

Integrating transportation and outdoor recreation through indicators and standards of quality

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Transportation and outdoor recreation are intimately connected. Visitors to parks and outdoor recreational areas must travel to, within, and home from these areas. Moreover, transportation can be an important form of recreation and the primary way in which many visitors see and experience parks and related areas. For example, 'driving for pleasure' is historically one of the most popular recreation activities in the United States, and many parks have developed scenic roads to accommodate this activity. The term 'parkway' is an important manifestation of this idea. However, transportation is conventionally planned and managed primarily on considerations of efficiency and safety. For example, most highway and related pedestrian planning and management in the U.S. is guided by the Highway Capacity Manual (HCM) developed by the Transportation Research Board (Transportation Research Board 2000). This document is built on a large foundation of research, but most of this body of knowledge addresses vehicle speed, time required to drive from origin to destination, and associated matters of safety. In the context of recreation, these considerations need to be supplemented with concern for the experiential components of travel and transportation.

The HCM uses a conceptual framework of Levels of Service (LOS) to guide transportation planning and management. Research suggests that transportation facilities (e.g., roads, walkways) can operate under a range of conditions from good to poor levels of service. Generally, these conditions are categorized into six levels labeled "A" through to "F". In a related way, contemporary planning and management approaches in parks and outdoor recreation employ the conceptual framework of indicators and standards of quality (Manning 1999; Manning 2001; Manning 2004; Manning 2007; Manning 2009). Indicators are measureable, manageable variables that help define the quality of a recreation experience and standards of quality define the minimum acceptable condition of indicators.

This study is designed to integrate transportation and recreation by 1) extending the conventional LOS approach to transportation through consideration of experiential indicators and standards of quality, and 2) applying this approach to a range of transportation and recreation contexts, including roads, greenways, and public transit systems. Visitor surveys were conducted in the summer of 2009 to identify potential indicators and standards of quality for transportation in each of the above contexts. Indicators of quality were measured through a series of open- and close-ended questions. Open-ended questions asked respondents to report what they most and least enjoyed about their transportation experience on the day of the survey, and closed-ended questions asked respondents to rate the desirability of potential indicators of quality. Standards of quality for selected indicators were measured by asking respondents to judge the acceptability of a range of conditions of indicator variables. Where appropriate, respondents were presented with a series of visual simulations depicting a range of conditions for indicator variables. Respondents were also asked to report the degree to which they considered their travel on the day of the survey to be transportation oriented (e.g. to get from one place to another) or recreation oriented (e.g. to enjoy the journey). A nine-point response scale was used anchored at "purely transportation" and "purely recreation." Surveys were conducted at three types of roads (an interstate highway, a scenic byway, and a national park road), three types of greenways (an urban area, a rural area, and a national park multiuse trail), and three types of national park transit systems (a simple shuttle bus, an extended bus system, and a ferry). A minimum of 200

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completed questionnaires were collected at each of the nine study sites and response rates ranged from 44 to 95 per cent.

Study findings suggest indicators and standards of quality for transportation in the context of parks and outdoor recreation. These indicators and standards can be integrated into the conventional LOS framework used in transportation planning and management, thereby extending this approach to include substantive experiential considerations appropriate for park and outdoor recreation settings. Moreover, data is analyzed for differences in indicators and standards of quality based on the degree to which respondents considered their travel to be either transportation or recreation oriented.

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