pharmacy and restaurant bags (generally exempted from the ordinance) to be recyclable. The reuse and recycling goals of the proposed ordinance are:

- 100% reduction in retail single-use bag distribution from ordinance adoption to March 1, 2014,
- 100% of retail check-out bags distributed are reusable by March 1, 2014, and
- Significant increase in number of sites available to consumers to recycle plastic bags.

Clarification: Jan 2011 Staff's cost estimates regarding plastic bags

Staff's January 12, 2011 analysis of costs related to single-use bags utilized an assumption that single-use plastic bags compose 2.2% of all litter based on a study commissioned by Keep America Beautiful (KAB). Recently, Steve Stein, the project manager, who oversaw the KAB study contacted staff by email and explained that staff should have relied on another more precise figure of 0.6% in its analysis of single-use plastic bags in litter.

Staff contacted Mr. Stein directly and found that the 0.6% data he referenced was data that had not specifically been included in the report. He clarified that the public would not have had access to this specific data without contacting him directly.

Using data from both KAB's study as well as data from the Environmental Protection Agency (EPA), staff reevaluated the cost estimates. Staff applied the following:

1. Using the basis that the KAB Study results can be applied to Austin, plastic bags compose 0.6% of litter collected from litter abatement activities;
2. Using the basis that data from the EPA 2010 *Municipal Solid Waste Generation, Recycling and Disposal in the United States* report can be applied to Austin, "plastic bags, sacks, and wraps" compose approximately 2.1% of municipal solid waste.
3. Because the EPA data also provides types of plastic bags based on their resin codes, Mr. Stein suggests that it may be possible to extrapolate the estimated percentage of single-use plastic bags. Using the basis that most HDPE bags are retail bags and few LDPE bags are retail bags, Mr. Stein calculated that single-use plastic bags compose approximately 0.4% of municipal solid waste.

Mr. Stein stressed that plastic bags in the national litter survey included single-use checkout bags, trash bags, dry cleaner bags, and other types of plastic bags. While EPA's report broke down plastic bags by resin type, data specifying which bags were single-use "t-shirt" plastic bags was not provided. Neither the City, Mr. Stein, nor EPA are aware of reports that clearly separate single-use "t-shirt" plastic bags from all other types of plastic bags. Therefore, even the data provided in both reports is not exact. To ensure complete transparency, staff offers the following cost range estimates:

UPDATED COST ESTIMATES FOR MANAGEMENT OF PLASTIC BAGS	**ESTIMATED Annual Costs to Manage Plastic Bag Waste**
ESTIMATED cost to the community at large	**$331,000 - $804,000**
▪ *Trash Collection and Disposal (using 0.4% to 2.1%)*	*$111,000 - $581,000*
▪ *Litter Cleanup and Street Sweeping (using 0.6%)*	*$35,000*
▪ *Landfill Litter Cleanup (using 0.6% to 2.1%)*	*$1,000 - $4,000*
▪ *Recycling Contamination, Machinery Costs and Revenue*	*$184,000*

It is essential to remember that the environmental impact of plastic bags cannot be quantified at this time. Environmental factors to consider include but are not limited to direct impact to wildlife, wildlife habitat, water quality, storm water systems, etc. These are factors that are essential to the policy

discussion, are held as strong values by Austinites, and contribute to the City's vision of being the most livable city in the country.

In Austin alone, 14 organizations have expressed various concerns regarding the continued dependence on single-use plastic bags. Those concerns are echoed by the City's own Watershed Protection Department which stated:

> "Single-use plastic bags directly impact the Watershed Protection Department's mission to protect and improve Austin's waterways for the use and enjoyment of our citizens and to support sensitive aquatic ecosystems. These bags are lightweight and are easily carried into the City's storm water drainage system during storm events. They are often found to be blocking the proper flow of storm water throughout the network of inlets, pipelines, management facilities and open waterways. The bags are most typically observed by the public in our local waterways, often caught within the vegetation along creek banks and the shoreline of Lady Bird Lake. This not only diminishes the aesthetic value of these natural areas but also poses a direct hazard to wildlife such as wading birds, ducks and turtles that may become entangled in the bags or ingest the material. Because of the longevity of the plastic, these bags can persist in the environment and continue to be problematic for many years."

<u>Bag Contamination Concerns</u>

A June 9, 2010 University of Arizona report funded by the American Chemistry Council, evaluated cross-contamination risks in reusable bags. A total of 84 bags were collected (25 from Los Angeles, 25 from San Francisco and 34 from Tucson) for the study. Eighty (80) bags were woven polypropylene (PP plastic), while four bags were woven cotton bags. The study indicates that at least 12% of the samples carried a form of e-coli bacteria. The results of this study have not been duplicated in any other bag contamination study.

The primary bag type in this study consisted of woven polypropylene (PP) plastic bags. This type of plastic bag has restricted recycling markets as compared to polyethylene (HDPE, LDPE) plastic bags. It is possible to specify plastic bag distribution to focus on the more recyclable polyethylene resin types and avoid the polypropylene bags.

Additionally, researchers noted an important observation: "Machine or hand washing even without the presence of bleach was effective in reducing coliform and other bacteria in the bags to levels below detection." The report indicated that "hand or machine washing reduced the numbers of bacteria in reusable bags by >99.9%." Further, since the proposed ordinance exempts produce, meat, and frozen foods bags, contamination should be minimal. These types of foods are the primary sources of bacteria cross-contamination.

To minimize bacterial contamination, researchers offered a practical solution to this concern: "It is recommended that the public needs to be educated about the proper care of reusable bags by printed instructions on the bags or through public service announcements."

Additional issues and concerns can be addressed by staff as requested.