ABSTRACT. Many forces are at work in the cycle of growth and decay of human settlements. New houses are built which extend city boundaries. Natural weathering of materials, an inexorable force, is kept at bay by the maintenance efforts of residents. Neighbourhoods wax and wane in popularity. Bulldozers crush old shells to release land for new developments.

Though considerable attention is given to new housing issues, and considerable debate centres around urban redevelopment, not much is on record about the dwelling rehabilitation process, e.g. actions taken by owners or occupiers to “extend the uses and/or useful life of dwellings”.

At the beginning of 1980, an interdisciplinary research project was undertaken in Auckland, New Zealand, to study the dwelling rehabilitation process. Interests centred around questions such as what rehabilitation work was being done, what kinds of people were engaged in this process and where as well as why, some suburbs were more active in this process than others. Architectural studies of dwellings, case studies of occupant experiences, survey, and other forms of enquiry provided a comprehensive picture of rehabilitation at the dwelling and neighbourhood scale. The next step towards understanding the dwelling rehabilitation process as a city-wide process was to build and test a model of rehabilitation behaviour.

This paper describes the way in which census data was used to predict rehabilitation activity. These predictors were then compared with relevant local authority building permit data. High correlation suggest that the research had come close to understanding the dwelling rehabilitation process.

The paper concludes with a discussion about policy implications as well as the potential to use this approach for predicting other urban phenomena.

INTRODUCTION

Auckland is an attractive city in the South Pacific with an urban area exceeding 100,000 hectares and a population approaching 900,000. People of European origin are in the majority having settled in considerable numbers since 1840. The other residents of the city are principally indigenous Maori (11%) and Pacific Islanders (5%). In common with other nineteenth century “new towns”, Auckland spread out widely with privately owned detached housing as the norm.

This paper focuses on the process of dwelling rehabilitation, e.g.
actions taken by owners or occupiers to "extend the uses and/or useful life of dwellings". It describes an interdisciplinary research project undertaken to clarify the nature and extent of dwelling rehabilitation in the region, with the modeling and interpretation which followed the field investigations.

The main conclusions reached from the study are that rehabilitation of dwellings is a major social and economic process among homeowners in Auckland and that the location and intensity of rehabilitation activity can be predicted.

The paper is set out as follows:

Section 1. Background
2. Approach to the Research
3. Modelling Procedure and Conclusions
4. Implications

1. BACKGROUND

Human settlements, whether villages or metropolitan concentrations, are constantly changing. Cities grow or stagnate, the living quality of a neighbourhood alters, people do more or less to alter the comfort level of their homes. These changes are partly a reflection of economic and social factors but also because buildings are constantly being worn by use and by the weather, combinations of forces that require considerable human effort and resources to offset.

Considering the scale of the process, surprisingly little systematic study has been done of these urban changes and the factors which impact upon them. Much time and energy goes into planning and constructing new homes, probably because this has been politically rewarding for some and economically satisfying for many. When areas of the city start to decay, other forms of political and commercial interest surface, stimulated by prospects for redevelopment.

What happens to those new houses and why did the neighbourhood decay, have not been questions widely addressed, notwithstanding the huge capital value represented by the nation's housing stock or the impact of housing quality on the lives and life chances of generations of residents.

This paper describes the modelling and evaluation stage of an inter-