



Agenda Item #: \_\_\_\_\_

# Staff Report

## City of Manhattan Beach

**TO:** Honorable Mayor Montgomery and Members of the City Council

**THROUGH:** Geoff Dolan, City Manager

**FROM:** Lindy Coe-Juell, Assistant to the City Manager

**DATE:** July 1, 2008

**SUBJECT:** Consideration of an Ordinance to Prohibit the Use of Plastic Carry-Out Bags in Manhattan Beach

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### **RECOMMENDATION:**

Staff recommends that the City Council: 1) review the Initial Study, 2) conduct the public hearing, 3) waive further reading, and 4) introduce Ordinance No. 2115. This ordinance would ban all point-of-sale plastic carry-out bags within the City of Manhattan Beach. This ban would take effect for grocery stores, food vendors, restaurants, pharmacies and City facilities six months after the ordinance is adopted and one year after adoption for all other retail establishments and vendors.

### **FISCAL IMPLICATION:**

There are no direct budget implications related to the Staff recommendation. There will, however, be Staff time involved with outreach and education. Also, though we expect a high rate of compliance, there may be Staff time involved with enforcement issues.

### **BACKGROUND:**

The City Council, as a part of its 2008-2009 Work Plan, asked Staff to investigate and provide information on strategies to ban plastic bag use, including what other cities have done. This report provides information for a discussion of banning plastic carry-out bags used at the point-of-sale.

### **DISCUSSION:**

#### ***The Initial Study***

In accordance with the California Environmental Quality Act (CEQA) of 1970, after conducting an Initial Study, Staff found that the proposed ordinance would not have a significant effect on the environment and a Negative Declaration has been prepared. The Initial Study is attached to this report for review. Further discussion of environmental impacts related to carry-out bags is provided below.

#### ***The Problem***

Plastic carry-out bags (or plastic bags) contribute to litter and to have many negative impacts on the environment. Plastic bags were first introduced by retail stores in the United States in 1975 and began to be distributed to customers at the point-of-sale in grocery stores in 1977. Plastic Bags are made

from plastic resin, which is created by taking chemical chains called polymers commonly found in petroleum and natural gas processing, and connecting them together using heat and pressure.<sup>1</sup> Today these bags are ubiquitous in the marketplace because they are light-weight, strong and inexpensive.

According to the California Integrated Waste Management Board (CIWMB), approximately 6 billion plastic bags are consumed in Los Angeles County each year. This number is equivalent to 600 bags per person per year. Plastic bags are recyclable, however less than 5 percent are actually recycled. Research conducted by the County of Los Angeles found that this is largely due to the logistics of sorting, high contamination rates, the tendency of the bags to jam the screens used to separate materials at the recycling facilities, the low quality of plastic used in the bags and the lack of suitable markets for the recycled plastic resin.

Plastic bags have a propensity to become litter and to adversely effect the marine environment. This impact is of particular concern for many people who live in, work in, and visit Manhattan Beach. As a coastal city, we have a strong interest in protecting the marine environment as an element which contributes to the unique quality of life in Manhattan Beach. Due to the expansive and lightweight characteristics of plastic bags, they are easily windblown and end up littering landscaping, streets, streams, storm drain systems and, ultimately, the ocean.

Plastic bags make up a significant portion of the litter found in storm drains and contribute to the vast amount of plastic debris found in the marine environment. A study conducted by the City of Los Angeles in 2004 found that plastic bags made up 25 percent of the litter cleaned from 30 storm drain catch basins by weight and 19 percent by volume. A primary problem with plastic is that it does not biodegrade. Plastic goes through a process called photodegradation, where sunlight breaks the material down into smaller and smaller pieces that remain in the marine environment for many years. A study cited by the California Coastal Commission found an average of 334,271 pieces of plastic per square mile in the North Pacific Central Gyre, which serves as a natural eddy system where debris accumulates.<sup>2</sup> Other research has found that broken, degraded plastic pieces outweigh surface zooplankton in the North Pacific Central Gyre by a factor of 6 to 1.<sup>3</sup>

Although the impacts of plastic bags on the ecosystem are not precisely quantified, reports<sup>4</sup> have documented the numerous health impacts on wildlife attributed to plastic carry-out bag litter. Plastic bags pose a particular problem for wildlife that mistake the bags for food, and as a result, ingest the bags thereby choking, starving or suffocating. Whales and birds often swallow plastic bags

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<sup>1</sup>LA County Staff Report, "An Overview of Carryout Bags in Los Angeles County", August 2007.

<sup>2</sup>Moore, C.J., S. L. Moore, M.K. Leecaster, and S.B. Weisberg, 2001. A comparison of plastic and plankton in the North Pacific Central Gyre. In: "The Problem with Marine Debris, California Coastal Commission Public Education Program, [www.coastal.ca.gov/publiced/marinedebris.html](http://www.coastal.ca.gov/publiced/marinedebris.html) (June 16, 2008).

<sup>3</sup>"Pelagic Plastic", The Agalita Marine Research Foundation, [www.algalita.org/pelagic\\_plastic.html](http://www.algalita.org/pelagic_plastic.html).

<sup>4</sup>"Marine Debris Facts", National Oceanic and Atmospheric Administration, [www.marinedebris.noaa.gov](http://www.marinedebris.noaa.gov) (June 16, 2008).

"Pelagic Plastic", citation above.

"The Problem with Marine Debris", citation above.

"Plastics in Our Oceans", Woods Hole Oceanographic Institution, [www.whoi.edu/science/B/people/kamaral/plasticsarticle.html](http://www.whoi.edu/science/B/people/kamaral/plasticsarticle.html), (June 16, 2008).

"Marine Debris", Ocean Conservancy, [www.oceanconservancy.org/site/PageServer?pagename=issues\\_debris](http://www.oceanconservancy.org/site/PageServer?pagename=issues_debris) (June 24, 2008).

inadvertently during feeding. Turtles swallow the bags since they resemble their main food source, jellyfish. Plastic pieces have also been shown to contain additives such as PCBs, DDT and nonylphenols and in turn can seep into marine animals that inadvertently ingest them, which endangers their health and potentially impacts the larger food chain.<sup>5</sup>

### ***Bag Alternatives***

The primary alternatives to plastic bags are reusable bags (made from cloth or other durable materials) and paper bags. Reusable and paper bags are widely available in the marketplace and are currently being used at grocery stores, restaurants and other retail stores. Biodegradable plastic bags are not a viable option for Southern California even though they have been considered as an alternative to plastic bags in cities such as San Francisco and Oakland. Northern California has the commercial composting facilities needed to process biodegradable bags; however, these types of facilities are not available in our area.<sup>6</sup> Additionally, the biodegradable bags have the same lightweight and inflatable qualities as regular plastic bags that allow them to become windblown and litter the environment.

Reusable bags are the best alternative for several reasons. Accelerating the widespread use of reusable bags would conserve energy and natural resources, reduce the total volume of waste disposed in landfills, diminish plastic bag litter and help to promote a clean and sustainable environment. Many people have already begun to carry and use reusable bags. Most grocery stores and large retail stores have reusable bags available for purchase and some offer incentives for customers that bring their own reusable bags. For example, Ralphs grocery stores offers a \$0.05 refund per reusable bag.

We expect that an ever greater number of people will begin turning to the option of reusable bags given the growing awareness of environmental issues and the demand for change. However, it is a fair assumption that more paper bags will be used if plastic bags are banned, especially soon after the ban is passed and before people have had time to adjust. The primary concern of many people in our community regarding plastic bags is the impact they have on the marine environment. Unlike plastic bags, paper bags do biodegrade in the water. They are heavier and so are not easily blown by the wind. They are made from renewable resources (especially if recycled paper content is used) and have a higher recycling rate, estimated at 21 percent by the US EPA.

### ***Life Cycle Assessment Information***

Much attention has been directed toward studies that have reported Life Cycle Assessments<sup>7</sup> for plastic versus paper bags. LCAs can be a useful tool for evaluating a range of energy and materials

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<sup>5</sup>A Brief Analysis of Organic Pollutants Absorbed to Pre and Post Production Plastic Particles from the Los Angeles and San Gabriel River Watersheds, C.J. Moore, G.L. Lattin, A.F. Zellers, Algalita Marine Research, Long Beach, CA.

<sup>6</sup>Biodegradable bags will break down under properly maintained composting conditions, they will not break down quickly enough in the marine environment to avoid impacts to wildlife. They also have the potential to contaminate plastic recycling programs and will cause the same problems, with clogging recycling screens, at sorting facilities as do the regular plastic bags.

<sup>7</sup>As defined by the US EPA, a Life Cycle Assessment (LCA) is a technique to assess the environmental aspects and potential impacts associated with a product, process, or service, by: compiling an inventory of relevant energy and material inputs and environmental releases; evaluating the potential environmental impacts associated with identified inputs and releases; and interpreting the results to help you make a more informed decision.

used and wastes released from a product lifecycle, but they are limited in terms of assumptions made by the researchers and the quality of data used as input. Also, the LCAs that compare paper and plastic bags do not address the direct impact these bags have on the marine environment. In our community, the impact to the marine environment is the primary concern that motivated the consideration of a policy to ban plastic bags. Further, the paper versus plastic environmental impact debate becomes less and less meaningful if one believes that our environmentally conscience community will begin to take reusable bags for their shopping rather than rely on paper or plastic bags provided at the store.

Staff reviewed several paper versus plastic LCA studies,<sup>8</sup> and have included all of the studies we reviewed as attachments to this report for independent review. We have summarized the findings of a comparative report prepared by the Department of Trade and Industry in the Republic of South Africa. The authors of this report examined two studies with similar goals—to compare the LCA of paper and plastic—but differing results. In our overall review of the LCA studies, we found that assumptions, such as the number of plastic bags compared to paper bags that are used to hold an equivalent amount of goods, varied from study to study. Other factors such as the amount of post-consumer recycled content included in the bags that were studied also varied, or were not explicitly described. We observed that differing results from the reports could be selectively used to lend support to proponents of either plastic or paper bags.

The first LCA study reviewed in the South African report was prepared by the consulting firm Franklin Associates and was commissioned by the Council for Solid Waste Solutions in 1990.<sup>9</sup> Although this report is 18 years old, it is often cited in articles related to the paper versus plastic debate. The second LCA study was prepared by an Independent Swedish Environmental Consulting Group and was published in the year 2000.

It is interesting to note that some of the findings from the two reports (energy used, air emissions and water emissions) were directly contradictory. The Franklin Associates study showed that plastic had

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<sup>8</sup> "Paper or Plastic", Washington Post.com, <http://www.washingtonpost.com/wp-dyn/content/graphic/2007/10/03/GR2007100301385.html?referrer=emalink> (June 25, 2008).

The ULS Report, "Review of Life Cycle Data Relating to Disposable, Compostable, Biodegradable, and Reusable Grocery Bags", March 2008.

Franklin Associates, LTD., "Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks", June 1990.

Fund for Research into Industrial Development, Growth and Equity (FRIDGE), "Socio-Economic Impact of the Proposed Plastic Bag Regulations", chapter 3 lifecycle analysis accessed from the City of San Francisco website at <http://www.sfenvironment.org/downloads/library/asticlifecycleanalysis.pdf.pdf>

Boustead Consulting & Associates, "Life Cycle Assessment for Three Types of Grocery Bags - Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper, June 2007.

AEA Technology Environment, Scottish Executive Report, "Proposed Plastic Bag Levy - Extended Impact Assessment Final Report, June 2005.

<sup>9</sup> According to [www.sourcewatch.org](http://www.sourcewatch.org) The Council for Solid Waste Solutions was a Washington D.C. based organization that later evolved into the American Plastics Council and then merged with the American Chemistry Council.

the least environmental impact in these categories and the Environmental consulting firm study found that paper had the least environmental impact in the same categories. Other categories of impact were not considered by one report or the other.

The overall conclusion of the South African report was that LCA results are sensitive to and limited by factors such as scope, objectivity, geography, climate, and energy sources. They also concluded that any LCA can be constructed to carry a specific message by carefully selecting the impacts to examine.

**Table 1: LCA Findings from the South African Report**

Impact Category	Study 1: Franklin Associates	Study 2: Swedish Environmental Consulting Group
Primary Energy	Plastic uses 23.08% less	Paper uses 80% less
Solid Waste	Plastic uses 75.68% less	Category not considered
Abiotic Resource Depletion	Category not considered	Paper depletes 85% less
Global Warming	Category not considered	Paper contributes 95.69% less
Acidification	Category not considered	Paper contributes 53.79% less
Nutrient Enrichment	Category not considered	Plastic contributes 55.36% less
Ozone Formation	Category not considered	Paper contributes 64.04% less
Aquatic Ecotoxicity	Category not considered	Paper contributes 37.04% less
Air Emissions	Plastic contributes 57.45% less	Paper contributes 52.23% less
Water Emissions	Plastic contributes 96.58% less	Paper contributes 28.79% less

***Economic Analysis***

There are a wide range of factors including size, composition (for example, the percentage of recycled content), quantity ordered and style that impact the cost to a retailer for purchasing different kinds of bags. In general, plastic bags are less expensive than paper bags. However, the cost impact to store owners for a change from plastic to paper bags will depend largely on the quantity of bags used and the style of paper bag selected. The cost to a grocery store or a large retailer for a standard size paper bag will be different than the cost to a boutique store owner that chooses to use a stylized, and perhaps logo-branded, bag. Although there is not one standard finding that we can present, we have attempted to provide information and several examples by which to gage cost impacts to local businesses.

Bag Costs

- In the report titled “An Overview of Carryout Bags in Los Angeles County”, the County of Los Angeles found the plastic bags range 2 to 5¢ per bag; and paper bags range 5 to 23¢ per bag.
- A local retail store owner reported that the plastic bags ordered for the store range 13 to 18¢ per bag and that the paper bags ordered range 42¢ to \$1.13 per bag.

Bags Used

- A local restaurant owner reported that the restaurant provides approximately 1,000 plastic carry-out bags per year to customers.
- Based on information from a local retail store owner, a retail store provides approximately 12,000 carry-out bags per year to customers.
- A local grocery store manager reported that historically the store provided approximately 3,000,000 plastic bags to customers per year. This manager also reported that many more customers than in the past are bringing their own bags (approximately 1/3 of customers currently bring their own bag).

### Cost Differences

- Based on the bag costs reported by the County and a local retail store owner, plastic bags range from 2 to 18¢ per bag; and paper bags range from 5¢ to \$1.13 per bag.
- The low point price difference between a plastic and paper bag is 3¢. The high point price difference between a plastic and paper bag is 95¢.
- For a local restaurant owner that uses approximately 1,000 plastic carry-out bags per year, the approximate cost difference to switch from plastic to paper would range from \$30 to \$950. If one assumes that most restaurants would not use a stylized, high-end paper bag, the price difference would probably be at the lower end of the scale.
- For a local retail owner that uses approximately 12,000 plastic carry-out bags per year (assuming that they currently use plastic bags exclusively and no paper bags), the approximate cost difference to switch from plastic to paper would range from \$360 to \$11,400.
- For a grocery store that uses approximately 3,000,000 plastic carry-out bags per year (assuming that this amount will not decrease with more people bringing their own reusable bags and using the price difference of 3¢ for a basic lower end plastic bag to a basic lower end paper bag), the approximate cost difference to switch from plastic to paper bags would be \$90,000 per year.

### ***Policy Alternatives***

Several U.S. Cities and many Countries have adopted various policy strategies from fees to voluntary programs to reduce the consumption of plastic bags. Of these strategies, per bag fees have been shown to be particularly effective.

### The Ireland PlasTax Case Study

In March 2002, Ireland became the first Country to introduce a plastic tax, or “PlasTax” at the rate of 20 (U.S.) cents. Ireland’s tax resulted in a 90 percent reduction in the consumption of plastic bags. The monies received from the tax are earmarked for a green fund established to benefit the environment. Although the per bag fees have been shown to be effective in reducing plastic bag consumption, that option is not available in California due to current state law.

### State Law Concerning Bag Fees

The California State Legislature enacted Assembly Bill 2449, which took effect on July 1, 2007. This law requires retail stores that have over 10,000 square feet and a licensed pharmacy or supermarkets with gross annual sales of \$2 million or more to provide customers the option to return clean plastic carry-out bags for recycling. It also requires these stores to make reusable bags available to customers for purchase. Additionally, and of importance to local governments, AB 2449 prohibits a city, county or other public agency from imposing a per bag fee on plastic bags.

The Legislature is considering a new measure, AB 2058 (Levine), that would establish a diversion/recycling benchmark<sup>10</sup> and require the defined stores (same definition as AB 2449) to

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<sup>10</sup> AB 2058 states that stores must demonstrate to the California Integrated Waste Management Board that, in comparison to the number of plastic carryout bags provided by the store to customers and subjected to diversion in the 2007 calendar year, at least 70 percent more plastic carryout bags provided by the store to customers during the 12-month period ending on December 31, 2010, and annually thereafter, have been subjected to diversion. Diversion, for the purposes of AB 2449, is defined as a reduction in the volume of plastic carry out bags provided to customers and an increase in the volume of plastic carryout

charge a fee of at least 25 cents per plastic bag if the diversion rate is not met by July 2011. The bill would also require the defined stores to charge 25 cents per paper bag distributed after July 2011.

Due to the fact that AB 2058 limits the affected stores to those that meet the definition of a retail store that has over 10,000 square feet and a licensed pharmacy and a supermarket that has gross annual sales of \$2million or more, it would not apply to most stores in Manhattan Beach that distribute plastic and/or paper carry-out bags to customers at the point of sale.

#### Voluntary Reduction Programs

On January 22, 2008, the Los Angeles Board of Supervisors voted to reduce plastic bag use by enacting voluntary reductions of 30 percent and 65 percent by 2010 and 2013 respectively. If these targets are not met by the deadlines, a mandatory ban may be implemented. Although this is a step in the right direction for improving recycling rates, international experience shows that voluntary programs may not be effective in reducing plastic bag litter. In 2002, the Australian federal government began a voluntary initiative to reduce plastic bag consumption by 50 percent and plastic bag litter by 75 percent by 2005. After retailers had spent \$50 million on education efforts, recycling rates did increase but there was no change in the amount of plastic bag litter. In January 2008, the Australian federal government announced plans to eliminate the use of plastic carry-out bags by the end of 2008, in part because the voluntary program did not achieve the desired results.

#### Examples of Plastic Bag Ban Policies

Other Countries that have banned plastic bags include Taiwan, Kenya, Rwanda, Bangladesh, Germany, Sweden and China. Within California, the Cities of San Francisco and Oakland have passed ordinances to ban the distribution of non-biodegradable plastic bags.<sup>11</sup> The San Francisco ordinance applies only supermarkets with gross annual sales of two million dollars or more or retail pharmacies with at least five locations in the City under the same ownership. The Oakland ordinance applies to retail establishments, excluding restaurants, with gross annual sales of one million dollars or more. On May 12, 2008, Malibu became the first City in California to ban point-of-sale plastic bags (both compostable and non-compostable) at all retail establishments.<sup>12</sup> The City of Santa Monica is considering a comprehensive plastic bag ban similar to the Malibu ban.

The San Francisco bag ban took effect for large supermarkets in November 2007 and for pharmacies in May 2008. According to a representative with the Environmental Division in the City of San Francisco, they have experienced a very high rate of compliance. In addition to banning non-compostable plastic bags their ordinance requires that paper bags must have 40% recycled content. All but one grocery store was in compliance before the effective date of the ban in terms of eliminating non-compostable plastic bags and in providing the 40% post-consumer recycled paper bags. Staff worked with the one remaining store, which met compliance shortly after the ban took effect. They are experiencing similar cooperation with the pharmacies.

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bags recycled. The diversion rate considered to comply with AB 2449 will include any combination of an individual store, a chain of stores under common ownership, diversion within a city, county or region, within the entire state.

<sup>11</sup>As mentioned in the Discussion section of this report, appropriate commercial composting facilities are available in Northern California making the use of biodegradable bags a viable alternative.

<sup>12</sup>Malibu's ban will take effect for grocery stores, food vendors restaurants, pharmacies and city facilities in December 2008; and will take effect for all remaining retail establishments, vendors and non-profit vendors in June of 2009.

After passing their ordinance, the City of Oakland was sued by the “Coalition to Support Plastic Bag Recycling” on CEQA grounds. The Superior Court for the County of Alameda has issued a tentative decision granting petition for a writ of mandate. Oakland has suspended their ban and is in the process of developing a response. See Attachment H for the full Superior Court tentative decision.

### ***Conclusion***

Staff recommends that the City Council adopt Ordinance No. 2115, which would ban all point-of-sale plastic carry-out bags within the City of Manhattan Beach. This ban would take effect for grocery stores, food vendors, restaurants, pharmacies and City facilities six months after the ordinance is adopted and one year after adoption for all other retail establishments and vendors. Staff believes that this ban is the best policy alternative to address the concern regarding plastic bag litter and its impact on the marine environment.

As discussed above, reusable bags are the best alternative for conserving energy and natural resources, for reducing the total volume of waste disposed in landfills, and to help promote a clean and sustainable environment. The City Council could consider a plastic bag ban as the first step toward encouraging the use of reusable bags. If the City Council decides to adopt Ordinance No. 2115, Staff will begin an aggressive education and outreach campaign to inform our residential and business community of the ban and to promote the use of reusable bags. Among the outreach activities, we will advertise in local papers, post information on our website, distribute information at upcoming public events and include the information in our City-wide newsletter.

As an additional step, the City Council could consider a fee or tax to be required for paper bags. The State law that prohibits government agencies from implementing a fee for plastic bags does not extend to paper bags. The City of Santa Monica is currently studying this issue and developing options for implementation. If the City Council is interested in investigating a paper bag fee or tax, Staff would return at a later date with more information.

Through our education and outreach campaign, we would work with business groups like the Chamber of Commerce, the Downtown Business and Professional Association and the Village Mall. The Executive Directors of the Chamber and the Downtown Business and Professional Association have expressed support for the ordinance. As an initial outreach step, the President of the Chamber of Commerce sent an email to the Chamber’s membership asking if they would support a ban on plastic bags in Manhattan Beach. As of Friday afternoon, 86 businesses had responded; 70 are in favor of the ban, 10 are opposed to the ban and 6 were uncertain.

Based on the support expressed by members of our community we expect to have a high rate of compliance with this point-of-sale plastic bag ban. However, we will plan to provide warnings and work with businesses to promote awareness of the ban before moving to enforcement through citations. We have also included an exemption clause in the ordinance whereby businesses that show the ban would cause undue hardship may be granted a one-year extension to comply by the City Manager.

Part of the evolving, and improving, awareness of environmental stewardship includes the idea of the “four R’s”: reduce, reuse, recycle and *rethink*. The ultimate goal of our outreach campaign will be to reach people on the importance of changing behavior by switching to reusable bags for carrying goods

in order to make a positive and sustainable collective impact on the environment.

**ALTERNATIVES:**

1. Adopt Ordinance No. 2115 to prohibit the use of plastic carry-out bags in Manhattan Beach.
2. Provide other direction.

**ATTACHMENTS:**

- A. Initial Study, in accordance with CEQA, for Ordinance No. 2115
- B. Public Notice in the June 12, 2008 Beach Report of the Hearing to Consider Ordinance No. 2115
- C. Ordinance No. 2115
- D. Emails in Support of Ordinance No. 2115
- E. Emails in Opposition of Ordinance No. 2115
- F. Letters in Support of Ordinance No. 2115
- G. Letters in Opposition of Ordinance No. 2115
- H. Superior Court Tentative Decision in the Oakland Case
- I. City of Malibu Staff Report Dated May 12, 2008
- J. Materials Regarding the Use and Impact of Plastic Carry-Out Bags
- K. Formal Objections by the Save the Plastic Bag Coalition
- L. Life Cycle Assessment Reports