Zoning: Introductory Guidance Note

April 2018

European Union
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EUROPE & SCOTLAND
European Regional Development Fund
Investing in a Smart, Sustainable and Inclusive Future

Contents

1. Background

Zoning land allows Duty Bodies and Statutory Undertakers to prioritise cleansing operations based on the likelihood of litter and refuse building up in an area. The speed and intensity of the generation of litter and refuse is dependent on a number of factors. These include footfall numbers, vehicular movements, location, weather, population density, physical environment, time of year and types of property/business/commercial activity.

The two common factors that can be applied across Scotland and which can be measured directly are:

- Intensity of footfall/vehicular movement; and
- The type of sites/premises in an area (Potential Litter Sources)

These factors can be applied to all land types and help determine the risk of litter and refuse occurring in an area. They are therefore being used to redefine zones in Scotland to provide a standardised approach. This will allow like-for-like areas to be compared in a consistent way and allow clearer distinction between land usage and the risk of litter accumulating. For example, the footfall and number of Potential Litter Sources will be significantly different between city centre and town centre locations, therefore the chance of litter occurring higher. Assigning zone categories with comparable metrics will allow better data to be gathered, which will help to understand the drivers for littering behaviour and the move to long term litter prevention.

2. Available Guidance

This document is an introduction to zoning land. Additional Technical Guidance Notes are also available on request providing detailed guidance on:

- Digitising Considerations;
- Preparing Vector Data;
- The Zoning Process;
- The Dividing Process; and
- Updating Zoning Layers.

3. Applying Zone Categories

There are 6 distinct zone categories. Zones 1-5 are based on the common factors of footfall and litter sources, whereas zone 6 is specifically for roads over 40mph and operational railway land more than 100m from the station platform.

Zone categories should, as far as possible, consistently match the descriptions and examples set out in Appendix 1. As this guidance will not provide for every situation, a common-sense approach is required to take account of the guideline footfall/vehicle movements, litter sources and examples. Organisations should zone all relevant land managed by them, including soft-standing as well as hard-standing areas. From an operational perspective, Duty Bodies and Statutory Undertakers may still wish to treat the land as higher priority, but it should be zoned in-line with the guidance provided.

3.1. Footfall and Vehicle Movements

The footfall and/or vehicle movements in an area can determine the likelihood of litter occurring. Actual numbers should be used where they are known, however it is not expected that this data will be available for all land. Examples of the types of place that meet the criteria for each zone category are provided in Appendix 1. The examples given are for reference only and should be used in conjunction with the descriptions in Table 1 to select the relevant footfall/vehicle movement characteristics for each area as well as the number of Potential Litter Sources as outlined in Table 2 and 3.

Footfall and vehicle movements should be considered in terms of the average hourly footfall/vehicle movements over a 7 day period as this will account for variation within and between days, including weekends. A 'day' should be considered as 6am to 8pm.

Table 1. Zone Category Footfall Characteristics

Category	Description
1	Extremely high footfall - average hourly footfall/vehicle movements is more than 1,000 over a 7 day period.
2	High footfall - average hourly footfall/vehicle movements is 601-1000 over a 7 day period.
3	Moderate footfall - average hourly footfall/vehicle movements is 301-600 over a 7 day period.
4	Low footfall - average hourly footfall/vehicle movements is 20-300 over a 7 day period.
5	Extremely low footfall - average hourly footfall/vehicle movements is less than 20 over a 7 day period.

One-off events attracting higher than usual footfall or traffic should follow the appropriate zone category based on the increased footfall expected for the duration of the event, before returning to the normal category afterwards. Where events occur on a regular, known frequency e.g. concert/sports venues/tourist attractions, the anticipated regular increase in footfall and vehicle movements should be accounted for when assigning a zone category.

3.2. Potential Litter Sources

Potential Litter Sources (PLS) are premises, sites or activities likely to give rise to litter generation in public areas. The risk of litter being generated varies therefore they have been split into groups based on the type of premises and litter usually associated with them. The number of PLS in an area can be calculated using local knowledge, existing information such as non-domestic rates registers and/or carrying out a visual survey of the area.

4 moderate-low risk PLS are the equivalent of 1 high risk PLS.

Table 2. Potential Litter Sources - High Risk

Description
Areas where mobile fast-food outlets operate
Takeaways/ fast-food outlets
Public houses/nightclubs

Secondary schools
Train stations and bus stations
Newsagents/ corner shops/ sweet shops
Shopping centres
Supermarkets
Major event locations (Sports venues/concert
Major tourist attractions
Heavily used parks
Open-air market venues
Service station forecourts;
Known litter and flytipping hotspots/broken
Local miscellaneous sources[1]

Table 3. Potential Litter Sources – Moderate to Low Risk

Description
Amusement arcades
Beaches (public)
Betting establishments
Bus stops
Cinemas, theatres, leisure facilities
Moderately-lightly used parks
Moderate to lightly used Industrial estates and
Car parks
Lay-bys
Event locations with less frequent event
Tourist attractions
Primary schools and tertiary educational
Bank ATMs
Bring Sites and Civic Amenity Sites
Local miscellaneous sources

3.3. Size and Shape

It is recommended that land is zoned using a geographic information system (GIS) and presented as polygons. It is anticipated that most organisations will have existing digital data available in this format of some or all land managed/owned by them. This may include, for example, data layers of public roads, open spaces, schools, car parks, cemeteries etc. However, it is also recognised that not all organisations will have ready-made data layers on assets and will need to work on data sets like the street gazetteer and/or OS MasterMap to build a full polygon asset layer.

It is recommended that Duty Bodies and Statutory Undertakers aim to generate a zoning map which is as accurate as possible. Highly accurate and detailed zoning information allows clarity on responsibility both within the organisation and, where appropriate, with members of the public.

As a guide, the following steps could be used to produce the suggested data:

[1] Sources not listed but known to cause litter problems at a local level

3.3.1. Base Digital Map

- This requires staff with technical GIS experience;
- Gather all digital data layers that cover as much relevant land as possible;
- Identify where there are missing sections of land and determine whether these can be filled using third party data layers or if they require to be manually drawn;
- Across all Duty Bodies and Statutory Undertakers, it is unlikely that all digital data will be of the same standard. In some cases, the boundaries will be drawn exactly but data may be represented by lines, such as for a street, road, canal or railway line or points for parks and other open spaces. Where the data is in line form, it is recommended that these be converted to polygon shapes most accurately by identifying relevant polygons within OS MasterMap, or by creating a buffer on each side of the line to best represent the street/road/area (as close to the boundaries as possible). Any buffers applied should be sense-checked to understand the margin of error and amend zone boundaries where obviously incorrect. Where data is in point form, it should be cross-referenced with existing layers as it may be included in existing polygons. Where it is not, it may need to be drawn;
- Run a validity check and correct any significant geometry errors. This data is intended to be run through a Polygon Divider plugin which splits the land into 1,000m^2 survey areas. It is therefore essential that as many errors are corrected as possible, particularly overlaps and slivers;
- Create the attributes (see Section 3.4 below) for each polygon and remove any additional attributes that are part of the original dataset; and
- It is recommended that you save updates to original layers as new files and you retain the original layers. This will reduce the work required if you need to add information at a later date.

3.3.2. Assigning Zoning Data

- Can be completed as a desktop exercise but requires staff with a good local knowledge;
- Most areas will not have footfall or PLS data but zones can be allocated based on local knowledge, Tables 1, 2 and 3 above and the examples provided in Appendix 1;
- Where areas need clarification, satellite images from Google Maps OpenLayer plugin can potentially assist and avoid ground visits;
- It may be sensible to apply a ‘standard’ zone category across large areas as a starting point which can then be refined. For example, for mixed urban and rural areas, large areas are likely to be zone 3 or 4. The zone attribute for all settlements in these areas can be tagged as such on the base digital map before review to amend those areas known to be of a higher or lower zone. Care should be taken to sense-check areas to avoid blanket application of a single zone category;
- For urban authorities, there will be more of a mix of zones 1-4;
- If streets and roads already have a speed limit attribute, all roads above 40mph can automatically be tagged with the zone 6 category;

- Sense-check small samples of zoned areas periodically to determine any gaps in land coverage and ensure consistency in approach and application of guideline footfall/vehicle movement, litter sources and example land types; and

3.3.3. *Applying Styles*

Please use the following style guide for each zone category when presenting data (Table 4). Presentation is clearer by avoiding a different colour outer edge (Figure 1).

Table 4. Zone Style Guide

Zone Category	Colour	Hex Number	RGB Code
1		#8c510a	140, 81, 10
2		#d8b365	216, 179, 101
3		#f6e8c3	246, 232, 195
4		#c7eae5	199, 234, 229
5		#5ab4ac	90, 180, 172
6		#01665e	1, 102, 94

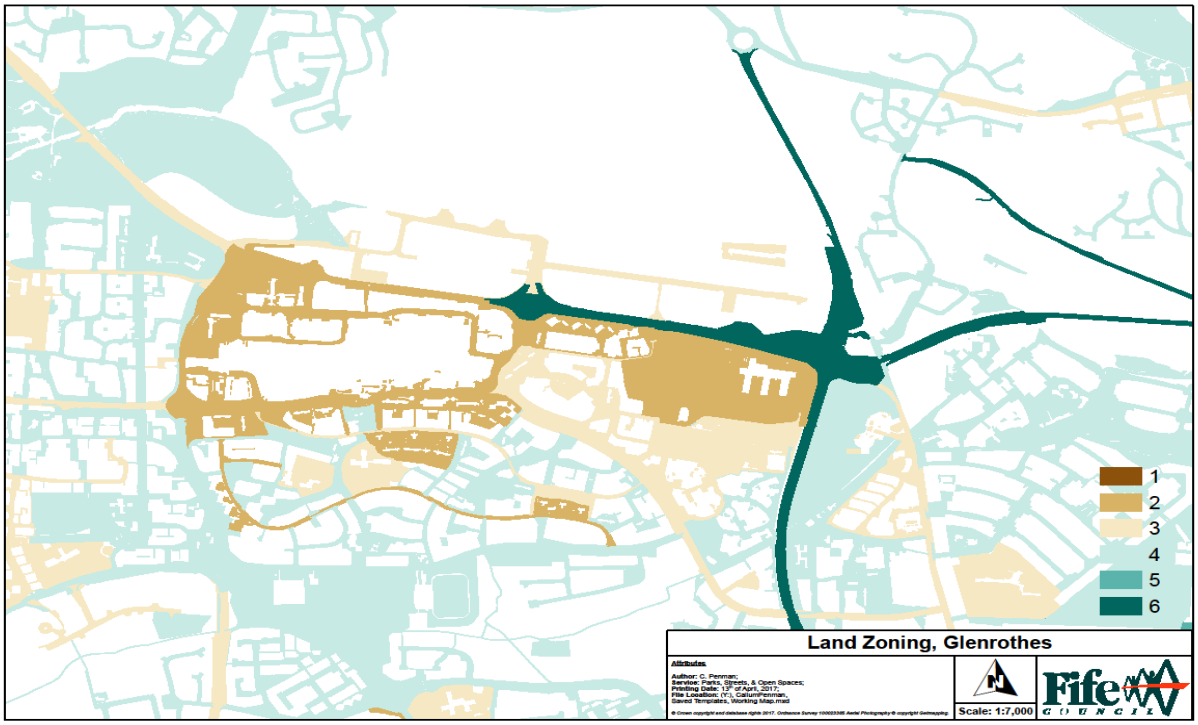

Figure 1. Example of Style Guide Applied

3.4. Attributes

The following attributes are required to be assigned to polygons. **Please note that headers and values must be written as below** to provide consistency between datasets (example in Table 5):

- Organisation responsible for the identified land (Header: **Org**);

- Department (Header: **Department**) with responsibility for ensuring the land is clear of litter and refuse. Local Authorities should categorise Department based on the Local Government Benchmarking Framework services list:
    - Childrens Services (includes Education; intentional grammatical error to prevent use of apostrophes in names);
    - Adult Social Care;
    - Social Work Services;
    - Sports Facilities;
    - Library Services;
    - Museum Services;
    - Parks & Open Spaces;
    - Waste Management;
    - Street Cleaning;
    - Roads Maintenance;
    - Environmental & Trading Standards;
    - Corporate Services;
    - Housing;
    - Economic Development and Planning; or
    - Burial Grounds.
- Zone number classification (Header: **Zone**) as a number:
    - 1;
    - 2;
    - 3;
    - 4;
    - 5; or
    - 6.
- Health & safety or access issues present which prevent **monitoring** of the site **for zones 1 to 5** (Header: **H_and_S and populate with 'Y' only if there is an issue. Where there is no issue please leave the attribute blank**[2]). As Zone 6 is reserved for operational railway land and roads over 40mph it is understood that these areas present an inherent health and safety and access issue. The monitoring method for these sites will take account of the dangers; and
- Named health & safety or access reason if applicable (Header: **Reason** and the stated reason).

Table 5. Example Attribute Headers

Org	Department	Zone	H_and_S	Reason
East Renfrewshire Council	Childrens Services	2		
East Renfrewshire Council	Street Cleaning	2	Y	Very steep embankment
East Renfrewshire Council	Parks & Open Spaces	4		

[2] Polygons should be drawn so that only land affected has this attribute included.

Please remember to use the headers and categories as stated above.

4. Publishing Zones

Once the zoning exercise has been completed it is recommended that the information is made available to the public in an accessible way e.g. published online.

5. Updating and Reviewing Zones

Zones should be updated when a known change in land use occurs in an area which requires a change in zone category.

All zones should be reviewed periodically to ensure the footfall levels and PLS numbers are still relevant for all areas. It is recommended that a review it carried out in every 2-year period.

6. Appendix 1 - Zone Category Descriptions and Examples

Zone	Description	Location Type	Example (Relevant in 2016)
1	Areas subject to extremely high footfall and/or vehicular movement and/or very high number of litter sources.	This means areas which have the highest risk of litter regularly occurring or accumulating such as:	
		Major city centres	Edinburgh Glasgow
		Very busy visitor attractions	The Helix, the home of the Kelpies Edinburgh Castle Strathclyde Country Park
		Areas in and around regular event locations	Scottish Events Campus Hampden, Scotland's National Stadium
		Primary commercial and retail areas in city centres	Princes Street Edinburgh Buchanan Street Glasgow
		Major transport hubs	Waverley Train Station, Edinburgh Buchanan Bus Station, Glasgow
		Land of designated educational institutions - schools, colleges, universities	University of Strathclyde Aberdeen College City Campus
		Other land, including canal land**, roads of 40mph or less, waterways and embankments, railway land and track within 100 metres of a railway station platform end, all within and around these areas with equivalent footfall/vehicle movements	
	As a guide this should include areas where the average hourly footfall/vehicle movements is more than 1,000 over a 7 day period and/or 20 or more high risk litter sources.		
2	Areas subject to high footfall and/or vehicular movement and/or high number of litter sources	This means areas which have a high risk of litter regularly occurring or accumulating such as:	
		Small city centres and large town centres	Perth Hamilton Falkirk
		High density residential areas mixed with retail premises	Gorgie Road Edinburgh
		Popular visitor attractions	Stirling Castle
		Primary commercial and retail areas in large towns/city suburbs	Livingston Designer Outlet
		Large, heavily used industrial estates	Tullos Industrial Estate, Aberdeen
		Busy recreational land - beaches, parks, walks, cycle paths, canal land etc.	Glasgow Green Aberdeen Beach boulevard

		Transport interchanges in busy public areas - car parks, bus stations, railways stations, ports, harbours, airports.	Aberdeen Airport Seagate Bus Station, Dundee
		Land of designated educational institutions - schools, colleges, universities	Holyrood Secondary School
		Other land, roads of 40mph or less, waterways and embankments, railway land and track within 100 metres of a railway station platform end, all within and around these areas with equivalent footfall/vehicle movements	
	As a guide this should include areas where the average hourly footfall/vehicle movements is 601-1000 over a 7 day period and/or 15-19 high risk litter sources.		
3	Areas subject to moderate footfall and/or vehicular movement and/or a moderate number of litter sources	This means areas that have a moderate risk of litter regularly occurring or accumulating such as:	
		Medium town centres	Kirkintilloch Stonehaven
		High density residential areas - predominately terraced, flatted, where more than 50% of the dwelling have no off road parking	Seaton, Aberdeen Merkinch, Inverness
		Moderately used visitor attractions	Nevis Range
		Secondary retail, office and commercial areas	Clydebank shopping area
		Moderately used Industrial estates and business parks	Dryburgh Industrial Estate Dundee
		Moderately used recreation land - beaches, parks, walks, cycle paths, canals land** etc.	Callendar Park
		Transport interchanges with moderate usage – car parks, bus stations, railway stations, ports, harbours	Falkirk Bus Station
		Land of designated educational institutions - schools, colleges, universities	Mearns Primary School
		Other land, roads of 40mph or less, waterways and embankments, railway land and track within 100 metres of a railway station platform end, all within and around these areas with equivalent footfall/vehicle movements	
	As a guide this should include areas where the average hourly footfall/vehicle movements is 301-600 over a 7 day period and/or 10-14 high risk litter sources.		
4	Areas subject to low footfall and/or vehicular	This means areas that have a low risk of litter regularly occurring or accumulating such as:	
		Small town/village centres	Huntly Duns

	movement and/or low number of litter sources	Moderate to Low density residential areas - 50% or more dwellings have off road parking	Kinnaird Village, Larbert
		Suburbs of towns	Monkton Hall
		Low use industrial estates, business parks	Tillybrake Industrial Estate Banchory
		Low usage recreational land - beaches, parks, walks, cycle paths, canal land** etc.	Lunan Bay, Angus
		Transport interchanges with low usage – car parks, bus stations, railway stations, ports, harbours	Alloa railway station
		Land of designated educational institutions - schools, colleges, universities	Ullapool High School Machanhill Primary School
		Other land, roads of 40mph or less, waterways and embankments, railway land and track within 100 metres of a railway station platform end, all within and around these areas with equivalent footfall/vehicle movements	
	As a guide this should include areas where the average hourly footfall/vehicle movements is 21-300 over a 7 day period and/or 5-9 high risk litter sources.		
5	Areas subject to very low/no footfall and/or vehicular movement and/or few/no litter sources	This means areas that have little risk of litter regularly occurring or accumulating such as:	
		Land which is publically accessible subject to infrequent or little use, includes remote beaches	Large parts of Highlands where land is publically accessible but infrequently visited
		Land of designated educational institutions - schools, colleges, universities	Gartmore Primary School
		Other land, including canal land **, roads of 40mph or less, waterways and embankments, railway land and track within 100 metres of a railway station platform end, all within and around these areas with equivalent footfall/vehicle movements	
	As a guide this should include areas where the average hourly footfall/vehicle movements is 20 or less over a 7 day period and/or 0-4 high risk litter sources.		
6	Roads over 40mph and Operational Railway Land	Any road above the 40 mph speed limit including all surfaces within the road boundary. Operational railway land including the track, tracksides through to the fence line, excluding land and track within 100 metres of a railway station platform.	

**as detailed in the Litter (Statutory Undertakers) (Designation and Relevant Land) Order 1991

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