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From barrier elimination to barrier negotiation: A qualitative study of parents' attitudes about active travel for elementary school trips

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ABSTRACT

This paper examines parents' responses to key factors associated with mode choices for school trips. The research was conducted with parents of elementary school students in Denver Colorado as part of a larger investigation of school travel.

School-based active travel programs aim to encourage students to walk or bike to school more frequently. To that end, planning research has identified an array of factors associated with parents' decisions to drive children to school. Many findings are interpreted as 'barriers' to active travel, implying that parents have similar objectives with respect to travel mode choices and that parents respond similarly and consistently to external conditions. While the conclusions are appropriate in forecasting demand and mode share with large populations, they are generally too coarse for programs that aim to influence travel behavior with individuals and small groups.

This research uses content analysis of interview transcripts to examine the contexts of factors associated with parents' mode choices for trips to and from elementary school. Short, semi-structured interviews were conducted with 65 parents from 12 Denver Public Elementary Schools that had been selected to receive 2007–08 Safe Routes to School non-infrastructure grants. Transcripts were analyzed using Nvivo 8.0 to find out how parents respond to selected factors that are often described in planning literature as 'barriers' to active travel.

Two contrasting themes emerged from the analysis: barrier elimination and barrier negotiation.

Regular active travel appears to diminish parents' perceptions of barriers so that negotiation becomes second nature. Findings from this study suggest that intervention should build capacity and inclination in order to increase rates of active travel.

1. Introduction

School-based active travel programs aim to encourage more students to walk or bike to school more frequently than they currently do, potentially reversing a thirty year trend of increased private automobile use. Statistics revealing the historic decline in active travel are discussed elsewhere (see for example McDonald, 2007; Sirard and Slater, 2008). This paper examines parents' experiences of the school commute in order to guide the development of that type of travel-behavior intervention.

Increasing rates of active school travel promises a range of benefits to children, their families and their communities. Policy makers take particular interest in active travel programs in order to decrease traffic congestion around schools (Pooley, 2005), to decrease the numbers of short car trips in general (Black et al., 2001; Akar and Clifton, 2009; Austroads, 2005), and to improve children's health by increasing time spent in moderate physical activity (Davison et al., 2008; Tudor-Locke et al., 2001; Ogden et al., 2002; Cooper et al., 2005). For example, the U.S. Department of Health and Human Services has identified increasing rates of walking and biking to school as a policy objective in Healthy People 2020 (USDHHS, 2011). A range of programmatic strategies have been used to accomplish that objective, although some researchers argue that early efforts have been based more on intuition than evidence (Davison et al., 2008).

Planning research conceptually outlines three dimensions of individual travel behavior: obligations, opportunities and inclinations (Stradling and Anable, 2008, Chapin, 1974). Those dimensions reflect in more specific models for children's school travel (McMillan, 2005), but stem from psychological models of choice behavior which discuss opportunities in terms of real and perceived behavioral control (Dijst and Schwanen, 2008; Walker, 2006; Parkany et al., 2004). Eagly and Chaiken (1993) posited that in attitudinal studies, researchers use perceived behavioral control as a proxy for real behavioral control to overcome the difficulty of measuring the latter concept. Findings

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from this study demonstrate a unique relationship between the two concepts that is worthy of further investigation.

Given the obligation of school attendance, school-based active travel policies and interventions address the other two broad dimensions: opportunities for children to walk and bike to school, and the inclination of children (and their parents) to take advantage of those opportunities when they are given. Individual programs address the two influences in varying degrees. For example, the Safe Routes to School (SR2S) program uses a comprehensive approach that includes engineering, education, enforcement, encouragement, and evaluation, addressing opportunities as well as inclinations to walk or bike (Hubsmith, 2006). By addressing engineering and enforcement, SR2S infrastructure programs aim to provide adequate infrastructure and thus support opportunities for children to walk or bike to school. Complementing that effort, SR2S non-infrastructure programs provide educational programs, incentives and other events to encourage children and parents to walk or bike, and thus to take advantage of opportunities for active travel.

In order to address the opportunities and inclinations that influence travel behavior, it is necessary to know which specific conditions influence parents' choices. Planning research has identified a vast array of environmental (e.g., distance to school, busy road, intersection density, etc.) and personal factors (e.g., family approval, employment, parent BMI, etc.) associated with parents' decisions to drive children to school (see for example Sirard and Slater, 2008; Davison et al., 2008; Pont et al., 2009).

In many cases, factors associated with car trips are interpreted as barriers to active travel (Davison et al., 2008; Dellinger and Staunton., 2002; Sirard and Slater, 2008; Cole et al., 2010; Pont et al., 2009), suggesting that parents who encounter those conditions will choose to drive if a car is available, rather than walk or bike. Although certain conditions may be strongly associated with driving, active travel still occurs at least part of the time for part of the population, indicating that the barriers are not absolute.

The purpose of this study was to find out how parents negotiate adverse conditions when they choose to walk or bike their children to school. It expands current understanding of mode choice by examining a sometimes-fuzzy line between opportunity and inclination, and between perceived and actual behavioral control. The research team used qualitative methods to re-contextualize certain factors that are often interpreted as 'barriers' in quantitative research. Data included transcripts from 65 interviews conducted with parents of elementary school students in Denver Colorado as part of a larger study of school travel behavior. Findings from this study suggest that parents' perceptions of opportunities relating to the school commute are as much a function of their inclination to walk as they are a description of the opportunities afforded by environmental conditions. We discovered a range of attitudes that included passive expectations for barrier elimination as well as active efforts to negotiate barriers. Regular active travel appears to diminish parents' perceptions of barriers so that negotiation becomes second nature. These findings suggest that to increase rates of active travel, intervention should build families' inclination, experience and capacity for the activity by helping them to plan the trips in advance, by disassociating active travel with ideal conditions, and by staging special events. Most importantly, the policy should recognize varying levels of inclination and tailor intervention appropriately.

2. Interpretation of contextual conditions as barriers to active travel

Research aiming to support active travel policy identifies a variety of factors associated with travel behaviors, but often focuses attention on the factors that serve as 'barriers' to active travel (Dellinger and Staunton., 2002; DiGuiseppi, 1998; Cole et al., 2010; Akar and Clifton, 2009; Schlossberg et al., 2006; Zhu and Lee, 2009). For example, Dellinger and Staunton (2002) analyzed results from the 1999 national Health Styles Survey, which asked whether students walked or biked to school and whether any of six specified conditions (i.e., traffic, crime, distance, weather, school policy, or other) made it difficult to do so. Of the six conditions, they found that long distances and dangerous motor-vehicle traffic were strongly associated with students who do not walk, and therefore interpreted the conditions as barriers to active school travel. Similarly, Zhu and Lee (2009) surveyed parents from schools in Austin, Texas and found several negative correlates to walking and biking such as distance, safety concerns, and the presence of highways, convenience stores, office buildings and bus stops *en route*.

When the research interprets factors as 'barriers' to active travel, it implies that people generally want to walk or bike, and it implies that they respond to undesirable route conditions by choosing to drive. In the case of school travel, it suggests that parents do not allow their children to walk or bike to school because they lack the opportunity to do so. For example, Dellinger and Staunton (2002) found that students without barriers were six times more likely to walk or bike to school. That conclusion has important implications for policy because it suggests that it may increase rates of active travel by addressing those barriers and making active travel possible.

In some cases, the research identifies both 'barriers' to and 'enablers' of active travel, which similarly implies that external factors either prohibit or assist people in achieving their personal goal of walking or biking (Davison et al., 2008; Pont et al., 2009; Sirard and Slater, 2008; Zhu and Lee, 2009). For example, Zhu and Lee (2009) found positive correlates to walking and biking to school, such as parents' and children's positive attitudes and regular walking behavior (for non-school trips), among other factors. In this case, the finding implies that the population studied felt a strong desire to walk.

However, in reviews of school travel literature, both Sirard and Slater (2008) and Pont et al. (2009) enumerated factors that the research associates with various school travel choices, and described them as either barriers or enablers of active travel to give a general sense of the ways that they influence trends for the populations studied. Because those reviews did not reveal what proportions of the various study groups typically choose to walk or drive in response to each type of factor (barrier or enabler), their interpretations seem to equate each factor exclusively with either active or non-active travel. Both reviews used tables to present the factors which emphasized the categorical distinctions (Pont et al., 2009; Sirard and Slater, 2008). That black and white interpretation of the research findings implies homogeneity in the population's values and responses.

The problem with this common interpretation of school travel research is that an important dimension of the findings is lost, making them too coarse for programs that aim to influence travel behavior with smaller groups. That is, how did the portion of respondents who chose to walk or ride bikes at least part of the time negotiate the conditions that were interpreted as barriers? This study expands the current research by examining how parents respond to barriers when they are encountered as part of the school journey.

3. Study methods

In order to provide a finer-grained analysis of travel behavior with smaller groups, this project applied a cross-sectional, qualitative analysis of parents' experiences of the school commute.