

Computer simulation model

A computer-based simulation model of carriage road visitor use was developed using the simulation software package Extend by Imagine That, Inc. (Manning et al 1998a, Manning and Wang, 1999). Model inputs came from visitor surveys and census results. Phase II visitor surveys provided information about visitor types, group sizes, and travel routes. Six censuses of carriage road use conducted from 9:00 a.m. to 6:00 p.m. at 11 major access points provided data on carriage road entries distributed in time and space. The model was verified through sensitivity analysis and comparison with data on actual carriage road use. Model output can take several forms, including density of use, numbers of encounters between visitors, and persons-

per-viewscape (PPV). For the application of VERP described in this paper, PPV proved to be useful. PPV indicates the number of visitors within any 100-meter viewscape, the approximate typical distance that can be seen along the carriage roads. For any daily total use level of the carriage roads, the model estimates the number of minutes out of an hour that selected PPVs occur. Examples of these data are shown in tables 1 and 3. These data helped formulate standards of quality for the carriage roads. The simulation model can also assist with monitoring indicators of quality. Finally, the model can be a useful management tool by predicting the effect on PPV levels of changes in spatial and temporal use patterns.