

Academic Research on Signage: Research Directions to Add Value for Stakeholders

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INTRODUCTION

The Academic Advisory Council for Signage Research and Education (AASCRES), whose existence was made possible by a generous donation from Jim and Sharon Weinel, has facilitated an organized, nonprofit, and nonpartisan academic group focused on developing and understanding issues related to signage. While on first blush, the study of signage may seem to be a simple prospect, applying to a narrow industry, the study of signage is complex, spanning numerous disciplines and involving multiple stakeholders. Technological advances, community planning, and environmental concerns impose further complexities in the study of signage that need to be taken into account. Further, signage is a regulated industry, and academic research is well suited to providing legislators and regulators with objective information.

STAKEHOLDERS

According to the International Sign Association, as of 2022, the sign and graphics industry in the United States directly employs 200,000 people and has an overall economic impact of \$37.5 billion (International Sign Association 2022). As such, sign companies and direct employees are key stakeholders affected by the health of the signage industry. In addition, suppliers of sign companies have a major stake in the industry as their sales are impacted by overall industry sales.

End users of signage also have an important stake in the sign industry. Indeed, research shows, that most companies would lose considerable sales if they did not have an on-premise sign. Indeed, Taylor, Sarkees and Bang (2012) found that 85% of sampled on-premise sign users reported

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that they would lose sales if they did not have a sign, and that the average projected loss of sales for these companies was 35%. The study found that some type of companies (e.g. retailers, tourism related businesses) projected a stronger effect than others, but that the vast majority of businesses believe that they have a strong need for an on-premise sign—meaning that millions of businesses are affected.

Other stakeholders of the sign industry include local communities and city planners, regulators, and customers of businesses. Communities and planners are affected in that planning codes consider cityscapes and environmental impact. Consumers are affected because signage plays a key role in wayfinding along with communicating information about the business (Taylor, Claus and Claus 2005).

ACADEMIC FIELDS AND SIGNAGE RESEARCH

As signage affects multiple stakeholders, it needs to be studied from multiple perspectives. Some major functional areas that are in need of continued research are now reviewed.

Traffic Safety Engineering

While the balance of a substantial volume of historical research suggests that properly placed on-premise signs and billboards do not cause traffic accidents (Signage Sourcebook 2003), technological advances lead to a need for continued study of proper location and visibility of signs along with any potential for distraction on the part of a new technology. The Interdisciplinary Journal of Signage and Wayfinding has already made considerable contributions in this area. For example, Bullough (2017) provided a review and annotated bibliography of research on visibility, conspicuity and legibility of signage. Aprdian and Alam (2017) conducted a specific study of midblock pedestrian crossings, finding that speed and road width are among the factors that predict a driver's likelihood of yielding to a pedestrian. The authors also suggest that including signage on both sides of the roadway and/or overhead signage also can have an impact on traffic safety. Additional studies with safety implications published in *IJSW*

have focused on topics such as recommended mounting heights of signs (Garvey and Klena 2019); lighting issues (Bullough 2019).

Transportation and Wayfinding

In addition to traffic safety, a related area of research is helping motorists and/or consumers find locations. Issues involving conspicuity and readability as well as legibility come into play here. For signs to be easily comprehended, prior research shows that it should stand out within its environment, in addition to being easy to read. *IJSW* has already seen multiple contributions in this area, with articles focused on topics such as signs and wayfinding on public transportation systems (Ferri, Popp and Wulfhurst 2021) and in airports (Symonds 2017). In addition, Jourdan and Berger (2016) published a review of a book on improving community wayfinding in general. Going forward there will clearly be a continued need for research on helping consumers to find their way to locations and businesses.

Urban and Community Planning

Planners around the country are concerned about the appearance of communities, whether urban or rural. For planners to make good decisions, it is important to be well versed in research on signage, its functions, including research on public opinion on aesthetic and environmental issues, functions of signs, and their economic impact. *IJSW* has published several articles that are relevant to planners, including Greub's (2019) examination of signage and its' relationship to circulations spaces and passages, Hildebrandt and Auffrey's (2020) analysis of road signage and contextual communication on America's legacy highways, and Nafisur Rahman and Mehta's (2020) analysis of signage form and character as a window to neighborhood visual identity. Another recent contribution by Mehta and Nafisur Rahman (2021) explored visualizing and communicating neighborhood identities via signage. Rakestraw, Crawford, and Lee (2021) looked at similar issues, focusing on how municipalities need regulations that create visually stimulating public places. The authors specifically surveyed consumers using visual models in order to compare the percep-

tion of planning/design professionals to non-designed of signscapes, their aesthetics, communications properties, and perceptions of sign codes.

Marketing

It has been well documented that signage plays a significant role in marketing communications, but relatively limited study of the marketing functions of signs and factors related to effective marketing communication via signage has been conducted (Taylor, Claus and Claus 2005). *IJSW* authors have begun to provide more studies of the marketing aspects of signage. Kellaris and Machleit (2016), for example, published a full conceptual model of the marketing communications of signage. Other areas investigated include studies of where visual attention is focused on a sign using eye tracking (Simpson 2021), location issues in high traffic vs. low traffic areas (Hong and Issac 2021), image processing and the impact of missing information in signage (Sundar, Wu and Karda's (2019) and on-premise signs and their placement in enclosed shopping malls (Berger 2017). A recent study by Knuth, Behue and Huddleston also examined factors related to the effectiveness of retail display signs (Knuth, bee, and Huddleston 2020).

With the growing body of literature on signage as a marketing communications device, there is little doubt that future researchers will delve further into how to make signage effective for marketers. Moreover, a focus on integration with other marketing mix elements and the interaction between regulation and marketing impact is needed.

Law and Regulation

Because federal, state, and local statutes as well as court decisions all have an impact on signage regulation, research on legal issues pertaining to signage is an area ripe for research. In its relatively short history, *IJSW* has published some key articles that help better understand legal issues. As local codes play a central role in signage regulation, Jourdan, Strauss and Hunter's (2017) articulation of best practices in the sign code development and Weinstein's (2017) review of legal considerations in sign code development are key contributions. As court decisions and codes are subject to change, it is likely that we will see more academic research designed to inform policy making going forward.

Art and History

As signage is clearly a highly visible part of the U.S. landscape (as well as that of other countries), it is no surprise that it has been studied by artists and historians. Different sign types as well as the impact of signs on municipalities is of interest from a historical perspective. In addition, it is no surprise that art experts are interested in the aesthetic and artistic elements



Sign fabrication process, circa 1930s. Source: American Sign Museum.



of signage. One article in *IJSW* looking at signage from a historical perspective was Sandra and Trinco (2018). The authors examined Brooklyn retail signage's history, focusing on the transitions from "old school" signs which we often hand painted and text rich that the authors argue is welcoming to a diverse population to what the authors term gentrifying signage that is more laconic and ambiguous. Babcock's (2021) article on road signs and public art provides an excellent example of how signage can be viewed from an artist's perspective. There is little doubt that research by historian and artists can enrich the study of signage.

Visual issues

While there is some overlap with traffic safety, wayfinding and marketing due to the need for signage to be noticed in order to be seen and be effective, contributions of visual scientists are highly important. Signs are usually characterized by limited space and issues such as size of the sign, legibility, letter heights, background, contrast, font, and lighting, among others (U.S. Small Business Administration 2003) all come into play in ways that involve vision and visual processing of information. This is another area in which authors have already made contributions in *IJSW* articles. Examples include Pena, Ragan and Harrison's (2020) study of the memorability of enhanced informational graphics and Li and Huang's (2020) study of visual access formed by architecture and its influence on spatial exploration in museums. Tulio-Pow, Yu, and Strickfaden (2021) add a different dimension to visual study by examining shopping experiences of visually impaired consumers. Such studies focusing on visual aspects of signage have the potential to make key contributions to the literature.

Economic Impact and the Value of Signage

Another area that is in need of more research is the economic impact of signage. Prior work has shown that signage has a profound impact on economies (e.g., Auffrey, Hildebrandt and Rexhausen 2011; Taylor, Sarkees and Bang 2012). In addition, work on the valuation of signage in court cases from the perspectives of appraisers, marketers, and business is need as well as the value of signage is frequently at issue in court cases.

CONCLUSION

The legacy of Jim and Sharon Weinel's gift to create AASCRE is apparent. In addition to the organization of an academic non-profit group focused on signage research and education, the formation of the *Interdisciplinary Journal of Signage and Wayfinding* has created a significant outlet of the publication and dissemination of research on signage. Led by the efforts of founding editor Dawn Jourdan and current editors Vikas Mehta and Chris Auffrey, *IJSW* has established itself as the premier outlet devoted to signage research. As outlined above, the study of signage is relevant to many fields, including, but not limited to, those from engineering, transportation, planning, architecture, business and marketing, advertising and communications, visual sciences, art, history, economics, and appraisal and valuation. *IJSW* will continue to provide an

important outlet for this research to inform industry, academia, and policy makes about knowledge pertaining to signage.

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