Appendix 5 – Discussion of Recommendations for Letter Height and Size of Roadway Signs

The MUTCD (2000) recommends in section 2A.14 that standard sign letter heights should be determined based on a legibility index (LI), which is a system used to describe the readability of characters on a roadway sign. The index value is calculated from the distance at which the sign becomes legible divided by the size of the letters on the sign. The MUTCD recommends that standard sign letter heights be 25 mm (1 in) per 12 m (40 ft) of legibility distance, which corresponds to a LI of 0.48 m/mm (40 ft/in). Olson and Bernstein (1979) provided data that suggests that this ratio is a reasonable expectation for older drivers. A 1988 study by Mace concluded that the LI should be closer to 0.36 m/mm (30 ft/in), which represents a 33 percent increase in character size from what is recommended in the MUTCD. Staplin et al. (1990) also recommended that, "for standard highway signing, an increase in character size in the range of 30 percent appears necessary to accommodate age-related acuity differences across the driving population." Table F1 presents a summary of recommendations for letter height and size of roadway signs, based on the MUTCD and related research.

Table F1. Summary of recommendations for letter height and size of roadway signs.

| **Source** | **Sign Type** | **Recommendation** |
|---|---|---|
| *Letter height of roadway signs* | | |
| *MUTCD*, 2000 | Street name | • LI = 0.48 m/mm (40 ft/in) |
| Olson and Bernstein, 1979 | Street name | • LI = 0.48 m/mm (40 ft/in) |
| Mace, 1988 | Street name | • LI = 0.36 m/mm (30ft/in) |
| Staplin et al., 1990 | Standard highway | • Increasing character size by 30 percent |
| Staplin et al., 1990 | Highway guide | • LI = 0.305 m/mm (25 ft/in) |
| Garvey et al., 1997 | Overhead street name | • For speed limits ≤ 35 mph:<br>  • 200 mm (8 in) uppercase lettering<br>  • 150 mm (6 in) lowercase lettering<br>• For speed limits > 35 mph:<br>  • 250 mm (10 in) uppercase lettering<br>  • 200 mm (8 in) lowercase lettering |
| *Size of roadway signs* | | |
| *MUTCD*, 2000 | Regulatory and warning | • Table 2B-1 provides standard sizes for many regulatory roadway signs.<br>• Table 2C-2 provides standard sizes for many warning roadway signs. |
| Greene et al., 1996 | Stop | • Proposes size increase from 750 x 750 mm (30 x 30 in) to 900 x 900 (36 x 36 in) at intersections with safety problems |