In order to perform the steering task for lane keeping, drivers rely on both short-range and long-range guidance cues. However, at night, because of reduced visibility, drivers have to rely primarily on short-range guidance. Consequently, improvements to long-range guidance at night should improve nighttime driving performance. Previous research showed that retroreflective lane markings, while assisting in short-range guidance, do not provide long-range guidance. On the other hand, there is some evidence that post-mounted delineators can provide valuable long-range information concerning the road ahead. This evidence (briefly reviewed in this report) comes from information-processing and driver-steering models, as well as from some limited, prior, empirical studies.

Frequency analysis of steering performance is a possible approach for obtaining information about the effects of post-mounted delineators on driving at night. An exploratory field study was performed using this approach. The results indicate that adding post-mounted delineators to regular lane markings tended to decrease compensatory steering actions. Consequently, these results suggest that a combination of lane markings and post-mounted delineators might be optimal for night guidance, with lane markings assisting in short-range guidance and post-mounted delineators assisting in long-range guidance.