

FACTORS RESPONSIBLE FOR STREET LITTERING AND ITS CONTROL

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1. INTRODUCTION

Litter is considered to be a special type of municipal solid waste and generally it is a solid or liquid waste that is deposited improperly. Various methods, policies and practices have been implemented to reduce litter disposal, but littering remains a national and international problem. For example, six million cigarette butts are dropped on London streets annually, causing aesthetic problems and presenting a threat to public health. Moreover, new sources of litter have also increased significantly, such as food-on-the-go related litter. This research examines the main factors responsible for street littering and seeks alternative and innovative solutions to reduce the extent of discarded litter in the environment.

2. METHODOLOGY

This research examined several factors responsible for littering based on in-depth literature reviews, carefully designed street survey and public survey and phone conversation with professionals from fast food industry.

2.1 STREET SURVEY

Street surveys were performed on the following streets:

- Oxford Street: 300-323 Oxford St (100m)
- Covent Garden: 1-26 Neal St (100m)
- Knightsbridge: 1-188 Sloane St (150m)
- Exhibition Road: Science Museum to Cromwell Rd (150m)
- City of Westminster: Westminster Bridge (150m)
- Canary Wharf: 25-43 Bank St (100m)
- The City (Bank Station): 1-20 Princes St (100m)
- Earl's Court: 1-11 Knaresborough PI (100m)
- Poplar: 1-74 Stainsby Rd (100m)
- Camden Town: 92-123 Camden St (150m)



Main activities included:

COLLECTING AND CATEGORIZING
LITTER

COLLECTING PEDESTRIAN
FLOWS

COUNTING THE NUMBER OF
RETAILS

2.2 PUBLIC SURVEY

The public survey was carried out using internet-based surveys and street intercept surveys. The online survey was generated using online survey software: Survey Monkey and So Jump, and a link to the survey was posted on major social medium and sent via email. Respondents were recruited by a non-systematic approach allowing self-select in the sample. Street intercept surveys were conducted on the above sites where litter collections were performed. For each interview site, the sample size was designed to be 10 to 20 people.

2.3 INTERVIEW

The author aimed to organise several phone conversations with leading fast food companies regarding their packaging waste disposal strategies and their attitudes towards fast food related litter. A total of thirty professionals from ten companies were contacted via social medium. The phone conversation was about twenty minutes and six questions were discussed.

ACKNOWLEDGEMENTS

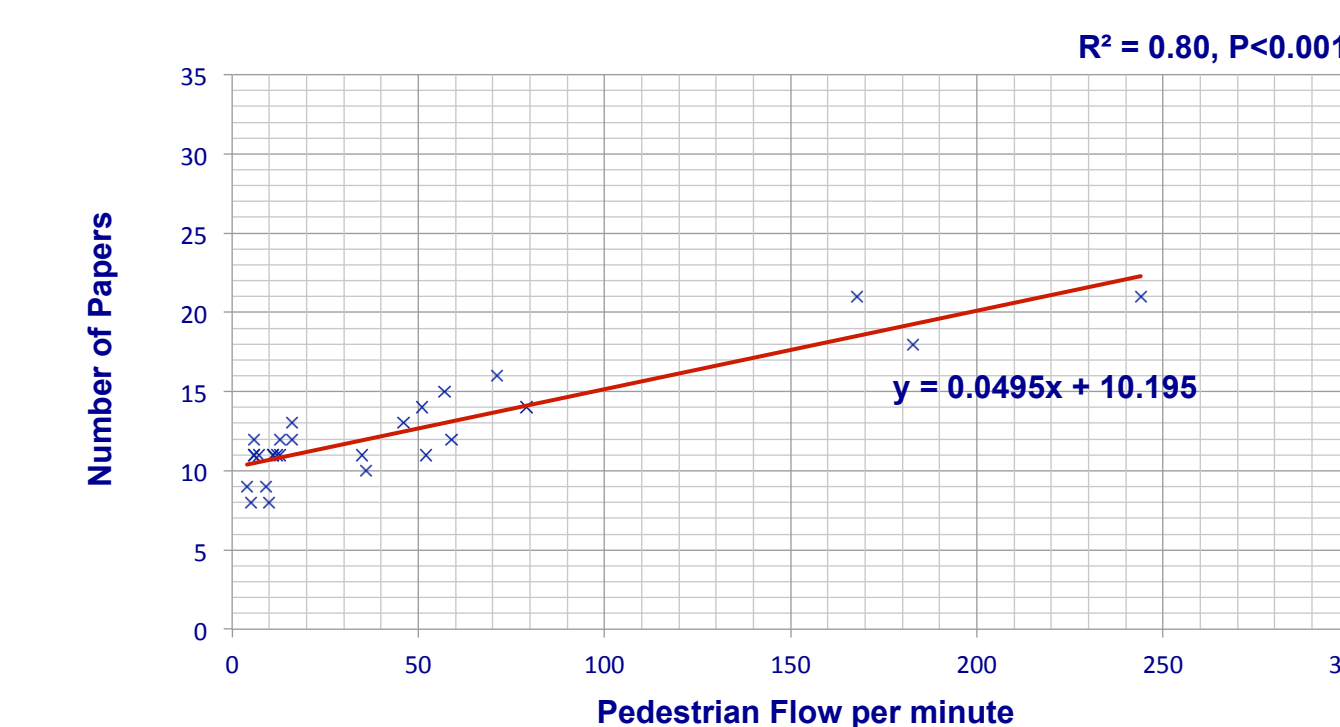
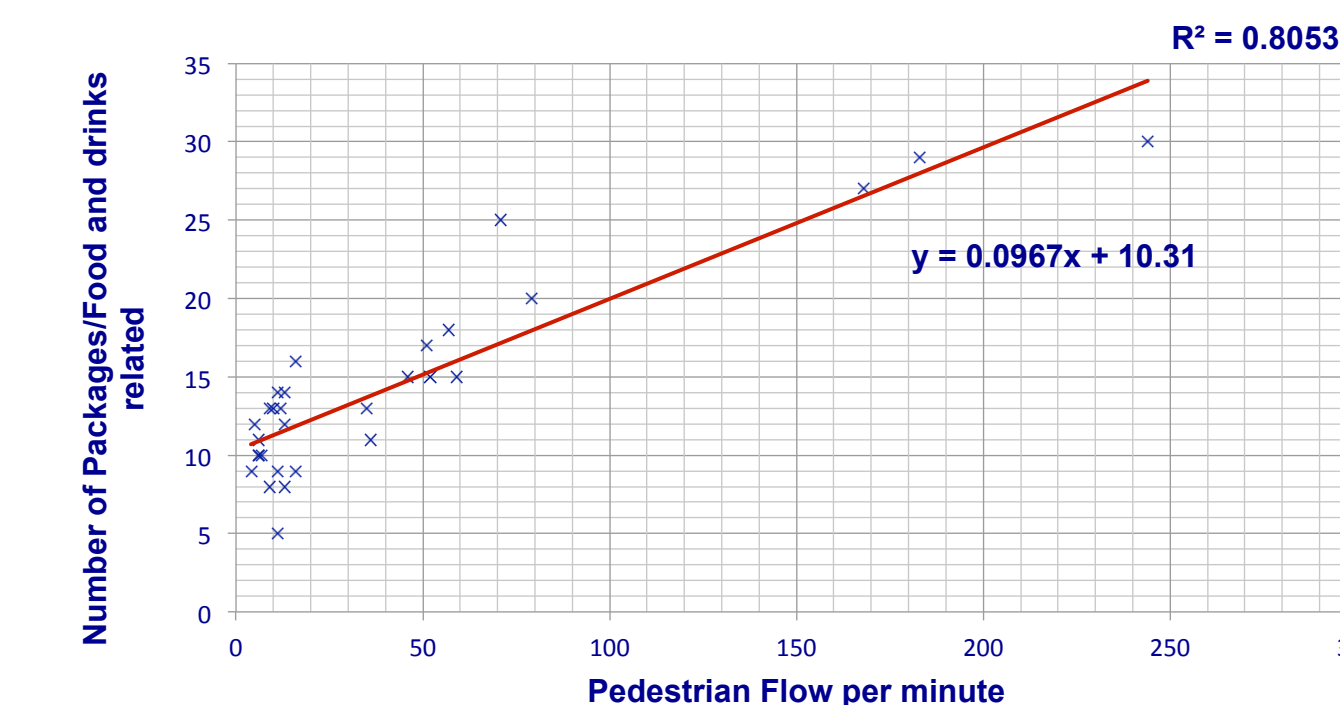
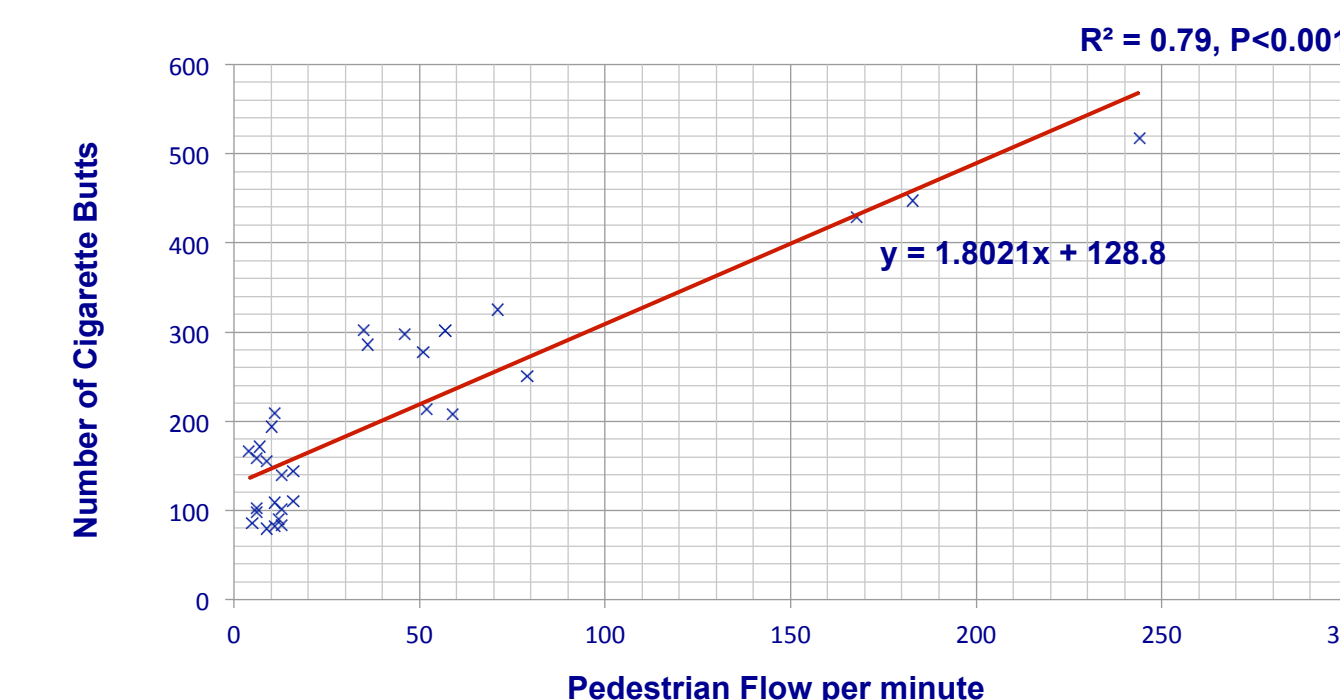
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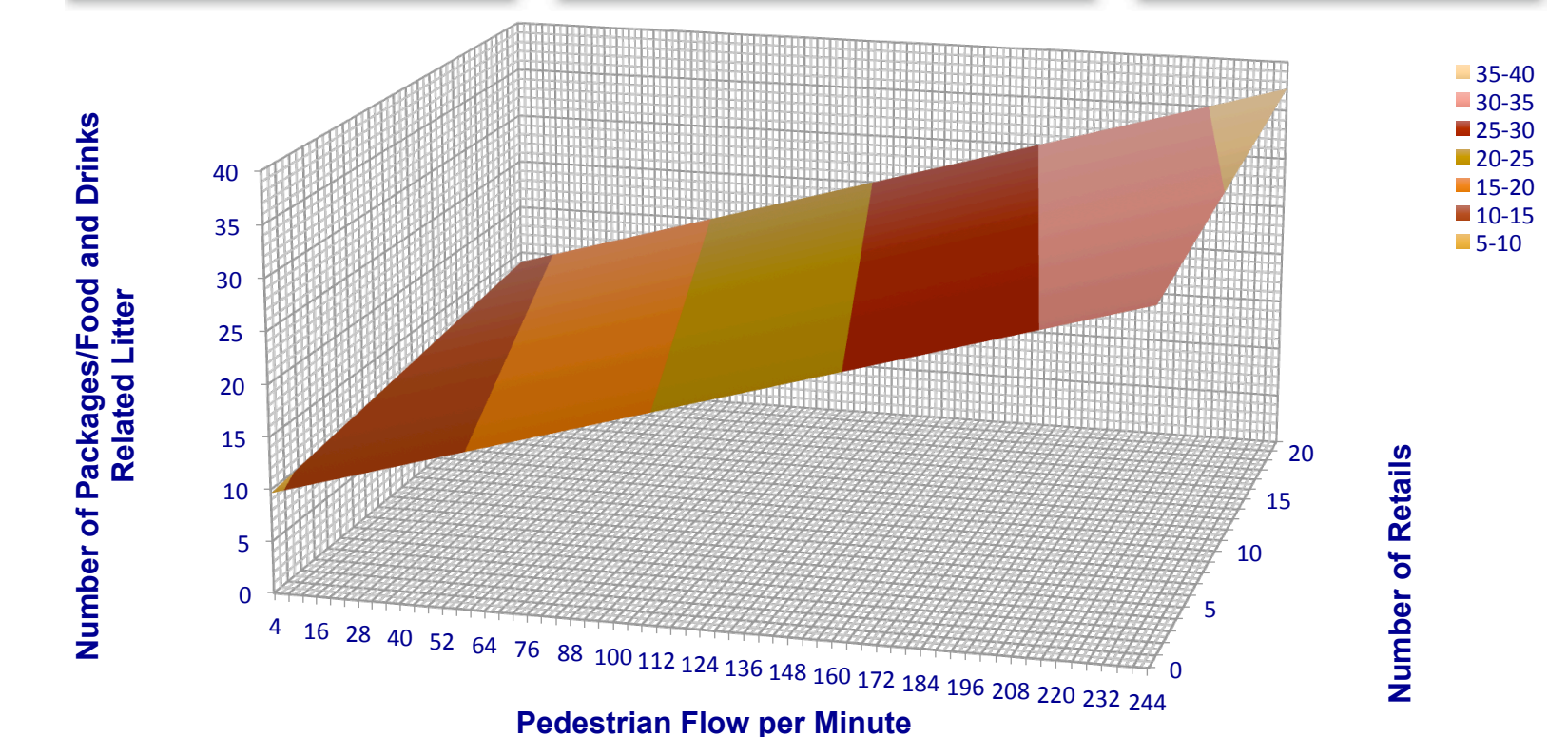
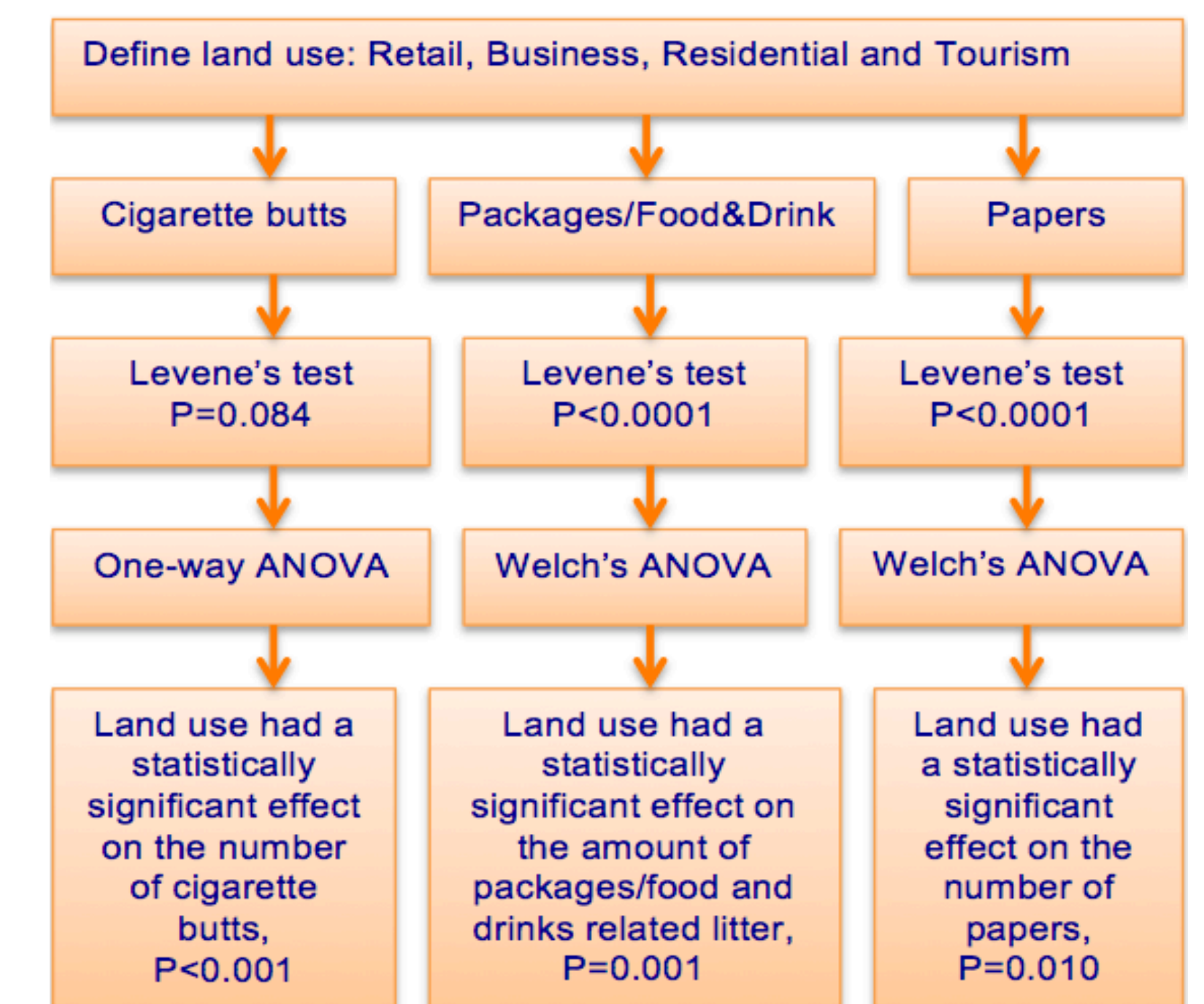
3. RESULTS: FACTORS RESPONSIBLE FOR LITTERING

Base on the linear correlation analysis and ANOVA tests, pedestrian flow and land use were found to have strong correlation with the amount of litter. In particular, pedestrian flow was found to be the major factor, which had more statistically significant effects on the amount of litter on sites compared to land use, as shown in the 3-D plot. Several social-economic characteristics (gender, income, marital status and religious convictions) were found to have statistically significant effects on littering behaviour and practices and on potential litter prevention strategies.

FACTOR A: PEDESTRIAN FLOW



FACTOR B: LAND USE



FACTOR C: SOCIAL-ECONOMIC FACTORS

A total of 600 respondents participated in the online survey and 119 people were interviewed during the street intercept survey. The results indicated a wide-spreading litter practice. In general, male respondents, single respondents, respondents with low monthly income and low religious convictions tend to litter more. Survey respondents considered that cigarette butts were the most commonly disposed litter on streets, followed by confectionary/snack packs and fast food related packs. The most effective litter-prevention method varies between individuals. In this study, the top three control measures were “better street cleanness”, “increasing the availability of litter bins” and “fines”.

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