TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER DEPARTMENT: PUBLIC WORKS

DATE: MAY 10, 2004 CMR:205:04

SUBJECT: POLICY AND SERVICES COMMITTEE RECOMMENDATIONS REGARDING PROPOSED NEW RECYCLING AND SOLID WASTE SERVICES

RECOMMENDATION
The Policy and Services Committee (Committee) and staff recommends that Council approve the following:

1) Implementation of a single stream recycling program; Committee voted 2-1 recommending program;

2) Change the collection of yard trimmings to cart service; Committee voted 3-0 recommending program;

3) Supply optional curbside cart service for garbage; Committee voted 3-0 recommending program; and

4) Approve compressed natural gas as an alternative fuel for the collector’s recycling collection vehicles. Committee voted 3-0 recommending program.

COMMITTEE REVIEW AND RECOMMENDATIONS
On March 9, 2004 the Policy and Services Committee (Committee) discussed the Proposed New Recycling and Solid Waste Services. (See Attachment 1: CMR 165:04). The Committee voted two to one to accept staff’s recommendation to implement a single stream recycling program with the condition that staff returns to Council with a status report 18 months after the programs begin (scheduled to begin July 2005). Chair Kishimoto voted “nay” because of her concern of where and how the recycled materials would be used and the global view of how the single stream program would integrate with the proposed Environmental Service Center project. The Committee voted unanimously to accept staff’s three other recommendations, including changing the yard trimmings recycling collection to cart service, supplying residents with the option to
obtain a cart for curbside garbage service, and approving compressed natural gas as an alternative fuel for the collector’s recycling collection vehicles.

The Committee’s review included discussions regarding recycling markets and the quality of materials processed; the alternative service options including the split cart system; the single stream recycling program connection with the proposed future Environmental Services Center; the environmental impact of the recommended new services; and the impact on the refuse rates.

Both chair Kishimoto and Vice Mayor Burch asked whether the single stream material was being recycled. Staff has obtained a recycling guarantee from Waste Management, investigated recycling markets, visited single stream processing facilities and researched at what level recycling material degradation occurs if any. The following were staff findings:

Recycling Guarantee
To ensure that the materials are reused and/or recycled with the existing source separated program, the City currently requires:

- “Monthly Recycling Reports” from PASCO that include tonnages marketed by material type and revenues received from those materials.

- Staff conducts a “PASCO Performance Audit” which includes reviewing selected recycled materials and the markets used to ensure materials are recycled.

With the proposed single stream program, the following items will be required from PASCO to ensure that the materials are reused and/or recycled:

- A monthly recycling verification form will be required to be filled out by Waste Management reporting all inbound, outbound tonnages by material types, residue rates, and specify the brokers purchasing the recycling materials.

- The processing facility will also twice per year perform an analysis of the Palo Alto stream which will indicate specific quantities of materials being processed just from Palo Alto.

- Staff will require annual letters from the brokers and material manufacturers that purchase the recycled commodities from the single stream facilities stating that they recycle the material and what it will be recycled into.

- PASCO will be subject to stringent performance adjustments including the possibility of termination of its Agreement with the City if it is determined that PASCO or the processing facility has landfilled the recyclables collected.
- Staff will continue to ensure that selected recycled materials are reused or recycled as part of the “PASCO Performance Audit.”

Recycling Markets
Markets are important to follow to ensure that all the materials are reused and/or recycled, and that the highest market values are received. Waste Management reports that minimal market changes will occur by switching from a source separated program to a single stream because the materials sorts remain similar. Waste Management is giving the City a high market value for the materials collected during the pilot program which staff believes will continue if the single stream program is approved. Waste Management markets its materials from a regional approach, resulting in a higher market value for the material and ensuring long-term market commitments.

During the pilot program, staff inquired and followed where the raw materials were sold and received written verification that these materials were used as recycled materials. The following is what can be expected if the single stream program is approved:

The Waste Management Castroville facility currently markets 75 percent of its fiber/paper tonnage to Asia, mostly China. These plants make packaging material such as cardboard and paperboard as well as new newsprint from the recycling material received from Waste Management. The remaining 25 percent of paper is sold domestically to SMURFIT, specifically its San Jose site that makes cereal boxes for General Foods, or Weyerhaeuser, a plant that makes new cardboard. Half of the plastic containers are marketed to domestic plants within the United States and 50 percent of the plastics are marketed to Asia. The plastic containers are shredded and made into plastic pellets that are reformed to create a variety of new products including new beverage containers, new toys and new household items. Tin cans are sold to domestic markets and converted to new containers. Aluminum cans are sold to Anheuser Busch within the United States and made into new beverage containers. Scrap steel is also sold to domestic markets to be melted and formed into new metal materials. The glass is processed at a facility in Union City where the material is further sorted and marketed to Gallo Wineries (to be used in wine bottles) and to aggregate manufacturers that use the glass mixture in road projects.

The best recycling guarantee that a community can obtain is to collect materials that have positive market values. At the same time, communities have to be willing to risk accepting a material type in order to improve the recycling markets. As a result, Palo Alto expanded the materials accepted in the current pilot program to include the addition of #3 - #7 plastics, plastic bags, and milk and juice cartons. Waste Management is successfully marketing the #3 - #7 plastic containers and staff recommends keeping them in the single stream program. However, during the pilot program staff discovered that plastic bags and other film plastics have a poor or negative market value and create
problems with the sorting equipment at the processing facilities. The markets for the milk and juice cartons are also limited and at this time, the material is only accepted and recycled in North Korea. Since staff has not received a guarantee that the brokers will recycle these materials and not ultimately throw them out as residue, staff recommends not extending the collection of these materials with the citywide single stream recycling program. However, staff does recommend that these materials continue to be collected at the Palo Alto Recycling Drop-off Center where both PASCO and City staff can better control where and how these commodities are marketed. In addition, if the overseas market stops accepting the milk and juice cartons, the materials can easily be removed from the drop-off center as an acceptable item. If the materials were collected curbside, it would entail the re-education of the community to no longer place the material in the recycling containers.

Single Stream Processing Facilities
Recycling materials collected through the proposed single stream-recycling program would be taken to a regional processing facility located outside the city limits. Waste Management has two regional processing facilities that could accept Palo Alto’s single stream recyclables. The Castroville processing facility is currently the preferred location to take the materials if the program is approved. The Castroville facility began processing single-stream in September 2002 and is currently processing single stream recycling for the following cities: unincorporated areas of Monterey County, Seaside, Marina, Pacific Grove, King City, Sand City, Del Ray Oaks, Pebble Beach, Carmel and Hollister.

The second Waste Management single stream processing facility is the Davis Street Transfer Station located in Oakland. The Davis Street processing facility location processes single stream recycling materials for 11 cities, including Walnut Creek, Lafayette, Orinda, Moraga, Danville, unincorporated areas of Alameda County, Albany, Emeryville, Castro Valley, Ora Loma Sanitary District, and Oakland. This facility is currently at capacity in handling single stream recyclable materials but plans are being made to improve this facility in the near future, which would allow Palo Alto to take its recyclable materials to this facility, if it proved beneficial.

The table below compares the type of material sorts that are accomplished at these single stream processing facilities and the source-separated materials that are processed at the City’s Recycling Center. The only difference is that office paper, currently collected only from the commercial sector, would be collected and processed with the mixed paper.
<table>
<thead>
<tr>
<th>Materials</th>
<th>Source separated materials processed at the City’s Recycling Center</th>
<th>Materials sorted by the single stream processing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Cardboard</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Office Paper</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>Mixed paper</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Colored HDPE/#2 plastic containers</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Plastic containers #3 through #7</td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>Natural HDPE/#2 plastic containers</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>PET/#1 plastic containers</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Tin</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Aluminum</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Glass</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>Scrap metal (small pieces)</td>
<td>v</td>
<td>v</td>
</tr>
</tbody>
</table>

**Recycling Material Degradation**

When municipalities first started rolling out single stream programs a few years ago, they ran into issues with marketing some of the material, primarily the fiber/paper stream, due to high contamination levels of glass, or not being able to successfully separate most of the newspaper from mixed paper. As a result, the material was often downgraded into a lower-quality end product.

Staff’s research has found that material degradation in single stream is becoming less of a concern due to advancements in technology and changes in the sorting equipment. Today, processing plants have better screening of materials than they did even one year ago since technology continues to advance as the processing facilities update their equipment. As an example, Waste Management invested over $1 million last year to update the equipment at its Castroville facility and plans to implement up to another $1 million in improvements this year to its processing lines to make the sorting of materials faster and cleaner. As a result, the Waste Management Castroville facility is able to sort the various fibers (cardboard, newspaper, mixed paper). An example of the sorting equipment improvements is that it is able to market its mixed paper as a #3 grade, the same as the mixed paper collected from the source separated program in Palo Alto.

If degradation of recyclable materials does occur, it lowers the value of the materials and means that the raw material is reused and/or recycled in a different form. Degradation does not result in landfilling.

By switching to a single stream or split cart recycling program, the City would see a decline in what is received for recycling revenues by approximately $740,000 annually.
Waste Management reports that this loss of recycling revenues has little to do with the degradation of recyclable materials, but is the result of the cost for equipment and the additional labor needed to sort these materials.

With regards to Chairperson Kishimoto’s other concern about how single stream is integrated with the proposed Environmental Service Center project, staff has developed the single stream program which is not dependent on the future of the ESC or vise versa. The advantages and disadvantages of having an ESC locally will be discussed at a later date.

**ATTACHMENTS**
Attachment 1: CMR:165:04

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