Promoting Bicycle Commuter Safety

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Cycling should be encouraged because as the number of cyclists increases, the attention of motorists and safety improves; however, the number of cyclists has to be commensurate with the infrastructure built for cycling to enhance their safety.

A basic premise in this report is that cycling should be encouraged because as the number of cyclists increases, the attention of motorists and safety improves. However, an important caveat is that the number of cyclists has to be commensurate with the infrastructure built for cycling to enhance their safety.

We present an overview of the risks associated with cycling to emphasize the need for safety. We focus on the application of frameworks from social psychology to education, which is one of the 5 Es—engineering, education, enforcement, encouragement, and evaluation. We use the structure of the 5 Es to organize information with particular attention to engineering and education in the literature review. Engineering is essential because the infrastructure is vital to protecting cyclists. Education is emphasized because safety is the central focus of the report.

A series of case studies gives firsthand information about bicycle safety. The first three in northern California—covering education in relation to safety in San José; engineering and evaluation in Berkeley; engineering, education, and enforcement in Davis—and the Bicycle Transportation Alliance in the Portland, Oregon area, provide an effective example of the education and encouragement dimensions of the 5 Es. We note the need for future research or evaluation, with particular reference to the use of the social psychological model presented herein.

Study Methods

We used the case study approach in addition to a comprehensive literature review.

Findings

We see the value of the present report added to the extant literature as a clear and concise discussion of safety education; case studies that exemplify the 5 Es and permit the reader to engage more actively in the stories told by the case authors; and the social psychological model to consider when designing the 5 Es. The Health Belief Model's key elements could be applied to the 5 Es in the planning process.

Policy Recommendations

We discussed the Health Belief Model's key elements above in the context of education, but these concepts could be applied to other 5 Es as well. For example, perceived susceptibility relates to the risk analysis that cyclists consider prior to using a given roadway.

Berkeley's experience implementing its engineered infrastructure offers insight into the

planning and execution process. Robust public outreach processes are necessary to assess cyclists' specific needs when planning effective bikeway networks.

Future research could determine if and under what conditions the above social psychological perspective contributes to effective design and execution of the 5 Es.

The role of enforcement is another critical area for future research. What are the most effective ways to persuade cyclists to follow the rules? Cycling clubs seem effective in fostering peer pressure first among members to obey the rules, but could they perform more outreach to influence more cyclists to become involved? If so, how? And in what ways can effective outreach be done to foster a culture of adherence to the rules?

One can enhance the planning process of the 5 Es by applying several concepts from social psychology. For example, in terms of perceived susceptibility, separate bike facilities are perceived as safer by many riders than riding in vehicular traffic. Also, education that makes cyclists aware of the risks could make them more vigilant to a host of problems they could encounter.

Perceived severity is another benefit of applying concepts from social psychology to the 5 Es. Speed impacts the severity of injuries. Planners post speed limits on trails, but cyclists may or may not respect the limit. Traffic calming measures designed to enhance safety by slowing traffic down can be perceived as a mitigating factor on the severity of injuries, but some cyclists express annoyance at being slowed down. A holistic approach to include education and enforcement can optimize the benefits of proper engineering.

About the Authors

Principal Investigator Asbjorn Osland, Ph.D., is a Professor of Management at San José State University.

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- Eric Anderson is the Pedestrian and Bicycle Coordinator for the city of Berkeley, California.
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- Jay Dean, Carl Larson, LeeAnne Fergason and Stephanie Noll work in the education programs department at the BTA. Gerik Kransky, BTA Advocacy Director, and Margaux Mennesson, BTA Communications Director, also contributed to the chapter.
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To Learn More

For more details about the study, download the full report at transweb.sjsu.edu/project/2927.html

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