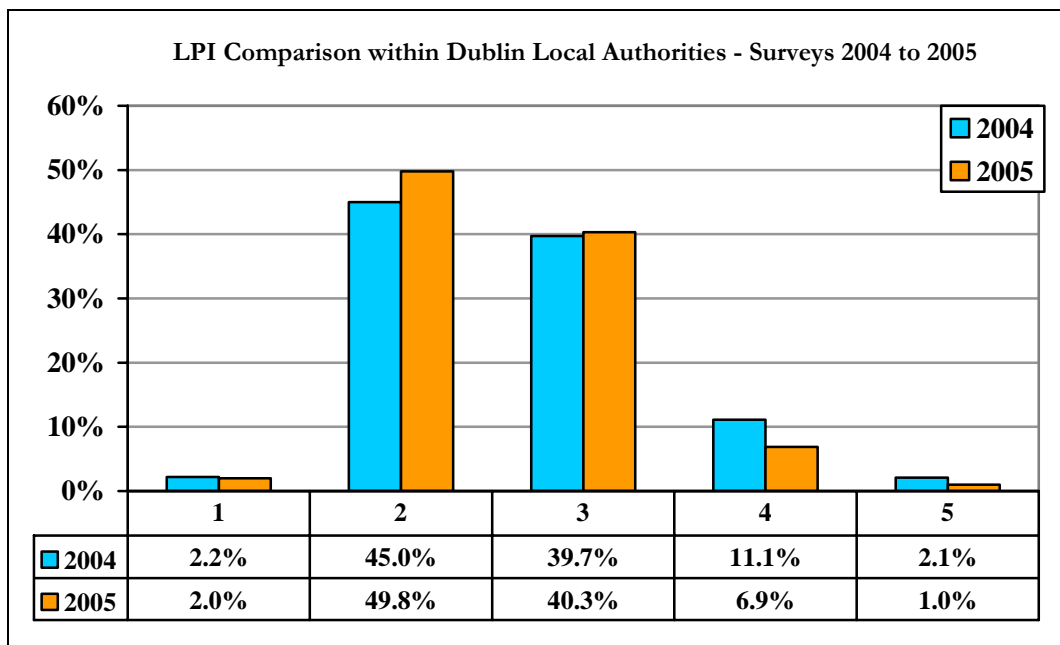


Figure 5-1 Comparison of Litter Pollution within Dublin Local Authorities 2004 to 2005

## 5.2 Comparison within County Councils

The trend in litter pollution in County Councils from 2004 to 2005 is similar to that experienced in Dublin local authorities. Again, despite a small decrease in the percentage of unpolluted (LPI 1) area, there has been an overall improvement in litter pollution in county council areas. There has been a significant increase in the percentage of slightly polluted areas (LPI 2) from 37.6% in 2004 to 49.1% in 2005. There is also a decrease in the percentage of moderately (LPI 3), significantly (LPI 4) and grossly (LPI 5) polluted areas.

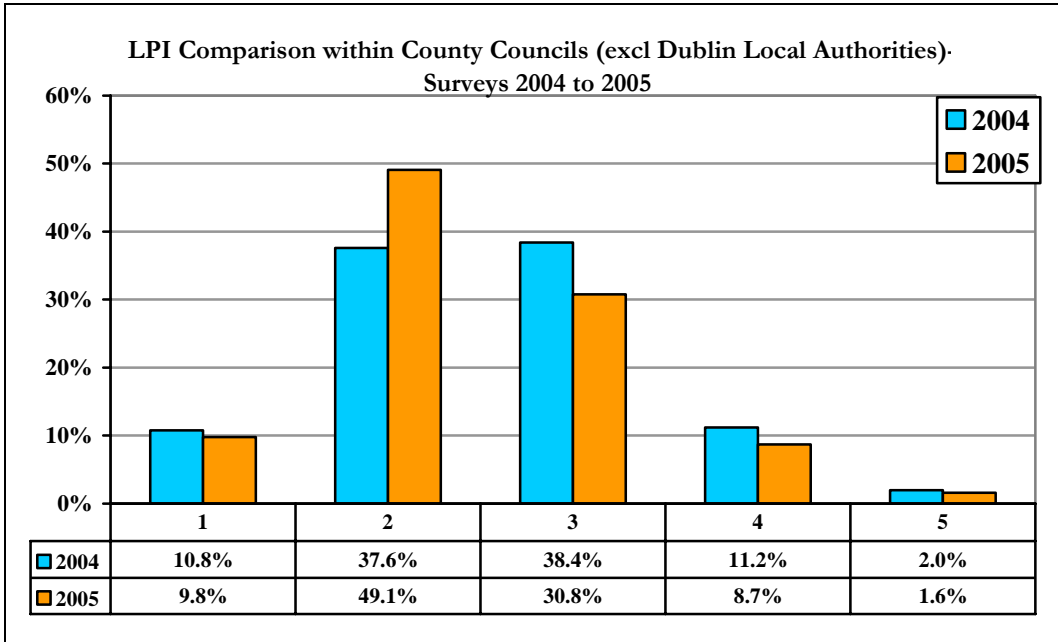


Figure 5-2 Comparison of Litter Pollution within County Councils 2004 to 2005

### 5.3 Comparison within City Councils

Figure 5.3 illustrates an overall slight improvement in relation to litter pollution in City Councils (excluding Dublin) from 2004 to 2005. The percentage of litter free (LPI 1) and slightly polluted (LPI 2) areas has increased from 2004 to 2005. The percentage of moderately polluted areas (LPI 3) has decreased, however there has been an increase in the percentage of significantly (LPI 4) and grossly (LPI 5) polluted areas.

The increase in the percentage of significantly and grossly polluted areas is due to an increase in the contribution of fly-tipping/dumping and refuse collection/presentation to the causes of litter pollution in City Councils in 2005. Figures 4.3 – 4.10 illustrate that these causes of litter become more prevalent as the severity of pollution increases to significantly polluted (LPI 4) and grossly polluted (LPI 5). It is considered that the increase in fly-tipping/dumping followed the introduction of pay-by weight charges for domestic refuse in January 2005.

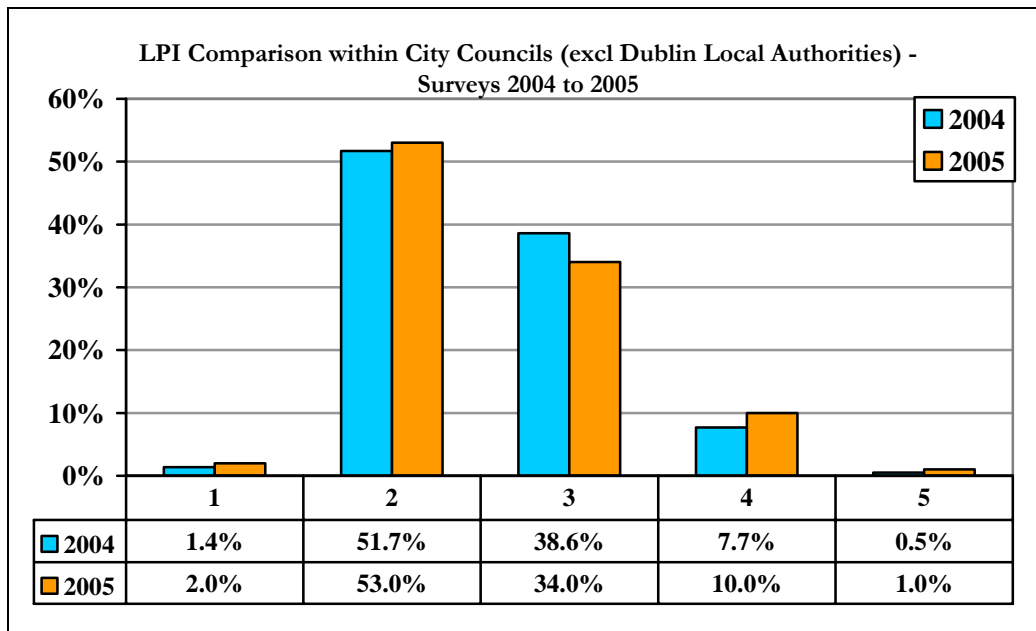


Figure 5-3 Comparison of Litter Pollution within City Councils 2004 to 2005

### 5.4 Comparison within Borough/Town Councils

Figure 5.4 illustrates that the percentage of unpolluted (LPI 1) areas increased significantly by 5.1% from 2004 (2.3%) to 2005 (7.4%). However, the percentage of slightly polluted areas has decreased from 56.5% in 2004 to 47.7% in 2005. The percentage of moderately (LPI 3) and grossly (LPI 5) polluted areas increased slightly.

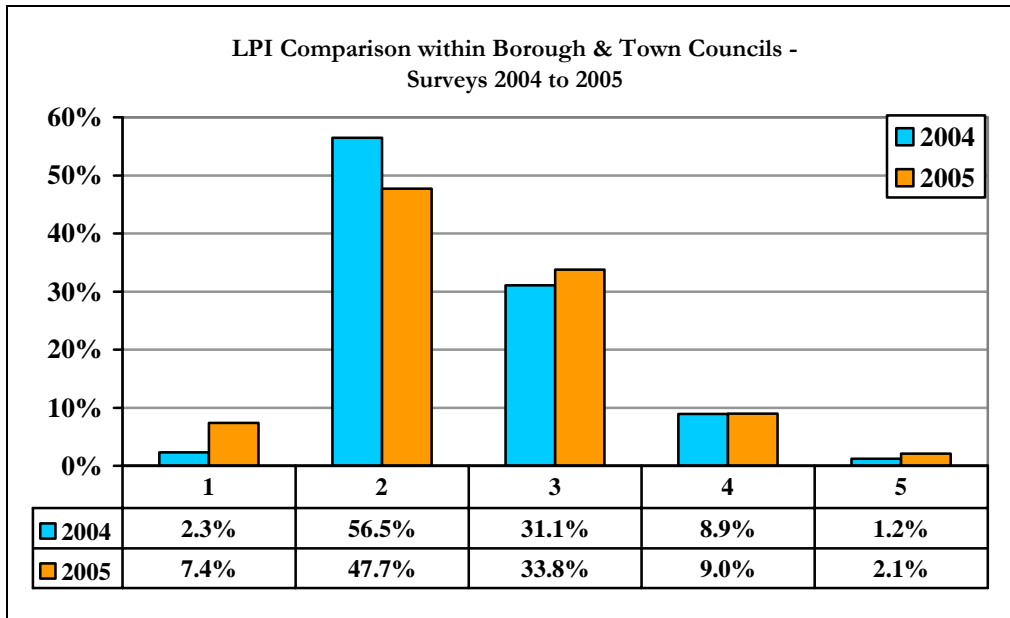


Figure 5-4 Comparison of Litter Pollution within Borough & Town Councils 2004 to 2005



### 5.5 Comparison within Urban & Rural Areas

Figures 5.5 and 5.6 below provide a comparison of litter pollution in rural and urban areas from 2004 to 2005.

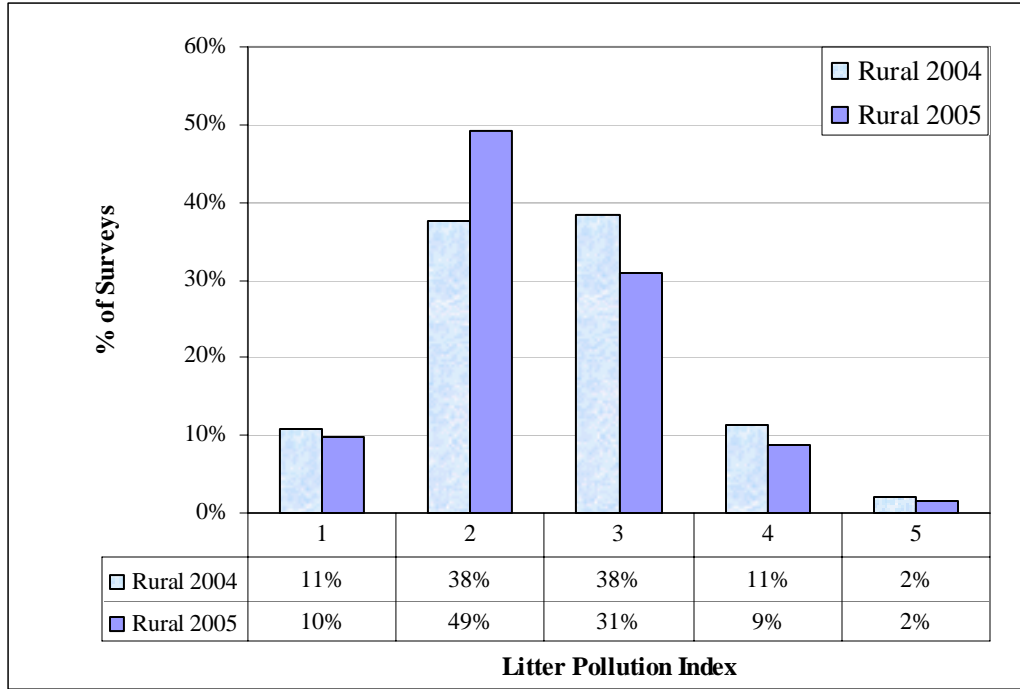


Figure 5-5 Comparison of Litter Pollution in Rural Areas from 2004 to 2005

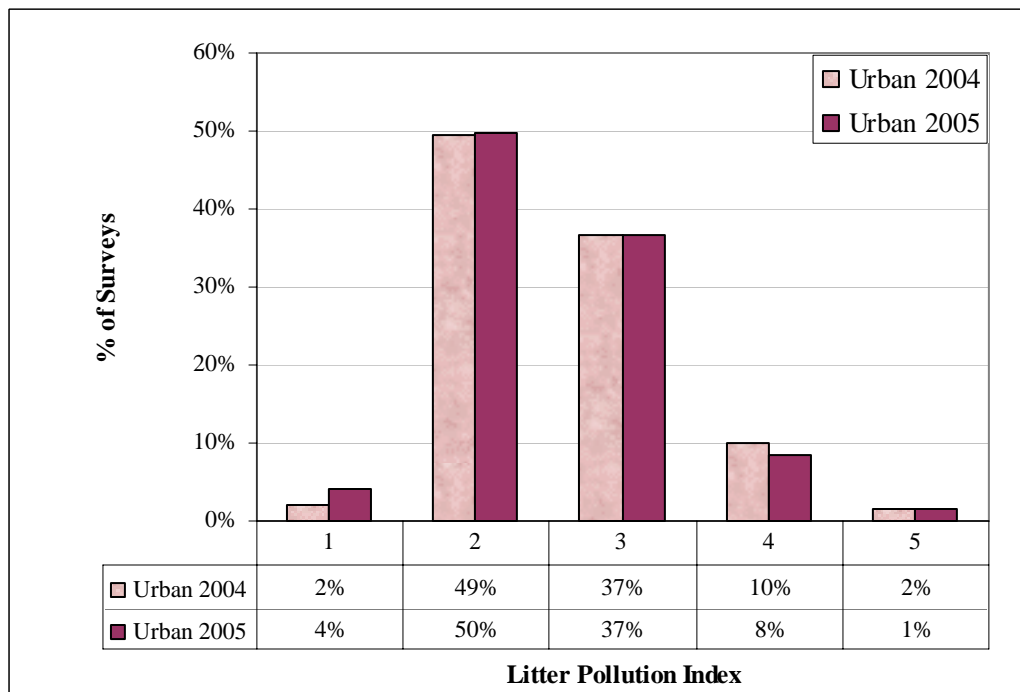


Figure 5-6 Comparison of Litter Pollution in Urban Areas from 2004 to 2005

In rural areas, despite a small decrease in the percentage of litter free areas (LPI 1), an overall improvement has been experienced. There has been a significant increase in the percentage of slightly polluted areas (LPI 2) from 38% to 49% and a corresponding drop in moderately (LPI 3) and significantly (LPI 4). Grossly polluted (LPI 5) areas remained unchanged at 2%.

In urban areas, a slight improvement has been experienced in relation to litter pollution. The percentage of litter free and slightly polluted areas has increased slightly and the percentage of significantly and grossly polluted areas has decreased.

## CHAPTER 6: CIGARETTE RELATED LITTER

The results of litter quantification surveys can be used to examine trends in cigarette related litter. In this year's System's Report, the effect of the Ban on Smoking in the Workplace in Ireland as part of the Public Health (Tobacco) Act, 2002 (Section 47) Regulations on cigarette related litter was examined. Figure 6.1 below compares the percentage of litter items that are cigarette related (and each of the components of this litter type) from 2004 to 2005.

Figure 6.1 illustrates that there has been a slight increase in the percentage of cigarette related litter from 2004 to 2005. This is mainly due to cigarette ends, which increased from 39.80% of all litter items nationally in 2004 to 41.79% of litter items in 2005. Litter quantification survey results were submitted by 63 local authorities in 2005 compared to 58 in 2004. It is considered that the datasets are comparable and figure 6.1 is representative of the national trend in cigarette related litter.

In analysing the causes of litter (see figure 4.1, pg. 10), gathering points have continued to increase as a causative factor of litter pollution from 11.6% in 2004 to 12.7% in 2005. It is considered that this is a result of the Ban on Smoking in the Workplace in Ireland and is related to the increase observed in cigarette related litter, in particular cigarette ends.

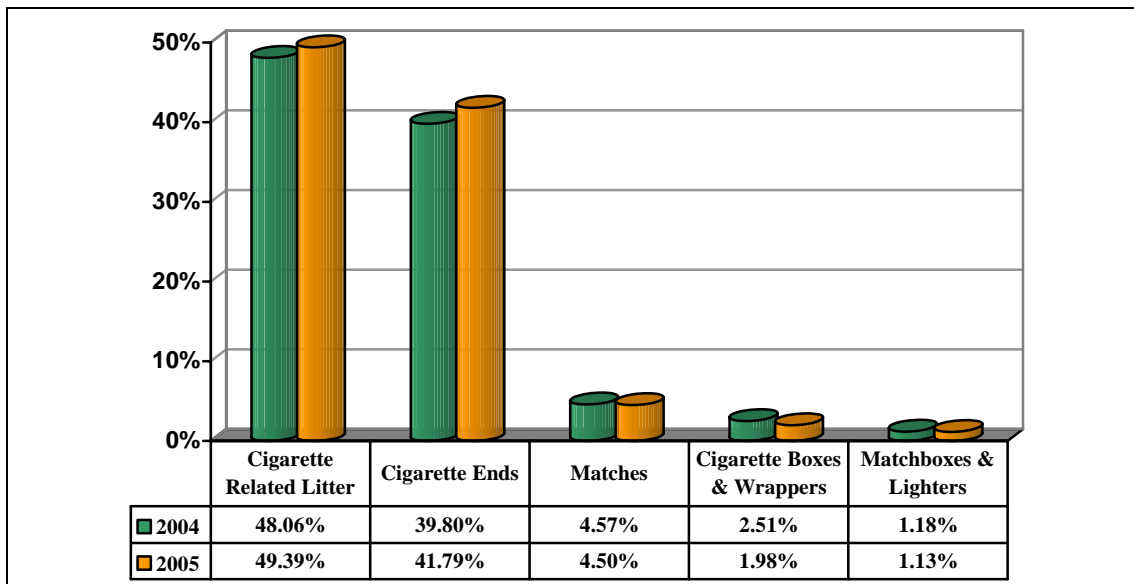


Figure 6-1 Cigarette related litter items as a percentage of National Litter Composition



## **CHAPTER 7: CONCLUSION**

The data reveals that the extent and severity of litter pollution has improved nationally from 2004 to 2005. The constituent components and the causative factors of litter pollution remain relatively constant across all local authority types from 2004 to 2005. The Litter Monitoring Body would expect these trends to continue into 2006 and subsequent years in all local authorities carrying out surveys of their areas.

The results of the National Litter Pollution Monitoring System survey carried out in 2005 have revealed an increased in litter free and slightly polluted areas of 5.2% and a corresponding decrease in the percentage of moderately, significantly and grossly polluted areas.

This survey confirms the homogeneity of the litter problem nationally.

Gathering points and places of leisure/entertainment have increased as causative factors of litter in 2005, particularly in the slightly and moderately polluted categories. Schools/school children contributed to a greater extent to litter pollution in the moderately polluted to grossly polluted categories. Fly-tipping/dumping increased as a causative factor in areas that were deemed to be significantly and grossly polluted. It is considered that this may have followed the introduction of pay-by-weight charges for domestic refuse in January 2005. This will be analysed further in future years survey results.

The number of local authorities carrying out litter pollution and quantification surveys in 2005 (66) is similar to that in 2004 (61). Thus the degree, composition, causes and trends in litter pollution identified and discussed in this report are representative of the national picture, and will continue to be monitored into 2006.

The Litter Monitoring Body is satisfied that local authorities are properly implementing the National Litter Pollution Monitoring System and that the systems survey data accurately reflects national litter pollution levels. Local authorities will continue to be audited to ensure the System is being implemented as designed.



## CHAPTER 8: ITEMS FOR FURTHER ATTENTION UNDER THE NLPMS

- ◆ In future surveys the Litter Monitoring System will be used to assess the impact of the chewing gum industry funded education and awareness campaigns.
- ◆ The litter quantification survey forms have been updated to include a new category for sweet related litter, and bottle caps and drink lids have been added to existing categories. The impact of these items will be analysed in next year's National Litter Pollution Monitoring System's report.
- ◆ In 2006 a study will be carried out on litter pollution along rural roads. This will be detailed in the system's report for 2006.





**APPENDIX I**  
**DETAILS OF LOCAL AUTHORITIES THAT CARRIED OUT SURVEYS IN 2005**



## Litter Quantification Survey Results

Litter Quantification Survey results for 63 out of 90 local authorities were returned to the Litter Monitoring Body and analysed for 2005. These are detailed in Table A-1.

**Table A-1 Local Authorities that Submitted Litter Quantification Survey Results for 2005**

<b>County Councils</b>
Carlow County Council
Clare County Council
Donegal County Council
Dun Laoghaire Rathdown County Council
Fingal County Council
Galway County Council
Kerry County Council
Kilkenny County Council
Laois County Council
Leitrim County Council
Limerick County Council
Longford County Council
Louth County Council
Mayo County Council
Meath County Council
Monaghan County Council
North Tipperary County Council
Offaly County Council
Roscommon County Council
Sligo County Council
South Cork County Council (Rural)
South Cork County Council (City)
South Dublin County Council
South Tipperary County Council
Waterford County Council
Wicklow County Council
<b>City Councils</b>
Cork City Council
Dublin City Council
Galway City Council
Limerick City Council
Waterford City Council
Clonmel Borough Council
Drogheda Borough Council
Sligo Borough Council

<b>Town Councils</b>
Ballina Town Council
Ballinasloe Town Council
Birr Town Council
Buncrana Town Council
Bundoran Town Council
Carlow Town Council
Carrick on Suir Town Council
Carrickmacross Town Council
Cashel Town Council
Castlebar Town Council
Castleblayney Town Council
Clones Town Council
Dundalk Town Council
Ennis Town Council
Kells Town Council
Kilrush Town Council
Letterkenny Town Council
Listowel Town Council
Longford Town Council
Monaghan Town Council
Navan Town Council
Nenagh Town Council
Templemore Town Council
Thurles Town Council
Tipperary Town Council
Tralee Town Council
Trim Town Council
Tullamore Town Council
Westport Town Council

## Litter Pollution Survey Results

Litter Pollution Survey results for 57 out of 90 local authorities were returned to the Litter Monitoring Body and analysed for 2005. These are detailed in Table A-2.

**Table A-2 Local Authorities that Submitted Litter Pollution Survey Results for 2005**

<b>County Councils</b>
Cavan County Council
Clare County Council
Donegal County Council
Dun Laoghaire Rathdown County Council
Fingal County Council
Galway County Council
Kerry County Council
Kilkenny County Council
Laois County Council
Leitrim County Council
Limerick County Council
Longford County Council
Louth County Council
Mayo County Council
Meath County Council
Monaghan County Council
North Tipperary County Council
Offaly County Council
Roscommon County Council
Sligo County Council
South Dublin County Council
South Tipperary County Council
Waterford County Council
Wicklow County Council
<b>City Councils</b>
Cork City Council
Dublin City Council
Galway City Council
Limerick City Council
Waterford City Council
Clonmel Borough Council
Drogheda Borough Council
Sligo Borough Council
<b>Town Councils</b>
Ballinasloe Town Council
Birr Town Council

Buncrana Town Council
Bundoran Town Council
Carrick on Suir Town Council
Carrickmacross Town Council
Cashel Town Council
Castleblayney Town Council
Clones Town Council
Dundalk Town Council
Dungarvan Town Council
Ennis Town Council
Kells Town Council
Kilrush Town Council
Letterkenny Town Council
Longford Town Council
Monaghan Town Council
Navan Town Council
Nenagh Town Council
Templemore Town Council
Thurles Town Council
Tipperary Town Council
Tralee Town Council
Trim Town Council
Tullamore Town Council

**APPENDIX II**  
**AREA CLEANLINESS RATING PHOTOS**





### Area Cleanliness Rating 1 (Unpolluted)

This is only given to an area with no litter present i.e. the area maybe freshly swept.



### Area Cleanliness Rating 2 (Slightly Polluted)

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



### Area Cleanliness Rating 3 (Moderately Polluted)

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



### Area Cleanliness Rating 4 (Significantly Polluted)

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



### Area Cleanliness Rating 5 (Grossly Polluted)

This is given to an area, which is heavily littered throughout the survey area i.e. an event like a Concert/ Festival or fly-tipping.



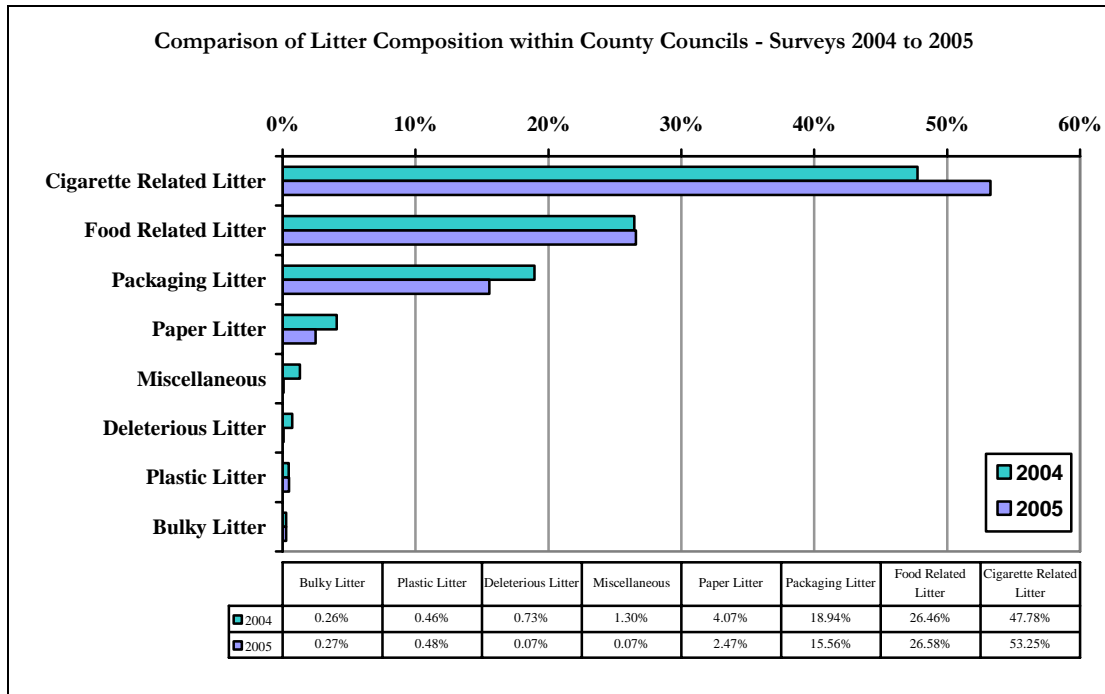


**APPENDIX III**  
**DETAILS OF LITTER COMPOSITION FROM 2004 – 2005 ACCORDING TO**  
**LOCAL AUTHORITY TYPE**





Figure A.1 compares the results of Litter Quantification Surveys within County Councils from 2004 to 2005; the main observations are that the percentage cigarette related litter has increased while packaging and paper litter have decreased.



**Figure A.1 Comparison of Litter Composition within County Councils 2004 to 2005**

Figure A.2 shows that within city councils, the percentage of cigarette related and packaging litter has increased while the percentage of food related litter has decreased significantly from 2004 to 2005.

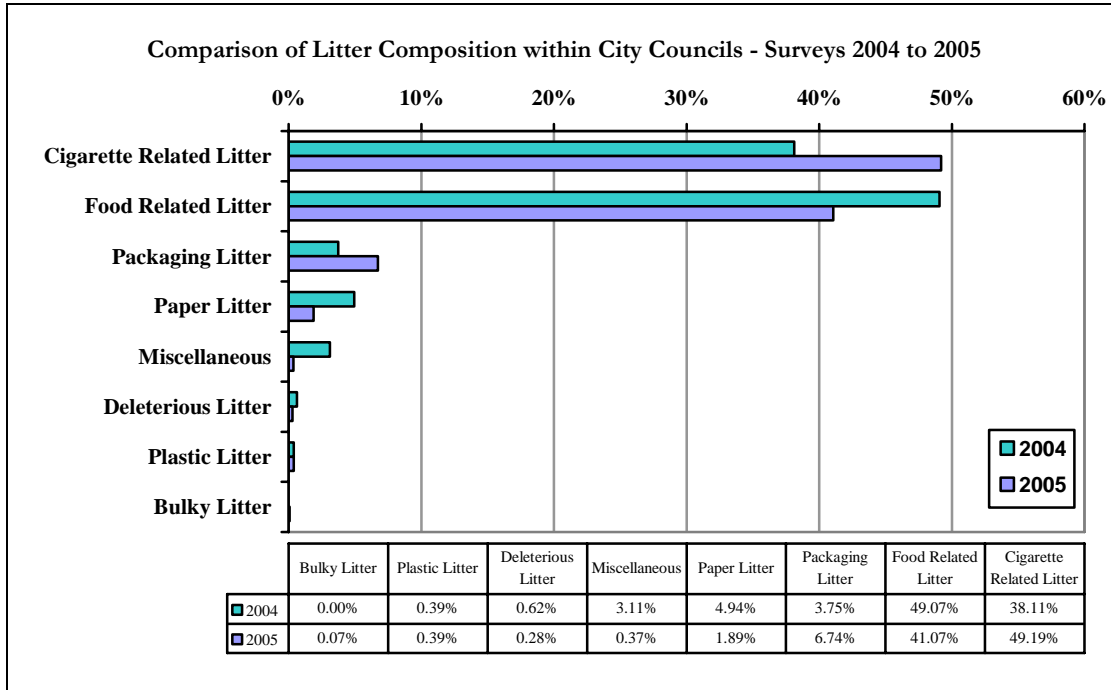


Figure A.2 Comparison of Litter Composition within City Councils 2004 to 2005

Figure A.3 illustrates that the percentages of packaging and paper litter have decreased and the percentage of food related litter and paper litter and has increased.

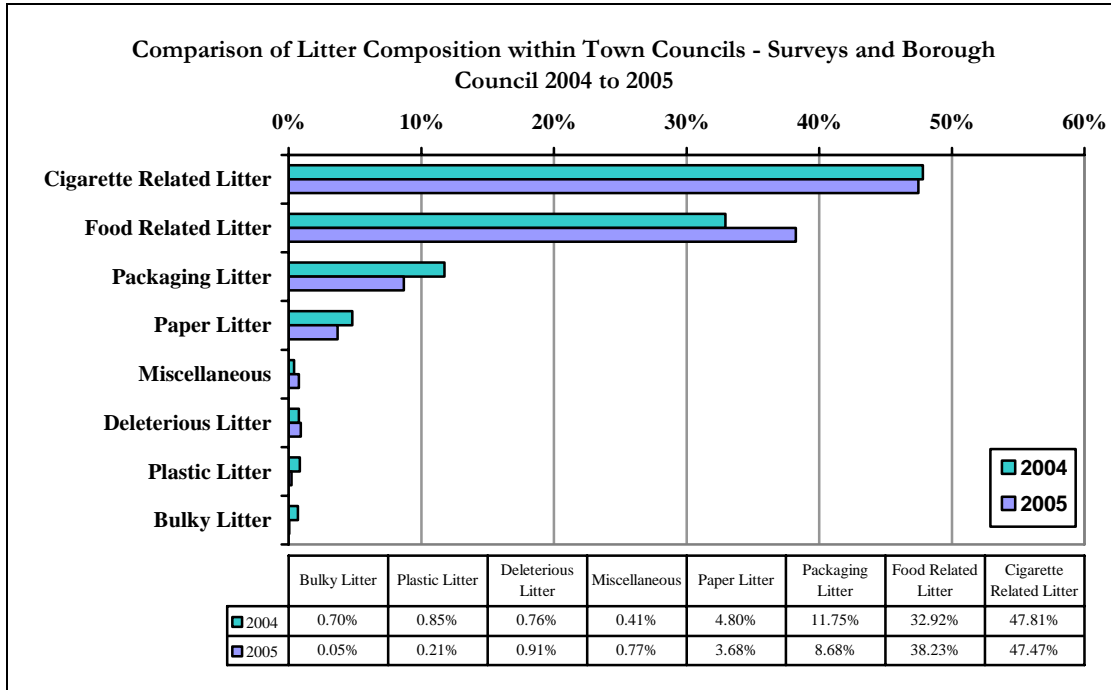


Figure A.3 Comparison of Litter Composition within Town and Borough Councils 2004 to 2005

Figure A.4 shows that within Dublin Local Authorities, the percentage of cigarette related litter has decreased significantly which is reflected an in increase in the percentage of food, packaging, paper, miscellaneous and deleterious litter.

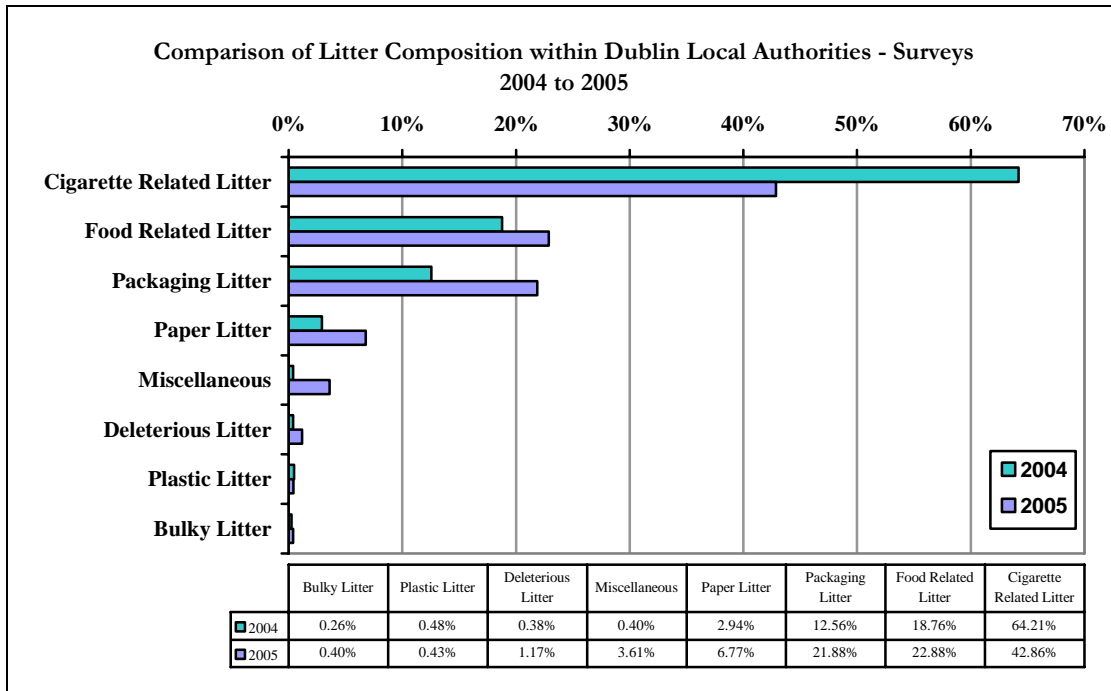


Figure A.4 Comparison of Litter Composition within Dublin Local Authorities 2004 to 2005

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