City of Whitehorse
Submission to Waste Generation and Resource Efficiency Inquiry
Productivity Commission 2005/06

Introduction

The City of Whitehorse is located in the eastern suburbs of Melbourne and encompasses an area of 64.24 km2 across the suburbs of Blackburn, Blackburn North, Blackburn South, Box Hill, Box Hill North, Box Hill South, Burwood, Burwood East, Forest Hill, Mitcham, Mont Albert, Mont Albert North, Nunawading, Surrey Hills, Vermont and Vermont South. The population of the City of Whitehorse is estimated to be 152,687 people living in 58,550 households (Department of Infrastructure 2000). The population represents a diverse range of cultures and mix of age groups (mostly between 25 and 49).

Waste management is a core element of Council services and is important in maintaining community satisfaction. Waste management also provides an important avenue for Council to achieve environmental benefits, by providing services that encourage good waste management practices. Ecologically sustainable development (ESD) is a key principle of environmental protection. ESD allows for development that improves the quality of life of the whole community both now and in the future in a way that maintains the ecological processes on which life depends.

Strategies for waste management in the City of Whitehorse are not developed in isolation. There are a range of issues and stakeholders that must be addressed in the decision-making process. The waste management needs of the Whitehorse community must be set within the obligations of Commonwealth and State Government legislation, and the initiatives necessary to meet statutory waste minimisation policies and targets.

Council developed a new Waste Management Plan in 2004 and the Executive Summary of the Plan is attached with this submission for the purposes of informing the Commission of the issues and approaches involved in waste management for this Council. Many of the issues and questions posed in the Commissions issues paper are included in Council's Waste Management Plan

The City of Whitehorse is a member of *Least waste***,** the Eastern Regional Waste Management Group. Victoria has been divided into Waste Management Regions and there is a Regional Waste Management Group with responsibilities in regard to the planning for and implementation of waste management within each of these Regions. The four Regional Waste Management Groups in metropolitan Melbourne were established in the late 1970's and initially were focussed on the landfill disposal as that was the key waste issue at that time.

In the early 1990's the focus of these Groups broadened to include recycling and resource recovery. That change was in response to community expectations that were reflected through State Government legislation and Local Government focus on environmentally enhanced waste management services. During this period the additional twelve Regional Waste Management Groups outside the Melbourne metropolitan area were established.

L*east waste* (trading name of the Eastern Regional Waste Management Group) has operated since May 1981**.** The *Least waste* region contains a population of over 650,000 people and an area of 2,815 square kilometres. The five **L*east waste*** member Councils (Knox, Manningham, Maroondah, Whitehorse and Yarra Ranges) are represented on the **L*east waste*** Board and work co-operatively towards beneficial waste management achievements. The Eastern Region comprises predominantly residential areas with small areas of light industry and rural areas in the outer east.

Of note is that unlike the other three Melbourne based Regional Waste Management Groups there are no landfills in the Region. Scope may exist to locate Advanced Resource Recovery Facilities (often called Advanced Waste Treatment Facilities) within the Region, but those facilities still require a landfill to dispose of the residuals from treatment so transport of the residual from treatment processes will remain a driver for best practice approaches to waste management.

The City of Whitehorse welcomes this inquiry into the important issues of Waste Generation and Resource Efficiency with the expectation that as a result beneficial outcomes will be achieved to assist waste management activities to move from traditional approaches to advanced resource recovery approaches over the next five to ten years.

Types of Waste

The City of Whitehorse's responsibilities relate to municipal solid waste predominantly, although Council's transfer stations do receive waste from industry and small quantities of commercial and industrial material are recognised as forming part of the weekly kerbside collected garbage. In addition quite small quantities of illegal wastes (e.g. medical waste) may be found in kerbside collections. Where these are identified they require special disposal and investigation to preclude them being received again. Both these aspects are at Local Government cost.

Many of the items set out in the Commission Issues Paper (December 2005) which include components that exhibit hazardous characteristics are discretely collected at transfer stations or able to be disposed through the Detox Your Home Collections that are held within the Eastern Region two to three times each year. Such collections are funded by Sustainability Victoria with **L*east waste*** member Council support through providing a site, advertising and other in kind aspects at Council cost.

Kerbside Collections and Data

The City of Whitehorse has what is considered to be best practice kerbside collection systems for residual waste (120/80 litre capacity weekly) and commingled recyclables (240 litre fortnightly). Council is currently undertaking a review of how best to address green organics including whether to provide a regular kerbside collection and ways to encourage containment of green organics within properties.

Leaste waste has in February 2006 opened its Coldstream Compost Facility which has been supported by all five member Councils. It is expected to provide positive influence on future decisions on green organics collections and will be taken into account in Council's Green Waste Review currently underway.

The introduction of these best practice services and uptake of them by the community at costs additional to those that previously applied is demonstration of the willingness of the community to pay for what they consider a good level of service. There is of course an upper limit of what is willingly paid, but the services of the Councils of the Eastern Region are demonstrated as not having exceeded that cost level. Results of a **L*east waste*** community survey in 2004, which included residents from all Councils in the Eastern Region, included the fact that 29% of respondents would be prepared to pay more if their Council decided to upgrade their waste management services.

It is noted that much of the community accept the size of residual bin provided (120 litre) although a significant number take up smaller (80 litre) bins at a cost saving, often of around $20 per year – which is considered to be an environmental rather than economic driver. The level of service delivery is considered to be a greater driver than economic benefit, although socio-economic level can be a further influencing factor.

Data is a key to appropriate decision making in the adoption of waste management approaches. Systems are in place in the Eastern Region both within the City of Whitehorse and L*east waste* for data collection as part of contract administration. That ensures that data is collected regularly and as part of the process of dealing with contract payments and the like rather than as a separate discrete cost. Regionally managed contracts have achieved economies of scale with regard to gate fees as well as being a source of Regional and Council data.

In 2003/04, the City of Whitehorse had a waste disposal rate of 529 kg/household/yr compared to a Regional average of 511.5 kg/household/yr disposed as waste to landfill. The City of Whitehorse had a rate of 279 kg/household/yr compared to regionally a rate of 396.9 kg/household/yr recovered as recyclables and green organics through kerbside collections. Since that time the City of Whitehorse has moved from a crate based recycling system to a fortnightly commingled bin based system so the quantities of materials recovered will now have increased. The Regional target is 50.1% diversion to resource recovery by 2007/08 and with these increased services that is expected to be achieved.

Sustainability Victoria aggregates this Regional data for the State as well as encompassing data for waste streams other than municipal kerbside. That data is also able to be correlated with landfill levy data – which now differentiates between municipal and commercially sourced wastes. This is a further example of data being collected as a matter of course during other management activities. Uniform and consistent data is essential to enable aggregation in this way. Such an approach to data collection nationally would be of significant benefit.

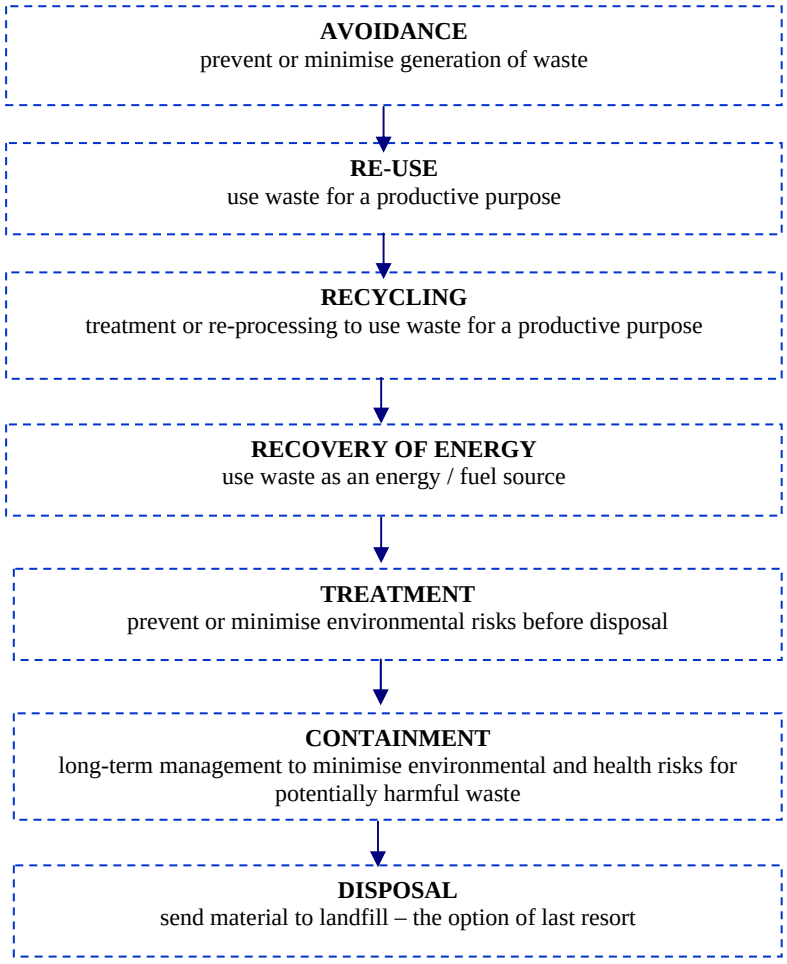
For the purposes of waste management facility and service planning the data currently collected by the City of Whitehorse and in the Eastern Region is sufficiently disaggregated. At some future time for specific facilities data may need to be addressed in some other form. This became evident to Councils in the Eastern Region through the Expression of Interest process on Advanced Resource Recovery Facilities conducted by **L*east waste*** in 2004**.** Further action on a move to establishing and using such facilities in the Eastern Region has been deferred until the merge of the four Melbourne Regional Waste Management Groups by State Government is completed as that will involve new structures to govern such arrangement.

The move to Advanced Resource Recovery Facilities will necessitate long term arrangements with the private sector. Experience in the Eastern Region has shown that Local and Regional Government can work very effectively with the private sector to mutual benefit. It is however considered that existing policy and regulatory approaches will need to be reviewed and amended to enable necessary long term arrangements for these new approaches – particularly where the mode of operation is conceptual at the outset and mutually developed to achieve common goals over the period of contract to enable embracing of technology as it develops over time. This changed approach is driven in part by the fact contracts will be of the order of 20 years operation rather than currently up to 10 years.

Waste Hierarchy and Resource Efficiency

The City of Whitehorse has developed its Waste Management Plan in accordance with a waste management hierarchy (see below) which sets out the framework for waste minimisation upon which the Waste Management Plan is based. This approach is largely driven by the State Government legislative framework that is largely based on a waste hierarchy approach.

Waste Management Hierarchy



Changes to waste management for this Council and in the Eastern Region generally have been influenced by the waste hierarchy – as it is a reflection of the types of change sought by the community. Separate kerbside collection of recyclables would not have been pursued but for the hierarchical consideration of the "best" ways to manage the waste stream by reducing the amount of material disposed as waste, but also the community's clear indication of the willingness to embrace and pay for this new and sustainable service.

Management of all components of the waste stream need to be considered in terms of the hierarchy. Triple bottom line costs and benefits need to be addressed where a

change in management is proposed and decisions taken and reviewed at appropriate intervals to ensure changed circumstances are factored in to keep services relevant to meeting community and economic needs. By way of example energy recovery may not be a favoured waste management option at a given point in time, however if a significant energy user seeks to locate in an area that may change the earlier assessment of options. The matrix of decision making can become complex, including non waste management activities that will influence decisions being taken into account. Assessments of directions to proceed must always be on a case by case and location by location basis as rarely can solutions be simply transplanted from one circumstance to another.

Rubbish dumping and litter are two aspects of waste management service often forgotten, but they are matters of significant cost. Expenditure of over $100,000 each year by the City of Whitehorse in this area is considered to be indicative of the level of cost for each Council in the Eastern Region. Often materials such as car tyres, transformers, furniture, mattresses and electronic waste which are dumped are those for which elevated costs of disposal are imposed due to the complexity of disposal in an environmentally appropriate manner. Council needs to meet these disposal costs when cleaning up dumped rubbish.

Although many more materials are recycled now than in the past that is not necessarily a positive indicator. It would be of greater community benefit on a triple bottom line basis if the extent of packaging was reduced so that waste was avoided rather than needing to be recycled. Volumes of materials in recycling bins are being escalated by the consumption approach of society and the extent of packaging due to many items being double or triple packaged.

Whilst there have been co-ordinated national approaches such as the National Packaging Covenant put in place it is considered that the community has not identified resultant benefits. Funding from this Covenant has flowed to assist this Council and other Councils in the Eastern Region to upgrade kerbside services and whilst that is welcomed it is not addressing the consumption issue itself. Businesses continue to externalise costs of products, particularly ultimate disposal, and it would seem that the only means for this to be addressed is by mandating extended producer responsibility. In Europe regulation is in place in this area and it is not believed that community is paying more for goods. It would seem that there would be benefit in the Productivity Commission, as part of this Inquiry, to undertake research into the European situation to test whether that is the case.

Upstream issues in the product chain need to be addressed. Manufacturers and importers need to be mandated for new products, or their component parts, to be recyclable within the Australian waste management structures. In this regard markets for recycled materials is a key and developments in that area could enhance what is recyclable. Where appropriate, as an alternative to recyclability, goods with relatively short useful lives could be manufactured of biodegradable material to assist the management of those goods in the waste stream.

It would seem that the only certainty to achieving the results discussed above is for a regulatory approach, with a degree of flexibility that could include staged changes in goods manufacture to enhance recyclability.

As example of a regulatory approach, it is suggested that to achieve a reduction in the use of plastic bags, the Commission could investigate imposing a charge of say 15 cents per bag on all plastic bags used. This would encourage minimising the use of plastic bags by a range of commercial establishments including large scale supermarkets to small retail outlets. It could also provide an income stream for governments to be used for waste minimisation programs.

Council also wishes to raise another issue in relation to resource efficiency. The cost of fuel has a significant impact on the cost to provide waste management services. Transport costs relate to kerbside collection services and the transport of wastes from transfer stations to regional facilities. Already there are pressures from contractors providing waste management services for Council to increase payments because of increases in fuel costs. It is suggested that the Commission consider this issue in its inquiry and consider alternative ways of reducing fuel costs. This could include incentives and policies which encourage re-use of domestic and green wastes within the home to reduce the need to collect wastes in the first place and to counter the heavy reliance on fuel in the waste industry.

It is noted that there is currently an inquiry by the Senate Rural and Regional Affairs and Transport Committee into Australia's future oil supply and alternative transport fuels. It is recommended that the Productivity Commission also considers this issue.

Government Involvement in Waste Management

It is essential that Governments at all levels be actively involved in waste management as it is an activity that directly impacts all sections of the community in one form or another. Governments have a significant role as the custodian of community standards being achieved, both for current and future generations through regulation, service delivery and other areas.

In particular Local Government needs to set policy on the delivery of waste management services at the community level. This is because local knowledge of a community and its specific needs to be met are very important in structuring services that will be most beneficially utilised. Local and relevant data needs to be used in structuring services to meet specific needs and focussing on relevant education. The approach of "one size fits all" that would result from these areas being addressed at other levels of Government would result in services that are not specifically compatible in any area. Individual and community needs are clearly best addressed by the level of government closest to individual communities.

Councils of the Eastern Region are acutely aware of the costings of environmental issues in relation to disposal of waste in landfill. The only significant movements in gate prices for the current Regional Disposal contract (used by all five Councils in the Eastern Region) over its seven year life have related to enhanced State Government

environmental requirements on the contractor that owns and operates the landfill. When the contract commenced the contracted landfill was considered "state of the art" in Melbourne, but increased standards over its life have lead to further enhancement. This Government role ensures continuous improvement at the landfill occurs and users meet the appropriate cost of disposal, including identified externalities, as appropriate at any particular time.

Target setting in relation to waste management activities is an appropriate tool. In the short term targets based on data and being measurable are essential, although that should not preclude the use of longer term stretch goals. For example to aspire to zero waste can be most beneficial in that it provides scope to trigger lateral approaches and thinking outside the square by participants. Council uses targets to assist its strategy direction and Council's community education programs can be enhanced by using targets as a reference point.

Comparison of data from different sources within Australia needs to be approached carefully. When data is compared internationally the level of care needs to be enhanced. A key to data comparison is to delve into the detail of development of data. For instance in utilising international data something as fundamental as what is included or excluded from the definition of waste can have a significant impact. It is of great importance that any data is consistent, particularly when used in comparisons.

Recycling

Landfill levies are not a driver for recycling unless they are set at very high levels, but that introduces the concern of levies primarily being a tax rather than a motivator for change. Victorian levies are not directed to consolidated revenue and therefore have the potential for direction back into industry development. At the Victorian level the funds from the levy should be appropriately utilised to "kick start" recycling and similar activity, but should never be an ongoing component of funding. Unless recycling and such activities have the ability to be financially viable in the long term they will not satisfy triple bottom line criteria.

Changes in recycling need to be appropriately driven. State Governments have a role to set the broad policy direction but the approaches to delivery need to be established at the Local Government level. In this way local community needs can be specifically met such that the appropriate level of service to meet State policy is delivered but the method of delivery may vary. For instance a recycling service may be more appropriately delivered to some communities through a well structured drop off area rather than kerbside. This is particularly relevant in sparsely populated areas where the community regularly go into the town centre for other services (e.g. pick up the mail).

Life cycle analysis can be a useful indicator to consider change. It is not a driver of itself but may be part of a series of items that will result in change over time.

Government procurement policies can be of assistance to recycling markets, although often through influence rather than being a significant part of ongoing markets. An

example of this is the use of green organic mulches and composts. Council use of such products in a prominent area, with such use well advertised, can be an influence to bulk users being interested in purchase. The use of mulches and composts on a roundabout in a busy thoroughfare would be considered most appropriate to achieve this end. Councils using paper with a recycled content, and making that widely known, is another example.

Energy recovery has been on the waste management agenda for consideration over many years. It has recently come into further consideration as part of some Advanced Resource Recovery proposals. Critical to consideration of this matter is the level of community distrust of precisely what may be disposed of in an incinerator once it is constructed. There are many energy recovery proposals in history that have been actively opposed by organised and credible groups in the community on this basis. Robust and applicable technologies must be the platform of any energy recovery proposals.

Reductions in kerbside residual waste bin capacity in conjunction with introduction of bin based recyclables collections, with increased capacity, have been the keys to increases in recycling rates in the Eastern Region. It is believed that the level of service is a greater driver than cost – provided the cost is not considered by the community to be unreasonable. The definition of "unreasonable" will vary with the socio economic circumstances of any community. It certainly varies from this Council to other Councils within the Eastern Region.

Producer Responsibility

To be effective extended producer responsibility approaches to waste management need to deal with the full product stream. Generally this will necessitate dealing with association groups for any particular industry so that the majority of manufacturers and importers (if applicable) are captured. It is important to establish a quite specific time after which the producer responsibility will apply fully. The matter of orphaned goods manufactured before that time or by manufacturers no longer in business is a difficulty. This can be effectively addressed by the use of external funds sources (e.g. landfill levy) to deal with those goods in a gap period, generally focussed to capture the majority of orphaned goods, after which the industry must simply absorb the recovery costs of orphaned goods. This approach provides for sharing of such costs from industry and Government sources.

It is also important in any such scheme that the upfront charge for disposal reach the waste manager with as little loss through administrative charges as possible. The ideal would be for the relevant association to be responsible for the dismantling/recycling although in most cases a third party will be involved.

A television recycling trial was conducted in the Eastern Region and that demonstrated the complexity of extended producer responsibility approaches. It also demonstrated that there are always a range of different models for effective recovery of goods. Of great importance in any scheme is that the most effective receival

approach is used and that will always need to be developed in specific circumstances. Often receival approaches will involve more than one arrangement to be effective.

Producer responsibility can also be drawn into play when changes are made to address sustainability issues. A significant example in this regard is the durable bags that have been introduced to replace plastic shopping bags at supermarkets. These bags have been environmentally effective, but early ones put into use are now in many cases reaching the end of their useful lives. Being generally manufactured of polypropylene they should be highly recyclable. Unfortunately there is no system in place that will enable them to be recycled, so if placed in a kerbside recycling bin they would be deemed to be contamination, when in fact they are as valuable as any other polypropylene container. This example demonstrates that replacement of throw away items with a durable item needs to have included in assessment how that durable item can be dealt with sustainably at the end of its useful life.

Education Programs

Co-ordination and initiation of many education programs with which Council is involved are through **L*east waste*** when they relate to the Eastern Region as a whole. **L*east waste*** delivers many education programs, but has limited resources and therefore has to look to the most cost effective approaches. Generally this is achieved through dealing with industry sectors or groups where there is a local champion.

Business education programs are delivered at the broad level through Eastern Business and the Environment (EBATE) meetings. There are five seminar sessions held each year. Programs are organised by an industry based committee, which is facilitated by **L*east waste.*** Initially the committee was run by **L*east waste*** staff, but now it is run by people from businesses within the Eastern Region. Each EBATE seminar is held at a member Council venue and generally chaired by the **L*east waste*** Director from that Council. This approach ensures that business, the Regional Waste Management Group and Council are actively involved in the delivery of education messages. All EBATE events are well attended.

Schools education programs are focussed through Waste Wise Information Network for Schools (WWINS) meetings. These meetings are held each term (four per year) at a different school in the Region. Arrangements for each meeting is by the **L*east waste*** Regional Education Officers in conjunction with teachers from the host school. The meetings provide the opportunity for teachers that attend to share Waste Wise experiences and for the host school to showcase its waste management activities (e.g. worm farms, compost areas, chickens, litter initiatives). All WWINS meetings are well attended. It is considered that the WWINS approach is one of the drivers that has increased schools in the Eastern Region participating in the Waste Wise Schools Awards each year.

Another area of educative work undertaken Regionally is with Waste Wise Businesses. **L*east waste*** prefers to deal with groups of businesses where there is a local champion for the approach. This is considered to assist with longevity of involvement. The Old Joe's Creek Waste Wise Automotive program is an example of

success. Many of the involved businesses have now been Waste Wise accredited on three occasions, which represents nine years. The program has achieved the interest of Peter Brock, who has taken the lead in each certificate presentation ceremony.

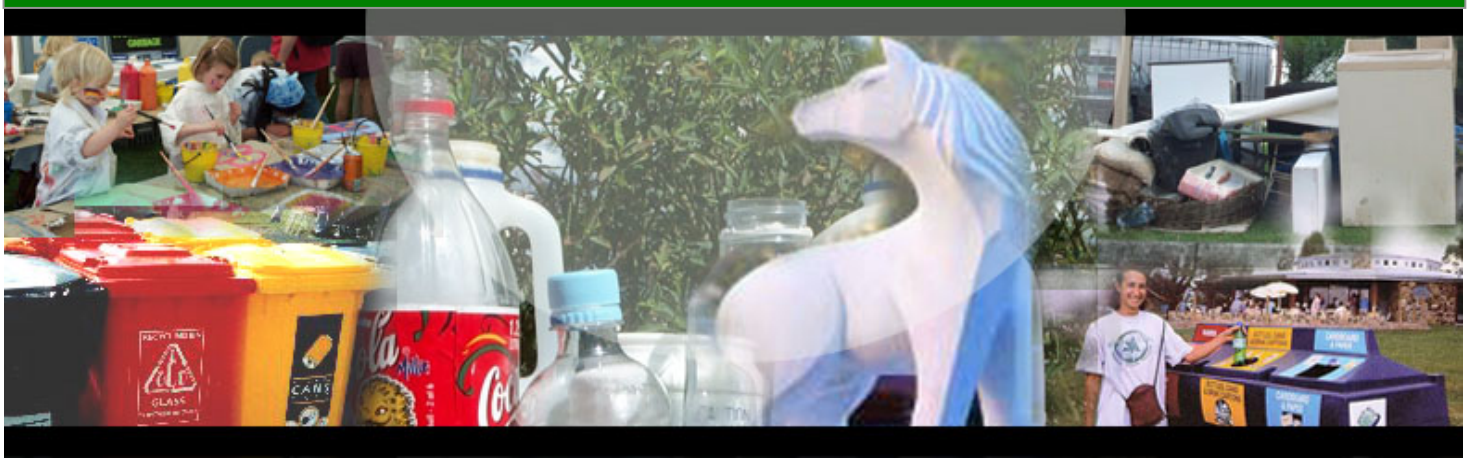
These examples of approaches demonstrate how a wide audience in a particular sector has been able to be reached effectively on an ongoing basis. It represents working smarter not harder to achieve outcomes. The approach is one that could be beneficially replicated state wide or nationally.

Co-Operative Efforts

The ICLEI – Local Governments for Sustainability Program is considered to have been very effective in promoting and achieving sustainable approaches in the community. It is suggested that this could be used as a model to develop an international program for Local Governments to enhance approaches to waste management at the national or even international levels.

City of Whitehorse

Waste Management Plan 2004



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EXECUTIVE SUMMARY

Whitehorse City Council is committed to the provision of cost-effective, innovative and environmentally responsible waste management services that meet the needs of the community. The Whitehorse Waste Management Plan provides a framework to meet that commitment over the next 10 years. This summary document outlines the objectives and scope of the Waste Management Plan, presents background information on current practices in Whitehorse and the broader policy context, and explains the basis for recommended actions.

Why develop a Waste Management Plan?

Waste management is a core element of Council services, and an effective service that meets ratepayers' needs is important in maintaining a high level of community satisfaction. Waste management also provides an important avenue for Council to achieve environmental benefits, by providing services that encourage good waste management practices.

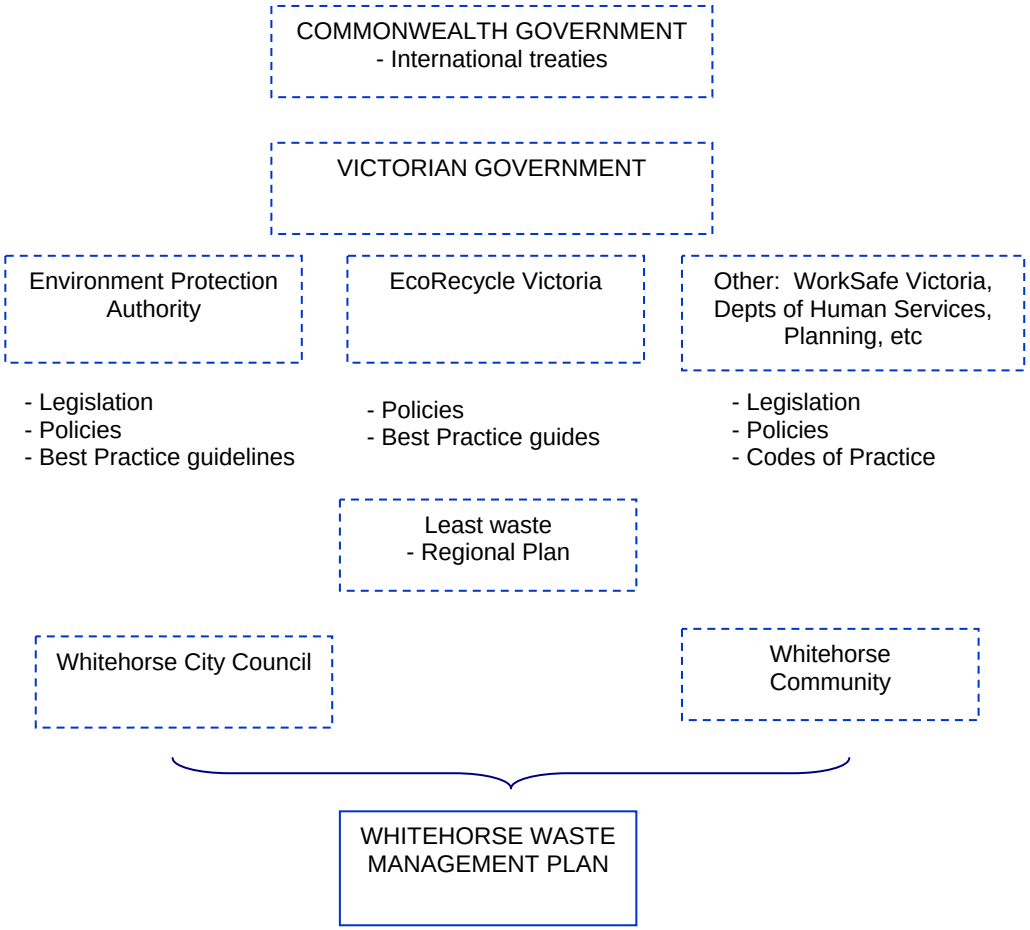
Preparation of a Waste Management Plan allows Council to take stock of the current situation, identify aspects that need to change, review options and determine the best course of action. Change might be needed to better meet community needs and expectations, ensure compatibility with State Government and Regional policies, and to improve sustainability through waste minimisation. Development of the Waste Management Plan also allows Council to look ahead, and prepare for the challenges and opportunities that are expected (e.g. higher density living, new recovery practices and management technologies).

The Waste Management Plan addresses solid waste generated by the Whitehorse community, and provides a strategy for the next ten years that incorporates provision of effective services by Council for disposal and resource recovery as well as on-going work with the community to improve waste minimisation. The Plan considers opportunities to increase recovery of specific materials (e.g. green organics), analysis of best practice techniques and emerging service models and technologies. Issues addressed by the Waste Management Plan encompass public health and amenity, occupational health and safety, environmental management and planning, and cost-efficient delivery of services to ratepayers.

What is the broader context?

Strategies for waste management in the City of Whitehorse are not developed in isolation. Council has developed policies and plans that consider sustainability principles in the delivery of services to the community. Waste management within the Eastern (Least waste) region, which includes the City of Whitehorse, is addressed by a Regional Waste Management Plan. There are also policies and statutory frameworks developed by Commonwealth and State Governments that shape waste management and minimisation. The complex policy context for the Whitehorse Waste Management Plan is illustrated by Figure ES1.

Figure ES1 Waste Management Policy Framework



Commonwealth policy on product stewardship affects waste management by the City of Whitehorse, particularly in relation to kerbside recycling and a number of distinct waste streams (e.g. electrical and electronic appliances, lubricating oil and plastic bags). The National Packaging Covenant influences kerbside recycling of used packaging materials and provides funding to help Councils modify their kerbside recycling services to achieve best practice. Councils in Victoria have also had access to funding through the Product Stewardship Arrangements for Waste Oil to install oil collection facilities at transfer stations.

Victoria has a strong history of working towards sustainability in waste management, and policy at the State level has an overall objective of coordinated planning for the long term. Many State Government policies and guidelines will influence waste management in Whitehorse, as outlined below:

- The draft *Towards Zero Waste: A Materials Efficiency Strategy for Victoria* (EcoRecycle Victoria 2003b) sets goals that would lead to significant change in

the way waste is managed in Victoria (and the City of Whitehorse). The Strategy envisages new systems and infrastructure being established to shift waste management away from disposal to recovery of materials. Whitehorse City Council will need to support implementation within the region (e.g. possible upgrade of the Whitehorse Recycling and Waste Transfer Centre to accept a wider range of materials, and the development of a Regional composting facility).

- The *Occupational Health and Safety Guidelines for the Collection, Transport and Unloading of Non-Hazardous Waste and Recyclable Materials* (WorkSafe Victoria 2003) advises the waste management and recycling industries on meeting their obligations under the *Occupational Health and Safety Act 1985*. Council commissioned the *Whitehorse City Council Risk Assessment and Control Plan for Kerbside Waste Management Services* (Nolan-ITU 2003), which recommends a suite of measures across the short- to long-term in response to these guidelines. Details on how the guidelines will be implemented for hard waste and green organics collections remain unclear, however the Whitehorse Waste Management Plan needs to present service options that will meet the community's needs without contravening the OH&S guidelines.

- Provision of efficient and sustainable recycling services will be influenced by the draft *Guide to Preferred Standards for Kerbside Recycling in Victoria* (EcoRecycle Victoria 2004a), particularly if Council intends to seek funding from EcoRecycle Victoria to support implementation of any new services.

- The Landfill Levy (paid by landfill operators to the EPA under the *Environment Protection Act 1970*) contributes to the cost of waste collection services. The levy is increasing, which provides a clear incentive for Whitehorse City Council to explore alternatives to landfill disposal (e.g. increased diversion for recycling and organics processing).

- Management of the Whitehorse Recycling and Waste Transfer Centre should reflect best practice, as indicated by the draft *Guide to Best Practice at Resource Recovery & Waste Transfer Facilities* (EcoRecycle Victoria 2004b).

- Council is jointly responsible for management of the Clayton landfill, and activities at the landfill will need to comply with the draft *Waste Management Policy (Siting, Design and Management of Landfills*) and the *Best Practice Environmental Management Guideline for Siting, Design, Operation and Rehabilitation of Landfills* (EPA 2001).

- Actions on litter will help to meet requirements of the State Environment Protection Policy *(Waters of Victoria).*

- Council must comply with the provisions of the *Local Government Act 1989*, particularly with respect to rates and charges, making local laws, management of contracted services, and Best Value Principles for assessment of quality and cost of Council services.

- Council is obliged to keep the municipality in a 'clean and sanitary condition' under the *Health Act 1958*.

The City of Whitehorse is a member of ‘Least waste’ (the Eastern Regional Waste Management Group), which coordinates waste management by the City of Knox, the City of Manningham, the City of Maroondah, the City of Whitehorse and the Shire of Yarra Ranges. The draft *Least Waste Regional Waste Management Plan 2002 and Beyond* (Nolan-ITU 2002) sets out a plan for waste minimisation and resource recovery, litter control and provision of landfill capacity for the region. Waste management options in Whitehorse will be influenced by Regional activities, including assessment of alternative technologies to landfill and establishment of a Regional green waste processing facility.

The *Whitehorse EcoVision: A Strategy for Ecological Sustainability* provides a framework for actions within the City of Whitehorse to embrace the principles of sustainability. The raft of actions relating to economic, environmental and social development includes objectives for waste minimisation and recycling. Whitehorse City Council adopted a *Waste Management Strategy* in October 2000 that provided a framework for kerbside collections in preparation for commencement of new contracts in January 2002. Actions contained within the strategy were largely short term and most have been completed. Changes in the broader policy context discussed above have led to review of the strategy and subsequent development of this Waste Management Plan.

What is the current situation in Whitehorse?

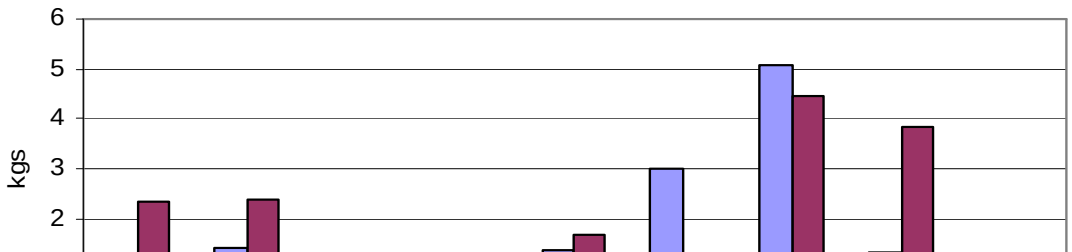
Whitehorse residents currently dispose of the following amounts of waste each year through Council's collection services:

- 34,500 tonnes of domestic garbage (collected weekly in 120 L Mobile Garbage Bins);
- 14,650 tonnes of recyclable material (collected weekly in 60 L recycling crates & bundles);
- 2,550 tonnes of green organics (collected twice a year); and
- 5,780 tonnes of hard waste (collected twice a year).

Another 58,000 tonnes of waste is sent to landfill each year from the Whitehorse Recycling and Waste Transfer Centre. Additional waste is collected by Council in litter bins, street sweepings and stormwater devices. Some commercial and industrial waste is collected by Council but most is managed through other arrangements, and estimates of Regional waste generation by Least waste indicate that significant amounts of waste are generated by Whitehorse businesses in addition to the above figures.

Waste audits of residents' garbage bins and recycling crates show improvements in kerbside recycling by Whitehorse residents, increasing from 2.13 kg of material put out for recycling each week in 1997 to 4.82 kg per week in 2004. At the same time, the amount of domestic garbage put out each week decreased from 11.85 kg in 1997 to 11.33 kg in 2004. Figure ES2 indicates the composition of the weekly waste and recycling stream (green organic waste and hard waste are not included).

Figure ES2 Waste Composition 1997 - 2004



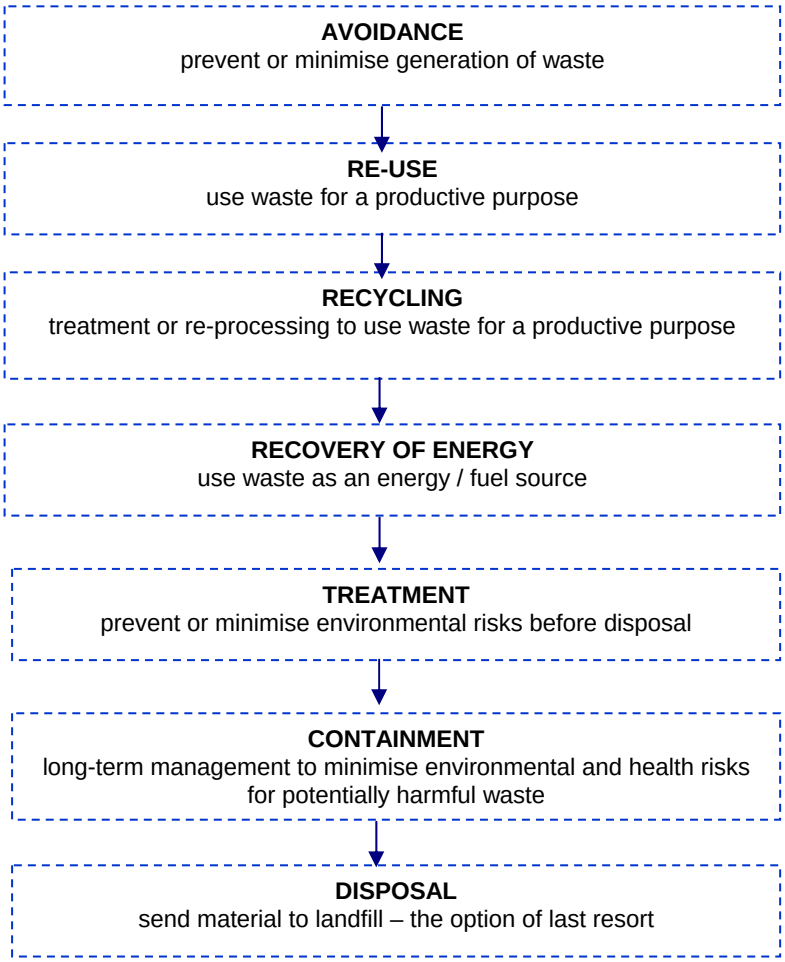
While this is a positive step, additional research shows that the increase in material recycled in Victoria has only managed to keep pace with increased waste generation; this has therefore had little impact on the amount of waste deposited at landfill (EcoRecycle Victoria 2003b). There needs to be a major change to existing waste generation and disposal practices (municipal and non-municipal) to significantly reduce the amount of waste landfilled in future. Projections of waste generation suggest that, as the population of Whitehorse increases, so too will the quantity of waste generated under a 'business-as-usual' scenario. Achieving the targets envisaged under *Towards Zero Waste* by 2014 would reduce total waste generation in Whitehorse by 28,600 tonnes and the amount of waste deposited to landfill by over 72,000 tonnes. To achieve such a significant reduction in waste going to landfill, the City of Whitehorse needs to consider making changes to existing services and work practices to reduce the quantity of waste generated in the first place, and divert more material from landfill.

Whitehorse City Council cannot achieve the waste reduction targets by its own actions alone. There needs to be a concerted effort from residents, local business, the broader community and industry to ensure that the *Towards Zero Waste* targets are achieved.

What was considered in developing the Waste Management Plan?

A guiding principle for the Waste Management Plan is ecologically sustainable development (ESD), which allows for development that improves the quality of life of the whole community, both now and in the future, in a way that maintains the ecological processes on which life depends. Within this concept is the waste management hierarchy, which sets out the framework for waste minimisation and material efficiency (i.e. shifting from disposal to recovery of materials in the waste stream: see Figure ES3).

Figure ES3 Waste Management Hierarchy



While it was important for the Waste Management Plan to address the broader context outlined above, it was equally important to ensure that the needs of the community were properly met. An extensive consultation process has been undertaken during development of the Waste Management Plan. Among other activities, workshops were held with residents, businesses and the waste service industry to discuss key issues and directions. Responses to a written survey were received from 1,495 Whitehorse residents, and a further 484 responses were received for a separate survey of Whitehorse businesses. This summary document is part of further consultation, and will be accompanied by community information sessions, Council notices and information displays.

Development of the Waste Management Plan identified a number of instances where Council could choose one or more ways to act. These options were assessed using a 'triple bottom line'

approach to determine the comparative environmental, social and economic impacts of each choice. This approach identified options that were an optimal balance of environmental benefits (e.g. resource recovery), social benefits (e.g. level of service and local amenity) and economic impacts (e.g. costs arising from implementation).

What are the recommendations?

A suite of actions have been recommended, representing the synthesis of consultation with the Whitehorse community, assessment of options against ESD principles, and the broader context of Regional, State and national policies. Recommendations and an indicative timeframe for their implementation are provided in Table ES1.

Table ES1 Recommendations

Action	Timeframe
WASTE MINIMISATION	
Influencing Behaviour	
Advocate and encourage less wasteful consumption patterns in partnership with Least waste and EcoRecycle Victoria.	Ongoing
In partnership with the Whitehorse community, develop programs and undertake activities that: ▪ minimise waste in line with *Towards Zero Waste* targets by 2012; and ▪ link with the business community to encourage the adoption of Extended Producer Responsibility principles.	Ongoing
Encourage and support household action by residents (e.g. home composting, worm farms).	Ongoing
Charging & Cost Identification Mechanisms	
Provide an annual itemised cost breakdown to all ratepayers showing the components that make up Council's waste management costs.	Annually following the budget process and striking of the rates.
Consider differential charging based on bin size or frequency of garbage collection, including: ▪ assessment of costs for both 80 L and 240 L bins against the base case to indicate the potential costs or savings that may result from changes to bin size ▪ the feasibility of charging mechanisms and supporting technology that provide an incentive for reduced garbage disposal.	By December 2006 (with options sought as part of tender process for next contract period).
COLLECTION SERVICES	
Garbage	
Investigate the possible reduction in garbage bin size to 80L MGBs, subject to impacts of other kerbside services on volume collected through kerbside garbage collections.	By December 2006 (unless bin age and contract arrangements favour earlier action).
Investigate current residential collection contracts and potential improvements required to provide an adequate level of service to MUDs and businesses, including consultation with bodies corporate on provision of shared bulk or 240 L garbage bins.	Review by December 2005, as part of planning for recycling collection.

Action	Timeframe
Garbage (continued)	
Develop a commercial garbage policy, including criteria for what services would be provided (e.g. bin size, collection frequency) to businesses, at what cost and relevant Council / business responsibilities.	Policy developed by June 2006.
If a bin-based organics collection service is introduced, arrange retro-fitting of garbage bins with red lids to minimise confusion between bins.	Retro-fitting completed at the time of roll-out of a bin-based green organics collection service.
Review garbage collection services prior to contract expiry to ensure subsequent contract arrangements meet best practice and community needs, and take into account any change in waste disposal or treatment arrangements.	Review completed by July 2008.
Recycling	
Identify and secure contract with collector for bin-based kerbside recycling service. If feasible, align contract expiry date to allow for integrated tendering of services in the medium term. Identify options for service delivery such as: ▪ split or co-mingled bins; ▪ collection frequency; ▪ ability to expand range of materials collected; ▪ provision of different bin sizes if required (smaller, larger); and ▪ consider bin storage and collection issues from MUDs.	Identify preferred service by December 2004. Prepare and distribute education package re new service to residents by February 2005. Roll-out new service by March 2005.
Evaluate opportunities to expand the domestic recycling service to small-to-medium sized businesses, schools & sporting clubs, and to provide a tailored service for MUDs (including assessment of bin sizes, collection frequencies and charging mechanisms).	Initial review by December 2004 as part of planning for recycling collection service. Ongoing monitoring and appropriate action in subsequent contract periods.
Review kerbside recycling service prior to contract expiry to ensure subsequent contract arrangements meet best practice and community needs, and take into account any change in recyclable or waste treatment arrangements.	Review completed by July 2008.
Lobby recycling industry in consultation with EcoRecycle Victoria and Least waste to expand the range of materials collected through kerbside recycling, and monitor developments in technologies and markets to identify opportunities.	Ongoing monitoring and appropriate action as required.
Organics	
Review feasibility of extended green organics collection based on performance of the Regional organics processing facility at Coldstream. Review to address capacity to process organics from Whitehorse, infrastructure requirements within Whitehorse (e.g. chipping prior to transport), cost of processing and transport, and viability of end-markets for processed product.	By June 2006 (or later if establishment of Coldstream facility is delayed). Review to commence no earlier than 6 months after the Regional facility commences operations.

Action	Timeframe
Organics (continued)	
Subject to outcomes of the feasibility review, evaluate options for bin-based green organics collection including bin size and type, frequency of service, provision as a standard or optional service, and appropriate charging mechanisms. Evaluation may also consider feasibility of retaining current service or providing an 'at call' service.	By December 2006 (or later if establishment of Coldstream facility is delayed). If evaluations identify a feasible service model, tender for appropriate service by June 2007.
Conduct community consultation to determine resident preferences for green organics collection service and expected participation levels.	Subject to outcome of feasibility study and prior to tendering (by June 2007).
If bin-based green organics collection service is established, investigate expansion of collection service to include food waste.	Prior to conclusion of the first contract period for new system.
Investigate practical options to assist residents with home-based green organics minimisation activities, including the sale of compost bins, worm farms and mulching mowers.	By June 2005.
Hard Waste	
Review the current service to identify opportunities to reduce OH&S risks (e.g. from manual lifting).	Opportunities identified by June 2005. Implemented as appropriate.
Continually review technologies that will provide a collection service compatible with OH&S requirements.	Review process in place by July 2005. First review report by December 2005; thereafter at 6-monthly intervals.
Review the current collection arrangements, including alternative service models, costs and materials requiring management. Alternative service models to be considered should include 'at call' arrangements and incentives such as vouchers to use drop-off facilities.	By June 2007.
Other Waste	
Support EcoRecycle Victoria's household hazardous waste collections, participate in review process and lobby for more frequent collections.	Ongoing
Promote the availability of material-specific services at the Whitehorse Recycling and Transfer Centre, and liaise with EcoRecycle Victoria and Least waste to promote other material-specific services as appropriate (e.g. electronic waste).	Ongoing
Investigate options for collection of additional materials (e.g. clothing) in partnership with local charities or community-based reuse initiatives.	By March 2006
INFRASTRUCTURE	
Whitehorse Recycling and Waste Transfer Centre	
Prepare a Business Plan for the centre that covers all aspects of operations, and includes service and infrastructure considerations over the next 3 – 5 years.	By October 2005

Action	Timeframe
Whitehorse Recycling and Waste Transfer Centre (continued)	
Complete minor upgrades to ensure the facility reflects best practice, including but not limited to: ▪ changes to infrastructure to address OH&S requirements; ▪ hardstand areas for collection of green organics and construction and demolition waste; ▪ upgrade to computer systems; and ▪ upgrading of signage, fencing, noise and traffic control devices, as well as various other 'housekeeping' issues.	By June 2006
Conduct a service and efficiency review to assess the needs and opportunities for improvement. This review should address as a minimum: ▪ impact of kerbside collection services on throughput at the facility, particularly with respect to green organics; ▪ effectiveness of facilities provided for specific materials (e.g. waste oil); ▪ opportunities to expand the range of materials that can be accepted in light of Regional, Victorian and national programs (e.g. facilities for drop off of e-waste arising from the recent Regional trial and activities coordinated by the Victorian and Commonwealth Governments); ▪ requirements arising from introduction of alternative waste technologies and new material processing facilities in the region (e.g. if sorting or pre-processing is required); ▪ feasibility of major capital upgrades (e.g. walking floor and mechanical ram); ▪ potential costs and benefits to establishing a Repair and Reuse Centre; ▪ the area required to alter capacity at the facility and available land at the facility; ▪ the cost and subsequent charging implications arising from installation of new infrastructure; ▪ possible changes to the layout and location of the recycling area to encourage greater use; ▪ financial incentives for waste minimisation, including discount vouchers for mulch and further pricing mechanisms to encourage separation of materials by customers; and ▪ education campaign for Centre staff and customers to encourage improved recycling and re-use options.	By December 2006, depending on broader changes to collection services and Regional infrastructure.
Disposal and Management Facilities	
Continue active involvement in Regional evaluation and planning for disposal facilities by Least waste and its members, including alternative technologies.	Ongoing
Continue to provide for Council financial and planning responsibilities for Clayton South Regional Landfill (including re-opening, operation, closure, rehabilitation, aftercare and end-use of site) and incorporate into planning and budgetary cycles.	Ongoing. Annual review of Business Plan and budget in March / April each year.

Action	Timeframe
LITTER & STORMWATER	
Develop and implement a litter strategy that as a minimum: ▪ addresses materials of concern as identified by Council and the community (e.g. cigarette butts, plastic containers, dog litter, dumped rubbish, shopping trolleys and bill posters); ▪ identifies and assesses litter hotspots throughout the municipality, including the feasibility of establishing a litter 'hotline' to report littering actions; ▪ develops coordinated education, infrastructure, incentive, communication, partnerships and enforcement programs (including regular litter 'blitzes'); ▪ provides for partnerships with the community (e.g. Litter Prevention Taskforces, and work with bodies corporate on dumping from MUDs) reflecting outcomes of the Ashted Road project; ▪ engages all relevant areas within Council (e.g. EcoLeaders Group, Local Laws, City Works); ▪ determines infrastructure requirements (e.g. signs, drain stencilling, litter bins, cigarette butt bins at Council buildings and in public places); ▪ addresses management of litter and runoff from building sites; and ▪ includes regular community education and campaigns on litter in high profile public areas.	Establish framework for consultation & development by October 2005. Prepare draft for consultation by June 2006. Seek Council approval by October 2006. Strategy to plan for regular and ongoing action (e.g. litter blitzes and hotspot assessments every 6 months, and establishment of at least one additional Litter Prevention Taskforce each year).
Implement the recommendations of the 2003 Stormwater Management Plan.	In accordance with timing indicated in the 2003 Stormwater Management Plan.
Maintain networks with Least waste, EcoRecycle Victoria, EPA and other relevant organisations to seek funding assistance for litter and stormwater projects as appropriate.	Ongoing
COUNCIL OPERATIONS	
Promote Council's waste minimisation, reuse and recycling initiatives to provide leadership and raise awareness in the community.	Ongoing
Review EcoLeaders Group to ensure adequate attention for waste management, including effective information exchange and championing good practice throughout Council.	Review by December 2004 and implement recommendations as required.
Expand the nature of materials currently separated for recycling at Council operations (e.g. composting / worm farming, corks, e-waste).	Initial review by June 2005 and action as part of EcoLeaders Group.
Optimise involvement in the ECO-Buy program and events such as Clean Up Australia Day in order to demonstrate Council's position as a sustainability leader.	Incorporate into relevant staff and unit work plans by February 2005.
Become a Waste Wise organisation.	Implement by December 2004.
Brief customer service staff (especially call centre staff) on provision of waste management tips to residents, in concert with monthly sustainability tips incorporated in the annual	Monthly in conjunction with tips provided by Whitehorse calendar.

Action	Timeframe
Whitehorse calendar.	
PLANNING INSTRUMENTS	
Develop a waste management planning policy, including requirements for a waste management plan for development of MUDs and related complexes. As a minimum, the policy should address garbage & recycling bin size and storage capacity, collection arrangements, management of hard waste and legal instruments (e.g. thresholds for application, local laws).	Establish framework for consultation & development by December 2004. Prepare draft for consultation by June 2005. Seek Council approval by October 2005. Introduce policy by March 2006.
Incorporate waste management planning requirements into Municipal Strategic Statement.	As part of current review of MSS – completion date to be advised by Council.
CONSTRUCTION & DEMOLITION	
Promote EcoRecycle Victoria's range of support materials for managing C&D waste to residents and developers.	Ongoing
Monitor the availability of reuse and recycling options for C&D materials originating in Whitehorse, and consult with Least waste to address any identified gaps.	Ongoing
COMMERCIAL & INDUSTRIAL	
Investigate establishment of a partnership program to support sustainable business practices in Whitehorse (e.g. re-usable shopping bags, eco-friendly brands and Waste Wise membership).	Initial contact with sustainable businesses by March 2005. Launch of support program & case studies by November 2005.
Investigate the potential to facilitate membership of the Waste Wise program by medium-sized businesses, including offering practical assistance (e.g. waste inspections, information and advice) in exchange for commitment by Whitehorse businesses.	Initial contact by November 2004. Target number achieved by November 2005.
Encourage all traders associations and business groups in Whitehorse to promote Waste Wise initiatives among members.	Ongoing
Investigate options for provision of garbage & recycling collection services to businesses (refer to related actions under 'Collection Services).	Conduct as part of initial contact for above projects. Incorporate findings into planning for recycling collection by November 2004.
COMMUNITY EDUCATION	
Develop a waste education plan in consultation with Least waste. The plan should as a minimum: ▪ build upon proven education programs and case studies that have proven successful in changing community behaviour; ▪ incorporate engagement structures that will maximise behavioural change within the community (i.e. going beyond provision of information); ▪ consider options for promotion, including litter awards, community champions and media coverage; ▪ link to existing programs at Council, Regional and State	Establish framework by February 2005. Complete plan by December 2005.

Action	Timeframe
levels (e.g. EcoVision strategy, Least waste Regional Education Plan, Waste Wise program); and ▪ target campaigns across residents, businesses, local community groups, schools and other community sectors as appropriate.	
Undertake regular community education campaigns to communicate waste minimisation principles, including actions the community can take at home and in business. As a minimum, these campaigns should include: ▪ promotion of National Recycling Week, Clean Up Australia Day and World Environment Day; ▪ displays at Council's annual Spring Festival; ▪ regular articles in Council's *Whitehorse News*; ▪ annual reminders of what materials can and cannot be recycled in Council's kerbside recycling system; and ▪ advice on home composting and worm farms.	Annual 'day' or festival promotions prior to the dedicated dates (typically March, June, October and November each year). Target a minimum of four articles per year in the *Whitehorse News*. Other advice as required.
Initiate the *Sustainability Street* program in Whitehorse.	Identify potential sponsors by December 2004. Train relevant staff by April 2005. Recruit participants from July 2005.
PUBLIC PLACE RECYCLING	
Investigate options and feasibility for introduction of public place recycling throughout Whitehorse, including: ▪ identification of appropriate locations, including assessment of waste streams; ▪ develop and trial a public place recycling scheme based on consistent infrastructure; and ▪ extension to other locations within Whitehorse as merited by the trial.	Investigation complete by December 2005. If feasible, establish trial locations by June 2006 and assess performance over following year. Extend program according to outcomes of trials and subject to capital funds.
Encourage recycling at major events within the City of Whitehorse (e.g. the Spring Festival and Australia Day celebrations) consistent with EcoRecycle Victoria's Waste Wise Events Best Practice Guidelines.	Events & organisations identified by July 2005. Action plan developed to encourage events to become Waste Wise by June 2006.
Evaluate the cost-benefit of public event recycling and consider purchasing portable event recycling infrastructure (e.g. bin caps) to loan to non-Council event organisers.	Needs identified by September 2004. Required infrastructure available by January 2005.
MANAGEMENT SYSTEMS	
Review data collection and management system to ensure Council has adequate systems to facilitate annual reporting and long-term management planning on waste management activities. Identify appropriate modifications to waste management data systems and implement (in conjunction with contractors and third parties as required).	By September 2005
Review record-keeping system for kerbside collection bins. Identify and implement appropriate modifications (in conjunction with contractors as required) to ensure	By September 2005

Action	Timeframe
management system is accurate and useful.	
MANAGEMENT SYSTEMS (continued)	
Review Council's customer request system to ensure that it facilitates prompt and effective response by Council and / or contractors. Identify and implement appropriate modifications (in conjunction with contractors as required).	By September 2005
MONITORING & REVIEW	
Review and refine waste management monitoring processes, including identification of KPIs and measurable targets appropriate to monitoring performance.	Monitoring processes reviewed & refined by May 2005. Regular reporting to match broader annual reporting structure within Council.
Review Whitehorse Waste Management Plan and update as required.	Plan reviewed annually. Update of strategies by December 2007.