

Hall & Partners

O P E N M I N D

• Qualitative Research of Cigarette Disposal Behaviour

Full Report of Research Findings

14 August 2017

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CONTENTS

Executive Summary.....	4
Research context and design.....	9
Background to the research.....	9
Research design	9
Theoretical model underpinning the research.....	12
Research findings.....	14
Reported behaviour in relation to cigarette butt disposal.....	14
General thoughts about cigarette butt littering as an issue in NSW.....	18
Capability to appropriately dispose of cigarette butts.....	18
Opportunity to appropriately dispose of cigarette butts.....	23
Motivation to appropriately dispose of cigarette butts.....	26
Observed demographic and regional differences.....	31
Conclusions.....	35
Typical disposal moments	35
Smoker typologies.....	35
Implications of the research findings for intervention design	36
Appendix A: Recruitment screener	42
Appendix B: Focus group discussion guide	46
Appendix C: Tempo tasks and prompts.....	52
Appendix D: Depth interview guide	57

Executive Summary

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Hall & Partners | Open Mind was commissioned by the NSW Environmental Protection Agency (EPA) to conduct primary research among smokers to help inform development of a new Cigarette Butt Reduction Program. The aim of the research was to furnish the EPA with a deeper understanding of barriers and drivers to appropriate cigarette butt disposal, with a secondary objective of helping inform future messaging in the HEY TOSSER! campaign. The target audience for the research was NSW smokers aged 18 years and over and the research design included:

- eight focus group discussions conducted in metropolitan and regional NSW; and
- 17 participants participating in in-the-moment research requiring them to journalise their cigarette butt disposals over the course of a week, and discuss their experiences with a researcher at the conclusion of this app-based task.

Self-report behaviours

The self-report behaviour of 68 smokers was examined in the course of the research and a considerable diversity of behaviours in relation to cigarette butt disposal was revealed. A clear majority of participants sat between the two extremes of very rarely littering butts, and littering butts routinely. Three broad categories of littering behaviour were identified:

1. **Concealing butts** (e.g. burying, stuffing into crevices). Smokers are motivated by a desire to get the butt out of sight and out of mind, to hide the evidence of something they know to be wrong, and to reduce the unsightliness of the litter.
2. **Adding butts to existing litter.** Again, this is considered a “better” littering option, as a pristine area was not being spoilt. In the absence of DOSA, smokers also use existing butt litter as a cue to use that area for smoking and disposal.
3. **More blatant littering.** Far less common, this is either a longstanding habit formed under a disregard or lack of awareness of any negative consequences of butt littering, or an angry, defiant response to a lack of facilities for smokers.

The findings from the research suggest smokers are **more likely to litter:**

- when there is no bin in sight or the bin is not convenient;
- there is something wrong with the bin infrastructure – particularly it’s fully or dirty;
- in places with existing butt litter;
- where it is assumed butt litter will be cleaned up;
- in places that otherwise suggest “dumping ground”;
- in places and under circumstances where detection is unlikely;
- smoking is undertaken as part of a broader break (rather than specific smoke break) or on route, particularly where smokers are obliged to finish a cigarette at a transition point (into a smoke-free zone);
- in certain emotional states; and
- when it’s raining.

The findings from the research suggest smokers are **less likely to litter**:

- where there are convenient, well working butt bins;
- in areas clear of butt litter;
- when other people are around, particularly non-smokers or those in an Elder position;
- in a work setting where smokers are in a minority, and some social settings;
- near waterways (although this was not universal); and
- while driving, and otherwise where there is a higher chance of fines.

Psychological capability to appropriately dispose of cigarette butts

Consciousness of butt disposal tends to be low even at the point that a cigarette turns to waste, as individuals automatically adopt their “go-to” disposal methods. Reasons for a lack of focus on, or pre-planning of, disposal include:

- butt disposal is not a rare event that stands out;
- any concerns about cigarette butt littering are far overshadowed by other challenges facing smokers; and
- butts are thought to be relatively small, insignificant, inconsequential items of litter.

Smokers acting habitually rather than as a result of conscious decision making results in many failing to consider the full range of options available to them to prevent themselves littering. Their “go-to” excuse for littering is “there are not enough bins available” but when tasked with not littering – and forced to pay conscious attention to disposal (as in the in-the-moment research) – they discover a range of fairly easy to adopt strategies for not littering.

Implications for interventions:

Too many people are acting on autopilot when it comes to cigarette butt disposal. However, addressing psychological capability independently is probably not necessary. Any interventions addressing the more important elements affecting littering behaviour – opportunity and motivation – will naturally increase consciousness of cigarette butt disposal.

Opportunity to appropriately dispose of cigarette butts

Social opportunity

There is considerable role-modelling of inappropriate butt disposal which is providing smokers with the social opportunity to follow suit. Fortunately, this effect is being moderated by littering – more broadly – being well established as socially unacceptable; and there being general censorship of all things smoking-related by non-smokers. The latter social pressure, however, is a double-edged sword. For some, the general perception that smoking overall is frowned upon, disliked by non-smokers, and trying to be eradicated by government, is eroding any concern about butt littering.

Implications for interventions:

Addressing the social opportunity currently afforded to smokers to litter their butts is a thorny issue and one perhaps best not directly addressed. We do not think it prudent to run communications overtly aimed at decreasing the social acceptability of butt littering, or that seeks to shame smokers.

Environmental opportunity

Lack of environmental enablement of appropriate butt disposal undoubtedly contributes strongly to cigarette butt littering. In the current absence of a strong motivation (by most) to “do the right thing”, ready availability of bins is key.

Commonly mentioned locations considered to be particularly lacking in bins and/or designated smoking areas included: parks, recreation areas, and other open areas where it is pleasant to go to smoke; and essentially anywhere where you must extinguish to comply with smoke-free legislation and/or near places where there is a total smoking ban (transit hubs, shopping centres, hospitals, outdoor sporting events). Research participants also expressed the view that many designated smoking areas are too hard to locate.

Generally, participants spoke about not being particularly “picky” about the characteristics of a designated smoking area as long as it is somewhere they know they can legally go to smoke, and as long as there is an ash tray or rubbish bin provided. Ideally, however, there would be multiple bins and somewhere also to sit. In subtropical Coffs Harbour, shelter from rain was also desired. There is a preference for dedicated butt bins to remove: any ambiguity over whether butts can go into the bin; any “yuck” factor associated with having to touch general waste bins; and any concerns over the bin catching on fire. “Eco” butt bins filled with sand or water were particularly favoured.

The findings from this research suggest that personal ashtrays could usefully play a greater role in butt litter reduction in the future, especially for older (less image-focused), heavier (greater perceived and actual need), female smokers (easier to carry in handbags), and for use in cars. However, ashtrays must be widely available, promoted, and function flawlessly (no leakages).

Implications for interventions:

We recommend that consideration be given to the installation of additional designated bins at transition points into smoke-free zones, including large buildings and public transport hubs. DOSA with bins, seating and preferably shelter, the locations of which are clearly flagged (perhaps on non-smoking signage) might be appropriate near smoke-free locations where smokers spend extended periods of time and need to emerge for a specific smoking break, such as hospitals, shopping centres, sports grounds and smoke-free sections of CBDS – but at minimum, bins need to be provided at these points.

General waste bins will be used by many smokers for cigarette butts, and seem a sensible middle-ground between catering for smokers and not promoting smoking. Designated bins do, however, have advantages and would seem preferable at the key locations highlighted above. Pole or post-mounted ashtrays where butts can be dropped into sand or water are particularly favoured. We would also recommend consideration be given to more innovative bin infrastructure options that positively reinforces use of the bin by:

- making disposal fun;
- tracking improvement in butt littering (or progress towards a target); and/or
- extending the smoking ritual of, and preference for, grinding underfoot and not having to pick up a butt (our suggestion being a bin recessed into the pavement covered by a grill).

Motivation to appropriately dispose of cigarette butts

Reflective motivation – social / professional role and identity

Considerations of social and/or professional identity play a key role in smoking, overall, and therefore cigarette butt disposal. Many wish to conceal their smoker-status from those at work to avoid the risk of this defining them negatively. In the social sphere, some are concealing their smoking from their children or non-smoking partners – or at least trying to avoid having attention drawn to their smoking – or wish to conceal this from their parental peers. All these motivations are as much about their smoking status, as about any butt littering behaviour, but generally work in favour of reducing butt littering.

Working against the aim of reducing butt littering, are instances where smokers more openly accept, if not celebrate, their identity as a smoker, and/or the rituals of smoking. For some, inappropriate butt disposal – particularly dropping and grinding into the ground, or less commonly simple flicking of the smoked cigarette – is part of the mystique and ritual of smoking.

Reflective motivation – beliefs about consequences

Research participants clearly believed there to be few, serious and likely consequences of cigarette butt littering. The four commonly mentioned negative consequences – but often only uncovered after considerable prompting – included:

- butt litter doesn't look nice (but not expressed as social harm);
- butt litter has some negative (largely unspecified) impact on the environment ;
- the personal consequence of others judging them (but they are also judged simply for smoking); and
- fines (but unlikely due to difficulty of detection and lack of prioritisation by enforcement agencies; very unlikely outside the context of littering from cars).

Implications for interventions:

Smokers need to be provided with a stronger (rational) reason not to litter their butts.

- It is crucial that the perceived likelihood of being fined is increased. The "HEY TOSSER!" campaign appears thus far to have been ineffectual in communicating anything about fines outside of the context of vehicles (a context which the research suggests is unique and needs to be addressed separately). Education about fines would be beneficial and must cover both scenarios, but to be truly effective as a deterrent would ideally be accompanied by a period of high level enforcement of anti-littering laws.
- That toxins from butts leach into, and have a huge negative impact on, aquatic ecosystems is new information and is likely to increase motivation not to litter.
- The cost to the government of cleaning up cigarette butt litter is not a strong motivator for most and could be problematic as an argument.
- In terms of illuminating the social costs of littering, some may be swayed by an appeal to "help keep our beautiful city / town / suburb tidy". Such an approach would, however, need to be very heavily location-based.

Automatic motivation – reinforcement

A key problem in the fight against cigarette butt littering is that littering is currently being both positively and negatively reinforced for littering their butts.

Examples of positive reinforcement include:

- butt littering being part of the ritual of smoking; and
- butt littering being fun, and a game (mainly younger smokers).

Negative reinforcement of littering is occurring in that littering allows smokers to quickly and easily get rid of their butts meaning:

- they don't have the inconvenience or unpleasantness of having to carry a smelly butt to a bin, or of having to go near an overflowing, gross, dirty bin; and
- they can avoid worrying about, or planning in advance for, disposal, or going out of their way to dispose of a butt correctly, meaning that butt disposal does not interfere with the enjoyment of smoking.

At the same time, there is very little reinforcement of *appropriate* butt disposal. Perhaps the only positive reinforcement is feeling like one's done the right thing, and perhaps the only negative reinforcement is avoiding the feeling of guilt that littering sometimes causes. There is no *external* positive reinforcement of appropriate cigarette butt disposal – the “carrot” is currently missing.

Implications for interventions:

The aim must be to re-balance automatic reinforcement, so littering is less strongly reinforced, and appropriately disposing of butts is reinforced.

Encouragingly, the in-the-moment research suggests that doing the right thing is self-reinforcing.... you do it, discover it's not that hard, feel good about it, and do it again. It is certainly an added bonus and great help if others around you are doing similarly. This suggests that any interventions that encourage smokers to appropriately dispose of their cigarette butts will naturally lead to positive reinforcement of this behaviour and help ensure its longevity.

How else appropriately disposing of cigarette butts could be positively reinforced may require further and creative thinking but could be as simple as including wording on cigarette bins such as “cigarette butts here; thanks for doing the right thing!”

Research context and design

Background to the research

The NSW Environment Protection Authority (EPA) has an objective of reducing the volume of cigarette butt litter in NSW by encouraging butting and appropriate binning. Reducing the incidence of littering *generally*, a behaviour which has substantial environmental, social and financial costs, has been identified as a key priority for NSW; the target for reduction is 40% on 2013-14 levels by 2020. Targeting cigarette butt littering *specifically* is a particular priority both given that cigarette butts are the most commonly littered item in NSW and because of their toxicity – butts are hugely damaging to the environment, particularly when they make their way into our waterways.

The EPA already has a fairly extensive arsenal for dealing with the problem of cigarette butt littering including: anti-littering legislation; location-based cues in designated outdoor smoking areas; a grants program funded through the Waste Less, Recycle More initiative; and public education campaigns (the current being HEY TOSSER! which seeks to strengthen social norms around disposing of waste, including but not exclusively cigarettes, appropriately). The EPA is now additionally in the process of developing a specific Cigarette Butt Reduction Program which will encompass a range of behaviour change strategies and interventions to reduce cigarette littering behaviour.

Hall & Partners | Open Mind was commissioned by the EPA to conduct primary research among smokers to help inform development of this Program. The aim of the research was to furnish the EPA with a deeper understanding of barriers and drivers to appropriate cigarette butt disposal, including helping to understand more clearly the mind-set of smokers at the time of cigarette disposal. A secondary objective was to help inform future messaging in the HEY TOSSER! campaign, particularly as it applies in the context of designated outdoor smoking areas (DOSAs).

Research design

A qualitative rather than a quantitative research approach was selected for this research in order to allow for an in-depth, flexible and largely participant-led exploration of the mind-set of smokers at the time of cigarette butt disposal. Two specific qualitative data collection methodologies were employed in a phased research design. Each is described in turn below.

The target audience for both phases of research was NSW smokers aged 18 years and over (for whom purchasing cigarettes is legal). To concentrate resources, the target audience was further limited to those admitting to at least sometimes littering their cigarette butts. The recruitment specifications and script for both phases of research are included in this report as Appendix A. Participants were recruited by specialist recruitment companies Farron Research and Jetty Research.

Focus group discussions

Focus group discussions was the preferred methodology for the first phase of the research for reasons of cost effectiveness – the views of a comparatively large number of research participants could be accessed at one time in a central location. Additionally, the ability to harness the group environment, to help generate ideas and co-create solutions (in this case, around ways of reducing the likelihood of them littering their cigarette butts), was valued; a group environment was also optimal for the message-testing component of the research.

A total of 51 smokers participated in the first phase of the research, which comprised eight mixed-gender focus group discussions. The target audience was segmented by age and heaviness of smoking habit, and the sample slightly skewed to those with the greatest propensity for littering cigarette butts, most obviously heavier smokers, but also younger smokers (under 40 years) who, past research suggests, are more likely to litter.

The focus group discussions were evenly spread across metropolitan and regional NSW, and held in three Sydney metropolitan locations (Sydney CBD, North Sydney and Parramatta) and two NSW regional locations (Dubbo and Coffs Harbour). These were locations for which the NSW EPA had existing littering rate data, and enabled a focus on prominent butt littering hot spots.

For reasons of inclusivity and ensuring the research sample was broadly representative of NSW smokers as a whole, a minimum of two individuals from culturally and linguistically diverse (CALD) backgrounds and/or of Aboriginal or Torres Strait Islander (ATSI) descent were recruited to each focus group discussion. A larger CALD/ATSI research component was not included in the design, as teasing apart specific socio-cultural influences on cigarette butt littering, specific to different CALD and ATSI audiences, was deemed out of scope for this research project.

Each focus group discussion ran for approximately 90 minutes and each participant received a gratuity of \$100. The fieldwork dates for focus group discussions were 7 June to 20 June 2017.

In-the-moment research with follow-up depth interviews

The second phase of the research was designed to complement the first phase of the research by exploring the barriers and drivers to appropriate cigarette butt disposal deeply and thoroughly at the *individual* level. The second phase of the research comprised two sub-phases.

Firstly, Hall & Partners | Open Mind conducted in-the-moment research using its Tempo platform. Participants accessed the platform by logging into an app on their smartphone and were required to complete two tasks over a seven day period. For the first four days, they were required to make a 'journal' entry every time they disposed of a cigarette butt away from home (heavy smokers were asked to randomly select at least five cigarette butt disposals per day to journalise). In each journal entry, participants were required to

thoroughly describe the disposal “moment” using photos and in written form – where they were, what they were doing, who they were with, how they disposed of their butt and why, and how this made them feel. In the final three days participants were given a deprivation task where they were required to refrain from littering their cigarette butts. Again, they journalised their cigarette butt disposal moments, but for this task were required to describe how it felt to dispose of their butts in a “correct” way, how difficult it was, and how they think they would have disposed of their butt ordinarily. Within the app, participants were also able to post general comments about their experience and the topic of cigarette butt littering, and asked to make a final “selfie-video” talking about their experiences across the week.

Tempo was employed to provide a depth of understanding around individual struggles/ barriers and motivators, beyond what was gained in the focus group discussions. Tempo provided an ideal tool for eliciting genuine insight where research participants may have otherwise lacked adequate consciousness of their behaviour – likely to be habitual and largely unconscious for at least some – to be able to provide reliable feedback at a later time. A focus on disposal “moments” also added an additional layer of detail and specificity around how cigarette butt disposal differs between settings and contexts. Finally, Tempo allowed actual behaviours and the drivers of these individual behaviours to be measured as accurately as possible, in real time and minimising researcher effects.

At the end of the week-long Tempo exercise, participants were interviewed via telephone. The purpose of these follow-up depth interviews was to develop an even more holistic understanding of the individuals’ behaviours and the drivers and barriers to appropriately disposing of cigarette butts, both through discussion of their Tempo data and asking participants to reflect on their experience participating in the research. Any differences between participants’ perceptions of their behaviour and their actual behaviour (as indicated by the Tempo data) were explored, as were reactions to the deprivation task – how difficult overall they had found not littering, in what settings this was hardest for them to achieve, and what strategies they had put in place to avoid littering (including the extent to which advance planning was required and how realistic they felt this was moving forward). Broader topic areas, as covered in the focus group discussions, were also discussed in a one-on-one setting.

Fieldwork dates for the Tempo exercise were Thursday 22 June to Wednesday 28 June 2017. Fieldwork dates for the follow-up depth interviews were Thursday 29 June to Friday 7 July 2017. Twenty (20) participants were recruited to participate in this phase of the research with 17 proceeding to complete both the in-the-moment research and depth interview and thus being included in the final research sample. These participants received a gratuity of \$200.

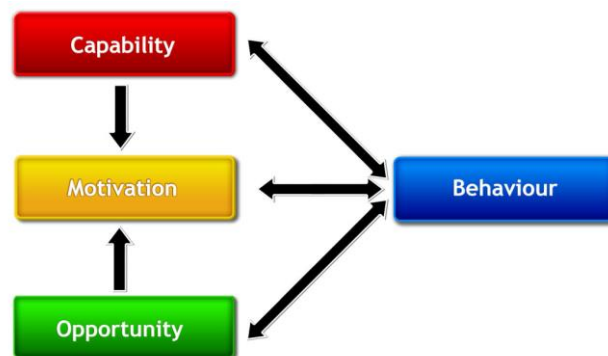
Theoretical model underpinning the research

The main aim of any research informing the development of a behaviour change intervention is to provide sufficient insight to help identify the kinds of intervention that are likely to result in the specified target behaviour by a specific target population within a given context. Behavioural scholar, Susan Michie, suggests the central question underpinning the design of any behaviour change intervention should always be: 'What conditions internal to individuals and in their social and physical environment need to be in place for a specified behavioural target to be achieved?'¹.

Susan Michie and colleagues' validated COM-B model and its associated Behaviour Change Wheel have been developed specifically for policy-makers developing behaviour change interventions. They provide a systematic method for developing an understanding of the nature of the behaviour to be changed, and an appropriate system for characterising interventions and their components that can make use of this understanding. These then allow an assessment of the circumstances within which different types of intervention are likely to be effective, which form the basis for intervention design.

The model (shown in Figure 1, below) identifies three categories of behavioural influencers: Capability, Opportunity and Motivation, which each have two dimensions, resulting in six key factors to explore in research: physical and psychological capability, social and physical opportunity, and reflective and automatic motivation. Most of the main factors identified in the literature as being associated with behaviour change fall into one of these six categories.

Figure 1. COM-B model

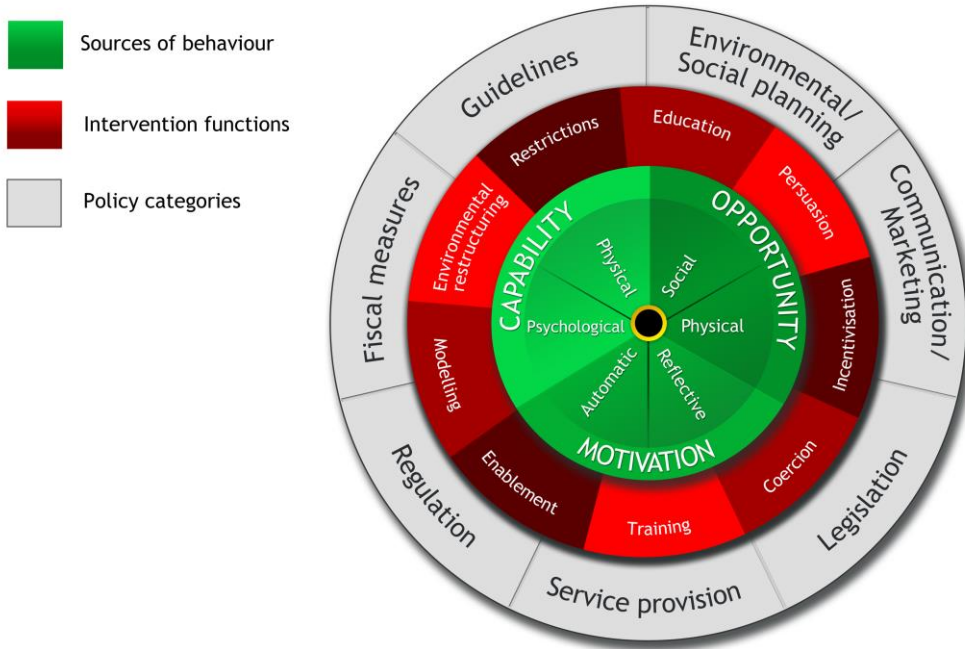


The Behaviour Change Wheel (see Figure 2, below) sets the COM-B model against the suite of behavioural intervention functions available to policy-makers and intervention designers. Having selected the intervention function or functions most likely to be effective in changing a particular target behaviour, based on the knowledge derived from developmental research, these can then be linked to more fine-grained specific behaviour change techniques. The model is characterised as a 'wheel' because any one intervention function

¹ Michie, S; Van Stralen, M and West, R. (2011) The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science* , 6:42.

is likely to comprise many individual techniques, and the same technique may serve different intervention functions.

Figure 2. The Behaviour Change Wheel



Hall & Partners | Open Mind used the COM-B model as a basis for questioning the target audience in both phases of the qualitative research, allowing us to be confident that we had comprehensively explored all factors that underlie the target behaviour (appropriate butting and disposal of cigarette butts). The COM-B model was also referred to throughout data analysis and reporting to help impose maximum rigour and structure on the findings.

Research findings

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Reported behaviour in relation to cigarette butt disposal

The self-report behaviour of 68 smokers was examined in the course of the research and a considerable diversity of behaviours in relation to cigarette butt disposal was revealed. At least sometimes littering cigarette butts (and indeed a willingness to admit to this) was a requirement for inclusion in the research sample². Thus, there were no research participants who claimed never to litter their cigarette butts. However, a small number reported very rarely littering their butts. On the other end of the behavioural spectrum perhaps a similar number reported that they very frequently littered their butts; for them, this was essentially their behavioural norm. The balance of participants – and a clear majority – sat between these two extremes.

Reported methods of disposal, other than appropriate butting and binning (including carrying away), were many and varied. Such methods can, however, be grouped into three broad categories. The first category of methods involve **concealing** the littered cigarette butt, and/or concealing the act of littering itself and include:

- burying;
- butts thrown over fences and walls;
- where there is a column or wall in an enclosed area, butts stubbed out on the column/wall and left at least somewhat concealed at its base;
- stuffing into crevices – walls, fence posts, the tops of bollards, in between the slats of a wooden bench;
- disposing of butts in pot plants, planters, flower beds;
- throwing butts down drains; and
- rather than flinging a cigarette with a glowing ember (highly visible to others, particularly at night) from a car window, hanging the butt out of the window until ember dies out, or butting the cigarette on the side of the car, and then dropping it.

The second category of methods centre on **adding butts to existing litter**. Most often, participants reported simply dropping, stomping on, and leaving butts in a spot that already has butt litter. Otherwise, research participants spoke of tucking their cigarette butt into other rubbish, for example, a discarded can, bottle or wrapper, whether or not their own, and then leaving that as combined litter (sometimes the rubbish is taken to a bin and this ends up becoming an appropriate disposal method, the rubbish being used as a makeshift, temporary personal ash tray).

The final category of butt littering methods comprises more **straight-forward and blatant littering**. This form of behaviour, which is far less common, includes: dropping, stomping on

² Previous quantitative research suggests this represents around 80% of all smokers. The recruitment process was certainly minimally hindered by an inability to locate smokers who admitted to littering their butts.

under foot and leaving; stomping on and kicking into the gutter (but with no view to concealment), and, least frequently, a flagrant flick away or drop (no stomping underfoot or other means of extinguishment).

It should be noted that the act of butt disposal is heavily tied up in the act of smoking. Choosing somewhere to smoke can be as difficult as choosing somewhere to dispose of the cigarette butt, and the two are not routinely separated.

A number of different reasons for – or motivations behind – adopting the various disposal methods were revealed through the research. Common motivations for methods aimed at concealing the litter and/or the act of littering appear to include:

- a desire to get rid of the butt as quickly as possible, getting it out of sight and out of mind;
- feeling guilty about littering and wanting to hide the evidence;
- not wanting to spoil the look of the environment based on some consciousness of the unsightliness of litter, including cigarette butt litter (yet not motivated enough not to litter); and
- a desire to select a “better” littering option, for example, fuelled by a vague belief that butts in soil will biodegrade quicker than those left on a footpath (it should be noted, however, that just as many believed butts would biodegrade quicker in the air; others were unsure whether butts biodegraded at all).

More blatant butt littering appeared to be driven by a complete disregard for, or lack of awareness of, any negative consequences for themselves or others of cigarette butt littering, either overall (for example, an older participant who had for years simply kicked their butts into the gutter with no thought at all), or at that particular point in time (for example, due to their emotional state, such as being stressed and distracted). Another cohort of smokers was revealed who appeared to deliberately litter as an angry response to the lack of facilities for smoking, including sufficient availability of DOSA and bins, the idea here being that smokers are driven to littering butts (and indeed to smoking in non-smoking areas) as they are no longer being adequately catered for, and in any case, the huge amount of money they pay to the government, through taxes on tobacco, would more than adequately cover any required clean-up of cigarette butt litter.

*“It’s commendable that these people go to that much trouble [to get butts in the bin]... but personally I feel I pay so much for the f*cking things excuse my language. I throw them on the street because street sweepers can clean them up. My taxes pay for that. I’m not inconveniencing anyone for throwing butts on the ground.”*
(Parramatta, 40+ years)

It should be noted that similar behaviours appear to be adopted by different individuals for different reasons – that is, the motivation for the same behaviour can be different.

For example, some said they discarded cigarette butts down drains, which provided a convenient means of quickly getting rid of all traces of the cigarette butt litter – out of sight, out of mind and/or not making the area unsightly. Others appeared to think disposing of

butts in a drain may be a safer alternative to littering on the ground as the butts would get wet and thus not be a fire hazard, with others again (albeit a small minority) thinking it might be advantageous for butts to end up in a water body such as a river or the ocean (perhaps being “filtered” on the way). Similarly with kicking or flicking butts into the gutter, some were motivated to get the butt out of sight and prevent the unsightliness of butt litter on the footpath, others had a vague notion that in the gutter the butt would be washed away by rain and/or cleared away by street sweeping machines, while others again simply did so out of long-ingrained habit (what they have always done, what people did in past decades when smoking was far more common).

The research thoroughly explored situations under which smokers were more and less likely to litter their cigarette butts, and a number of key themes were drawn out. On the whole, these are fairly rational extensions of the rationale behind various means of butt disposal.

Situations under which smokers are *more likely* to litter their butts are described below.

- **When there is no bin in sight** (for others, when there is a bin more than around 5-6 metres away) or when the bin is across the road. Some felt they were particularly likely to litter in the suburbs (particularly walking to and from public transport) due to a lack of bins.
- **Places where there is existing cigarette butt litter.** Most smokers do not want to be the first person to leave a butt, but if there is already considerable butt litter, then this is an open invitation to follow suit. This was discussed at length in all focus groups. It should be noted that in the absence of a known and/or conveniently-located DOSA, or even a clearly legal place in which to smoke, smokers will frequently seek out an area already being used by a smoker and/or that has existing butt litter waste, eventually leaving their butt there. The rationalisation appears to be that the damage has already been done (the precedent set), and they are not spoiling a tidy/clean area. For some, an area with existing cigarette butt litter also gives the impression that it is OK (or less bad) to throw the butt there, as all the litter will eventually be cleaned up (unlike a single butt).
- In a related point, **when around smoking peers, particularly those who are seen to be littering their butts.** The most relevant factor here is the smoker-status of those around the individual. Smokers look to follow the lead of other smokers, and are much more confident in littering when around other smokers than when around non-smokers.
- In (other) situations **where it is assumed that someone will clean up the littered butt.** This is certainly the case in dedicated smoking areas where smokers feel that the butt will only stay on the floor for a short period of time given there are cleaners paid to tend to the area. There is also some sense of this in relation to some kicking or flicking of butts into the gutter, the assumption being that street sweepers will collect these butts.
- Similar to wishing to leave butts in places already littered by butts, some seek out **places that otherwise suggest a “dumping ground”.** This includes is any form of abandoned area (e.g. “rough scrub” between buildings), fenced off area, or area with existing general litter. Any butt litter here is perceived to just blend in or otherwise not matter.
- **In places and under circumstances where detection is unlikely.** This includes:
 - when it's dark
 - when there is no one around
 - when the ground is dirt, grass or leaves, as burying or hiding a butt is quick and easy

- There is perceived to be **something wrong with the bin infrastructure** that is in place:
 - when a butt bin is full (touching other butts is perceived as disgusting)
 - when an ashtray is full (no one wants to build a “butt pyramid”)
 - a less prevalent view, but when there is only a ‘normal’ bin around (fear of being frowned on, fear of starting a fire, fear of having to touch the bin and get dirty)
- **Smoking as part of a broader break** (e.g. lunch break from work). Older participants reflected that, on work breaks in the past, they would eat lunch at a café and have a cigarette with their lunch, using the provided ashtray. Now, their break time is “eaten up” in a location where smoking is banned, and so smoking and butt disposal occurs more haphazardly often en route back to the office and not near a bin or ashtray.
- Indeed, **smoking en route** was reported to often lead to littering. The route may or may not involve passing a bin at the point that a cigarette turns into waste. Smoking en route somewhere is prevalent as many start and end points are places where people won’t smoke (e.g. in their car) or smoking is not permitted (e.g. the train station, places of work, eateries).
- Related to smoking en route, is **smoking, or being obliged to finish a cigarette, at a transition point** – an entry to a building (office, shopping centre), public transport hub, etcetera. This is obviously problematic where there is no ash tray or bin. Littering is particularly likely where the smoker is required to dispose of their cigarette quickly and somewhat unexpectedly. An example provided by participants is smoking at a bus stop. The bus turns up, they take a last big drag, then they throw the butt aside and jump on the bus – there is no time to find a bin.
- **In certain emotional states**, for example, when smokers are feeling particularly stressed. This may contribute to a lot of litter given some smoke more at times of stress, using smoking for stress-relief. Some participants also told us they were more likely to litter when they were or had been drinking.
- **When it’s raining**. This is for a number of different reasons, including the perception that butts will wash away quickly, and smokers not wanting to get wet walking to the bin or smoking in an uncovered DOSA.

On the flipside, situations under which smokers are *less likely* to litter their butts are described below.

- **When there is a proper butt bin within 5-6 meters**. For others, when there was any form of bin within sight.
- **When other people are around**, particularly non-smokers (a desire to avoid being further judged, or give further reason for the community to dislike smokers) and children (not wanting to set a bad example, or to be further judged by others for smoking and littering near children; some spoke of not wanting to smoke or litter butts near a school in sight of other parents).
- Related to this, and for similar reasons, **when smokers are with their own children or their non-smoking partners**.
- **When “old people” are around** who might comment on their behaviour and make them feel guilty. This was particularly mentioned by younger participants in Dubbo (and reflects an Elder position in regional centres which we have observed before) but also mentioned by some younger metropolitan participants. Some felt similarly about littering around their parents or parental figures.
- In **areas that are clear of butt litter** and obviously cared for.
- In a **work setting where the smoker is in the minority**. In these circumstances smokers will go out of their way to find an acceptable way to get rid of the butt, even to the point of popping the butt in their pocket (although there is resistance to taking butts into the workplace to dispose of in bins there, as the smell may be noticed – many are trying to avoid being identified as a smoker in a work context).

- **Near waterways** where there is heightened consciousness of the need to protect nature (this was apparent in Coffs Harbour, particularly among the 40+ age category. Attitudes to butts in Sydney Harbour were varied, with some considering Sydney Harbour to already be too far gone in terms of pollution to elicit concern).
- In places **where there is a strong sense of community** and pride in one's local area (again, this was particularly apparent in Coffs Harbour).
- **While driving**, as penalties are harsh and there are also safety concerns. Smokers seem to be changing their smoking habits while driving, due to implications for other people that would drive the same car, the smell that impregnates the car seat, giving away smoking habits, difficulties around properly disposing of the butts, and concerns about the bush fire risk when driving in regional/rural areas.
- **When there is a chance that the police are around.** This is particularly the case when driving. We note later in this report that perceived likelihood of being caught for littering butts is very low for the majority of smokers who have never been caught (nor know of anyone who has), and is particularly low for littering (other than from vehicles).
- In certain **social settings** (such as weddings, funerals).

General thoughts about cigarette butt littering as an issue in NSW

Although not necessarily something they think about much when they are doing it, or think about much in the context of overall issues affecting NSW, when smokers are asked whether they consider cigarette butt littering to be something the government should concern itself with, almost all agree that it is. Virtually no one thinks butt littering is OK, and no one wants to see butts strewn around the community.

Despite this, few have an appreciation of the full implications of cigarette butt littering, as will be discussed under "Motivation" later in this chapter. There is also no clear understanding of the extent of the problem or whether the problem is getting better or worse. Some believe cigarette littering is a bigger issue today than it would have been in the past. The thinking here is that smokers have been slowly pushed aside and tagged as a burden to society in terms of healthcare and cleaning costs, and this has led them to become a de-prioritised minority group that is not properly catered for. They believe that this has resulted in a distinct lack of designated smoking areas (inside and outside) and associated bin infrastructure which results in littering. In contrast, others believe that butt littering must be reducing over time and is a fraction of what it would have been twenty or thirty years ago when far more people smoked.

Capability to appropriately dispose of cigarette butts

The COM-B model identifies components of both Physical and Psychological Capability that influence behaviour. In the context of cigarette butt disposal, Physical Capability is not relevant – it is not the case that smokers are ever physically incapable of carrying their cigarette butt to some sort of ashtray or bin. Being unable to *easily* "do the right thing" due to environmental factors, namely litter receptacles not being in place or working as intended, falls under opportunity (Environment) within the COM-B model and is discussed later in this chapter of the report. The key components of Psychological Capability relevant for cigarette butt disposal are 1) knowledge; and 2) memory, attention and decision processes. Each is discussed in turn below.

Knowledge

This research showed that a lack of knowledge – of desired/appropriate cigarette butt disposal methods – is not a key driver of cigarette butt littering. Most research participants were clear in their knowledge that the appropriate way to dispose of their cigarette butts was to ensure they ended up in some form of ashtray or bin. There was some sense of certain types of butt littering being less bad than, or preferable to, other forms, and greatly varying motivation to “do the right thing”, but no one really disputed that butts in bins was the only appropriate, responsible, legal disposal method.

That said, two gaps in knowledge regarding appropriate butt disposal were identified through the research:

1. A small number of participants professed some confusion over whether or not it is strictly appropriate to dispose of cigarette butts in general waste bins, rather than designated cigarette bins or ash trays, with concerns expressed about bins or bin contents catching on fire. Again, a small number claimed that non-smokers frown upon smokers using general waste bins for their cigarette butts, lacking knowledge that this is an acceptable means of disposing of cigarette butts.
2. Many participants appeared to lack knowledge of the various strategies that can be employed to ensure a cigarette butt ends up in a bin where a bin is not immediately available upon completion of a cigarette. Research participants were certainly quick to jump to saying that they are “forced” to litter due to their being an inadequate number of bins or absence of bins at certain locations. It seems clear, however, that the issue here is both a lack of attention given to cigarette butt disposal (including inadequate thought given to possible solutions in the absence of a readily available bins – which will be discussed more fully immediately below) and a lack of willingness to employ strategies that are more effortful than littering – discussed later in this report under “Motivation”.

Memory, attention and decision processes

Certainly having a bigger influence on cigarette disposal behaviour than any aspect of knowledge about appropriate methods of disposal, is the attention paid to cigarette butt disposal.

The research contained a sub-set of research participants for whom the means of appropriately disposing of their cigarette butts was undoubtedly top of mind. Several of these participants mentioned the challenge of cigarette butt disposal spontaneously during early discussions, in the focus groups, of what it is like to be a smoker in NSW; these discussions occurred prior to cigarette butt disposal being revealed as the topic of the research. This sub-set of smokers was conscious of not wanting to litter their butts, and of the challenge that this poses given the scarcity of ashtrays and bins. These individuals thought through the options available to them for ensuring cigarette butts ended up in a bin, and adopted a range of strategies for appropriately disposing of their butts, depending on situation and level of motivation at that time. The outcome was far fewer cigarette butts being littered by these individuals compared to others who had less of an awareness of what they were doing when it came to cigarette butt disposal, and who thus littered largely through habit. Such smokers, however, were clearly in a minority.

Many other research participants, however, and a clear majority, had obviously given cigarette butt disposal limited, if any real, thought prior to their involvement in the research. Butt littering was not “on their radar” as an issue. Many participants said cigarette butt disposal was something they simply didn’t think about, generally, prior to light up, or even during consumption of the cigarette. Consideration was greatest at the point that the cigarette – for many, a thing of beauty to be enjoyed – turned into waste – something smelly, unsavoury and a nuisance. However, consciousness of butt disposal tends to be low even at the point that the cigarette turns to waste, as individuals automatically adopt their go-to disposal methods. Reflections on the frequency of their own butt littering, methods employed and under what circumstances, and underlying motivations for preferred disposal methods, are all things that most often needed to be carefully drawn out of participants through the course of the research, rather than things that were immediately in their consciousness. The in-the-moment research was particularly effective in drawing cigarette disposal into consciousness. Perhaps unsurprisingly, given how intertwined cigarette disposal is with the overall act of smoking, thinking more about cigarette butt disposal also caused many to reflect on their smoking behaviour more broadly, both number of cigarettes consumed and where those cigarettes are consumed.

“Doing this study has made me realise how often I litter with my cigarettes. I think it’s selective memory that makes me think I am better than I am, but because of the awareness it [the research] has created it has certainly made me be more mindful.”
(Tempo participant, male, 38 years)

“I’ve never really thought too much before about where I dispose of my butts. I know I always try to make sure they are put into a bin of some sort but I do dispose of butts on the ground when I have no other option. Today I started looking for places to smoke where there were bins nearby so I didn’t get caught out.”
(Tempo participant, male, 36 years)

“Am aware of my smoking in public more and more. Starting to feel a bit guilty about smoking in areas other than those specifically designated smoking areas.”
(Tempo participant, male, 36 years)

Planning of disposal in advance appears to be almost non-existent. An analogy offered up by one participant (with which others identified) was that it is like buying a bottle of juice or water from a convenience store – you buy the drink and consume it when you do because you’re thirsty and want a drink, you’re not thinking or worried about how you will dispose of the empty packaging. A butt is akin to packaging of a drink. Very few in the research study reported considering how to dispose of their butt when they lit up, other than when they were smoking illegally (e.g. in hospital grounds) or when littering would be particularly frowned upon (e.g. by family). Front-end consideration was revealed as more common for places people have previously visited. When in a place they are familiar with, smokers are more likely to know of somewhere they can go to smoke, where bins are, routes they can take that get them from their car to the venue while passing a bin, etcetera.

Reasons for a lack of focus on cigarette butt disposal appear to be three-fold:

1. Many smokers consume a large number of cigarettes, and hence produce a large number of butts, in a day; that is, **butt disposal is not a rare event that stands out**. Both the act of smoking and the act of disposing of the resulting butt have become habitual for most smokers in most situations. The research suggests that most people in most situations use a preferred, much practiced disposal method, often almost without thinking at all about what they are doing.

“Dropped it [cigarette butt] on the ground and stepped on it with my foot to make sure it was stubbed out properly. [Felt] a bit guilty but I’m used to it, so I don’t really think about it too much anymore.” (Tempo participant, female, 23 years)
2. **Any concerns about cigarette butt littering are far overshadowed by other challenges facing smokers.** More prominent issues occupying our research participants’ attention included not being permitted to smoke in areas that they would like to and/or had previously been permitted to smoke in, being unsure whether or not smoking is in fact legal in any given area, and trying to find DOSA in places where smoking is otherwise not allowed. In addition, many participants spoke about feeling judged by non-smokers simply for being a smoker, with many participants reporting having had people say rude things to them, fake cough as they walked past, etcetera, with this occurring regardless of whether or not any aspect of their behaviour was illegal (that is, this occurs even in locations and situations where smoking is entirely legal, and unconnected with cigarette butt disposal). Many smokers currently feel ostracised by society overall, including feeling that tobacco control strategies (particularly heavy taxation and smoke-free environment legislation) have gone too far given that smoking continues to be an entirely legal behaviour and one that does, and in their view should continue to, come down to personal choice. Smokers also perceive there to be too few designated smoking areas provided in locations that are otherwise smoke-free, meaning that smokers are not adequately catered for. Put simply, smokers have (or at least feel they have) far more to worry about than how to dispose of their cigarette butts, and they are far more likely to be looking out for somewhere appropriate to smoke, than looking out for somewhere to dispose of their butt, or even thinking about cigarette butt disposal.
3. A lack of focus, among many, on cigarette butts is in the context of them **considering butts to be relatively small, insignificant, inconsequential items of litter**. While smokers are in no doubt about the only truly appropriate method for butt disposal (i.e. get them eventually into a bin), and no research participants argued that cigarette butt littering is completely acceptable (there was almost always some professed at least minimal or motivation to get butts into a bin), many did not feel that it mattered *that much* either way. The key here is both that they see others around them doing the wrong thing (giving them permission to follow suit – discussed in detail under “Opportunity” later in this report), and that there are few experienced or perceived significant and likely negative consequences of butt littering (discussed in detail under “Motivation” later in this report).

One clear upshot of a lack of focus – by most smokers – on cigarette butt disposal (with them acting habitually rather than as a result of conscious decision making), is that many fail to consider the full range of options available to them to prevent themselves littering. As previously mentioned, during the research many participants at least initially claimed that they “had to” litter because there was nothing else they could do with their cigarette butt in the absence of an available bin (immediately and conveniently available to them directly upon completion of their cigarette). Alternative pathways to appropriate cigarette butt

disposal, such as carrying to a bin (including in a personal ash tray, enclosed within other litter, wrapped in a tissue, within their bag, etcetera), considering a broader range of bins (such as inside their place of work), and timing their cigarette so that they might finish it nearer a place where they can dispose of the butt, were simply unavailable to them through lack of psychological capability to act other than by habit. Clear evidence of this comes from the in-the-moment (Tempo) research. By the second half of the week, participants had become fully conscious of their cigarette butt disposal behaviour through having to diarise it. They were then given the task of not littering their cigarette butts for the remainder of the week. Participants by and large complied and reported adopting a range of strategies to ensure their butts were disposed of appropriately. Participants were no longer claiming they had no choice but to litter. These strategies were also clearly not a huge imposition on participants, with participants predominantly reporting that the strategies were in most situations “not at all difficult” to adopt, and providing a positive description of how this made them feel (“good”, “great”, “responsible”, “more conscientious”, “confident”, “like I was being considerate”, “cleaner”, “happier with myself”, “happy that I’m doing the right thing”, “like I did my bit for the environment”, “much more relaxed and less conspicuous when I’m doing the right thing”).

Interestingly, there appears to be heightened consciousness of cigarette butt disposal in the context of smoking within cars. Not all smokers smoke in their car, or in other people’s cars, and those who do are not consistently either more likely or less likely to litter from a car window compared to when they are outside of a car. Those who *do litter* from car windows do so particularly to avoid exacerbating the smell trapped in the car (a butt is perceived to smell worse than a lit cigarette, and butts left in the vehicle perceived to make a terrible, lingering smell over time), particularly if it is not their own car and/or there are non-smokers who also use or travel in the car at other times (notably children and non-smoking partners). Those who *don’t litter* from cars – and they generally make a conscious decision not to, even if they routinely litter butts in other contexts – are conscious of how dangerous it can be (it could start a bushfire, particularly on country roads, fly into another vehicle, or hit a pedestrian or cyclist), scared of being dobbed in and fined, or otherwise wary of being particularly conspicuously littering (in a car you need to fling the cigarette, and can’t as easily, as in other contexts, subtly drop or otherwise conceal the butt). Either way, research participants tended to be particularly conscious of butt disposal in the context of cars. Much butt littering from car windows (but of course not all – a small minority of smokers are certainly pretty relaxed about littering in any circumstances) appears to be associated with heightened levels of guilt and/or wariness of detection, with special strategies employed. Such strategies include the cigarette being extinguished on the exterior of the door and then subtly dropped (particularly when driving more slowly, such as when going around a corner), the cigarette being carefully and fully extinguished prior to being flicked to avoid causing a fire and/or so a glowing ember does not attract attention, particularly at night.

Opportunity to appropriately dispose of cigarette butts

Social opportunity

The findings of the research suggest that the social opportunity provided to smokers to litter their cigarette butts is having a moderate-level influence on littering behaviour.

Seeing other smokers littering butts, smoking alongside someone who has just littered their butt, seeing the evidence of inappropriate butt litter, and forming the impression that most smokers litter their butts either sometimes or commonly, gives smokers some implied permission to follow suit, at least in places already affected by butt litter. A very strong theme emerging from this research is that many smokers take their cue – both for where they can smoke and how they could dispose of their butts – from other smokers. They feel more confident in their behaviour when simply following suit, and are more relaxed about littering butts when around other smokers (rather than non-smokers), particularly those who have already littered their butts, and particularly when the smokers in question are friends.

“I needed to dispose of the butt but couldn't do it on the edge of the bin as it was lined with plastic. I noticed that other smokers had put their butts out on the wall beside the bin so I did the same. I felt guilty as it was not the right thing to do but nevertheless followed what others had done before me. I felt this was a better option than not using the bin at all but in hindsight I wish I had put the cigarette out on the ground then picked up the butt instead.” [Tempo participant, male, 36 years]

“Photo caption describing butt disposal method: *thrown on the lawn at a friend's BBQ. Who were you with / who could you see?* Friends... some were smokers. **How did you feel while you were disposing of your butt in this way?** *OK. Others were doing the same.”* [Tempo participant, female, 52 years]

“I do feel bad when I drop it on the ground and everything but I see it happen so often, you see everyone else do it and you get used to it and it doesn't feel like a big deal anymore.” (Tempo participant, female, 23 years)

While there is considerable role-modelling of inappropriate butt disposal, there is perhaps less obvious role-modelling of appropriate disposal. The influence of this negative role-modelling is, however, moderated by a number of opposing social pressures:

- Littering generally is well established as socially unacceptable. While almost all consider littering of cigarette butts to be less bad than other forms of littering, it is still something that is already (in the absence of any future interventions) associated with at least some amount of guilt, shame, or unease, and something that many butt litterers want to try to conceal.
- While perhaps less obvious than role-modelling of butt littering, there is still some role-modelling of appropriate butt disposal. Some research participants spoke of butt littering being something they have never considered to be OK and have always actively strove to avoid. Some younger participants, for example, said their parents were smokers and always role-modelled appropriate butt disposal.
- At least part of this is tied up with censorship from non-smokers. Research participants frequently spoke of smoking itself being, and becoming increasingly

more, socially unacceptable. There is pressure on smokers from many angles to smoke less and in fewer situations, if not to quit outright, and this is undoubtedly impacting on willingness and confidence to litter butts. Littering gives non-smokers, and society more broadly, one more reason to dislike smokers, and this is something smokers would prefer to avoid.

“I’m also very self-conscious about being a smoker, I was the only person in my group of colleagues that smokes and I always feel ashamed when I’m smoking around other non-smokers.” (Tempo participant, female, 23 years)

It must be noted, however, that not wanting to be seen to litter does not uniformly translate into smokers not littering. Perceptions that butt littering is socially unacceptable, at least from the view-point of non-smokers, is actually underpinning much of the ‘sneaky’ dumping behaviour research participants (particularly younger) described. Shame (or potential shaming) results in disposal which has a sole purpose of ridding evidence quickly and reducing guilt.

The social unacceptability of smoking can almost be a double-edged sword in terms of its implications for cigarette butt littering, particularly for older smokers who first smoked in a time when smoking was socially acceptable. For some, the general perception that smoking overall is frowned upon, disliked by non-smokers, and trying to be eradicated by government, is eroding any concern about butt littering. The view is that butt littering is frowned upon, but so is everything that smokers do (smokers get “bad looks” and “comments” for just smoking), so if you wish to continue smoking (or are forced to because you’re too addicted to quit) you just have to not worry about it. So, for some, the logical conclusion is why worry about any of it.

Environment

Environmental enablement of correct cigarette disposal – or more accurately lack of enablement – undoubtedly contributes strongly to cigarette butt littering. This is another very strong theme emerging from the research. In the current absence of a strong motivation (by most) to “do the right thing”, ready availability of bins is key. Ultimately, smokers believe it is unreasonable to expect the correct disposal of cigarette butts at all times when there is a lack of bins, ash trays and dedicated smoking areas in NSW.

“I think one of the reasons why people litter cigarette butts is because the lack of bins around, there aren’t that many bins scattered around the streets and places... you tend to litter because you don’t want to carry around dead cigarette butts in packets or pockets.” (Tempo participant, female, 28 years)

Commonly mentioned locations considered to be particularly lacking in bins and/or designated smoking areas included:

- Parks, recreation areas, and other open areas where it is pleasant to go to smoke
- Essentially anywhere where you must extinguish to comply with smoke-free legislation and/or near places where there is a total smoking ban. Particularly frequently mentioned were:
 - At transit hubs, particularly outside train stations
 - Also outside shopping centres

- Outside hospitals
- Near outdoor sporting events

In a related point, a view held particularly by older participants is that everything related to smoking is getting harder. Disposal is probably less of a problem/concern than finding somewhere that you are legitimately allowed to smoke given that so many areas are now smoke free. It is clear from the research that smokers are reacting to this predicament in different ways. Some are sneakily smoking and disposing of butts, often following other people's leads; that is, they are smoking anyway despite the smoke-free legislation, and a lack of bin infrastructure results in littering. Less commonly it would seem, smokers are changing where they smoke (for example, smoking in the car before going to a location with a smoking ban, e.g. a hospital, leaving the butt in the car.

"It's out of habit, laziness and habit [that I litter]. But there isn't as many areas you can smoke in. Before the laws I could go and say sit down and have a coffee and a cigarette and there were ash trays and I'd put it in. But now instead... after my lunch I go and have a cigarette behind some corner of a shop where there's no ash tray and I put it on the floor. The rules have made it harder for people to smoke in different areas. But obviously people are going to smoke if they want to smoke. Nothing is going to stop them. If you're not going to have bins, people are going to put it on the floor and that's what I do. I did it less before the laws came in."

(Depth interview – Female, 18-24 years, 11-19 cigarettes per day)

Research participants also expressed the view that many designated smoking areas are too hard to locate. They felt that any signage indicating that an area was smoke-free, should have signage indicating where the closest designated smoking area is. It is felt that these are often located in out of the way, hard to reach places. While this was generally considered fair enough, it was noted that many smokers won't use them simply because they are unaware of their existence.

Generally, participants spoke about not being particularly "picky" about the characteristics of a designated smoking area as long as it is somewhere they know they can legally go to smoke, and as long as there is an ash tray or rubbish bin provided. Ideally, there would be multiple bins and somewhere also to sit. Some women spoke of a desire for DOSA not to be located in areas that might pose a personal safety risk for them, for example, at the rear of buildings, in otherwise disused alley ways, etcetera. In Coffs Harbour, with its humid, subtropical climate, smokers were particularly concerned about having places under cover to smoke, with lots of comments about the challenges of smoking in the rain. Coffs Harbour, more than elsewhere, seemed to draw a complete blank about the existence of any DOSA in their town (there being some but not widespread knowledge of one in the Plaza near IGA, not well sign posted).

While any form of bin will certainly do for most (although not all) smokers, there is a preference for dedicated butt bins. This removes the ambiguity of whether or not butts can go into the bin, means (assuming the bin/ash tray is regularly emptied and clean) that smokers don't need to deal with the "yuck" factor associated with having to touch general waste bins, and means they don't need to worry about bins catching on fire (due to

general waste content and/or substance the bin is made or lined with). “Eco” butt bins filled with sand or water are particularly favoured.

Motivation to appropriately dispose of cigarette butts

Motivation to correctly dispose of cigarette butts varied widely across participants, and ranged from almost non-existent to high. Sources of motivation also differed greatly. Some are motivated not to litter due to considerations of what others think, others by concerns for the environment, and others by not wanting their town/suburbs to look unsightly. Others again are simply of the view that littering is wrong – littering of butts or any other rubbish – and something that they have always sought (and even been brought up) to avoid.

Consistent with previous research findings, this research suggests that most smokers will typically not litter in other forms, but consider butts to be different and “less bad” to litter, and are therefore less motivated not to litter them. Reasons for this include:

- There is a perception that they are made up of paper and cotton, nothing particularly problematic or nasty. Many people have a vague sense that they may well be biodegradable or otherwise break down so that after a while there is not much of the cigarette if anything left. There was various focus on filters, with some smoking roll-your-own cigarettes without filters.
- They are smaller than most other types of litter (such as plastic bottles and coffee cups). The implication is they have less of a visual impact and also are less likely to clog up drains. They are also easier to litter surreptitiously.
- Many others litter butts and so butt littering seems more socially acceptable than other forms of littering.
- It’s just too hard to carry away butts. They stink and make your hand stink if you carry them for a long period (they will also make your bag stink).
- Littering butts is more understandable / justifiable than littering other items given the lack of infrastructure available to, and provision made for, smokers these days.

Reflective motivation – beliefs about consequences

Research participants clearly believed there to be few, serious and likely consequences of cigarette butt littering. The four commonly mentioned negative consequences – often only uncovered after considerable prompting – included:

- **That cigarette butt littering doesn’t look nice.** This was never expressed along the lines of major social harm, but only unpleasantness.
- **That butts have some negative (largely unspecified) impact on the environment.** There is some existing knowledge of harmful impact on ecosystems, but mainly where ecosystems are considered at all, it is simplistic (e.g. animals might eat the butts and choke). Most had never even considered the issue of butts in waterways, and assumed that they broke down or disappeared somehow. Some considered being washed away by the rain actually a positive outcome, and a reason for flicking into a gutter or drain. Butts seemed to generally be considered of less environmental consequence than, for example, plastics (as noted, most fail to consider the filter is made of a type of plastic).
- **The personal consequence of others judging them** and possibly making snide remarks or directly confronting them about their behaviour. However, in the context of being generally judged for smoking at all, this concern was relatively minimal. A minority had received feedback about their littering; some had changed their

behaviour as a result but most had brushed this feedback off (“water off a duck’s back”, given the flack they get from others simply for smoking).

- **Fines.** Very few had been fined or knew anyone who had, but most knew that it was a possibility. The prospect of a fine was of concern (as perceived to be a large amount) but almost all indicated that it would not have an impact unless they actually got fined; then they may change what they do. They considered being fined for littering a butt to be:
 - less likely than being fined for other forms of littering (more visible, more likely to be caught);
 - far less likely than to be fined for smoking in a smoke-free area – this would be the police’s priority (incidentally, most were unclear whether other parties, such as council rangers, would have the authority to fine); and
 - very unlikely, if possible all, outside of the context of being dobbed in for littering from a car window (how would individuals be identified without use of a number plate? Is there a new law only regarding littering from cars?).

Some smokers believed that harsher penalties and law enforcement around cigarette littering was the only solution to the issue. Singapore was cited as the cleanest country due to law enforcement around littering.

No financial costs of cigarette butt littering were ever spontaneously raised, and did not gain much traction even upon prompting – see below.

In the context of the discussions, several participants put forward the observation that while there is a lot of education out there about why smoking is bad for your health, and also why certain types of general littering is bad (e.g. plastic bags in the ocean), they have encountered nothing about why cigarette butt litter specifically is bad. They put forward this as a reason for their lack of awareness around the negative impacts of littering, over and above the very obvious (looks untidy, possibly in some way not great for the environment).

Near both the end of the focus group discussions and the depth interviews we completed a component of message testing to ascertain what messages are likely to increase motivation not to litter. The messages tested are listed below and each discussed in turn.

Message	Useful reactions	“Watch outs”
<p>Cigarette butts have toxic chemicals such as lead and cadmium, which get trapped in the cigarette filter, and can leach out in water. ‘Within just one hour of contact with water, the chemicals begin to leach into the aquatic environment and threaten the well-being of marine life.</p>	<p>This was completely new information for all participants. Even those with some concept of the negative impact of butts on aquatic ecosystems, had not fully appreciated toxins being implicated.</p> <p>This was a shocking and compelling message for most.</p> <p>Certainly, many smokers don’t like the idea of harming others. They choose to smoke (and accept the associated consequences), but they don’t want their smoking to affect others, whether that be humans or animals.</p>	<p>While by far the highest performing of the messages, we would caution that this obviously won’t be a “silver bullet” message to increase motivation in all smokers. Some cynical participants pointed out that given they don’t care that they are poisoning themselves smoking, why would they care about fish?</p>

<p>Cigarette butts can also take up to 12 months to break down in freshwater and up to 5 years to break down in seawater. Cigarette butts have the ability to severely damage our waterways and aquatic eco systems.</p>	<p>Smokers are not fully aware of how long a cigarette would take to break down, with some, spontaneously, mentioning a few hours to weeks. The prospect of a cigarette butt taking up to five years to break down is a shocking and compelling message to some.</p>	<p>Mentioning freshwater versus seawater adds unnecessary and confusing detail. Some consider it counterintuitive that butts would take longer to break down in freshwater and get distracted by this or reject the message as unbelievable as a result.</p> <p>Some thought butts would take longer than this to break down, so the message reduces motivation for them.</p>
<p>Around 7 billion cigarette butts are littered in Australia each year.</p>	<p>This sounds like a (surprisingly) big number and is shocking. This message is particularly compelling in combination with one about why butt litter is bad (i.e. toxic chemicals leaching into waterways).</p>	<p>7 billion is hard for some to conceptualise – expression in terms of volume may perhaps be more useful.</p> <p>For a small number of smokers, this seems a reasonable figure and therefore is not motivating.</p>
<p>Cigarette butts are the most littered item in NSW.</p>		<p>This message was less compelling than the previous articulation of the extent of the problem. It is unsurprising and not particularly compelling – it might be the most littered item, but we are still talking about tiny, insignificant pieces of litter. Pointing out the item that contributes most – volume wise – to litter would be more relevant.</p>
<p>90% of fines issued for littering from a vehicle relate to cigarette butt litter.</p>	<p>A believable statement.</p>	<p>Not particularly compelling – what does this really mean and so what?</p>
<p>There are now 20,000 community members in NSW registered to report littering from vehicles.</p>	<p>Some consider 20,000 a large number. Increasing the perceived likelihood of detect/enforcement is likely to change some smokers' behaviour and this statement might do the job for some.</p>	<p>For others, 20,000 is a drop in the ocean for a state the size of NSW and does little to change perceived likelihood of detection.</p> <p>A dob-in line is considered “un-Australian” and raises negative sentiment.</p> <p>Others don't believe a system of dobbing-in could result in any fines as the testament of the person dobbing in couldn't be relied on (where is their evidence and what are their motivations for dobbing that person in?).</p>

NSW spends \$180 million each year managing litter in NSW.

Some connected this expense with taxpayers' money and missed opportunities to invest in other more important areas (health, education). Combined with thinking \$180 million was a lot of money, this made the message compelling for some.

However, others consider \$180 million to not be much at all. Also, there is a general sense that government should be funding litter clean ups – that's the sort of thing government does. Litter will never be completely eradicated so there needs to be budget for it.

Some even consider clean ups to be a positive in terms of creating employment, or giving those on community service or work for the dole something to do.

This message is also problematic as it talks about litter overall rather than butt litter specifically. Many participants did not believe that anyone would actively pick up butts from our streets – outside of perhaps DOSA – and that butts would be removed as part of general cleaning, or not at all, and thus would not attract any additional clean-up costs.

If it's not in the bin, it's on you³.

Fundamentally, this was considered to be vindictive and to further demonise smokers.

Further, it was felt to not really make sense in that it does not clearly specify the negative consequence of littering.

Reflective motivation – social / professional role and identity

Considerations of social and/or professional identity play quite a big role in smoking, overall, and therefore cigarette butt disposal.

Many research participants reported adopting different behaviours, when it came to smoking, when at work. Many of our research participants said they didn't think their work colleagues necessarily knew they were smokers, and they didn't want their colleagues to know – they don't want to risk this defining them negatively. They deliberately smoked away from the workplace and out of sight of colleagues. They would never litter in sight of colleagues, but also would try not to smoke in front of them, and in the absence of bins provided for smokers, would not carry butts into the workplace with them for fear of being identified as a smoker (too smelly to surreptitiously slip into a bin inside).

³ A possible line for the HEY TOSSER! campaign, this message was only tested in the first focus group location, removed after poor performance and because it disrupted the flow of the discussion (adding in an element of judgement).

In the social sphere, some are concealing their smoking from their children or non-smoking partners – or at least trying to avoid having attention drawn to their smoking. Many parents don't want to smoke, and certainly don't want to litter butts, near their children's school for the same reason, or to do so around other parents. All these motivations are as much about their smoking status, as about any butt littering behaviour, but work in favour of reducing butt littering.

Working against the aim of reducing butt littering, are instances where smokers more openly accept, if not celebrate, their identity as a smoker, and/or the rituals of smoking. There is certainly a segment of smokers, discussed more fully later in this chapter, who are "loud and proud" smokers who resent having their "rights" as smokers curtailed. Related to this is the role that inappropriate butt disposal – particularly dropping and grinding into the ground, or less commonly simple flicking of the smoked cigarette – plays in the smoker identity; it is part of the mystique and ritual of smoking.

Reflective motivation – optimism, intention and goals

Currently, optimism, as well as goals, are working against a reduction in cigarette butt littering, if only subtly. Any attempts smokers make to get their butts into a bin are likely to be seen as somewhat futile given the littering practices of other smokers. Behaviour change needs to be seen to be collective and based on a ground-swell; "if I do something it will make a difference as others are doing it too".

While intentions are usually quite good – most say they intend to try to get their butts in a bin at least when a bin is handy – very few have a goal never to litter their butts. They need more reason than they currently do to have such a goal, and far more need this goal for behaviour change to be widespread.

Automatic motivation – reinforcement

A key problem in the fight against cigarette butt littering is that smokers are currently both positively and negatively reinforced for littering their butts. Examples of positive reinforcement of butt littering include:

- For some (albeit almost exclusively younger smokers), butt littering is fun, it is a game. Throwing it on the ground in the dark and seeing the sparks, tucking it in the same spot every day and seeing if it had been cleaned up, trying to see how hard you could flick it, chucking it over a neighbours' fence to annoy them, are all regularly reported behaviours and motivators.
- As mentioned above, for some, littering is part of the ritual of smoking, and a satisfying end to their cigarette.

Negative reinforcement of butt littering (removal of negative stimulus resulting in a positive outcome, which makes them more likely to litter again) also commonly occurs. Most obviously, the smoker can quickly and easily get rid of the butt, so they don't have the inconvenience or unpleasantness of having to carry a smelly butt to a bin, or of having to go near an overflowing, gross, dirty bin. For some, the act of smoking is associated with stress relief and "emptying the mind", and this is at odds with worrying about, and planning in advance for, cigarette disposal. Some feel that worrying about, or planning in advance for,

disposal, or even going out of their way to dispose of a butt correctly, would interfere with the enjoyment of smoking. Littering butts with impunity gets around this.

At the same time, there is little to no (positive or negative) reinforcement of appropriate butt disposal. Perhaps the only positive reinforcement is feeling like one's done the right thing (degraded slightly by feeling others aren't doing the right thing and/or that non-smokers still don't appreciate it as they would prefer you not to be smoking at all). Perhaps the only negative reinforcement is avoiding the feeling of guilt that littering sometimes causes. There is no *external* positive reinforcement of appropriate cigarette butt disposal – the "carrot" is currently missing.

Automatic motivation – emotion

Cigarette butt littering is often associated with reported feelings of guilt. Indeed, as noted above, this is perhaps the only negative associated with cigarette butt littering for many. Currently, however, feelings of guilt are not sufficient to prevent littering in many cases.

Positive emotions sparked by doing the right thing are also only partially motivating smokers to dispose of their cigarette butts. The in-the-moment research revealed that when prompted to do the right thing, those who had not previously been doing so reported a range of positive feelings... this might have been heightened by the experience and challenge of the research. However, if this could be encouraged to happen on a larger scale – with smokers doing the right thing and seeing others similarly doing the right thing – it seems likely that momentum could be gained.

Observed demographic and regional differences

Gender differences

No particular differences in findings by gender were observed through the course of the research.

Differences by age and number of years smoking

Behaviours, attitudes, and motivations, were, however, found to differ markedly by participant age.

Generational differences

Older smokers have "lived under" different regimes and experienced legislative and societal changes in the context of smoking. Older participants frequently and spontaneously spoke of:

- Dwindling smoking population
- Fewer rubbish bins generally (starting with 1978 bomb scares) and in line with this cigarette bins
- Ever increasing restrictions (since 1990s and ongoing) on where smokers can smoke
 - Some restrictions have been embraced e.g. ban on smoking with kids in cars

- Others have caused disgruntlement e.g. bans at sporting events, all indoor public facilities, pubs/clubs/restaurants (except designated areas)
- Even where bans are approved of (and the aim of reducing smoking seen as worthy), lack of facilities provided for smokers where smoking is legal is seen as unacceptable and inappropriate
- Escalating costs of cigarettes, including higher and higher taxes

Indeed, many older smokers feel the situation has gone to “ridiculous extremes” given the legality of the behaviour (smoking). Restrictions on smoking and increasing cost – as well as general negative attitudes from non-smokers, lead many to believe that they are judged, discriminated against, and treated like pariahs. While some appear to internalise their feelings of guilt (as do most younger participants), a minority appear to be annoyed, even angry, and this leads to some deliberate littering as an act of rebellion because they feel it is justified.

In the focus group discussions, there was certainly considerable discussion among older participants about the perceived flawed logic from government that if you take away smoker infrastructure, people will stop smoking. Participants felt that while some might, many won't or can't (they are addicted), and the result will be some or many breaking the rules (smoking in non-smoking locations and also littering their butts in the absence of a sufficient number of DOSA and bins). Older participants certainly tended to be more dissatisfied with the number of designated smoking areas (“you used to be able to smoke everywhere!”) and their features (e.g. perceptions that they are inappropriately tucked away out of sight, not convenient, etcetera) while younger participants tended to be more accepting of the status quo; it seems that because younger smokers know no different, they are less critical.

Older smokers generally see butt litter as less of a problem than younger smokers. Their viewpoint is that it cannot possibly be as big an issue now as it was in the past when there were so many more smokers (even taking into account population growth). They also perceive the former culture of smoke and flick (employed by themselves in former times) to have improved.

Younger smokers have by and large grown up in the context of smoking being “frowned upon” and something done by a minority. It seems that as a result of this, they employ a greater range of “sneaky” disposal behaviours and are more used to concealing their behaviour.

Differences based on age, per se

Older smokers are less concerned by what others think – in relation to cigarette butt littering, and also just generally (increased confidence and decreased impact of the influence of others with age). Being less concerned by what others think – and by image – also means older smokers consider disposal methods younger people may be less willing to consider, such as personal ashtray, wrapping butts in a tissue and carrying away, etcetera – this is certainly what was reported in the groups. Smoking (and anything related to it) need not be cool or non-conformist.

Some older participants reflected that they had come, over time and with increasing age and maturity, to care more about not wanting to litter (butts and generally). A sense of

responsibility and motivation not to litter was also fuelled by family (having kids, grandkids, wanting to be a good role model), and having their own home (and a neighbourhood they cared about). Some older smokers seem to be more conscious of health implications of their smoking for other people and would be more likely to avoid smoking near family, children and passers-by.

Age differences conflated with length of time smoking

The longer the period of smoking, the more ingrained disposal behaviours become. While many long term smokers could rationalise their choice of disposal method, they indicated that seldom did they make a conscious decision; disposal had become instinctual (e.g. scan for bin, no bin, stomp on and kick into gutter).

Differences by heaviness of smoking habit

There was also some conflation of differences observed by age/length of time smoking, with differences observed by number of cigarettes smoked per day. Feedback gained during participant recruitment, and observations made in the groups suggests that older smokers tend to be heavier smokers and less likely to be social smokers who smoke the most with friends when drinking.

Lighter smokers appeared to think that for them personally there was less reason to worry about butt littering or take active steps to avoid it. The problem of disposal is not something they are experiencing all the time, every day, and they are not producing huge volumes of cigarette butts on a regular basis.

Heavier smokers are less flexible when it comes to when and where they smoke, they are less about to “plan” as they need to get their smoking in (they can’t go hours without smoking). At the same time, many heavier smokers see more of a need to take steps to prevent themselves littering as they appreciate how many butts they produce in a day. A personal ash tray (carried on them, not just left in the car) makes more sense for a heavier smoker who will use it throughout the day – a light smoker is less likely to carry around a personal ash tray for a handful of cigarettes smoked away from home or from a known ash tray.

There is unanimous agreement that butts smell far stronger/worse/more burnt than a smoking cigarette. None like the smell or want it on or near them. That said, heavier smokers are more tolerant of the smell, and tolerant of any smell seepage from, for example, a personal ash tray, a butt tucked in a pocket, or a receptacle in a car. (“I probably stink anyway”). Smoking is so much a part of their life, they are less phased by smell or exposure to butts than are younger, lighter smokers.

Regional differences

There were pronounced regional differences in focus group findings between Dubbo and the other locations visited in the research. Smoking, and by extension cigarette butt littering, appears to be more normalised in Dubbo, with far less stigma attached to being a smoker.

Certainly, smoking rates are elevated in regional Australia, with Western NSW having the highest smoking rates in the country.⁴

Another difference between Dubbo and either Coffs Harbour or Sydney, was a reduced consciousness of the impact of litter on waterways. Despite having a river – the Macquarie River – Dubbo is very inland, and there appears to be a disconnect between what is perceived to be an unattractive (brown) river, and one that eventually ends up in the ocean. This stands in stark contrast with the other regional location visited in the focus groups, Coffs Harbour. Many of the participants in the Coffs Harbour focus groups spoke of how fortunate they felt to live in such a beautiful part of NSW in close proximity to pristine beaches, and a desire to look after the natural environment was clearly strong among many; a greater sense of civic pride, overall, was certainly also detected in Coffs Harbour. The lack of attention paid to the Macquarie River by Dubbo residents also stands in contrast to some in the Sydney metropolitan groups who considered it important to protect Sydney Harbour, and avoid any form of litter being washed into it. This view, however, was not ubiquitous in Sydney, with some considering the harbour polluted almost to the extent of being beyond redemption.

Another, perhaps lesser, regional difference was the far lesser reliance on public transport in regional locations compared to Sydney. Finishing a cigarette butt at a public transport hub where there is no convenient bin, or having to finish a cigarette quickly and unexpectedly because a bus shows up, are not drivers of butt littering in regional areas to the extent that they are in Sydney.

⁴ Australian Institute of Health and Welfare 2016. Healthy Communities: Tobacco smoking rates across Australia, 2014–15 (In Focus). Cat. no. HPF 1. Canberra: AIHW.

Conclusions

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Typical disposal moments

The findings from this research suggest that cigarette disposals can be usefully grouped into six categories. Each typical disposal “moment” differs from the others on important dimensions. Any future interventions targeting cigarette disposal should take into account these different moments which may each need to be addressed in a unique – or at least subtly different – way. The moments include cigarette disposal:

1. during a planned and specific smoking break;
2. associated with smoking as part of broader break (where much of the break is taken up in a location or locations where smoking is banned, e.g. an eatery);
3. while smoking in the car;
4. on route as a pedestrian (e.g. walking to the train station);
5. at a transition point – entry to a non-smoking location, typically a building, public transport hub, etcetera; and
6. smoking at work – on site versus off site.

Smoker typologies

It seems clear that no future interventions will be equally effective for all smokers. For maximum efficacy, interventions need to be tailored to specific target audiences. The research identified four broad smoker typologies that may need to be addressed differentially in any future interventions. Some typologies are clearly higher priorities, in terms of target audience; achieving behaviour change among these typologies is more practical, and any change achieved is likely to have the largest and longest-term impact on littering rates (indeed, we would suggest that the final two typologies, described below, are beyond useful specific targeting).

1. Those who **care about cigarette butt littering**, and are **motivated not to litter** (even though they currently still do litter at various times)... This smoker segment tends to comprise mainly older, more mature smokers who have arrived, over time, at this position of not wanting to litter (many said when they were younger they couldn't have cared less and did litter butts much more frequently). They care about their neighbourhood, the look of their city/town, the environment, and/or being a role-model for appropriate behaviour (many within this segment are parents). However, we also found individuals from younger age cohorts within this smoker segment, these being particularly socially and/or environmentally-minded individuals. We think that with some further environmental enablement, and a boost in motivation (further rationale reasons given to them for not littering), this segment will be quite easily prompted to reduce their littering behaviour.
2. Those who **care about cigarette butt littering** at some level, but are currently **not particularly motivated** not to litter. The classic exemplification of this smoker segment is the young person who is used to having their behaviour frowned upon – not just cigarette butt littering but their smoking overall – and deal with it by not thinking about any of it too much. They don't think about disposal, and by habit litter unless there is a bin that is really obvious and convenient (and even then they may not use it if they have been drinking, or are with friends who are smoking and littering). They

know butt littering is not really OK, but their littering is (positively and negatively) reinforced, while “doing the right thing” is not, and they are not experiencing any negative consequences of littering. Interestingly, in the deprivation task in the in-the-moment research, participants from this smoker segment used bins, or carried their butts away, and subsequently reported that it was reasonably easy, but also reported that they still prefer to litter and think they will continue to litter moving forward. It would seem to be very important to attempt to change behaviour among this smoker segment, particularly as most of these smokers are part of the new generation of smokers. Their behaviour is not so strongly set in stone, as compared to those who have been smoking for years, changes now will hopefully “stick” for the rest of their time as a smoker, plus this generation will act as role-models, and set the benchmark, for future generations.

3. Those who **don't care at all about doing the wrong thing and are ambivalent** about littering. Members of this smoker segment report routinely littering their butts without compunction. The classic exemplification of this smoker segment is the older smoker who has always dropped and stomped on (and left) or flicked their butt into a gutter, and does so now completely unconsciously. They couldn't care less what others thought of this behaviour, and saw absolutely no need to behave anything differently. Some of these smokers are also more likely to litter all forms of rubbish. For them, littering is a broader and possibly a separate behavioural issue than for the more mainstream littering smoker.
4. Those who **don't care about doing the wrong thing and are defiant** about their littering. Members of this segment routinely litter their butts without compunction and feel justified in doing so given their perception that smokers – engaged in entirely legal behaviour – are not only inadequately catered for, but are victimised (by the anti-smoking movement including high taxation, what they consider to be draconian smoke-free legislation etcetera). They are essentially littering out of protest and in anger.

Implications of the research findings for intervention design

Addressing psychological capability

Currently, too many people are acting on autopilot when it comes to cigarette butt disposal. Smokers need to be made more aware and conscious of the extent to which they are currently littering, and the easy alternatives to littering, including strategies over and above placing their butt in a bin that is immediately in front of them at the time of finishing their cigarette. Increased consciousness of what they are doing when it comes to cigarette disposal is a required precursor to any form of behaviour change. That said, an increase in psychological capability should naturally be achieved by any interventions addressing the more important elements – affecting littering behaviour – of opportunity and motivation, as discussed below.

Addressing opportunity to appropriately dispose of cigarette butts

Clearly highlighted by this research is an uneasiness between the aims of the tobacco control movement – to reduce smoking rates – and the aims of the EPA – to make sure that cigarette butts are disposed of correctly. Of course, concerns about butt waste can be used as an additional pillar in the argument to quit, and any reduction in smoking rates will obviously correspond to their being fewer smokers in NSW with the potential to litter their butts. Further, this research suggests that efforts to draw attention to butt disposal will make

smokers more conscious of their smoking overall, with some likely to be more concerned about their smoking habit when the extent of it is thrown into sharper relief. Otherwise, however, the two aims are uneasy bedfellows. Smoke-free legislation, along with the existence of relatively few and well sign-posted DOSA (presumably at least in part as we seek to discourage smoking), is resulting in fewer smoking, when out and about or working, in places where they can easily access a bin or ashtray.

Many of the smokers participating in the research clearly felt that the pendulum has swung too far towards removing places where people can smoke (and that have bin infrastructure available for smokers), resulting in it being too difficult for people to dispose appropriately of butts without carrying butts away with them. While some clearly wished that smoke-free legislation would be wound back, far more were accepting of smoke-free legalisation, but wished that more infrastructure was provided for them on the periphery of smoke-free zones.

It does seem obvious that we need to accept that as long as smoking is legal, there will be a proportion of the population that does smoke and these individuals need to be catered for (unless we accept that smokers will litter and potentially even smoke in smoke-free zones). The amount of infrastructure should be proportionate to the size of that population, but DOSA need to be properly resourced and maintained, and located in sensible, strategic locations. We recommend that consideration be given to the installation of additional designated bins at transition points into smoke-free zones, including large buildings (office blocks etcetera) and public transport hubs. DOSA with bins, seating and preferably shelter, the locations of which are clearly flagged (perhaps on non-smoking signage) might be appropriate near smoke-free locations where smokers spend extended periods of time and need to emerge for a specific smoking break, such as hospitals, shopping centres, sports grounds and smoke-free sections of CBDs (e.g. Chatswood CBD, Martin Place) – but at minimum, bins need to be provided at these points.

There is certainly a feeling within the community that there are generally too few rubbish bins available in NSW, and there is a desire to see more bins on everyday streets. These will be used by smokers for cigarette butts, and seem a sensible middle-ground between catering for smokers and not wanting to promote smoking (by having designated butt bins dotted around everywhere fostering the impression that smoking is widespread and accepted by the community). Designated bins do, however, have advantages and would seem preferable at the key locations highlighted above. Well-designated bins are more appealing to, and more likely to be used by smokers, bring cigarette butt disposal clearly to smokers' minds (important given current problems with psychological incapability to dispose of butts appropriately due to inattention) and may help to flag transition into a smoke-free zone. Disposal in such bins is also clearly and unambiguously correct, including from the perspective of non-smokers.

Pole or post-mounted ashtrays, particularly where butts can be cleanly dropped into sand or water, are particularly favoured. We would also recommend consideration be given to more innovative bin infrastructure options that encourages and positively reinforces use of the bin. Suggestions include:

- A disposal mechanism that makes a game of disposal, or otherwise makes disposal fun, particularly for younger smokers (this would be helpful in increasing positive reinforcement of “doing the right thing”). This could be some sort of novelty bin as was previously in use in Dubbo (unfortunately stolen).
- Something that tracks improvement in butt littering (or progress towards a target), perhaps by highlighting how many butts haven’t been littered (e.g. akin to donations made or water saved in other domains) – again, this would increase positive reinforcement of “doing the right thing” including by demonstrating to non-smokers that smokers have a social conscience. A “watch out” here, however, is that smokers do not like to be unduly reminded of how many cigarettes they have smoked (certainly butts throw the number of cigarettes smoked, often with little consciousness, into sharper relief) or necessarily want non-smokers to know about this.
- We would note that a natural, ingrained, and preferred method for extinguishing cigarettes – for many – and part of the ritual or mystique of finishing off a cigarette – is grinding it out underfoot. It would be worth investigating whether a bin could be designed that was recessed into the pavement that allows for an extension of this smoking ritual. This could perhaps be a subtly marked small trench with grill over the top of it into which smokers could push or kick their butts. Obviously this would need to be filled with sand or water to aid with extinguishment and help prevent smell, and mustn’t overflow in the event of rain. Such infrastructure would entirely eliminate the need to lean down to pick up a ground-out butt, or to require individuals to butt out on a bin or ashtray (and thereby touching or at least going near something “smelly” and “gross” closer to nose height).

While previous research – including quantitative research – has suggested that personal ash trays are not well received, the findings from this research suggest that personal ashtrays could usefully play a greater role in butt litter reduction in the future. Certainly, uptake will be likely to be lower among young people (more image-focused), lighter smokers (perceived and indeed actual reduced need a personal ash tray), and possibly men (less likely to carry a bag in which the ashtray could be stored). What is absolutely crucial, however, is that:

- Any personal ashtrays that are promoted must function excellently. There are and have been a huge range on the market ranging from completely useless to excellent in the views of smokers. A negative experience with an ashtray that is not fully fit for purpose puts the user off personal ashtrays for life. Models must be carefully assessed and trialled – particularly to ensure that they avoid hinges that spring open or tops that do not fasten correctly – before any promotion to ensure that they do not leak ash and adequately contain smell. There may be differential interest in high quality models designed to be used long term (e.g. silver), versus a disposal option that is replaced regularly.
- Personal ashtrays must be promoted as they will not be top of mind or sought out by many. Unlike now, they must be very easy to obtain, including at point of purchase of cigarettes.
- Free personal ashtrays offered to smokers when they purchase their cigarettes would be accepted by some, but as noted above these must be perform flawlessly in operation.

In addition to personal ashtrays to be carried upon one’s person, there is existing and latent interest in a removable and disposable ashtray that can be used in cars, most conveniently stored in a cup holder. Again, these need to be promoted, cheap (if not free) and easy to obtain, and perform flawlessly in operation.

We believe that addressing the social opportunity currently afforded to smokers to litter their butts will be a thorny issue, and one perhaps best left alone – that is, not targeted directly. We do not feel that it is prudent to run a communication campaign overtly aimed at decreasing the social acceptability of butt littering, or that seeks to shame smokers. Smokers are sick of being “victimised” for their smoking, and are starting to actively rally against censorship from non-smokers. Further, smokers already know they aren’t doing the right thing when they litter their butts – a more fruitful avenue of intervention is to increase environmental opportunity plus motivation to get butts into bins. What would be highly effective is obvious role-modelling of appropriate cigarette butt disposal by smokers. This will naturally start to gradually happen as any interventions start to take effect on butt disposals. One idea to further help kick-start role-modelling would be to have a prominent smoker publicly champion appropriate cigarette butt disposal – the challenge would be finding someone willing to do this (have their identity tied up with being a smoker) and able to do this without inadvertently promoting smoking. What could also be effective in helping reduce the social opportunity afforded to smokers to litter their butts, is trying to increase the association between butt litter and general litter. General littering currently appears to be quite socially unacceptable, and more strongly positioning butt litter as a sub-category of general litter may produce a halo effect.

Addressing motivation to appropriately dispose of cigarette butts

While it seems clear that additional bin infrastructure is required to reduce cigarette butt littering, more bins will have limited impact if we don't, at the same time, increase smoker motivation to use them. Even at the moment, while smokers readily jump to blaming a lack of bins for their littering behaviour, an increased motivation to seek out bins (as provided by the deprivation task in the in-the-moment research) leads smokers to realise that “doing the right thing” is not as difficult as originally believed.

“I was surprised to see how easy it was to do the right thing if you're really wanting to do the right thing.” (Tempo participant, male, 33 years)

The two forms of motivation that need to be considered are reflective and automatic. Each are discussed in turn below.

Providing smokers with a stronger (rational) reason not to litter their butts

Considering reflective, or conscious, motivations, smokers need to be more aware of the negative impacts of cigarette butt littering – potential negative consequences to themselves (the possibility of a fine) which are always particularly motivating – but also more broadly. Put simply, more smokers need more of a reason to have the goal of never littering their butts. Specifically:

- It is crucial that the perceived likelihood of being fined for cigarette butt littering is increased. The “HEY TOSSER!” campaign appears to have been effective in increasing knowledge that one could potentially be fined for littering cigarette butts out of a car window. However, the perceived likelihood of being fined through this means is still low – few have been fined or even cautioned or know of anyone who has, and some doubt whether a dob-in system would ever lead to action fines (how

can the illegal behaviour be verified). Communicating on the number of registered reporters is probably not the way to go. Certainly, it would be preferable to communicate the number of fines that have been issued, rather than the number of registered reporters (to circumvent scepticism over whether dobbing in can result in fines, and also to try to avoid negativity arising from a focus on the dobbing in angle). However, either way, such a communication will suffer from the general problem with numbers – as many think 20,000 is a small number, as think it's a large amount – there is a huge amount of variability in interpretation.

The “HEY TOSSER!” campaign appears thus far to have been ineffectual in communicating anything about littering butts outside of the context of vehicles. Certainly, as noted before, littering – or not – out of a car is fairly fundamentally different to butt disposal in other contexts and needs to be dealt with a bit separately. Communications and strategies for one of these contexts, will not easily and naturally transfer to the other. Knowledge of fines for littering butts *more broadly* – outside of the context of cars – is very patchy indeed. Smokers don't know who would be doing the fining (police? rangers?), whether it would be a priority for them (they suspect the priority is policing smoking in non-smoking areas, not butt littering), or what the fines would be (although there is a vague impression they would be quite high).

Education about fines would be beneficial, and must cover both scenarios (from a car, versus not from a car), but to be truly effective as a deterrent would ideally be accompanied by a period of actual, fairly high level enforcement of anti-littering laws – nothing is a substitute for having actually received a fine (at minimum a caution) or knowing someone who has.

- A concern for the environment is already a reason, for many, to try not to litter their butts, but there is a knowledge gap regarding the extent of the negative environmental impact of butt littering. That toxins from butts leach into, and have a huge negative impact on, aquatic ecosystems is new information and increases motivation not to litter. Clear and simple messages (not getting bogged down in detail such as time taken for butts to break down) around butts having a bigger environmental impact than you might think, may need to be contextualised by a brief statement about the extent of the problem (number or perhaps better volume of butts littered) with care taken not to sound accusatory towards smokers (in all communications victimisation needs to be carefully managed).
- The cost to the government of cleaning up cigarette butt litter is not a strong motivator for most and could be problematic as an argument, for reasons outlined earlier in this report (dollar amounts variably interpreted, thought to be a key role of government and useful for generating employment, and cost would cover all litter with butts not adding to work load). At most, this should be reserved for a second or third level argument, and would be most usefully expressed as cost to tax-payer (not government) and as money spent on litter clean up that would otherwise have been spent on health or education.
- In terms of illuminating the social costs of littering, a minority may be swayed by something along the lines of a “tidy towns” type argument, strategy or promotion; an appeal to help keep our beautiful city / town / suburb tidy. Such an approach would, however, need to be very heavily location-based. It is most likely to have sway in more, otherwise pristine, locations, places with a strong community focus or pride, or with more progressively minded residents. It will be problematic as a broad strategy for Sydney or many areas of Sydney given the perception Sydney is already quite an overcrowded, dirty, polluted city (beyond help?). Even in terms of Sydney

Harbour, effectiveness of communications or interventions will have varying effectiveness at different locations (dirty versus more pristine).

Re-balancing automatic reinforcement, so littering is less strongly reinforced, and appropriately disposing of butts is reinforced

A particularly positive finding from the in-the-moment research – and particularly the deprivation task – is that most smokers were pleasantly surprised at how good “doing the right thing” made them feel. Many, after this exercise, said they’d been fairly surprised at how it wasn’t that hard to go out of your way to do the right thing (even where they had to carry their butt to a bin), doing so had made them feel good, and they would like to try harder to do the right thing in the future. Doing the right thing appears to be self-reinforcing.... you do it, discover it’s not that hard, feel good about it, and do it again. It is certainly an added bonus and great help if others around you are doing similarly. Particularly encouragingly was that this phenomenon was apparent in the in-the-moment research even before the stage at which we introduced any form of education about the negative consequences of butt littering – so occurred prior to an increase in reflective motivation. This suggests that any interventions that encourage smokers to appropriately dispose of their cigarette butts, will naturally lead to positive reinforcement of this behaviour and help ensure its longevity.

Most obviously, in addition to increasing the opportunity for smokers to appropriately dispose of cigarette butts, improving bin infrastructure and promoting quality personal ashtrays would have a flow on benefit of reducing reinforcement of littering (littering would have less appeal as a way to avoid the unpleasantness and hassle of having to touch / go near horrible smelly bins and/or walk long distances holding a cigarette butt). Use of clearly designed bins could be reinforced where it was enjoyable or somewhat tapped into the ritual of extinguishment.

How else appropriately disposing of cigarette butts could be positively reinforced may require further and creative thinking. In the context of a society that looks down on and disapproves of their smoking, smokers certainly like the idea of a “carrot” (in addition to any sticks” such as fines) for encouraging them to do the right thing in regards cigarette butt disposal, although they are short on usable ideas (something akin to Container Deposit Legislation – in this context returning butts to get free cigarettes or a discount off your next pack – was mooted, but the practicality, ethics and even efficacy of this is questionable). One suggestion from participants worth considering is including wording on cigarette bins that provide a simple reward for using the bin, one suggestion being “cigarette butts here; thanks for doing the right thing!”

Appendix A: Recruitment screener

Specifications

Focus group discussions

- Target audience: NSW smokers aged 18 years and over who admit to at least sometimes littering their cigarette butts
- Mixed gender groups, recruit min of 3 of each gender.
- 8 x 90 minute focus group discussions
- Recruit 8 per group, for 6-8 to attend
- For each group, aim to recruit at least two who speak a language other than English and home and/or identify as being of Aboriginal or Torres Strait Islander descent
- \$100 EFTPOS card per person incentive

Group	Age	Smoker status	Recruit	Venue	Date (June)
1	18-24	Light/medium	Work or study in broader Sydney CBD (incl. Chippendale)	Sydney CBD	Wed 7, 6pm
2	18-24	Medium/heavy	Live, work or study in/near Parramatta or Liverpool	Parramatta	Thurs 15, 6:15pm
3	18-24	Medium/heavy	Dubbo	Dubbo	Thurs 8, 5:30pm
4	25-39	Light/medium	Coffs Harbour	Coffs Harbour	Mon 19, 7:30pm
5	25-39	Medium/heavy	Dubbo	Dubbo	Thurs 8, 7:30pm
6	25-39	Medium/heavy	Live, work or study in North Sydney, Neutral Bay or Chatswood	North Sydney	Tues 20, 6pm
7	40+	Medium/heavy	Coffs Harbour	Coffs Harbour	Mon 19, 5:30pm
8	40+	Medium/heavy	Live, work or study in/near Parramatta or Liverpool	Parramatta	Thurs 15, 8pm

Tempo (in the moment online research) with follow-up depth interviews

- Target audience: NSW smokers (medium to heavy smokers) aged 18 years and over who admit to at least sometimes littering their cigarette butts. They must also have a smartphone.
- Recruit 20 for 16-20 to complete both phases of this research, as below. Fresh sample – participants must not have completed focus group discussions.
- Phase 1: Week-long journaling task. Participants access online research platform via an app on their smartphone. Five times per day they will be asked to make a “journal” entry, answering a few basic questions uploading a photo with accompanying description. Time commitment of approximately 2½ hours. To be completed Thurs 22 to Wed 28 June.
- Phase 2: 60 minute telephone interview at a time convenient to them (option for in-person interview at our St Leonards office). To be completed 29 June through 7 July.
- \$200 incentive per person, paid via EFT or cheque posted to them. Only paid where participant completes both journaling task and depth interview.
- Recruit to include:
 - 6-8 x 18-24 year olds
 - 6-8 x 25-39 year olds
 - 4-6 x 40 years +
 - Include preferably some who live, work, study in: Sydney CBD, Chippendale, North Sydney, Neutral Bay, Chatswood, Parramatta, Liverpool, Dubbo, Coffs Harbour. A spread of locations is required, with at least 8 recruited from regional NSW.
 - Recruit min of 8 of each gender

Recruitment script

Hello – my name is _____ and I am calling on behalf of Hall and Partners | Open Mind, an independent research agency. This is not a sales call and we are not going to ask you to buy anything.

Hall & Partners is conducting research with smokers about their experiences, including in designated outdoor smoking areas. The research is being conducted for a government client, not the tobacco industry or any special interest group.

<< CONFIRM THEY ARE A SMOKER, IF THIS HAS NOT ALREADY BEEN ESTABLISHED (THROUGH RECRUITMENT STRATEGY) >>

GROUPS: As part of the research, we will be running 90 minute small group discussions on <DATE> at <LOCATION>. Everything you say would be anonymous and confidential. Participation is voluntary and you would receive a \$100 EFTPOS card as a thank you for your time.

TEMPO with depth interviews: As part of the research, we will be running an online journaling exercise over the period of a week starting Thursday 22 to Wednesday 28 June. Each day, you would need to access an app on your smartphone to make five “journal” entries, answering a few basic questions about what you’re up to, and uploading a photo with accompanying description. At the end of the week, we’d want to speak to you over the phone (or at our offices in St Leonards), at a time convenient to you, about your experiences during the week. The total time commitment would be around 2½ hours, and you would receive \$200 cash (via EFT or cheque) as a thank you for your participation. Everything you say would be anonymous and confidential and participation is voluntary.

Additional information only if required:

- Each journal entry would take two or three minutes, so a time commitment of less than 15 minutes per day. The final phone interview would be up to an hour.
- We’re actually interested in the ways in which you dispose of your cigarette butts. The journal entries record individual disposals.
- The Tempo app does not need to be online for surveys or videos to be completed. Surveys can be downloaded on WiFi, completed offline, and then uploaded via WiFi at a later date.

Q1. Does this sound like something you would be interested in taking part in?

Yes	CONTINUE
No	THANK AND CLOSE

IF YES... Great! First we need to ask you a few questions to make sure you are eligible to take part in the study...

Q2. On a typical day, how many cigarettes would you usually smoke away from home? [DO NOT READ OUT]

If fewer than 2	TERMINATE
If 2-10	“LIGHT SMOKER” – CONTINUE FOR GROUPS 1 & 4 <u>ONLY</u>
If 11 to 19	“MEDIUM SMOKER” – CONTINUE
If 20 or more	“HEAVY SMOKER” – CONTINUE

Q3. Confirm gender

MALE
 FEMALE
 <Recruit min of 3 of each per group, min 8 of each for Tempo.>

Q4. Have you ever attended a group discussion or taken part in an interview for market or social research?

Yes	CONTINUE
No	Go to Q6

Q5. When did you last attend a group or take part in an interview? [DO NOT READ OUT]

If longer than 6 months ago	CONTINUE
If less than 6 months ago	TERMINATE

Q6. And which of the following age categories do you fall into?

- | | |
|-------------|-----------------------------------|
| 1. Under 18 | TERMINATE |
| 2. 18-24 | CONTINUE FOR GROUPS 1-3, OR TEMPO |
| 3. 25-39 | CONTINUE FOR GROUPS 4-6, OR TEMPO |
| 4. 40+ | CONTINUE FOR GROUPS 7-8, OR TEMPO |
| 5. Refuse | TERMINATE |

<Note soft age quotas for Tempo>

Q7. [FOR SYDNEY GROUPS ONLY:] And can you please tell me, depending on which are applicable, which suburbs you live, work and/or study in? We're trying to get a good spread.

<Note target areas of Sydney>

Q8. I'm going to read out a number of different behaviours. Please tell me how often you do each of these.

	Never	Sometimes	Often	Always
Use a designated smoking area at work, or the place where you study.				
Discard cigarette butts out your car window.				
Litter your cigarette butt when there isn't a bin available.	TERMINATE			
Use an e-cigarette instead of standard cigarettes.				TERMINATE

Q9. [FOR FOCUS GROUPS ONLY:] Are you of Aboriginal or Torres Strait Islander descent?

1. Yes
2. No

Q10. [FOR FOCUS GROUPS ONLY:] Do you speak a language other than English at home?

1. Yes
2. No

<For each focus group, aim for an average of at least 2 answering "Yes" at either Q9 or Q10>

THANK AND RECRUIT TO RELEVANT BOARD AND GROUPS

Appendix B: Focus group discussion guide

.....

Welcome and introductions (10 mins)

- Introduction to moderator/researcher – establish we are from independent research agency
- Introduce any NSW EPA staff viewing – a colleague of mine here to take notes
- Thank participants for their time and contribution
- Explain recording and confidentiality of participant information
- Explain the importance of honest opinions. No right or wrong answers. We are talking about your personal opinions and experiences, it is not necessary for everyone to agree with each other.
- Mobile phones, bathroom facilities, emergency exits, refreshments
- Topic: One of the things that you all have in common is that you smoke, and tonight we'll be chatting about some of the experiences you may share as smokers.
- Warm-up:
 - Ask everyone to introduce themselves – 30 second introduction to themselves, anything they'd like to share with the group (family situation, interests, what they do during the day).
 - I'm also interested in the sorts of places you find yourself smoking, aside from at home ... so maybe you socialize out a lot in the evening, and find yourself smoking outside pubs or restaurants, or you smoke at the train station on the way to and from work... Just to get a picture of your lifestyle and smoking habits.

Context setting and unprompted thoughts about cigarette butt disposal (10 mins)

BUTCHERS' PAPER EXERCISE:

"Being a smoker in Sydney/Dubbo/Coffs Harbour"

Brainstorm what it means to them to be a smoker. Listen for feelings, challenges, sensitivities... and for any unprompted mentions of designated outdoor smoking areas / cigarette butt disposal.

- What about getting rid of your cigarette butts when you're out and about? Is that something you think about much? Is it an issue? Tell me a bit about that.

Self-report behaviour (25 mins)

BUTCHERS' PAPER "GROUPING" EXERCISE:

"What we're going to do now is brainstorm all the different ways that we go about getting rid of our cigarette butts. If we're really specific, we're going to be writing down heaps of different ways so we also want to group the methods. We all know that not all cigarette butts end up in a butt bin, so I really want you to be honest here."

Divide into three columns with headings – give permission and challenge them to be honest:

- “cheeky”
- “more blatant”
- “correct / legal”

“VISUALISATION” EXERCISE:

“I want you to close your eyes... and think about one experience you've had recently where you've made a choice about how and where you were going to dispose of your cigarette butt.... think about it for a few minutes and then I'm going to ask each of you to:

- describe the location and situation – where you were, who you were with, what you were doing or about to do
- what options you had available to you in terms of getting rid of your butt
- what method you chose and why – what you were thinking and feeling at the time

Support with the three questions put up on the whiteboard

Look out for and probe on such things as designated smoke break versus smoking and walking, presence of other people (and what it is about this), how much of a hurry they were in, familiarity of area, etcetera

In each group, we should end up with 6-8 vignettes.

Further exploration of psychological capability and opportunity (10 mins)

- To what extent do you feel like how you're going to dispose of your cigarette butt is a conscious choice or decision, versus something you just do instinctively?
- Do you think about how you're going to get rid of your butt before you light up?
 - In what situations?
 - Tell me about some of the plans / strategies for butt disposal you may have?
 - To what extent do butt disposal considerations influence where you chose to smoke?

Further exploration of social opportunity (5 mins)

- In your view, what does "best practice" cigarette butt disposal look like? Why do you say that?
 - *Listen for: view that it doesn't matter either way as butt littering inconsequential; concerns about bin fires; some forms of littering better than others e.g. in garden bed out of view.*
- What proportion of smokers do you think follow "best practice" – what do you think is the norm?
- How do you think the community more generally views cigarette butt littering?
- Has anyone ever commented on your methods for getting rid of your cigarette butts? Who? What did they say? What was your reaction?
 - *Explore whether ever been "told off" or felt judged for littering and reaction to this – do they care about being judged? By whom do they most care about being judged (peers, family, strangers, smokers, non-smokers)?*
 - *If not mentioned elsewhere, ask whether anyone has been fined; what are the perceptions of likelihood of enforcement? More/less likely than being fined for littering generally?*

Further exploration of motivation not to litter (10 mins)

- How motivated are you to get your butts into a bin? To what extent do you have a goal not to litter? Why / why not?
- Do you think litter is much of an issue in NSW? Is it more or less of an issue than littering more generally? Should dropping cigarette butts even be called littering?
- What are some of the broader negatives, say for NSW, associated with cigarette butt littering? How big are these problems? Which of these are worst, less bad?

PROMPT AS NECESSARY:

- Environmental costs
- Social costs
- Financial costs
- What do you think does happen to cigarette butts that are left say on the pavement?
- I'm going to read out some facts about butt litter and I'm interested in your reactions. *Listen for what's surprising / compelling – but move through quickly:*
 - Cigarette butts are the most littered item in NSW
 - Around 7 billion cigarette butts are littered in Australia each year
 - Cigarette butts have toxic chemicals such as lead and cadmium, which get trapped in the cigarette filter, and can leach out in water. 'Within just one hour of contact with water, the chemicals begin to leach into the aquatic environment and threaten the well-being of marine life
 - Cigarette butts can also take up to 12 months to break down in freshwater and up to 5 years to break down in seawater. Cigarette butts have the ability to severely damage our waterways and aquatic eco systems.
 - If it's not in the bin, it's on you.
 - 90% of fines issued for littering from a vehicle relate to cigarette butt litter.
 - There are now 20,000 community members in NSW registered to report littering from vehicles.
 - *For above two, assess how well known it is that people can report littering from cars and thoughts on this. Is 20,000 a large number – impactful?*
 - NSW spends \$180 million each year managing litter on NSW

Further exploration of environmental opportunity (15 mins)

- Do you think there are too few designated outdoor smoking areas here in [SPECIFY RECRUITMENT LOCATION(S)], too many, or do you think the number is about right?
 - In what sorts of areas do you think there should be (more) designated outdoor smoking areas?
- Do you think it's easy to locate outdoor smoking areas? Are they sufficiently sign-posted? Have the right sort of signage? What sort of signage is required?
- Can anyone think of any specific smoking areas that are particularly **well set up** for smokers? [SEEK SPECIFIC ADDRESS AND DESCRIPTION OF WHAT'S THERE] What are the characteristics of a good smoking area?
 - LISTEN FOR AND PROBE ON:
 - *sufficient number of bins – how far will they walk to a bin?*
 - *presence of specific butt bins (not general waste) – why a preference?*
 - *butts cannot escape from butt bins*
 - *bins easily visible*
 - *bins clean / not overflowing – explore “yuk” factor*
 - *area generally pleasant and well cared for*
 - *clear and easy to understand signage telling smokers what to do with butts and/or information on penalties*
 - *area patrolled by rangers*
 - *area well-lit and/or sheltered from the weather*
- Do you think when you're choosing how to dispose of your cigarette, you are actually responding to the environmental context you're in?

PICTURE SORTING EXERCISE:

What I've got for you here is a set of photos of various locations (some of which you might recognise). As a group I'd like us to order the locations from the location at which you think you'd be **most likely** to litter your butt, to the location at which you think you'd be **least likely** to litter your butt. Talk me through your thinking here.

Disruptors and suggestions for intervention (5 mins)

(Insight on useful disruptors and possible future interventions will come from our analysis of responses to earlier lines of questioning – we will only directly and overtly ask participants about this briefly, and as time permits)

- Do you think it's fair enough for the government to want to try to stop smokers littering their butts? What do you think the government should do to try to achieve this?
- Have you heard anything today that might be a convincing argument to smokers to encourage them to litter their butts less?
 - If we wanted to provide smokers with such information how might we usually do this? Would it be through a mass media advertising campaign for example... or reminders on or near rubbish bins or high litter locations?
- Can you think of any ways that smokers could be rewarded or incentivized for not littering their butts?

Thank and close

- Debrief, thank for participation, final thoughts, distribute incentives

Appendix C: Tempo tasks and prompts

.....

Initial email to recruited participants [NOT WITHIN APP]

Dear [INSERT NAME]

Thanks again for agreeing to participate in our research. We really appreciate your time in helping us better understand some of the experiences smokers' have, including in designated outdoor smoking areas.

Remember that everything you tell us is confidential and participation is voluntary. You will receive \$200 (via EFT or cheque) as a thank you upon completion of all smart phone tasks and the final interview with one of our consultants.

To get started

- Please download the 'YourWord' App:
 - For iPhone click [here](#)
 - For Android phone [here](#)
 - You can also search for 'YourWord' in the Android Market, Google Play or Apple App Store to find us.
- Once you have downloaded and opened the app, create a new account and when prompted enter the project code below (all capitals and with no space):
[INSERT PROJECT CODE]
- After joining the project, you will be asked to complete a short profile questionnaire. Then simply select the project from the list to get started.

What to expect

The project kicks off today.

As just mentioned, you will be first asked to complete a short initial questionnaire.

You will then be asked to log in to the app every time you dispose of a cigarette butt while away from home, and answer a few short questions and take a photograph of where you are and how you dispose of your cigarette butt. If you smoke too many cigarettes for this to be practical, we ask you to log in to the app at least five times per day to record five randomly selected cigarette disposal moments (please make sure these cover a range of different situations/locations and times of day).

The details of the tasks will be outlined to you in more detail in the app as the project goes on.

Need Help?

If you have any questions please email Robin Gale at robin@hpopenmind.com.au and say you are involved in the Tempo project or call our office on 02 9925 7450.

We look forward to seeing your responses!

Thanks

[Robin's signature]

Task 1 – Consent: Please read carefully before you begin [ONE OFF]

Sub-title: [Terms and conditions for the project]

[STANDARD TERMS AND CONDITIONS INSERTED]

Task 2 – Welcome to the project [ONE OFF]

Our names are Robin and Bettina, and we will be overseeing this research study. That means we will be checking out your responses and, from time to time, getting in touch to help guide you through the experience.

Over the next week we will ask you to take some photos and videos with your phone or tablet and answer some questions – we call these 'tasks'. We will need you to complete these tasks at least five times per day when you dispose of a cigarette butt away from home. After four days, the task will change slightly – we will tell you about that on Monday.

Before we start these tasks, we'd like to ask you a few questions about yourself.

Q1. Which of the following age categories do you fall into?

- Under 18 TERMINATE
- 18-24
- 25-39
- 40-54
- 55 +

Q2. For how many years have you been smoking?

Less than 5 years

5-10 years

11-15

DO NOT ASK FOR 18-24 YEAR OLDS

16-20

DO NOT ASK FOR 18-24 YEAR OLDS

More than 20 years

DO NOT ASK FOR 18-24 YEAR OLDS

Q3. How many cigarettes do you usually smoke on a typical day?

Please exclude e-cigarettes

Up to 5

TERMINATE

6-10

11-19

20+

Q4. And on a typical day, how many cigarettes would you smoke away from home?

Up to 5

TERMINATE

6-10

11-19

20+

Q5. In what suburb/town do you live?

Q6. If applicable, in what suburb(s)/town(s) do live/work or study?

Outro. Usually, great thanks for the introduction! When you tap 'Done' a new activity will have unlocked for you called Your Smoking Diary. Please complete this task everytime you dispose of a cigarette butt when away from home.

**Task 3: Tempo – Thursday through Sunday [RECURRING]
Your Smoking Diary**

Task page:

Q7. [INFORMATION] Please come to this task every time you dispose of a cigarette butt when away from home, between Thursday and Sunday.... If this is going to be impractical given the number of cigarettes you smoke, please randomly select five times you dispose of a cigarette butt on each of these days. For each response please provide as much information as possible, going into real detail for your answers.

1. Please take a photo – and add a short caption to describe it – to capture how you disposed of your cigarette butt, and to illustrate the area / situation you were in when you did so.

[PHOTO]

2. **Where** were you when you were disposing of this butt?
3. **What** were you doing?

4. **Who** were you with / who could you see?
5. How did you **feel** while you were disposing of your butt in this way?
6. **Why** did you dispose of your butt in this way, rather than any other?
7. Outro. [INSTRUCTION]. Text for here? Thanks! Please remember to complete this next time you dispose of a cigarette butt.

Task 4: Tempo – final three days, Monday through Wednesday [RECURRING – UNLOCK ON DAY 5] Your Smoking Diary – Part II

Q8. [INFORMATION] Your task for the next three days is to **try really hard to NOT litter any cigarette butts** when away from home.

Please come to this task every time you dispose of a cigarette butt (hopefully in a bin, or taking the butt away with you!) between Monday and Wednesday.... If this is going to be impractical given the number of cigarettes you smoke, please randomly select five times you dispose of a cigarette butt on each of these days.

Please complete these tasks for each instance of cigarette butt disposal (even if you forget or otherwise still litter a butt). For each response please provide as much information as possible, going into real detail for your answers.

1. How did you just dispose of your cigarette butt?

Littered it	ROUTE TO TASK 3 QUESTIONS
Bin	CONTINUE
Carried it away with me	CONTINUE
2. How did you **feel** while you were disposing of your butt in this “correct” way?
3. How difficult did you find doing “the correct thing”
 INCLUDE A 5-POINT SCALE

0	4		
Not at all		Very	
difficult		difficult	
4. How would you have **normally** disposed of your butt (if you hadn't been asked not to litter)?
5. Please take a photo – and add a short caption to describe it – to capture how you disposed of your cigarette butt.

 [PHOTO]
 Outro. Text?

Task 4: Selfie video and thank you [ONE OFF – UNLOCK ON DAY 7] Your Experience

Q9. Just before you finish using this app, we would in invite you to upload a short selfie video of yourself talking about your experiences this week – anything that's surprised you, anything that's been particularly difficult about not littering, and anything you'd like us to know about the issue of cigarette butt littering.

When filming this video, please stand with your phone held at arms-length and turned on its side, in good lighting, and when there is as little background noise as possible.

[Video]

Q10. Thank you so much for participating in the tasks this week. The next stage of this research is a phone interview with us, so you should be contacted by our recruiter this week to set this up. If this doesn't happen or you need to change the interview time, please contact the recruiter at Farron Research on 02 9651 4660.

Hit done to submit your responses and don't forget to connect to wifi to ensure all of your posts have been uploaded.

Thanks again.

Appendix D: Depth interview guide

Introduction

- Reinforce that we are from independent research agency
- Thank participants for their time and contribution via the smartphone research. Explain that we have all their data from this exercise in front of us and will be chatting about their experiences during the week.
- No right or wrong answers. We are talking about your personal opinions and experiences.
- Explain audio recording and confidentiality of participant information

Context setting

- What's it like, generally, being a smoker in [INSERT LOCATION]?
Listen for feelings, challenges, and sensitivities.
- And before this smartphone exercise...
 - was getting rid of your butts something you'd given much thought to?
 - how did you feel about getting rid of your butts; how would you describe what it was like?
- And before this smartphone exercise... how motivated were you to get your butts into a bin? To what extent did you have a goal not to litter? Why / why not?

Reflections on the week

The smartphone exercise gave you an opportunity to reflect on cigarette disposal away from home....

- Has anything struck you, over the course of the exercise, about the issue of cigarette butt disposal?
- Has anything surprised you about the ways you've been going about getting rid of your cigarette butts?
- Do you think you dispose of cigarette butts differently in different situations or on different occasions? Please talk me through some of the main ways or strategies you have for disposing of butts (*that is, had had prior to deprivation task*)...

- What do you prefer to do, why?
- What do you feel it all depends on?

Probe on: Physical characteristics of setting, bin infrastructure, time of day, weather, others present, extent to which disposal was scheduled, perceived likelihood of enforcement, work versus social setting, different social contexts

Reflections specifically on the deprivation task

In the latter half of the week, we asked you to try really hard not to litter any butts, and to make sure they all ended up in a bin.

- How difficult did you find this task? Was this harder or easier than you expected?
- What settings/situations/contexts did you find most challenging? Why?
- What have been some of the strategies you've employed? How did you end up going about getting rid of your butts? Which proved best? To what extent are you motivated to continue disposing of your butts in this way moving forward? Why / why not?
- In the past, how often would you have planned how you were going to get rid of your butt before you lit up? Why / why not? In what situations were you more/less likely to do so? What might prompt you to think about how you would dispose your butt prior to lighting up?
 - To what extent did the task we set you in the latter half of the week, require you to plan in advance?
 - How did planning in advance affect your butt disposal?
 - Do you think this is realistic for you moving forward? Why / why not?
- In light of what you've learned from this exercise... Do you think in the past you've made really conscious decisions about how you'd dispose of your butts, or has this been something you've done more instinctively?

Interrogation of Tempo data

I've got all your posts from the smart phone exercise here in front of me and I'm just going to go through some of it with you...

Look through in advance of interview, and:

- *Seek clarification of any answers / photos / captions that didn't make sense*
- *Probe for additional information as required*
- *Go through any particularly interesting / enlightening / unique situations in greater detail – have them explain that moment in greater detail*
- *Discuss any observed key themes / patterns in their responses, e.g.*
 - *Types of areas / scenarios typically littered in*
 - *Categories of feelings – explore what was behind them*
 - *Categories of reasons for littering – explore further*
 - *Any other common used words / phrases / ideas*

Further exploration of social opportunity

- In your view, what does "best practice" cigarette butt disposal look like?
- What proportion of smokers do you think follow "best practice" – what is the norm?
- How do you think the community generally views cigarette butt littering? ... and compared to other forms of littering?
- Has anyone ever commented on your methods for getting rid of your cigarette butts? Who? What did they say? What was your reaction?
 - *Explore whether ever been "told off" or felt judged for littering and reaction to this – do they care about being judged? By whom do they most care about being judged (peers, family, strangers, smokers, non-smokers)?*

- *Have they ever been fined; what are the perceptions of likelihood of enforcement? More/less likely than being fined for littering generally?*

Further exploration of environmental opportunity

- Do you think there are too few designated outdoor smoking areas here in [LOCATION], too many, or do you think the number is about right?
 - In what sorts of areas do you think there should be (more) designated outdoor smoking areas?
- Do you think it's easy to locate smoking areas? Are they sufficiently sign-posted? Have the right sort of signage? What sort of signage is required?
- What are the characteristics of a good smoking area?

Further exploration of motivation not to litter

- Do you think cigarette litter is much of an issue in NSW? Is it more or less of an issue than littering more generally? Should dropping cigarette butts even be called littering?
- What are some of the broader negatives, say for NSW, associated with cigarette butt littering? How big are these problems? Which of these are worst, less bad?

PROMPT AS NECESSARY:

- Environmental costs
- Social costs
- Financial costs
- What do you think does happen to cigarette butts that are left say on the pavement?
- A bit of a change of pace now... I'm going to read out quite a long list of statements. These statements cover facts about butt litter and I'm interested in your reactions to these – whether you believe them, whether you care, whether this might make you more inclined to try to get your cigarette butt into a rubbish bin.

Listen for what's surprising / compelling – but move through quickly:

- Cigarette butts are the most littered item in NSW
- Around 7 billion cigarette butts are littered in Australia each year
- Cigarette butts have toxic chemicals such as lead and cadmium, which get trapped in the cigarette filter, and can leach out in water. 'Within just one hour of contact with water, the chemicals begin to leach into the aquatic environment and threaten the well-being of marine life
- Cigarette butts can also take up to 12 months to break down in freshwater and up to 5 years to break down in seawater. Cigarette butts have the ability to severely damage our waterways and aquatic eco systems.
- 90% of fines issued for littering from a vehicle relate to cigarette butt litter.
- There are now 20,000 community members in NSW registered to report littering from vehicles.
 - *For above two, assess how well known it is that people can report littering from cars and thoughts on this. Is 20,000 a large number – impactful?*

- NSW spends \$180 million each year managing litter on NSW

Disruptors and suggestions for intervention

- Do you think it's fair enough for the government to want to try to stop smokers littering their butts? What do you think the government should do to try to achieve this?
- Have you heard anything today that might be a convincing argument to smokers to encourage them to litter their butts less?
- If we wanted to provide smokers with such information how might we usefully do this? Would it be through a mass media advertising campaign for example... or reminders on or near rubbish bins or high litter locations?
- Can you think of any ways that smokers could be rewarded or incentivized for not littering their butts?

Thank and close

- Thank, final thoughts, collect address / EFT details for payment, close

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