

# CARU CYMRU - Case Study

## Monitoring the Composition of Roadside Litter, North Powys

<b>Organisation</b>	Keep Wales Tidy – Project Officer in consultation with ICT/Data & Policy team Powys County Council – Waste Awareness team
<b>Dates case study covers</b>	March – July 2021
<b>Project summary (including location)</b>	<p>In March 2021 Planning Permission was granted for a McDonald's Restaurant &amp; Drive-Thru on an undeveloped site on the NE boundary of Welshpool. Fast food outlets are widely seen as principal sources of street litter and there was some local concern that this business would result in increased levels of litter on approach roads and the adjacent canal-side managed as a nature reserve.</p> <p>We surveyed the quantity and type of litter along a series of 50-metre roadside transects at regular intervals before and after the opening of the new business. A customised version of the Epicollect app combining elements of LEAMS and other KWT Local Environmental Quality surveys was developed for this task. We decided against surveying in Welshpool town centre because this is litter-picked so frequently that we were unlikely to gather meaningful weekly data. We did the surveys at the same time on the same day each week whenever possible.</p> <p>All waste and recycling was bagged, weighed and removed from the transect following each survey. This meant that the litter surveyed reflected a weekly drop rate and not accumulations of 'historic' litter.</p> <div style="display: flex; justify-content: space-around;"> <div>  </div> <div>  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div> <p><i>Buttington Cross, Welshpool, March 2021</i></p> </div> <div> <p><i>Buttington Cross, Welshpool, July 2021</i></p> </div> </div>
<b>Partners involved (other core funded projects, community groups etc.)</b>	<ul style="list-style-type: none"> <li>▪ Powys County Council – Surveying support; removal of waste &amp; recycling.</li> <li>▪ Owners of 'Mum's Grill', trailer café business based in transect on the A483</li> </ul> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>  </div> <div>  </div> </div> <div style="text-align: center; margin-top: 10px;"> <p><i>'Mum's Grill' trailer cafe, Refail lorry park layby near Welshpool</i></p> </div>

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<p><b>Resources (funding, staffing, volunteer time etc.)</b></p>	<ul style="list-style-type: none"> <li>▪ ICT/Data staff time to customize and modify app and Policy team to advise on method</li> <li>▪ Travel for repeated work on six transect locations in the Welshpool area</li> <li>▪ Purchase of portable hook weighing scale</li> <li>▪ Volunteer time from staff of Mum’s Café - help with litter-picking</li> </ul>
<p><b>Any barriers, risks and issues overcome</b></p>	<ul style="list-style-type: none"> <li>▪ Trunk-road litter surveys had to be restricted to laybys and one section which had a pavement for safety reasons. Proximity to traffic and parked HGVs required continuous care.</li> <li>▪ Waste and fly-tips had to be risk-assessed on-the-go with regard to handling during each activity. Offensive hygiene waste was commonly present.</li> <li>▪ It was time-consuming and intensive work to travel, survey and clean up transects repeatedly and within the required timeframe.</li> <li>▪ Not suitable for assistance from community volunteer groups for all the above reasons.</li> <li>▪ Some teething problems with the app in the field and data retrieval</li> </ul> <div style="display: flex; justify-content: space-around;">    </div> <p><i>As well as general and fast food litter, we were surprised to record packaged human faeces &amp; urine so regularly in all laybys surveyed – damaging to the environment and very undesirable in locations where food and drink is sold.</i></p> 
	<p>Recording and counting litter items by type &amp; material in this rural town catchment revealed the proportion of fast-food waste, recyclables and other litter in each transect.</p> <ul style="list-style-type: none"> <li>▪ While branded fast-food waste was widespread it did not dominate as the principal litter type (nor was this predominantly from one outlet).</li> <li>▪ Around one-third of litter collected in each location was re-cyclable plastic and cans</li> <li>▪ There is a very significant problem alongside rural trunk roads associated with lack of toilet facilities for HGV and other drivers.</li> <li>▪ Fly-tipping of domestic waste occurred very regularly at one layby in particular. This has informed PCC Waste Awareness officers who may be able to take legal action against offenders.</li> <li>▪ Regular cleansing of rural laybys (rarely funded by LA’s) has a very positive &amp; lasting effect on local environmental quality. We believe there is scope for</li> </ul>

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	<p>collaborative work with the agricultural, logistics and tourism businesses that would directly benefit from this.</p> <p>Results collected after 'historic' litter had been removed but before the opening of the new fast-food outlet did not prove to be true baseline surveys because the large construction teams (themselves evidently consuming large quantities of fast food) working 24/7 on the new build generated a lot of litter and construction waste in nearby transects. The more distant transects were affected by other issues of which fast food waste was only one and perhaps not the most significant.</p> <table border="1"> <tr> <td>No 2</td> <td>April 2021 6 items of general waste; too few to register on scale Branded fast food items: 0 LEAMS Grade B</td> <td>8 July 2021 Est 100-200 items General waste: 1.240kg Recyclable plastic/cans:0.570kg Branded fast food items: 26 LEAMS grade D</td> </tr> <tr> <td>No 4</td> <td>April 2021 400 items General waste: 4.160kg Recyclable plastic/cans: 0.275kg Branded fast food items 19 LEAMS Grade D</td> <td>8 July 2021 Est 300-500 items General waste: 1.765kg Recyclable plastic/cans:0.5kg Branded fast food items:81 LEAMS Grade D</td> </tr> <tr> <td>No 5</td> <td>April 2021 Est 25 items General waste: 0.565g Recyclable plastic/cans: 0.195kg Branded fast food items: 4 LEAMS Grade D</td> <td>8 July 2021 Est 50-100 items General waste: 1.130kg Recyclable plastic/cans:0.410kg Branded fast food items:15 LEAMS Grade D</td> </tr> </table> <p>Recording the <i>number and type</i> of litter items with the app is recommended as the total weight of litter and recyclables collected on each transect on each date can be misleading. Plastic bottles and aluminium cans accounted for much of the volume but little of the total weight of litter at each transect – and glass, cardboard &amp; paper had to be added to the general waste bags for quality, logistical &amp; safety reasons.</p>	No 2	April 2021 6 items of general waste; too few to register on scale Branded fast food items: 0 LEAMS Grade B	8 July 2021 Est 100-200 items General waste: 1.240kg Recyclable plastic/cans:0.570kg Branded fast food items: 26 LEAMS grade D	No 4	April 2021 400 items General waste: 4.160kg Recyclable plastic/cans: 0.275kg Branded fast food items 19 LEAMS Grade D	8 July 2021 Est 300-500 items General waste: 1.765kg Recyclable plastic/cans:0.5kg Branded fast food items:81 LEAMS Grade D	No 5	April 2021 Est 25 items General waste: 0.565g Recyclable plastic/cans: 0.195kg Branded fast food items: 4 LEAMS Grade D	8 July 2021 Est 50-100 items General waste: 1.130kg Recyclable plastic/cans:0.410kg Branded fast food items:15 LEAMS Grade D
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<p><b>Feedback/quotes from participants / beneficiaries</b></p>	<p><i>'A lot of the street cleansers won't pick up the most horrible types of waste and you can't blame them. So, it just stays there.'</i> (PCC employee).</p> <p><i>'Thank you so much! I pick up loads of litter that's nothing to do with our business because customers don't want to eat surrounded by rubbish. But I can't be handling anything too dire when I'm selling food.'</i> (Hayley, Mum's Café)</p> <p><i>'Local businesses affected by roadside litter – food shops and tourist attractions - seem receptive to the idea of 'adopting' a local patch as a litter-free zone if we gave it a deep clean to start with.'</i> (James Thompson, PCC Senior Waste Awareness Officer)</p>									
<p><b>Photographs, videos, social media etc.</b></p>	<p><a href="https://www.flickr.com/photos/keep_wales_tidy/albums/72157718517746120">https://www.flickr.com/photos/keep_wales_tidy/albums/72157718517746120</a></p> <p><a href="https://five.epicollect.net/project/litter-map/data">https://five.epicollect.net/project/litter-map/data</a></p>									

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	 <p>It might be valuable to do a few further surveys along the same transects in 6-12 months to see if the proportion of fast-food litter has changed.</p>
<b>Links to other Welsh Government Departments</b>	Waste, Circular Economy mid-Wales, Transport Planning & Strategy
<b>Marketing and Communications - Contact name and details</b>	Rachel Palmer <a href="mailto:rachel.palmer@keepwalestidy.cymru">rachel.palmer@keepwalestidy.cymru</a> 07717 497 442