

Summary

Issues of waste management and recycling have taken on increased importance in recent years. Kerbside waste recycling programmes are a relatively recent development in the field of municipal waste management. Although forms of waste recycling have been practised for many years, it is only within the last decade or so that kerbside recycling has developed in the Perth Metropolitan area. In fact, many council recycling programmes are only a few years old.

The aim of the current study is to document and investigate local council municipal recycling programmes, in particular the kerbside recycling services, to determine those factors that affect the performance of recycling programmes. Data was collected on all municipal recycling programmes in the Perth Metropolitan area via a Questionnaire. A draft questionnaire was developed and tested on two Councils, and the refined questionnaire was sent to all 26 Councils in the Perth Metropolitan area. Students from the Murdoch University course "Waste Treatment and Recycling " (N211) interviewed the Council recycling or waste management officer, collected the questionnaire and (where appropriate) directed further questions at private recycling contractors.

The questionnaire was structured in five parts and focussed on current and previous recycling programmes, financial and employment aspects of the current recycling programme, and a comments section to note special features of the programme.

The Questionnaire achieved a 100% response rate. Almost all Councils (92.4%) have some form of organised recycling, either at selected drop-off points, or a kerbside collection service. 76.9% of Councils provide a kerbside collection service for recyclables. The most common collection containers are bags (46.2%) and Mobile Garbage Bins (19.2), with a few councils (11.5%) using crates. Two Councils (7.6%) have no recycling programmes. The most commonly recycled materials include newspaper, glass, plastics and aluminium

cans. It was found that public interest in recycling is a major factor behind the establishment of local recycling programmes, in addition to Council reviews of waste management. Participation rates varied markedly, from high levels (79-93%) associated with the use of the MGB systems, to much lower levels (approximately 35%) for bag systems.

The study tested a number of hypotheses and the findings are presented below.

Hypothesis 1. Current recycling activity in the Perth metropolitan region is diverting a significant portion of waste from landfill disposal. The study found that Municipal recycling programmes are diverting significant portions of waste from the total waste stream, and in particular, the from the Municipal waste stream.

Hypothesis 2. Strong promotional campaigns for recycling are associated with high levels of waste recycling. No clear relationship was found between the number of promotional mediums used by local council and the participation rate and yield. However, the extent and frequency of promotional campaigns are probably significant factors.

Hypothesis 3. High Council charges for waste disposal are associated with high levels of household recycling. No statistically valid relationship was found between recycling rates and charges for the rubbish and recycling service. The hypothesis is not supported by the data. However, it is likely that the rate structure (ie. other than a flat rate structure, such as a volume or weight based structure) provides significant incentive to recycling. This could not be tested as all Councils charge their services on a flat rate basis.

Hypothesis 4. Recycling programmes that use the Mobile Garbage Bin container for the collection of recyclable materials performs at higher levels than other containers. The Mobile Garbage Bin clearly has the highest average participation rates overall (85.5%), the crate

system performs moderately at 49%, and the bag system generally performs at low participation rates (43%). Thus the data supports the hypothesis.

Hypothesis 5. Kerbside recycling programmes that are serviced on a weekly basis perform at higher levels than fortnightly collection services. The general trend in the data shows that the weekly collection of containers is associated with higher levels of participation, recycling rates and yields. Thus, hypothesis 5 is supported by the general trend in the data.

Hypothesis 6. Recycling activity declines as the recycling programme ages. The data was consistent with the hypothesis, but the relationship was not found to be statistically significant, due to most recycling programmes being of recent origin.

The study has identified potential improvements in overall strategy and policy and these are outlined under "Recommendations". The recommendations focus on the establishment of a consolidated Government Waste and Recycling Authority, development and implementation of variable rate charging systems for rubbish and recycling programmes, improvements in the monitoring of private contractors and associated data collection, and investigations into the development of reprocessing industries within the Perth region.