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**ROADS, SOCIAL SEVERANCE AND ELDERLY  
PEDESTRIANS: A PALMERSTON NORTH PILOT  
STUDY.**

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## **Abstract**

Social severance, both physical and psychological, refers to the negative social impacts caused by roads and their traffic. Social severance falls most heavily upon groups of people with limited mobility, including the elderly. This thesis examines the extent to which social severance is experienced by elderly pedestrians. A research framework is developed and its utility for identifying and measuring social severance effects on elderly pedestrians is assessed in relation to a pilot study carried out in Palmerston North.

A literature review was undertaken on how the elderly are affected by social severance, as users of both roads and vehicles. Following this, Tate's (1997) framework is adapted for identifying and measuring social severance effects on elderly pedestrians. First, questionnaires were completed by elderly people living in Palmerston North, the majority of whom were from the Palmerston North Senior Citizens Club. Second, semi-structured interviews were conducted with 12 elderly pedestrians drawn from the questionnaire respondents. Findings of both research methods were then analysed.

It was found that social severance is experienced significantly by elderly pedestrians in everyday living in relation to established residential streets. The data suggests psychological severance is experienced more by elderly pedestrians when they and their neighbours have lived and owned their homes for a lengthy period of time. Income, health, disability and lack of choice are identified as factors constraining mobility and access to facilities and social activities. However, this is exacerbated by the lack of knowledge on the part of elderly pedestrians about the facilities and transport services available to them. The mobility and accessibility of elderly pedestrians is also constrained by inadequate public transport, poor road design and, poor crossing facilities. Safety and confidence of elderly pedestrians when walking is decreased at certain times of the day, by people's driving behaviour, lack of lighting and poor road design. These findings point for the need for social severance to be given more weight when improvements to existing road networks as well as new road developments are proposed.

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## Chapter One: Introduction

Road developments and transport systems present substantial barriers to many users and more importantly, potential users. Some impacts are obvious; others are hidden. Some are physical; others reside in people's perceptions and attitudes (Ker, 1996). This has led to the study of social severance which examines the social impacts<sup>1</sup> resulting from the development of roads. Social severance is a real and observable problem that disrupts social interaction. However, the complexity of social severance is not well understood (Tate, 1993a).

Social severance effects are not spread evenly amongst people, according to Lee and Tagg (1976). The impacts of social severance fall most heavily on groups of vulnerable people with low mobility. These transport-disadvantaged people use walking as their principal form of transport for reasons that range from emotional to financial (Skelton, 1992). The degree of effect varies with a person's age, being more severe for children and the elderly. Recent work in New Zealand, by Tate (1991; 1993a; and 1996), on the effects of social severance on children, has highlighted the need to find out more about social severance and its effects on the elderly.

Warnes (1992) describes elderly road users as being some of the most vulnerable pedestrians. Transportation gives elderly people a sense of independence and control over their lives. It allows them to do many varied activities including visiting friends, and receiving health care. A lack of transportation can lead to isolation, poor health, and decreased well-being (Novak, 1997). However, there is a research gap in New Zealand and internationally on the effects of social severance on the elderly with even less literature on elderly pedestrians than there is on elderly drivers (Burt, 1972; Lee and Tagg, 1976; Morton-Williams et al., 1978; Tate, 1991; Clark et al, 1992; and Transport and Environment Committee, 1998).

Given the increasing significance of the elderly as a group in the New Zealand population, there is a need to fully understand how the elderly are affected by social severance. The research undertaken in this study is designed to meet part of this identified research gap by examining how elderly pedestrians are affected by transport systems, namely roads.

### **Thesis aim**

The aim of the research is to examine the extent to which social severance is experienced by elderly pedestrians. A research framework is adapted and applied as a pilot study in Palmerston North.

### **Thesis objectives**

In order to achieve the overall aim of this thesis, four objectives have been developed: (1) to understand how the elderly and in particular, elderly pedestrians are effected by social severance arising from road developments; (2) to adapt Tate's (1997) framework for identifying and measuring the effects of social severance on elderly pedestrians; (3) to apply the research framework to a pilot study of Palmerston North; and (4) to evaluate the utility of the research framework for identifying and measuring social severance effects experienced by elderly pedestrians.

### **Methodology and structure of thesis**

Objective one is achieved by conducting a literature review. This review of literature concerning the social severance effects on elderly pedestrians provides the basis for Chapter Two. A variety of literature is canvassed from different fields including transport planning, engineering and social science. The range of problems the elderly face associated with road developments is highlighted as is the lack of previous research in New Zealand. This sets the scene for a more detailed enquiry into the New Zealand context.

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<sup>1</sup> Social impacts and social effects of social severance are used interchangeably in this research.

Chapter Three consists of the research design and methodology for this thesis. Objective two is achieved by adapting Tate's framework (1997) for assessing social severance effects on elderly pedestrians. The Palmerston North pilot study is outlined, and research methods described. The selection of the two methods used in research investigations is discussed, and the questionnaire and interview schedules are developed.

Objective three relates specifically to the application of the research framework achieved by undertaking two phases of research: questionnaires; and semi-structured interviews. Chapters Four and Five contain the findings obtained during these research investigations.

Objective four is addressed in Chapters Six and Seven. Chapter Six analyses the findings from the research investigations. Chapter Seven evaluates the usefulness of the research framework for identifying and measuring social severance effects experienced by elderly pedestrians and presents the conclusions derived from the overall study.