



# Emerging Research for Informing the Design and Use of Wayfinding Systems

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Well-designed signage and wayfinding systems are essential components of contemporary life. They can save time as well as reduce the stress (and potential for accidents when driving) associated with navigating through unfamiliar environments to new destinations. Well-designed systems are especially important in complex environments, both within buildings and on outdoor pedestrian routes and as part of roadways, as they have important health, social, economic, and environmental consequences for individuals, organizations and communities (Iftikhar et al., 2021; Robinson, 2021; Iftikhar and Luximon, 2022). Factors associated with difficulty in wayfinding include ineffectively designed and placed signs or the lack of other conspicuous environmental clues for inflection points. While using navigational aids such as analog maps or digital electronics (i.e. smartphones or navigation systems) can provide substantial assistance, their use in some environments and circumstance may be limited, and there is an ongoing need for legible and appropriately informational signage able to capture the visual attention of those unfamiliar with navigating a particular space. Traffic control devices are important parts of roadway signage systems and especially critical for regulating the safe flow of traffic around highway construction.

This issue of the *Interdisciplinary Journal of Signage and Wayfinding* provides findings from emerging research informing the design and use of technology and traditional signage for enhanced wayfinding in a diverse array of complex visual environments. Some of the results reported here will likely have important implications for the design and use of wayfinding systems in interior, as well as outdoors environments. In their article, "Landmarks on Mobile Maps: Roles of Visual Variables in the Acquisition of Spatial

Knowledge,” Andrew Kim and Rui Li evaluate a new mobile map design to address limitations imposed by the small screens of handheld devices by visualizing landmarks located beyond the displayed map extent. Their results showing visualization of distant landmarks facilitates spatial learning has important implication for the design of mobile mapping systems.

In the article, “Towards Linguistic Inclusivity: An Exploration of the Wayfinding System at Stellenbosch University, South Africa,” Gera de Villiers et al. explore important considerations of linguistic landscaping and spatial justice as part of wayfinding systems. Their findings of a system that is “lacking in effective and efficient accessibility” suggests important implications for wayfinding design far beyond South Africa. Indeed, the lessons should resonate in much of the world as countries deal with their own acknowledged histories of racial and social injustice.

In their article “A Comparison of the Serial Order Strategy and the Associative Cue Strategy for Decision Making in Wayfinding Tasks,” Otmar Bock and Steliana Borisova assess how cue strategies are used to decide which direction to take at intersections. They find that based on their research design that a serial order strategy was more efficient than the associative cue strategy, though this may depend on task demand. Based on their results, they call for additional research that will allow control of task demand. The implications for the design of interior and outdoor wayfinding systems for pedestrian, as well as motorized wayfinding are significant, as the elevated importance of task demand will have crucial implications.

The article by Ming Tang and Adekunle Adebisi, “Using Eye-Tracking for Traffic Control Signage Design at Highway Work Zone,” describes their development and testing of an innovative application of dynamic eye-tracking technology in conjunction with screen-based video and a driving simulator. The application was tested in an evaluation of the design of the traffic control devices (TCD) used with highway construction and repairs. Ultimately, they put forward the utilization of data for “total fixation time” and “time to first fixation” as metrics for TCD design, and effectively established a baseline against which other approaches might be used to assess the effectiveness of TCDs and other highway safety signage systems.

Given its focus, it is especially appropriate that this issue of the *Interdisciplinary Journal of Signage and Wayfinding* also includes Craig Berger’s review of Mark Polger’s recent book, *Library Signage and Wayfinding Design: Communicating Effectively with Your Users*. Berger notes the importance of library signage and wayfinding, and applauds the books articulation of best practices. Certainly, librarians have long been experts in effectively directing both new and long-time users to very specific locations for the materials they are seeking. All of us in academia have likely experienced a wide range of libraries over the course of our lifetimes and can appreciate the benefits of a well-designed one. Arguably, the best characteristic of a

well-designed library is one where a user can intuitively find the materials they seek. As Berger notes, for library and other planners and designers the recommendations from best practices are important. That insight can be equally applied to all the articles in this issue of *IJSW*.

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## REFERENCES

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