

RESEARCH REPORT

NSW EPA LITTER PREVENTION UNIT

CIGARETTE BUTT PREVENTION PROGRAM COMMUNITY IMPACT RESEARCH

8 JULY 2021



HEARTWARD

STRATEGIC

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Executive summary

Research objectives and method

Heartward Strategic was commissioned by the NSW EPA to conduct targeted research to measure the impact on communities exposed to cigarette butt litter prevention projects. A total of 552 randomly selected members of the community were intercepted and interviewed as part of this research, across five Cigarette Butt Litter Prevention Grant sites in the first week of June 2021.

Research findings

The research uncovered strong support for infrastructure and signage of the kind adopted in the grant projects. Across the grant sites, 89% of community members overall indicated they supported the new bins/signage, as described to them, being in the area; with perceived benefits of this infrastructure/signage, both unprompted and prompted, far outweighing perceived disadvantages or concerns.

The most common unprompted response to cigarette butt bins and associated signage being used in the area was support for the concept of designated smoking areas to separate smokers from non-smokers and to provide smokers with somewhere out of the way to legitimately smoke. A response of this kind was given by 30% of all community members surveyed. Roughly one in four (24%) expressed the view that the infrastructure and signage would be beneficial in reducing litter (24%).

Just 5% had a negative unprompted response to cigarette butt bins and associated signage being used in the area, including 2% expressing concerns about the grant projects having a negative impact on public health, through encouraging smoking, or creating smoke drift from areas attracting high volumes of smokers.

On prompting, 91% of community members agreed it was appropriate to provide something like this for smokers, 84% agreed that the measure would help keep the area free of butt litter, and 77% agreed the measure could be useful in keeping second hand smoke away from non-smokers. Minority proportions of community members surveyed indicated concerns when prompted. The most prominent concerns were that it would attract more people to the area to smoke (with 17% agreeing), and that it may encourage people to smoke more or take it up by making smoking seem acceptable (with 13% agreeing).

Across the sample, 36% were unaware of the existence of the new butt bins and associated signage and had therefore not been directly impacted. Among those who had noticed bins/signage prior to the interview, positively, 42% said they had noticed a decline in butt litter in area, however, 27% said they had noticed smoke drift impacting people outside the direct vicinity of a butt bin.

Among smokers who had had a cigarette in the area, awareness of the new butt bins and associated signage was associated with higher use of a butt bin (80%) and lower use of general waste bin (51%) or littering (24%), while a lack of awareness was associated with greater use of general waste bin (75%) and indicatively greater littering (38%¹). Stronger evidence for a positive impact of the grant projects on littering behaviour comes from a self-report measure; 57% of smokers aware of the bins/signage who had had a cigarette in the area, said they had littered butts less a result of the new bins and signage being in the area. The survey results suggest the grant projects have been particularly effective in: motivating smokers to bin their butts by making them feel positive about doing the right thing (86% agreed); and increasing opportunity to do the right thing by making it easier to get butts into a bin (84% agreed).

Among smokers who had had a cigarette in the area and were aware of the new butt bins and associated signage, only 13% agreed that it made them feel smoking was more acceptable.

¹ Noting the low sample sizes for smokers admitting to littering, differences were not statistically significant.

Conclusions

This research provides evidence that grant projects are providing smokers with the opportunity and motivation to appropriately dispose of cigarette butts, while being very well received by the community with the vast majority of those surveyed supportive of infrastructure and signage to prevent cigarette butt litter being present in the area and conscious of a number of associated specific benefits.

Findings suggest that the community is most in favour of butt bins being positioned somewhat out of the way, able to be avoided easily by non-smokers, and with sufficient margin around the edges to avoid issues with smoke drift. In this research, perceived smoke drift was perhaps higher than it could be, however the possible impact of the grant projects on public health appears low overall. Only around 1 in 10 feel that providing infrastructure and signage of this sort for smokers may increase the perceived social acceptability of smoking.

Currently, there may be a missed opportunity in signage to communicate the harms of littering cigarette butts and reinforce the environmental benefits of avoiding cigarette butt litter. Greater enforcement of smoke-free zones and littering laws is also likely to play a role in reduced butt litter and positive public health outcomes.

Research context, objectives and method

CONTEXT AND OBJECTIVES

The Cigarette Butt Litter Prevention Program draws together existing and planned interventions designed to:

- reduce the volume of cigarette butt litter;
- improve cigarette butt littering behaviour; and
- build on stakeholder and community support for initiatives aimed at reducing cigarette butt littering.

The Program was formalised in 2020 and is currently intended to run until the 2024-2025 financial year. A monitoring and evaluation framework is in place which will assist the NSW EPA in determining the impact of the program on its primary target audience of smokers, as well as determining any intended and unintended impacts of the program elements on members of the broader community.

Cigarette Butt Litter Prevention Grants form the core of the Prevention Program. Grants of up to \$40,000 are available to support stakeholders to deliver local cigarette butt litter prevention projects that answer local needs and contribute to achieving NSW goals in long-term litter reduction. Round 1 projects are underway and will run until September 2021, with preparation soon to be underway for Round 2.

Heartward Strategic was commissioned by the NSW EPA to conduct targeted research to measure the community impact of projects funded by these grants (including any unintended, negative impacts), to inform the next and subsequent rounds of grants, and to provide early indications overall of how the Cigarette Butt Litter Prevention Program more broadly is likely to impact on local communities.

RESEARCH METHOD

The study employed an intercept interview methodology² to allow accurate targeting of the communities affected by these area-specific projects.

Fieldwork took place across five different grant sites, to ensure good generalisability of research findings. The intention of the research was to assess the impact on the community who are exposed to litter prevention projects overall, and *not* to evaluate or compare between individual grant sites. To this end, grant sites were selected to ensure:

- good geographic spread, including sites in Sydney and outside of Sydney;
- only more major grant investments were considered (excluding small grants / those with a single site);
- 'atypical' sites and situations (producing hard to generalise findings) were excluded; and
- that they could be cost-effectively accessed by interviewers, to minimise fieldwork costs.

Heartward Strategic would like to thank Bathurst Regional Council, Bayside Council, City of Ryde, North Sydney Council and Wollongong City Council for their cooperation and willingness to have this research include sites in their local government area.

To ensure the sample was broadly representative of the local communities exposed to and impacted by the grant projects, the sample was created organically, with all individuals 18 years and over passing through the chosen area qualifying to participate in the research and approached at random. In areas with, or at times of, low volumes of foot traffic, every individual entering the area was approached; at other times, every second or third

² Face-to-face computer-assisted personal interviewing

individual was approached. The introduction to the survey made explicit that the research had been commissioned by the NSW EPA and sought the community's views (smokers and non-smokers alike) on infrastructure and signage for smokers in the area.

The interviews were conducted by experienced and fully trained staff from TKW Research Group, which is an ISO 20252 certified research fieldwork provider. At each site, interviews took place across a 5-7 day period between Tuesday 1 and Monday 7 June 2021. Fieldwork was conducted in 8-hour shifts occurring between 8am and 6:30pm. At each site, interviewers positioned themselves near (within a block), but not directly next to, bin infrastructure and signage.

The final sample size achieved was 552 and the sample had the following characteristics:

Table 1. Sample characteristics, by location

Variable		Location					Total sample (n=552)
		1 (n=129)	2 (n=123)	3 (n=112)	4 (n=101)	5 (n=87)	
Reason for being in the area ³	Live in the area	44%	67%	85%	80%	21%	60%
	Work in the area	4%	20%	29%	9%	69%	24%
	Visiting area only ⁴	52%	24%	13%	14%	11%	24%
	Local business owner	-	-	-	3%	-	1%
Gender	Male	48%	54%	38%	50%	75%	52%
	Female	52%	46%	63%	50%	25%	48%
Age	18-29	11%	28%	22%	12%	20%	19%
	30-49	29%	43%	29%	34%	46%	36%
	50-69	41%	24%	29%	46%	30%	34%
	70+	19%	4%	19%	9%	5%	11%

The questionnaire used by interviewers, included in this report as Appendix A, was designed by Heartward Strategic in close consultation with the NSW EPA. It comprised mainly closed-response questions with pre-coded response options and two free-response, open-ended questions. It was designed to be delivered in an average of 7 minutes, but the final average survey length was 12 minutes.

The data resulting from this survey was analysed in-house by the Heartward Strategic principals using industry-leading SPSS Statistics software. To note, the sample size of n=552 has a margin of error of at most +/- 4% at the 95% confidence level on results pertaining to the whole sample. In some instances, apparent differences between groups of interest (for example, those aware of versus those not aware of the infrastructure/signage, and smokers versus non-smokers) have been tested for statistical significance, using chi-squared tests. Results reported as significant are at the 95% confidence level.

³ Categories were not mutually exclusive (except 'visiting area only' could not be selected if 'live in' or 'work in' was selected).

⁴ Do not live or work there.

Research findings

UNPROMPTED GENERAL REACTION

At the beginning of the survey, all community members interviewed were asked to describe their response to cigarette butt bins and associated signage being used in the area. Open-ended responses were analysed to draw out common themes which are presented in Figure 1, overleaf.

As illustrated, response was widely varied, and some community members expressed a combination of views, including both positive and negative (meaning the proportions in Figure 1 sum to more than 100%). However, the most common reaction by some margin was support expressed for the concept of a designated smoking area that effectively separated smokers and non-smokers. Almost one in three community members surveyed (30%) mentioned this, including 32% of non-smokers and 22% of current smokers. Smokers favoured having 'their own space' in the perceived context of a community that frowned upon their smoking behaviour and also welcomed the clarification that that was an area in which it was permissible to smoke. Non-smokers liked the idea of smokers, cigarette smoke and cigarette butts being confined to specific locations, that they could then seek to avoid. In a related sentiment, 3% noted that it was appropriate for infrastructure of this kind being provided for smokers, so as to cater for what is currently still an entirely legal behaviour. The same proportion (again 3%) noted they would like to see smoking areas having infrastructure alongside butt bins, such as seating, and shelter from the elements. This preference for smoking areas with good infrastructure was not limited to smokers themselves; some non-smokers were of the view that good infrastructure will encourage smokers to (only) smoke in those locations.

"I don't mind it as people need space to smoke, they are not lepers, and I would rather they smoked in a designated area than just where they like."

"Too many people complain about smokers. A designated area will stop this - don't go into this area."

"It's legal so they should have areas to smoke, sheltered and seating, as they are not second class citizens."

"It is good as it stops passive smoking as people have the right to smoke and people have the right to not have to breathe in smoke. I used to smoke and know what it is like."

"Good to have smoking areas because they dump butts everywhere as smokers aren't accommodated properly with their own space and bins, so it affects everyone."

Almost a quarter of community members surveyed (24%) expressed a positive response to infrastructure /signage of this kind being used for reasons of reducing cigarette butt litter. This included those mentioning that:

- it is reminding smokers to do the right thing by promoting correct butt disposal (8%);
- it is providing a convenient means for them as smokers to dispose of their butts (2%, all smokers);
- it should lead to a reduction in cigarette butt litter (15%) with some within this group indicating they have already seen a reduction; and/or
- that a reduction in butt litter is positive specifically for environmental reasons, including because it stops butts going into the marine environment (5%, with mentions of the marine environment most common in the two beach-front trial sites included in the research).

A range of recommended changes or 'watch-outs' were put forward by community members broadly in support of the infrastructure and signage, and these are highlighted in light blue in Figure 1. Each mentioned by between 1% and 5% of all community members surveyed, these included (in addition to the feedback about more infrastructure required in the smoking areas, mentioned above) that:

- more butt bins were required, as what was currently there was insufficient or not in the best spots;
- other work was required to make this initiative successful, such as broader education campaigns and enforcement of littering laws;

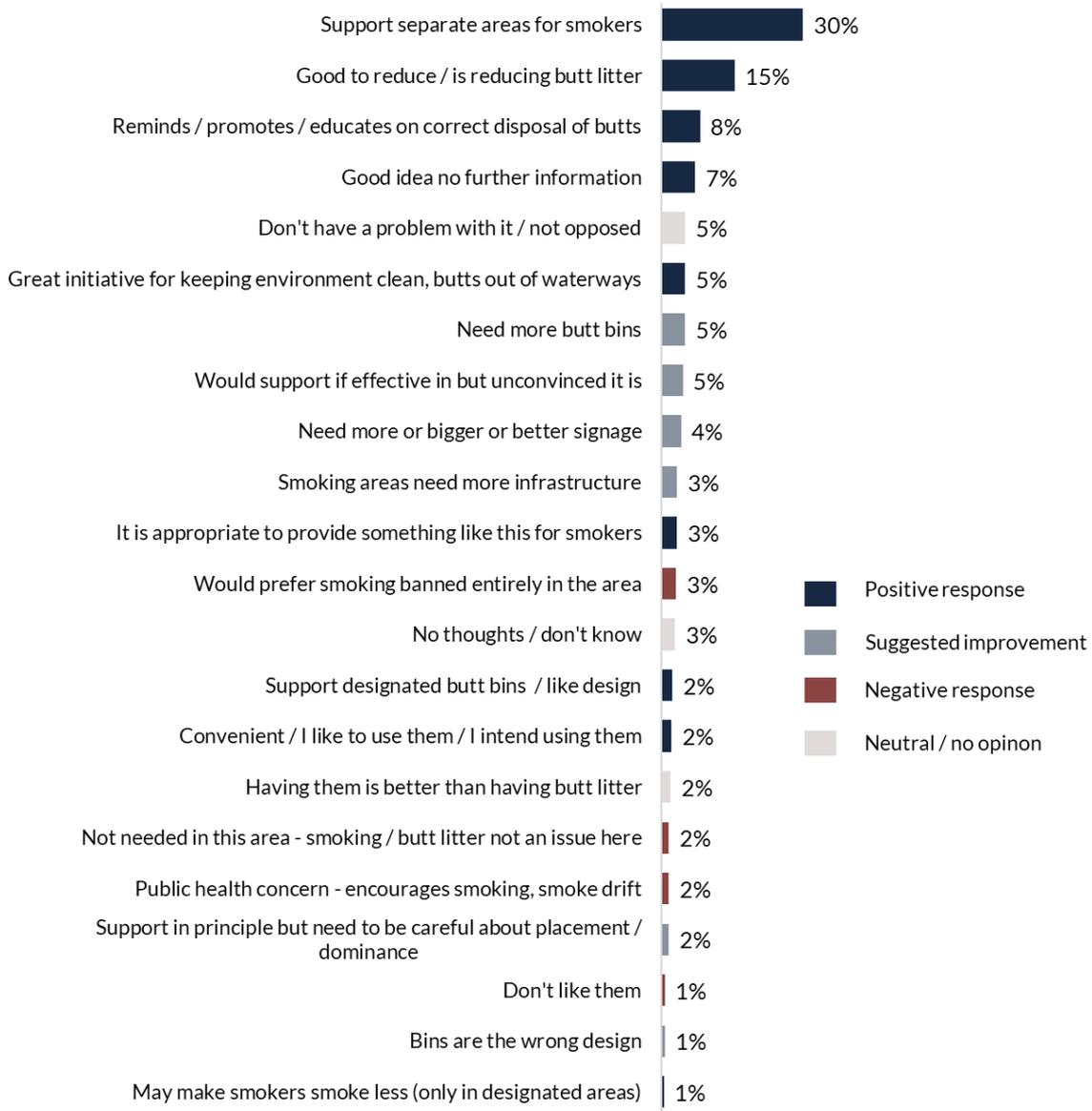
- signage needs to be more widespread (noting this was almost exclusively feedback from the grant site that had yet to install its signage), dominant, and/or could be provided in a variety of languages;
- care must be taken about where the bins are put, and to ensure that the bins and signage overall did not become too dominant; and
- that the design of the bins may need to be revisited.

Just 5% of community members surveyed (26 people) expressed a negative response to or concern about bins and signage being in the area. This included, as highlighted in red in Figure 1, 3% who said they'd prefer to see the entire area smoke free, 2% who felt the bins/signage weren't required as there wasn't a butt or smoke problem in the area, and 2% again expressing public health concerns, mostly that the initiative was encouraging smoking, but some mentioned concern about walking past locations attracting large numbers of smokers and inhaling smoke. One percent provided no reason for not liking the idea of such infrastructure/signage being in the area.

"I prefer this whole area to be smoke free. There's families and children around."

"Would be better to have no smoking at all in this area but I think it's better than having butt litter. Protects the harbour."

Figure 1. Unprompted general reaction to cigarette butt bins and signage being used in the area



Q2. And what is your response to infrastructure and signage of this kind being used in this area?

Base: all community members surveyed (n=522)

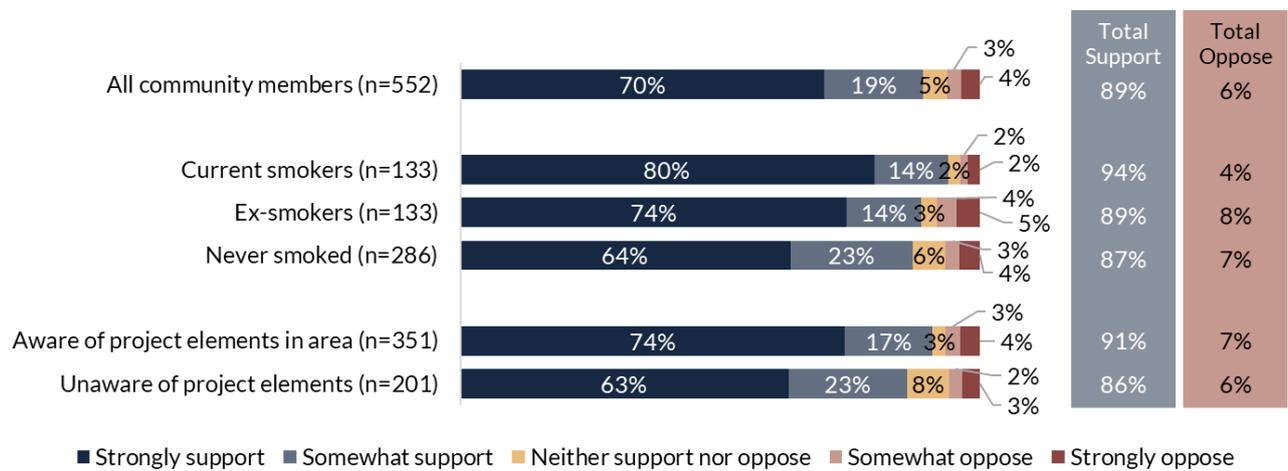
SUPPORT

After unprompted general reaction was gathered, all community members interviewed were asked about the extent to which, on balance, they supported or opposed cigarette butt bins and signage (either guiding smokers to the bins or encouraging correct disposal) being in the area. The results from this question, overall and broken down by smoker status and awareness of project elements, are presented in Figure 2, below.

Overall, 89% of all community members surveyed indicated that they supported infrastructure and signage of this kind being in the area, with 70% strongly and 19% somewhat supportive. Opposition stood at 6%⁵, with 4% strongly opposing and 3% somewhat opposing this.

Support did differ somewhat by smoker status and awareness of project elements, with these differences being statistically significant. Smokers were more likely than non-smokers, and those aware of the project elements⁶ were more likely than those unaware of the project elements, to strongly support infrastructure and signage of this kind being in the area. Overall, however, total support did not dip below 86% for any of these groups.

Figure 2. Level of support for the infrastructure/signage being in area, by smoker status and prior awareness



Q4. Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?
 Base: all community members surveyed (n=522)

Across the five grant sites, total support ranged from 80% to 98%, and total opposition ranged from 2% to 12%. Support did not differ by community member’s age or gender or reason for being in the area⁷.

⁵ Here, and elsewhere, total proportions do not equal the sum of individual proportions presented. This is due to unrounded numbers being summed for, rather than rounded numbers from the charts.

⁶ That is, reported having noticed at least one element outside of the interview context.

⁷ To note, local business owners comprised just 1% of the research sample, broadly in line with their incidence in the community. This small sample size does not allow for reliable consideration of support specifically among those owning a local business.

PROMPTED CONCERNS AND PERCEIVED BENEFITS

After unprompted reactions were gathered and overall support/opposition measured, all community members interviewed were prompted with a list of four potential concerns about, and five potential benefits of, cigarette butt bins and associated signage being in the area. This list was designed to cover both potential concerns put forward by stakeholders, and to cover benefits sought from the grants program. For each, survey participants were asked to indicate the extent to which they agreed or disagreed that it was a concern / potential benefit. The results from this question are presented in Figure 3 (concerns) and Figure 4 (perceived benefits), below.

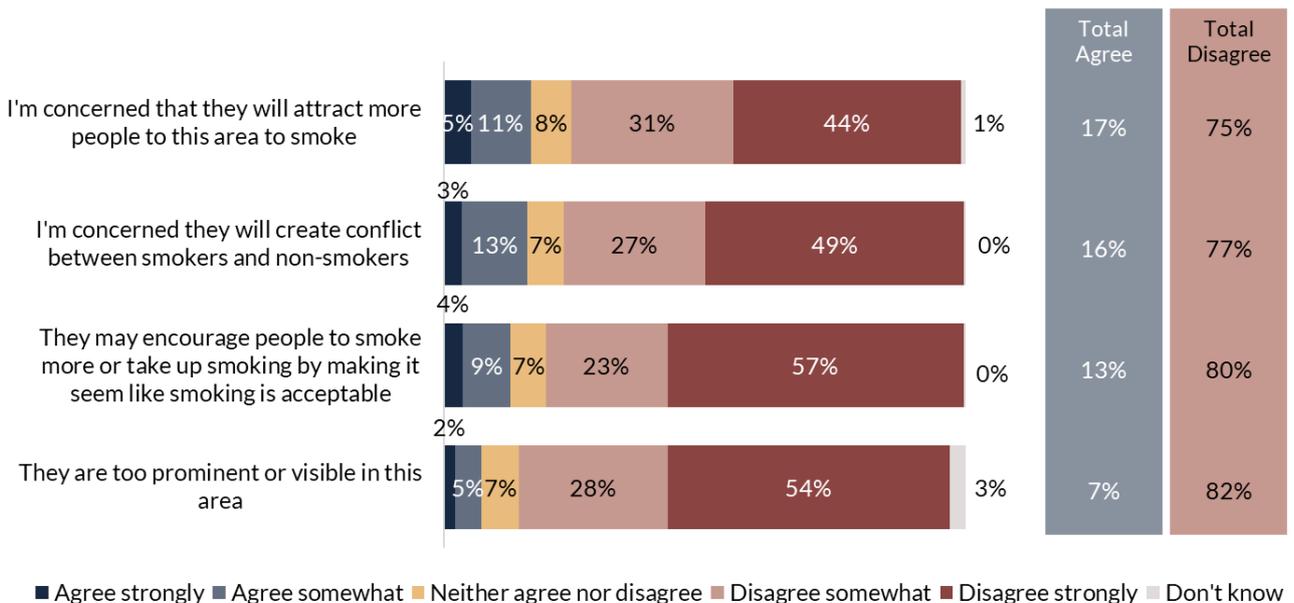
Prompted concerns

The widest held concern as measured by this question was that the infrastructure and signage could attract more people to the area to smoke, with 17% agreeing (somewhat or strongly) that they were concerned about this. A slightly smaller proportion (16%) agreed that they were concerned the infrastructure and signage could create conflict between smokers and non-smokers.

With respect to concerns about the impact on public health, just over 1 in 10 (13%) agreed that the infrastructure and signage may encourage people to smoke or take up smoking by making it seem like smoking is acceptable. Level of agreement did not differ significantly by smoker status.

The vast majority (82%) rejected the idea that the infrastructure/signage was too prominent or visible in this area. Smokers were significantly more likely to disagree than either ex-smokers or those who had never smoked (90% total disagree, compared to 82% and 79%, respectively). This was the only potential concern presented to participants for which level of agreement differed significantly by prior awareness of the infrastructure/signage being in the area. Those aware of the infrastructure/signage (noting this group was twice as likely to be smokers than were those who were unaware) were significantly more likely that those unaware to disagree overall that the infrastructure/signage was too prominent or visible (86%, compared to 77%).

Figure 3. Prompted concerns about infrastructure/signage being in the area



Q4. Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?
 Base: all community members surveyed (n=522)

Prompted perceived benefits

A substantial majority of community members surveyed (a minimum of 77%), agreed with each of five statements regarding the potential benefits of cigarette butt bins and associated signage being in the area.

The level of agreement was the highest for the statement asserting that it is appropriate to provide something like this for smokers, with 91% of all community members surveyed agreeing with this, and just 5% disagreeing. Total agreement rose to 96% among current smokers (compared to 92% for ex-smokers and 88% for those who have never smoked).

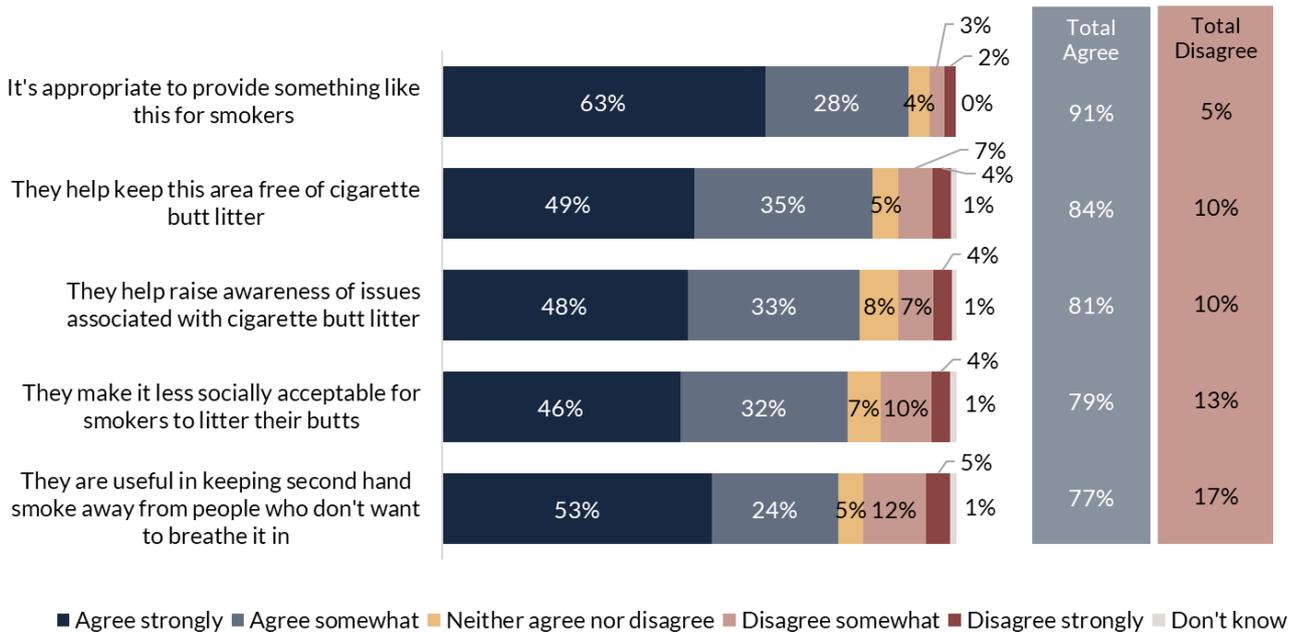
Roughly four in five of all community members surveyed agreed with each of the three statements relating to cigarette butt litter; in particular, that the infrastructure/signage:

- helps keep the area free of cigarette butt litter (84%);
- helps raise awareness of issues associated with cigarette butter litter (81%); and
- makes it less socially acceptable for smokers to litter their butts (79%).

To note, those with prior awareness of the infrastructure/signage were significantly more likely, than those without, to strongly agree that they help raise awareness of issues associated with butt litter (53% strongly agree versus 38% strongly agree).

Just over three quarters of all community members surveyed (77%) agreed that infrastructure and signage in the area is useful in keeping secondhand smoke away from people who don't want to breathe it in. More than half of the sample (53%) strongly agreed with this, with a further 24% somewhat agreeing. Effectively, these high proportions could be taken as indicating support for designated smoking areas in containing secondhand smoke in a particular location.

Figure 4. Prompted perceived benefits of infrastructure/signage being in the area



Q4. Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?
 Base: all community members surveyed (n=522)

ACTUAL AWARENESS OF SIGNAGE AND BIN INFRASTRUCTURE

Across the sample, 64% reported having noticed any bin infrastructure or associated signage in the area prior to the interview, with 36% entirely unaware of the infrastructure and signage. Roughly half (49%) reported having noticed a butt bin, with this ranging from 37% to 54% across the five sites. Across the sample, a greater proportion of community members noticed signage encouraging correct disposal (42%) than signage guiding smokers to a butt bin (17%), noting that at some sites, one or both types of signage were not yet in place.

Perhaps unsurprisingly, awareness of the infrastructure or any type of signage was higher among:

- current smokers (76%), compared to either ex-smokers (66%) or those who had never smoked (56%)
- those living in the area (68%), compared to those in the area for some other reason (57%).

PROMPTED IMPACT ON THOSE AWARE OF SIGNAGE AND INFRASTRUCTURE

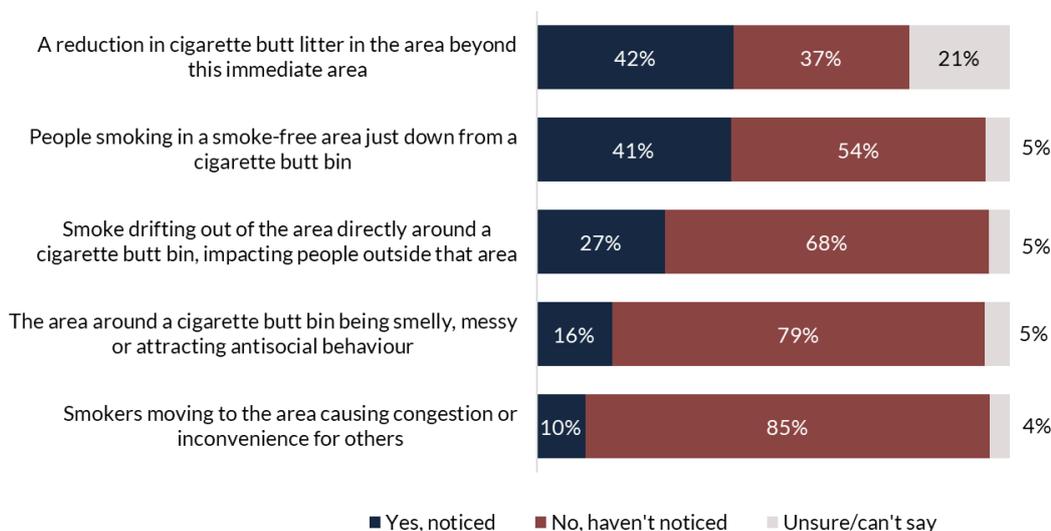
Members of the community who had been aware of the bin infrastructure or associated signage in the area prior to the interview, and hence were in some position to comment on the actual impact of the grant projects, were asked about what they had personally noticed, being prompted on whether they had observed a decrease in butt litter in the area, as well as on four potential negative impacts of the grant projects.

As illustrated in Figure 5, below, 42% felt confident they had observed a reduction in cigarette butt litter in the area, the remainder felt either that they hadn't (37%) or weren't confident to say either way (21%).

Minority proportions reported having noticed:

- smoking in a smoke-free area just down from a butt bin, indicated by 41%. Of course, some individuals may have been smoking at that location even prior to installation of the bins. Just 8% reported having noticed council rangers or police in the general area making sure people aren't smoking in smoke-free zones.
- smoke drifting away from the butt bins, impacting people standing nearby, indicated by 27%.
- smell or mess around a bin, indicated by 16%
- congestion resulting from smokers moving to the area or congregating around a bin, indicated by 10%.

Figure 5. Positive and negative impacts personally observed



Q5. And have you personally noticed any of the following?

Base: Community members surveyed who had noticed cigarette butt bins or signage prior to the interview (n=351)

PROMPTED IMPACT ON SMOKERS

Current smokers (24%) and ex-smokers (another 24%) made up 48% of the total research sample. These audiences were asked additional questions to establish what impact the grant projects may have had on smoker attitudes and behaviours, both in relation to smoking and cigarette butt littering.

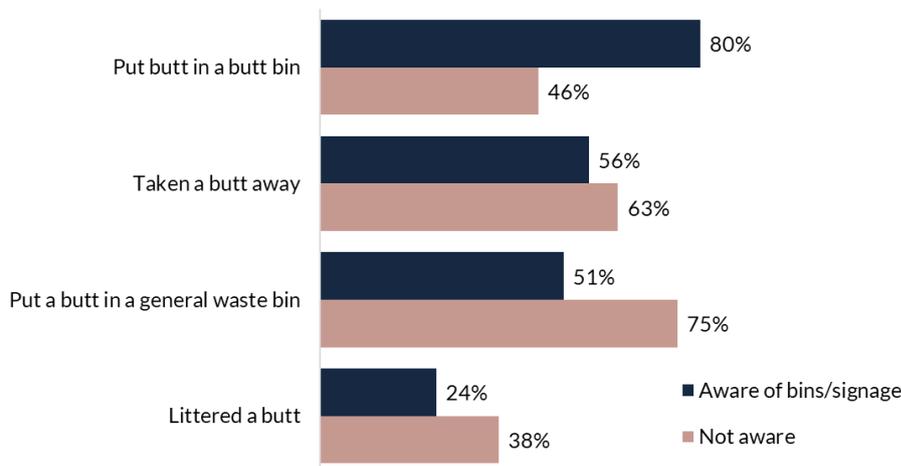
Self-reported littering

The research sample included 118 community members who reported having had a cigarette in the area in the preceding three months (the rough time since butt bins/signage had begun to be installed). These community members were asked to indicate what they had done with any resulting butts. Many reported having used more than one disposal method across the time period.

Figure 6 shows the resulting data split by whether or not the community members were aware of the cigarette butt bins or associated signage. Two of the apparent differences between the two groups are statistically significant, namely: those aware of the butt bins/signage were significantly more likely than those who were not to report having disposed of a butt in a butt bin; while the latter group was more likely than the former to report having disposed of a butt in a general waste bin.

The apparent difference between the two groups regarding whether or not they had littered a cigarette butt, did not reach statistical significance, noting the small sample size of just 32 admitting to having littered a cigarette butt.

Figure 6. Reported methods of disposing of cigarettes consumed in area in last 3 months



Q8. And in the last 3 months, which of the following have you done in this area?

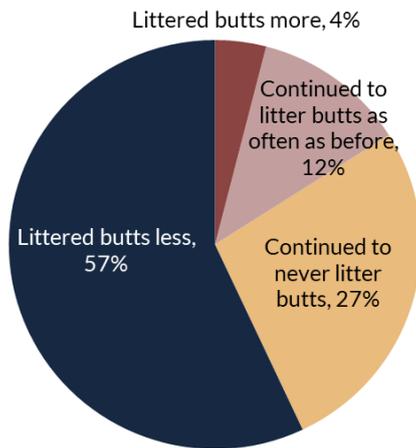
Base: Smokers or ex-smokers who had a cigarette in the area in the last three months (n=118)

Self-reported impact of grant projects on littering behaviour

The 94 community members who had consumed a cigarette in the area in the last three months and who had noticed a cigarette butt bin or associated signage, and whose behaviour could therefore have been influenced by grants project, were asked to indicate the impact they felt the infrastructure/signage had had on their butt disposal choices.

As illustrated in Figure 7, below, 57% reported that they had littered butts less as a result of the infrastructure/signage being in the area. This contrasts with 16% who reported littering as often if not more than they were prior to the infrastructure going in. The final 27% comprised those whose behaviour does not need to be changed (i.e. because they do not litter cigarette butts).

Figure 7. Reported impact of infrastructure/signage on disposal behaviour



Q9. And what impact has the infrastructure and signage for smokers in this area had on what you do with cigarette butts in this area? Would you say you've:

Base: Smokers or ex-smokers who had a cigarette in the area in the last three months and noticed cigarette butt bins or signage (n=94)

Self-reported impact of grant projects on capability, opportunity and motivation to correctly dispose of cigarette butts

Current smokers who recalled having seen bins or signage prior to the interview, were presented with five statements relating to their capability, opportunity and motivation⁸ to correctly dispose of cigarette butts, and they were asked to indicate the extent to which they agreed or disagreed with each. The findings, presented in Figure 8, provide evidence that the grant projects are helping drive appropriate behaviour by increasing:

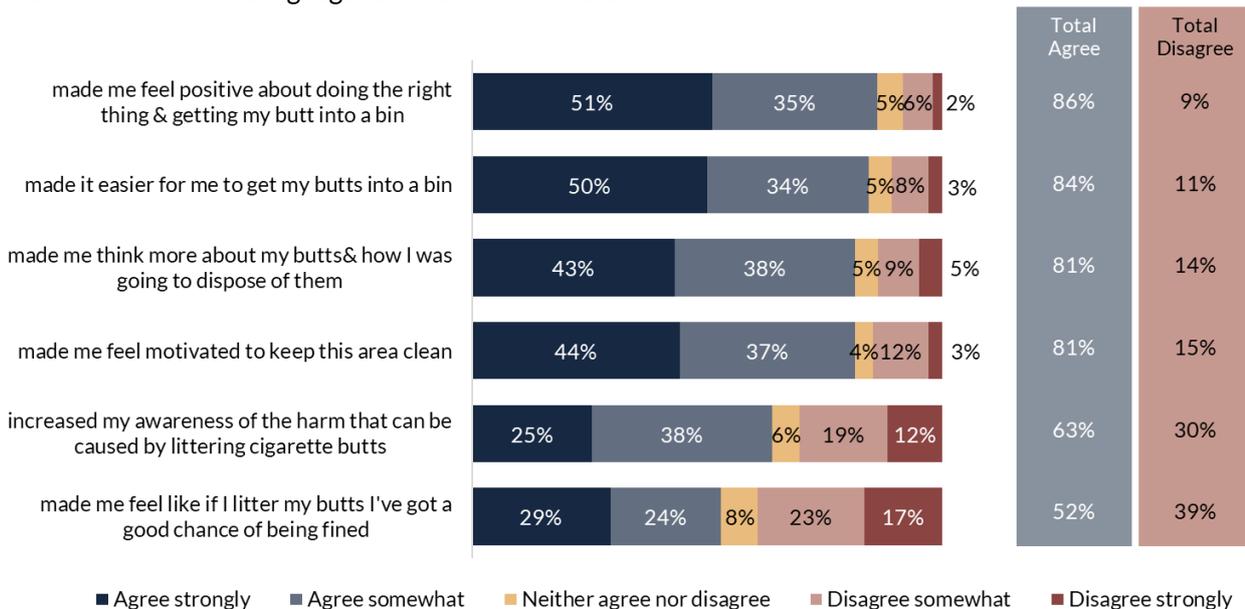
- automatic motivation – 86% agreed that the bins/signage made them feel positive about binning butts;
- physical opportunity – 84% agreed the bins/signage made it easier to get butts into a bin;
- psychological opportunity – 81% agreed that the bins/signage brought butt disposal into consciousness;
- reflective motivation – 81% agreed the bins/signage motivated them to keep the area clean.

Current smokers were somewhat more divided on whether the infrastructure/signage had increased awareness of the harm that can be caused by littering cigarette butts, with 63% agreeing and 30% disagreeing. Certainly, it should be noted that most signage being used at grant sites does not reference any harms (just one of the NSW EPA issued signs, shown in Figure 10, mentions ‘one less plastic butt in our oceans’, and this is less prominent than the tagline ‘Binning is Winning’).

Current smokers were even more divided on whether the infrastructure/signage increased the perceived chance of being fined for littering butts, with 52% agreeing and 39% disagreeing. To note, among the sub-group of survey participants answering this question, just 10% reported (elsewhere in the survey, in Q5) having noticed council rangers or police in the general area approaching people they had caught littering. Roughly a quarter (26%) reported (in Q11 of the survey) recalling having seen the version of the signage referencing fines (‘Small Butt. Big Fine.’).

Figure 8. Reported impact of infrastructure/signage on capability, opportunity, motivation to bin butts

The infrastructure and signage for smokers in this area has...



Q10. Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?
 Base: For first statement above, current smokers who had a cigarette in the area in the last three months and noticed cigarette butt bins or signage (n=94). For all other statements, current smokers who had noticed cigarette butt bins or signage (n=102)

⁸ This line of questioning was informed by behavioural scholar Susan Michie and colleagues’ COM-B model and associated Behaviour Change Wheel created specifically for developing and evaluating behaviour change interventions. Most of the factors identified in the literature as being associated with behaviour change fall into one of the categories of psychological capability, physical capability, social opportunity, physical opportunity, reflective motivation and automatic motivation.

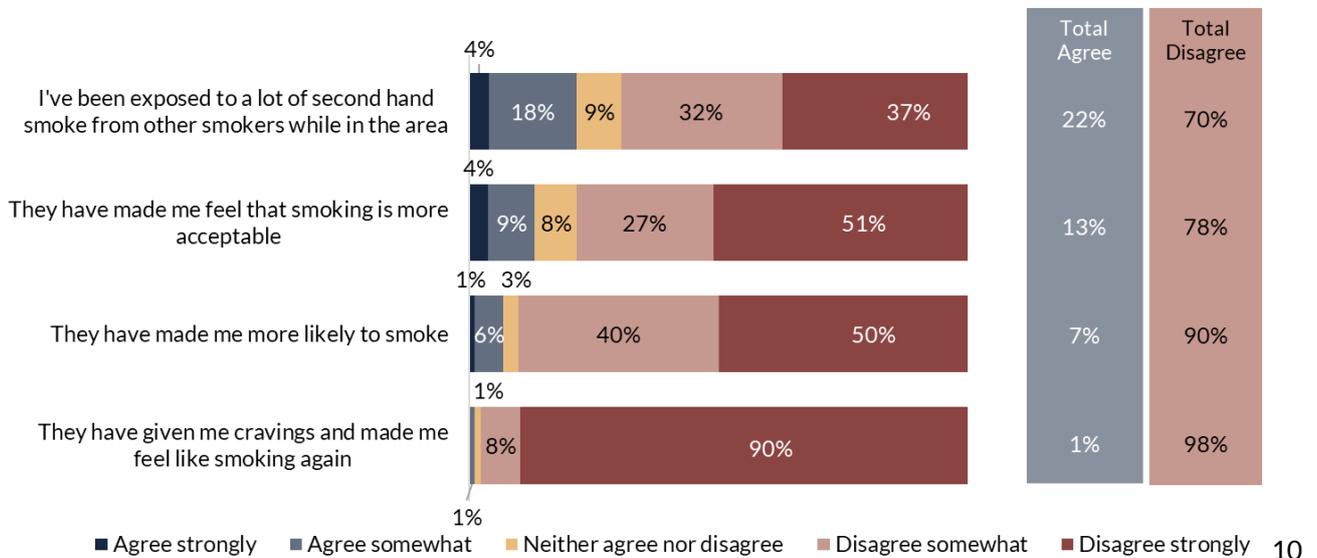
Self-reported impact of grant projects on aspects relating to public health

Question 10, findings from which are reported directly above and shown in Figure 8, also included four statements dealing with potential public health concerns about the provision of bin infrastructure to smokers. Findings for these four additional statements are shown in Figure 9, below.

Levels of agreement were far lower for the statements relating to public-health concerns, compared to those relating to impact on butt litter shown in Figure 8. The highest proportion, 22% of current smokers aware of the infrastructure/signage, agreed that they had been exposed to ‘a lot of’ second-hand smoke while in the vicinity of a butt bin.

Just 13% of current and ex-smokers aware of the infrastructure/signage agreed that these grant projects had made them feel that smoking is more acceptable, and 7% of current smokers aware of the infrastructure/signage agreed that it had made them more likely to smoke. Only 1% of ex-smokers⁹ aware of the infrastructure/signage (which equated to just one person) agreed that it had given them cravings and made them feel like smoking again.

Figure 9. Reported impact of infrastructure/signage on perceptions of smoking, cravings and exposure to second-hand smoke



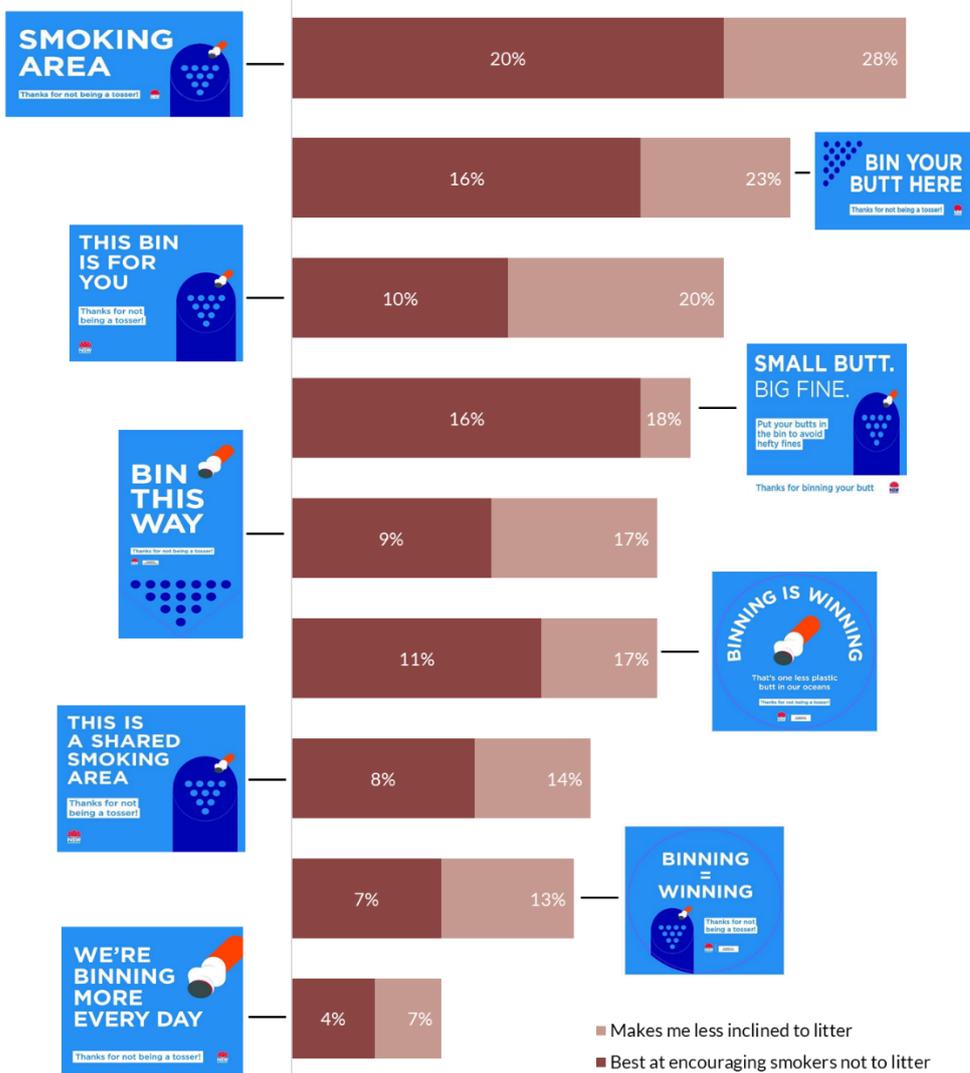
Q10. Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?
 For second statement above, Base: Current and ex-smokers who had noticed cigarette butt bins or signage (n=190).
 For fourth statement above, Base: Ex-smokers who had noticed cigarette butt bins or signage (n=88)
 For other two statements above, Base: Current smokers who had noticed cigarette butt bins or signage (n=102)

⁹ Noting there was no limitation on when the person had quit, meaning some may have quit smoking a very long time ago.

REACTION OF SMOKERS TO CAMPAIGN COLLATERAL

All current smokers were shown nine *Hey Tosser!* campaign executions relevant to cigarette butts and asked to nominate at least one that made them less inclined to litter a cigarette butt, even if only a bit. Those selecting more than one were subsequently asked to choose the one they felt was best at encouraging smokers not to litter their butts. Figure 10, below, orders the nine executions from most to least often selected.

Figure 10. Perceptions of effectiveness of signage in encouraging smokers not to litter butts



Q12. And which, if any, of these makes you less inclined to litter a cigarette butt, even if only a bit?

Q13. And which of these do you think is the best at encouraging smokers not to litter their butts?

Base: Current smokers (n=133)

Common reasons, provided in a subsequent open-ended question, for thinking the creative they nominated was best at encouraging smokers not to litter their butts, are reported in Table 2 below for the top four creative executions shown in Figure 10. Feedback revealed a preference for a straightforward sign with a clear message. Those surveyed also appreciated the signs having a non-judgmental tone, although this perceived strength was not limited to the top four. Feedback on the top performing sign specifically reflected a positive reaction to the idea of a smoking area being provided for smokers¹⁰, rather than simply butt bin infrastructure.

“It is straightforward and lets you know if you don't want to be near smokers don't go there, and a go zone for smokers. People do smoke and need a place to go.”

It would seem likely that more smokers might have selected ‘Small butt. Big fine’ were it accompanied by observable enforcement efforts. In Q4, just 5% reported noticing council rangers or police in the general area approaching people they have caught littering (1% to 13% across the different grant sites).

Table 2. Primary reasons top four executions are believed to be best at encouraging smokers not to litter

 <p>n=26</p>	 <p>n=21</p>	 <p>n=13</p>	 <p>n=21</p>
<ul style="list-style-type: none"> • “straightforward” & “to the point” • helps smokers find a “designated” place where they know they are allowed to smoke • “non-confrontational”, does not make smoker feel guilty 	<ul style="list-style-type: none"> • simplest sign • directs smoker to bin / tells smoker where to put their butt 	<ul style="list-style-type: none"> • clarifies the bin is specifically for butts • “not offensive”, “not trying to shame” 	<ul style="list-style-type: none"> • raised awareness of potential for getting a fine • prospect of getting a fine is a deterrent to littering

¹⁰ This mirrors findings from past research with smokers conducted by Heartward for the NSW EPA which suggested they experienced angst trying to work out where they can legally smoke, and feel ostracised by the rest of the community.

Conclusions

This research provides evidence that projects funded by Cigarette Butt Litter Prevention Grants are by and large being well-received by the communities in which they are embedded, with smokers and non-smokers alike overwhelmingly seeing value in them. Further, this research provides evidence that these projects are having the intended impact on cigarette butt littering attitudes and behaviour, by providing smokers with the opportunity and motivation to appropriately dispose of cigarette butts.

In terms of implications for the grants program moving forward, the research does reinforce that care must be taken with placement of butt bins. The community is most in favour of butt bins being positioned somewhat out of the way, creating spaces for smokers to congregate, smoke and dispose of their butts, able to be avoided easily by non-smokers, and with sufficient margin around the edges to avoid issues with smoke drift.

The possible impact of the grant projects on public health is not clear cut, though appears low overall. Perceived smoke drift is perhaps higher than it could be, with 27% of community members aware of the grant projects having personally noticed this. However, the community sees opportunity for these smoking areas to actually reduce the incidence of non-smokers inhaling passive smoke in the broader area, in the way described above. Only around 1 in 10 overall feel that providing something of this sort for smokers may increase the perceived social acceptability of smoking. Having said this, there were calls in this research for smoking areas to be better resourced, with seating and cover from the elements, so perhaps an appropriate balance is currently being struck between providing appropriate means and motivation to correctly dispose of cigarette butts, while not providing infrastructure that makes smoking in the area too attractive. Many in the research acknowledge that until such a time as smoking is illegal, smokers must be catered for in some way in order to minimise litter.

To not litter cigarette butts, smokers must have the capability, opportunity and motivation to correctly dispose of them. This research provides evidence that the grant projects are particularly successful in creating automatic motivation (making smokers feel good about doing the right thing) and physical opportunity (making it easy for smokers) to correctly dispose of butts. Currently, there may perhaps be a missed opportunity in signage to communicate the harms of littering cigarette butts and reinforce the environmental benefits of avoiding cigarette butt litter, as none of the executions tested appear to be sufficiently communicating this message. This may be particularly compelling among those for whom impact of butt toxicity and non-biodegradability is known and top of mind, particularly the negative impact of butts in the ocean. This could have the three-way benefit of increasing community support for butt bins (particularly in coastal areas, noting this was a key reason for support supplied by several participants in the coastal trial sites included in the research, even in the absence of this being a key feature of signage), subtly communicating on the toxicity of cigarettes (if they harm aquatic animals, they can't be good for smokers), and providing further reflective motivation to smokers to bin their butts.

The research also suggests that currently neither enforcement of smoke-free zones nor enforcement of littering laws is widespread, but is likely to play a role in reduced butt litter and positive public health outcomes.

Appendix A: Questionnaire

INTRODUCTION

Hi, my name is [name of interviewer] and I work for a research company called TKW. Do you have 6 or 7 minutes to spare to participate in a study we’re conducting for the NSW Environment Protection Authority about your thoughts on infrastructure and signage for smokers in this area? Everyone’s views are important, including non-smokers and passers-by.

This research is being carried out in compliance with the Privacy Act and any information you provide will be used for research purposes only. Your participation is entirely voluntary.

If required:

To confirm, are you 18 years or older? *IF NO, TERMINATE. Sorry, I’m only able to interview people over 17 years of age for this study.*

AWARENESS OF PROJECT ELEMENTS, AND UNPROMPTED REACTION – WHOLE OF COMMUNITY

Q1. [Ask all. Multiple responses allowed. Randomise order of presentation of response options]

In the last 3 months, today or before today, which, if any, of the following have you noticed in this area?

	Designated outdoor smoking area
	Cigarette butt bin/s
	Signage guiding smokers to a designated outdoor smoking area
	Signage encouraging correct disposal of cigarette butts

[If any of the above selected, autocode as ‘AWARE’]

Q2. [Ask all. Open-ended response]

And what is your response to infrastructure and signage of this kind being used in this area?
Probe fully for concerns and/or perceived benefits.

Q3. [Ask all. Single response. Reverse order of response options for half of interviews]

And on balance, do you:
Read out response options.

	strongly support
	somewhat support
	neither support nor oppose
	somewhat oppose
	strongly oppose

... infrastructure and signage of this kind being in this area?

PROMPTED REACTION TO PROJECT ELEMENTS

Q4. [Ask all. Single response per row. Randomise order of presentation of statements.]

Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following:

For each, clarify: "and is that strongly or somewhat?"

Do not read out neutral or DK options.

	Disagree strongly	Disagree somewhat	Neither agree nor disagree (DNR)	Agree somewhat	Agree strongly	Don't know (DNR)
a. They may encourage people to smoke more or take up smoking by making it seem like smoking is acceptable						
b. They make it less socially acceptable for smokers to litter their butts						
c. They are useful in keeping second hand smoke away from people who don't want to breathe it in						
d. They help keep this area free of cigarette butt litter						
e. They are too prominent or visible in this area						
f. It's appropriate to provide something like this for smokers						
g. I'm concerned that they will attract more people to this area to smoke						
h. I'm concerned they will create conflict between smokers and non-smokers						
i. They help raise awareness of issues associated with cigarette butt litter						

Q5. [Only ask if 'Aware' from Q1. Single response per row. Randomise order of presentation of statements.]

And have you personally noticed any of the following?

	Yes	No	Unsure/ can't say
a. Smoke drifting out of the area directly around a cigarette butt bin, impacting people outside that area			
b. The area around a cigarette butt bin being smelly, messy or attracting antisocial behaviour			
c. People smoking in a smoke-free area just down from a cigarette butt bin			
d. A reduction in cigarette butt litter in the area beyond this immediate area			
e. Smokers moving to the area causing congestion or inconvenience for others			
f. Council rangers or police in this general area, making sure people aren't smoking in smoke-free zones			
g. Council rangers or police in this general area, approaching people they have caught littering			

IMPACT ON SMOKER BEHAVIOUR - AFTER Q6, SMOKERS / EX-SMOKERS ONLY

Q6. [Ask all. Single response. Retain order of response options]

Are you personally a:

Read out response options.

Current smoker of cigarettes (not including e-Cigarettes) even if only occasionally	[GO TO NEXT QUESTION]
An ex-smoker	[GO TO NEXT QUESTION]
Or have you never smoked?	[SKIP TO Q11]

Q7. [Only ask if 'current' or 'ex-smoker' at Q6. Single response.]

In the last 3 months, as far as you can recall, have you had a cigarette in this area?

Do not read out.

Yes	[GO TO NEXT QUESTION]
No	[GO TO Q10]

Q8. [Only ask if 'yes' at Q7. Multiple responses allowed. Randomise order of presentation of response options, anchoring NA at end]

And in the last 3 months, which of the following have you done in this area?

Read out all response options except NA.

	Put a cigarette butt in a general waste bin
	Put a cigarette butt in a butt bin
	Taken a cigarette butt away with you
	Littered a butt on the ground, flicked it away or hid it
	DO NOT READ: Not applicable, I didn't finish a cigarette in this area

Q9. [Only ask if 'yes' at Q7 and 'Aware' from Q1. Single response. Reverse order of response options for half of interviews]

And what impact has the infrastructure and signage for smokers in this area had on what you do with cigarette butts in this area? Would you say you've:

Read out response options.

	Littered butts more
	Littered butts less
	Continued to litter butts as often as before
	Continued to never litter butts

Q10. [Only ask if 'Current smoker' or 'ex-smoker' at Q6 and 'Aware' from Q1. Single response per row. Randomise order of presentation of statements.]

Thinking about the infrastructure and signage for smokers in this area, do you agree or disagree with each of the following?

For each, clarify: "and is that strongly or somewhat?" Do not read out neutral or DK options.

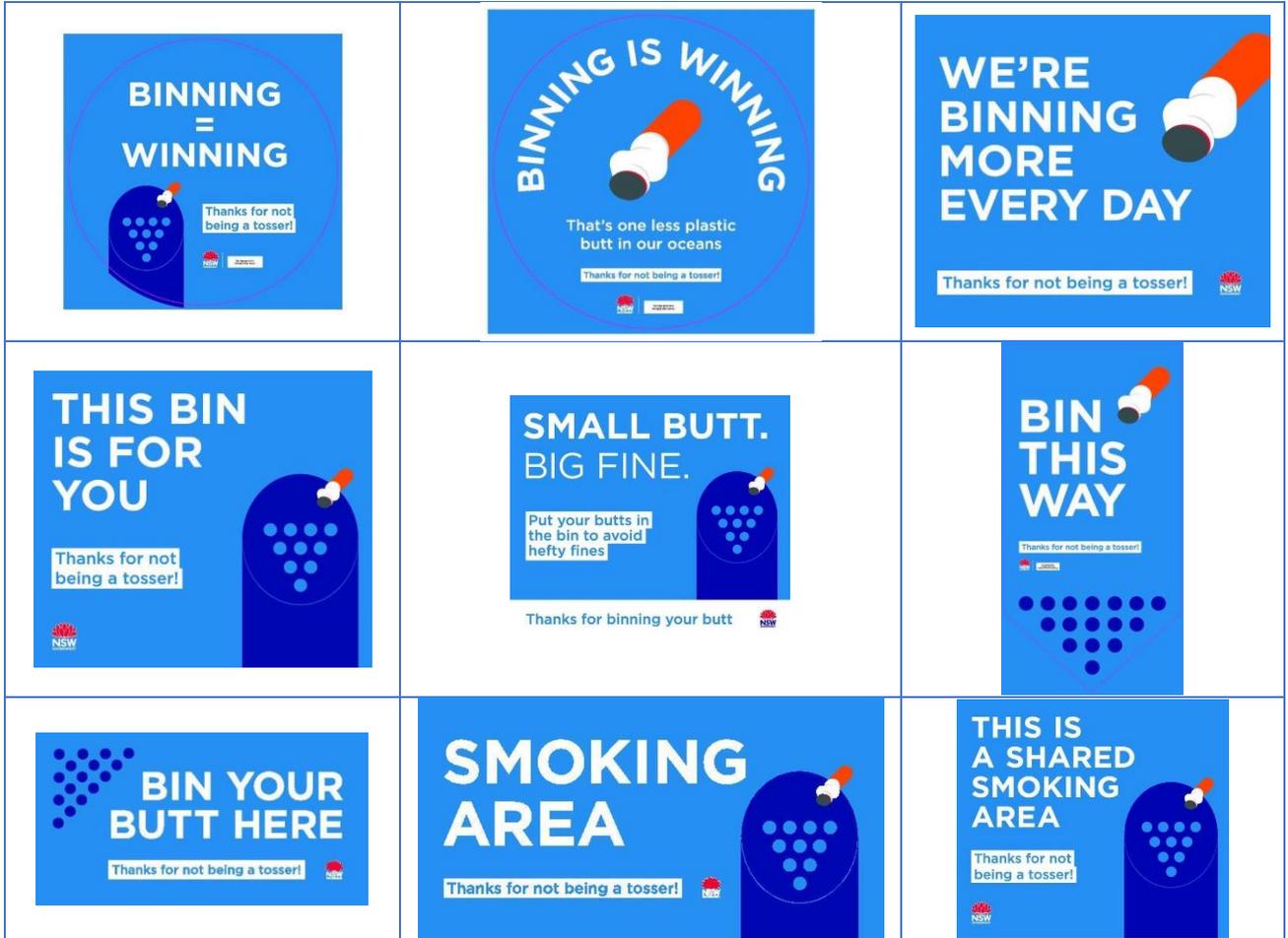
		Disagree strongly	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree strongly	Don't know
<i>Only ask if current smoker at Q6</i>	a. They've made me think more about my cigarette butts and how I was going to dispose of them						
	b. They've made it easier for me to get my cigarette butts into a bin						
	c. They've made me feel motivated to keep this area clean						
	d. They've made me feel like if I litter my cigarette butts, I've got a good chance of being fined						
	e. They've increased my awareness of the harm that can be caused by littering cigarette butts						
	f. They have made me more likely to smoke						
	g. I've been exposed to a lot of second hand smoke from other smokers while in the area						
<i>Only ask if used at Q7</i>	h. They've made me feel positive about doing the right thing and getting my cigarette butt into a bin						
<i>Ask if ex-smoker at Q6</i>	i. They have given me cravings and made me feel like smoking again						
<i>Ask all current and ex-smokers</i>	j. They have made me feel that smoking is more acceptable						

PROMPTED RECOGNITION AND REACTION TO CAMPAIGN CREATIVE

Q11. [Ask all. Multiple responses allowed. Randomise order of presentation of images.]

And to confirm, which, if any, of the following signs have you noticed in this area before?

Show iPad to participant and get them to select any and all noticed



Q12. [Only ask if 'Current smoker' at Q6. Multiple responses allowed. Retain order of presentation of images from Q11.]

And which, if any, of these makes you less inclined to litter a cigarette butt, even if only a bit?

Show iPad to participant and get them to select any and all that make them less inclined to litter

Encourage a response even if they don't currently litter or they don't feel any are effective

[insert all images as per Q11]

Q13. [Ask only if more than 1 selected at Q12. Only show those selected at Q12. Single response. Retain order of presentation of images from Q11.]

And which of these do you think is the best at encouraging smokers not to litter their butts?

Show iPad to participant and get them to select one.

[only insert images selected at Q12]

Q14. [Only ask if 'Current smoker' at Q6. Open-ended response]

And what makes this sign best at encouraging smokers not to litter their butts?

Encourage a response rather than 'don't know'.

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DEMOGRAPHICS

D1. [Multiple responses allowed (although do not allow 'work in this area' or 'live in this area' if 'visiting this area' selected (and vice versa), randomise order of presentation of response options]

Which of the following bring you here today?

<input type="checkbox"/>	Local business owner
<input type="checkbox"/>	Work in this area
<input type="checkbox"/>	Live in this area
<input type="checkbox"/>	Visiting this area but don't live or work here

D2. [Single response only allowed]

Do you identify as:

Read out response options.

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female
<input type="checkbox"/>	Other

D3. [Single response only allowed]

And are you aged in your:

Read out response options except for 'prefer not to say'.

<input type="checkbox"/>	Teens
<input type="checkbox"/>	20s
<input type="checkbox"/>	30s
<input type="checkbox"/>	40s
<input type="checkbox"/>	50s
<input type="checkbox"/>	60s
<input type="checkbox"/>	70s or older
<input type="checkbox"/>	Prefer not to say

CLOSE

That is the end of my questions. Thanks so much for your time today. Are you interested in having one of these as a thank you for your time? Provide preferred gift.