

Using behavioural insights to reduce litter thrown from vehicles in the New Forest.

May 2019

Scoping report

Social Engine is working with New Forest District Council to examine and seek solutions to some of the specific challenges caused by littering from vehicles in the area. This short scoping report sets out the approach to be taken during the course of the project based on an initial review of information and reflecting discussion amongst the project team. Naturally, the aim is to be evidence based in our work; therefore, whilst this document sets out our next steps and indicative time plan, we anticipate that there will be some further refinement to the final project plan.

Project Team:

New Forest District Council: Sara Hamilton, Nicola Plummer, Colin Read (Project Sponsor)

Social Engine: Avis Johns, Toby Blume, Kieran Saggar

Overview of situation and ambition

New Forest District Council (NFDC) estimates a current annual spend of over £125,000 to clear litter from the verges in the area. A significant part of this is committed to clearing rubbish discarded within the New Forest and the wider district (see image below). The challenge is not simply a financial one – littering poses a threat to wildlife, causes traffic disruption, danger for cleaning operatives, and is the cause of dissatisfaction amongst many who live or visit the area.

New Forest district boundary map, showing area that is National Park



NFDC and its partners have organised various initiatives to tackle the issue, however the impact of these are often short lived. The council are keen to understand more about what motivates people to discard litter and critically, what influences and approaches can positively alter this. NFDC now want to use behavioural insights to develop a framework for future activities to curb the problem.

Littering is not a simple issue – within the New Forest district different types of litter, seasonal variations and diverse locations all add layers of complexity to efforts to reduce the problem. There is also the added challenge of having a range of statutory authorities including the Forestry Commission, Highways England, New Forest National Park Authority and Hampshire County Council with different responsibilities in the area to take into consideration.

At the earliest stage our project team has considered a number of factors in order to focus and refine our proposed approach, these include:

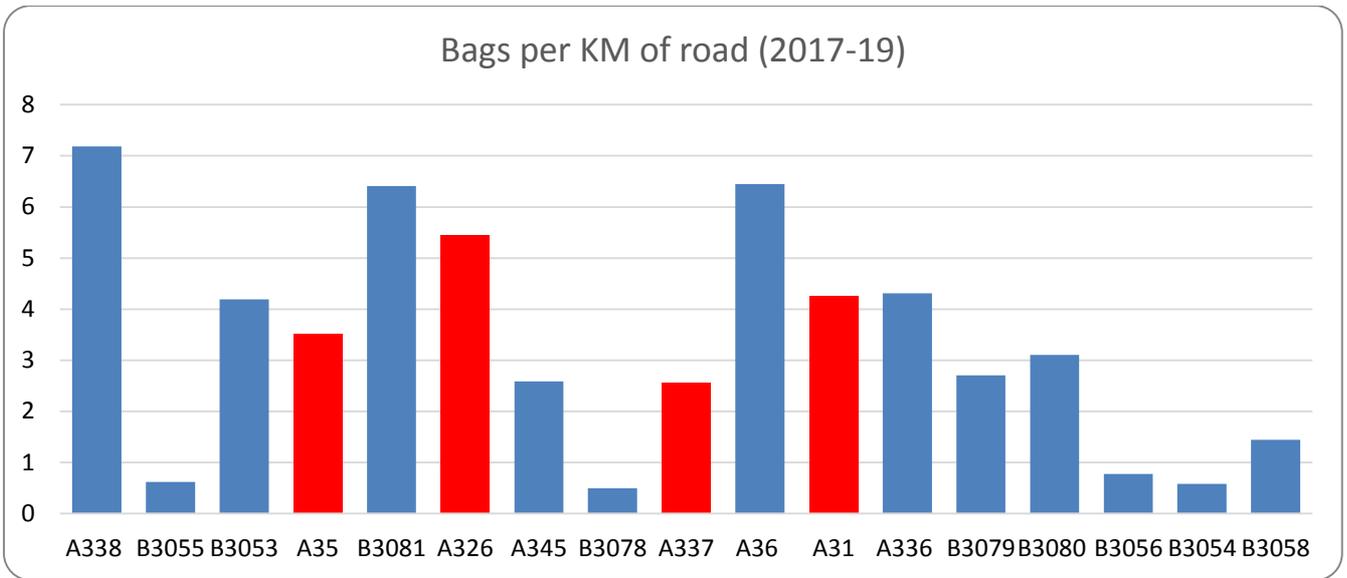
- Review of Street Scene reports into littering – considering location, type and density of litter and seasonal variations.
- Insight from the project team and Colin Read, Deputy Chief Executive and Executive Head for Operations (and project sponsor).
- Initial analysis of geography, including location of local food/drink outlets.
- Volume and flow of traffic, particularly on routes into the New Forest.

Analysis of litter volumes, location and type

Analysing the available data on litter collection followed after initial discussions with NFDC's project team. These included recent data on the volume of litter and a sample of the type of litter collected across different sites. It is worth setting out that whilst we have considered whether to focus on areas of highest litter density, the situation requires a more nuanced approach. The areas of highest concentration do not necessarily provide the best opportunities to undertake a study. Further, one of the primary ambitions of this work is to understand the behaviours and attitudes behind littering, for that reason it is necessary to work in a location(s) where this can be achieved. Longer term, we anticipate rolling out the learnings and trialled approaches into high litter density areas.

Initial discussions with officers suggested that the four main arterial roads – the A35, A326, A31 and A337 - which are all main gateways to the New Forest from the surrounding area, generate significant litter. Litter on these roads is regarded as problematic – as they provide the initial view of the New Forest to visitors and a significant threat to wildlife – but it was also felt that they offered potential opportunities to realise (and demonstrate) meaningful improvement in addressing the problem.

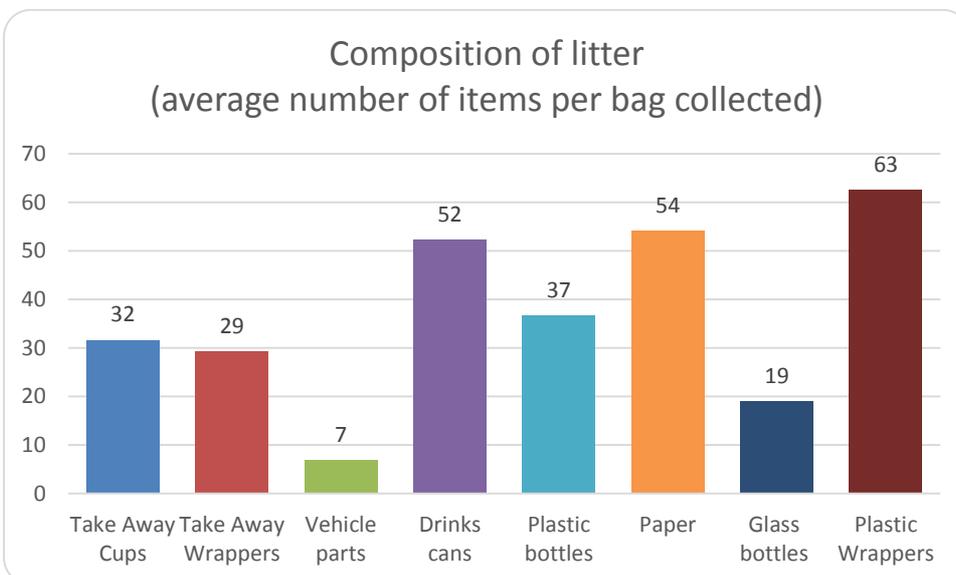
Our initial analysis of the partial data available during the scoping phase highlighted that whilst these four roads produce a high concentration of litter – calculated as bags of litter per kilometre of road between 2017-2019 – they are not the highest. Whilst we anticipate further discussion to agree whether these roads do indeed represent the focus for our study, we recognise that it is not just the volume of litter that is considered problematic, rather other factors, such as image, challenges with clearing, impact on wildlife, and reputational risk which may make these the preferred locations for study.



From the beginning of 2019 onwards NFDC have collected sampling data of litter collected, recording the number of items of a variety of types of litter. We have analysed this to better understand what is being discarded by people in the New Forest. These data suggested that plastic wrappers, paper, and drinks cans were the most frequent types of litter collected, followed by plastic bottles, take away wrappers and take away cups.

Whilst the volumes of plastic wrappers, paper, and drinks cans were noticeably higher than litter from take-aways (cups and food wrappers) these items tended to be far more generically available than branded items from specific retailers. As such they offer far less insight into their source than take away wrappers and cups that can be traced back more easily to a specific retailer (e.g. a branded coffee cup which can only come from a small number of locations vs. a can of branded drink which might have been sold from any number of retailers).

Since the composition data only provides generic classification of particular types of litter, further analysis of litter collected would provide more detailed insight into precisely where the rubbish originates (e.g. specific retailers).



We also mapped the location of local food and drink retailers, including fast food restaurants, take-aways and garages selling food and drink. As the heat map below shows, there is a concentration of retail outlets in the towns that also correspond with the main arterial routes into the New Forest.

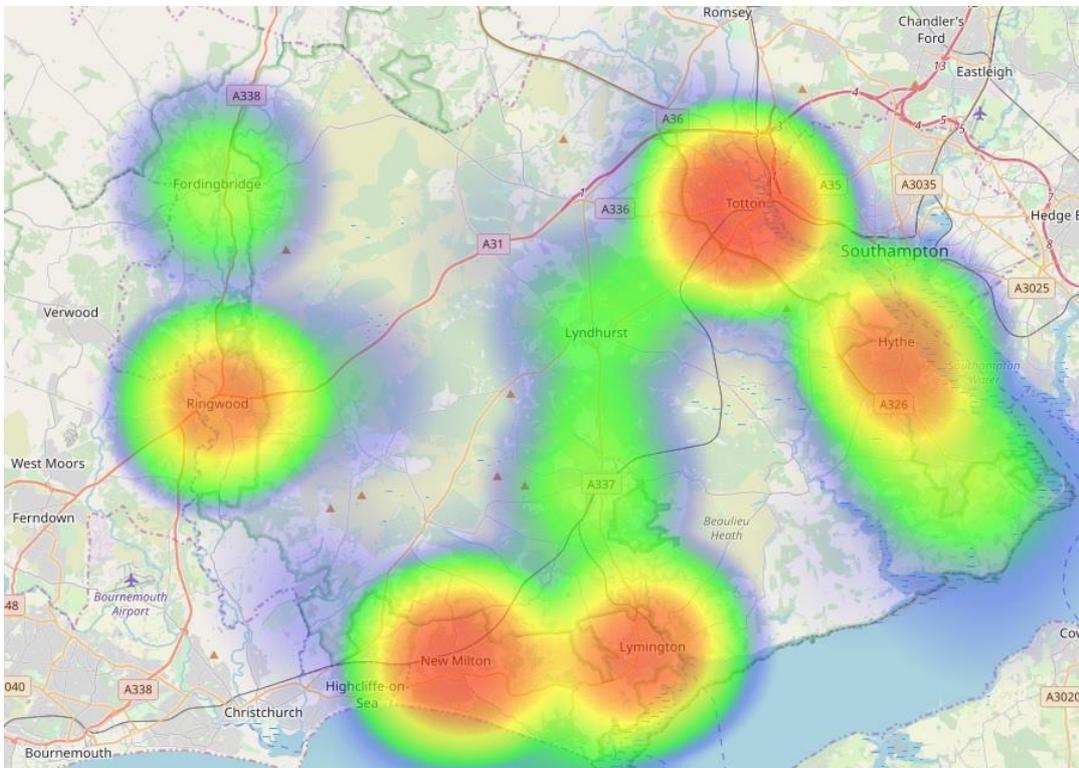


Figure 1- [Heatmap showing location of local food/drink retailers](#). Red areas show greater concentration of retailers, blue areas fewer.

This early analysis, coupled with insight from council officers, has led to agreement that the focus for the project should be on:

The problem of takeaway cups and fast food wrappers being discarded from vehicles entering New Forest on one of the primary commuter roads.

We recognise that, whilst branded food and drink wrappers are only part of the items abandoned at the roadside, for the purposes of this project they allow us to examine various evidence sources in order to understand more about the journey from initial purchase to discarding (initial insight would suggest there is an optimum time/distance between the item being sourced and the item being thrown away).

During the course of the project we will seek to understand where the best point of intervention is – recognising that this opportunity starts at the point of purchase. Where possible we will use observational and primary evidence to learn more about other non-branded types of litter that may also be discarded alongside branded goods.

Three working hypotheses emerged from this initial analysis and discussion:

- 1) That litter in the New Forest is mainly dropped by residents and not by visitors to the area.
- 2) That the main roads linking urban conurbations to the Forest National Park are particular 'hotspots' resulting in litter that is highly visible to all and damaging to the image of the New Forest.

- 3) That the bulk of preventable littering (i.e. not that blown from or falling from passing vehicles) came from food and drink retailers, many of which would be in the local area.

Summary of approach

Whilst littering is a visible problem, the perpetrators are not necessarily identifiable or their motivations well understood. Whilst some may blatantly discard their waste, there is little current understanding of the rationale behind their actions. Naturally, the activity is often covert, presenting a challenge in learning more about the reasons or the person themselves. Whilst powers to fine those caught littering currently exist, this mechanism has not necessarily contributed either to a reduction in the scale of the problem or increased understanding about its root cause. For this reason we propose to undertake a significant insight gathering phase to this work in order to review locally available as well as academic evidence, to conduct observational research (such as using video), and to consider the rationale for why people do, and do not discard litter.

Behavioural insights practice enables us to understand that a range of factors that influence our attitudes and behaviours. To assist with this project we wish to gain an understanding of the psychology and motives behind littering.

We propose to gain first hand insight into littering via a range of methods, for example:

- Analysis of litter
- Interviews with those previously charged/convicted of littering offences
- Observational evidence (road side)
- Stakeholder evidence
- Capturing video footage in litter 'hot spots' (our team will identify potential location(s))
- Online survey to be promoted via social media
- Focus groups

Once we understand the motives behind littering, and what values need to be held so that littering is not an acceptable behaviour, an approach to litter reduction using behavioural insights can be developed, with creative and communications work being undertaken alongside the project team from NFDC and other partners, as appropriate.

We will consider the various influences on behaviour and the potential approaches to change this, bringing to bear an understanding of how dual processing within the brain can lead to actions or attitudes. Potential routes include:

- Peer pressure – and the use of social or cultural norms
- Messenger – the use of influencers in messaging approaches or channels
- Intrinsic and extrinsic incentives – and how they might be applied
- Defaults/heuristics – understanding how habits and beliefs can shape behaviour.
- Salience – looking at ways to secure 'cut through' with messaging and approaches.

Our aim is to run a behavioural insight project. We will be applying a behavioural insights informed approach to designing and delivering interventions and messaging in a practical and evidenced-based way.

The long term ambition is to create a new cultural norm where those people who live, work or visit the New Forest have a role to play in keeping the area litter free. Components within this strategy include:

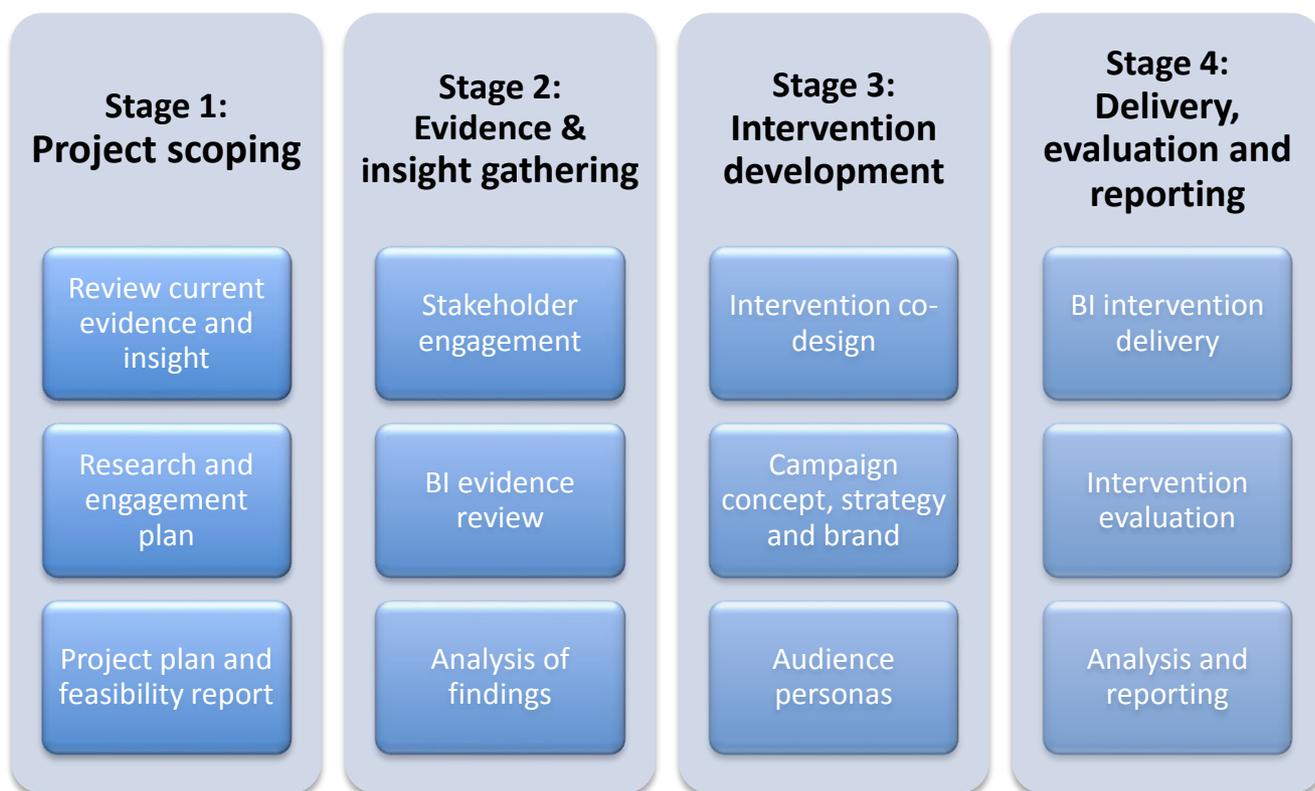
- Identifying audience segments in order that messaging and interventions can be appropriately prioritised and targeted.
- Provide insight into the behaviours and attitudes of those who do and do not drop litter.
- Create appropriate intervention(s) to challenge inappropriate behaviours and/or attitudes.
- Create an evidence-based framework that can benefit partnership work.

Related objectives

- Increase understanding amongst key council staff and partners about how and why behavioural insights can be a useful tool.
- Reduce the visibility, volume and cost of removing litter within a defined area.

Methodology

Our approach to the project identifies four distinct stages. An iterative design methodology will ensure that each stage is informed by the previous.



Necessarily, the earliest stage involves a brief overview of the evidence available and a review of the ambitions of NFDC. This initial desk review of local information – which has shaped this scoping document, will be supplemented by a more detailed consideration of academic literature in order that the project goal and working hypothesis are informed by learning’s from relevant evidence.

This scoping document sets out the project plan and feasibility report and we anticipate updating this into a final plan pending completion of the evidence review.

In developing our research and engagement plan we are keen to consider a range of factors influencing littering behaviours, these include:

- Are there any common characteristics to the people that drop litter by the roadside (variables include, types of vehicle, local person / commuter, time of day, types of litter, age, gender)?
- Are there any common characteristics or values expressed by those charged/convicted of dropping litter? Does their experience provide understanding to their motivations and current behaviours? How do they view social norms regarding littering? Do they still discard litter or has their behaviour changed? To what do they attribute that?
- Are there differences in opinion as to what constitutes litter? Do these differences impact on behaviours?
- What steps, if any, do people take regarding recycling or waste disposal when driving?

Given the covert nature of littering we have agreed an approach designed to give us the best opportunity to gain rich insight. By combining interviews with those charged/convicted of littering with observational research from litter hotspots (including continuous videoing over a set period) and the input of a wide range of local stakeholders we seek to build a clear picture of the nature of the offence.

Stakeholder engagement

NFDC is not alone in having an interest in the environment and surrounds of the New Forest and a number of statutory bodies, groups and local businesses all have concerns about the issue. We recognise that engaging a wide range of stakeholders will enable us to get a comprehensive understanding of roles and perspectives on the situation. Further, we acknowledge that there is not likely to be one single solution to this problem, therefore, engagement with significant individuals and organised groups will provide a good opportunity to create shared understanding and vision for the developing behavioural insights approach.

Desk review of evidence

Robust research into littering – and more specifically throwing litter from vehicles – is, despite its importance to policy-makers, somewhat limited. Waste disposal and recycling, which have been the subject of a considerable body of academic research, offer a potential source of evidence of effective influences on behaviour and attitudes that may be of relevance to the project. Whilst recognising that not all previous studies will be sufficiently robust or relevant to inform this work we will examine academic and practitioner evidence on both littering and waste and recycling more broadly to identify that which can help to inform our approach and understand what works.

Behavioural indicators

In developing a greater understanding of our target audiences, we have identified an emerging set of current and desired behaviours, which we will refine and build on as the project progresses.



Creative and campaign development

Having developed a clear and evidence-informed understanding of our target audience and knowledge of their likely motivations and influences on behaviour, the next phase of the project will be to develop creative ideas and messaging that can be mobilised through a marketing campaign. This stage will see us consider what approaches and interventions are most likely to resonate with target audiences.

Using a co-design process the project team will work collaboratively to develop intervention ideas.

Using a range of tools including the Cost/Value exchange matrix¹, we will explore various approaches to encourage behaviour change. Alongside nudges we would explore the potential to use ‘shoves’, ‘hugs’ and ‘smacks’ as part of our methodology. Together we will develop a range of new, creative approaches designed to deliver impact.

Our creative team will develop an overarching concept, strategy and brand. We will develop messaging and suggest suitable delivery channels. Drawing on our extensive experience of social marketing we will develop concepts for discussion based on the insight generated from the insight-gathering phase of the project.

There is growing recognition of the value of marketing campaigns that have a behavioural insights approach in promoting behaviour change, particularly in positively improving public health.

Three principles in particular can be seen as useful to this project, these are:

- Reframing and personalising the issue - making the issue relevant to target audiences.
- Rooting the behaviours/ inspiring change - defining the actions needed and modelling or facilitating these.
- Supporting change - extending the reach via networks and signposting.

We will also develop some personas – bringing our target audiences to life and helping a wider audience to understand and engage with the project. Whilst we must always be alert to avoiding stereotypes or confirmation bias by incorrectly attributing actions or behaviours to a particular demographic, our insight phase will allow us to gain a rich understanding from which we can bring to life some of the characteristics of our target audience in order to inform relevant interventions.

¹ See: <https://strategic-social-marketing.vpweb.co.uk/Key-Models.html>

Delivering our interventions

The earliest phase will have allowed us to pin point the primary location(s) for testing our intervention.

Shaped by insight and co-design we will deliver interventions designed to resonate with the target audiences. Whilst the specifics of this audience cannot be predetermined, it is our intention to call upon the range of behavioural motivators, marketing and social psychological factors which will make the intervention most likely to have a positive impact.

Evaluation of impact

The complexity of randomisation and outcome tracking, as well as the potential resource implications, make a randomised controlled trial (RCT) impractical to deliver as a means of evaluating the impact of the project. However we are committed to defining precise goals and using appropriate evaluation methods to critically assess impact.

Output measures - NFDC Street Scene department currently assesses the content, volume and location of litter within the area. They also track the resources required to deal with the problem. However, such absolute measures are only one part of the potential route for evaluation.

Perception measures – we recognise that the visibility of litter is a cause for concern for council staff, political members, and stakeholders, as well as members of the public. Consequently, their perceptions of litter in the New Forest will also be a key factor in the success of the project. Following our intervention(s) we would expect to see a shift in the perceptions of those within these key groups and will programme in measurement and evaluation of this.

Behavioural metrics – we have previously identified some of the behaviours that we would like to see change, as well as some of those that will pave the way for long-term change.

The precise approach to evaluation will be developed as part of the iterative project design; in order to ensure the method takes account of the actual intervention design and delivery plans. However we anticipate that this will include a combination of output and outcome measures, combining quantitative and qualitative data. There may also be an opportunity to use a comparison group (site or audience) to provide further evidence of attributable effect.

Indicative timetable

The need to collate good insight into behaviours, combined with the ambition to establish principles that will underpin a longer term framework lead us to suggest a substantial evidence gathering period at the outset and to allow sufficient time for testing and refining approaches. As a result it is anticipated that the project will run for approximately 18 months.

- Fieldwork begins – May 2019
- Insight gathering and stakeholder engagement – May-September 2019
- Analysis of evidence and insight - September 2019
- Co-design and intervention creation – September- November 2019
- Behavioural insight intervention delivery – December 2019 – August 2020
- Evaluation, analysis and reporting – September - October 2020