Business Perceptions of the Role of Billboards in the U.S. Economy

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Despite the longstanding regulatory debate over outdoor advertising, only a limited number of academic studies have explored why firms use the medium. To give insight on several issues pertaining to the outdoor advertising controversy, this article presents findings from a national survey of billboard users and nonusers. Users believe that billboards have unique advantages that are not offered by other media. Thus, they have more positive views than nonusers of billboards' ability to communicate information at an affordable cost, attract new customers, and reach a targeted local area. Users also believe that billboards serve a different function than on-premise signs, and that other media are poor substitutes for billboards. Unlike nonusers, a majority of billboard users indicate that their company would lose sales if billboards were banned. Small businesses, travel-related businesses, and heavier users of billboards predict a sales decline of approximately 20 percent on average.

EXPENDITURES ON OUTDOOR ADVERTISING in the United States exceeded $5.1 billion in 2001 (Marketing Factbook, 2002), reflecting a newfound enthusiasm for outdoor advertising among media planners (Neuborne and Weil, 2000). Nevertheless, the long history of controversy over outdoor advertising continues to the present (Taylor and Chang, 1995). On one side of the debate are those who argue that outdoor is an effective medium that helps to create jobs and is widely appreciated by the public (Outdoor Advertising Association of America, 2000). On the other side are critics of the industry who use terms such as "visual pollution," "sky trash," "litter on a stick," and "the junk mail of the American highway" to describe billboards. In fact, many critics believe that billboards should be strictly regulated, or even eliminated (Scenic America, 2000; Vespe, 1997).

Clearly, over the years antibillboard arguments have had some influence. Billboards are currently banned completely in four states (Alaska, Hawaii, Maine, and Vermont), and various municipalities have passed restrictive laws on outdoor advertising. Because of the efforts of outdoor advertising critics, recent years have seen numerous attempts to further restrict billboard advertising (Scenic America, 2000). For example, in the November 2000 elections, Missouri voters defeated a ballot initiative that would have banned new billboard construction in the state, while voters in Reno, Nevada passed a similar initiative.

In spite of the continued dispute over the merits of outdoor advertising, only a limited number of academic studies have addressed issues involved in this important debate. To give insight on several relevant issues, this article presents the results of a national survey of billboard users and nonusers. One issue studied relates to the value of billboards. Some have argued that billboards do not benefit society and are an ugly and unnecessary intrusion on scenery (Vespe, 1997). Others counter that billboards do provide value (Laible, 1997). Thus, one key question is how advertisers evaluate the medium. What benefits do users see in billboard advertising? How do users and nonusers of billboards evaluate the broader mix of

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available advertising media? In particular, how do advertisers perceive billboards' ability to communicate, attract customers, and increase sales?

Some critics (e.g., Scenic America) have suggested that even if billboards do provide benefits, other media or on-premise signs are viable and less-intrusive alternatives. If so, a stronger case for restrictive regulation could be made. Therefore, a second key question is whether billboard users believe effective substitutes for billboards are available. If not, what would be the effect of a billboard advertising ban on sales?

Because the effects of billboard regulations may not affect all advertisers equally, a third key question is whether there are differences in perceptions of billboard advertising across business types. Business size, whether or not the business is travel related, and the number of billboards used may all influence the importance of the medium to the organization. They may also determine the availability and affordability of effective substitute media. Thus, these analyses all have relevance to the policy debate.

PRIOR RESEARCH ON OUTDOOR ADVERTISING

In a review of the available evidence on outdoor advertising, Woodside (1990) observed that outdoor's primary advantage over other media is its high frequency of exposure in an environment with relatively little clutter. Woodside also concluded that outdoor advertising is likely to be effective in increasing sales if used properly.

Executional elements play a role in how effective outdoor advertisements will be. Using content analysis, Blasko (1985) found that large outdoor advertisers were more likely to follow accepted creative principles of outdoor advertising than were small advertisers. He provided guidelines that would allow local and regional advertisers to develop more effective outdoor advertisements. A later group of studies conducted by Donthu, Cherian, and Bhargava (1993) and Bhargava, Donthu, and Caron (1994) found recall to be positively related to a variety of factors, including brand differentiation, emphasis on product performance in the advertisement, inclusion of price in the advertisement, use of a photograph in the advertisement, use of humor, use of color, and a good location. In two recent experiments, Bhargava and Donthu (1999) found that outdoor advertising has the ability to quickly generate sales response, but that location and other marketing mix variables are moderating factors. Collectively, the literature suggests that well conceived and placed outdoor advertising can be effective in increasing awareness and generating sales.

Other studies have focused on issues linked to the policy debate, including targeting and content decisions. Lee and Calcott (1994) examined whether alcohol and tobacco advertisements are disproportionately targeted at minorities. An analysis of billboards in Detroit and San Antonio indicated that advertisements for vice products (e.g., cigarettes and alcohol) were evenly directed at Anglo, Hispanic, and African-American groups, although there did appear to be a negative correlation between income levels and billboard density. In large-scale content analyses of billboards in Michigan and Pennsylvania, Taylor and Taylor (1994) and Taylor (1997) found that billboards provide a wide range of potentially useful information to consumers. They concluded that small businesses would be harmed by a lack of access to billboards.

Billboards help to communicate with and attract new customers; they allow efficient targeting of consumers in a given trade area; and they are cost-effective compared to other media.

In summary, prior academic research suggests that when it is used appropriately, billboards can provide benefits to the businesses that use them. Our hypotheses relate to perceptions of the importance of these benefits and the availability of alternatives that can provide the same benefits as billboards.

HYPOTHESES

Reasons for using billboards

The literature suggests several advantages of outdoor advertising (e.g., Arens, 1999; Kotler, 1997). Billboards help to communicate with and attract new customers; they allow efficient targeting of consumers in a given trade area; and they are cost-effective compared to other media. Furthermore, the size and placement flexibility of billboards allow them to serve a function that is different from a business's on-premise sign. In this study, billboard users were asked whether they agree that the above benefits are characteristic of their experience with billboard advertising. As nonusers did not have recent experience, this question was asked only of users.

For billboard users, size of business, type of business, and the importance of billboards in the media mix may also in-

fluence billboard evaluations. For small businesses, other media may not be as affordable or as efficient in reaching a local trade area (King and Tinkham, 1989/1990; McGann and Russell, 1988). Travel-related businesses (e.g., hotels, restaurants, entertainment/tourism, and gas stations) may be more reliant on billboards than other types of businesses due to the need to direct motorists to their location or convince them of the benefits of the business as they pass by (Taylor and Taylor, 1994). Reflecting their greater expenditures on billboard advertising, heavy users should have more positive perceptions than light users. Thus:

H1: Billboard users believe the medium offers specific benefits that are consistent with prior literature on the benefits of outdoor advertising. These benefits include helping attract new customers, communicating their message, allowing them to reach their trade area, being cost-effective, and serving a different function than on-premise signs. Each of these beliefs will be stronger for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

Both users' and nonusers' perceptions are relevant in the context of the overall media mix. Three important dimensions that media planners may consider are the ability of billboards to (1) communicate information at an affordable price, (2) attract new customers, and (3) increase sales. If advertisers' behaviors are consistent with their perceptions, billboard ratings on all three dimensions should increase with increasing use of the medium. As with Hypothesis H1, ratings should also be affected by business size and type:

H2: Billboard users will rate billboards higher than nonusers in terms of their ability to communicate information at an affordable price. Ratings will be higher for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

H3: Billboard users will rate billboards higher than nonusers in terms of their ability to attract new customers. Ratings will be higher for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

H4: Billboard users will rate billboards higher than nonusers in terms of their ability to increase sales. Ratings will be higher for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

Availability of substitutes for billboards

For businesses that depend on the unique advantages of outdoor advertising (Kotler, 1997; McGann and Russell, 1988), it is likely that they will not perceive other media to be a close substitute for billboards. The measures used to test Hypotheses H2–H4 allow an indirect test of whether other media can substitute for billboards by comparing users' and nonusers' perceptions of billboards versus other media. Users should rate billboards higher than other media. Nonusers should rate billboards lower than at least some media alternatives; otherwise, they would logically include billboards in their media mix. Due to the large number of possible media comparisons available, the following hypotheses are not further broken down by business size, type, or intensity of billboard use. Thus:

H5: Billboard users will rate billboards higher than other media in terms of their ability to (a) communicate information at an affordable price, (b) attract new customers, and (c) increase sales.

H6: Nonusers of billboards will rate billboards lower than other media in terms of their ability to (a) communicate information at an affordable price, (b) attract new customers, and (c) increase sales.

Hypotheses H5 and H6 involve comparisons of billboards versus other media for both users and nonusers. For users only, it is appropriate to ask directly whether other media can substitute for billboards. Based on similar rationales as in the previous hypotheses, it is also predicted that smaller businesses, travel-related businesses, and heavy users of billboards will hold this opinion even more strongly than their counterparts. Because it makes little sense to evaluate whether other media can take the place of a medium that is not being used, nonusers of billboards are not included in the hypothesis. Thus:

H7: Billboard users will not rate any other media as being a close substitute for billboards. For each medium, perceived substitutability will be lower for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

Effect of a ban on billboards

If billboards provide important benefits to businesses, and if billboard users have no good alternative media available, then their economic impact must be strongly considered in debates over billboard reg-

ulation. A particular business could conceivably see an increase in sales following a billboard ban if it were losing customers to competitors making more effective use of the medium. On the whole, though, it is likely that billboard users will expect to lose sales if denied access to billboards, given the medium's particular advantages: high reach and frequency in a local area, the ability to communicate effectively a concise message to the target audience, and low cost (Arens, 1999; Kotler, 1997). As with the above hypotheses, it is likely that the impact will be greater on small businesses, travel-related businesses, and heavy users of billboards, because they are generally more reliant on these advantages than are other businesses. Because the medium is not important to nonusers, they should expect no impact from a billboard ban. Thus:

H8: Billboard users will expect to lose sales if denied access to billboard advertising. The expected loss will be greater for (a) small businesses, (b) travel-related businesses, and (c) heavy users of billboards.

METHOD

Two sampling frames were used for the study. One frame was a national listing, provided by the Outdoor Advertising Association of America, of more than 5,000 companies that use billboards. For the survey, a random sample of 1,315 companies was selected from the list. These companies were sent a cover letter requesting their participation in the survey, along with the questionnaire and business reply envelope. Confidentiality of individual responses was assured in the cover letter, and respondents were promised a summary report of the findings upon request. Five weeks after the initial mailing, a follow-up mailing was sent to those firms that had not responded to the initial mailing. Of the 1,315 surveys sent, 168 were returned as undeliverable. Responses were obtained from 348 of the delivered questionnaires, for a response rate of 30 percent. Eleven of these respondents reported that they had not used billboards in recent years, and another response was not usable due to insufficient information.

Potential nonresponse bias was assessed by comparing respondents to the first mailing with respondents to the second mailing in terms of number of employees and number of billboards used. Differences were not statistically significant, suggesting that nonresponse bias based on these dimensions was not present in the sample. Additionally, follow-up phone calls were made or attempted to a random sample of 97 nonrespondents. In many cases (43 percent), a current phone number could not be obtained for the business. The remaining calls indicated that the reasons for nonresponse were not related to factors that could cause bias in the results. The most commonly cited reasons were that the company no longer uses outdoor advertising that the person who was the decision maker recently left the company, and that the company had a policy against filling out surveys or did not have time to fill out the survey.

In a follow-up to the original mailing, surveys were sent to a smaller sample of general advertisers. The sampling frame used was a commercial mailing list of businesses in states where billboard advertising is legal. In a single mailing, surveys were sent to 475 addresses from this list, resulting in 34 surveys returned as undeliverable and 73 usable responses, for a response rate of 17 percent. Of the 73 responses, 57 were from nonusers of billboards. For purposes of analysis, the nonusers in the first sample were combined with nonusers in the second for an n of 68, as were the billboard users from both samples for an n of 352.

In the first survey, which targeted billboard users, respondents were asked to indicate their agreement with a series of statements regarding their company's experience using billboards. Responses were recorded on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree." The following statements were included: billboards help us to attract new customers, billboards allow us to communicate our messages to our consumers, billboards allow us to reach consumers in our trade area more efficiently, billboards are cost-effective compared to other media, and billboards serve a function that is different from that of our on-premise sign. This survey also included the following question regarding the availability of substitutes for billboards:

> Please indicate the level to which each of the following options serves as a **close substitute** for billboards. Consider the objectives you typically try to achieve through outdoor advertising and then base your answer on each option's effectiveness in achieving the same objectives at a similar cost.

Both surveys asked respondents to evaluate a variety of media in terms of their effectiveness in communicating information, bringing new customers to the place of business, and increasing sales. The following question was also asked of all respondents regarding their perceptions of the effects of a billboard ban:

> If new government regulations banned billboard advertising in your area, what impact, if any, would that have on your company's sales? If you believe a decrease or increase would result, please provide an estimate of the percentage of lost or gained sales.

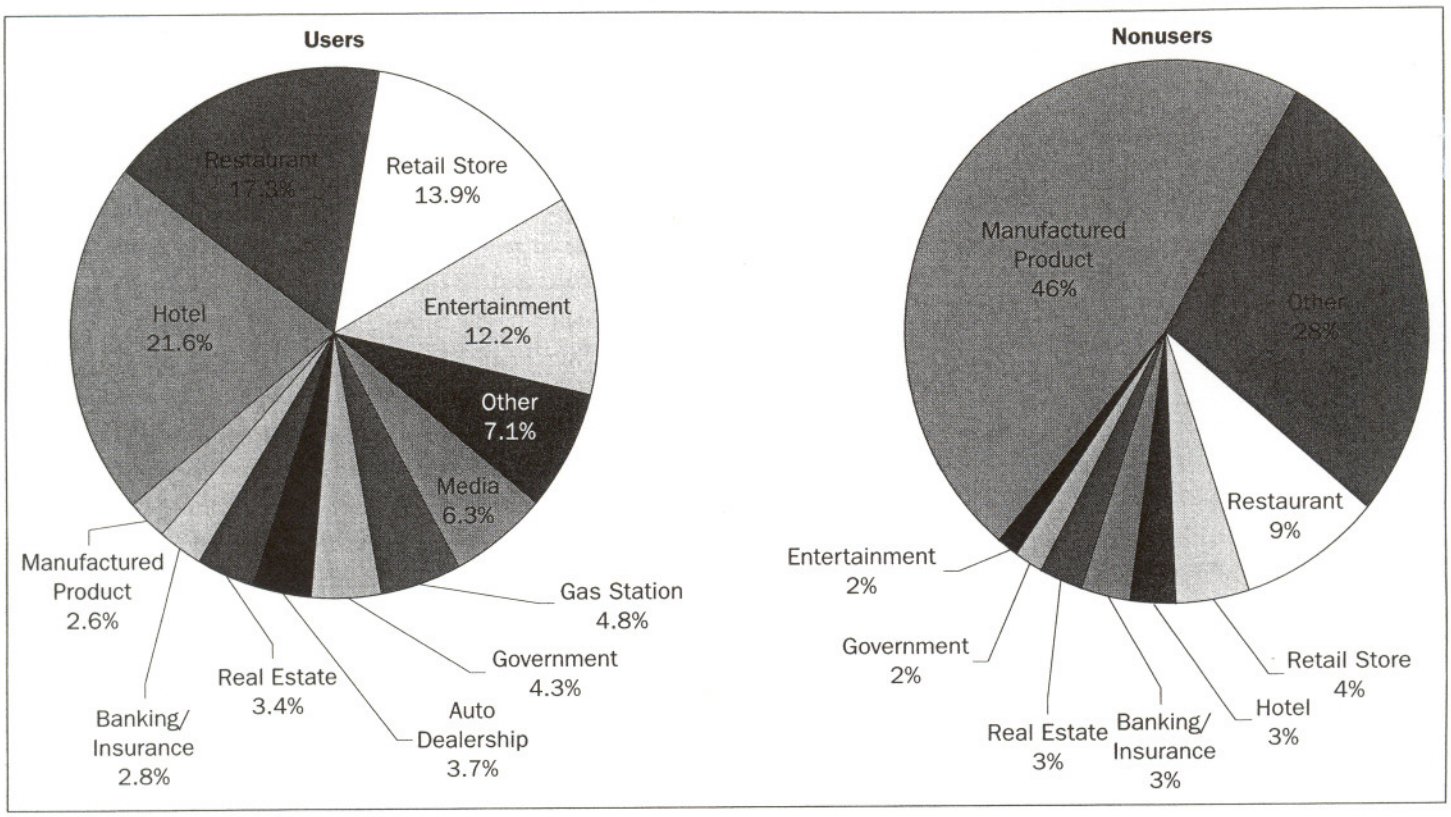

Figure 1 Type of Business

Because the hypotheses involve comparisons between groups—billboard users versus nonusers, small businesses versus large, etc.—a straightforward analysis approach would be to test for significance using Student's t-test. However, larger businesses are likely to use more billboards than smaller businesses, and business size or billboard use may also correlate with whether the business is travel-related or not. If so, performing separate t-tests for each business characteristic would cause results for each hypothesis test to be confounded with results for the others. Regression with dummy variables is therefore used to test the propositions related to size of business, type of business, and billboard usage. Each regression coefficient shows the magnitude of the difference between groups, *controlling* for the effects of the other predictors in the equation. The regression analyses therefore provide unified, simultaneous tests of the hypothesized effects of business characteristics.

PROFILE OF RESPONDING BUSINESSES

Figure 1 shows that respondents represented a wide range of lines of business. For users, the three most common categories of respondents are hotels, restaurants, and retail stores. In addition to these categories, respondents included businesses from the following areas: entertainment/tourism, banking/insurance, gas stations, manufactured products, auto dealerships, real estate, and media. For nonusers, not surprisingly, a higher percentage of respondents were manufacturing firms. There was also a higher proportion of respondents in the "other" category, including miscellaneous service businesses and distributors.

Figures 2 and 3 show the number of years that firms in the sample have been in business and have been using billboards, respectively. The median user has been in business for between 11 and 25 years and has been using billboards within the same 11–25 year range. Figure 4 shows the breakdown of size of business as measured by number of employees. The businesses in the sample represent a wide range of sizes. Among billboard users, nearly half of the companies responding (48.2 percent) have fewer than 50 employees. Thus, small businesses are well represented in the sample. Among nonusers only slightly over one-quarter (26.5 percent) of the respondents had fewer than

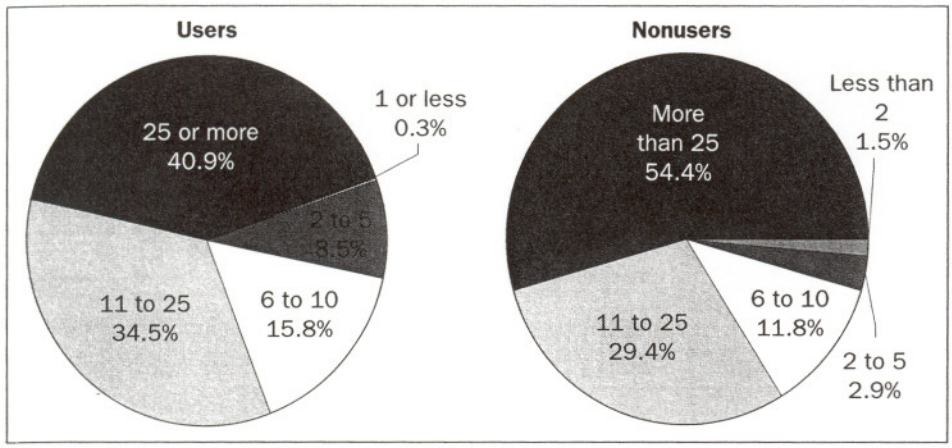

Figure 2 Years in Business

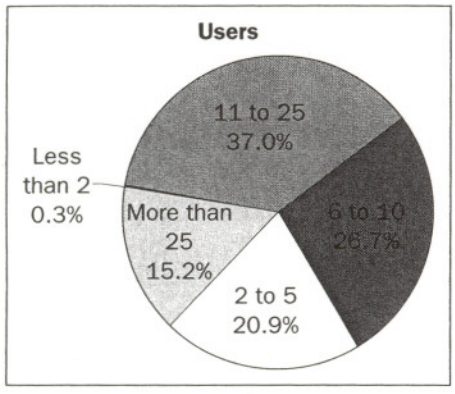

Figure 3 Number of Years Using Billboards

50 employees. Moreover, as shown in Figure 5, 48.3 percent of users report using between one and four billboards, indicating that many of the businesses do not use large numbers of billboards in a given month.

RESULTS

Reasons for using or not using billboards

The "Mean" column of Table 1 shows that billboard users have positive views of their experience with billboard advertising. Consistent with Hypothesis H1, the mean rating for each of the five reasons is significantly above the midpoint of 4 on the 7-point scale, indicating agreement with the statement ($t > 11.1$, $p < .001$). The highest mean ratings are for billboards serving a different function than on-premise signs (6.13), billboards' ability to attract new customers (5.77), and billboards' ability to communicate the firm's message to consumers (5.63). Agreement is also shown with statements that billboards allow the business to reach its trade area (5.41) and are cost-effective (4.99).

The regression results shown in Table 1 indicate that small businesses have significantly more positive views than large businesses on four of the five reasons for using billboards. The only exception is that small and large businesses agreed equally with the statement that billboards serve a different function than on-premise signs. This pattern generally supports Hypothesis H1a. Travel-related businesses showed stronger agreement on billboards' ability to attract new customers and communicate messages to consumers, partially supporting Hypothesis

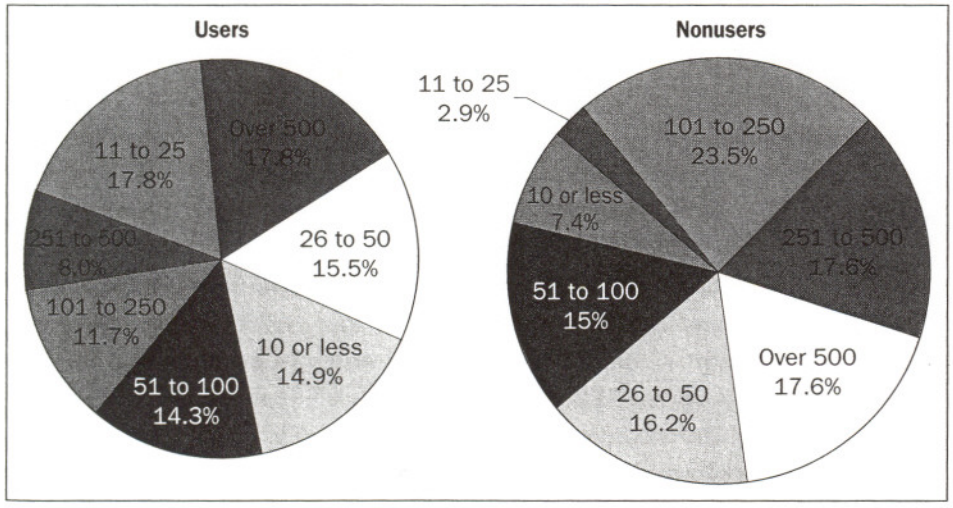

Figure 4 Size of Business (Number of Employees)

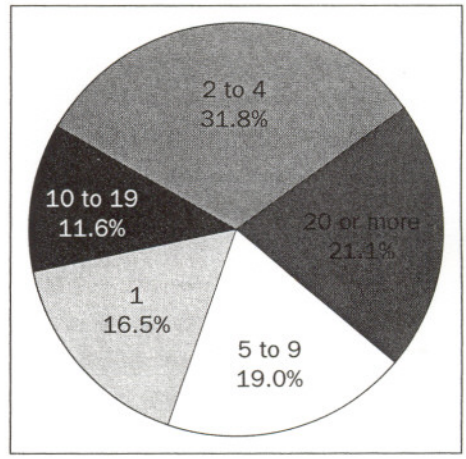

Figure 5 Number of Billboards Used

TABLE 1
Reasons for Using Billboards

		Standardized Regression Coefficients		
Reason	Mean[a]	Business Size[b]	Business Type[c]	Billboard Usage
Attract new customers	5.76	.26**	.14**	.34**
Communicate message to customers	5.62	.23**	.14*	.27**
Allow us to reach trade area	5.40	.21**	.09	.25**
Cost-effective	4.98	.20**	.09	.31**
Different function than on-premise sign	6.12	.03	.08	.14*

*$p < .05$, **$p < .01$

[a]*The response scale ranged from 1 to 7, with 1 = strongly disagree and 7 = strongly agree. All means are significantly greater than the scale midpoint, 4 ($t > 11.1$, $p < .001$).*

[b]*Business size is reverse coded, so that positive coefficients indicate greater agreement for smaller businesses.*

[c]*Travel-related businesses (hotels, restaurants, entertainment/tourism businesses, and gas stations/mini marts) are coded as 1; other businesses are coded as 0. Positive coefficients indicate greater agreement for travel-related businesses.*

H1b. Hypothesis H1c is consistently supported, with heavier users of billboards showing greater agreement with all of the statements.

To test Hypothesis H2, respondents were asked to rate billboards in terms of their ability to communicate information at an affordable price. As can be seen in Table 1, users rate billboards' communication ability higher than do nonusers, as predicted in the hypothesis. The mean rating for billboards is 5.33, significantly above nonusers' rating of 2.87 ($p < .001$).

For the regression analysis of Hypotheses H2a–2c, two dummy variables were created to contrast heavy users (five or more billboards per month) and light users (one to four billboards per month) with nonusers. The results in Table 1 show higher ratings for billboards' ability to communicate among small businesses, travel-related businesses, and billboard users. Heavy users show substantially higher agreement than light users, who in turn show higher agreement than nonusers. Therefore, the findings support Hypotheses H2a, H2b, and H2c.

Table 1 also shows support for Hypotheses H3 and H4. Users rate billboards higher than nonusers in terms of their ability to bring new customers to their business, 5.34 versus 3.28 on a 7-point scale. An identical margin is found for billboards' ability to increase the business' sales, 5.08 for users versus 3.02 for nonusers. Supporting H3a–H3c and H4a–H4c, the regression analyses show that smaller businesses, travel-related businesses, and users of billboards all rate billboards higher in terms of their ability to attract new customers and increase sales. Heavy users' ratings are approximately two points higher than nonusers' ratings, and light users' ratings are more than one point higher than nonusers' ratings.

Are substitutes for billboards available to businesses?

Table 2 shows billboard users' and nonusers' ratings of various media on the three dimensions considered in Hypotheses H5 and H6: ability to communicate information at an affordable price, attract new customers, and increase sales. (The billboard ratings are repeated from Table 1 for easier comparison.) Consistent with H5, billboard users rate billboards significantly higher than the other media on all three dimensions. The smallest difference is between billboards' and radio's ability to communicate information, averaging 5.33 versus 4.22 on a 7-point scale. For this measure, local newspapers, local television, flyers, and the internet also rate above the scale midpoint of 4, whereas national television, magazines, and regional/national newspapers rate below 3.5. Billboard users rate all media other than billboards below 4 on their ability to attract new customers and increase sales.

Consistent with Hypothesis H6a, nonusers' ratings of billboards' ability to communicate information affordably are significantly lower than their ratings of the internet, flyers, magazines, local newspapers, and local television. The results show weaker support for Hypotheses H6b and H6c. Billboards' ability to attract new customers is significantly lower only compared to local television, although the difference is almost significant ($p < .06$) for local newspapers and the internet.

TABLE 2
Perceptions of Billboards versus Other Media

	Affordably Communicate Information[a]		Attract New Customers[b]		Increase Sales[b]		
Medium	Users	Nonusers	Users	Nonusers	Users	Nonusers	Provide Close Substitute for Billboards[c]
Billboards	5.30	2.87	5.40	3.43	5.14	3.12	
Flyers	4.06	4.06	3.47	3.34	3.43	3.69	3.42
Radio	4.22	3.25	3.79	3.59	3.68	3.57	3.59
Local newspapers	4.17	3.68	3.65	3.69	3.60	3.52	3.57
Regional newspapers	3.10	2.97	2.66	2.96	2.54	2.68	2.67
Local TV	4.03	3.62	3.96	4.07	3.89	3.93	3.63
National TV	3.07	4.06	3.02	3.30	3.08	3.25	3.04
Magazines	3.43	3.91	2.85	3.10	2.73	3.03	2.91
Internet	4.04	4.49	3.55	3.80	3.41	3.67	3.35

[a]The response scale ranged from 1 to 7, with 1 = very ineffective and 7 = very effective. Billboard means are significantly greater than the means for all other media ($t > 8.3$, $p < .001$).

[b]The response scale ranged from 1 to 7, with 1 = very low ability and 7 = very low ability (to attract new customers or increase sales). Billboard means are significantly greater than the means for all other media ($t > 10.4$, $p < .001$).

[c]The response scale ranged from 1 to 7, with 1 = not a close substitute and 7 = close substitute. Billboard means are significantly greater than the means for all other media ($t > 8.6$, $p < .001$).

Billboards are rated lower than the internet and local television in terms of ability to increase sales and marginally ($p < .07$) lower than flyers, local newspapers, and radio.

Table 3 shows billboard users' ratings of alternative media's ability to serve as a close substitute for its billboards. (This issue has little relevance to nonusers, so they were not asked this question in the survey.) Ratings for all of the alternative media are significantly below 4, the neutral point on the scale, indicating that the respondents do not believe that any of these alternatives are a close substitute for billboards. Three local media receive average scores of around 3.6: television, radio, and newspapers. Flyers, the internet, national television, magazines, and nonlocal newspapers were rated even lower than these alternatives. Thus, H7 is supported.

The regressions used to test Hypotheses H7a–H7c treat the substitutability ratings as the dependent variables. As shown in Table 3, the results are partially consistent with H7a. Smaller businesses give significantly lower ratings for the substitutability of four media at the .05 level, and a fifth, local newspapers, is marginally significant ($p < .058$). Only magazines, flyers, and the internet are clearly not seen as less substitutable by smaller businesses than larger businesses.

There is less support for Hypotheses H7b and H7c. As predicted in H7b, travel-related businesses are less likely than other businesses to view local newspapers and radio as an alternative to billboards. However, contrary to the hypothesis, they are *more* likely to view national television as a substitute for billboards, and there are no differences for the other media. Contrary to Hypothesis H7c, the number of billboards is not significant in any of the regressions.

Economic impact of a ban on billboards

Table 4 shows that 75.1 percent of billboard users indicate they would lose sales if billboard advertising were banned versus only 2.0 percent of nonusers. A minute fraction of the combined group of users and nonusers (0.3 percent) believe that sales would increase by 10 percent as a result of a ban, and the rest anticipate no effect of a ban. The average estimated decrease in sales is 13.8 percent for users and just 0.2 percent for nonusers. Considering only those respondents who indi-

TABLE 3
Regression Analyses on Media Perceptions

	Standardized Regression Coefficients		Billboard Usage	
Hypothesis and Medium Evaluated	Business Size[a]	Business Type[b]	High versus Low	Low versus Nonusers
H2a–c: Billboards	.25**	.08	.30**	.63**
H3a–c: Billboards	.30**	.15**	.30**	.57**
H4a–c: Billboards	.36**	.26**	.34**	.52**
H5a–c: Flyers	–.02	–.07	–.01	
H5a–c: Radio	–.18**	–.14*	.06	
H5a–c: Local newspapers	–.11	–.21**	–.03	
H5a–c: Regional newspapers	–.16**	.02	–.01	
H5a–c: Local TV	–.16**	–.04	.09	
H5a–c: National TV	–.16*	.20**	.04	
H5a–c: Magazines	–.08	–.01	–.01	
H5a–c: Internet	–.04	–.04	.01	
H7a–c Expected decline in sales	.28**	.16**	.24**	.47**

*$p < .05$ **$p < .01$

[a]*Business size is reverse coded, so that positive coefficients indicate greater agreement for smaller businesses.*

[b]*Travel-related businesses (hotels, restaurants, entertainment/tourism businesses, and gas stations/mini marts) are coded as 1; other businesses are coded as 0. Positive coefficients indicate greater agreement for travel-related businesses.*

cated that a loss would occur, the average estimate of lost sales is 18.4 percent for billboard users and 12 percent for nonusers. The regressions in Table 4 show that greater proportions of respondents anticipating a decline in sales, and greater expected losses, are found for smaller businesses, travel-related businesses, and heavier users of billboards. (The mean expected losses for these groups are 20.7 percent, 19.2 percent, and 20.5 percent, respectively.) These findings support Hypotheses H8a, H8b, and H8c.

TABLE 4
Impact of a Ban on Billboards on Sales (Small versus Large)

	All Users[a]	Small Businesses[b]	Large Businesses
Proportion indicating a decline in sales	251 (75.1%)	121 (81.1%)	130 (69.9%)
Average estimated sales loss	18.4	20.7	15.8

[a]*The average estimated sales loss includes only respondents who indicated that a sales loss would occur.*

[b]*The difference in proportion of small versus large businesses that indicate a sales loss would occur is statistically significant (chi-square = 6.2; p = .045).*

DISCUSSION

Billboard users' attitudes

Responses to a national survey of more than 400 businesses clearly indicate that billboard users perceive the medium to offer a variety of benefits. They see it as a cost-effective way of attracting customers, communicating information, and reaching their trade area. They also view billboard advertising as able to increase sales, especially compared to nonusers. Billboard ratings are generally more positive for small businesses and heavy users of

billboards. Travel-related businesses also give higher ratings on the critical dimensions of communicating, attracting customers, and increasing sales.

These findings are consistent with marketing and advertising textbook discussions of the characteristics of outdoor advertising. For many businesses, billboards are a low-cost medium that is especially effective in providing high reach and frequency in a localized trade area (King and Tinkham, 1989/1990; Kotler, 1997; McGann and Russell, 1988). This advantage is important in many contexts, but can be critical for two types of businesses: (1) retail and service businesses that serve local trade areas (2) travel-and-tourism–related businesses that rely on motorists passing through the area. Not coincidentally, businesses in these categories are the heaviest users of billboards.

Billboard users strongly feel that billboards serve a different function than their on-premise sign, whose primary purpose is to identify the store and enhance store image (e.g., Berman and Evans, 1998; Lusch, Dunne, and Gebhardt, 1993). Unlike signs, billboards can provide directions to a business from locations that are not visible from the place of business. Many businesses that are not easily visible from major thoroughfares cannot use on-premise signs to provide directions to their location.

Billboard users are consistent in their evaluations of billboards versus other media. They see it as better able to communicate information affordably, attract new customers, and increase sales than other local media, and substantially more effective than national television, magazines, and newspapers. Given this pattern, it is not surprising that billboard users do not see other media as cost-effective substitutes for billboards. Interestingly, as can be seen in Tables 2 and 3, the rank order of other media as a substitute for billboards corresponds to their ability to increase sales. Flyers can be locally targeted but have limited potential for effective reach. Other local media, such as newspapers, radio, and television, involve both higher cost per thousand exposures (CPMs) and waste circulation. Additionally, production costs associated with developing billboards are generally substantially lower than traditional media such as magazines, radio, and television (Arens, 1999).

. . . billboard users do not see other media as cost-effective substitutes for billboards.

Billboard users believe a ban on billboard advertising would reduce sales by an average of almost 14 percent. Small businesses, travel-related businesses, and heavy users of billboards are especially pessimistic about the effects of a ban, anticipating a sales decline of around 20 percent, suggesting that the consequences of a ban in certain segments would be serious.

Nonusers' attitudes

In contrast to billboard users, nonusers rate billboards much lower overall and relative to other media on dimensions, such as communicating a message at an affordable price, attracting customers, and increasing sales. As shown in Table 2, nonusers rate the internet, flyers, and magazines as the top media for communicating information at an affordable price. For attracting new customers, local television, the internet, and local newspapers received the highest ratings. Finally, for increasing sales, the internet, local television, and flyers are at the top of the list. With the exception of the internet receiving an average rating of 4.49 on affordably communicating information (.43 above the next closest medium), the gap between the highest rated media and other media on these dimensions is not large in comparison to the gap between billboard user ratings of billboards versus other media. This suggests that the aggregate group of nonusers surveyed in this study see merits in several different media, likely depending on their unique advertising goals. However, the considerably lower rankings of billboards by nonusers in comparison to users (see Table 1) suggest that users see the medium's unique advantages as meeting their needs while nonusers do not.

The relatively high rating of the internet on all three dimensions shown in Table 2 is interesting in that it suggests that internet advertising, in spite of its well-documented problems over the past several years, may have potential appeal to a wide range of businesses. If more effective creative strategies that are not viewed as obtrusive by the consumer can be developed, advertising over the internet may have more promise in the long run than has currently been shown. Interestingly, no other medium stood out as having ratings that are noticeably high across all three measures shown in Table 2.

Nonusers also anticipate that a billboard ban would have very little effect on their sales. This finding is expected, as eliminating access to any medium not being currently used would usually be perceived as having little impact on sales. However, one viable explanation for many nonusers avoiding billboards is that precise localized targeting may be less of an issue for these businesses than for billboard users. It would also seem likely that advertising budgets may be less of a concern for nonusers, given that the lower

costs of billboards (Arens, 1999) do not make them rank higher relative to other media. The higher proportion of small businesses in the nonuser sample, which prior literature suggests would be consistent with the overall population figures, lends credibility to this latter explanation.

CONCLUSION

The findings of this national survey of businesses provide information that is useful in assessing the ongoing regulatory debate over billboards. The three major issues investigated were related to (1) whether billboards have value, (2) whether there are alternatives that can serve as substitutes for billboards, and (3) whether a ban on billboards would have any economic impact. With respect to the first question, it is clear that billboards provide value to businesses that use them. Billboards allow businesses to communicate information about their product offering. Additionally, billboard users see the medium as having unique and important benefits that help their business. These unique qualities include the ability to reach a local trade area, attract new customers at an affordable price, and generate sales.

Investigation of the availability of alternatives to billboards paints a clear picture. The respondents who use billboards clearly indicate that on-premise signs do not serve the same function as billboards. The respondents also make it clear that other media, including television, radio, newspapers, magazines, flyers, and the internet, are not substitutes for their billboards. These other media are also not rated to be as effective as billboards in attracting new customers or in increasing sales. This is especially the case for small businesses and travel-related businesses.

The findings point to a stark contrast in media perceptions between billboard users and nonusers. Users and nonusers have perceptions of other media that are relatively homogeneous but have strong differences of opinion on the value of billboards. Therefore, a substantive implication of the findings is that it is important to distinguish between users and nonusers in research on perceptions of the role of billboards. A general survey of businesses will strongly understate the importance of billboards to billboard users. A community or state considering a ban on billboards should focus on users not on the overall population of businesses in the community or state to get an accurate picture of the effects of the ban.

Finally, and perhaps most important, the findings indicate that a majority of billboard users expect a substantial decrease in sales if they do not have access to billboards. Expected losses are especially large for smaller businesses, those that serve travelers, and heavier users of billboards. If new regulations on outdoor advertising led to such an outcome, many businesses would find the effects to be devastating. JAR

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