APPENDIX A
BAG USAGE DATA COLLECTION STUDY

ORDINANCES TO BAN PLASTIC CARRYOUT BAGS IN LOS ANGELES COUNTY
BAG USAGE DATA COLLECTION STUDY

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EXECUTIVE SUMMARY

Sapphos Environmental, Inc. conducted consumer surveys and collected data counts from August 29 to September 29, 2009, to assess the bag usage habits of customers at grocery stores located throughout the County of Los Angeles (County). The results of the observations and data collected are presented in this Bag Usage Data Collection Study.

A total of 214 stores, or approximately 40 percent of the total number of stores that may be affected by the proposed ordinances, were surveyed as part of the data collection and observations conducted. This randomized study was completed to provide a representation of the general bagging practices at grocery stores in the County. At stores that did not make plastic carryout bags readily available, of the total bags consumed, 78 percent were paper carryout bags and 18 percent were reusable bags. Of the consumers surveyed at these stores, 24 percent used reusable bags while shopping. At stores where plastic carryout bags were available, 96 percent of the bags used were plastic carryout bags and 2 percent were reusable bags. Of the customers observed at these stores, 4 percent used reusable bags while shopping.

The relative carrying capacities of plastic to paper carryout bags have been reported to be as much as 1:8[1] or as little as 1:1 or 1:1.5.[2] As an independent check, Sapphos Environmental, Inc. completed a store trial, where the carrying capacity of plastic to paper bags was tested, to compare the load capacity of paper carryout bags and that of plastic carryout bags; in other words, which type of bag would most efficiently carry a fixed number of items. The trial confirmed that a 1:1.5 ratio is a reasonable representation of the relationship between paper carryout bags and plastic carryout bags in terms of use and carrying capacity. Section 4.0, *Bag Capacity Analysis*, of this study describes the elements of the store trial in detail.

[1] AEA Technology. August 2009. *Single Use Bag Study*. Prepared for: Welsh Assembly Government.

[2] Franklin Associates, Ltd., 1990. *Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks*. Prairie Village, KS.

SECTION 1.0
INTRODUCTION

1.1 PURPOSE AND SCOPE

1.1.1 Purpose

This Bag Usage Data Collection Study was undertaken by Sapphos Environmental, Inc. for the County of Los Angeles (County) Department of Public Works in support of the proposed Ordinances to Ban Plastic Carryout Bags in Los Angeles County (proposed ordinances). The purpose of this study is to provide data regarding the bag usage habits of consumers at grocery stores located throughout the incorporated cities and unincorporated territories of the County. This data will allow the County to assess the current bag preferences (paper carryout bags, plastic carryout bags, or reusable bags) of consumers at stores located throughout the County.

The study further compared the capacity of the plastic bag to the paper bag by determining the number of plastic bags and paper bags that would be required to contain all items from the same grocery list. This will assist the County in establishing what ratio would be appropriate to compare these two bag types.

1.1.2 Definitions

For the purposes of this study, the following terms are defined:

- **Store:** (as currently defined by the County) any retail establishment located within or doing business within the geographical limits of the incorporated cities or unincorporated territories of the County and that meets any of the following requirements:
  1. Meet the definition of a *supermarket* as found in the California Public Resources Code, Section 14526.5
  2. Are buildings that have more than 10,000 square feet of retail space that generate sales or use tax pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law and have a pharmacy licensed pursuant to Chapter 9 of Division 2 of the Business and Professions Code
  3. The County is considering extending the jurisdiction of the proposed ordinances to stores that are part of a chain of convenience food stores, supermarkets and other grocery stores, convenience stores, pharmacies and drug stores within the County
- **Reusable bag(s):** a bag with handles that is specifically designed and manufactured for multiple reuse and is made of either (a) cloth or other machine-washable fabric or (b) durable plastic that is at least 2.25 mils thick
- **Paper carryout bag(s):** a carryout bag made of paper that is provided by a store to a customer at the point of sale
- **Plastic carryout bag(s):** a bag, excluding a reusable bag but including a compostable plastic carryout bag, that is provided by a store to a customer at the point of sale

- **Survey:** an observation or the list of observations collected by the data-collecting team for this study; the terms *survey* and *observation* are used interchangeably in this report

1.1.3 Scope

The proposed ordinances may impact over 200 stores throughout both the unincorporated territories and incorporated cities of the County. However, the County anticipates that fewer than 100 stores located within the unincorporated territories of the County would be subject to the proposed County ordinance (Figure 1.1.3-1, *Stores Subject to Proposed Ordinances)*. Should cities within the incorporated areas of the County adopt comparable ordinances, additional stores would be subject to these comparable proposed ordinances.

The scope of this study included a review of 214 stores located within the unincorporated territories of the County or within the incorporated cities within the County. This is approximately equivalent to 40 percent of the total number of stores that may be affected by the proposed ordinances.[1] The observations have been collected from randomly selected stores that represent a variety of store chains and locations and that include each of the five Supervisorial Districts within the County. The method in which the stores were selected is described in Section 2, *Methodology*.

[1] As a result of the voluntary Single Use Bag Reduction and Recycling Program, the County has determined that 67 stores in unincorporated areas would be affected by the proposed ordinances. The number of stores in the 88 incorporated cities of the County that would be affected if all of the cities adopted comparable ordinances was determined from the infoUSA database (accessed April 29, 2010) for businesses with North American Industry Classification System code 445110 and 446110 with a gross annual sales volume of $2 million or higher and a square footage of 10,000 square feet or greater.

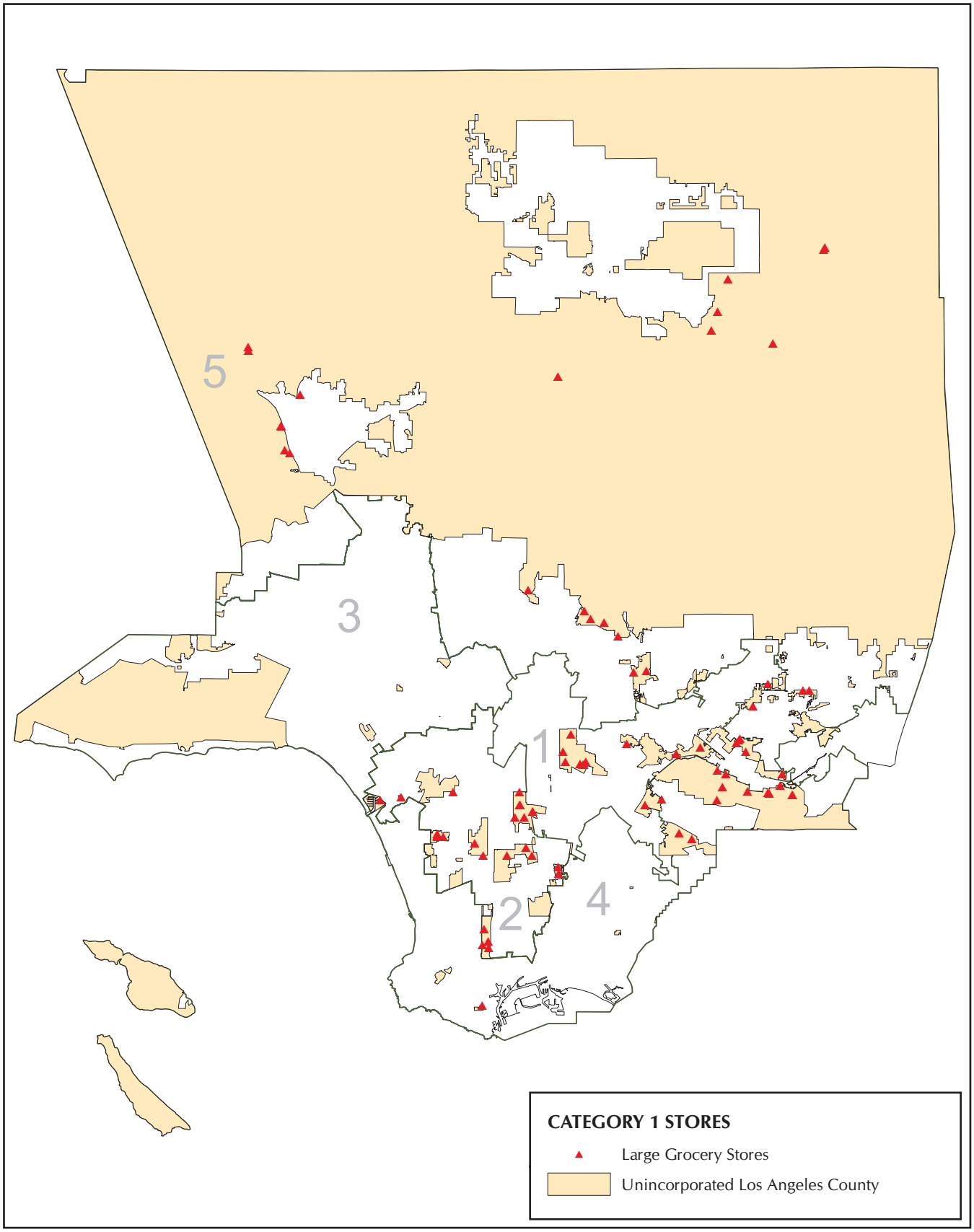


FIGURE 1.1.3-1
Stores Subject to Proposed Ordinances

SECTION 2.0
METHODOLOGY

This study was designed by Sapphos Environmental, Inc., under the direction of Ms. Marie Campbell, president of Sapphos Environmental, Inc., who has more than 20 years of experience in project management in all aspects of environmental compliance. Ms. Campbell has both a Master of Arts degree in Geography (Geomorphology/Biogeography), as well as a Bachelor of Arts degree in Ecosystems: Conservation of Natural Resources, from the University of California at Los Angeles (UCLA). In addition, Ms. Campbell served as a research analyst at UCLA.

This section of the study provides a description of the survey design. The four subsections within this section describe the following:

- Survey area: what specific communities and cities were surveyed within the County
- Survey description: how the surveys were conducted
- Study methodology: how the surveyed stores were selected from the stores located within the County
- Caveats: what issues/concerns should be considered in review of the findings presented in this study

2.1 SURVEY AREA

The survey area consisted of stores within both the incorporated cities and unincorporated territories of the County, inclusive of all five County Supervisorial Districts. Table 2.1-1, *Survey Store Locations*, and Figure 2.1-1, *Number of Stores Surveyed within Supervisorial Districts,* provide a list of the cities (and communities) located within the survey area and list the zip codes in which these stores are located, along with the number of stores that were surveyed within each of these cities. A total of 214 stores were surveyed, with 7 of the stores located in unincorporated areas (including stores located in Bassett, Calabasas, East San Gabriel, La Crescenta, two stores in Valencia, and one store located in Whittier Narrows). It has been estimated that a maximum of 529 stores would be affected by the proposed ordinances, if adopted by the County and all 88 incorporated cities. Therefore, the sample size of 214 stores is statistically significant because it is equivalent to approximately 40 percent (or more than 1/3) of the total number of stores that may be affected by the proposed ordinances.

TABLE 2.1-1
SURVEY STORE LOCATIONS

City	Zip Code(s)	Number of Stores Surveyed	Unincorporated Area? (Yes/No)
Alhambra	91801 and 91803	1	No
Arcadia	91006 and 91007	2	No
Azusa	91702	1	No
Bassett	91746	1	Yes
Bell Gardens	90201	1	No
Bellflower	90706	1	No
Beverly Hills	90212 and 90210	2	No
Bixby Knolls	90807	1	No

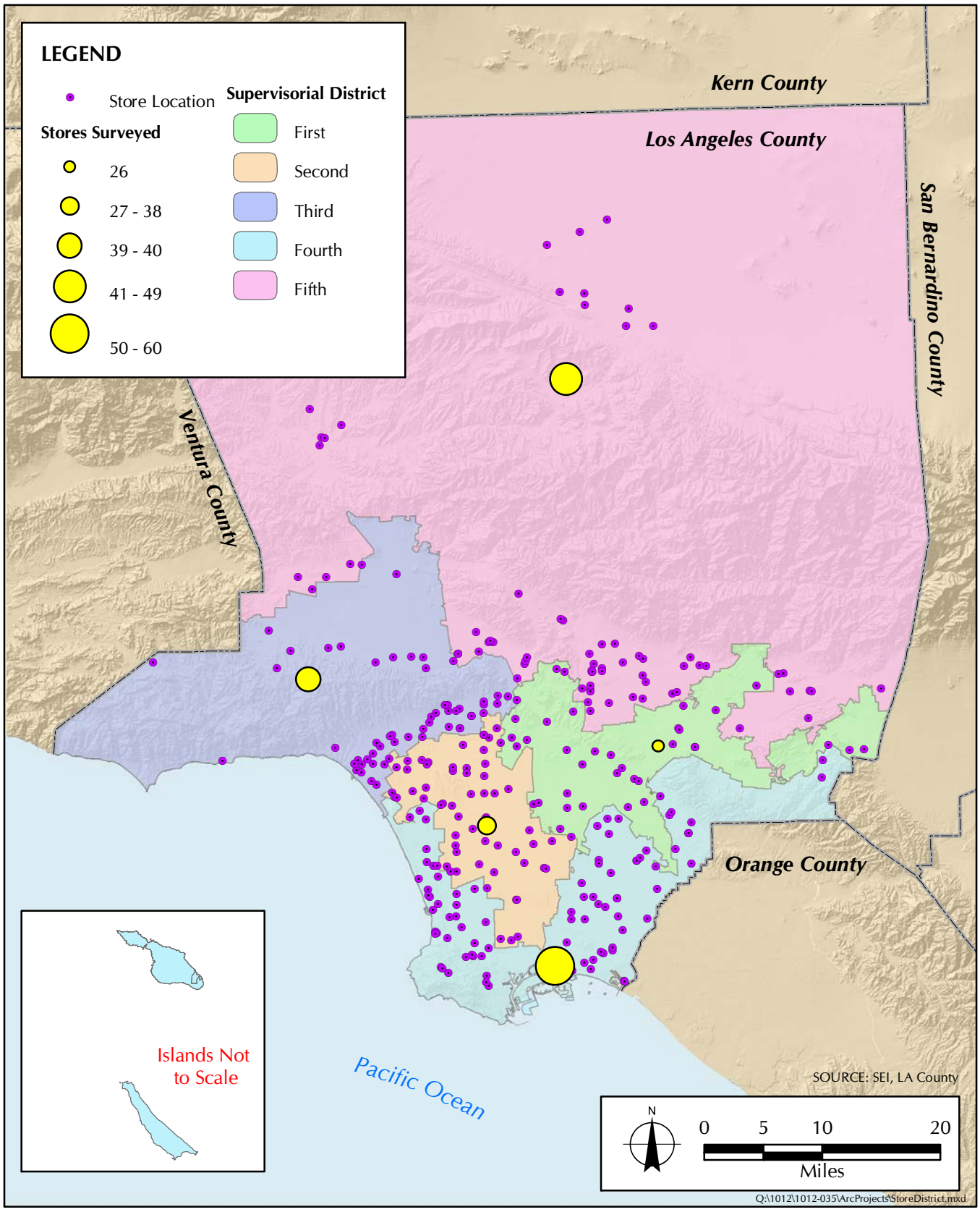


FIGURE 2.1-1

Number of Stores Surveyed within Supervisorial Districts

TABLE 2.1-1, Continued
SURVEY STORE LOCATIONS

City	Zip Code(s)	Number of Stores Surveyed	Unincorporated Area? (Yes/No)
Burbank	91502, 91504, 91505, and 91506	2	No
Calabasas	91302	1	Yes
Carson	90745 and 90746	2	No
Cerritos	90703	1	No
Chatsworth	91311	1	No
Claremont	91711	1	No
Compton	90220	2	No
Culver City	90230 and 90232	4	No
Diamond Bar	91765	2	No
Downey	90240, 90241, and 90242	2	No
Duarte	91010	1	No
Eagle Rock	90041	1	No
East San Gabriel	91775	1	Yes
El Monte	91732	3	No
El Segundo	90245	2	No
Encino	91316	1	No
Gardena	90247 and 90249	2	No
Glendale	91201, 91204, 91205, and 91206	6	No
Glendora	91740	2	No
Granada Hills	91344	1	No
Hawaiian Gardens	90716	1	No
Hawthorne	90250	2	No
Hermosa Beach	90254	3	No
Hollywood	90027	1	No
Huntington Park	90255	1	No
Inglewood	90301, 90302, and 90303	3	No
La Cañada	91011	1	No
La Crescenta	91214	1	Yes
La Mirada	90638	1	No
Lakewood	90805 and 90713	3	No
Lancaster	93534, 93535, and 93536	3	No
Lawndale	90260	1	No
Lomita	90717	2	No
Long Beach	90802, 90803, 90804, 90805, 90806, 90807, 90808, 90814, and 90815	11	No
Los Angeles	90001, 90002, 90005, 90006, 90007, 90008, 90016, 90017, 90018, 90019, 90020, 90022, 90024, 90025, 90027, 90029, 90031, 90032, 90034, 90036, 90037, 90038, 90041, 90043, 90044,	36	No

TABLE 2.1-1, Continued
SURVEY STORE LOCATIONS

City	Zip Code(s)	Number of Stores Surveyed	Unincorporated Area? (Yes/No)
	90045, 90046, 90047, 90049, 90059, 90062, 90063, 90064, and 90067		
Lynwood	90262	1	No
Manhattan Beach	90266	3	No
Maywood	90270	1	No
Monrovia	91016	2	No
Montebello	90640	2	No
Monterey Park	91754	1	No
Northridge	91324	1	No
Norwalk	90650	3	No
Palmdale	93550, 93551, and 93552	5	No
Paramount	90723	1	No
Pasadena	91101, 91103, 91104, 91105, 91106, and 91107	11	No
Pico Rivera	90660	2	No
Pomona	91766	2	No
Rancho Palos Verdes	90275	1	No
Redondo Beach	90277 and 90278	6	No
Rolling Hills Estates	90274	2	No
San Dimas	91773	2	No
San Gabriel	91775	1	No
San Pedro	90732	1	No
Santa Fe Springs	90670	1	No
Santa Monica	90401, 90403, 90404, and 90405	7	No
Sherman Oaks	91403 and 91423	3	No
South El Monte	91733	1	No
South Gate	90280	1	No
South Pasadena	91030	2	No
Studio City	91604	1	No
Temple City	91780	1	No
Toluca Lake	91602	1	No
Torrance	90501, 90502, 90503, 90504, and 90505	9	No
Valencia	91354 and 91355	1	Yes
Venice	90291	1	No
West Covina	91790	1	No
West Hills	91307	1	No
West Hollywood	90038, 90046, 90048, and 90069	6	No

TABLE 2.1-1, Continued
SURVEY STORE LOCATIONS

City	Zip Code(s)	Number of Stores Surveyed	Unincorporated Area? (Yes/No)
West Los Angeles	90034 and 90064	3	No
Westchester	90045	1	No
Westlake Village	91362	1	No
Whittier	90601, 90602, 90603, 90604, 90605, and 90606	5	No*
Woodland Hills	91364	1	No
Total Number of Stores Surveyed		**214**	

* The store located in Whittier Narrows (zip code 90601) is within the unincorporated area.

2.2 METHODOLOGY

2.2.1 Survey Description

The survey teams were composed of college graduate interns who conducted store surveys between August 29 and September 29, 2009. Each team was supervised by one Sapphos Environmental, Inc. technical specialist familiar with the purpose of this study.

Each intern and specialist who collected data was provided instructions related to how data should be collected. The interns and specialists were not guided to accept or reject any specific data and were not made aware of any overlying purpose or intended outcome for the collection of the data. The team members were also taken to a store to make observations and to determine the best methods by which to collect the observational data prior to initiation of the study. During this practice run, the team determined that an average of 50 observations could be collected at each store in order to ensure that each team was able to survey between 6 to 8 stores a day, within an 8-hour period, when travel time to the stores and the flow of consumer traffic to the stores was taken into account.

Each team surveyed the bag use characteristics of up to 50 consumers per store in 214 stores located throughout the County. The goal of the survey sample was to gather observations from forty (40) stores in each of the five (5) Supervisorial Districts of the County or at least 200 stores. Due to time restraints and in order to ensure that the data that was collected represented as large a variety of stores possible, the teams were instructed to collect data from approximately 50 observations. Each survey team used a standard data collection form, which was developed based upon the type of data that the team was required to collect (Appendix A, *Sample Data Collection Form*). Each survey form identifies the surveyor's name; the date and time the survey was conducted; the name and address of the store being surveyed; the availability of plastic carryout bags; the quantity of paper carryout bags, plastic carryout bags, and reusable bags used to bag the purchase; and the total value of the purchase. The survey times ranged from 10:00 a.m. to 10:00 p.m., and data were collected on all seven days of the week, Monday through Sunday.

The survey was designed to collect data both from stores that offer plastic carryout bags as an option and from stores that do not readily provide plastic carryout bags to consumers. The observational data collected from these stores provide an overview of the consumer bag use choices in the County and the nontraditional stores offer a close representation of consumer bag use choices where plastic bags are not made readily available in the County. As previously noted, the survey sample was collected from areas within all five Supervisorial Districts of the County.

2.2.2 Store Selection

Sapphos Environmental, Inc. compiled a list of 312 stores, out of a total of approximately 529 stores, within the unincorporated territories and incorporated cities within the County. The list was compiled using information available at the respective store chain Web sites, local community Web sites, and compiled lists of stores located in the County, as available online.[1,2,3,4,5,6,7,8,9,10,11,12,13]

The 214 stores that were surveyed as part of this study were randomly selected from the list of 312 stores within the County (Figure 2.1-1). The list of store chains surveyed, as shown in Table 2.2.2-1, *Store Sample List*, includes stores representing a variety of store chains that serve diverse economic, socioeconomic, and demographic populations. Each of these stores fit the County's definition of a store as described in Section 1.0, Introduction.

[1] Citysearch. 2009. *Los Angeles Grocery Stores*. Available at*: http://losangeles.citysearch.com/listings/los-angeles/grocery_stores/56050_1713*

[2] Albertsons. 2009. *Find a Store*. Web site. Available at: http://locator.albertsons.com/StoreLocatorAction.do?action=showStoreSearch

[3] Bristol Farms. 2009. *Locations, Los Angeles County*. Web site. Available at: http://www.bristolfarms.com/locations/index.html

[4] Gelson's. 2009. *Locations*. Web site. Available at: http://www.gelsons.com/

[5] Jons Marketplace. 2009. *Locations*. Web site. Available at: http://www.jonsmarketplace.com/locations.aspx

[6] Pavilions. 2009. *Find a Store Near You*. Web site. Available at: http://www.pavilions.com/IFL/Grocery/Store-Locator

[7] Payless Foods. 2009. *Locations*. Web site. Available at: http://www.paylessfoods.com/payless_locations.htm

[8] Ralphs. 2009. *Store Finder*. Web site. Available at: http://www.ralphs.com/Pages/default.aspx#

[9] Superior Grocers. 2009. *Locations, Los Angeles*. Web site. Available at: http://www.superiorgrocers.com/LocationsWEEKLYSPECIALS/tabid/57/Default.aspx

[10] Top Valu. 2009.

[11] Trader Joe's. 2009. *Trader Joe's Locations, Los Angeles County*. Web site. Available at: http://www.traderjoes.com/Attachments/SC_loc.pdf

[12] Vons. 2009. *Find a Store*. Web site. Available at*: http://www.vons.com/IFL/Grocery/Store-Locator*

[13] Whole Foods. 2009. *Find Your Store*. Web site. Available at: http://www.wholefoodsmarket.com

TABLE 2.2.2-1
STORE SAMPLE LIST

Store List	Store Classification
Albertsons	Traditional
Bristol Farms	Traditional
Food 4 Less	Traditional
Gelson's	Traditional
Gigante Supermarket[14]	Traditional
Jons Marketplace	Traditional
Pavilions	Traditional
Payless Foods	Traditional
Price Rite 101	Traditional
Ralphs	Traditional
Superior Grocers	Traditional
Top Value (also spelled Valu)	Traditional
Trader Joe's	Nontraditional
Vons	Traditional
Whole Foods	Nontraditional

The stores were classified into one of two categories: traditional stores and nontraditional stores. *Traditional* stores, which include most large supermarket chains, typically provide plastic carryout bags as the first choice to consumers—whereby consumers are provided plastic bags as the free and primary bag type unless they specify that they would prefer another bag type. Other establishments encourage the use of reusable bags by not making plastic carryout bags readily available to consumers as a first choice; these stores typically supply paper bags as the free and primary bag type. These stores are referred to as *nontraditional* for the purposes of this study.[15] Team survey collection assignments were divided to include both traditional and nontraditional stores; however, the two store classifications were separated in this study to ensure the survey results were not biased by the distinction between these store classifications.

The two-store classification system is appropriate because the two types of stores are inherently different in the usage of carryout bags. The nontraditional stores offer a close representation of consumer bag use choices where plastic bags are not made readily available in the County. It was also anticipated that nontraditional stores would have a higher number of consumers using reusable bags. If this were in fact the case, the total number of consumers using reusable bags would have been artificially inflated in that it would have shown a larger number of consumers currently using reusable bags. The appropriation of plastic and paper bags would have also been artificially shifted in such a manner. It was anticipated that plastic bags are not as common in nontraditional stores; however, grouping the results of both store types would not have allowed these distinctions to be observed.

[14] Recently, some of the Gigante Supermarket store locations have changed their store name to El Super, and, as such, the stores may now operate under the name El Super.

[15] Although plastic carryout bags were not offered as the primary carryout bag in nontraditional store chains, several of the nontraditional store locations did provide plastic carryout bags to consumers who requested them.

2.2.3 Store Selection Methodology

The methodology for randomly selecting the 214 stores surveyed included the following steps:

1. Two lists of stores were drafted in a Microsoft Excel spreadsheet: one list of traditional stores and one list of nontraditional stores. The lists included the name, address, zip code, and telephone number for each store.
2. Due to the limited number of nontraditional stores located within the County, all 70 nontraditional stores identified in the list were selected as survey locations. As such, the remaining 130 stores surveyed were selected from the traditional stores list.
3. All traditional stores were assigned numbers 1 through 99. Once the number 99 was reached, the subsequent stores were assigned numbers 1 through 99, until all stores were numbered.
4. The store assignments were then selected by using the Microsoft Excel spreadsheet program's random function (and multiplying the function by 100 to generate whole numbers 1 through 99).
5. All stores that corresponded to the random numbers selected were listed until 130 traditional stores were generated.
6. An additional 10 store locations were included as alternatives, should surveys at any of the selected stores have failed or be cut short for any reason.

2.2.4 Data Collection Methodology

Sapphos Environmental, Inc. followed a strategic methodology for collecting data from the stores:

1. Each of the six survey teams was assigned between 35 and 40 store locations to survey.
2. Survey teams canvassed their assigned stores to collect the bag usage data.
3. The teams were directed to be as discrete as possible, informing the store manager only where necessary that the team would be collecting data for a study. No consumers were approached or questioned as part of this survey. In addition, no information related to the consumer identities was required or collected.
4. Each team member collected data for all consumers in the checkout lines. "Express" lines, or lines with an item count limit (for example, 15 items or fewer), were avoided because many consumers in these lines do not utilize or require bags as frequently as consumers in the other lines.
5. Survey team members were stationed at one or more lines and they counted the number of paper carryout bags, plastic carryout bags, or reusable bags utilized by each consumer in that line.
6. Survey teams collected up to 50 data points within each store.
7. The alternate store locations were used to collect additional data when survey teams were requested not to survey or when an adequate number of observations were not collected, such as where the customer traffic was extremely limited or where teams were asked not to survey upon the commencement of data collection.

2.3 CAVEATS/CONSIDERATIONS

Five factors were considered during the preparation of this study. Although these factors do not affect the findings of this survey, they are relevant to understanding the survey process.

2.3.1 Consumer Traffic

The survey teams visited store sites on various days and times throughout the course of the study. Consumer traffic varied at each store and at various times. As a result, a survey team may have spent more time obtaining data at certain stores, or may have limited the number of surveys conducted at certain stores in order to move to alternate store locations with higher consumer traffic to complete the surveys.

2.3.2 Cost Factor

Although cost observations were made and recorded as part of the study, the amount spent by the consumers had no correlation to the store chain's grocery item costs or savings. The number and types of items purchased varied greatly by consumer, and as such, the information in this report has no comparative value regarding store cost comparisons.

2.3.3 Bagging Technique

The survey teams observed that the bagging technique [which for the purposes of this study are defined as the type of bag used / how it was used (for example, double bagging,[16] combining a paper bag and plastic bag, overstuffing/understuffing,[17] etc.), as well as the number of shopping bags used to bag items] varied by item, consumer preference/request, specific store, and cashier. For example, it was noted that while some cashiers double bag all items, others in the same store only use single bags unless requested by the customer to do otherwise. However, some stores moderate this practice by implementing a policy for the number of items / weight of items placed in each bag used by an employee.[18]

2.3.4 Rejection

In certain instances, the survey teams were requested not to complete surveys or were asked to remove themselves from the store premises. In such instances, the survey teams were directed to either go to the designated alternate store (if it was within the community of the primary store) or to identify an alternative store within the vicinity from which to collect data. This strategy was intended to ensure that the area (community) that had been randomly selected during the survey initiation phase was represented in the survey data.

[16] "Double bagging" means two bags instead of one are used to bag a particular set of grocery items.

[17] "Overstuffing" means placing *more* items in a bag than the bag's standard capacity; conversely, "understuffing" refers to placing *fewer* items in a bag than the bag's standard capacity.

[18] One manager at a Ralphs grocery store that was surveyed indicated that employees were informed that any carryout bag (both plastic and paper) used at the store must contain a minimum of three items (depending on the size/weight). The store manager further noted that the weight of the items placed in carryout bags (both plastic and paper) generally averaged 5 pounds.

2.3.5 Statistical Application

The surveys conducted are an attempt to gather observational data currently not available. The surveys were conducted in an unbiased manner, and stores were selected at random to avoid biases to specific areas or types of stores within the County. The study was limited to the resources (financial and survey personnel available) and methodology indicated above.

SECTION 3.0
BAG USAGE ANALYSIS

A total of 5,120 observations were made at the 214 stores surveyed throughout the County. Each bag was observed and counted separately; bags that were double-bagged were counted as two (2) bags, where bags that were triple-bagged three (3) bags were counted, and so on. The results of these observations are separated by surveys conducted at traditional stores and those conducted at nontraditional stores (Appendix B, *Survey Results*), and provide the following information gathered during the surveys:

- Observation number – denotes the total number of observations made at the stores
- Number of bags used by bag type (paper, plastic, or reusable) – identifies the number of each bag type used by the observed consumer
- Dollar amount spent on the total purchase (rounded to the nearest whole dollar) – documents the amount spent by each consumer should it be anticipated that there was a correlation between the amount of bags used and the amount spent by a consumer
- Average dollar amount spent per bag by bag type (paper, plastic, or reusable) – documents the average amount spent by consumer per bag type

If an observation included more than one bag type, the corresponding dollar amount spent is shown in bold text in Appendix B and the average dollar amount spent per bag type is placed in the column of only one of the bag types represented (Appendix B). Of the observations recorded, 141 included the use of more than one bag type (including 90 observations at traditional stores and 51 observations at nontraditional stores).

The results of the bag usage surveys conducted at traditional stores indicated that when plastic carryout bags are available, customers use considerably more of these than of other types of bags. The survey results illustrate how the availability of plastic carryout bags as an option affects customer behavior.

Customers of traditional stores used significantly more plastic carryout bags than did customers of nontraditional stores. Customers at nontraditional stores were observed to use only 85 plastic carryout bags compared to 17,109 plastic carryout bags used by customers at traditional stores. Furthermore, customers observed at traditional stores used only 18 percent of the paper carryout bags used by customers at nontraditional stores. These observations are described in detail below.

The number of reusable bags observed in use during the study represented 24 percent of the total bags observed at nontraditional stores and 2 percent of that observed at traditional stores. These observations are described in detail below.

Opponents of reusable bags have argued that reusable bags are traditionally used by a select portion of the consumer population, namely the more affluent consumers or those consumers who shop at nontraditional stores. Surveyors noted that although a majority of the nontraditional stores were located within the western portion of the County (primarily in the Third Supervisorial District),[1] the use of reusable bags at surveyed stores varied throughout the County. In fact, reusable bags represented up to 9 percent of the bags used at one traditional store located in the

[1] Nontraditional stores were located in or adjacent to all five Supervisorial Districts of the County.

south-eastern portion of the County. This finding would indicate that the assumption that more affluent populations or those segments of the population that have access to or shop at nontraditional stores are the only consumers that use reusable bags is not the case throughout all areas of the County.

3.1 TRADITIONAL STORES

A total of 4,281 customers were surveyed at traditional stores, who spent an average of approximately $35.00 at these stores.[2] In total, customers used 272 paper carryout bags; 17,109 plastic carryout bags; and 410 reusable bags. The amount consumers spent towards each bag (cost per bag) for traditional stores were summarized as: approximately $6.05 for paper bags, plastic bags were $2.07, and reusable bags were $9.81.[3] Table 3.1-1, *Traditional Stores Summary*, provides a general summary of the findings of surveys at traditional stores.

[2] The average amount spent by the consumers who were observed at the two store types did not vary greatly. The amount spent by the consumers was used to calculate an estimated cost of groceries per bag type. Inclusion of the amount spent by the consumer in this study also demonstrates the variance in the consumers surveyed. Based upon the qualitative observations of the surveyors (specialists and interns) that conducted the observations, the number of bags used did not directly correlate to the number of items purchased by the consumers or the number or type of bags used. However, a much larger study could be performed to determine the correlation between the amount of money spent and the number of bags used.

[3] The cost per bag was found by removing observations that included more than one bag type and assessing the remaining costs associated with each bag type divided by the total number of that particular bag type used.

TABLE 3.1-1
TRADITIONAL STORES SUMMARY

Summary	Finding	Percentage
Number of customers observed	4,281	N/A
Average dollar amount spent (rounded to nearest dollar)[1]	$35.00	N/A
Median	$24.00	
Range	$1.00 to $445.00	
Total observed amount spent	**$151,914.32**	
Bag Summary		
Number of paper carryout bags used	272[2]	1.5
Paper median	1	
Paper range	0 to 10	
Number of plastic carryout bags used	17,109	96.1
Plastic median	3	
Plastic range	0 to 42	
Number of reusable bags used	410[3]	2.3
Reusable median	2	
Reusable range	0 to 11	
Total bags used during study periods	**17,791**	**100**
Cost of Transaction Per Paper Bag	**Cost of Transaction Per Plastic Bag**	**Cost of Transaction Per Reusable Bag**
$6.05	$2.07	$9.81

NOTES:

1. The term *average* (for the dollar amount) is the sum of the dollar amount spent for each observation divided by the total number of observations.
   The *median* is the middle number when all of the values are arranged from the lowest to the highest number.
   The *range* is the lowest and highest numbers of a particular set of data. For this study, the range is the lowest and highest number of a particular bag type that was observed.
2. Rounded to nearest thousandth (0.0152)
3. Rounded to nearest thousandth (0.0230)
4. The amount spent has been rounded to the nearest dollar for all observations.

N/A = not applicable

Of the 17,791 bags used at traditional stores, approximately 96 percent (17,109) were plastic, approximately 2 percent (272) were paper, and approximately 2 percent (410) were reusable (Figure 3.1-1, *Percentage of Bag Types Used at Traditional Stores and Nontraditional Stores*).

The number of bags used compared with the dollar amount spent by a customer during each observation is represented in Appendix B. Customers spent an average of approximately $35.00 at traditional stores, with a spending range of approximately $1.00 to $445.00, where all amounts were rounded to the nearest whole dollar amount. Figure 3.1-2, *Number of Bags Used per Total Amount Spent at Traditional Stores by Bag Type*, compares the number of bags used with the total amount of money spent during each observation. It was anticipated that the dollar amount spent by consumers would have a correlation to the number of bags used. The histograms present a general overview of the types of bags utilized by the customers observed. In some instances, the customers observed did not use a particular bag type, and these observations were recorded and

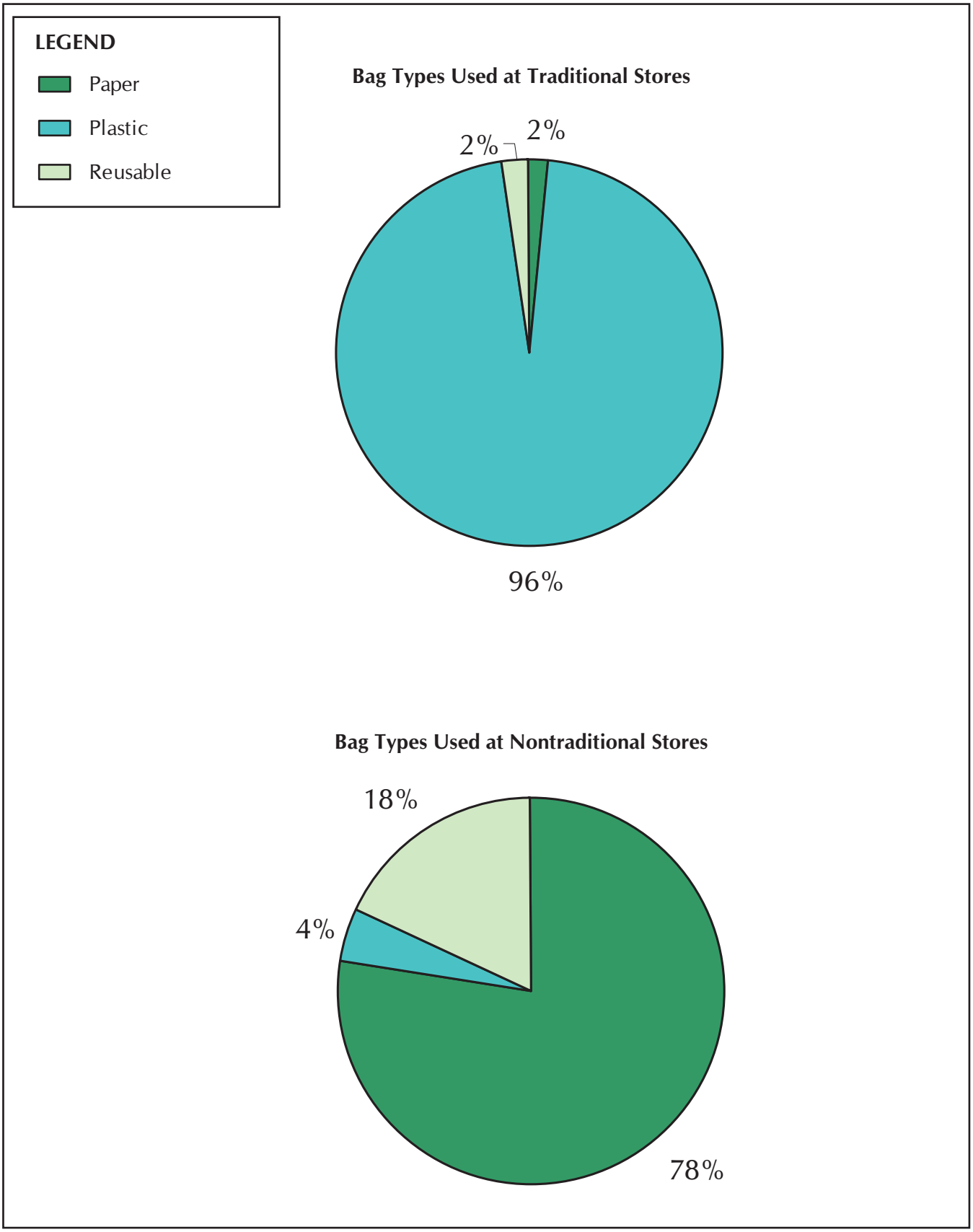
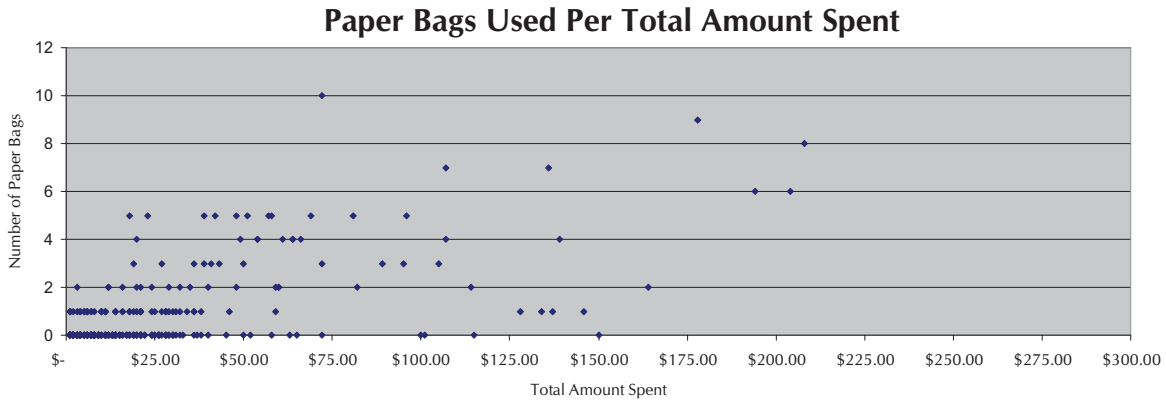
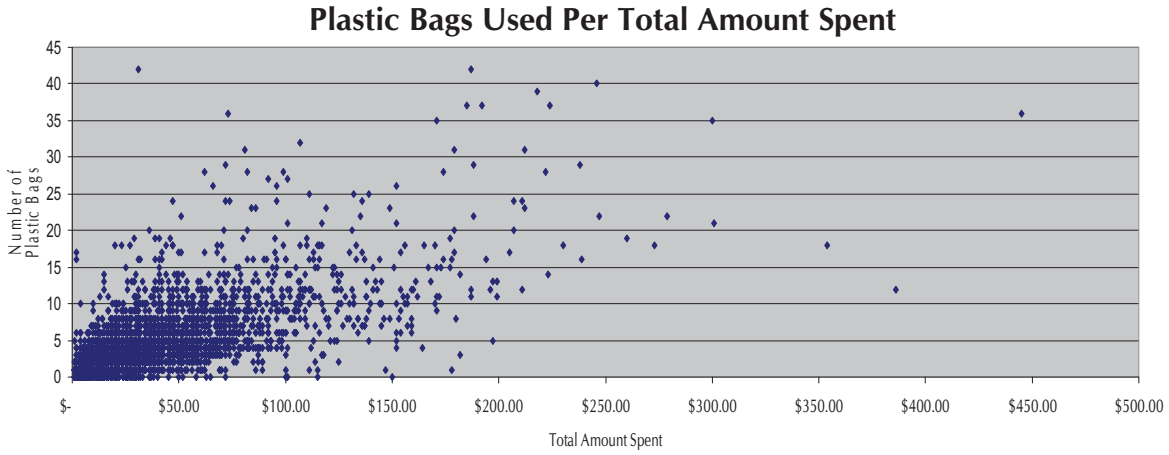


FIGURE 3.1-1
Percentage of Bag Types Used at Traditional Stores and Nontraditional Stores





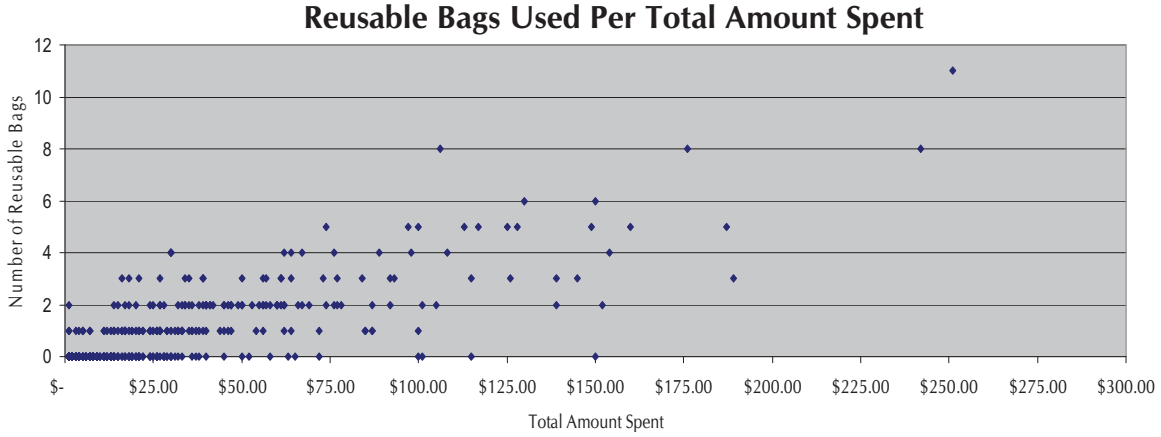


FIGURE 3.1-2
Number of Bags Used Per Total Amount Spent at Traditional Stores by Bag Type

are represented in the tables.[4] Figure 3.1-2 depicts data of observations during which consumers used no bags of a certain type or used multiple bag types.

3.2 NONTRADITIONAL STORES

A total of 839 consumers were surveyed at nontraditional stores surveyed. The average amount spent in these stores was approximately $38.00, with a spending range of approximately $1.00 to approximately $283.00. In total, customers of nontraditional stores used 1,479 paper carryout bags, 85 plastic carryout bags, and 342 reusable bags. The cost per bag for nontraditional stores was summarized as: approximately $7.13 for paper bags, plastic bags were $3.61, and reusable bags were $13.86.[5] Table 3.2-1, *Nontraditional Stores Summary,* provides a summary of findings at nontraditional stores.

TABLE 3.2-1
NONTRADITIONAL STORES SUMMARY

Summary	Finding	Percentage
Number of consumers observed	839	N/A
Average[1] whole dollar amount spent	$38.00	N/A
Median	$29.00	
Range	$1.00 to $283.00	
Total observed amount spent	**$32,645.00**	
Bag Summary		
Number of paper carryout bags used	1,479	78
Paper median	2	
Paper range	0 to 12	
Number of plastic carryout bags used	85	4
Plastic median	1	
Plastic range	0 to 8	
Number of reusable bags used	342	18
Reusable median	1	
Reusable range	0 to 6	
Total bags used during study periods	**1,906**	**100**
Cost Per Bag Paper	**Cost Per Bag Plastic**	**Cost Per Bag Reusable**
$7.13	$3.61	$13.86

NOTES:
1. The average the sum of the dollar amount spent for each observation divided by the total number of observations collected.
2. The amount spent has been rounded to the nearest dollar for all observations.

N/A = not applicable

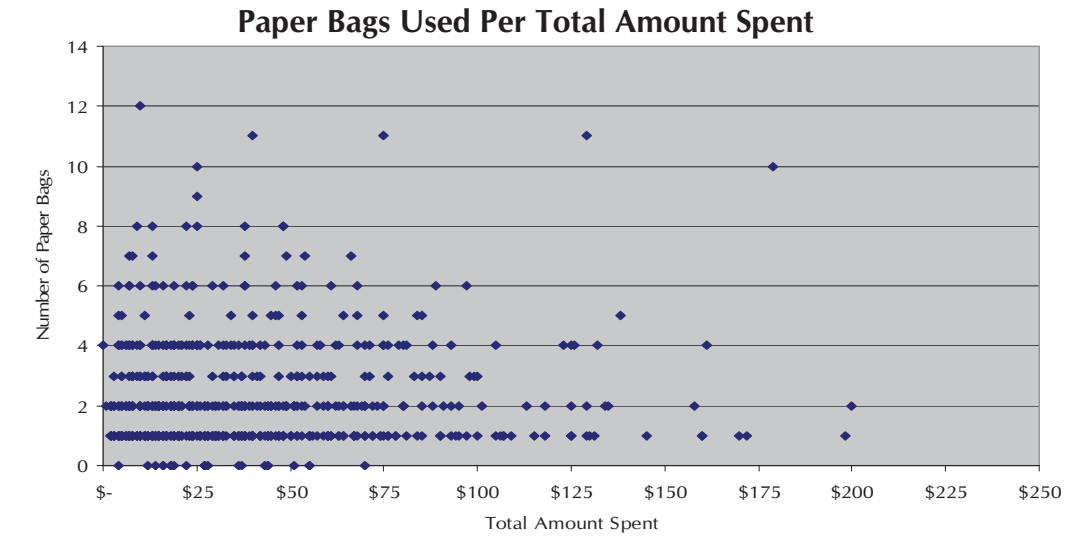
[4] As a result, there are zero bags shown for particular values, which disproportionately show zero values within the histograms. For example, if a customer spent $40.00 and only used plastic bags, the bag count may be zero in the histogram depicting paper bags usage and would be accounted for in the histogram depicting plastic bag usage.

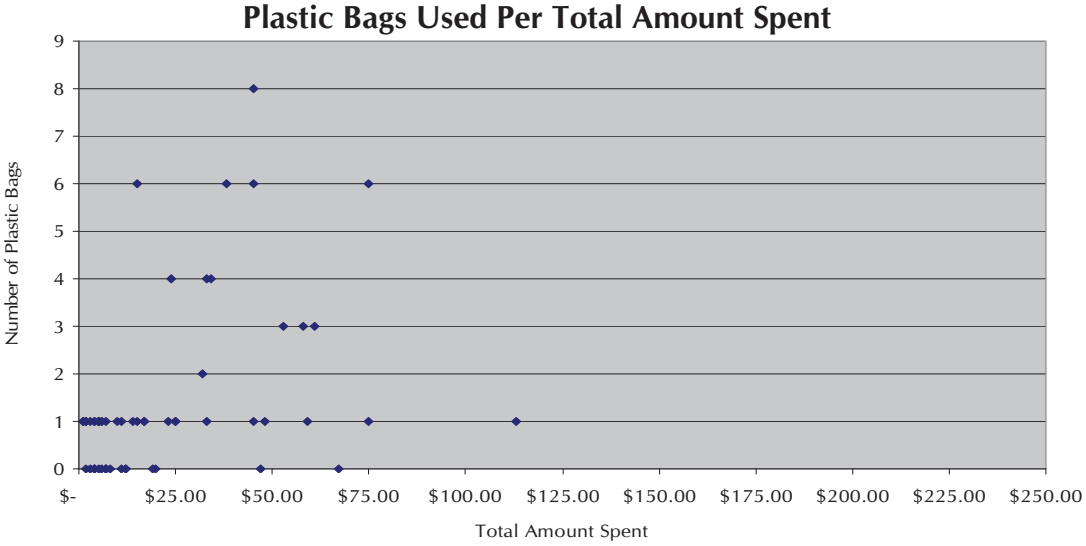
[5] The cost per bag was found by removing observations that included more than one bag type and assessing the remaining costs associated with each bag type divided by the total number of that particular bag type used.

Of the 1,906 total bags used by customers surveyed at nontraditional stores, approximately 78 percent (1,479) of the bags were paper, approximately 18 percent (342) were reusable, and approximately 4 percent (85) were plastic (Figure 3.1-1).

The dispersion of the results of the number of bags used in relation to the amount spent during each observation is represented in Appendix B. The average amount that customers spent at nontraditional stores was approximately $38.00, with a spending range of approximately $1.00 to approximately $283.00, where all amounts were rounded to the nearest whole dollar amount. The histograms in Figure 3.2-1, *Number of Bags Used per Total Amount Spent at Nontraditional Stores by Bag Type*, depict the number of bags observed compared with the total amount of money spent during each observation. As with traditional stores, collectively, the three histograms present a general overview of the types of bags used by customers observed at nontraditional stores during the study. In some instances, the customers observed did not use a particular bag type, and these observations were recorded and are represented in Figure 3.2-1.[6] The histograms present the observations of consumers that used no bags of a certain type or multiple bags types.

[6] As a result, there are zero bags shown for particular values which disproportionately show zero values within the histograms. For example, if a customer spent $40.00 and only used plastic bags, the bag count may be zero in the paper bags histogram of Figure 3.2-1 and would be accounted for in the plastic bag histogram in Figure 3.2-1.





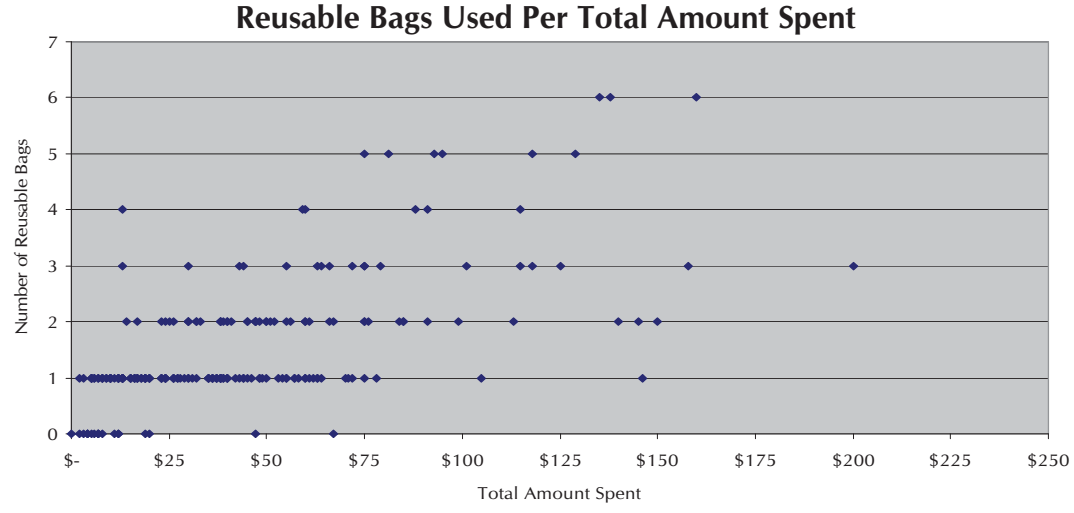


FIGURE 3.2-1
Number of Bags Used Per Total Amount Spent at Nontraditional Stores by Bag Type

SECTION 4.0
BAG CAPACITY ANALYSIS

4.1 STORE TRIAL

The relative carrying capacities of plastic to paper bags have been reported to be as much as 1:8[1] or as little as 1:1 or 1:1.5.[2,3] As an independent check, a store trial was conducted to evaluate the carrying capacities of paper carryout bags and plastic carryout bags. Sapphos Environmental, Inc. staff conducted a store trial and purchased identical items from a standard shopping list to assess the relationship between the two types of bags.

Sapphos Environmental, Inc. staff compiled a standard grocery list from a Web site dedicated to compiling shopping lists.[4] The grocery list selected from the Web site is referred to as the "Ultimate Shopping List," which provides a comprehensive list of items that represent a variety of standard grocery items consumed by the typical American family (Appendix C, *Standard Grocery List*). The Ultimate Shopping List is divided into 27 subcategories of foodstuffs and household items consumed by American families. It is understood that the stores that would be affected by the proposed ordinances would be grocery stores, and the volume of grocery items is generally more standard in size and packaging in comparison to other merchandise such as household items and electrical appliances. For the purposes of this study, the store trial focused on the grocery items. Prior to visiting the store, staff members selected random grocery items from 17 of the subcategories that would represent items regularly purchased by families and, for easier size comparison, whose packaging would be standard (for example, a container of mushrooms is the same size if purchasing 8 ounces).[5]

The selected items are shown in Table 4.1-1, *Store Trial Shopping List*.

[1] AEA Technology. 2009. Single Use Bag Study. Final report prepared for the Welsh Assembly Government, August 2009.

[2] Franklin Associates, Ltd., 1990. *Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks*. Prairie Village, KS.

[3] Use-Less-Stuff. 28 March 2008. *Review of Life Cycle Data Relating to Disposable, Compostable, Biodegradable, and Reusable Bags*. Rochester, MI.

[4] Grocerylists.org. Accessed 29 October 2009. *The Ultimate Grocery List*. Web site. *Available at: http://www.grocerylists.org/ultimatest*

[5] Family shopping lists are typically larger and more standard than the shopping lists that might be associated with single individuals. In order replicate the average potential capacity of the bags used, a list that would be common of a family was selected.

TABLE 4.1-1
STORE TRIAL SHOPPING LIST

Subcategory	Item(s) Purchased	Quantity
Fresh vegetables	1. Lettuce 2. Mushrooms	1. One head 2. One 8-ounce (oz) container
Fresh fruit	1. Bananas 2. Oranges	1. One cluster [approximately four bananas, 2 pounds (lbs)] 2. One bag
Refrigerated items	1. Bagels 2. Eggs	1. One bag (5 count) 2. One dozen (12 count, large)
Frozen	1. Tater tots 2. Ice cream 3. Pizza	1. One 32-oz frozen bag 2. One-half gallon 3. One 12.70-ounce, frozen
Condiments/sauces	1. Barbecue sauce 2. Ketchup 3. Mayonnaise	1. One 18-oz bottle 2. One 20-oz bottle 3. One 32-oz jar
Various groceries	1. Cereal 2. Macaroni and cheese 3. Peanut butter	1. One 25.5-oz box 2. Two 7.25-oz boxes 3. One 16.3-oz jar
Canned foods	1. Tuna 2. Vegetables	1. Two 5-oz cans 2. Two cans (14.5 to15.25 ozs)
Spices and herbs	1. Black pepper 2. Salt 3. Vanilla extract	1. One 1.7-oz container 2. One 26-oz container 3. One 1 fluid oz bottle
Dairy	1. Butter 2. Milk	1. One 16-oz package 2. One 1 gallon jug
Cheese	1. Cottage cheese 2. Sandwich slices	1. One 16-oz container 2. One 10.23-oz package, individual slices
Meat	1. Bacon 2. Hot dogs	1. One 10-oz package 2. One 12-oz package
Beverages	1. Juice 2. Soda pop	1. One 64–fluid oz bottle 2. Two 2-liter bottles
Baked goods	1. Sliced bread	1. One loaf
Baking	1. Cake mix 2. Cake icing 3. Flour 4. Sugar	1. One 18.25-oz box 2. One 16.2-oz container 3. One 5-lb bag 4. One 4-lb bag
Snacks	1. Cookies 2. Nuts 3. Oatmeal 4. Corn chips	1. One 24 oz package 2. One 16-oz jar 3. One 18-oz container 4. One 1-lb bag
Baby stuff	1. Wipes	1. One 70-count container
Pets	1. Cat treats 2. Dog treats	1. One bag 2. One box

Two sets of the 44 items listed above were purchased at the same store by two staff members. Each staff member purchased the items from the same cashier, and the items were bagged by the same store bagger. One staff member asked the items to be bagged in single plastic carryout bags, and the other staff member requested that the items be bagged in single paper carryout bags. Staff members did not provide the store bagger any additional instructions as to how the items should be bagged. All items were single bagged using both bag types. The sum of the items purchased

totaled $84 (specifically $84.04 and $84.13, respectively, as the weight of the bananas resulted in a 9-cent difference (Appendix D, *In-store Trial Receipts)*.

4.1.1 Result

The 44 items listed above were bagged in 8 paper carryout bags and 14 plastic carryout bags. The number of plastic carryout bags used was nearly double the amount of paper carryout bags used. As such, the 1:1.5 ratio is a reasonable representation of the relationship between paper carryout bags to plastic carryout bags. Although a larger sample size would have been preferred, several other studies have noted similar conclusions regarding bag size.[6,7,8]

[6] Franklin Associates, Ltd., 1990. *Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks*. Prairie Village, KS.

[7] Ecobilan. February 2004. *Environmental Impact Assessment of Carrefour Bags: An Analysis of the Life Cycle of Shopping Bags of Plastic, Paper, and Biodegradable Material*. Report prepared for: Carrefour Group.

[8] Boustead Consulting and Associates Ltd. 2007. *Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper*. Prepared for: Progressive Bag Alliance.

SECTION 5.0
CONCLUSION

The findings of this study represent a sampling of stores within the County. This section provides a summary of each bag type (plastic, paper, and reusable) at the nontraditional and traditional stores surveyed. In addition, the resulting comparison of the carrying capacity of plastic bags and paper bags is also provided in this section.

5.1 BAGS BY TYPE

5.1.1 Plastic Bags

The data collected through direct observations demonstrate generally 4 percent of the bags used at nontraditional stores were plastic, whereas 96 percent of the bags used at the traditional stores were plastic. The study observed a combined total of 17,194 plastic bags used at both nontraditional and traditional stores. Of the total number of plastic bags (17,194) observed at both store types, the plastic bags used at nontraditional stores accounted for 0.5 percent (85) and those used at traditional accounted for 99.5 percent (17,109) (Table 5.1.1-1, *Plastic Bag Usage Summary*).

TABLE 5.1.1-1
PLASTIC BAG USAGE SUMMARY

Summary	Nontraditional Stores	Traditional Stores
Plastic bags observed (count)	85	17,109
Plastic bags observed (percentage of total bags observed at store)	4 percent	96 percent
Percentage of all plastic bags	0.5 percent	99.5 percent
Total plastic bags observed (all stores)	**17,194**	

5.1.2 Paper Bags

The findings of this study represent a sampling of the stores within the County. The data collected through direct observation demonstrate that of the bags used at nontraditional stores, generally 78 percent were paper; whereas at traditional stores surveyed, 2 percent of the bags used were paper. Researchers observed a total of 1,751 paper bags used at both the nontraditional and traditional stores. Of the total number of paper bags observed at both store types, the paper bags used at nontraditional stores accounted for 84 percent (1,479) and 16 percent (272) at traditional stores (Table 5.1.2-1, *Paper Bag Usage Summary*).

TABLE 5.1.2-1
PAPER BAG USAGE SUMMARY

Summary	Nontraditional Stores	Traditional Stores
Paper bags observed (count)	1,479	272
Paper bags observed (percentage of total bags observed at store)	78 percent	2 percent
Percentage of all paper bags	84 percent	16 percent
Total paper bags observed	**1,751**	

5.1.3 Reusable Bags

The findings of this study represent a sampling of stores within the County. The data collected through direct observation demonstrate that of the bags used at nontraditional stores, generally 18 percent were reusable; whereas at the traditional stores surveyed, 2 percent of the bags used were reusable. The study observed a combined total of 752 reusable bags used at both traditional and nontraditional stores. Of the total amount of reusable bags observed at both store types, the reusable bags used at nontraditional stores accounted for 45 percent (342) and 55 percent (410) at traditional stores (Table 5.1.3-1, *Reusable Bag Usage Summary*).

TABLE 5.1.3-1
REUSABLE BAG USAGE SUMMARY

Summary	Nontraditional Stores	Traditional Stores
Reusable bags observed (count)	342	410
Reusable bags observed (percentage of total bags observed at store)	18 percent	2 percent
Percentage of all reusable bags	45 percent	55 percent
Total reusable bags observed	**752**	

However, the number of reusable bags varied greatly over the observations conducted. The survey team noted that, although a majority of the nontraditional stores were located within the western portion of the County (primarily in the Third Supervisorial District),[1] the number of reusable bags used within the surveyed stores varied throughout the County. In fact, reusable bags represented up to 9 percent of the bags used at one store located in the southeast portion of the County.

The findings in this study suggest that there are a number of consumers currently using reusable bags in lieu of either paper bags or plastic bags. The 18 percent of reusable bags used by nontraditional store customers could be indicative of the approximate percentage of consumers that might be expected to shift to the use of reusable bags should the proposed ordinances be implemented in the County, as the proposed ordinances will ban the issuance of plastic carryout bags and will include an environmental awareness campaign to encourage the use of reusable bags.

[1] There were nontraditional stores located in or adjacent to all five Supervisorial Districts.

5.2 BAG SIZE COMPARISON

The store trial described in Section 4, Bag Capacity Analysis, determined that a ratio of 1:1.5 is a reasonable representation of the relationship between paper carryout bags to plastic carryout bags in terms of use and carrying capacity. However, multiple iterations of this trial would be required before a more definitive ratio can be determined.

5.3 CONCLUSIONS

The major conclusions of this study are as follows:

1. Currently, plastic is the most commonly used bag type at traditional stores. The data collected through direct observations demonstrate generally 4 percent of the bags used at nontraditional stores were plastic, whereas 96 percent of the bags used at the traditional stores were plastic.

2. Currently, paper is the most commonly used bag type at nontraditional stores. The data collected through direct observation demonstrate that of the bags used at nontraditional stores, generally 78 percent were paper, whereas at traditional stores surveyed 2 percent of the bags used were paper.

3. The 18 percent of reusable bags used by nontraditional store customers could be indicative of the approximate number of consumers that might be expected to shift to the use of reusable bags should the proposed ordinances be implemented in the County, as the proposed ordinances would ban the issuance of plastic carryout bags and would include an environmental awareness campaign to encourage the use of reusable bags.

4. The ratio of 1:1.5 is a reasonable representation of the relationship between paper carryout bags to plastic carryout bags in terms of use and carrying capacity.

APPENDIX B
COUNTY OF LOS ANGELES
BIODEGRADABLE AND COMPOSTABLE BAGS FACT SHEET

BIODEGRADEABLE AND COMPOSTABLE BAGS

The purpose of this technical paper is to discuss and establish the definition of compostable and biodegradable plastic carryout bags that may be subject to the proposed ordinances to ban single use plastic carryout bags in Los Angeles County.

Definitions:
These definitions were selected through careful research of current state and national standards as well as industry and consumer preference.

Biodegradable Plastic – a degradable plastic in which the degradation results from the action of naturally occurring microorganisms such as bacteria, fungi and algae[1]

Compostable Plastic Carryout Bag – a plastic carryout bag that (a) conforms to California labeling law (Public Resources Code Section 42355 et seq.), which requires meeting the current American Society for Testing and Materials (ASTM) standard specifications for compostability; (b) is certified and labeled as meeting the ASTM standard by a recognized verification entity such as the Biodegradable Product Institute; and (c) displays the word "compostable" in a highly visible manner on the outside of the bag[2]

Background

It is estimated that litter from plastic carryout bags accounts for as much as 25 percent of the litter captured within storm drains.[3] According to the County of Los Angeles, each year approximately 6 billion plastic carryout bags are consumed in the County, which is equivalent to approximately 1,600 bags per household per year. Public agencies in California spend over $375 million each year for litter prevention, clean up, and disposal.[4] The County of Los Angeles Flood Control District alone spent more than $18 million in 2008 for prevention, clean up, and enforcement efforts to reduce litter, of which plastic carryout bags are a component.

The proposed ordinances to ban plastic bags aim to reduce the litter and blight caused by littered plastic bags in marine and inland environments. Plastic grocery and other merchandise bags make up only 0.4 percent of the waste stream,[5,6] but up to 7 to 30

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[1] American Standards for Testing and Materials. (2004). D6400 - 04 Standard Specification for Compostable Plastics. *Standard Specification for Compostable Plastics* .

[2] Environmental Protection Agency. (2010, March 24). Retrieved April 5, 2010, from U.S. EPA Official Website: http://www.epa.gov/epawaste/conserve/materials/organics/reduce.htm

[3] June 18,2004 City of Los Angeles - Characterization of Urban Litter, p.2

[4] Quoted from Stephanie Barger of the Earth Resource Foundation in "Too Much Stuff", p.3 of The Laguna Beach Independent, June 6, 2003

[5] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table ES-3: Composition of California's Overall Disposed Waste Stream by Material Type, 2003."Contractor's Report to the Board: Statewide Waste Characterization Study, p. 6. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid"1097

[6] Note: Plastics make up approximately 9.5 percent of California's waste stream by weight, including 0.4 percent for plastic carryout bags related to grocery and other merchandise, 0.7 percent for non-bag commercial and industrial packaging film, and 1 percent for plastic trash bags.

percent by mass of the litter found on highways, the LA River, catch basins, and street sweeping.[7] Reducing the number of single use plastic carryout bags entering the litter stream is the main objective of the proposed ordinances.

An Environmental Impact Report (EIR) that complies with the California Environmental Quality Act (CEQA) has been prepared to support proposed ordinances to ban single use plastic carryout bags distributed by stores in Los Angeles County.

Biodegradable and Compostable Plastic Bags

There are two main types of plastic bags that claim to be biodegradable. One type is made from organic polymers (i.e., starch), and the other type is made from synthetic polymers with an additive that causes the product to degrade faster. The main difference is that the organic plastics can degrade into naturally occurring nutrients (as defined by ASTM D6400), while the synthetic plastic with the additive will physically break apart into smaller pieces of inorganic material that may or may not degrade over time.[8] Some studies have found that degradation of "biodegradable" plastic bags can occur over long periods of time with initial exposure of thermal conditioning of 55°C or above.[9,10,11] Another study also conducted ten standard tests for biodegradability on three different kinds of "biodegradable" plastic bags, including PCL/starch based, aliphatic/aromatic polyester, and polyethylene blended with a pro-oxidant additive. The biodegradation of the PCL/starch material was far greater than the aliphatic/aromatic polyester, which was far greater than the polyethylene/pro-oxidant blend, with the exception of the "Agricultural Soil Test" which relied on visual assessment of the soil after 11 months, with no weight or gaseous measurements to show molecular break down.[12]

Synthetic plastics with oxo-biodegradable additives break the plastic into smaller pieces, but it should be noted that the plastic, and all of its negative environmental impacts, remain in the environment for undetermined periods of time. The plastic breaks apart into smaller pieces, thereby spreading and infiltrating into the marine and inland environments quicker.[13] The time needed and extent to which these synthetic plastic

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[7] June 18,2004 City of Los Angeles - Characterization of Urban Litter, p.3

[8] Thomas, Dr Noreen, Dr Jane Clarke, Dr Andrew McLauchlin, Mr Stuart Patrick. (2010). Assessing the Environmental Impacts of Oxo-degradable Plastics Across Their Life Cycle. The Department for Environment, Food, and Rural Affairs. Loughborough University, Loughborough, United Kingdom.

[9] Chiellini, E., Andrea Corti. A simple method suitable to test the ultimate biodegradability of environmentally degradable polymers. Macromolecular Symposia, V197, Issue1,Page 381-396, August 27, 2003.

[10] Chiellini, E, Andrea Corti, Salvatore D'Antone, Norman C. Billingham. Microbial biomass yield and turnover in soil biodegradation tests: carbon substrate effects. Journal of Polymer and the Environment. Springer Netherlands. V15, Number 3. Page 169-178. July 7, 2007.

[11] Chiellini, E., Andrea Corti, Salvatore D'Antone. Oxo-biodegradable Full Carbon Backbone Plymers – Biodegradation behavior of Thermally Oxidized Polyethylene in an Aqueous Medium. Polymer Degradation and Stability, V92, Page 1378-1383. March 18, 2007.

[12] [17] Feuilloley, P., Guy C'sar, Ludovic Benguigui, Yves Grohens, Isabelle Pillin, Hilaire Bewa, Sandra Lefaux, Mounia Jamal. Degradation of Polyethylene Designed for Agricultural Purposes. Journal of Polymer and the Environment. Springer Netherlands. V13, Number 4. Page 349-355. October, 2005.

[13] California State University, Chico Research Foundation, "Performance Evaluation of Environmentally Degradable Plastic Packaging and Disposable Food Service Ware – Final Report", June 2007, http://www.calrecycle.ca.gov/Publications/Plastics/43208001.pdf

fragments will degrade is unclear, as explained in the "Assessing the Environmental Impacts of Oxo-degradable Plastics Across Their Life Cycle" study, conducted for the Department for Environment, Food, and Rural Affairs (DEFRA).[14] Oxo-biodegradable plastic also diminishes the recycling stream because the oxo-additive continues to degrade throughout its lifespan, and when mixed with normal plastics in a traditional recycling plant, the oxo-additives will cause weaknesses in the reclaimed product. [15]

The ASTM has developed standard D6400-04[16] as the standard for determining whether a plastic is compostable plastic. ASTM standard D6954, which has been referenced by additive manufacturers, is only applicable for comparison between plastics and refers to ASTM D6400 for determining compostability or biodegradation during composting.[17] A study by the California Integrated Waste Management Board found that no degradation occurred for the oxo-biodegradable plastics under ASTM D6400.[18] The European Plastic Recyclers Association (EuPR) warned that "oxo-biodegradable" plastics might do more harm than good to the environment. The EuPR indicates that the use of oxo-additives will not help the litter problem and will decrease recycling percentages and energy reclamation due to contamination of the recycling stream.[19] A study released in January 2010 by DEFRA concluded that the time for oxo-degradable plastic to degrade is unclear; inclusion of oxo-degradable plastics in the recycling stream is detrimental to the recycling stream; oxo-degradable plastics do not degrade in anaerobic environments; and that the best end-of-life solution for oxo-degradable plastics is incineration followed by landfill.[20]

Most compostable plastics are made from organic material, such as polylactic acid (PLA) which is made from corn starch or sugarcane. Plastics made from PLA require heat (140°F / 60°C), humidity (90%), and microorganisms to biodegrade. These conditions are found at industrial composting facilities and not in backyard composting piles, making compostable plastic bags impractical without a separate collection system.[21]

California public code prohibits manufacturers from selling plastic bags with "biodegradable," "degradable," or "decomposable" printed in any way on the bag

[14] http://www.defra.gov.uk/

[15] Thomas, Dr Noreen, Dr Jane Clarke, Dr Andrew McLauchlin, Mr Stuart Patrick. (2010). Assessing the Environmental Impacts of Oxo-degradable Plastics Across Their Life Cycle. The Department for Environment, Food, and Rural Affairs. Loughborough University, Loughborough, United Kingdom.

[16] American Standards for Testing and Materials. (2004). D6400 - 04 Standard Specification for Compostable Plastics.

[17] American Standards for Testing and Materials. (2004). D6954 - 04 Standard Guide for Exposing and Testing Plastics that Degrade in the Environment by a Combination of Oxidation and Biodegradation.

[18] Grenier, D., and Cote, L. 2007. Evaluation of the Impact of Biodegradable Bags on the Recycling of Traditional Plastic Bags (http://www.pprc.org/research/rapidresDocs/biobags.pdf)

[19] Society of the Plastics Industry Bioplastics Council. (2010). *Postition Paper on Oxo-Biodegradables and Other Degradable Additives*. Retrieved 2010, from http://spi.files.cms-plus.com/about/BPC/SPI%20Bioplastic%20Council%20Bioplastics%20Position%20Paper%20on%20OXO-Biodegradable%20Plastic-FINAL.pdf

[20] Thomas, Dr Noreen, Dr Jane Clarke, Dr Andrew McLauchlin, Mr Stuart Patrick. (2010). Assessing the Environmental Impacts of Oxo-degradable Plastics Across Their Life Cycle. The Department for Environment, Food, and Rural Affairs. Loughborough University, Loughborough, United Kingdom.

[21] Berry, J. (2010, February 8). What "Bio" Really Means. *Earth911.com* , pp. http://earth911.com/news/2010/02/08/what-bio-really-means/.

implying that the bag will break down; and restricts the distribution of bags labeled as "compostable" unless ASTM D6400 is met or as "marine degradable" unless ASTM D7081 is met.[22] There are other ASTM standards that rank the degradation of plastic products (i.e., ASTM D6954, ASTM D6340, ASTM 5988), but none are meant to verify that bags will completely and cleanly degrade within a composting facility or marine environment.

Bio-based or compostable bags are not recyclable and need to be separated from the recycle stream to avoid contamination.[23,24,25,26] Compostable plastics are not compatible with current recycling practices and if mixed with traditional plastic bags targeted for recycling, will cause the entire batch to be discarded. There are methods of separating out the compostable from the recyclable but it is costly and/or labor intensive, and would require regulations to be developed to confirm conventional use by facilities.

Conclusions

Compostable plastic requires environments only found in commercial composting facilities, including a core temperature above 130°F / 54°C, moisture, and oxygen (not found in modern landfills). Therefore, without a collection system and commercial composting facilities, the environment into which the bags is released is unpredictable, which could result in more litter and pollution of our marine and inland environments. This false sense of compostability could also cause consumers to become more careless with their plastic bags, and could lead to the increased litter related issues associated with plastic bags.[27] Contamination of the composting stream with non-compostable plastics may cause compost material to be toxic or unusable and be discarded. Separation and collection systems are required for the disposal of compostable plastic bags to produce quality compost material and not contaminate recycling processes. Using compostable carryout plastic bags in Los Angeles County is not practical at this time, due to the lack of local commercial composting facilities willing to process such bags.

Additionally, the use of compostable or biodegradable plastic carryout bags would not alleviate the litter problem or reduce the potential harm to marine wildlife, since both types of plastic bags have the same general characteristics of conventional plastic carryout bags (lightweight, persistent in the marine environment, etc.). Furthermore, the presence of compostable or biodegradable plastic in the recycle stream could

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[22] California Assembly Bill No. 1972. Chapter 436. Legislative Counsel's Digest. September 27, 2008. http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1951-2000/ab_1972_bill_20080927_chaptered.pdf

[23] California Integrated Waste Management Board. (2009). *Compostable Plastics.* Sacramento, CA: California Department of Resources Recycling and Recovery (CalRecycle).Available at: http://www.calrecycle.ca.gov/Publications/Plastics/2009001.pdf.

[24] American Chemistry Council. (2009). *plasticbagrecycling.org*. Retrieved March 24, 2010, from http://www.plasticbagrecycling.org/plasticbag/s01_consumers.html .

[25] Reusablebags.com. (n.d.). What About Biodegradable Bags? Available at: http://www.reusablebags.com/facts.php?id=8.

[26] Merkx, B. (2010). How to Increase the Mechanical Recycling of Post-Consumer Plastics. Brussels, Belgium: European Plastics Recyclers Association. Available at: http://www.plasticsrecyclers.eu/uploads/media/eupr/HowIncreaseRecycling/EUPR_How_To_Increase_Plastics_Recycling_FINAL_low.pdf

[27] California Integrated Waste Management Board. (2009). *Compostable Plastics.* Sacramento, CA: California Department of Resources Recycling and Recovery (CalRecycle).Available at: http://www.calrecycle.ca.gov/Publications/Plastics/2009001.pdf.

potentially jeopardize the plastic recycling systems and would significantly reduce the quality of the recycled resin. Contamination of the recycling stream could ultimately result in batches of recyclable plastic products or materials being landfilled.

Allowing the use of biodegradable plastic bags without a separate collection system could cause an increase in litter, a decrease in recycling and recycled material quality, and could introduce more harmful chemicals from plastic fragments into the environment and the food chain.

Current state law does not require grocery stores to supply different containers for recyclable, compostable, or biodegradable plastic bags. Some, so called, "biodegradable" plastics are made of the same plastic polymers as conventional carryout plastic bags, while other biodegradable plastics are made from very different polymers that look and feel similar to conventional carryout plastic bags but would have very detrimental effects if mixed into the current recycling stream. Therefore, compostable and biodegradable plastic bags should be considered for inclusion in the definition of plastic carryout bags that will be banned in the proposed ordinances.

APPENDIX C
CALCULATION DATA

STORES THAT MAY BE AFFECTED BY THE PROJECT

The purpose of this technical paper is to establish the definition of stores that may be subject to the proposed ordinances to ban single use plastic carryout bags in Los Angeles County. Restaurants would not be included within the definition of "stores" in the proposed ordinances or alternatives.

Definitions:

North American Industry Classification System Codes

The North American Industry Classification System (NAICS) was developed as the standard for use by Federal statistical agencies in classifying business establishments for the collection, analysis, and publication of statistical data related to the business economy of the United States. NAICS was developed under the auspices of the Office of Management and Budget, and adopted in 1997 to replace the old Standard Industrial Classification (SIC) system.[1]

445110 (Supermarkets and Other Grocery Stores, except Convenience) - This industry comprises establishments generally known as supermarkets and grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included in this industry are delicatessen-type establishments primarily engaged in retailing a general line of food.

445120 (Convenience Stores) - This industry comprises establishments known as convenience stores or food marts (except those with fuel pumps) primarily engaged in retailing a limited line of goods that generally includes milk, bread, soda, and snacks.

446110 (Pharmacies and Drug Stores) - This industry comprises establishments known as pharmacies and drug stores engaged in retailing prescription or nonprescription drugs and medicines.

County Voluntary Single Use Bag Reduction & Recycling Program

Category 1 – (AB 2449) stores – supermarkets & large drugstores
Category 2 – convenience food stores greater than 10,000 square feet
Category 3 – stores that are not Category 1 or 2 that provide plastic carryout bags (small food stores & drugstores, non-food stores)

Background

The proposed ordinances to ban plastic bags aim to reduce the litter and blight caused by littered plastic bags in marine and inland environments. Reducing the number of single use plastic carryout bags entering the litter stream is the main objective of the proposed ordinances.

An Environmental Impact Report (EIR) that complies with the California Environmental Quality Act (CEQA) has been prepared to support proposed ordinances to ban single use plastic carryout bags distributed by stores in Los Angeles County.

[1] http://www.naics.com/

The proposed County ordinance would ban the issuance of plastic carryout bags by 1) supermarkets with minimum gross annual sales of $2 million and 2) retail stores that have over 10,000 square feet of retail space with a licensed pharmacy.[2]

Project Alternatives

The Draft EIR also evaluated the following alternatives:

- No Project Alternative - Status Quo
- Alternative 1 (A1) – Ban all plastic and paper at all supermarkets grossing at least $2 million annually and large pharmacies(NAICS 445110 & 446110; Category 1)
- Alternative 2 (A2) – Ban all plastic and fee on paper at all supermarkets grossing at least $2 million annually and (NAICS 445110 & 446110; Category 1)
- Alternative 3 (A3) – Ban all plastic at all supermarkets and other grocery stores, pharmacies, drug stores, and convenience stores with no limits on square footage or sales volumes (NAICS 445110, 445120, 446110)
- Alternative 4 (A4) – Ban all plastic and paper at all supermarkets and other grocery stores, pharmacies, drug stores, and convenience stores with no limits on square footage or sales volumes (NAICS 445110, 445120, 446110)

Number of Stores Potentially Affected by Project & Alternatives
(Based on infoUSA database unless otherwise noted)

Ordinance Version	Unincorporated Areas	Incorporated Cities	Countywide (unincorporated and incorporated areas)
Project	67*	462	529
A1	67*	462	529
A2	67*	462	529
A3	1,091	5,084	6,175
A4	1,091	5,084	6,175

*Based on County verification

Conclusions

Alternative 4 is anticipated to result in the greatest reduction in use of both plastic and paper carryout bags, and is considered to be the environmentally superior alternative.

[2] NAICS 445110 □ 446110; Category 1

Data Regarding Approximate Number of Plastic Bags Used per Store per Day

Chain #	Average Number of Bags/Store/Day*
1	4850
2	4665
3	34416
4	6448
Average	**10391**

*Note: Due to the proprietary nature of this data, store names and the number of stores per chain are not disclosed. Based on these values, which represent a total of 12 stores out of the 67 stores identified in the unincorporated County areas, an approximate number of 10,000 bags per store per day was used within this EIR.

Congratulations! You're almost done.

We have **462** leads that match your criteria.

Did you know we also have 47 emails ?

To provide you with the most accurate and deliverable data, we:

100% Phone Verified

- Place more than 20 million phone calls per year.
- Send our business list through the United States Postal Service's (USPS) National Change of Address (NCOA) database.
- Certify our data using the USPS's Coding Accuracy Support Systems (CASS).

Type Of Business

Add Omit

Primary NAICS Codes and Ranges	446110	Remove
Primary NAICS Codes and Ranges	445110	Remove

Size Of Business

Add

Actual Sales Volume	2 To 999999999 Million	Remove
Square Footage	10,000 - 39,999 Feet	Remove
Square Footage	40,000+ Feet	Remove

Other Selections

Add

Geography

Add Omit

City	Agoura Hills, CA	Remove
City	Alhambra, CA	Remove
City	Arcadia, CA	Remove
City	Artesia, CA	Remove
City	Avalon, CA	Remove
City	Azusa, CA	Remove
City	Baldwin Park, CA	Remove
City	Bell, CA	Remove
City	Bell Gardens, CA	Remove
City	Bellflower, CA	Remove
City	Beverly Hills, CA	Remove
City	Bradbury, CA	Remove
City	Burbank, CA	Remove
City	Calabasas, CA	Remove
City	Carson, CA	Remove
City	Cerritos, CA	Remove
City	Claremont, CA	Remove
City	Commerce, CA	Remove
City	Compton, CA	Remove
City	Covina, CA	Remove

City	Cudahy, CA	Remove
City	Culver City, CA	Remove
City	Diamond Bar, CA	Remove
City	Downey, CA	Remove
City	Duarte, CA	Remove
City	El Monte, CA	Remove
City	El Segundo, CA	Remove
City	Gardena, CA	Remove
City	Glendale, CA	Remove
City	Glendora, CA	Remove
City	Hawaiian Gardens, CA	Remove
City	Hawthorne, CA	Remove
City	Hermosa Beach, CA	Remove
City	Hidden Hills, CA	Remove
City	Huntington Park, CA	Remove
City	City of Industry, CA	Remove
City	Inglewood, CA	Remove
City	Irwindale, CA	Remove
City	La Canada Fltrdg, CA	Remove
City	La Habra Heights, CA	Remove
City	La Mirada, CA	Remove
City	La Puente, CA	Remove
City	La Verne, CA	Remove
City	Lakewood, CA	Remove
City	Lancaster, CA	Remove
City	Lawndale, CA	Remove
City	Lomita, CA	Remove
City	Long Beach, CA	Remove
City	Los Angeles, CA	Remove
City	Lynwood, CA	Remove
City	Malibu, CA	Remove
City	Manhattan Beach, CA	Remove
City	Maywood, CA	Remove
City	Monrovia, CA	Remove
City	Montebello, CA	Remove
City	Monterey Park, CA	Remove
City	Norwalk, CA	Remove
City	Palmdale, CA	Remove
City	Palos Vrds Ests, CA	Remove
City	Paramount, CA	Remove
City	Pasadena, CA	Remove
City	Pico Rivera, CA	Remove
City	Pomona, CA	Remove
City	Rancho Pls Vrds, CA	Remove
City	Redondo Beach, CA	Remove
City	Rolling Hls Ests, CA	Remove
City	Rolling Hills, CA	Remove
City	Rosamond, CA	Remove
City	San Dimas, CA	Remove
City	San Fernando, CA	Remove
City	San Gabriel, CA	Remove
City	San Marino, CA	Remove
City	Santa Clarita, CA	Remove
City	Santa Fe Springs, CA	Remove
City	Santa Monica, CA	Remove
City	Sierra Madre, CA	Remove
City	Signal Hill, CA	Remove
City	South El Monte, CA	Remove
City	South Gate, CA	Remove
City	South Pasadena, CA	Remove

City	Temple City, CA	Remove
City	Torrance, CA	Remove
City	Vernon, CA	Remove
City	Walnut, CA	Remove
City	West Covina, CA	Remove
City	West Hollywood, CA	Remove
City	Westlake Village, CA	Remove
City	Whittier, CA	Remove

Congratulations! You're almost done.

We have **6,175** leads that match your criteria.

Did you know we also have 381 emails ?

To provide you with the most accurate and deliverable data, we:

100% Phone Verified

- Place more than 20 million phone calls per year.
- Send our business list through the United States Postal Service's (USPS) National Change of Address (NCOA) database.
- Certify our data using the USPS's Coding Accuracy Support Systems (CASS).

Type Of Business

Add Omit

Primary NAICS Codes and Ranges	445110	Remove
Primary NAICS Codes and Ranges	446110	Remove
Primary NAICS Codes and Ranges	445120	Remove

Size Of Business

Add

Square Footage	0 - 2,499 Feet	Remove
Square Footage	2,500 - 9,999 Feet	Remove
Square Footage	10,000 - 39,999 Feet	Remove
Square Footage	40,000+ Feet	Remove

Other Selections

Add

Geography

Add Omit

County	Los Angeles, CA	Remove

Congratulations! You're almost done.

We have **5,084** leads that match your criteria.

Did you know we also have 314 emails ?

To provide you with the most accurate and deliverable data, we:

100% Phone Verified

- Place more than 20 million phone calls per year.
- Send our business list through the United States Postal Service's (USPS) National Change of Address (NCOA) database.
- Certify our data using the USPS's Coding Accuracy Support Systems (CASS).

Type Of Business Add Omit

Primary NAICS Codes and Ranges	445110	Remove
Primary NAICS Codes and Ranges	446110	Remove
Primary NAICS Codes and Ranges	445120	Remove

Size Of Business Add

Square Footage	0 - 2,499 Feet	Remove
Square Footage	2,500 - 9,999 Feet	Remove
Square Footage	10,000 - 39,999 Feet	Remove
Square Footage	40,000+ Feet	Remove

Other Selections Add

Geography Add Omit

City	Agoura Hills, CA	Remove
City	Alhambra, CA	Remove
City	Arcadia, CA	Remove
City	Artesia, CA	Remove
City	Avalon, CA	Remove
City	Azusa, CA	Remove
City	Baldwin Park, CA	Remove
City	Bell, CA	Remove
City	Bell Gardens, CA	Remove
City	Bellflower, CA	Remove
City	Beverly Hills, CA	Remove
City	Bradbury, CA	Remove
City	Burbank, CA	Remove
City	Calabasas, CA	Remove
City	Carson, CA	Remove
City	Cerritos, CA	Remove
City	Claremont, CA	Remove

You currently have:

5,084 Leads

See Price

Did you know we also have:
314 Emails

Additional Options:

Save Search
New Search
Exclude Lists

How To Change Criteria:

To change or add to your search criteria, click on the category title links.

To remove search criteria, click "Remove." Your count will automatically update.

In order to omit search criteria, click "Omit." Then select the criteria you would like to omit from this search.

City	Commerce, CA	Remove
City	Compton, CA	Remove
City	Covina, CA	Remove
City	Cudahy, CA	Remove
City	Culver City, CA	Remove
City	Diamond Bar, CA	Remove
City	Downey, CA	Remove
City	Duarte, CA	Remove
City	El Monte, CA	Remove
City	El Segundo, CA	Remove
City	Gardena, CA	Remove
City	Glendale, CA	Remove
City	Glendora, CA	Remove
City	Hawaiian Gardens, CA	Remove
City	Hawthorne, CA	Remove
City	Hermosa Beach, CA	Remove
City	Hidden Hills, CA	Remove
City	Huntington Park, CA	Remove
City	City of Industry, CA	Remove
City	Inglewood, CA	Remove
City	Irwindale, CA	Remove
City	La Canada Fltrdg, CA	Remove
City	La Habra Heights, CA	Remove
City	La Mirada, CA	Remove
City	La Puente, CA	Remove
City	La Verne, CA	Remove
City	Lakewood, CA	Remove
City	Lancaster, CA	Remove
City	Lawndale, CA	Remove
City	Lomita, CA	Remove
City	Long Beach, CA	Remove
City	Los Angeles, CA	Remove
City	Lynwood, CA	Remove
City	Malibu, CA	Remove
City	Manhattan Beach, CA	Remove
City	Maywood, CA	Remove
City	Monrovia, CA	Remove
City	Montebello, CA	Remove
City	Monterey Park, CA	Remove
City	Norwalk, CA	Remove
City	Palmdale, CA	Remove
City	Palos Vrds Ests, CA	Remove
City	Paramount, CA	Remove
City	Pasadena, CA	Remove
City	Pico Rivera, CA	Remove
City	Pomona, CA	Remove
City	Rancho Pls Vrds, CA	Remove
City	Redondo Beach, CA	Remove
City	Rolling Hls Ests, CA	Remove
City	Rolling Hills, CA	Remove
City	Rosamond, CA	Remove
City	San Dimas, CA	Remove
City	San Fernando, CA	Remove
City	San Gabriel, CA	Remove
City	San Marino, CA	Remove
City	Santa Clarita, CA	Remove
City	Santa Fe Springs, CA	Remove
City	Santa Monica, CA	Remove
City	Sierra Madre, CA	Remove
City	Signal Hill, CA	Remove

City	South El Monte, CA	Remove
City	South Gate, CA	Remove
City	South Pasadena, CA	Remove
City	Temple City, CA	Remove
City	Torrance, CA	Remove
City	Vernon, CA	Remove
City	Walnut, CA	Remove
City	West Covina, CA	Remove
City	West Hollywood, CA	Remove
City	Westlake Village, CA	Remove
City	Whittier, CA	Remove

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: W:\PROJECTS\1012\1012-035\Data\Air\Deliveries_67.urb924

Project Name: Deliveries to 67 Stores

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Supermarket	0.04	0.08	0.50	0.00	0.09	0.02	65.51
TOTALS (lbs/day, unmitigated)	0.04	0.08	0.50	0.00	0.09	0.02	65.51

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Supermarket		4.00	1000 sq ft	1.00	4.00	53.20
					4.00	53.20

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.7	99.1	0.2
Light Truck < 3750 lbs	15.8	2.9	94.2	2.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	53.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	23.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	3.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	1.1	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	2.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	65.2	34.8	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	13.3	13.3
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Supermarket				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.4 miles to 13.3 miles

Commercial-based customer urban trip length changed from 8.9 miles to 13.3 miles

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: W:\PROJECTS\1012\1012-035\Data\Air\Deliveries_423.urb924

Project Name: Deliveries to 462 Stores

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Supermarket	0.22	0.51	3.25	0.00	0.61	0.12	425.84
TOTALS (lbs/day, unmitigated)	0.22	0.51	3.25	0.00	0.61	0.12	425.84

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Supermarket		26.00	1000 sq ft	1.00	26.00	345.80
					26.00	345.80

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.7	99.1	0.2
Light Truck < 3750 lbs	15.8	2.9	94.2	2.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	53.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	23.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	3.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	1.1	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	2.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	65.2	34.8	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	13.3	13.3
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Supermarket				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.4 miles to 13.3 miles

Commercial-based customer urban trip length changed from 8.9 miles to 13.3 miles

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: W:\PROJECTS\1012\1012-035\Data\Air\Deliveries_1024.urb924

Project Name: Deliveries to 1,024 Stores

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Supermarket	0.24	0.57	3.63	0.00	0.68	0.14	474.98
TOTALS (lbs/day, unmitigated)	0.24	0.57	3.63	0.00	0.68	0.14	474.98

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Supermarket		29.00	1000 sq ft	1.00	29.00	385.70
					29.00	385.70

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.7	99.1	0.2
Light Truck < 3750 lbs	15.8	2.9	94.2	2.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	53.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	23.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	3.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	1.1	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	2.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	65.2	34.8	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	13.3	13.3
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Supermarket				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.4 miles to 13.3 miles

Commercial-based customer urban trip length changed from 8.9 miles to 13.3 miles

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Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: W:\PROJECTS\1012\1012-035\Data\Air\Deliveries_4622.urb924

Project Name: Deliveries to 4,622 Stores

Project Location: Los Angeles County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Supermarket	1.08	2.59	16.40	0.02	3.05	0.62	2,145.60
TOTALS (lbs/day, unmitigated)	1.08	2.59	16.40	0.02	3.05	0.62	2,145.60

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Supermarket		131.00	1000 sq ft	1.00	131.00	1,742.30
					131.00	1,742.30

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	0.0	0.7	99.1	0.2
Light Truck < 3750 lbs	15.8	2.9	94.2	2.9

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	53.1	0.4	99.6	0.0
Med Truck 5751-8500 lbs	23.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	3.5	0.0	86.7	13.3
Lite-Heavy Truck 10,001-14,000 lbs	1.1	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	2.1	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	1.2	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	100.0
Motorcycle	0.0	65.2	34.8	0.0
School Bus	0.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	13.3	13.3
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Supermarket				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.4 miles to 13.3 miles

Commercial-based customer urban trip length changed from 8.9 miles to 13.3 miles

Stores in unincorp territory	67
Stores in cities	462
Plastic bag size (liters)	14
Paper bag size (liters)	20.48
Number of plastic bags per store per day	10000
Number of paper bags per store per day	6836

Resuable Bag Size	37
Ratio of Reusable to Plastic Bags	2.6

based on 100 conversion from plastic to paper

Ecobilan Data - Eutrophication		**Reusable Bag (1 Use)**	
	CML	g output	g phosphate
(w) Ammonia	0.42	3.35E-01	1.41E-01
(w) COD (Chemical Oxygen Demand)	0.022	1.43E 01	3.15E-01
(w) Nitrate	0.095	5.80E-02	5.51E-03
(w) Nitrite	0.13	-5.06E-07	-6.58E-08
(w) Nitrogenous Matter (Kjeldahl, as N)	0.42	9.56E-04	4.02E-04
(w) Nitrogenous Matter (unspecified)	0.42	4.45E-02	1.87E-02
(w) Phosphates	3.06	2.25E-02	6.89E-02
(w) Phosphorous Matter	3.06	0.00E 00	0.00E 00
(w) Phosphorous	3.06	3.86E-05	1.18E-04
(w) Phosphorous Pentoxide	1.336	-8.42E-06	-1.12E-05
Total			**0.55**

CML is the equivalence coefficient used to convert grams of each individual output to grams of phosphate equivalent

Ecobilan Data - Eutrophication		**Plastic Bags**		**Paper Bags**	
	CML	g output	g phosphate	g output	g phosphate
(w) Ammonia	0.42	1.28E-01	5.38E-02	6.11E-01	2.57E-01
(w) COD (Chemical Oxygen Demand)	0.022	5.09E 00	1.12E-01	2.74E 01	6.03E-01
(w) Nitrate	0.095	1.25E-01	1.19E-02	1.25E 00	1.19E-01
(w) Nitrite	0.13	4.39E-07	5.71E-08	1.90E-05	2.47E-06
(w) Nitrogenous Matter (Kjeldahl, as N)	0.42	3.00E-05	1.26E-05	-3.63E-04	-1.52E-04
(w) Nitrogenous Matter (unspecified)	0.42	7.36E-03	3.09E-03	2.51E 00	1.05E 00
(w) Phosphates	3.06	6.01E-03	1.84E-02	1.03E-01	3.15E-01
(w) Phosphorous Matter	3.06	3.02E-07	9.24E-07	1.52E-04	4.65E-04
(w) Phosphorous	3.06	3.67E-05	1.12E-04	5.25E-04	1.61E-03
(w) Phosphorous Pentoxide	1.336	2.66E-06	3.55E-06	1.29E-05	1.72E-05
Total			**0.20**		**2.35**

CML is the equivalence coefficient used to convert grams of each individual output to grams of phosphate equivalent

Eutrophication - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
grams phosphate per 9000 liters groceries	0.20	2.35	2.15	2.00	1.80
grams phosphate per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
grams phosphate per bag	0.00	0.01	0.01	0.00	0.00
grams phosphate per day per store	3.10	36.55	33.45	31.07	27.97
kg phosphate per day per store	0.00	0.04	0.03	0.03	0.03
kg phosphate per day in unincorp territory	0.21	2.45	2.24	2.08	1.87
kg phosphate per day in cities	1.43	16.88	15.45	14.35	12.92
Total kg phosphate for whole county	**1.64**	**19.33**	**17.69**	**16.43**	**14.79**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Eutrophication - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
grams phosphate per 9000 liters groceries	0.20	0.18	-0.02	0.03	-0.17
grams phosphate per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
grams phosphate per bag	0.00	0.00	0.00	0.00	0.00
grams phosphate per day per store	3.10	2.85	-0.25	0.43	-2.67
kg phosphate per day per store	0.00	0.00	0.00	0.00	0.00
kg phosphate per day in unincorp territory	0.21	0.19	-0.02	0.03	-0.18
kg phosphate per day in cities	1.43	1.31	-0.12	0.20	-1.23
Total kg phosphate for whole county	**1.64**	**1.51**	**-0.13**	**0.23**	**-1.41**

□based on 3 uses

□□based on 20 uses

Ecobilan Data - Utilities	Plastic Bags	Paper Bags	Reusable Bags
Water Used (total) (liters)	**52.6**	**173**	**137**
Water Generated (unspecified) (liters)	4.1	1.3	-0.186
Water Generated (chemically polluted) (liters)	34.3	107	105
Water Generated (thermally polluted) (liters)	11.6	22.4	31.8
Total Wastewater Generated (liters)	**50**	**130.7**	**136.614**
Waste Generated (total) (kg)	**2.59**	**4.73**	**6.99**
Non-renewable energy consumption (MJ)	**286**	**295**	**805**
Total solid waste due to disposal (kg)□	**4.76**	**12.14**	**13.11**

□Assuming all bags are sent to landfill

Water Consumption - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Liters H20 per 9000 liters groceries	52.60	173.00	120.40	147.05	94.45
Liters H2O per 1 liter groceries	0.01	0.02	0.01	0.02	0.01
Liters H2O per bag	0.08	0.39	0.31	0.33	0.25
Liters H2O per day per store	818.22	2691.11	1872.89	2287.44	1469.22
Gallons H2O per day per store	216.15	710.92	494.76	604.28	388.13
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.01	0.05	0.03	0.04	0.03
MGD per day in cities	0.10	0.33	0.23	0.28	0.18
Total MGD for whole county	**0.11**	**0.38**	**0.26**	**0.32**	**0.21**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Water Consumption - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
Liters H20 per 9000 liters groceries	52.60	45.67	-6.93	6.85	-45.75
Liters H2O per 1 liter groceries	0.01	0.01	0.00	0.00	-0.01
Liters H2O per bag	0.08	0.10	0.02	0.02	-0.07
Liters H2O per day per store	818.22	710.37	-107.85	106.56	-711.67
Gallons H2O per day per store	216.15	187.66	-28.49	28.15	-188.00
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.01	0.01	0.00	0.00	-0.01
MGD per day in cities	0.10	0.09	-0.01	0.01	-0.09
Total MGD for whole county	**0.11**	**0.10**	**-0.02**	**0.01**	**-0.10**

□based on 3 uses

□□based on 20 uses

Water Consumption - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Gallons H20 1000 paper bags (1500 plastic)	58.00	1004.00	946.00	853.40	795.40
Gallons H2O per bag	0.04	1.00	0.97	0.85	0.81
Gallons H2O per day per store	386.67	6863.28	6476.61	5833.79	5447.12
MGD per day per store	0.00	0.01	0.01	0.01	0.01
MGD per day in unincorp territory	0.03	0.46	0.43	0.39	0.36
MGD per day in cities	0.18	3.17	2.99	2.70	2.52
Total MGD for whole county	**0.20**	**3.63**	**3.43**	**3.09**	**2.88**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
Liters H20 per 9000 liters groceries	50.00	45.54	-4.46	6.83	-43.17
Liters H2O per 1 liter groceries	0.01	0.01	0.00	0.00	0.00
Liters H2O per bag	0.08	0.10	0.03	0.02	-0.06
Liters H2O per day per store	777.78	708.37	-69.41	106.26	-671.52
Gallons H2O per day per store	205.47	187.13	-18.34	28.07	-177.40
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.01	0.01	0.00	0.00	-0.01
MGD per day in cities	0.09	0.09	-0.01	0.01	-0.08
Total MGD for whole county	**0.11**	**0.10**	**-0.01**	**0.01**	**-0.09**

□based on 3 uses

□□based on 20 uses

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Liters H20 per 9000 liters groceries	50.00	130.70	80.70	111.10	61.10
Liters H2O per 1 liter groceries	0.01	0.01	0.01	0.01	0.01
Liters H2O per bag	0.08	0.30	0.22	0.25	0.18
Liters H2O per day per store	777.78	2033.11	1255.33	1728.14	950.37
Gallons H2O per day per store	205.47	537.09	331.62	456.53	251.06
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.01	0.04	0.02	0.03	0.02
MGD per day in cities	0.09	0.25	0.15	0.21	0.12
Total MGD for whole county	**0.11**	**0.28**	**0.18**	**0.24**	**0.13**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
kg waste per 1000 paper bags (1500 plastic)	7.04	33.90	26.87	28.82	21.78
kg waste per bag	0.00	0.03	0.03	0.03	0.02
kg waste per day per store	46.90	231.74	184.84	196.98	150.08
tons waste per day per store	0.05	0.26	0.20	0.22	0.17
tons waste per day in unincorp territory	3.46	17.11	13.65	14.55	11.08
tons waste per day in cities	23.88	118.02	94.13	100.31	76.43
Total tons waste for whole county	**27.35**	**135.13**	**107.78**	**114.86**	**87.51**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
kg waste per 9000 liters groceries	4.76	4.37	-0.39	0.66	-4.10
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.01	0.00	0.00	-0.01
kg waste per day per store	74.04	67.98	-6.07	10.20	-63.85
tons waste per day per store	0.08	0.07	-0.01	0.01	-0.07
tons waste per day in unincorp territory	5.47	5.02	-0.45	0.75	-4.72
tons waste per day in cities	37.71	34.62	-3.09	5.19	-32.52
Total tons waste for whole county	**43.18**	**39.64**	**-3.54**	**5.95**	**-37.23**

□based on 3 uses

□□based on 20 uses

Solid Waste - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
kg waste per 9000 liters groceries	4.76	12.14	7.38	10.32	5.56
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.03	0.02	0.02	0.02
kg waste per day per store	74.04	188.84	114.80	160.52	86.47
tons waste per day per store	0.08	0.21	0.13	0.18	0.10
tons waste per day in unincorp territory	5.47	13.95	8.48	11.86	6.39
tons waste per day in cities	37.71	96.17	58.46	81.75	44.04
Total tons waste for whole county	**43.18**	**110.12**	**66.94**	**93.60**	**50.42**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

2007 recycle rate - plastic bags and sacks	11.9□
2007 recycle rate - paper bags and sacks	36.8□

Solid Waste - Ecobilan Data	Adjusted for 2007 EPA Recycle Rates			Adjusted for 2007 EPA Recycle Rates		
	Plastic LCA	Paper LCA	Difference	Plastic LCA	Paper LCA	Difference
kg waste per 9000 liters groceries	4.19	7.67	3.48	4.19	6.52	2.33
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.02	0.01	0.01	0.01	0.01
kg waste per day per store	65.23	119.35	54.12	65.23	101.45	36.21
tons waste per day per store	0.07	0.13	0.06	0.07	0.11	0.04
tons waste per day in unincorp territory	4.82	8.81	4.00	4.82	7.49	2.67
tons waste per day in cities	33.22	60.78	27.56	33.22	51.66	18.44
Total tons waste for whole county	38.04	69.60	**31.56**	38.04	59.16	**21.12**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Paper LCA	Difference	Paper LCA	Difference
MJ per 9000 liters groceries	286.00	295.00	9.00	250.75	-35.25
MJ per 1 liter groceries	0.03	0.03	0.00	0.03	0.00
MJ per bag	0.44	0.67	0.23	0.57	0.13
MJ per day per store	4448.89	4588.89	140.00	3900.56	-548.33
kWh per day per store	1235.80	1274.69	38.89	1083.49	-152.31
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.08	0.09	0.00	0.07	-0.01
Million kWh per day in cities	0.57	0.59	0.02	0.50	-0.07
Total million kWh for whole county	**0.65**	**0.67**	**0.02**	**0.57**	**-0.08**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
MJ per 9000 liters groceries	286.00	268.33	-17.67	40.25	-245.75
MJ per 1 liter groceries	0.03	0.03	0.00	0.00	-0.03
MJ per bag	0.44	0.61	0.17	0.09	-0.35
MJ per day per store	4448.89	4174.07	-274.81	626.11	-3822.78
kWh per day per store	1235.80	1159.47	-76.34	173.92	-1061.88
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.08	0.08	-0.01	0.01	-0.07
Million kWh per day in cities	0.57	0.54	-0.04	0.08	-0.49
Total million kWh for whole county	**0.65**	**0.61**	**-0.04**	**0.09**	**-0.56**

□based on 3 uses

□□based on 20 uses

Energy Consumption - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
MJ per 1000 bags	763.00	2622.00	1859.00	2228.70	1465.70
MJ per bag	0.51	2.62	2.11	2.23	1.72
MJ per day per store	5086.67	17923.83	12837.16	15235.25	10148.59
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.09	0.33	0.24	0.28	0.19
Million kWh per day in cities	0.65	2.30	1.65	1.96	1.30
Total Million kWh for whole county	**0.75**	**2.63**	**1.89**	**2.24**	**1.49**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Conversion Factors	
liters to gallons	0.26417205
kg to short tons	0.00110231
MJ to kWh	0.27777778

Stores in unincorp territory	1024
Stores in cities	4622
Plastic bag size (liters)	14
Paper bag size (liters)	20.48
Number of plastic bags per store per day	5000
Number of paper bags per store per day	3418

based on 100 conversion from plastic to paper

Ecobilan Data - Eutrophication		**Reusable Bag (1 Use)**	
	CML	g output	g phosphate
(w) Ammonia	0.42	3.35E-01	1.41E-01
(w) COD (Chemical Oxygen Demand)	0.022	1.43E 01	3.15E-01
(w) Nitrate	0.095	5.80E-02	5.51E-03
(w) Nitrite	0.13	-5.06E-07	-6.58E-08
(w) Nitrogenous Matter (Kjeldahl, as N)	0.42	9.56E-04	4.02E-04
(w) Nitrogenous Matter (unspecified)	0.42	4.45E-02	1.87E-02
(w) Phosphates	3.06	2.25E-02	6.89E-02
(w) Phosphorous Matter	3.06	0.00E 00	0.00E 00
(w) Phosphorous	3.06	3.86E-05	1.18E-04
(w) Phosphorous Pentoxide	1.336	-8.42E-06	-1.12E-05
Total			**0.55**

CML is the equivalence coefficient used to convert grams of each individual output to grams of phosphate equivalent

Ecobilan Data - Eutrophication		**Plastic Bags**		**Paper Bags**	
	CML	g output	g phosphate	g output	g phosphate
(w) Ammonia	0.42	1.28E-01	5.38E-02	6.11E-01	2.57E-01
(w) COD (Chemical Oxygen Demand)	0.022	5.09E 00	1.12E-01	2.74E 01	6.03E-01
(w) Nitrate	0.095	1.25E-01	1.19E-02	1.25E 00	1.19E-01
(w) Nitrite	0.13	4.39E-07	5.71E-08	1.90E-05	2.47E-06
(w) Nitrogenous Matter (Kjeldahl, as N)	0.42	3.00E-05	1.26E-05	-3.63E-04	-1.52E-04
(w) Nitrogenous Matter (unspecified)	0.42	7.36E-03	3.09E-03	2.51E 00	1.05E 00
(w) Phosphates	3.06	6.01E-03	1.84E-02	1.03E-01	3.15E-01
(w) Phosphorous Matter	3.06	3.02E-07	9.24E-07	1.52E-04	4.65E-04
(w) Phosphorous	3.06	3.67E-05	1.12E-04	5.25E-04	1.61E-03
(w) Phosphorous Pentoxide	1.336	2.66E-06	3.55E-06	1.29E-05	1.72E-05
Total			**0.20**		**2.35**

CML is the equivalence coefficient used to convert grams of each individual output to grams of phosphate equivalent

Eutrophication - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
grams phosphate per 9000 liters groceries	0.20	2.35	2.15	2.00	1.80
grams phosphate per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
grams phosphate per bag	0.00	0.01	0.01	0.00	0.00
grams phosphate per day per store	1.55	18.27	16.72	15.53	13.98
kg phosphate per day per store	0.00	0.02	0.02	0.02	0.01
kg phosphate per day in unincorp territory	1.59	18.71	17.13	15.91	14.32
kg phosphate per day in cities	7.16	84.46	77.30	71.79	64.63
Total kg phosphate for whole county	**8.75**	**103.17**	**94.43**	**87.70**	**78.95**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Eutrophication - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
grams phosphate per 9000 liters groceries	0.20	0.18	-0.02	0.03	-0.17
grams phosphate per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
grams phosphate per bag	0.00	0.00	0.00	0.00	0.00
grams phosphate per day per store	1.55	1.42	-0.13	0.21	-1.34
kg phosphate per day per store	0.00	0.00	0.00	0.00	0.00
kg phosphate per day in unincorp territory	1.59	1.46	-0.13	0.22	-1.37
kg phosphate per day in cities	7.16	6.58	-0.59	0.99	-6.18
Total kg phosphate for whole county	**8.75**	**8.03**	**-0.71**	**1.21**	**-7.54**

□based on 3 uses

□□based on 20 uses

Ecobilan Data - Utilities	Plastic Bags	Paper Bags	Reusable Bags
Water Used (total) (liters)	**52.6**	**173**	**137**
Water Generated (unspecified) (liters)	4.1	1.3	-0.186
Water Generated (chemically polluted) (liters)	34.3	107	105
Water Generated (thermally polluted) (liters)	11.6	22.4	31.8
Total Wastewater Generated (liters)	**50**	**130.7**	**136.614**
Waste Generated (total) (kg)	**2.59**	**4.73**	**6.99**
Non-renewable energy consumption (MJ)	**286**	**295**	**805**
Total solid waste due to disposal (kg)□	**4.76**	**12.14**	**13.11**

□Assuming all bags are sent to landfill

Water Consumption - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Liters H20 per 9000 liters groceries	52.60	173.00	120.40	147.05	94.45
Liters H2O per 1 liter groceries	0.01	0.02	0.01	0.02	0.01
Liters H2O per bag	0.08	0.39	0.31	0.33	0.25
Liters H2O per day per store	409.11	1345.56	936.44	1143.72	734.61
Gallons H2O per day per store	108.08	355.46	247.38	302.14	194.06
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.11	0.36	0.25	0.31	0.20
MGD per day in cities	0.50	1.64	1.14	1.40	0.90
Total MGD for whole county	**0.61**	**2.01**	**1.40**	**1.71**	**1.10**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Water Consumption - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
Liters H20 per 9000 liters groceries	52.60	45.67	-6.93	6.85	-45.75
Liters H2O per 1 liter groceries	0.01	0.01	0.00	0.00	-0.01
Liters H2O per bag	0.08	0.10	0.02	0.02	-0.07
Liters H2O per day per store	409.11	355.19	-53.93	53.28	-355.83
Gallons H2O per day per store	108.08	93.83	-14.25	14.07	-94.00
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.11	0.10	-0.01	0.01	-0.10
MGD per day in cities	0.50	0.43	-0.07	0.07	-0.43
Total MGD for whole county	**0.61**	**0.53**	**-0.08**	**0.08**	**-0.53**

□based on 3 uses

□□based on 20 uses

Water Consumption - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Gallons H20 1000 paper bags (1500 plastic)	58.00	1004.00	946.00	853.40	795.40
Gallons H2O per bag	0.04	1.00	0.97	0.85	0.81
Gallons H2O per day per store	193.33	3431.64	3238.31	2916.89	2723.56
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.20	3.51	3.32	2.99	2.79
MGD per day in cities	0.89	15.86	14.97	13.48	12.59
Total MGD for whole county	**1.09**	**19.38**	**18.28**	**16.47**	**15.38**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
Liters H20 per 9000 liters groceries	50.00	45.54	-4.46	6.83	-43.17
Liters H2O per 1 liter groceries	0.01	0.01	0.00	0.00	0.00
Liters H2O per bag	0.08	0.10	0.03	0.02	-0.06
Liters H2O per day per store	388.89	354.18	-34.70	53.13	-335.76
Gallons H2O per day per store	102.73	93.57	-9.17	14.03	-88.70
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.11	0.10	-0.01	0.01	-0.09
MGD per day in cities	0.47	0.43	-0.04	0.06	-0.41
Total MGD for whole county	**0.58**	**0.53**	**-0.05**	**0.08**	**-0.50**

□based on 3 uses

□□based on 20 uses

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
Liters H20 per 9000 liters groceries	50.00	130.70	80.70	111.10	61.10
Liters H2O per 1 liter groceries	0.01	0.01	0.01	0.01	0.01
Liters H2O per bag	0.08	0.30	0.22	0.25	0.18
Liters H2O per day per store	388.89	1016.56	627.67	864.07	475.18
Gallons H2O per day per store	102.73	268.55	165.81	228.26	125.53
MGD per day per store	0.00	0.00	0.00	0.00	0.00
MGD per day in unincorp territory	0.11	0.27	0.17	0.23	0.13
MGD per day in cities	0.47	1.24	0.77	1.06	0.58
Total MGD for whole county	**0.58**	**1.52**	**0.94**	**1.29**	**0.71**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
kg waste per 1000 paper bags (1500 plastic)	7.04	33.90	26.87	28.82	21.78
kg waste per bag	0.00	0.03	0.03	0.03	0.02
kg waste per day per store	23.45	115.87	92.42	98.49	75.04
tons waste per day per store	0.03	0.13	0.10	0.11	0.08
tons waste per day in unincorp territory	26.47	130.79	104.32	111.17	84.70
tons waste per day in cities	119.48	590.34	470.86	501.79	382.31
Total tons waste for whole county	**145.94**	**721.13**	**575.18**	**612.96**	**467.02**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
kg waste per 9000 liters groceries	4.76	4.37	-0.39	0.66	-4.10
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.01	0.00	0.00	-0.01
kg waste per day per store	37.02	33.99	-3.03	5.10	-31.92
tons waste per day per store	0.04	0.04	0.00	0.01	-0.04
tons waste per day in unincorp territory	41.79	38.37	-3.42	5.75	-36.03
tons waste per day in cities	188.62	173.17	-15.45	25.98	-162.65
Total tons waste for whole county	**230.41**	**211.53**	**-18.88**	**31.73**	**-198.68**

□based on 3 uses

□□based on 20 uses

Solid Waste - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
kg waste per 9000 liters groceries	4.76	12.14	7.38	10.32	5.56
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.03	0.02	0.02	0.02
kg waste per day per store	37.02	94.42	57.40	80.26	43.24
tons waste per day per store	0.04	0.10	0.06	0.09	0.05
tons waste per day in unincorp territory	41.79	106.58	64.79	90.59	48.80
tons waste per day in cities	188.62	481.07	292.45	408.91	220.29
Total tons waste for whole county	**230.41**	**587.65**	**357.24**	**499.50**	**269.09**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

2007 recycle rate - plastic bags and sacks	11.9□
2007 recycle rate - paper bags and sacks	36.8□

Solid Waste - Ecobilan Data	Adjusted for 2007 EPA Recycle Rates			Adjusted for 2007 EPA Recycle Rates		
	Plastic LCA	Paper LCA	Difference	Plastic LCA	Paper LCA	Difference
kg waste per 9000 liters groceries	4.19	7.67	3.48	4.19	6.52	2.33
kg waste per 1 liter groceries	0.00	0.00	0.00	0.00	0.00	0.00
kg waste per bag	0.01	0.02	0.01	0.01	0.01	0.01
kg waste per day per store	32.62	59.67	27.06	32.62	50.72	18.11
tons waste per day per store	0.04	0.07	0.03	0.04	0.06	0.02
tons waste per day in unincorp territory	36.82	67.36	30.54	36.82	57.26	20.44
tons waste per day in cities	166.18	304.04	137.86	166.18	258.43	92.25
Total tons waste for whole county	202.99	371.40	**168.40**	202.99	315.69	**112.69**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Paper LCA	Difference	Paper LCA	Difference
MJ per 9000 liters groceries	286.00	295.00	9.00	250.75	-35.25
MJ per 1 liter groceries	0.03	0.03	0.00	0.03	0.00
MJ per bag	0.44	0.67	0.23	0.57	0.13
MJ per day per store	2224.44	2294.44	70.00	1950.28	-274.17
kWh per day per store	617.90	637.35	19.44	541.74	-76.16
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.63	0.65	0.02	0.55	-0.08
Million kWh per day in cities	2.86	2.95	0.09	2.50	-0.35
Total million kWh for whole county	**3.49**	**3.60**	**0.11**	**3.06**	**-0.43**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
MJ per 9000 liters groceries	286.00	268.33	-17.67	40.25	-245.75
MJ per 1 liter groceries	0.03	0.03	0.00	0.00	-0.03
MJ per bag	0.44	0.61	0.17	0.09	-0.35
MJ per day per store	2224.44	2087.04	-137.41	313.06	-1911.39
kWh per day per store	617.90	579.73	-38.17	86.96	-530.94
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.63	0.59	-0.04	0.09	-0.54
Million kWh per day in cities	2.86	2.68	-0.18	0.40	-2.45
Total million kWh for whole county	**3.49**	**3.27**	**-0.22**	**0.49**	**-3.00**

□based on 3 uses

□□based on 20 uses

Energy Consumption - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
MJ per 1000 bags	763.00	2622.00	1859.00	2228.70	1465.70
MJ per bag	0.51	2.62	2.11	2.23	1.72
MJ per day per store	2543.33	8961.91	6418.58	7617.63	5074.29
Million kWh per day per store	0.00	0.00	0.00	0.00	0.00
Million kWh per day in unincorp territory	0.72	2.55	1.83	2.17	1.44
Million kWh per day in cities	3.27	11.51	8.24	9.78	6.51
Total Million kWh for whole county	**3.99**	**14.06**	**10.07**	**11.95**	**7.96**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Conversion Factors	
liters to gallons	0.26417205
kg to short tons	0.00110231
MJ to kWh	0.27777778

Stores in unincorp territory □10,000 sq ft	1091
Stores in cities □ 10,000 sq ft	5084

Eutrophication - Ecobilan Data					
	Plastic LCA	**Paper LCA□**	**Difference□**	**Paper LCA□□**	**Difference□□**
kg phosphate per day in unincorp territory	1.79	21.16	19.37	17.99	16.19
kg phosphate per day in cities	8.59	101.35	92.75	86.14	77.55
Total kg phosphate for whole county	10.39	122.51	112.12	104.13	93.74

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Eutrophication - Ecobilan Data					
	Plastic LCA	**Reusable LCA□**	**Difference□**	**Reusable LCA□□**	**Difference□□**
kg phosphate per day in unincorp territory	1.79	1.65	-0.15	0.25	-1.55
kg phosphate per day in cities	8.59	7.89	-0.70	1.18	-7.41
Total kg phosphate for whole county	**10.39**	**9.54**	**-0.85**	**1.43**	**-8.96**

□based on 3 uses

□□based on 20 uses

Water Consumption - Ecobilan Data					
	Plastic LCA	**Paper LCA□**	**Difference□**	**Paper LCA□□**	**Difference□□**
MGD per day in unincorp territory	0.13	0.41	0.29	0.35	0.22
MGD per day in cities	0.60	1.97	1.37	1.68	1.08
Total MGD for whole county	**0.72**	**2.38**	**1.66**	**2.03**	**1.30**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Water Consumption - Ecobilan Data					
	Plastic LCA	**Reusable LCA□**	**Difference□**	**Reusable LCA□□**	**Difference□□**
MGD per day in unincorp territory	0.13	0.11	-0.02	0.02	-0.11
MGD per day in cities	0.60	0.52	-0.08	0.08	-0.52
Total MGD for whole county	**0.72**	**0.63**	**-0.10**	**0.09**	**-0.63**

□based on 3 uses

□□based on 20 uses

Water Consumption - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
MGD per day in unincorp territory	0.22	3.97	3.75	3.38	3.15
MGD per day in cities	1.07	19.03	17.96	16.18	15.10
Total MGD for whole county	**1.30**	**23.01**	**21.71**	**19.55**	**18.26**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Reusable LCA□	Difference□	Reusable LCA□□	Difference□□
MGD per day in unincorp territory	0.12	0.11	-0.01	0.02	-0.10
MGD per day in cities	0.57	0.52	-0.05	0.08	-0.49
Total MGD for whole county	**0.69**	**0.63**	**-0.06**	**0.09**	**-0.59**

□based on 3 uses

□□based on 20 uses

Wastewater Generation - Ecobilan Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
MGD per day in unincorp territory	0.12	0.31	0.19	0.26	0.15
MGD per day in cities	0.57	1.49	0.92	1.27	0.70
Total MGD for whole county	**0.69**	**1.80**	**1.11**	**1.53**	**0.84**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Boustead Data					
	Plastic LCA	Paper LCA□	Difference□	Paper LCA□□	Difference□□
tons waste per day in unincorp territory	29.93	147.90	117.97	125.72	95.79
tons waste per day in cities	143.36	708.36	565.00	602.10	458.74
Total tons waste for whole county	**173.29**	**856.26**	**682.97**	**727.82**	**554.53**

□based on 100□ conversion from plastic to paper

□□based on 85□ conversion from plastic to paper

Solid Waste - Ecobilan Data					
	Plastic LCA	Reusable LCA	Difference	Reusable LCA	Difference
tons waste per day in unincorp territory	47.26	43.39	-3.87	6.51	-40.75
tons waste per day in cities	226.33	207.79	-18.54	31.17	-195.16
Total tons waste for whole county	**273.59**	**251.17**	**-22.42**	**37.68**	**-235.91**

based on 3 uses

based on 20 uses

Solid Waste - Ecobilan Data					
	Plastic LCA	Paper LCA	Difference	Paper LCA	Difference
tons waste per day in unincorp territory	47.26	120.53	73.27	102.45	55.19
tons waste per day in cities	226.33	577.24	350.91	490.66	264.32
Total tons waste for whole county	**273.59**	**697.77**	**424.18**	**593.10**	**319.51**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Solid Waste - Ecobilan Data	Adjusted for 2007 EPA Recycle Rates			Adjusted for 2007 EPA Recycle Rates		
	Plastic LCA	Paper LCA	Difference	Plastic LCA	Paper LCA	Difference
tons waste per day in unincorp territory	41.63	76.17	34.54	41.63	64.75	23.11
tons waste per day in cities	199.40	364.82	165.42	199.40	310.09	110.70
Total tons waste for whole county	241.03	440.99	**199.96**	241.03	374.84	**133.81**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Paper LCA	Difference	Paper LCA	Difference
Million kWh per day in unincorp territory	0.72	0.74	0.02	0.63	-0.09
Million kWh per day in cities	3.43	3.53	0.11	3.00	-0.42
Total million kWh for whole county	**4.14**	**4.27**	**0.13**	**3.63**	**-0.51**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Energy Consumption - Ecobilan Data					
	Plastic LCA	Reusable LCA	Difference	Reusable LCA	Difference
Million kWh per day in unincorp territory	0.72	0.67	-0.04	0.10	-0.61
Million kWh per day in cities	3.43	3.22	-0.21	0.48	-2.94
Total million kWh for whole county	**4.14**	**3.89**	**-0.26**	**0.58**	**-3.56**

based on 3 uses

based on 20 uses

Energy Consumption - Boustead Data					
	Plastic LCA	Paper LCA	Difference	Paper LCA	Difference
Million kWh per day in unincorp territory	0.82	2.88	2.06	2.45	1.63
Million kWh per day in cities	3.92	13.81	9.89	11.74	7.82
Total Million kWh for whole county	**4.74**	**16.69**	**11.95**	**14.19**	**9.45**

based on 100 conversion from plastic to paper

based on 85 conversion from plastic to paper

Stores in unincorp territory	67		
Stores in cities	462		
Plastic bag size (liters)	14		
Paper bag size (liters)	20.48	**Resuable Bag Si**	37
Number of plastic bags per store per day	10000	**Ratio of Reusable**	
Ratio of Paper Bags to Plastic Bags	1.5	**to Plastic Bags**	2.6
Population in the County in 2010	10,615,700		

Ecobilan Data - VOCs	**Plastic Bags**	**Paper Bags**	**Reusable Bag (1 Use)**
	g output	g output	g output
(a) Hydrocarbons (unspecified)	4.01E-01	6.16E□00	1.40E□00
(a) VOC (Volatil Organic Compounds)	5.38E-01	0.00E□00	0.00E□00
(a) VOC (Volatile Organic Compounds)	2.25E□01	2.65E-01	1.58E□01
(a) Acetaldehyde	-2.80E-04	1.08E-01	-1.61E-03
(a) Acetylene	2.30E-03	-1.15E-02	-2.26E-03
(a) Alcohol	7.02E-02	7.21E-01	0.00E□00
(a) Aldehyde	2.06E-03	4.61E-04	5.96E-03
(a) Alkane	1.35E-02	1.19E□00	-3.39E-02
(a) Aromatic Hydrocarbons	3.04E-01	7.55E-01	3.47E-01
(a) Benzaldehyde	5.65E-11	2.51E-09	-6.48E-11
(a) Benzene	5.06E-03	1.50E-02	-4.65E-03
(a) Butane	4.23E-03	2.03E-01	-2.13E-02
(a) Butene	4.23E-03	2.23E-03	1.72E-04
(a) Ethanol	-5.69E-04	3.11E-03	-3.21E-03
(a) Ethyl Benzene	1.70E-04	1.16E-02	1.96E-04
(a) Ethylene	7.89E-02	2.75E□00	-8.47E-02
(a) Formaldehyde	-2.63E-04	7.39E-03	-5.72E-03
(a) Heptane	1.59E-03	2.20E-02	1.72E-03
(a) Hexane	3.17E-03	4.32E-02	3.42E-03
(a) Hydrocarbons (except methane)	1.40E□01	1.58E□01	3.03E□01
(a) Methanol	-9.67E-04	5.28E-03	-5.45E-03
(a) Propane	-1.97E-03	2.29E-01	-7.41E-02
(a) Propionaldehyde	1.55E-10	6.92E-09	-1.78E-10
(a) Propylene	2.69E-03	-6.70E-03	-2.14E-03
(a) Tetrachloroethylene	2.40E-06	1.18E-02	6.61E-06
(a) Toluene	2.42E-03	9.00E-02	-7.63E-04
Total VOCs	**37.9294734**	**28.37487101**	**47.61867161**

Ecobilan Plastic Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions (grams) per 9,000 liters groceries	**37.9294734**	**27.1**	**48.2**	**23.4**	**19.2**
Emissions (grams) per 1 liter groceries	0.004214386	0.003011111	0.005355556	0.0026	0.002133333
Emissions per bag (grams)	0.06	0.04	0.07	0.04	0.03
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	1.30	0.93	1.65	0.80	0.66
Emissions in the unincorp territory (pounds)	**87**	**62**	**111**	**54**	**44**
Emissions in the cities (pounds)	**601**	**429**	**764**	**371**	**304**

Ecobilan Paper Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**28.37487101**	**72.6**	**9.34**	**26.1**	**4.72**
Emissions (grams) per 1 liter groceries	0.003152763	0.008066667	0.001037778	0.0029	0.000524444
Emissions per bag (grams)	0.06	0.17	0.02	0.06	0.01
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.97	2.49	0.32	0.90	0.16
Emissions in the unincorp territory (pounds)	**65**	**167**	**21**	**60**	**11**
Emissions in the cities (pounds)	**450**	**1,150**	**148**	**414**	**75**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	**-32**	**80**	**-93**	**-3**	**-35**
Cities	**-219**	**548**	**-638**	**-19**	**-241**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	**-22**	**105**	**-89**	**6**	**-33**
Cities	**-151**	**721**	**-616**	**43**	**-229**

Ecobilan Plastic Bag LCA - Just end-of-life - All bags disposed		Adjusted for 2007 Recycle Rates
Emissions Sources	**NOx**	**NOx**
Emissions (grams) per 9,000 liters groceries	**0.97**	
Emissions (grams) per 1 liter groceries	0.000107778	
Emissions per bag (grams)	0.00	
Emissions per bag (pounds)	0.00	
Emissions per store (pounds)	0.03	0.03
Emissions in the unincorp territory (pounds)	**2**	**2**
Emissions in the cities (pounds)	**15**	**14**

Ecobilan Paper Bag LCA - Just end-of-life - All bags disposed		Adjusted for 2007 Recycle Rates
Emissions Sources	**NOx**	**NOx**
Emissions per 9,000 liters of groceries (in grams)	**5.74**	
Emissions (grams) per 1 liter groceries	0.000637778	
Emissions per bag (grams)	0.01	
Emissions per bag (pounds)	0.00	
Emissions per store (pounds)	0.20	0.12
Emissions in the unincorp territory (pounds)	**13**	**8**
Emissions in the cities (pounds)	**91**	**57**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			Adjusted for 2007 Recycle Rates
Unincorporated territory	**9**		**5**
Cities	**62**		**35**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			Adjusted for 2007 Recycle Rates
Unincorporated territory	**11**		**6**
Cities	**76**		**44**

Ecobilan Reusable Bag LCA -- 4 Uses					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**11.9046679**	**19.125**	**7**	**17.475**	**13.35**
Emissions (grams) per 1 liter groceries	0.001322741	0.002125	0.000777778	0.001941667	0.001483333
Emissions per bag (grams)	0.05	0.08	0.03	0.07	0.05
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.41	0.66	0.24	0.60	0.46
Emissions in the unincorp territory (pounds)	**27**	**44**	**16**	**40**	**31**
Emissions in the cities (pounds)	**189**	**303**	**111**	**277**	**212**

Boustead Plastic Bag LCA					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions (miligrams) per 1,000 bags	**994**	**45,400**	**67,400**	**50,500**	**14,300**
Emissions (grams) per 1,000 bags	0.994	45.4	67.4	50.5	14.3
Emissions per bag (grams)	0.00	0.05	0.07	0.05	0.01
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.02	1.00	1.49	1.11	0.32
Emissions in the unincorp territory (pounds)	**1**	**67**	**100**	**75**	**21**
Emissions in the cities (pounds)	**10**	**462**	**686**	**514**	**146**

Boustead Paper Bag LCA					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**2**	**264,000**	**121,000**	**579,000**	**128,000**
Emissions (grams) per 1,000 bags	0.002	264	121	579	128
Emissions per bag (grams)	0.00	0.26	0.12	0.58	0.13
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.00	3.98	1.82	8.73	1.93
Emissions in the unincorp territory (pounds)	**0**	**267**	**122**	**585**	**129**
Emissions in the cities (pounds)	**0**	**1,838**	**842**	**4,031**	**891**

Boustead Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	**-1**	**160**	**4**	**422**	**89**
Cities	**-10**	**1,100**	**30**	**2,912**	**612**

Boustead Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	-1	200	23	510	108
Cities	-10	1,376	156	3,517	746

Ecobilan Data - Greenhouse Gas Emissions		Reusable Bag (1 Use)	
	GWP (IPCC)	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	2.65E□04	2.65E□04
(a) Methane	23	8.76E□01	2.01E□03
(a) Nitrous Oxide	296	7.10E-02	2.10E□01
(a) Carbon Tetrafluoride	5700	-5.21E-08	-2.97E-04
(a) Halon 1301	6900	1.95E-05	1.35E-01
Total			**2.85E□04**

□GWP □ Global Warming Potential

Ecobilan Data - Greenhouse Gas Emissions		Plastic Bags		Paper Bags	
	GWP (IPCC)	g output	g CO2e	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	1.01E□04	1.01E□04	1.67E□04	1.67E□04
(a) Methane	23	3.37E□01	7.75E□02	1.58E□02	3.63E□03
(a) Nitrous Oxide	296	6.63E-02	1.96E□01	6.46E-01	1.91E□02
(a) Carbon Tetrafluoride	5700	4.54E-08	2.59E-04	2.02E-06	1.15E-02
(a) Halon 1301	6900	1.83E-05	1.26E-01	2.71E-04	1.87E□00
Total			**1.09E□04**		**2.05E□04**

□GWP □ Global Warming Potential

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	20527.0974	9632.2461	3515769.821	0.331
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0205	0.0096	3.516	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.011	0.000
Emissions (metric tons) per store	0.1695	0.3193	0.1498	54.690	0.000
Emissions in the unincorp territory (metric tons)	11.35	21.39	10.04	3,664	0.000
Emissions in the cities (metric tons)	78.30	147.52	69.22	25,267	0.002
Total Emissions in the County	**89.65**	**168.92**	**79.26**	**28,931**	**0.003**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 85 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	17448.0328	6553.1815	2391911.236	0.225
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0174	0.0066	2.392	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.008	0.000
Emissions (metric tons) per store	0.1695	0.2714	0.1019	37.208	0.000
Emissions in the unincorp territory (metric tons)	11.35	18.18	6.83	2,493	0.000
Emissions in the cities (metric tons)	78.30	125.39	47.10	17,190	0.002
Total Emissions in the County	**89.65**	**143.58**	**53.93**	**19,683**	**0.002**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Reusable Bags Used Three Times	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Reusable	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	9511.9834	-1382.8679	-504746.788	-0.048
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0095	-0.0014	-0.505	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.008	0.000
Emissions (metric tons) per store	0.1695	0.1480	-0.0215	-7.852	0.000
Emissions in the unincorp territory (metric tons)	11.35	9.91	-1.44	-526	0.000
Emissions in the cities (metric tons)	78.30	68.36	-9.94	-3,627	0.000
Total Emissions in the County	**89.65**	**78.27**	**-11.38**	**-4,154**	**0.000**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0400	0.0800	0.0400	14.600	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.0001	0.019	0.000
Emissions (metric tons) per store	0.2667	0.5469	0.2802	102.276	0.000
Emissions in the unincorp territory (metric tons)	17.87	36.64	18.77	6,852	0.001
Emissions in the cities (metric tons)	123.20	252.66	129.46	47,252	0.004
Total Emissions in the County	**141.07**	**289.30**	**148.23**	**54,104**	**0.005**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0400	0.0800	0.03	10.220	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.00	0.015	0.000
Emissions (metric tons) per store	0.2667	0.5469	0.20	72.335	0.000
Emissions in the unincorp territory (metric tons)	17.87	36.64	13.28	4,846	0.000
Emissions in the cities (metric tons)	123.20	252.66	91.56	33,419	0.003
Total Emissions in the County	**141.07**	**289.30**	**104.84**	**38,265**	**0.004**

ExcelPlas GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper	per year	per year per capita
kilograms for 520 bags	6.0800	30.5000	19.85	7243.425	0.001
Emissions (metric tons) per bag	0.0000	0.0001	0.0000	0.014	0.000
Emissions (metric tons) per store	0.1169	0.5865	0.3816	139.297	0.000
Emissions in the unincorp territory (metric tons)	7.83	39.30	25.57	9,333	0.001
Emissions in the cities (metric tons)	54.02	270.98	176.32	64,355	0.006
Total Emissions in the County	**61.85**	**310.28**	**201.88**	**73,688**	**0.007**

ExcelPlas GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 100 Percent Conversion from Plastic to Paper	per year	per year per capita
kilograms for 520 bags	6.0800	30.5000	24.4200	8913.300	0.001
Emissions (metric tons) per bag	0.0000	0.0001	0.0000	0.017	0.000
Emissions (metric tons) per store	0.1169	0.5865	0.4696	171.410	0.000
Emissions in the unincorp territory (metric tons)	7.83	39.30	31.46	11,484	0.001
Emissions in the cities (metric tons)	54.02	270.98	216.96	79,191	0.007
Total Emissions in the County	**61.85**	**310.28**	**248.43**	**90,676**	**0.009**

Greenhouse Gas Emissions due to Mobile Sources			
	CO_2 Emissions (Pounds/Day)*	CO_2 Emissions (Metric Tons/Year)	CO_2 Emissions per Capita (metric tons/Year)
4 Delivery Truck Trips in the Unincorporated Territory of Los Angeles	65.51	10.85	0.000001
26 Delivery Truck Trips in the Incorporated Cities of Los Angeles	425.84	70.50	0.000007
Total Emissions	**491.35**	**81.35**	**0.000008**

*Numbers from URBEMIS 2007

Conversion Factors	
grams to pounds	0.002204623
pounds to metric tons	0.000453592

2007 recycle rate - plastic bags and sacks	11.9%
2007 recycle rate - paper bags and sacks	36.8%

Ecobilan Data - Greenhouse Gas Emissions		Plastic Bags		Paper Bags	
Just End of Life	GWP (IPCC)	g output	g CO2e	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	8.70E□01	8.70E□01	5.15E□02	5.15E□02
(a) Methane	23	2.60E-01	5.98E□00	4.96E□02	1.14E□04
(a) Nitrous Oxide	296	1.00E-02	2.96E□00	7.00E-02	2.07E□01
(a) Carbon Tetrafluoride	5700	0.00E□00	0.00E□00	0.00E□00	0.00E□00
(a) Halon 1301	6900	0.00E□00	0.00E□00	0.00E□00	0.00E□00
Total			**9.59E□01**		**1.19E□04**

□GWP □ Global Warming Potential

Ecobilan Plastic Bag LCA - Just end-of-life		Adjusted for 2007 Recycle Rates		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions (grams) per 9,000 liters groceries	**9.59E+01**			
Emissions (grams) per 1 liter groceries	0.01066			
Emissions per bag (grams)	0.15			
Emissions per bag (metric tons)	0.00			
Emissions per store (metric tons)	0.00	0.00		
Emissions in the unincorp territory (metric tons)	**0**	**0**	32	0.0000
Emissions in the cities (metric tons)	**1**	**1**	222	0.0000

Ecobilan Paper Bag LCA - Just end-of-life		Adjusted for 2007 Recycle Rates		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions per 9,000 liters of groceries (in grams)	**1.19E+04**			
Emissions (grams) per 1 liter groceries	1.327591111			
Emissions per bag (grams)	27.19			
Emissions per bag (metric tons)	0.00			
Emissions per store (metric tons)	0.19	0.12		
Emissions in the unincorp territory (metric tons)	**12**	**8**	2873	0.0003
Emissions in the cities (metric tons)	**86**	**54**	19808	0.0019

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			Adjusted for 2007 Recycle Rates	
Unincorporated territory			**2,410**	**0.00023**
Cities			**16,615**	**0.00157**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			Adjusted for 2007 Recycle Rates	
Unincorporated territory			**2,840**	**0.00027**

Cities			**19,586**	**0.00185**

Boustead GHG emissions - Just end of life	**CO_{2e} Emissions from Plastic Bags**	**CO_{2e} Emissions from Paper Bags**	**CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper**	**per year**	**per year per capita**
metric tons for 1,000 paper or 1,500 plastic bags	0.0030	0.0500	0.0470	17.155	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.0000	0.018	0.000
Emissions (metric tons) per store	0.0200	0.3418	0.3218	117.456	0.000
Emissions in the unincorp territory (metric tons)	1.34	22.90	21.56	7,870	0.00074
Emissions in the cities (metric tons)	9.24	157.91	148.67	54,265	0.00511
Total Emissions in the County	**10.58**	**180.81**	**170.23**	**62,134**	**0.00585**

Boustead GHG emissions - Just end of life	**CO_{2e} Emissions from Plastic Bags**	**CO_{2e} Emissions from Paper Bags**	**CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper**	**per year**	**per year per capita**
metric tons for 1,000 paper or 1,500 plastic bags	0.0030	0.0500	0.04	14.418	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.00	0.015	0.000
Emissions (metric tons) per store	0.0200	0.3418	0.27	98.742	0.000
Emissions in the unincorp territory (metric tons)	1.34	22.90	18.13	6,616	0.00062
Emissions in the cities (metric tons)	9.24	157.91	124.98	45,619	0.00430
Total Emissions in the County	**10.58**	**180.81**	**143.11**	**52,235**	**0.00492**

Emission Sources	**Air Pollutants (Pounds/Day)**					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
4 delivery truck trips in the unincorporated territory of the County	0.04	0.08	0.5	0	0.02	0.09
26 delivery truck trips in the incorporated cities of the County	0.22	0.51	3.25	0	0.12	0.61
Total Emissions	**< 1**	**1**	**4**	**0**	**< 1**	**1**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**55**	**150**
AVAQMD Threshold	**137**	**137**	**548**	**137**	**-**	**82**

Exceedance of Significance?	No	No	No	No	No	No

Stores in unincorp territory	1024		
Stores in cities	4622		
Plastic bag size (liters)	14		
Paper bag size (liters)	20.48	**Resuable Bag Siz**	37
Number of plastic bags per store per day	5000	**Ratio of Reusable**	
Ratio of Paper Bags to Plastic Bags	1.5	**to Plastic Bags**	2.6
Population in the County in 2010	10,615,700		

Ecobilan Data - VOCs	**Plastic Bags**	**Paper Bags**	**Reusable Bag (1 Use)**
	g output	g output	g output
(a) Hydrocarbons (unspecified)	4.01E-01	6.16E□00	1.40E□00
(a) VOC (Volatil Organic Compounds)	5.38E-01	0.00E□00	0.00E□00
(a) VOC (Volatile Organic Compounds)	2.25E□01	2.65E-01	1.58E□01
(a) Acetaldehyde	-2.80E-04	1.08E-01	-1.61E-03
(a) Acetylene	2.30E-03	-1.15E-02	-2.26E-03
(a) Alcohol	7.02E-02	7.21E-01	0.00E□00
(a) Aldehyde	2.06E-03	4.61E-04	5.96E-03
(a) Alkane	1.35E-02	1.19E□00	-3.39E-02
(a) Aromatic Hydrocarbons	3.04E-01	7.55E-01	3.47E-01
(a) Benzaldehyde	5.65E-11	2.51E-09	-6.48E-11
(a) Benzene	5.06E-03	1.50E-02	-4.65E-03
(a) Butane	4.23E-03	2.03E-01	-2.13E-02
(a) Butene	4.23E-03	2.23E-03	1.72E-04
(a) Ethanol	-5.69E-04	3.11E-03	-3.21E-03
(a) Ethyl Benzene	1.70E-04	1.16E-02	1.96E-04
(a) Ethylene	7.89E-02	2.75E□00	-8.47E-02
(a) Formaldehyde	-2.63E-04	7.39E-03	-5.72E-03
(a) Heptane	1.59E-03	2.20E-02	1.72E-03
(a) Hexane	3.17E-03	4.32E-02	3.42E-03
(a) Hydrocarbons (except methane)	1.40E□01	1.58E□01	3.03E□01
(a) Methanol	-9.67E-04	5.28E-03	-5.45E-03
(a) Propane	-1.97E-03	2.29E-01	-7.41E-02
(a) Propionaldehyde	1.55E-10	6.92E-09	-1.78E-10
(a) Propylene	2.69E-03	-6.70E-03	-2.14E-03
(a) Tetrachloroethylene	2.40E-06	1.18E-02	6.61E-06
(a) Toluene	2.42E-03	9.00E-02	-7.63E-04
Total VOCs	**37.9294734**	**28.37487101**	**47.61867161**

Ecobilan Plastic Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions (grams) per 9,000 liters groceries	**37.9294734**	**27.1**	**48.2**	**23.4**	**19.2**
Emissions (grams) per 1 liter groceries	0.004214386	0.003011111	0.005355556	0.0026	0.00213333
Emissions per bag (grams)	0.06	0.04	0.07	0.04	0.03
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.65	0.46	0.83	0.40	0.33
Emissions in the unincorp territory (pounds)	**666**	**476**	**846**	**411**	**337**
Emissions in the cities (pounds)	**3,006**	**2,148**	**3,820**	**1,855**	**1,522**

Ecobilan Paper Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**28.37487101**	**72.6**	**9.34**	**26.1**	**4.72**
Emissions (grams) per 1 liter groceries	0.003152763	0.008066667	0.001037778	0.0029	0.00052444
Emissions per bag (grams)	0.06	0.17	0.02	0.06	0.01
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.49	1.24	0.16	0.45	0.08
Emissions in the unincorp territory (pounds)	**498**	**1,275**	**164**	**458**	**83**
Emissions in the cities (pounds)	**2,249**	**5,754**	**740**	**2,069**	**374**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	**-242**	**608**	**-707**	**-21**	**-267**
Cities	**-1,095**	**2,743**	**-3,191**	**-96**	**-1,204**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	**-168**	**799**	**-682**	**47**	**-254**
Cities	**-757**	**3,606**	**-3,080**	**214**	**-1,148**

Ecobilan Plastic Bag LCA - Just end-of-life - All bags disposed		Adjusted for 2007 Recycle Rates
Emissions Sources	**NOx**	**NOx**
Emissions (grams) per 9,000 liters groceries	**0.97**	
Emissions (grams) per 1 liter groceries	0.000107778	
Emissions per bag (grams)	0.00	
Emissions per bag (pounds)	0.00	
Emissions per store (pounds)	0.02	0.01
Emissions in the unincorp territory (pounds)	**17**	**15**
Emissions in the cities (pounds)	**77**	**68**

Ecobilan Paper Bag LCA - Just end-of-life - All bags disposed		Adjusted for 2007 Recycle Rates
Emissions Sources	**NOx**	**NOx**
Emissions per 9,000 liters of groceries (in grams)	**5.74**	
Emissions (grams) per 1 liter groceries	0.000637778	
Emissions per bag (grams)	0.01	
Emissions per bag (pounds)	0.00	
Emissions per store (pounds)	0.10	0.06
Emissions in the unincorp territory (pounds)	**101**	**64**
Emissions in the cities (pounds)	**455**	**288**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			Adjusted for 2007 Recycle Rates
Unincorporated territory	**69**		**39**
Cities	**310**		**177**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			Adjusted for 2007 Recycle Rates
Unincorporated territory	**84**		**49**
Cities	**378**		**220**

Ecobilan Reusable Bag LCA -- 4 Uses					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**11.9046679**	**19.125**	**7**	**17.475**	**13.35**
Emissions (grams) per 1 liter groceries	0.001322741	0.002125	0.000777778	0.001941667	0.00148333
Emissions per bag (grams)	0.05	0.08	0.03	0.07	0.05
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.20	0.33	0.12	0.30	0.23
Emissions in the unincorp territory (pounds)	**209**	**336**	**123**	**307**	**234**
Emissions in the cities (pounds)	**943**	**1,516**	**555**	**1,385**	**1,058**

Boustead Plastic Bag LCA					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions (miligrams) per 1,000 bags	**994**	**45,400**	**67,400**	**50,500**	**14,300**
Emissions (grams) per 1,000 bags	0.994	45.4	67.4	50.5	14.3
Emissions per bag (grams)	0.00	0.05	0.07	0.05	0.01
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.01	0.50	0.74	0.56	0.16
Emissions in the unincorp territory (pounds)	**11**	**512**	**761**	**570**	**161**
Emissions in the cities (pounds)	**51**	**2,313**	**3,434**	**2,573**	**729**

Boustead Paper Bag LCA					
Emissions Sources	**VOCs[1]**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions per 9,000 liters of groceries (in grams)	**2**	**264,000**	**121,000**	**579,000**	**128,000**
Emissions (grams) per 1,000 bags	0.002	264	121	579	128
Emissions per bag (grams)	0.00	0.26	0.12	0.58	0.13
Emissions per bag (pounds)	0.00	0.00	0.00	0.00	0.00
Emissions per store (pounds)	0.00	1.99	0.91	4.36	0.96
Emissions in the unincorp territory (pounds)	**0**	**2,037**	**934**	**4,468**	**988**
Emissions in the cities (pounds)	**0**	**9,195**	**4,214**	**20,166**	**4,458**

Boustead Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	**-11**	**1,219**	**33**	**3,227**	**678**
Cities	**-51**	**5,502**	**148**	**14,568**	**3,061**

Boustead Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	-11	1,525	173	3,898	826
Cities	-51	6,882	780	17,593	3,729

Ecobilan Data - Greenhouse Gas Emissions		Reusable Bag (1 Use)	
	GWP (IPCC)	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	2.65E□04	2.65E□04
(a) Methane	23	8.76E□01	2.01E□03
(a) Nitrous Oxide	296	7.10E-02	2.10E□01
(a) Carbon Tetrafluoride	5700	-5.21E-08	-2.97E-04
(a) Halon 1301	6900	1.95E-05	1.35E-01
Total			**2.85E□04**

□GWP □ Global Warming Potential

Ecobilan Data - Greenhouse Gas Emissions		Plastic Bags		Paper Bags	
	GWP (IPCC)	g output	g CO2e	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	1.01E□04	1.01E□04	1.67E□04	1.67E□04
(a) Methane	23	3.37E□01	7.75E□02	1.58E□02	3.63E□03
(a) Nitrous Oxide	296	6.63E-02	1.96E□01	6.46E-01	1.91E□02
(a) Carbon Tetrafluoride	5700	4.54E-08	2.59E-04	2.02E-06	1.15E-02
(a) Halon 1301	6900	1.83E-05	1.26E-01	2.71E-04	1.87E□00
Total			**1.09E□04**		**2.05E□04**

□GWP □ Global Warming Potential

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	20527.0974	9632.2461	3515769.821	0.331
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0205	0.0096	3.516	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.011	0.000
Emissions (metric tons) per store	0.0847	0.1597	0.0749	27.345	0.000
Emissions in the unincorp territory (metric tons)	86.77	163.49	76.72	28,001	0.003

Emissions in the cities (metric tons)	391.66	737.93	346.27	126,388	0.012
Total Emissions in the County	**478.43**	**901.41**	**422.98**	**154,389**	**0.015**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 85 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	17448.0328	6553.1815	2391911.236	0.225
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0174	0.0066	2.392	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.008	0.000
Emissions (metric tons) per store	0.0847	0.1357	0.0510	18.604	0.000
Emissions in the unincorp territory (metric tons)	86.77	138.96	52.19	19,050	0.002
Emissions in the cities (metric tons)	391.66	627.24	235.58	85,987	0.008
Total Emissions in the County	**478.43**	**766.20**	**287.77**	**105,037**	**0.010**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Reusable Bags Used Three Times	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Reusable	per year	per year per capita
Emissions (grams) per 9,000 liters groceries	10894.8513	9511.9834	-1382.8679	-504746.788	-0.048
Emissions (metric tons) per 9,000 liter groceries	0.0109	0.0095	-0.0014	-0.505	0.000
Emissions (metric tons) per 1 liter groceries	0.0000	0.0000	0.0000	0.000	0.000
Emissions (metric tons) per bag	0.0000	0.0000	0.0000	0.008	0.000
Emissions (metric tons) per store	0.0847	0.0740	-0.0108	-3.926	0.000
Emissions in the unincorp territory (metric tons)	86.77	75.76	-11.01	-4,020	0.000
Emissions in the cities (metric tons)	391.66	341.95	-49.71	-18,145	-0.002
Total Emissions in the County	**478.43**	**417.70**	**-60.73**	**-22,165**	**-0.002**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0400	0.0800	0.0400	14.600	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.0001	0.019	0.000
Emissions (metric tons) per store	0.1333	0.2734	0.1401	51.138	0.000
Emissions in the unincorp territory (metric tons)	136.53	280.00	143.47	52,365	0.00493
Emissions in the cities (metric tons)	616.27	1263.83	647.56	236,360	0.02227
Total Emissions in the County	**752.80**	**1543.83**	**791.03**	**288,725**	**0.02720**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0400	0.0800	0.03	10.220	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.00	0.015	0.000
Emissions (metric tons) per store	0.1333	0.2734	0.10	36.167	0.000
Emissions in the unincorp territory (metric tons)	136.53	280.00	101.47	37,035	0.00349
Emissions in the cities (metric tons)	616.27	1263.83	457.99	167,165	0.01575
Total Emissions in the County	**752.80**	**1543.83**	**559.45**	**204,201**	**0.01924**

ExcelPlas GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 100 Percent Conversion from Plastic to Paper	per year	per year per capita
kilograms for 520 bags	6.0800	30.5000	24.4200	8913.300	0.001
Emissions (metric tons) per bag	0.0000	0.0001	0.0000	0.017	0.000
Emissions (metric tons) per store	0.0585	0.2933	0.2348	85.705	0.000
Emissions in the unincorp territory (metric tons)	59.86	300.31	240.44	87,762	0.00827
Emissions in the cities (metric tons)	270.21	1355.49	1085.28	396,128	0.03732
Total Emissions in the County	**330.07**	**1655.80**	**1325.72**	**483,889**	**0.04558**

Greenhouse Gas Emissions due to Mobile Sources			
	CO_2 Emissions (Pounds/Day)*	CO_2 Emissions (Metric Tons/Year)	CO_2 Emissions per Capita (metric tons/Year)
29 Delivery Truck Trips in the Unincorporated Territory of Los Angeles	474.98	78.64	0.000007
131 Delivery Truck Trips in the Incorporated Cities of Los Angeles	2,145.60	355.23	0.000033
Total Emissions	**2,620.58**	**433.87**	**0.000041**

*Numbers from URBEMIS 2007

Conversion Factors	
grams to pounds	0.002204623
pounds to metric tons	0.000453592

2007 recycle rate - plastic bags and sacks	11.9□
2007 recycle rate - paper bags and sacks	36.8□

Ecobilan Data - Greenhouse Gas Emissions		Plastic Bags		Paper Bags	
Just End of Life	GWP (IPCC)	g output	g CO2e	g output	g CO2e
(a) Carbon Dioxide (CO2, fossil)	1	8.70E□01	8.70E□01	5.15E□02	5.15E□02
(a) Methane	23	2.60E-01	5.98E□00	4.96E□02	1.14E□04

(a) Nitrous Oxide	296	1.00E-02	2.96E□00	7.00E-02	2.07E□01
(a) Carbon Tetrafluoride	5700	0.00E□00	0.00E□00	0.00E□00	0.00E□00
(a) Halon 1301	6900	0.00E□00	0.00E□00	0.00E□00	0.00E□00
Total			**9.59E□01**		**1.19E□04**

□GWP □ Global Warming Potential

Ecobilan Plastic Bag LCA - Just end-of-life		**Adjusted for 2007 Recycle Rates**		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions (grams) per 9,000 liters groceries	**9.59E+01**			
Emissions (grams) per 1 liter groceries	0.01066			
Emissions per bag (grams)	0.15			
Emissions per bag (metric tons)	0.00			
Emissions per store (metric tons)	0.00	0.00		
Emissions in the unincorp territory (metric tons)	**1**	**1**	**246**	**0.0000**
Emissions in the cities (metric tons)	**3**	**3**	**1109**	**0.0001**

Ecobilan Paper Bag LCA - Just end-of-life		**Adjusted for 2007 Recycle Rates**		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions per 9,000 liters of groceries (in grams)	**1.19E+04**			
Emissions (grams) per 1 liter groceries	1.327591111			
Emissions per bag (grams)	27.19			
Emissions per bag (metric tons)	0.00			
Emissions per store (metric tons)	0.09	0.06		
Emissions in the unincorp territory (metric tons)	**95**	**60**	**21952**	**0.0021**
Emissions in the cities (metric tons)	**430**	**271**	**99084**	**0.0093**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			**Adjusted for 2007 Recycle Rates**	
Unincorporated territory			**18,413**	**0.00173**
Cities			**83,112**	**0.00783**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			**Adjusted for 2007 Recycle Rates**	
Unincorporated territory			**21,706**	**0.00204**
Cities			**97,975**	**0.00923**

Boustead GHG emissions - Just end of life	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0030	0.0500	0.0470	17.155	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.0000	0.018	0.000
Emissions (metric tons) per store	0.0100	0.1709	0.1609	58.728	0.000
Emissions in the unincorp territory (metric tons)	10.24	175.00	164.76	60,137	0.00566
Emissions in the cities (metric tons)	46.22	789.89	743.67	271,440	0.02557
Total Emissions in the County	**56.46**	**964.89**	**908.43**	**331,578**	**0.03123**

Boustead GHG emissions - Just end of life	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper	per year	per year per capita
metric tons for 1,000 paper or 1,500 plastic bags	0.0030	0.0500	0.04	14.418	0.000
Emissions (metric tons) per bag	0.0000	0.0001	0.00	0.015	0.000
Emissions (metric tons) per store	0.0100	0.1709	0.14	49.371	0.000
Emissions in the unincorp territory (metric tons)	10.24	175.00	138.51	50,556	0.00476
Emissions in the cities (metric tons)	46.22	789.89	625.19	228,194	0.02150
Total Emissions in the County	**56.46**	**964.89**	**763.70**	**278,750**	**0.02626**

Emission Sources	Air Pollutants (Pounds/Day)					
	VOCs	NO_x	CO	SO_x	$PM_{2.5}$	PM_{10}
29 delivery truck trips in the unincorporated territory of the County	0.24	0.57	3.63	0	0.14	0.68
131 delivery truck trips in the incorporated cities of the County	1.08	2.59	16.4	0.02	0.62	3.05
Total Emissions	**1**	**3**	**20**	**<1**	**1**	**4**

SCAQMD Threshold	**55**	**55**	**550**	**150**	**55**	**150**
AVAQMD Threshold	**137**	**137**	**548**	**137**	**-**	**82**
Exceedance of Significance?	**No**	**No**	**No**	**No**	**No**	**No**

Stores in unincorp territory □ 10,000 sq ft	1091
Stores in cities □ 10,000 sq ft	5084

Ecobilan Plastic Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions in the unincorp territory (pounds)	**753**	**538**	**957**	**465**	**381**
Emissions in the cities (pounds)	**3,607**	**2,577**	**4,584**	**2,225**	**1,826**

Ecobilan Paper Bag LCA					
Emissions Sources	**VOCs**	**NOx**	**CO**	**SOx**	**Particulates**
Emissions in the unincorp territory (pounds)	**563**	**1,442**	**185**	**518**	**94**
Emissions in the cities (pounds)	**2,698**	**6,904**	**888**	**2,482**	**449**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	**-274**	**687**	**-799**	**-24**	**-302**
Cities	**-1,313**	**3,291**	**-3,829**	**-116**	**-1,444**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	**-190**	**903**	**-772**	**54**	**-288**
Cities	**-909**	**4,327**	**-3,695**	**257**	**-1,377**

Ecobilan Plastic Bag LCA - Just end-of-life		**Adjusted for 2007 Recycle Rates**
Emissions Sources	**NOx**	**NOx**
Emissions in the unincorp territory (pounds)	**19**	**17**
Emissions in the cities (pounds)	**92**	**81**

Ecobilan Paper Bag LCA - Just end-of-life		**Adjusted for 2007 Recycle Rates**
Emissions Sources	**NOx**	**NOx**
Emissions in the unincorp territory (pounds)	**114**	**72**
Emissions in the cities (pounds)	**546**	**345**

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			**Adjusted for 2007 Recycle Rates**
Unincorporated territory	**78**		**44**
Cities	**372**		**212**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			Adjusted for 2007 Recycle Rates
Unincorporated territory	95		55
Cities	454		264

Ecobilan Reusable Bag LCA -- 4 Uses					
Emissions Sources	VOCs[1]	NOx	CO	SOx	Particulates
Emissions in the unincorp territory (pounds)	-517	-158	-818	-118	-116
Emissions in the cities (pounds)	-2,475	-758	-3,918	-563	-556

Boustead Plastic Bag LCA					
Emissions Sources	VOCs[1]	NOx	CO	SOx	Particulates
Emissions in the unincorp territory (pounds)	13	580	860	645	183
Emissions in the cities (pounds)	61	2,775	4,120	3,087	874

Boustead Paper Bag LCA					
Emissions Sources	VOCs[1]	NOx	CO	SOx	Particulates
Emissions in the unincorp territory (pounds)	0	2,304	1,056	5,052	1,117
Emissions in the cities (pounds)	0	11,033	5,057	24,197	5,349

Boustead Emission differences caused by an 85% conversion from plastic to paper					
Unincorporated territory	-13	1,379	37	3,650	767
Cities	-61	6,602	178	17,480	3,673

Boustead Emission differences caused by a 100% conversion from plastic to paper					
Unincorporated territory	-13	1,724	195	4,408	934
Cities	-61	8,257	936	21,110	4,475

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions in the unincorp territory (metric tons)	98.13	184.88	86.75	31,665	0.003
Emissions in the cities (metric tons)	469.96	885.45	415.49	151,655	0.014
Total Emissions in the County	**568.08**	**1070.33**	**502.25**	**183,320**	**0.017**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 85 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions in the unincorp territory (metric tons)	98.13	157.15	59.02	21,543	0.002
Emissions in the cities (metric tons)	469.96	752.63	282.68	103,176	0.010
Total Emissions in the County	**568.08**	**909.78**	**341.70**	**124,720**	**0.012**

Ecobilan GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Reusable Bags Used Three Times	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Reusable	per year	per year per capita
Emissions in the unincorp territory (metric tons)	98.13	85.67	-12.46	-4,546	0.000
Emissions in the cities (metric tons)	469.96	410.30	-59.65	-21,773	-0.002
Total Emissions in the County	**568.08**	**495.98**	**-72.11**	**-26,319**	**-0.002**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions in the unincorp territory (metric tons)	154.40	316.64	162.24	59,218	0.00558
Emissions in the cities (metric tons)	739.47	1516.48	777.02	283,611	0.02672
Total Emissions in the County	**893.87**	**1833.13**	**939.26**	**342,829**	**0.03229**

Boustead GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions in the unincorp territory (metric tons)	154.40	316.64	114.74	41,882	0.00395
Emissions in the cities (metric tons)	739.47	1516.48	549.55	200,584	0.01890

Total Emissions in the County	**893.87**	**1833.13**	**664.29**	**242,466**	**0.02284**

ExcelPlas GHG emissions	CO_{2e} Emissions from Plastic Bags	CO_{2e} Emissions from Paper Bags	CO_{2e} Emission Increase with 100 Percent Conversion from Plastic to Paper	per year	per year per capita
Emissions in the unincorp territory (metric tons)	67.70	339.61	271.91	99,246	0.00935
Emissions in the cities (metric tons)	324.23	1626.47	1302.24	475,319	0.04478
Total Emissions in the County	**391.93**	**1966.08**	**1574.15**	**574,565**	**0.05412**

Greenhouse Gas Emissions due to Mobile Sources			
	CO_2 Emissions (Pounds/Day)*	CO_2 Emissions (Metric Tons/Year)	CO_2 Emissions per Capita (metric tons/Year)
33 Delivery Truck Trips in the Unincorporated Territory of Los Angeles	540.49	89.48	0.000008
157 Delivery Truck Trips in the Incorporated Cities of Los Angeles	2571.44	425.73	0.000040
Total Emissions	**3,111.93**	**515.21**	**0.000049**

*Numbers from URBEMIS 2007

Ecobilan Plastic Bag LCA - Just end-of-life		Adjusted for 2007 Recycle Rates		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions in the unincorp territory (metric tons)	**1**	**1**	278	0.0000
Emissions in the cities (metric tons)	**4**	**4**	1331	0.0001

Ecobilan Paper Bag LCA - Just end-of-life		Adjusted for 2007 Recycle Rates		
Emissions Sources	**CO2e**	**CO2e**	**Annual CO2e**	**Per Capita**
Emissions in the unincorp territory (metric tons)	**108**	**68**	24825	0.0023
Emissions in the cities (metric tons)	**515**	**326**	118892	0.0112

Ecobilan Emission differences caused by an 85% conversion from plastic to paper			Adjusted for 2007 Recycle Rates	
Unincorporated territory			**20,823**	**0.00196**

Cities			**99,727**	**0.00939**

Ecobilan Emission differences caused by a 100% conversion from plastic to paper			**Adjusted for 2007 Recycle Rates**	
Unincorporated territory			**24,547**	**0.00231**
Cities			**117,561**	**0.01107**

Boustead GHG emissions - Just end of life	**CO_{2e} Emissions from Plastic Bags**	**CO_{2e} Emissions from Paper Bags**	**CO_{2e} Emission Increase Caused by 100 Percent Conversion from Plastic to Paper**	**per year**	**per year per capita**
Emissions in the unincorp territory (metric tons)	11.58	197.90	186.32	68,007	0.00641
Emissions in the cities (metric tons)	55.46	947.80	892.34	325,705	0.03068
Total Emissions in the County	**67.04**	**1145.70**	**1078.66**	**393,712**	**0.03709**

Boustead GHG emissions - Just end of life	**CO_{2e} Emissions from Plastic Bags**	**CO_{2e} Emissions from Paper Bags**	**CO_{2e} Emission Increase with 85 Percent Conversion from Plastic to Paper**	**per year**	**per year per capita**
Emissions in the unincorp territory (metric tons)	11.58	197.90	156.64	57,172	0.00539
Emissions in the cities (metric tons)	55.46	947.80	750.17	273,813	0.02579
Total Emissions in the County	**67.04**	**1145.70**	**906.81**	**330,985**	**0.03118**

Emission Sources	**Air Pollutants (Pounds/Day)**					
	VOCs	**NO_x**	**CO**	**SO_x**	**$PM_{2.5}$**	**PM_{10}**
33 delivery truck trips in the unincorporated territory of the County	0.28	0.65	4.13	0	0.16	0.77
157 delivery truck trips in the incorporated cities of the County	1.3	3.1	19.65	0.02	0.74	3.66
Total Emissions	**< 1**	**1**	**4**	**0**	**< 1**	**1**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**55**	**150**
AVAQMD Threshold	**137**	**137**	**548**	**137**	**-**	**82**
Exceedance of Significance?	**No**	**No**	**No**	**No**	**No**	**No**

APPENDIX D
INITIAL STUDY AND COMMENT LETTERS

Ordinances to Ban Plastic Carryout Bags in Los Angeles County

Initial Study

Prepared for:

County of Los Angeles Department of Public Works
Environmental Programs Division
900 South Fremont Avenue, 3rd Floor
Alhambra, California 91803

Prepared by:

Sapphos Environmental, Inc.
430 North Halstead Street
Pasadena, California 91107

December 1, 2009

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SECTION 1.0
PROJECT DESCRIPTION

The project, as defined by the California Environmental Quality Act (CEQA), being considered by the County of Los Angeles (County) consists of proposed Ordinances to Ban Plastic Carryout Bags in Los Angeles County (proposed ordinances). This project would entail adoption of an ordinance to ban plastic carryout bags issued by certain stores in the unincorporated territories of the County and the adoption of comparable ordinances by the 88 incorporated cities within the County. This Initial Study evaluates the potential for the adoption of such ordinances to result in significant impacts to the environment that would require the consideration of mitigation measures or alternatives.

1.1 PROJECT TITLE

Ordinances to Ban Plastic Carryout Bags in Los Angeles County

1.2 LEAD AGENCY

County of Los Angeles

1.3 PRIMARY CONTACT PERSON

Mr. Coby Skye
County of Los Angeles Department of Public Works
Environmental Programs Division
900 South Fremont Avenue, 3rd Floor
Alhambra, California 91803
(626) 458-5163

1.4 PROJECT LOCATION

The proposed ordinances would affect an area of approximately 2,649 square miles encompassing the unincorporated territories of the County of Los Angeles and 1,435 square miles encompassing the incorporated cities of the County of Los Angeles, California. The affected areas are bounded by Kern County to the north, San Bernardino County to the east, and Ventura County to the west. To the south, the affected areas are bounded by Orange County to the southeast and the Pacific Ocean to the southwest. San Clemente and Santa Catalina Islands are both encompassed within the territory of the County, and thus are areas that would be affected by the proposed ordinances (Figure 1.4-1, *Unincorporated Territories and Incorporated Cities within the County of Los Angeles)*. There are approximately 140 unincorporated communities located within the five County Supervisorial Districts.[1]

[1] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

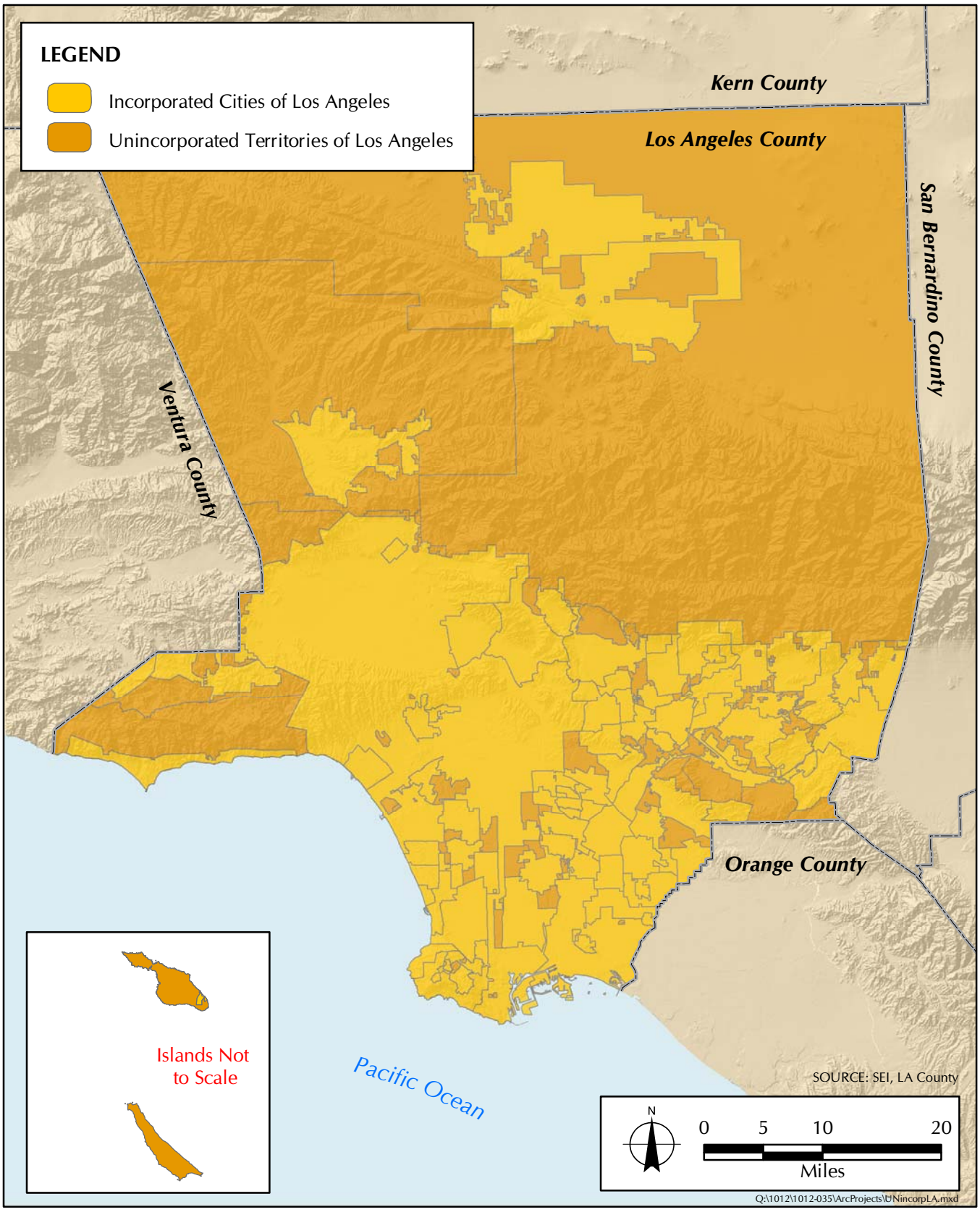

FIGURE 1.4-1

Unincorporated Territories and Incorporated Cities within the County of Los Angeles

1.5 PROJECT SPONSOR

County of Los Angeles Department of Public Works
Programs Development Division
900 South Fremont Avenue, 11th Floor
Alhambra, California 91803

1.6 GENERAL PLAN LAND USE DESIGNATION

The proposed ordinances would apply to stores within the County that (1) meet the definition of a "supermarket" as found in the California Public Resources Code, Section 14526.5; (2) are buildings that have over 10,000 square feet of retail space that generates sales or use tax pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law and have a pharmacy licensed pursuant to Chapter 9 of Division 2 of the Business and Professions Code. In addition, the County is considering extending the jurisdiction of the proposed County ordinance to stores within the unincorporated territories of the County that are part of a chain of convenience food stores, including franchises primarily engaged in retailing a limited line of goods that includes milk, bread, soda, and snacks, that have a total combined area of 10,000 square feet or greater within the County. The 88 incorporated cities within the County would be encouraged to adopt comparable ordinances.

Unincorporated Territories of the County of Los Angeles

The affected stores may be located within any of the eight general land use designations defined by the County of Los Angeles General Plan: (1) Residential (including low density, low-medium density, medium density, and high density), (2) Commercial, (3) Industrial, (4) Public and Semi-Public Facilities, (5) Non-urban, (6) Open Space, (7) Rural Communities, and (8) Significant Ecological Areas / Habitat Management.[2] The proposed ordinance would not require any changes to the established land use designations.

Incorporated Cities of the County of Los Angeles

The affected stores may be located within any of the land use designations defined by the 88 incorporated cities within the County. The proposed ordinances would not require any changes to established land use designations in any of the incorporated cities.

1.7 ZONING

Unincorporated Territories of the County of Los Angeles

The Los Angeles County Code (County Code) contains ordinances that regulate zoning within the unincorporated territories of the County: Title 22, Planning and Zoning, the County Code provides for planning and zoning within these unincorporated territories and includes zones and districts for each of the 140 unincorporated communities.[3] As with the land use designation, the stores may occur within any of the seven general zoning designations: (1) Residential, (2) Agricultural, (3)

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles. 2 June 2009. Los Angeles County Code. Tallahassee, FL. Available at: http://ordlink.com/codes/lacounty/index.htm

Commercial, (4) Industrial, (5) Publicly Owned Property, (6) Special Purpose and Combining, and (7) Supplemental Districts (such as equestrian, setback, flood protection, or community standards districts). Chapter 22.46 of Title 22 establishes procedures for consideration of specific plans within the unincorporated territories, which further describe the zoning within each of the communities.[4] The proposed ordinance would not require any changes to the established land use zoning designations.

Incorporated Cities of the County of Los Angeles

The affected stores may occur within any of the zoning designations that allow for commercial or retail uses defined by the 88 incorporated cities within the County. The proposed ordinances would not require any changes to the established zoning ordinances in any of the incorporated cities.

1.8 BACKGROUND

Contribution of Plastic Carryout Bags to Litter Stream

It is estimated that litter from plastic carryout bags that are designed for single use accounts for as much as 25 percent of the litter stream.[5,6] According to research conducted by the Los Angeles County Department of Public Works (LACDPW), each year approximately 6 billion plastic carryout bags are consumed in the County, which is equivalent to approximately 1,600 bags per household per year.[7,8] Public agencies in California spend over $375 million each year for litter prevention, clean up, and disposal.[9] The County of Los Angeles Flood Control District alone spent more than $18 million annually for prevention, clean up, and enforcement efforts to reduce litter, of which plastic carryout bags are a component.[10]

County Motion

On April 10, 2007, the County Board of Supervisors instructed the Chief Executive Office to work with the director of Internal Services and the director of public works to solicit input from both environmental protection and grocer organizations related to three data areas and report their findings:

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[4] County of Los Angeles. 2 June 2009. Los Angeles County Code. Tallahassee, FL. Available at: http://ordlink.com/codes/lacounty/index.htm

[5] City of Los Angeles. 10 June 2004. *Waste Characterization Study*. Los Angeles, CA.

[6] County of Los Angeles Department of Public Works, Environmental Programs Division. October 2008. *County of Los Angeles Single Use Bag Reduction and Recycling Program – Program Resource Packet*. Alhambra, CA.

[7] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[8] U.S. Census Bureau. 2000. "State & County Quick Facts: Los Angeles County, California." Available at: http://quickfacts.census.gov/qfd/states/06/06037.html (at an average of slightly fewer than three people per household)

[9] California Department of Transportation. Accessed September 2009. "Facts at a Glance." *Don't Trash California*. Available at: http://www.donttrashcalifornia.info/pdf/Statistics.pdf

[10] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

1) Investigate the issue of polyethylene plastic and paper sack consumption in the County, including the pros and cons of adopting a policy similar to that of San Francisco;
2) Inventory and assess the impact of the current campaigns that urge recycling of paper and plastic sacks;
3) Investigate the impact an ordinance similar to the one proposed in San Francisco would have on recycling efforts in Los Angeles County, and any unintended consequences of the ordinance; and
4) Report back to the Board with finding and recommendations to reduce grocery and retail sack waste within 90 days.[11,12]

An Overview of Carryout Bags

In response, the LACDPW submitted a staff report, *An Overview of Carryout Bags in Los Angeles County*, in August 2007.[13] As noted in the report, a memorandum was sent to the Board of Supervisors on July 12, 2007, requesting a 45-day extension of the original report due date in order to incorporate feedback from interested stakeholders, consumers, industry, and environmental representatives.

As further noted in the LACDPW report, pursuant to the California Integrated Waste Management Act of 1989 [Assembly Bill (AB) 939], the County undertakes the numerous solid waste management functions:[14,15]

Unincorporated County Area

- Implements source reduction and recycling programs in the unincorporated County areas to comply with the State's 50 percent waste reduction mandate. In 2004, the County was successful in documenting a 53 percent waste diversion rate for the unincorporated County areas.
- Operates seven Garbage Disposal Districts providing solid waste collection, recycling, and disposal services for over 300,000 residents.
- Implements and administers a franchise solid waste collection system which, once fully implemented, will provide waste collection, recycling, and disposal services to over 700,000 residents, and will fund franchise area outreach programs to enhance recycling and waste reduction operations in unincorporated County areas that formerly operated under an open market system.

[11] County of Los Angeles Board of Supervisors. 10 April 2007. *Board of Supervisors Motion.* Los Angeles, CA.

[12] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[13] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[14] California State Assembly. Assembly Bill 939: "Integrated Waste Management Act," Chapter 1095.

[15] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA, first page of Preface. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

Countywide

- Implements a variety of innovative Countywide recycling programs, including: SmartGardening to teach residents about backyard composting and water wise gardening; Waste Tire Amnesty for convenient waste tire recycling; the convenient Environmental Hotline and Environmental Resources Internet Outreach Program; interactive Youth Education/Awareness Programs; and the renowned Household Hazardous/Electronic Waste Management and Used Oil Collection Programs.
- Prepares and administers the Countywide Siting Element, which is a planning document which provides for the County's long-term solid waste management disposal needs.
- Administers the Countywide Integrated Waste Management Summary Plan which describes how all 89 of the jurisdictions Countywide, acting independently and collaboratively, are complying with the State's waste reduction mandate.
- Provides staff for the Los Angeles County Solid Waste Management Task Force (Task Force). The Task Force is comprised of appointees from the League of California Cities, the County Board of Supervisors, the City of Los Angeles, solid waste industries, environmental groups, governmental agencies, and the private sector. The County performs the following Task Force functions:
  - Reviews all major solid waste planning documents prepared by all 89 jurisdictions prior to their submittal to the California Integrated Waste Management Board;
  - Assists the Task Force in determining the levels of needs for solid waste disposal, transfer and processing facilities; and
  - Facilitates the development of multi-jurisdictional marketing strategies for diverted materials.

Key Findings of the Report

There were four key findings identified in this report:

1. Plastic carryout bags have been found to significantly contribute to litter and have other negative impacts on marine wildlife and the environment.
2. Biodegradable carryout bags are not a practical solution to this issue in Los Angeles County because there are no local commercial composting facilities able to process the biodegradable carryout bags at this time.
3. Reusable bags contribute towards environmental sustainability over plastic and paper carryout bags.
4. Accelerating the widespread use of reusable bags will diminish plastic bag litter and redirect environmental preservation efforts and resources towards "greener" practices.[16]

[16] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA, p. 1. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

Definitions

For the purposes of this Initial Study and Environmental Impact Report, the following terms are defined as follows:

- Reusable Bag(s): a bag with handles that is specifically designed and manufactured for multiple reuse and is either (a) made of cloth or other machine-washable fabric, or (b) made of durable plastic that is at least 2.25 mils thick
- Paper Carryout Bag(s): a carryout bag made of paper that is provided by a store to a customer at the point of sale
- Plastic Carryout Bag(s): a plastic carryout bag, excluding a reusable bag but including a compostable plastic carryout bag, that is provided by a store to a customer at the point of sale
- Compostable Plastic Carryout Bag(s): a plastic carryout bag, excluding reusable bags, that (a) conforms to California labeling law (Public Resources Code Section 42355 et seq.), which requires meeting the current American Society for Testing and Materials (ASTM) standard specifications for compostability; (b) is certified and labeled as meeting the ASTM standard by a recognized verification entity such as the Biodegradable Product Institute; (c) contains no petroleum-derived content; and (d) displays the word "compostable" in a highly visible manner on the outside of the bag
- Recyclable Paper Bag(s): a paper bag that (a) contains no old growth fiber, (b) is 100-percent recyclable overall and contains a minimum of 40 percent post-consumer recycled content; and (c) displays the words "reusable" and "recyclable" in a highly visible manner on the outside of the bag

1.9 EXISTING CONDITIONS

Plastic Carryout Bags

In 1977, supermarkets began offering plastic carryout bags designed for single use to customers.[17,18] By 1996, four out of every five grocery stores were using plastic carryout bags.[19,20] Plastic carryout bags have been found to contribute substantially to the litter stream and to have other adverse effects on marine wildlife.[21,22,23] The prevalence of litter from plastic bags in the urban

[17] SPI: The Plastics Industry Trade Association. 2007. Web site. Available at: http://www.plasticsindustry.org/

[18] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[19] SPI: The Plastics Industry Trade Association. 2007. Web site. Available at: http://www.plasticsindustry.org/

[20] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[21] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at : http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[22] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[23] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

environment also compromises the efficiency of systems designed to channel storm water runoff. Furthermore, plastic bag litter leads to increased clean-up costs for the County, the California Department of Transportation (Caltrans), and other public agencies.[24,25,26] Plastic bag litter also contributes to environmental degradation and degradation of quality of life for County residents and visitors. In particular, the prevalence of plastic bag litter in the storm water system and coastal waterways hampers the ability of and exacerbates the cost to local agencies to comply with the National Pollution Discharge Elimination System, and total maximum daily loads (TMDL) limits for trash as specified pursuant to the federal Clean Water Act.[27,28]

Plastic bag litter is also a major economic operational issue for landfills and other solid waste processing facilities.[29,30] The California Integrated Waste Management Board estimates that approximately 3.9 percent of plastic waste can be attributed to plastic carryout bags related to grocery and other merchandise. That represents approximately 0.4 percent of the total waste stream in California.[31,32] Studies have been conducted by several organizations to assess the effects of plastic litter:[33,34,35,36] a study on freeway storm water litter was conducted by Caltrans; a waste characterization study on the Los Angeles River was conducted by the Friends of Los Angeles River; a waste characterization study on 30 storm drain basins was conducted by the City of Los Angeles; and a trash reduction and a waste characterization study of street sweeping and trash

[24]California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[25] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[26] Combs, Suzanne, John Johnston, Gary Lippner, David Marx, and Kimberly Walter. 1998–2000. *Caltrans Litter Management Pilot Study*. Sacramento, CA: California Department of Transportation.

[27] *United States Code*, Title 33, Section 1313: "Water Quality Standards and Implementation Plans." Clean Water Act, Section 303(d).

[28] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[29] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[30] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[31] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table ES-3: Composition of California's Overall Disposed Waste Stream by Material Type, 2003." *Contractor's Report to the Board: Statewide Waste Characterization* Study, p. 6. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097

[32] Note: Plastics make up approximately 9.5 percent of California's waste stream by weight, including 0.4 percent for plastic carryout bags related to grocery and other merchandise, 0.7 percent for non-bag commercial and industrial packaging film, and 1 percent for plastic trash bags.

[33] Combs, Suzanne, John Johnston, Gary Lippner, David Marx, and Kimberly Walter. 1998–2000. *Caltrans Litter Management Pilot Study*. Sacramento, CA: California Department of Transportation.

[34] Friends of the Los Angeles River and American Rivers. 2004. *Great Los Angeles River.* Los Angeles and Nevada City, CA.

[35] City of Los Angeles, Sanitation Department of Public Works. June 2006. *Technical Report: Assessment of Catch Basin Opening Screen Covers*. Los Angeles, CA.

[36] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

capture systems, near and within the Hamilton Bowl, located in Long Beach, California was conducted by the LACDPW. These studies concluded that plastic film (including plastic bag litter) composed between 7 to 30 percent by mass and between 12 to 34 percent by volume of the total litter collected. Despite the implementation of best management practices (BMPs), installation of litter control devices such as cover fences for trucks, catch basins, and facilities to prevent airborne bags from escaping, and use of roving patrols to pick up littered bags, plastic bag litter remains prevalent throughout the County.[37]

Assembly Bill 2449 requires all supermarkets (grocery stores with over $2 million in annual sales) and retail businesses of at least 10,000 square feet with a licensed pharmacy to establish a plastic carryout bag recycling program at each store. Starting on July 1, 2007, each store must provide a clearly marked bin that is easily available for customers to deposit plastic carryout bags for recycling. The stores' plastic bags must display the words "please return to a participating store for recycling."[38]

In addition, the regulated stores must make reusable bags available to their patrons. These bags can be made of cloth, fabric, or plastic with a thickness of 2.25 mils or greater.[39] The stores are allowed to charge their patrons for reusable bags.[40]

Manufacturers of plastic carryout bags must make available to stores educational materials to encourage the reduction, reuse, and recycling of plastic bags.

Store operators must maintain program records for a minimum of three years and make the records available to the local jurisdiction.[41]

Paper Bags

The production, distribution, and disposal of paper carryout bags also have known adverse effects on the environment.[42] There is a considerable amount of energy that is used, trees that are felled, and pollution that is generated in the production of paper carryout bags.[43,44] The California Integrated Waste Management Board determined in the 2004 Statewide Waste Characterization Study that approximately 117,000 tons of paper carryout bags are disposed of each year throughout the County by consumers. This amount accounts for approximately 1 percent of the

[37] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[38] *Public Resources Code*, Section 42250–42257. 2006. Assembly Bill 2449.

[39] *Public Resources Code*, Section 42250–42257. 2006. Assembly Bill 2449.

[40] *Public Resources Code*, Section 42250–42257. 2006. Assembly Bill 2449.

[41] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[42] County of Los Angeles Department of Public Works, Environmental Programs Division. October 2008. *County of Los Angeles Single Use Bag Reduction and Recycling Program – Program Resource Packet*. Alhambra, CA.

[43] County of Los Angeles Board of Supervisors. 22 January 2008. *Single Use Bag Reduction and Recycling Program (Resolution and Alternative 5).* Los Angeles, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/Resources.cfm

[44] County of Los Angeles Department of Public Works, Environmental Programs Division. October 2008. *County of Los Angeles Single Use Bag Reduction and Recycling Program – Program Resource Packet*. Alhambra, CA.

total 12 million tons of solid waste generated each year.[45] However, paper bags have the potential to biodegrade when exposed to oxygen, sunlight, moisture, soil, and microorganisms (such as bacteria); are denser and less susceptible to becoming airborne; and generally have a higher recycling rate than do plastic bags. The U.S. Environmental Protection Agency reported that "the recycle rate for plastic bags, sacks and wraps measured just 9.1 percent in 2007 (compared to 36.8 percent of paper bags)."[46] The County anticipates that the national, state, and Countywide recovery amount of plastic bags from this category of recovered plastics is less than 5 percent.[47,48] Therefore, based upon the available evidence, paper carryout bags are less likely to become litter than are plastic carryout bags.

Reusable Bags

Reusable bags offer an alternative to plastic carryout bags, compostable plastic carryout bags, and paper carryout bags. The utility of a reusable bag has been noted in various reports such as the 2008 report by Green Seal, which estimates the life of a reusable bag as being between two to five years.[49] The Green Seal report encouraged an industry standard of a minimum of 300 reusable bag uses in 1994 and currently encourages a minimum of 500 uses during wet conditions (such as rainy seasons).[50] Furthermore, life-cycle studies for plastic products have documented the adverse impacts related to various types of plastic and paper bags; however, life-cycle studies have also indicated that reusable bags[51] are the preferable option to both paper and plastic bags.[52,53]

[45] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/publications/localasst/34004005.pdf

[46] U.S. Environmental Protection Agency. November 2008. *Municipal Solid Waste in the United States, 2007 Facts and Figures* (Table 21, Recovery of Products in Municipal Solid Waste, 1960 to 2007). Washington, DC. Available at: http://www.epa.gov/waste/nonhaz/municipal/pubs/msw07-rpt.pdf. The referenced table included the recovery of post-consumer wastes for the purposes of recycling or composting; it did not include conversion/fabrication scrap. The report includes the recovery of plastic bags, sacks, and wraps (excluding packaging) for a total of 9.1 percent of plastic recovered in this category. The County of Los Angeles conservatively estimates that the percentage of plastic bags in this category for the County of Los Angeles is less than 5 percent.

[47] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[48] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[49] Green Seal is an independent non-profit organization that uses science-based standards and the power of the marketplace to provide recommendations regarding sustainable products, standards, and practices.

[50] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[51] Reusable bag manufacturers are also expected to enforce industry standards and recommendations to avoid adverse environmental impacts, including the use of recycled materials.

[52] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[53] Boustead Consulting & Associates, Ltd. 2007. *Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper*. Available at: http://www.americanchemistry.com/s_plastics/doc.asp?CID=1106&DID=7212

Reusable bags are intended to provide a viable alternative to the use of paper or plastic carryout bags.[54] Currently, some stores within the County, such as certain Whole Foods divisions, do not offer plastic bags at checkout and instead offer reusable bags for sale and provide rebates if its patrons bring their own reusable bags. Other stores, such as certain Ralph's divisions, offer reusable bags for purchase at registers and offer various incentives such as store rewards or store credit to customers who use reusable bags.[55]

Voluntary Single Use Bag Reduction and Recycling Program

On January 22, 2008, the County Board of Supervisors approved a motion to implement the voluntary Single Use Bag Reduction and Recycling Program (Alternative 5) in partnership with large supermarkets and retail stores, the plastic bag industry, environmental organizations, recyclers and other key stakeholders to promote the use of reusable bags, increase at-store recycling of plastic bags, reduce consumption of single-use bags, increase the post-consumer recycled material content of paper bags, and promote public awareness of the effects of litter and consumer responsibility in the County. The voluntary program establishes benchmarks for measuring the effectiveness of the program, seeking a 30-percent decrease in the disposal rate of carryout plastic bags from the 2007–2008 fiscal year usage levels by July 1, 2010, and a 65-percent decrease by July 1, 2013.[56]

The County identified three tasks to be undertaken by the County, stores, and manufacturers as part of the voluntary program's key components:

1. Large supermarket and retail stores: development and implementation of store-specific programs such as employee training, reusable-bag incentives, and efforts related to consumer education
2. Manufacturer and trade associations: encourage members to participate in the program, provide technical assistance and marketing recommendations, and coordinate with large supermarkets and stores
3. County of Los Angeles Working Group: facilitate program meetings, determine specific definitions for target stores, establish a framework describing participant levels and participation expectations, and develop and coordinate program specifics such as educational material, reduction strategies, establishment of disposal rates and measurement methodology, progress reports, and milestones

In March 2008, the County provided each of its 88 incorporated cities a "Resolution to Join" letter that extended to the cities an opportunity to join the County in the abovementioned activities related to the Single Use Plastic Bag Reduction and Recycling Program. The letter invited the cities to join the County in a collaborative effort and to take advantage of the framework already developed by the County. Information related to the efforts by the LACDPW was presented to all 88 cities regarding the proposed ordinances and their actions.

[54] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[55] Ralphs Grocery Company. 2009. "Doing Your Part: Try Reusable Shopping Bags." Web site. Available at: http://www.ralphs.com/healthy_living/green_living/Pages/reusable_bags.aspx

[56] County of Los Angeles Board of Supervisors. 22 January 2008. *Single Use Bag Reduction and Recycling Program (Resolution and Alternative 5).* Los Angeles, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/Resources.cfm

There are currently 10 cities within the County that have signed resolutions to join the County in its efforts and in adopting similar ordinances for their cities: Azusa, Bell, Glendale, Hermosa Beach, Lomita, Pico Rivera, Pomona, Redondo Beach, Santa Fe Springs, and Signal Hill. These cities have implemented a variety of public education and outreach efforts to encourage participation within their cities, including developing public education brochures, running public service announcements on the city's cable television channel, establishing committees focused on community outreach, and distributing recycled-content reusable bags at community events.

The County is currently evaluating the efficacy of volunteer programs, including its own Single Use Bag Reduction and Recycling Program, in relation to the disposal rate of plastic carryout bags using three criteria:[57] (1) the reduction in consumption of plastic carryout bags, (2) the total number of plastic carryout bags recycled at stores, and (3) the total number of plastic carryout bags recycled via curbside recycling programs.

Since August 2007, the County has facilitated meetings that have been attended by representatives of grocery stores, plastic bag industry groups, environmental organizations, waste management industry groups, various governmental entities, and others. The County has further led efforts to disseminate outreach materials, attend community events, work with cities within the County, visit stores, and provide and solicit support for reusable bags. The American Chemistry Council's consultant and the Plastic Recycling Corporation of California have visited grocery stores within the County to provide stores and consumers with additional information and assistance to enhance their plastic bag recycling programs.

These endeavors were undertaken in an effort to increase the participation of grocery stores, to shift consumer behavior to the use of recycled plastic bags, and to encourage a considerable transition to the use of reusable bags.

1.10 STATEMENT OF PROGRAM OBJECTIVES

Program Goals

The County is seeking to substantially reduce the operational cost and environmental degradation associated with the use of plastic carryout bags in the County, particularly the component of the litter stream composed of plastic bags and the associated government funds used for prevention, clean-up, and enforcement efforts.

The County has identified five goals of the proposed ordinances, listed in order of importance: (1) litter reduction, (2) blight prevention, (3) coastal waterways and animal and wildlife protection, (4) sustainability (as it relates to the County's energy and environmental goals), and (5) landfill reduction.

[57] Methodology consumption rates based upon plastic bags generated in fiscal year 2007-2008, as provided in data reported to the California Integrated Waste Management Board as required by AB 2449. The methodology is described in its entirety in *County of Los Angeles Single Use Bag Reduction and Recycling Program – Program Resource Packet* published by County of Los Angeles Department of Public Works, Environmental Programs Division, Alhambra, CA.

Countywide Objectives

The proposed ordinance program would have six objectives:

- Conduct outreach to all 88 incorporated cities of the County to encourage adoption of comparable ordinances.
- Reduce the Countywide consumption of plastic carryout bags from the estimated 1,600 plastic carryout bags per household in 2007, to fewer than 800 plastic bags per household in 2013.
- Reduce the Countywide contribution of plastic carryout bags to litter that blights public spaces Countywide by 50 percent.
- Reduce the Flood Control District's cost for prevention, clean-up, and enforcement efforts to reduce litter in the County by $4 million.
- Substantially increase awareness of the negative impacts of plastic carryout bags and the benefits of reusable bags, and reach at least 50,000 residents (5 percent of the population) with an environmental awareness message.
- Reduce Countywide disposal of plastic carryout bags from landfills by 50 percent from 2007 annual amounts.

City Objectives

If using a comparable standard to that of the County, cities would implement objectives that are comparable with the Countywide objectives. Should the cities prepare different objectives, those objectives may need to be evaluated to determine what further CEQA analysis would be required, if any.

1.11 DESCRIPTION OF PROPOSED ORDINANCES

With input from the County of Los Angeles Working Group, the Board of Supervisors instructed County Counsel to prepare a draft ordinance for consideration by the Board of Supervisors by April 1, 2009, (revised to July 1, 2010) that would ban the issuance of plastic carryout bags by large supermarkets and retail stores in the unincorporated territories of the County. Any necessary environmental review in compliance with CEQA would be completed prior to considering the draft ordinance.[58,59]

The proposed ban on the issuance of plastic carryout bags consists of an ordinance to be adopted prohibiting certain retail establishments from issuing plastic carryout bags in the unincorporated territories of the County, as well as the County's encouragement of the incorporation of comparable ordinances by each of the 88 incorporated cities in the County.

As previously mentioned, there are currently 10 cities within the County that have signed resolutions to join the County in adopting similar ordinances in their cities. The proposed ordinances as described herein anticipate the adoption of similar proposed ordinances for each of the 88 incorporated cities within the County.

[58] County of Los Angeles Board of Supervisors. 22 January 2008. *Single Use Bag Reduction and Recycling Program (Resolution and Alternative 5).* Los Angeles, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/Resources.cfm

[59] County of Los Angeles Board of Supervisors. 22 January 2008. *Minutes of the Board of Supervisors.* Los Angeles, CA.

The proposed ordinances aim to significantly reduce the number of plastic carryout bags that are disposed of or that enter the litter stream by ensuring that certain retail establishments located in the County will not distribute or make available to customers any plastic carryout bags or compostable plastic bags.

The proposed ordinances being considered would ban the issuance of plastic carryout bags by any retail establishment, defined herein, that is located in the unincorporated territories or incorporated cities of the County. The retail establishments that would be subject to the proposed ordinances include any that (1) meet the definition of a "supermarket" as found in the California Public Resources Code, Section 14526.5; (2) are buildings that have over 10,000 square feet of retail space that generates sales or use tax pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law and have a pharmacy licensed pursuant to Chapter 9 of Division 2 of the Business and Professions Code. In addition, the County is considering extending the jurisdiction of the proposed ordinances to stores that are part of a chain of convenience food stores, including franchises primarily engaged in retailing a limited line of goods that includes milk, bread, soda, and snacks, that have a total combined area of 10,000 square feet or greater within the County.

Transition Period Assumption

Should the proposed ordinances be adopted, it is anticipated that there would be a transition period during which consumers would switch to reusable bags. The County anticipates that a measurable percentage of affected consumers would subsequently use reusable bags (this percentage includes consumers currently using reusable bags) once the proposed ordinances take effect. The County further anticipates that some of the remaining consumers, those who choose to forgo reusable bags, may substitute plastic carryout bags with paper carryout bags.

SECTION 2.0
ENVIRONMENTAL CHECKLIST

This section contains the Environmental Checklist prepared for the proposed ordinances. This checklist is consistent with the Environmental Checklist Form found in Appendix G to the State CEQA Guidelines. This checklist also includes two recommended questions proposed by the Governor's Office of Planning and Research (OPR) in April 2009 as additions to Appendix G to the State CEQA Guidelines.[1] A summary of the substantial evidence that was used to support the responses in the Environmental Checklist is contained in Section 3.0, Environmental Analysis. The responses contained in this Environmental Checklist are based on reviews of relevant literature, technical reports, and regulations, and on analysis of existing geographical information from County maps and databases.

[1] California Governor's Office of Planning and Research. 2007. *CEQA Guidelines and Greenhouse Gases*. Available at: http://www.opr.ca.gov/index.php?a=ceqa/index.html

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

X I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Pat Proano
Signature

November 23, 2009
Date

PAT PROANO
Printed Name

L.A. Co. Dept. of Public Works
For

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
2.1. AESTHETICS -- Would the proposed ordinances:				
a) Have a substantial adverse effect on a scenic vista?	_____	_____	_____	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	_____	_____	_____	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	_____	_____	_____	X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	_____	_____	_____	X
2.2. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the proposed ordinances:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	_____	_____	_____	X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	_____	_____	_____	X
2.3. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the proposed ordinances:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	_____	_____	_____	X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	_____	X	_____	_____
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	_____	X	_____	_____
d) Expose sensitive receptors to substantial pollutant concentrations?	_____	_____	X	_____
e) Create objectionable odors affecting a substantial number of people?	_____	_____	X	_____
2.4. BIOLOGICAL RESOURCES[2] -- Would the proposed ordinances:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified	_____	_____	_____	X

[2] Although it is anticipated that the proposed ordinance would not result in adverse impacts related to biological resources; it is recommended that the biological resources section be carried forward for further analysis into the Environmental Impact Report in order to assess the potential for positive effects to biological resources as they relate to listed and sensitive species, riparian habitat, and wetlands.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	_____	_____	_____	X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	_____	_____	_____	X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	_____	_____	_____	X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	_____	_____	_____	X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	_____	_____	_____	X
2.5. CULTURAL RESOURCES -- Would the proposed ordinances:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	_____	_____	_____	X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	_____	_____	_____	X
d) Disturb any human remains, including those interred outside of formal cemeteries?	_____	_____	_____	X
2.6. GEOLOGY AND SOILS -- Would the proposed ordinances:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	_____	_____	_____	X
ii) Strong seismic ground shaking?	_____	_____	_____	X
iii) Seismic-related ground failure, including liquefaction?	_____	_____	_____	X
iv) Landslides?	_____	_____	_____	X
b) Result in substantial soil erosion or the loss of topsoil?	_____	_____	_____	X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	_____	_____	_____	X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	_____	_____	_____	X
2.7. GREENHOUSE GAS EMISSIONS -- Would the proposed ordinances:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	_____	X	_____	_____
b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	_____	X	_____	_____
2.8. HAZARDS AND HAZARDOUS MATERIALS -- Would the proposed ordinances:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	_____	_____	_____	X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	_____	_____	_____	X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	_____	_____	_____	X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	_____	_____	_____	X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	_____	_____	_____	X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	_____	_____	_____	X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	_____	_____	_____	X
2.9. HYDROLOGY AND WATER QUALITY -- Would the proposed ordinances:				
a) Violate any water quality standards or waste discharge requirements?	_____	X	_____	_____
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	_____	X	_____	_____

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	_____	_____	_____	X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	_____	_____	_____	X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	_____	_____	_____	X
f) Otherwise substantially degrade water quality?	_____	_____	_____	X
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	_____	_____	_____	X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	_____	_____	_____	X
I) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	_____	_____	_____	X
j) Inundation by seiche, tsunami, or mudflow?	_____	_____	_____	X
2.10. LAND USE AND PLANNING - Would the proposed ordinances:				
a) Physically divide an established community?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	_____	_____	_____	X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	_____	_____	_____	X
2.11. MINERAL RESOURCES -- Would the proposed ordinances:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	_____	_____	_____	X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	_____	_____	_____	X
2.12. NOISE -- Would the proposed ordinances result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	_____	_____	X	_____
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	_____	_____	X	_____
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	_____	_____	X	_____
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the proposed ordinance expose people residing or working in the proposed project area to excessive noise levels?	_____	_____	_____	X
f) For a project within the vicinity of a private airstrip, would the proposed project expose people residing or working in the proposed project area to excessive noise levels?	_____	_____	_____	X
2.13. POPULATION AND HOUSING -- Would the proposed ordinances:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	_____	_____	_____	X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	_____	_____	_____	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	_____	_____	_____	X
2.14. PUBLIC SERVICES --				
a) Would the proposed ordinances result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Police protection?	_____	_____	_____	X
Schools?	_____	_____	_____	X
Parks?	_____	_____	_____	X
Other public facilities?	_____	_____	_____	X
2.15. RECREATION --				
a) Would the proposed ordinances increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	_____	_____	_____	X
b) Do the proposed ordinances include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	_____	_____	_____	X
2.16. TRANSPORTATION AND TRAFFIC -- Would the proposed ordinances:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	_____	_____	X	_____
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	_____	_____	_____	X
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	_____	_____	_____	X
e) Result in inadequate emergency access?	_____	_____	_____	X
f) Result in inadequate parking capacity?	_____	_____	_____	X
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	_____	_____	_____	X
2.17. UTILITIES AND SERVICE SYSTEMS - - Would the proposed ordinances:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	_____	_____	X	_____
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	_____	_____	_____	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	_____	_____	_____	X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	_____	_____	_____	X
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	_____	_____	_____	X

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	_____	X	_____	_____
g) Comply with federal, state, and local statutes and regulations related to solid waste?	_____	_____	_____	X
2.18. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Do the proposed ordinances have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	_____	_____	_____	X
b) Do the proposed ordinances have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	_____	_____	X	_____
c) Do the proposed ordinances have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	_____	_____	_____	X

SECTION 3.0
ENVIRONMENTAL ANALYSIS

The environmental analysis provided in this section describes the information that was considered in evaluating the questions in Section 2.0, Environmental Checklist. The information contained in this environmental analysis is based on reviews of relevant literature and maps (see Section 4.0, References, for a list of reference materials consulted).

The environmental analysis in this Initial Study evaluates the potential impacts related to both an ordinance to ban plastic carryout bags issued by certain stores in the unincorporated territories of the County and the adoption of comparable ordinances by the 88 cities that govern the County's incorporated territory. As such, each of the issue areas is structured to include analyses of the unincorporated territories and incorporated cities of the County.

3.1 AESTHETICS

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to aesthetics, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Aesthetics within the incorporated and unincorporated territories of the County, which would be subject to the proposed ordinances, were evaluated with regard to the County of Los Angeles General Plan;[2] Caltrans Scenic Highway Program[3] designations; and previously published information regarding the visual character of the County, including scenic resources, vistas, and altitude as depicted in County maps.

The State CEQA Guidelines recommend the consideration of four questions when addressing the potential for significant impacts to aesthetics.

Would the proposed ordinances:

(a) Have a substantial adverse effect on a scenic vista?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to aesthetics in relation to scenic vistas. A review of the County of Los Angeles General Plan substantiated that scenic vistas exist within the unincorporated territories of the County: forests ranges, including the Los Padres National Forest, and Angeles National Forest; mountain ranges, including the Santa Monica Mountains and San Gabriel Mountains; and the California coastline.[4] The proposed ordinance would affect a total of approximately 2,649 square miles of unincorporated territories within the County,[5] which provides residences and employment for approximately 1 million people. Development within these unincorporated areas exhibits patterns similar to that of urban areas, including public services, utilities, and recreation.[6,7] As such, residences, schools, churches, and recreation areas located within viewing range of the scenic vistas would serve as sensitive receptors. The proposed ordinance, which aims to significantly reduce the amount of litter that can be attributed to plastic carryout bags, would likely lead to the improvement of any scenic vista available from these sensitive receptors. As found in the County staff report on plastic bags, due to their expansive and lightweight characteristics, plastic bags are easily carried by wind to become entangled in brush, tossed along freeways, and caught on fences throughout the County, thereby becoming visual eyesores.[8,9] Furthermore, the distinct white or bright

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] California Department of Transportation. Updated 19 May 2008. "Eligible (E) and Officially Designated (OD) Routes." *California Scenic Highway Program*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

[4] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[5] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

[6] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

[7] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[8] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

colors of plastic bags and the difficulty of collecting them cause a greater visual eyesore than other materials. The negative impacts on scenic vistas resulting from the prevalence of plastic bags in residential, business, and recreational areas frequented by people would require measures to diminish the prevalence of plastic carryout bags. The proposed ordinance would be expected to reduce the visual prominence of these materials, and thus could minimize the negative impacts of plastic bags on scenic vistas as viewed by sensitive receptors within the unincorporated territories of the County. Therefore, the proposed ordinance would not be expected to result in adverse impacts to aesthetics related to scenic vistas. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to aesthetics in relation to scenic vistas. Development within these incorporated areas exhibits patterns similar to that of the urban areas described within the County, including the public services, utilities, and recreation.[10,11] As such, residences, schools, churches, and recreation areas located within viewing range of the scenic vistas would serve as sensitive receptors. The proposed ordinances, which aim to significantly reduce the amount of litter that can be attributed to the use plastic carryout bags, would likely lead to the improvement of any scenic vista available from these sensitive receptors. The proposed ordinances would be expected to reduce the visual prominence of these materials and thus could minimize the negative impacts of plastic bags on scenic vistas as viewed by sensitive receptors within the incorporated cities of the County. Therefore, the proposed ordinances would not be expected to result in adverse impacts to aesthetics related to scenic vistas. No further analysis is warranted.

(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to aesthetics in relation to substantial damage to scenic resources within a state-designated scenic highway. According to the California Scenic Highway Program, California State Route 2 is the only highway located within the jurisdictional boundary of the proposed ordinance that is officially designated as a state scenic highway;[12] State Routes 1, 27, 39, 57, 101, 118, and 210 are also located within the jurisdictional boundary of the proposed ordinance but are designated only as eligible state scenic highways.[13] Local specific and community plans also designate scenic resources within the unincorporated areas of the County. Furthermore, the County of Los Angeles General Plan documents the presence of scenic resources, including mountains, forest lands, beaches, and varied native vegetation, within the unincorporated territories of the County and within the vicinity of the officially designated or eligible

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[9] Combs, Suzanne, John Johnston, Gary Lippner, David Marx, and Kimberly Walter. 1998–2000. *Caltrans Litter Management Pilot Study*. Sacramento, CA: California Department of Transportation.

[10] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

[11] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[12] California Department of Transportation. Updated 19 May 2008. "Eligible (E) and Officially Designated (OD) Routes." *California Scenic Highway Program*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

[13] California Department of Transportation. Updated 19 May 2008. "Eligible (E) and Officially Designated (OD) Routes." *California Scenic Highway Program*. Available at: http://www.dot.ca.gov/hq/LandArch/scenic/cahisys.htm

state scenic highways, and were confirmed through the review of County maps.[14] The proposed ordinance, which aims to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags, would likely lead to an improvement in the quality of scenic resources within the unincorporated territories of the County. As noted in the County staff report on plastic bags, the distinct white or bright colors of plastic bags and the difficulty of collecting them cause a greater negative visual effect than do other materials.[15] As such, the widespread occurrence of plastic bags throughout scenic resource and scenic highway areas would require measures to diminish the prevalence of plastic carryout bags, thereby minimizing the negative impacts of plastic bags on scenic resources in the unincorporated territories of the County. Therefore, there would be no expected adverse impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to aesthetics in relation to substantial damage to scenic resources within a state-designated scenic highway. The proposed ordinances, which aim to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags, would likely lead to an improvement in the quality of scenic resources within the incorporated cities of the County. As such, the widespread occurrence of plastic bags throughout scenic resources and scenic highway areas would require measures to diminish the prevalence of plastic carryout bags, thereby minimizing the negative impacts of plastic bags on scenic resources in the incorporated cities of the County. Therefore, there would be no expected adverse impacts to aesthetics related to substantial damage to scenic resources within a state scenic highway. No further analysis is warranted.

(c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to aesthetics in relation to the substantial degradation of the existing visual character of the unincorporated territories and its surroundings. The unincorporated areas of the County, which would be affected by the proposed ordinance, are designated as part of one of the eight general land use categories in the Land Use element of the County of Los Angeles General Plan,[16] as listed in Section 1.0, Project Description, of this Initial Study. As such, the existing visual character of the unincorporated areas of the County, which would be affected by the proposed ordinance, maintain an appearance ranging from developed urban areas, which are attributed to residential, commercial, and industrial activities, to undeveloped recreational and agricultural areas. The proposed ordinance would likely lead to the improvement of the area's existing visual character because it is intended to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags. As determined in the County staff report on

[14] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[15] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*, pp. 2–3 and Figure 1, *Typical Landfill Activity*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[16] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

plastic bags, due to their expansive and lightweight characteristics, plastic bags are easily carried by wind to become entangled in brush, tossed along freeways, and caught on fences throughout the County.[17,18] Moreover, plastic bags have a distinct white or bright color and are difficult to collect, thus causing a greater visual eyesore than other materials.[19] The prevalence of plastic carryout bags in residential, business, recreational, and other areas that receive greater traffic flows would require means that serve to diminish the existence of plastic carryout bags, and at the same time reduce the visual pervasiveness of these materials and thus improve the visual quality of unincorporated areas of the County for sensitive receptors present within these areas. Therefore, there would be no expected adverse significant impacts to aesthetics related to degradation of the existing visual character of the subject areas and their surroundings. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to aesthetics in relation to the substantial degradation of the existing visual character of the incorporated cities of the County and their surroundings. The existing visual character of the incorporated cities of the County, which would be affected by the proposed ordinances, range in appearance from developed urban areas, which are attributed to residential, commercial, and industrial activities, to undeveloped recreational and agricultural areas. The proposed ordinances would likely lead to the improvement of the existing visual character of the County's incorporated cities by reducing the visual pervasiveness of plastic bag materials for sensitive receptors present within these areas. Therefore, there would be no expected adverse significant impacts to aesthetics related to degradation of the existing visual character of the incorporated cities of the County and their surroundings. No further analysis is warranted.

(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect daytime or nighttime views within the unincorporated territories of the County. Existing sources of light within the unincorporated areas of the County, which would be subject to the proposed ordinance, include street lights, light structures in surface parking areas, and security lighting on buildings; no other significant sources of light or glare are present. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not be expected to create additional sources of light and glare. Therefore, there would be no expected adverse significant impacts to aesthetics related to creation of a new source of light or glare. No further analysis is warranted.

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[17] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*, pp. 2–3. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[18] Combs, Suzanne, John Johnston, Gary Lippner, David Marx, and Kimberly Walter. 1998–2000. *Caltrans Litter Management Pilot Study*. Sacramento, CA: California Department of Transportation.

[19] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*, pp. 2–3 and Figure 1, Typical Landfill Activity. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to aesthetics related to the creation of a new source of substantial light or glare that would adversely affect daytime or nighttime views within the incorporated cities of the County. The proposed ordinances would ban plastic carryout bags issued by certain stores and would not be expected to create additional sources of light or glare. Therefore, there would be no expected adverse significant impacts to aesthetics related to creation of a new source of light or glare. No further analysis is warranted.

3.2 AGRICULTURE RESOURCES

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to agricultural resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Agricultural resources within the County, which would be subject to the proposed ordinances, were evaluated with regard to the California Department of Conservation (CDC) Farmland Mapping and Monitoring Program (FMMP)[2] and the County of Los Angeles General Plan.[3]

The State CEQA Statutes define agricultural land as "prime farmland, farmland of statewide importance, or unique farmland, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California," and is herein collectively referred to as "Farmland."[4] The State CEQA Guidelines recommend the consideration of three questions when addressing the potential for significant impacts to agricultural resources.

Would the proposed ordinances:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to agricultural resources in relation to the conversion of Farmland. Based upon a review of the Land Use element of the County of Los Angeles General Plan, it was determined that the unincorporated territories of the County include agricultural lands.[5] As such, portions of the unincorporated territories are utilized for agriculture, grazing, and vegetation. However, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not include components that would alter the existing uses within the areas that would be affected by the proposed ordinance. Moreover, the proposed ordinance would not require the conversion of any existing area designated for agricultural land use or Farmland, as it would not require any construction, demolition, or road-paving activities. Therefore, there would be no expected impacts to agricultural resources related to the conversion of Farmland. No further analysis is warranted.

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2006. *Important Farmland in California 2006*. Sacramento, CA. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2006/

[3] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[4] *California Public Resources Code*, Division 13, Chapter 2.5, Section 21060.1(a): "Agricultural Land."

[5] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to agricultural resources in relation to the conversion of Farmland. As with the unincorporated territories of the County, the proposed ordinances would ban plastic carryout bags issued by certain stores and would not include components that would alter the existing uses within the incorporated cities that adopt the proposed ordinances. In addition, the proposed ordinances would not require the conversion of any existing area designated for agricultural land use or Farmland, as they would not require any construction, demolition, or road-paving activities. Therefore, there would be no expected impacts to agricultural resources related to the conversion of Farmland. No further analysis is warranted.

(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to agricultural resources in relation to a conflict with existing zoning for agricultural use or with a Williamson Act contract. Although portions of the unincorporated territories of the County may be subject to Williamson Act contracts, the proposed ordinance does not entail components involving changes in the existing land uses or zoning within the unincorporated territories. The proposed ordinance would ban plastic carryout bags issued by certain stores and does not include components that would alter or conflict with the specified zoning. Therefore, the proposed ordinance would not be expected to result in impacts to agricultural resources in relation to a conflict with existing zoning for agricultural use or with a Williamson Act contract. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to agricultural resources in relation to a conflict with existing zoning for agricultural use or with a Williamson Act contract. The proposed ordinances would not entail components involving changes in the existing land uses or zoning within the incorporated cities of the County. The proposed ordinances would not include components that would alter or conflict with the specified zoning. Therefore, the proposed ordinances would not be expected to result in impacts to agricultural resources in relation to a conflict with existing zoning for agricultural use or with a Williamson Act contract. No further analysis is warranted.

(c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to agricultural resources in relation to changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. Although a review of the most recent CDC FMMP mapping of the County for Farmland and a map of the unincorporated territories of the County shows that there is designated Farmland within the areas that would be affected by the proposed ordinance, the proposed ordinance would not entail components that would involve changes in

the existing environment.[6] The proposed ordinance would ban plastic carryout bags issued by certain stores and would not alter the suitability of any designated farmland for development that could result in conversion of Farmland to non-agricultural use, as the proposed ordinance would not require any construction, demolition, or road-paving activities. Therefore, there would be no expected impacts to agricultural resources related to changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to agricultural resources in relation to changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. As with the unincorporated territories of the County, the proposed ordinances within the incorporated cities of the County would not entail components that would change the existing environment related to agricultural resources.[7] The proposed ordinances would ban plastic carryout bags issued by certain stores and would not alter the suitability of any designated farmland for development that could result in conversion of Farmland to non-agricultural use, as the proposed ordinances would not require any construction, demolition, or road-paving activities. Therefore, there would be no expected impacts to agricultural resources related to changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. No further analysis is warranted.

[6] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2006. *Important Farmland in California 2006*. Sacramento, CA. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2006/

[7] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2006. *Important Farmland in California 2006*. Sacramento, CA. Available at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2006/

3.3 AIR QUALITY

This analysis is undertaken to determine if the proposed ordinances may have significant impacts to air quality, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Air quality within the County, which would be subject to the proposed ordinances, was evaluated with regard to the County of Los Angeles General Plan,[2] the National Ambient Air Quality Standards (NAAQS), the California Ambient Air Quality Standards (CAAQS), and the federal Clean Air Act (CAA).[3]

Data on existing air quality in the County are monitored by a network of air monitoring stations operated by the California Environmental Protection Agency, California Air Resources Board (CARB), the South Coast Air Quality Management District (SCAQMD), and the Antelope Valley Air Quality Management District (AVAQMD).

State CEQA Guidelines recommend the consideration of five questions when addressing the potential for significant impacts to air quality.

Would the proposed ordinances:

(a) Conflict with or obstruct implementation of the applicable air quality plan?

Unincorporated Territories of the County of Los Angeles

There would be no expected impacts to air quality related to conflicts with or obstruction of implementation of the applicable air quality plan. The proposed ordinance does not sanction violations of the SCAQMD Air Quality Management Plan or provide any such relief from such regulations. The majority of the unincorporated territories of the County are located within the SCAQMD portion of the South Coast Air Basin, while a northern portion of the unincorporated territories of the County is located within the AVAQMD portion of the Mojave Desert Air Basin (Figure 3.3-1, *Air Quality Management Districts within the County of Los Angeles*). Therefore, the area affected by the proposed ordinances is located within the boundaries regulated pursuant to the SCAQMD Air Quality Management Plan and the AVAQMD Federal 8-Hour Ozone Attainment Plan.[4,5] The SCAQMD Air Quality Management Plan sets forth strategies for attaining the federal particulate matter (PM) air quality standards and the federal 8-hour ozone (O_3) air quality standard, as well as for meeting state standards at the earliest date practicable. The AVAQMD Federal 8-Hour Ozone Attainment Plan provides planning strategies for attainment of the 8-hour NAAQS for O_3 by 2021.

The proposed ordinance would ban plastic carryout bags issued at certain stores within the unincorporated territories of the County, which would be expected to result in beneficial impacts

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] U.S. Environmental Protection Agency. 2005. "Title I Air Pollution Prevention and Control." *Federal Clean Air Act*. Available at: http://www.epa.gov/air/caa//

[4] Antelope Valley Air Quality Management District. 20 May 2008. *AVAQMD Federal 8-Hour Ozone Attainment Plan*. Lancaster, CA.

[5] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

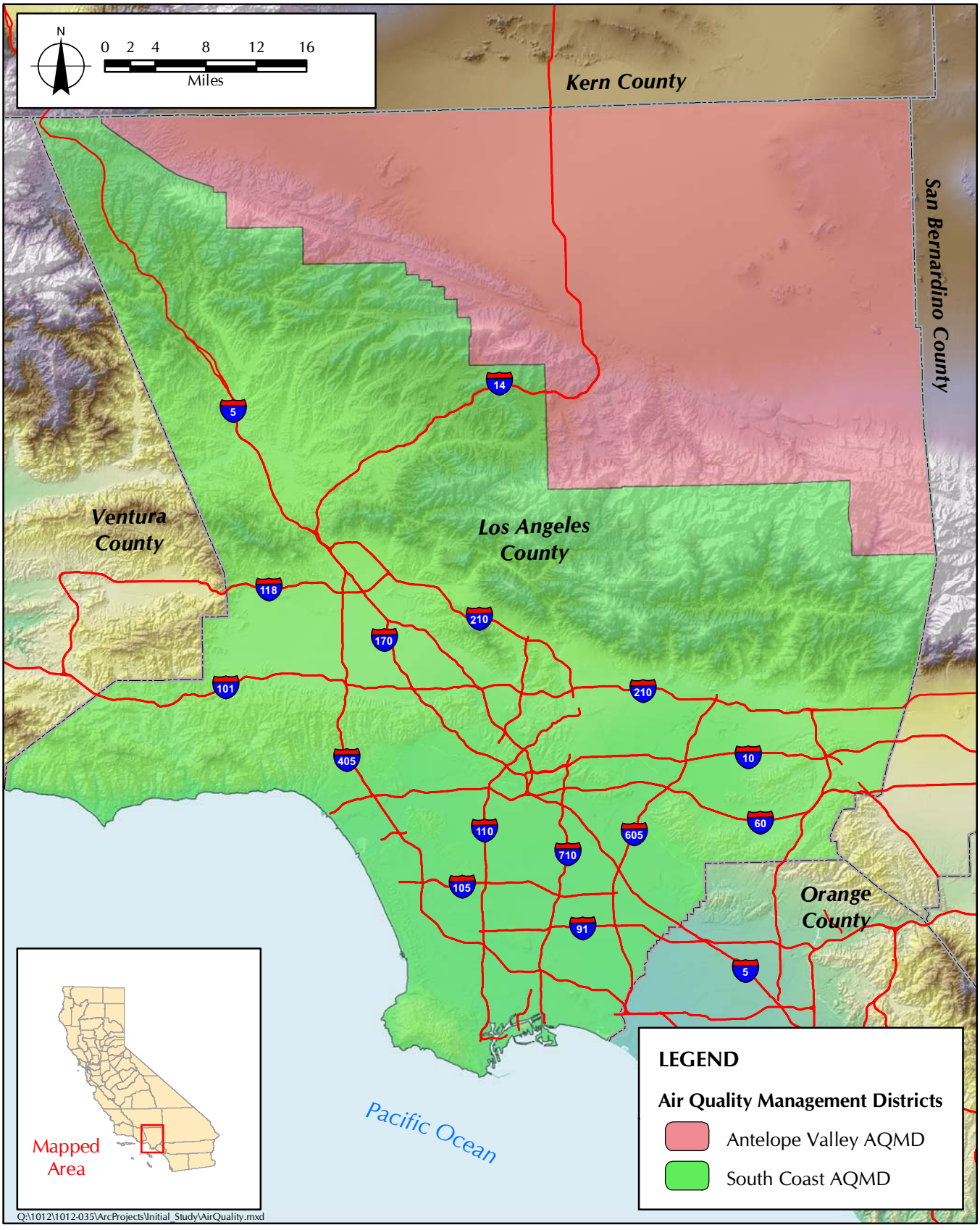

Figure 3.3-1

Air Quality Management Districts within the County of Los Angeles

to air quality. Direct beneficial impacts to air quality would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and litter collection along roadways and water channels. In addition, beneficial impacts to air quality would be expected to result from the reduced demand for the production of plastic carryout bags. The production of plastic carryout bags is a chemical process that begins with the conversion of crude oil or natural gas into hydrocarbon monomers such as ethylene;[6] further processing leads to the polymerization of ethylene to form polyethylene. During processing, volatile organic compounds (VOCs), which are precursors to the formation of O_3, are emitted into the atmosphere.[7] In addition, the fuel combustion that is required to operate the facilities that manufacture plastic bags results in the emission of O_3 precursors and PM into the atmosphere. Therefore, the reduced production of plastic carryout bags would be expected to reduce the emission of O_3 precursors into the atmosphere, thereby complying with the O_3 reduction requirements set forth in the SCAQMD Air Quality Management Plan and the AVAQMD Federal 8-Hour Ozone Attainment Plan, and would also be expected to reduce PM emissions in compliance with the PM reduction goals set out in the SCAQMD Air Quality Management Plan.

However, certain plastic bag industry representatives have postulated that the banning of plastic carryout bags could potentially result in the increased manufacture, use, and disposal of paper carryout bags. As paper bags are significantly heavier than plastic carryout bags, certain plastic bag industry representatives claim that the transport of paper bags has the potential to require the combustion of more fossil fuel, which could result in an increase in the emission of both PM and O_3 precursors. The manufacturing process of paper bags also requires fuel consumption; therefore, these same industry representatives further argue an increase in the production of paper bags could increase the emission of O_3 precursors and PM into the atmosphere.

However, any increases would be offset to some extent due to the fact that paper bags can contain a larger volume of groceries than plastic bags. In addition, a net increase in the use of reusable bags would be expected and would further reduce the potential for increased use of paper carryout bags utilized. Therefore, a potential increase in paper bag manufacturing would not be expected to conflict with the O_3 reduction requirements set forth in the SCAQMD Air Quality Management Plan and the AVAQMD Federal 8-Hour Ozone Attainment Plan and with the PM reduction goals set out in the SCAQMD Air Quality Management Plan. The causes of air pollution in the County are primarily from vehicle exhausts, unlike areas in the East Coast of the United States, where the primary causes are from manufacturing.[8] Air emissions are regulated by the SCAQMD, which uses the Regional Clean Air Incentives Market (RECLAIM) program to regulate air emissions from manufacturing.[9] Under SCAQMD's command-and-control, almost every piece of equipment that emits air pollution is regulated individually by the SCAQMD. Industrial and miscellaneous manufacturing processes account for less than 10 percent of the sources of O_3-forming pollutants.[10] On-road vehicles account for approximately 44 percent of O_3-forming pollution. The majority of

[6] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Ethylene." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B451vs2.3.pdf

[7] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[8] Grill, Mindy. "What is Air Pollution?" Web site. Available at: http://www.encyclomedia.com

[9] South Coast Air Quality Management District. "What AQMD Does." Web site. Available at: http://www.aqmd.gov

[10] South Coast Air Quality Management District. "Regional Clean Air Incentives Market (RECLAIM)." Web site. Available at: http://www.aqmd.gov

vehicle miles travelled is associated with commuters, and transport of goods and services for the Ports of Los Angeles and Long Beach and Los Angeles International Airport. The manufacture and transport of plastic and paper carryout bags is a regulated industry that does not represent a measureable contribution to emissions in the County. Therefore, the proposed ordinance would not be expected to have the potential to result in indirect significant impacts to air quality related to conformance with the applicable air quality plans. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

There would be no expected impacts to air quality related to conflicts with or obstruction of implementation of the applicable air quality plan. As with the unincorporated territories of the County, the proposed ordinances would ban plastic carryout bags issued at certain stores within the incorporated cities of the County. The proposed ordinances would be expected to result in beneficial impacts to air quality. The proposed ordinances would not be expected to conflict with the O_3 reduction requirements set forth in the SCAQMD Air Quality Management Plan and the AVAQMD Federal 8-Hour Ozone Attainment Plan and with the PM reduction goals set out in the SCAQMD Air Quality Management Plan. Therefore, the proposed ordinances would not be expected to result in indirect significant impacts to air quality related to conformance with the applicable air quality plans. No further analysis is warranted.

(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Unincorporated Territories of the County of Los Angeles

Any potential impact to air quality in relation to violation of any air quality standard or a substantial contribution to existing or projected air quality violations resulting from the implementation of the proposed ordinance would be expected to be avoided through conformance with the SCAQMD Air Quality Management Plan, which includes conformance with the RECLAIM program, which regulates air emissions from manufacturing, as well as the SCAQMD command-and-control that regulates almost every piece of equipment that emits air pollution.[11] The jurisdiction of the proposed ordinance covers the unincorporated territories of the County, which are required to comply with the NAAQS and CAAQS. The proposed ordinance would be expected to assist the County in achieving air quality standards over time. However, certain plastic bag industry representatives have postulated that the banning of plastic carryout bags could potentially result in the increased manufacture of paper carryout bags, thus requiring the consideration of the potential violations of air quality standards and requirements; therefore, the County has decided to present the analysis of this issue in an EIR.

Incorporated Cities of the County of Los Angeles

As with the unincorporated territories of the County, violations of air quality standards from manufacturing within the incorporated cities would be avoided through conformance with the SCAQMD Air Quality Management Plan.[12] However, the County has decided to present the analysis of this issue in an EIR as a means of addressing arguments that have been postulated by

[11] South Coast Air Quality Management District. "Regional Clean Air Incentives Market (RECLAIM)." Web site. Available at: http://www.aqmd.gov

[12] South Coast Air Quality Management District. "Regional Clean Air Incentives Market (RECLAIM)." Web site. Available at: http://www.aqmd.gov

certain representatives of the plastic bag industry. Certain plastic bag industry representatives have postulated that the banning of plastic carryout bags would potentially result in the increased manufacture of paper carryout bags, thus requiring the consideration of the potential violations of air quality standards and requirements; therefore the County has decided to present the analysis of this issue in an EIR. The jurisdiction of the proposed ordinances covers the incorporated cities of the County, which are required to comply with the NAAQS and CAAQS.

As with the proposed ordinance in the unincorporated territories of the County, the proposed ordinances would ban plastic carryout bags issued at certain stores within the incorporated areas of the County. The proposed ordinances would be expected to result in beneficial impacts in relation to the violation of air quality standards and existing or projected air quality violations in the County.

A reduction in the manufacture, transport, and disposal of plastic carryout bags would be expected to reduce the emission of O_3 precursors into the atmosphere, thereby complying with NAAQS and CAAQS for O_3 and PM.

(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

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Potential impacts to air quality due to a net increase of any criteria pollutant for which the County is in non-attainment would be expected to be avoided through conformance with the SCAQMD Air Quality Management Plan, particularly the RECLAIM program, which regulates air emissions from manufacturing. The majority of the unincorporated territories of the County are located within the SCAQMD portion of the South Coast Air Basin, while a northern portion of the unincorporated territories of the County is located within the AVAQMD portion of the Mojave Desert Air Basin (Figure 3.3-1). The SCAQMD portion of the South Coast Air Basin is currently designated as a Severe-17 non-attainment area for O_3, a non-attainment area for $PM_{2.5}$, and a Serious non-attainment area for PM_{10};[13] but the South Coast Air Basin has achieved the federal 1-hour and 8-hour carbon monoxide (CO) air quality standards since 1990 and 2002, respectively, and the County has met the federal air quality standards for nitrogen dioxide (NO_2) since 1992.[14] Although the South Coast Air Basin as a whole is designated as a non-attainment area for PM_{10}, federal PM_{10} standards in the County are currently being met at all monitoring stations.[15] The AVAQMD portion of the Mojave Desert Air Basin is currently classified as a moderate non-attainment area for the federal 8-hour O_3 standard, but is in attainment for all other criteria pollutants.[16]

Therefore, implementation of the proposed ordinance would not be expected to adversely impact air quality due to a net increase of any criteria pollutant. However, certain representatives of the

[13] U.S. Environmental Protection Agency. 15 August 2008. "The Green Book Nonattainment Areas for Criteria Pollutants." *Green Book*. Available at: http://www.epa.gov/oar/oaqps/greenbk/

[14] South Coast Air Quality Management District. June 2007. *2007 Air Quality Management Plan*. Diamond Bar, CA.

[15] South Coast Air Quality Management District. June 2007. *2007 Air Quality Management Plan*. Diamond Bar, CA.

[16] U.S. Environmental Protection Agency. 15 August 2008. "The Green Book Nonattainment Areas for Criteria Pollutants." *Green Book*. Available at: http://www.epa.gov/oar/oaqps/greenbk/

plastic bag industry have postulated that the banning of plastic bags would potentially result in a net increase in criteria pollutants; therefore, the County has decided to present the analysis of this issue in an EIR.

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As with the unincorporated territories of the County, emissions of criteria pollutants from manufacturing within the incorporated cities would be avoided through conformance with the SCAQMD Air Quality Management Plan.[17] However, the County has decided to present the analysis of this issue in an EIR, as a means of addressing arguments that have been postulated by certain representatives of the plastic bag industry.

(d) Expose sensitive receptors to substantial pollutant concentrations?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in less than significant impacts to air quality in relation to the exposure of sensitive receptors to substantial pollutant concentrations. Land uses identified as sensitive receptors by SCAQMD in the CEQA Air Quality Handbook can include residences, schools, playgrounds, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.[18] There are many sensitive receptors throughout the unincorporated territories of the County; however, the proposed ordinance would not be expected to result in significant localized air pollutant emissions that would have the potential to affect sensitive receptors. Therefore, the proposed ordinance would be expected to result in less than significant impacts to air quality related to sensitive receptors. No further analysis is warranted.

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The proposed ordinances would be expected to result in less than significant impacts to air quality in relation to the exposure of sensitive receptors to substantial pollutant concentrations. There are many sensitive receptors throughout the incorporated cities of the County; however, the proposed ordinances would not be expected to result in significant localized air pollutant emissions that would have the potential to affect sensitive receptors. Therefore, the proposed ordinances would be expected to result in less than significant impacts to air quality related to sensitive receptors. No further analysis is warranted.

(e) Create objectionable odors affecting a substantial number of people?

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The proposed ordinance would be expected to result in less than significant impacts to air quality in relation to objectionable odors. The proposed ordinance would ban plastic carryout bags issued at certain stores within the unincorporated territories of the County, which has the potential to result in decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag collection along roadways and water channels. A reduction in vehicle emissions may serve to reduce objectionable odors

[17] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

[18] South Coast Air Quality Management District. 1993. *CEQA Air Quality Handbook*. Diamond Bar, CA.

because diesel exhaust odors from vehicles may be considered unpleasant by some people. However, this potential decrease in objectionable odors is expected to be minimal. Some representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in environmental impacts due to increased reliance on paper carryout bags.[19] Consequently, the proposed ordinance may result in a slight increase in objectionable odors from the increased diesel consumption by vehicles transporting carryout paper bags. However, this potential increase in objectionable odors is also expected to be minimal. Therefore, the proposed ordinances would be expected to result in less than significant impacts to air quality related to objectionable odors. No further analysis is warranted.

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The proposed ordinances would be expected to result in less than significant impacts to air quality in relation to objectionable odors. The proposed ordinances would ban plastic carryout bags issued at certain stores within the incorporated areas of the County, which has the potential to result in decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag waste along roadways and water channels. A reduction in vehicle emissions may help reduce objectionable odors because diesel exhaust odors from vehicles may be considered unpleasant by some people. However, this potential decrease in objectionable odors is expected to be minimal. Therefore, the proposed ordinances would be expected to result in less than significant impacts to air quality related to objectionable odors. No further analysis is warranted.

[19] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

3.4 BIOLOGICAL RESOURCES

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to biological resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Biological resources within the County, which would be subject to the proposed ordinances, were evaluated with regard to the Land Use element of the County of Los Angeles General Plan;[2] information provided by the U.S. Fish and Wildlife Service (USFWS),[3] California Department of Fish and Game (CDFG),[4] and Bureau of Land Management;[5] and a review of published and unpublished literature germane to the proposed ordinances.

Although it is anticipated that the proposed ordinances would not result in adverse impacts related to biological resources, it is recommended that the biological resources section be carried forward for further analysis into the EIR to assess the potential for positive effects to biological resources as they relate to listed, sensitive, and locally important species and riparian habitat, wetlands, and habitat conservation plans.

The following list identifies the candidate or listed species that have the potential to occur near or within County limits. These species are either candidates for listing or are currently listed as threatened or endangered in the federal list of threatened and endangered species and are candidates for listing or are currently listed as rare, threatened or endangered in the State of California (Table 3.4-1, *Special-status Species with the Potential to Occur within the County of Los Angeles*):[6]

- Plants: 5 federally listed species, 1 candidate for federal listing, 6 State-listed species and 17 species that are both federal and state listed
- Lepidoptera (butterflies and moths): 2 federally listed species
- Pisces (fish): 3 federally listed species and 2 species that are both federally and State-listed
- Amphibia (amphibians): 3 federal listed species
- Reptilia (reptiles): 1 federal listed species and 2 species that are both federally and State listed
- Aves (birds): 4 federally listed species, 7 state listed species (2 of which are candidates for federal listing) and four species that are both federally and State listed
- Mammalia (mammals): 1 federally listed species, 3 State listed species, and 1 species that is both federally and State listed

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] U.S. Fish and Wildlife Service. Agency information available at: http://www.fws.gov/

[4] California Department of Fish and Game. Agency information available at: http://www.dfg.ca.gov/

[5] Bureau of Land Management. Agency information available at: http://www.blm.gov/ca/st/en.html

[6] California Natural Diversity Database. Accessed on: 13 October 2009. Santa Monica, CA.

TABLE 3.4-1
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE COUNTY OF LOS ANGELES

Common Name	Scientific Name	Federal Status	State Status
Amphibians			
arroyo toad	*Anaxyrus californicus*	Endangered	None
California red-legged frog	*Rana draytonii*	Threatened	None
Sierra Madre yellow-legged frog	*Rana muscosa*	Endangered	None
Birds			
American peregrine falcon	*Falco peregrinus anatum*	Delisted	Endangered
bald eagle	*Haliaeetus leucocephalus*	Delisted	Endangered
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	None	Endangered
California black rail	*Laterallus jamaicensis coturniculus*	None	Threatened
California condor	*Gymnogyps californianus*	Endangered	Endangered
California least tern	*Sternula antillarum browni*	Endangered	Endangered
coastal California gnatcatcher	*Polioptila californica californica*	Threatened	None
least Bell's vireo	*Vireo bellii pusillus*	Endangered	Endangered
San Clemente loggerhead shrike	*Lanius ludovicianus mearnsi*	Endangered	None
San Clemente sage sparrow	*Amphispiza belli clementeae*	Threatened	None
southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Endangered
Swainson's hawk	*Buteo swainsoni*	None	Threatened
western snowy plover	*Charadrius alexandrinus nivosus*	Threatened	None
western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	Candidate	Endangered
Xantus' murrelet	*Synthliboramphus hypoleucus*	Candidate	Threatened
Fish			
Mohave tui chub	*Gila bicolor mohavensis*	Endangered	Endangered
Santa Ana sucker	*Catostomus santaanae*	Threatened	None
southern steelhead - southern California ESU	*Oncorhynchus mykiss irideus*	Endangered	None
tidewater goby	*Eucyclogobius newberryi*	Endangered	None
unarmored threespine stickleback	*Gasterosteus aculeatus williamsoni*	Endangered	Endangered
Invertebrates			
El Segundo blue butterfly	*Euphilotes battoides allyni*	Endangered	None
Palos Verdes blue butterfly	*Glaucopsyche lygdamus palosverdesensis*	Endangered	None
Mammals			
Mohave ground squirrel	*Xerospermophilus mohavensis*	None	Threatened
Nelson's antelope squirrel	*Ammospermophilus nelsoni*	None	Threatened
Pacific pocket mouse	*Perognathus longimembris pacificus*	Endangered	None
San Clemente Island fox	*Urocyon littoralis clementae*	None	Threatened

TABLE 3.4-1
SPECIAL-STATUS SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE COUNTY OF LOS ANGELES

Santa Catalina Island fox	*Urocyon littoralis catalinae*	Endangered	Threatened
Plants			
Agoura Hills dudleya	*Dudleya cymosa* ssp. *agourensis*	Threatened	None
beach spectaclepod	*Dithyrea maritima*	None	Threatened
Brand's star phacelia	*Phacelia stellaris*	Candidate	None
Braunton's milk-vetch	*Astragalus brauntonii*	Endangered	None
California orcutt grass	*Orcuttia californica*	Endangered	Endangered
Catalina Island mountain-mahogany	*Cercocarpus traskiae*	Endangered	Endangered
coastal dunes milk-vetch	*Astragalus tener* var. *titi*	Endangered	Endangered
Gambel's water cress	*Nasturtium gambelii*	Endangered	Threatened
island rush-rose	*Helianthemum greenei*	Threatened	None
Lyon's pentachaeta	*Pentachaeta lyonii*	Endangered	Endangered
marcescent dudleya	*Dudleya cymosa* ssp. *marcescens*	Threatened	Rare
marsh sandwort	*Arenaria paludicola*	Endangered	Endangered
Mt. Gleason paintbrush	*Castilleja gleasonii*	None	Rare
Nevin's barberry	*Berberis nevinii*	Endangered	Endangered
salt marsh bird's-beak	*Cordylanthus maritimus* ssp. *maritimus*	Endangered	Endangered
San Clemente Island bedstraw	*Galium catalinense* ssp. *acrispum*	None	Endangered
San Clemente Island bird's-foot trefoil	*Lotus argophyllus* var. *adsurgens*	None	Endangered
San Clemente Island bush-mallow	*Malacothamnus clementinus*	Endangered	Endangered
San Clemente Island larkspur	*Delphinium variegatum* ssp. *kinkiense*	Endangered	Endangered
San Clemente Island lotus	*Lotus dendroideus* var. *traskiae*	Endangered	Endangered
San Clemente Island paintbrush	*Castilleja grisea*	Endangered	Endangered
San Clemente Island woodland star	*Lithophragma maximum*	Endangered	Endangered
San Fernando Valley spineflower	*Chorizanthe parryi* var. *fernandina*	Candidate	Endangered
Santa Cruz Island rock cress	*Sibara filifolia*	Endangered	None
Santa Monica dudleya	*Dudleya cymosa* ssp. *ovatifolia*	Threatened	None
Santa Susana tarplant	*Deinandra minthornii*	None	Rare
slender-horned spineflower	*Dodecahema leptoceras*	Endangered	Endangered
spreading navarretia	*Navarretia fossalis*	Threatened	None
thread-leaved brodiaea	*Brodiaea filifolia*	Threatened	Endangered
Ventura Marsh milk-vetch	*Astragalus pycnostachyus* var. *lanosissimus*	Endangered	Endangered
Reptiles			
desert tortoise	*Gopherus agassizii*	Threatened	Threatened
island night lizard	*Xantusia riversiana*	Threatened	None

Greenhouse gases are not identified as a factor contributing to the threatened or endangered status of these species.[7] Declines in the populations of plants and animals are caused by many factors, the most serious of which is habitat degradation and destruction by humans through development activities, environmental pollution, introduction of invasive and nonnative species, overharvesting of wild species, and conversion of habitat to other uses.[8]

The State CEQA Guidelines recommend consideration of the following six questions when addressing the potential for significant impacts to biological resources.

Would the proposed ordinances:

(a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or the USFWS?

Listed Species

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The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to species listed as rare, threatened, or endangered pursuant to the federal and state Endangered Species Acts (ESAs). The proposed ordinance would ban plastic carryout bags issued at certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter attributed to plastic carryout bags. The proposed ordinance would not contain any components that would modify habitat or otherwise adversely affect the survival of any listed species. Therefore, there would be no expected adverse impacts to biological resources related to species listed as rare, threatened, or endangered pursuant to the federal and state ESAs. However, the proposed ordinance would have the potential to result in a beneficial effect to listed species through the reduction of litter associated with plastic bags. Currently, 45,000 tons of plastic carryout bags are disposed of by residents throughout the County each year.[9,10] The structural characteristics of plastic carryout bags allow the bags to easily blow away from landfills and trash collection trucks to become entangled in fences, brush, and waterways.[11,12] By reducing the amount of litter attributed to plastic carryout bags that pollutes potentially suitable upland and aquatic habitats for species

[7] California Natural Diversity Database. Accessed on: 13 October 2009. Santa Monica, CA.

[8] U.S. Department of Agriculture, Northeastern Area. 1997. *Threatened and Endangered Species and the Private Landowner*. Available at: http://www.na.fs.fed.us/spfo/pubs/wildlife/endangered/endangered.htm

[9] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097. Countywide figures are prorated from State figures.

[10] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[11] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[12] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

listed as rare, threatened, or endangered pursuant to the federal and state ESAs, the proposed ordinance would have the potential to improve the quality of the habitats in which these listed species dwell. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

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The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to species listed as rare, threatened, or endangered pursuant to the federal and state ESAs. The proposed ordinances would not contain any components that would modify habitat or otherwise adversely affect the survival of any listed species. Therefore, there would be no expected adverse impacts to biological resources related to species listed as rare, threatened, or endangered pursuant to the federal and state ESAs. However, the proposed ordinances would have the potential to benefit listed species through the reduction of litter that is associated with plastic bags. By reducing the amount of litter attributed to plastic bags that pollutes potentially suitable upland and aquatic habitats for species listed as rare, threatened, or endangered pursuant to the federal and state ESAs, the proposed ordinances would have the potential to improve the quality of the habitats of the listed species. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

Sensitive Species

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to sensitive species recognized by the USFWS as federal species of concern or by the CDFG as California Species of Special Concern. The proposed ordinance would ban plastic carryout bags issued at certain stores and would aim to significantly reduce the use of plastic carryout bags in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinances do not contain any components that would serve to modify habitat or otherwise adversely affect the survival of any sensitive species. Therefore, there would be no expected adverse impacts to biological resources related to sensitive species recognized by the USFWS as federal species of concern or by the CDFG as California Species of Special Concern. Currently, 45,000 tons of plastic carryout bags are disposed of by residents Countywide each year.[13,14] The structural characteristics of plastic carryout bags allow the bags to easily blow away from landfills and trash collection trucks and they end up entangled in fences, brush, and waterways.[15,16] The proposed ordinances would have the potential to result in a beneficial effect to listed species by reducing the amount of plastic bag litter that pollutes potentially suitable upland

[13] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097. Countywide figures are prorated from State figures.

[14] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[15] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf and

[16] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

and aquatic habitats for sensitive species recognized by the USFWS as federal species of concern or by the CDFG as California Species of Special Concern, thereby improving the conditions of the habitats in which these sensitive species dwell. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

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The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to sensitive species recognized by the USFWS as federal species of concern or by the CDFG as California Species of Special Concern. The proposed ordinances would not entail any components that would modify habitat or otherwise adversely affect the survival of any sensitive species. Therefore, there would be no expected adverse impacts to biological resources related to sensitive species recognized by the USFWS as federal species of concern or by the CDFG as California Species of Special Concern. The proposed ordinances would have the potential to benefit listed species by reducing the amount of plastic bag litter that pollutes potentially suitable upland and aquatic habitats for sensitive species recognized by the USFWS or the CDFG, thereby improving the conditions of the habitats in which these sensitive species dwell. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

Locally Important Species

Unincorporated Territories of the County of Los Angeles

The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to locally important species afforded protection pursuant to California Native Plant Society (CNPS) and CDFG. The proposed ordinances would ban plastic bags issued at certain stores and would aim to significantly reduce the use of plastic carryout bags in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not contain any components that would serve to modify habitats or otherwise adversely affect the survival of any locally important species. Therefore, there would be no expected adverse impacts to biological resources related to locally important species afforded protection pursuant to the CNPS and CDFG. However, the proposed ordinance would have the potential to result in a beneficial effect to locally important species through the reduction of litter that is attributed to plastic bags. Currently, 45,000 tons of plastic carryout bags are disposed of by residents Countywide each year.[17] The structural characteristics of plastic carryout bags allow the bags to easily blow away from landfills and trash collection trucks and they end up entangled in fences, brush, and waterways.[18,19] By reducing the amount of litter associated with plastic bags that pollutes potentially suitable upland and aquatic habitats for locally important species designated pursuant to the CNPS and CDFG, the proposed ordinance would have the potential to improve the

[17] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097. Countywide figures are prorated from State figures.

[18] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[19] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

quality of the habitats of these species. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

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The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to locally important species afforded protection pursuant to CNPS and CDFG. The proposed ordinances would not contain any components that would serve to modify habitats or otherwise adversely affect the survival of any locally important species. Therefore, there would be no expected adverse impacts to biological resources related to locally important species afforded protection pursuant to the CNPS and CDFG. However, the proposed ordinances would have the potential to benefit locally important species through the reduction of litter attributed to plastic bags. As previously noted, 45,000 tons of plastic carryout bags are currently disposed of by residents each year throughout the County.[20,21] The structural characteristics of plastic carryout bags allow the bags to easily blow away from landfills and trash collection trucks and they end up entangled in fences, brush, and waterways.[22,23] By reducing the amount of litter associated with plastic bags that pollutes potentially suitable upland and aquatic habitats for locally important species designated pursuant to the CNPS and CDFG, the proposed ordinances would have the potential to improve the quality of the habitats of these species. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFG or the USFWS?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to riparian habitat or other sensitive natural communities. The proposed ordinance would ban plastic carryout bags issued at certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not contain any components that would serve to modify riparian habitats or other sensitive natural communities. Therefore, there would be no expected adverse impacts to biological resources related to riparian habitat or other sensitive natural communities. However, implementation of the proposed ordinance would have the potential to result in a beneficial effect related to riparian

[20] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097. Countywide figures are prorated from State figures.

[21] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[22] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[23] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

habitat due to decreased levels of plastic bag litter flowing into waterways and riparian habitats.[24,25] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to riparian habitat or other sensitive natural communities. The proposed ordinances would not contain any components that would modify riparian habitats or other sensitive natural communities. Therefore, there would be no expected adverse impacts to biological resources related to riparian habitat or other sensitive natural communities. However, implementation of the proposed ordinances would have the potential to result in a beneficial effect related to riparian habitat due to decreased levels of plastic bag litter flowing into waterways and riparian habitats.[26,27] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. The proposed ordinance would ban plastic carryout bags issued at certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not contain any components that would directly or indirectly remove, fill, or interrupt any federally protected wetlands. Therefore, there would be no expected adverse impacts to biological resources related to federally protected wetlands as defined by Section 404 of the Clean Water Act. However, the proposed ordinance would have the potential to result in a beneficial effect on wetlands by reducing the amount of plastic bag waste contained in storm water runoff, thus improving water quality and the quality of biological resources in the unincorporated territories of the County related to federally protected wetlands as defined by Section 404 of the Clean Water Act.[28,29] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

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[24] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[25] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[26] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

[27] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[28] United Nations Environment Programme. April 2009. *Marine Litter: A Global Challenge*. Nairobi, Kenya. Available at: http://www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. The proposed ordinances would not contain any components that would directly or indirectly remove, fill, or interrupt any federally protected wetlands. Therefore, there would be no expected adverse impacts to biological resources related to federally protected wetlands as defined by Section 404 of the Clean Water Act. However, the proposed ordinances would have the potential to result in a beneficial effect on wetlands by reducing the amount of plastic bag waste contained in storm water runoff, thus improving water quality and the quality of biological resources in the County related to federally protected wetlands as defined by Section 404 of the Clean Water Act.[30,31] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife Movement Corridors

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in negative impacts to biological resources in relation to movement of any migratory fish or wildlife species or with an established wildlife corridor. The proposed ordinance would ban plastic carryout bags issued by certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinances do not include any components that would interfere with wildlife movement corridors. Therefore, there would be no expected adverse impacts to biological resources related to the movement of any migratory fish or wildlife species or with an established wildlife corridor. However, the proposed ordinance would have the potential to result in a beneficial effect to migratory fish or wildlife species by reducing plastic bag litter, thereby improving the quality of potentially suitable habitat for wildlife corridors needed for migration. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

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[29] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[30] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097. Countywide figures are prorated from State figures.

[31] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in negative impacts to biological resources in relation to movement of any migratory fish or wildlife species or with an established wildlife corridor. The proposed ordinances would not include any components that would interfere with wildlife movement corridors. Therefore, there would be no expected adverse impacts to biological resources related to the movement of any migratory fish or wildlife species or with an established wildlife corridor. However, the proposed ordinances would have the potential to result in a beneficial effect to migratory fish or wildlife species by reducing plastic bag litter and thereby improving the quality of potentially suitable habitat for wildlife corridors needed for migration. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

Nursery Sites

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to impeding the use of native wildlife nursery sites. The proposed ordinance would ban plastic carryout bags issued by certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not contain any components that would serve to modify habitat or otherwise adversely affect nursery sites. Therefore, there would be no expected impacts to biological resources related to impeding the use of native wildlife nursery sites. However, the proposed ordinance would have the potential to result in a beneficial effect to native wildlife nursery sites by reducing plastic bag litter that pollutes these sites, thereby improving the quality of potentially suitable habitat for wildlife nursery sites. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to impeding the use of native wildlife nursery sites. The proposed ordinances would not contain any components that would serve to modify habitat or otherwise adversely affect nursery sites. Therefore, there would be no expected impacts to biological resources related to impeding the use of native wildlife nursery sites. However, the proposed ordinances would have the potential to benefit native wildlife nursery sites by reducing plastic bag litter that pollutes these sites, thereby improving the quality of potentially suitable habitat for wildlife nursery sites. Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to biological resources in relation to conflicts with any local policies or ordinances protecting biological resources. The proposed ordinance would ban plastic carryout bags issued by certain stores and would aim to

significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not contain any components that would serve to remove or otherwise adversely impact local biological recourses such as oak trees. Therefore, there would be no expected impacts to biological resources related to conflicts with any local policies or ordinances protecting biological resources. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to biological resources in relation to conflicts with any local policies or ordinances protecting biological resources. The proposed ordinances would ban plastic carryout bags issued by certain stores and aim to significantly reduce the use of plastic carryout bags in the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinances would not contain any components that would remove or otherwise adversely impact local biological resources such as oak trees. Therefore, there would be no expected impacts to biological resources related to conflicts with any local policies or ordinances protecting biological resources. No further analysis is warranted.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in adverse impacts to biological resources in relation to conflicts with the provisions of any adopted Habitat Conservation Plans (HCPs) or Natural Community Conservation Plans (NCCPs). Only one NCCP exists within the County, the Palos Verdes Peninsula Subregional Plan.[32,33] The proposed ordinance would ban plastic carryout bags issued by certain stores and would aim to significantly reduce the use of plastic carryout bags in the unincorporated territories of the County in an effort to reduce the amount of litter that is attributed to plastic carryout bags. The proposed ordinance does not include components that would serve to conflict with any habitat conservation plan. Therefore, there would be no expected adverse impacts to biological resources related to conflicts with the provisions of any adopted HCPs or NCCPs. However, the proposed ordinance would have the potential benefit biological resources in relation to the Palos Verdes Peninsula Subregional Plan by reducing litter associated with plastic carryout bags in the sensitive coastal sage scrub habitat, thereby potentially contributing to better area-wide protection of natural wildlife diversity.[34] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

[32] California Department of Fish and Game. Accessed on: 24 June 2009. "NCCP Plan Status." *Resource Management*. Available at: http://www.dfg.ca.gov/habcon/nccp/status/PalosVerdes.html

[33] City of Rancho Palos Verdes. Accessed on: 24 June 2009. "Natural Communities Conservation Planning Act (NCCP)." *Planning & Zoning*. Available at: http://www.palosverdes.com/rpv/planning/NCCP/index.cfm

[34] City of Rancho Palos Verdes. Accessed on: 24 June 2009. "Natural Communities Conservation Planning Act (NCCP)." *Planning & Zoning*. Available at: http://www.palosverdes.com/rpv/planning/NCCP/index.cfm

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in adverse impacts to biological resources in relation to conflicts with the provisions of any adopted HCP or NCCP. As previously mentioned, only one NCCP exists within the County, the Palos Verdes Peninsula Subregional Plan.[35,36] The proposed ordinances would not include components that would conflict with any HCP. Therefore, there would be no expected adverse impacts to biological resources related to conflicts with the provisions of any adopted HCP or NCCP. However, the proposed ordinances would have the potential to result in a beneficial effect to biological resources in relation to the Palos Verdes Peninsula Subregional Plan by reducing litter associated with plastic carryout bags in the sensitive coastal sage scrub habitat, thereby potentially contributing to better area-wide protection of natural wildlife diversity.[37] Further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

[35] California Department of Fish and Game. Accessed on: 24 June 2009. "NCCP Plan Status." *Resource Management*. Available at: http://www.dfg.ca.gov/habcon/nccp/status/PalosVerdes.html

[36] City of Rancho Palos Verdes. Accessed on: 24 June 2009. "Natural Communities Conservation Planning Act (NCCP)." *Planning & Zoning*. Available at: http://www.palosverdes.com/rpv/planning/NCCP/index.cfm

[37] City of Rancho Palos Verdes. Accessed on: 24 June 2009. "Natural Communities Conservation Planning Act (NCCP)." *Planning & Zoning*. Available at: http://www.palosverdes.com/rpv/planning/NCCP/index.cfm

3.5 CULTURAL RESOURCES

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to cultural resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1]

State CEQA Guidelines recommend the consideration of four questions when addressing the potential for significant impacts to cultural resources.

Would the proposed ordinances:

(a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5 [of the State CEQA Guidelines]?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to cultural resources related to a substantial adverse change in the significance of a historical resource. According to Section 15064.5 of the State CEQA Guidelines, a substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County and would not include any demolition, destruction, relocation, or alteration of historical resources. Therefore, there would be no expected impacts to cultural resources related to a substantial adverse change in the significance of a historical resource. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to cultural resources related to a substantial adverse change in the significance of a historical resource. As previously noted, according to Section 15064.5 of the State CEQA Guidelines, a substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource is materially impaired. The proposed ordinances would not include any demolition, destruction, relocation, or alteration of historical resources. Therefore, there would be no expected impacts to cultural resources related to a substantial adverse change in the significance of a historical resource. No further analysis is warranted.

(b) Cause a substantial adverse change in the significance of an archeological resource pursuant to §15064.5?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to cultural resources related to a substantial adverse change in the significance of an archeological resource. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories the County and would not include any ground-disturbing activities that could serve to

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

adversely impact archeological resources. Therefore, there would be no expected impacts to cultural resources related to a substantial adverse change in the significance of an archeological resource. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to cultural resources related to a substantial adverse change in the significance of an archeological resource. The proposed ordinances would not include any ground-disturbing activities that could serve to adversely impact archeological resources. Therefore, there would be no expected impacts to cultural resources related to a substantial adverse change in the significance of an archeological resource. No further analysis is warranted.

(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County and would not include any ground-disturbing activities that could adversely impact paleontological resources, paleontological sites, or unique geologic features. Therefore, there would be no expected impacts to cultural resources related to the destruction of a unique paleontological resource or unique geologic feature. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to cultural resources related directly or indirectly to the destruction of a unique paleontological resource or unique geologic feature. The proposed ordinances would not include any ground-disturbing activities that could adversely impact paleontological resources, paleontological sites, or unique geologic features. Therefore, there would be no expected impacts to cultural resources related to the destruction of a unique paleontological resource or unique geologic feature. No further analysis is warranted.

(d) Disturb any human remains, including those interred outside of formal cemeteries?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to disturb any human remains, including those interred outside of formal cemeteries. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County and would not include any ground-disturbing activities. Therefore, the proposed ordinance would not be expected to disturb any human remains, including those interred outside of formal cemeteries. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to disturb any human remains, including those interred outside of formal cemeteries. The proposed ordinances would not include any ground-disturbing activities. Therefore, the proposed ordinances would not be expected to disturb any human remains, including those interred outside of formal cemeteries. No further analysis is warranted.

3.6 GEOLOGY AND SOILS

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to geology and soils, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Geology and soils within the County, which would be subject to the proposed ordinances, were evaluated with regard to the County of Los Angeles General Plan[2] and in consideration of the most recent Alquist-Priolo Earthquake Fault Zoning (APEFZ) Maps.[3]

The State CEQA Guidelines recommend the consideration of seven questions when addressing the potential for significant impacts to geology and soils.

Would the proposed ordinances:

(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent APEFZ Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault. Although numerous active earthquake faults exist throughout the County, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail the development of structures or elements that would expose or place people within vicinity of a known earthquake fault. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving the rupture of a known earthquake fault. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault. The proposed ordinances would not entail the development of structures or elements that would expose or place people within vicinity of a known earthquake fault. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving the rupture of a known earthquake fault. No further analysis is warranted.

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[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] California Geological Survey. 2007 (Interim Revision). "Fault-Rupture Hazard Zones in California." *Special Publication 42*. Supplements 1 and 2 added 1999. Contact: 655 S. Hope Street, #700, Los Angeles, CA 90017. Available at: ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sp/Sp42.pdf

ii) Strong seismic ground shaking?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Although numerous active faults exist that could result in strong seismic ground shaking, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail the development of structures or elements that would expose or place people near or in areas susceptible to strong seismic ground shaking. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving strong seismic ground shaking. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. The proposed ordinances would ban plastic carryout bags issued by certain stores and would not entail the development of structures or elements that would expose or place people near or in areas susceptible to strong seismic ground shaking. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving strong seismic ground shaking. No further analysis is warranted.

iii) Seismic-related ground failure, including liquefaction?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Although numerous active faults exist that could result in strong seismic ground shaking, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail the development of structures or elements that would expose or place people near or in an area susceptible to seismic-related ground failure, including liquefaction. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving seismic-related ground failure, including liquefaction. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. The proposed ordinances would ban plastic carryout bags issued by certain stores and would not entail the development of structures or elements that would expose or place people near or in an area susceptible to seismic-related ground failure, including liquefaction. Therefore, there would be no expected impacts from exposing people or structures to potential substantial adverse effects involving seismic-related ground failure, including liquefaction. No further analysis is warranted.

iv) Landslides?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Due to the substantial topographical changes throughout southern California, there are numerous locations within the County that are susceptible to landslides. However, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not contain components that would require the development of structures or elements that would expose people to potential adverse impacts related to landslides. Therefore, there would be no expected impacts related to exposing people or structures to potential substantial adverse effects involving landslides and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts related to exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. The proposed ordinances would not contain components that would require the development of structures or elements that would expose people to potential adverse impacts related to landslides. Therefore, there would be no expected impacts related to exposing people or structures to potential substantial adverse effects involving landslides and no further analysis is warranted.

(b) Result in substantial soil erosion or the loss of topsoil?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to geology and soils in relation to substantial soil erosion and the loss of topsoil. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail construction-related activities such as grading or elements that would be expected to result in changes to the existing soil conditions or create a loss of topsoil within the unincorporated areas of the County. Therefore, there would not be any expected impacts on geology and soils related to substantial soil erosion or the loss of topsoil. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to geology and soils in relation to substantial soil erosion and the loss of topsoil. The proposed ordinances would not contain elements that would require construction-related activities, such as grading or development that would be expected to result in changes to the existing soil conditions or to create a loss of topsoil within the incorporated areas of the County. Therefore, there would not be any expected impacts on geology and soils related to substantial soil erosion or the loss of topsoil. No further analysis is warranted.

(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to geology and soils in relation to location on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed ordinance, and that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail construction-related activities or the development of structures or elements that would be expected to have the potential to result in impacts related to soil or geologic units that are unstable or that would become unstable. Therefore, there would be no expected impacts to geology and soils related to location on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed ordinance, and that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to geology and soils in relation to location on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed ordinance, and that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. As previously stated, the proposed ordinances would not require construction-related activities or the development of structures or elements that would be expected to have the potential to result in impacts related to soil or geologic units that are unstable or that would become unstable. Therefore, there would be no expected impacts to geology and soils related to location on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed ordinance, and that could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No further analysis is warranted.

(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to geology and soils in relation to location on expansive soil creating substantial risks to life or property. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail the development of structures or features that would be located on expansive soils. Therefore, there would be no expected impacts to geology and soils related to location of the proposed ordinance on expansive soil creating substantial risks to life or property, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to geology and soils in relation to location on expansive soil creating substantial risks to life or property. The proposed ordinances would not entail the development of structures or features that would be located on expansive soils. Therefore, there would be no expected impacts to geology and soils related to

location of the proposed ordinance on expansive soil creating substantial risks to life or property, and no further analysis is warranted.

(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to geology and soils in relation to having soils that are incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not include any components requiring the use of septic tanks or alternative waste water disposal systems. Therefore, there would be no expected impacts to geology and soils related to having soils that are incapable of supporting septic tanks or alternative waste systems where sewers are not available. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to geology and soils in relation to having soils that are incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available. The proposed ordinances would not entail any components requiring the use of septic tanks or alternative waste water disposal systems. Therefore, there would be no expected impacts to geology and soils related to having soils that are incapable of supporting septic tanks or alternative waste systems where sewers are not available. No further analysis is warranted.

3.7 GREENHOUSE GAS EMISSIONS

This analysis is undertaken to determine if the proposed ordinances may have significant environmental impacts due to greenhouse gas (GHG) emissions. The analysis is based on the two recommended questions proposed by OPR in April 2009 as additions to Appendix G of the State CEQA Guidelines.[1] GHG emissions within the County, which would be subject to the proposed ordinances, were evaluated based on guidance provided by regulatory publications from the California Air Pollution Control Officers Association;[2] the State Office of the Attorney General;[3] CARB;[4] and OPR.[5]

The U.S. Environmental Protection Agency (EPA) has reported that the majority of GHG emissions in the United States can be attributed to the energy sector, which accounted for 86.3 percent of total U.S. GHG emissions in 2007 due to stationary and mobile fuel combustion.[6] The manufacture and distribution of plastic and paper carryout bags, as well as reusable bags, requires energy use, and therefore contributes to the total GHG emissions in the energy sector. The industrial sector accounted for only 4.9 percent of U.S. GHG emissions in 2007.[7] In the industrial sector, the top 10 contributors to GHG emissions, which account for more than 90 percent of the total GHG emissions from the industrial sector, include substitution of ozone-depleting substances; iron and steel production and metallurgical coke production; cement production; nitric acid production; hydrochlorofluorocarbon (HCFC) production, specifically, HCFC-22; lime production; ammonia production and urea consumption; electrical transmission and distribution; aluminum production; and limestone and dolomite use. Although the production of plastic, paper, and reusable carryout bags can be categorized as part of the industrial sector, it is not included in the top 10 contributors.

OPR recommends the consideration of two questions when addressing the potential for significant impacts to GHG emissions.

Would the proposed ordinances:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

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[1] California Governor's Office of Planning and Research. 2007. *CEQA Guidelines and Greenhouse Gases*. Available at: http://www.opr.ca.gov/index.php?a=ceqa/index.html

[2] California Air Pollution Control Officers Association. January 2008. *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*. Sacramento, CA.

[3] California Department of Justice, Office of the Attorney General. 21 May 2008 (Updated 26 September 2008). *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Sacramento, CA.

[4] California Air Resources Board. 24 October 2008. *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. Available at: http://www.opr.ca.gov/ceqa/pdfs/Prelim_Draft_Staff_Proposal_10-24-08.pdf

[5] California Governor's Office of Planning and Research Technical Advisory. 19 June 2008. *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Sacramento, CA.

[6] U.S. Environmental Protection Agency. April 2009. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*. Washington, DC.

[7] U.S. Environmental Protection Agency. April 2009. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*. Washington, DC.

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The net impact on the environment due to the proposed ordinance in relation to the direct or indirect generation of GHGs would be expected to be below the level of significance. The proposed ordinance would be expected to assist the County in reducing GHG emissions over time. However, certain representatives of the plastic bag industry have argued that similar proposed ordinances may have the potential to generate GHG emissions due to increased reliance on paper carryout bags;[8] therefore, the County has decided to present the analysis of this issue in an EIR.

The proposed ordinance would ban the issuance of plastic carryout bags by certain stores, which would be expected to result in beneficial impacts in relation to GHG emissions. The proposed ordinance is expected to result in a net reduction in the use of plastic carryout bags, as it is intended to result in a net conversion to the use of reusable bags. Direct reductions in GHGs would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag litter along roadways and water channels. In addition, reductions in GHG emissions would be expected to result from the reduction in demand for the production of plastic carryout bags. The production of plastic bags is a chemical process that begins with the conversion of crude oil or natural gas into hydrocarbon monomers such as ethylene;[9] further processing leads to the polymerization of ethylene to form polyethylene. During processing, volatile organic compounds (VOCs) are emitted into the atmosphere.[10] Due to the fact that VOCs undergo a sequence of reactions in the atmosphere to form ozone (O_3) and carbon dioxide (CO_2), VOCs have an indirect global warming potential;[11] therefore, the emission of VOCs during the manufacture of plastic bags cause an indirect increase in GHGs. In addition, fuel combustion is required to operate the facilities that manufacture plastic bags.[12] The emission of VOCs and the combustion of fuel during the manufacture of plastic bags results in the emission of GHGs into the atmosphere; therefore, a reduction in the manufacture, transport, and disposal of plastic carryout bags would be expected to reduce the emission of GHGs into the atmosphere.

However, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in increases in GHG emissions due to potential increased demand for paper bags.[13] Certain representatives of the plastic bag industry have argued that as paper bags are significantly heavier than plastic bags, the transport of a higher volume of paper

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[8] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[9] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Ethylene." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B451vs2.3.pdf

[10] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[11] Intergovernmental Panel on Climate Change. *Climate Change 2007: The Physical Science Basis. Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing.* Cambridge, UK, and New York, NY, USA.

[12] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[13] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

bags could require the combustion of more fossil fuel, thereby resulting in the increased emission of GHGs.[14] The manufacturing process of paper bags requires fuel consumption; consequently, representatives of the plastic bag industry have argued that an increase in the production of paper carryout bags would increase the emission of GHGs into the atmosphere.[15] However, any increases in GHG emissions would be offset to some extent by the ability of paper bags to contain a larger volume of groceries than plastic bags; therefore, a conversion of use from plastic to paper would be expected to result in a smaller number of individual paper and plastic carryout bags being manufactured, transported, and used. In addition, a net increase in the use of reusable bags would also be encouraged, which would further reduce the number of paper carryout bags utilized.

Certain representatives of the plastic bag industry have argued that the production of paper carryout bags could cause an adverse environmental impact due to the release of GHGs into the atmosphere due to deforestation.[16] In addition, certain representatives of the plastic bag industry have argued that GHG emissions may occur due to the process of decomposition of paper bags in landfills, which releases methane into the atmosphere.[17] Therefore, certain representatives of the plastic bag industry have concluded that an increase in the production, use, and disposal of paper carryout bags could have the potential to generate increased GHG emissions, either directly or indirectly.[18] In a similar manner, the production and transport of reusable bags could also result in the emission of GHGs; however, the emissions resulting from reusable bags would be expected to be significantly lower than the emission per plastic carryout bag since reusable bags can be reused multiple times and can last two to five years.[19]

It is also important to note that, as previously mentioned, although the manufacture and distribution of paper and plastic carryout bags and reusable bags require some fuel consumption that results in GHG emissions, the production of paper and plastic carryout bags and reusable bags is not one of the top 10 contributors to GHG emissions in the U.S. industrial sector.[20]

The expected net impacts to GHG emissions from the proposed ordinance in relation to the direct or indirect generation of GHGs would be expected to be below the level of significance. However, the County has decided to present the analysis of this issue in an EIR to verify these findings.

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The net impact on the environment due to the proposed ordinances in relation to the direct or indirect generation of GHGs would be expected to be below the level of significance. The proposed ordinances would be expected to assist the incorporated cities in the County in reducing GHG emissions over time. However, certain representatives of the plastic bag industry have

[14] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[15] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[16] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[17] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[18] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[19] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[20] U.S. Environmental Protection Agency. April, 2009. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*. Washington, DC.

argued that the proposed ordinances may also have the potential to generate GHG emissions due to increased reliance on paper carryout bags;[21] therefore, the County has decided to present the analysis of this issue in an EIR to verify these findings.

As with the unincorporated territories of the County, the proposed ordinances would ban the issuance of plastic carryout bags, which would be expected to result in beneficial impacts in relation to the generation of GHG paper and plastic carryout bags, as it is intended to result in a net conversion to the use of reusable bags. Direct reductions in GHGs would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag litter along roadways and water channels. In addition, reductions in GHG emissions would be expected to result from the reduction in demand for the production of plastic carryout bags. The production of plastic bags is a chemical process that begins with the conversion of crude oil or natural gas into hydrocarbon monomers such as ethylene;[22] further processing leads to the polymerization of ethylene to form polyethylene. During processing, VOCs are emitted into the atmosphere.[23] Due to the fact that VOCs undergo a sequence of reactions in the atmosphere to form O_3 and CO_2, VOCs have an indirect global warming potential;[24] therefore, the emission of VOCs during the manufacture of plastic bags cause an indirect increase in GHGs. In addition, fuel combustion is required to operate the facilities that manufacture plastic bags.[25] The emission of VOCs and the combustion of fuel during the manufacture of plastic bags results in the emission of GHGs into the atmosphere; therefore, a reduction in the manufacture, transport, and disposal of plastic carryout bags would be expected to reduce the emission of GHGs into the atmosphere.

However, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in increases in GHG emissions due to the potential increased demand for paper bags.[26] As paper bags are significantly heavier than plastic bags, representatives of the plastic bag industry have argued that the transport of a higher volume of paper bags could require the combustion of more fossil fuel, thereby resulting in the increased emission of GHGs.[27] The manufacturing process of paper bags requires fuel consumption; consequently, representatives of the plastic bag industry have argued that an increase in the production of paper carryout bags could increase the emission of GHGs into the atmosphere.[28] However, any increases would be offset to some extent by the ability of paper bags to contain a larger volume of groceries than plastic bags; therefore, a conversion of use from plastic to paper

[21] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[22] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Ethylene." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B451vs2.3.pdf

[23] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[24] Intergovernmental Panel on Climate Change. *Climate Change 2007: The Physical Science Basis. Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing.* Cambridge, UK, and New York, NY, USA.

[25] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[26] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[27] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[28] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

would be expected to result in a smaller number of individual paper and plastic carryout bags being manufactured, transported, and used. In addition, a net increase in the use of reusable bags would also be encouraged, which would further reduce the number of paper carryout bags utilized.

Certain representatives of the plastic bag industry have argued that the production of paper carryout bags could cause an adverse environmental impact due to deforestation.[29] In addition, certain representatives of the plastic bag industry have argued that GHG emissions may occur due to the process of decomposition of paper bags in landfills, which releases methane into the atmosphere.[30] Therefore, certain representatives of the plastic bag industry have concluded that a potential increase in the production, use, and disposal of paper carryout bags could have the potential to generate GHG emissions.[31] In a similar manner, the production and transport of reusable bags could also be expected to result in the emission of GHGs; however, the emissions per reusable bag would be expected to be significantly lower than the emission per plastic carryout bag due to the fact that reusable bags can be reused multiple times and can last for between two to five years.[32] It is also important to note that, as previously mentioned, although the manufacture and distribution of plastic and paper carryout bags and reusable bags require some fuel consumption that results in GHG emissions, the production of carryout bags and reusable bags is not one of the top 10 contributors to GHG emissions in the U.S. industrial sector.[33] The expected net impacts to GHGs from the proposed ordinances in relation to the direct or indirect generation of GHGs would be expected to be below the level of significance. However, the County has decided to present the analysis of this issue in an EIR to verify these findings.

(b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

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The proposed ordinance's net impacts on the environment related to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs would be expected to be below the level of significance. However, certain representatives of the plastic bag industry have argued that similar proposed ordinances may also have the potential to generate GHG emissions due to increased reliance on paper carryout bags,[34] the County has decided to present its analysis of this issue in the EIR to verify these findings. The County, in its consideration of the proposed ordinance, must consider consistency with applicable standards such as Executive Order S-3-05, the Global Warming Solutions Act of 2006 (AB 32), and Senate Bill (SB) 97 of 2007.

[29] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[30] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[31] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[32] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[33] U.S. Environmental Protection Agency. April 2009. *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007*. Washington, DC.

[34] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

Executive Order S-3-05 establishes statewide climate change emission reduction targets to reduce $CO_{2equivalent}$ (CO_{2e}) to the year 2000 level (473 million metric tons) by 2010, to the 1990 level (427 million metric tons of CO_{2e}) by 2020, and to 80 percent below the 1990 level (85 million metric tons of CO_{2e}) by 2050.[35] The executive order directs the California Environmental Protection Agency secretary to coordinate and oversee efforts from multiple agencies to reduce GHG emissions to achieve the target levels.

AB 32 also establishes statewide GHG emission reduction targets to reduce carbon dioxide equivalent to the 2000 level by 2010 and to the 1990 level by 2020. AB 32 regulates the following GHG emissions: CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Furthermore, SB 97 requires OPR "to prepare, develop, and transmit to the [CARB] guidelines for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption."[36] Although SB 97 exempts certain transportation projects and projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006, it would apply to any environmental documents required by CEQA that have not been certified or adopted by the CEQA lead agency by the date of the adoption of the regulations on or before January 1, 2010.

The proposed ordinance would ban the issuance of plastic carryout bags by certain stores, which would be expected to result in beneficial impacts in relation to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Direct reductions in GHG emissions would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag litter along roadways and water channels. In addition, reductions in GHG emissions would be expected to result from the expected reduction in production of plastic carryout bags. The production of plastic bags is a chemical process that begins with the conversion of crude oil or natural gas into hydrocarbon monomers such as ethylene;[37] further processing leads to the polymerization of ethylene to form polyethylene. During processing, VOCs are emitted into the atmosphere.[38] Due to the fact that VOCs undergo a sequence of reactions in the atmosphere to form O_3 and CO_2, VOCs have an indirect global warming potential;[39] therefore, the emission of VOCs during the manufacture of plastic bags causes an indirect increase in GHGs. In addition, fuel combustion is required to operate the facilities that manufacture plastic bags.[40] The emission of VOCs and the combustion of fuel during the manufacture of plastic bags results in an increase in the emission of GHGs into the atmosphere; therefore, reduced manufacture, transport, and

[35] California Governor. 2005. Executive Order S-3-05. Sacramento, CA.

[36] California Governor's Office of Planning and Research. 24 August 2007. Senate Bill No. 97, Chapter 185. Available at: http://www.opr.ca.gov/ceqa/pdfs/SB_97_bill_20070824_chaptered.pdf

[37] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Ethylene." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B451vs2.3.pdf

[38] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

[39] Intergovernmental Panel on Climate Change. *Climate Change 2007: The Physical Science Basis. Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing.* Cambridge, UK, and New York, NY, USA.

[40] European Environment Agency. 5 December 2007. "Processes in Organic Chemical Industries (Bulk Production) Polyethylene Low Density." *EMEP / CORINAIR Emission Inventory Guidebook* – 2007. Copenhagen, Denmark. Available at: http://www.eea.europa.eu/publications/EMEPCORINAIR5/B456vs2.2.pdf

disposal of plastic carryout bags would be expected to reduce GHG emissions in compliance with Executive Order S-3-05 and AB 32.

As previously noted, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in increases in GHG emissions due to the increased reliance on paper bags.[41] As paper bags are significantly heavier than plastic bags, certain representatives of the plastic bag industry have argued that the transport of a higher volume of paper bags could require the combustion of more fossil fuel, thereby possibly resulting in the increased emission of GHGs.[42] The manufacturing process of paper bags also requires fuel consumption; consequently, certain representatives of the plastic bag industry have argued that an increase in the production of paper carryout bags could increase the emission of GHGs into the atmosphere.[43] However, any increases would be offset to some extent by the ability of paper carryout bags to contain a larger volume of groceries than plastic carryout bags; therefore, a conversion of use from plastic to paper would be expected to result in a smaller number of individual paper and plastic carryout bags used. In addition, a net increase in the use of reusable bags would also be encouraged, which would further reduce the number of paper carryout bags utilized. In a similar manner, the production and transport of reusable bags would also be expected to result in the emission of GHGs; however, the emissions per reusable bag would be expected to be significantly lower than the emission per plastic carryout bag due to the fact that reusable bags can be reused multiple times and can last two to five years.[44] Certain representatives of the plastic bag industry have also argued that the production of paper carryout bags could impact the amount of GHGs in the atmosphere due to deforestation.[45] Certain representatives of the plastic bag industry have also stated that GHG emissions may occur due to the process of decomposition of paper bags in landfills, which releases methane into the atmosphere.[46] Therefore, certain representatives of the plastic bag industry have concluded that increased production, use, and disposal of paper carryout bags could have the potential to increase GHG emissions.[47]

Adoption of the proposed ordinance would not be expected to facilitate the violation of any existing applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. As such, the expected environmental impacts from the proposed ordinance in relation to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs would be expected to be below the level of significance. However, the County has decided to present the analysis of this issue in an EIR to verify these findings.

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[41] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[42] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[43] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[44] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16).* Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[45] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[46] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[47] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

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The net environmental impacts from the proposed ordinances related to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions would be expected to be below the level of significance. However, certain representatives of the plastic bag industry have argued that similar proposed ordinances would have a potential to generate GHG emissions due to increased reliance on paper carryout bags;[48] the County has decided to present its analysis of this issue in the EIR to verify these findings. As with the unincorporated territories of the County, the proposed ordinances within the incorporated cities of the County would be required to comply with AB 32 and Executive Order S-3-05.

The proposed ordinances would ban the issuance of plastic carryout bags, which would be expected to result in beneficial impacts in relation to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions. Direct reductions in GHG emissions would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag litter along roadways and water channels. In addition, reductions in GHG emissions would be expected to result from the expected reduction in production of plastic carryout bags. The emission of VOCs and the combustion of fuel during the manufacture of plastic bags results in an increase in the emission of GHGs into the atmosphere; therefore, reduced manufacture, transport, and disposal of plastic carryout bags would be expected to reduce GHG emissions in compliance with Executive Order S-3-05 and AB 32.

However, certain representatives of the plastic bag industry have argued that potential increases in GHG emissions could occur as a result of the potential increase in the consumption of paper bags.[49] Paper bags are heavier than plastic bags; therefore, certain representatives of the plastic bag industry have argued that transport of a higher volume of paper bags could require the combustion of more fossil fuel, thereby possibly resulting in the increased emission of GHGs.[50] The manufacturing process of paper bags also requires fuel consumption; consequently, certain representatives of the plastic bag industry have argued that an increase in the production of paper carryout bags could increase the emission of GHGs into the atmosphere.[51] However, any increases would be offset to some extent by the ability of paper bags to contain a larger volume of groceries than plastic bags, which would be expected to result in a smaller number of individual paper and plastic carryout bags being manufactured, transported, and used. In addition, a net increase in the use of reusable bags would also be encouraged, which would further reduce the number of paper carryout bags utilized. In a similar manner, the production and transport of reusable bags could result in the emission of GHGs; however, the emissions per reusable bag would be expected to be significantly lower than the emissions per plastic carryout bag, due to the fact that reusable bags can be reused multiple times and can last two to five years.[52]

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[48] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[49] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[50] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[51] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[52] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16).* Washington, DC. Available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

Certain representatives of the plastic bag industry have argued that the production of paper carryout bags could cause an adverse environmental impact due to deforestation.[53] In addition, certain representatives of the plastic bag industry have argued that GHG emissions may occur due to the decomposition process of paper bags in landfills, which releases methane into the atmosphere.[54] Therefore, certain representatives of the plastic bag industry have concluded that a potential increase in the production, use, and disposal of paper carryout bags could potentially increase GHG emissions.[55]

Adoption of the proposed ordinances would not be expected to facilitate the violation of any existing applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. Therefore, expected impacts to GHGs from the proposed ordinances in relation to conflicts with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions would be expected to be below the level of significance. However, the County has decided to present the analysis of this issue in an EIR to verify these findings.

[53] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[54] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

[55] Save the Plastic Bag. Accessed on: 21 October 2009. Web Site. Available at: http://www.savetheplasticbag.com/

3.8 HAZARDS AND HAZARDOUS MATERIALS

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to hazards and hazardous materials, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1]

Hazardous wastes are by-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Hazardous wastes exhibit at least one of four characteristics—ignitability, corrosivity, reactivity, or toxicity—or appear on special U.S. EPA lists.[2]

Hazards and hazardous materials related to the proposed ordinances were evaluated based on expert opinion supported by facts, and a review of the County of Los Angeles General Plan.

The State CEQA Guidelines recommend the consideration of eight questions when addressing the potential for significant impact to hazards and hazardous materials.

Would the proposed ordinances:

(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

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The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The proposed ordinance would not involve the routine transport, use, or disposal of hazardous materials as defined by the Hazardous Materials Transportation Uniform Safety Act.[3] The proposed ordinance would ban plastic carryout bags issued by certain stores, which do not meet the criteria of a hazardous substance, because they do not possess at least one of four characteristics of hazardous wastes in the condition in which they are intended to be used from stores and do not appear on special U.S. EPA lists.[4] Therefore, the proposed ordinance would not be expected to create impacts related to the routine transport, use, or disposal of hazards or hazardous materials. Therefore, there would be no expected impacts from hazards and hazardous materials related to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. No further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The proposed ordinances would not involve the routine transport, use, or disposal of hazardous materials as defined by the Hazardous

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261: "Identification and Listing of Hazardous Waste."

[3] *Code of Federal Regulations*, Title 40, Chapter 1, Parts 106–180.

[4] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261: "Identification and Listing of Hazardous Waste."

Materials Transportation Uniform Safety Act.[5] In addition, plastic carryout bags that would be banned do not meet the criteria of a hazardous substance for the reasons described above.[6] Therefore, the proposed ordinances would not be expected to create impacts related to the routine transport, use, or disposal of hazards or hazardous materials. There would be no expected impacts from hazards and hazardous materials related to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. No further analysis is warranted.

(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts from hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The proposed ordinance would ban plastic carryout bags issued by certain stores, which could potentially reduce the prevalence of plastic bags in the litter stream and could result in a reduction in the accidental release of plastic bags into the environment. However, carryout and compostable plastic bags, in the condition in which they are intended to be used from stores, do not meet the criteria of a hazardous substance, including possessing at least one of the four characteristics of hazardous wastes or appearing on special U.S. EPA lists.[7] The proposed ordinance would not involve any type of construction or activities that would require the use of hazardous materials or that would result in the accidental release of hazardous materials into the environment. Therefore, there would be no expected impacts from hazards and hazardous materials related to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environmental. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts from hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. As previously noted, carryout and compostable plastic bags, in the condition in which they are intended to be used from stores, do not meet the criteria of a hazardous substance, including possessing at least one of the four characteristics of hazardous wastes or appearing on special U.S. EPA lists.[8] The proposed ordinances would not involve any type of construction or activities that would require the use of hazardous materials or that would result in the accidental release of hazardous materials into the environment. Therefore, there would be no expected impacts from hazards and hazardous materials related to the creation of a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environmental. No further analysis is warranted.

[5] *Code of Federal Regulations*, Title 40, Chapter 1, Parts 106–180.

[6] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261: "Identification and Listing of Hazardous Waste."

[7] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261: "Identification and Listing of Hazardous Waste."

[8] *Code of Federal Regulations*, Title 40, Chapter 1, Part 261: "Identification and Listing of Hazardous Waste."

(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials with respect to the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Numerous schools exist within the unincorporated territories of the County; however, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not include any physical elements, or otherwise, that would involve the emission or handling of hazardous or acutely hazardous materials. Therefore, there would be no expected impacts to hazards and hazardous materials related to the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials with respect to the emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Numerous schools exist within the incorporated areas of the County; however, the proposed ordinances would not include any physical elements, or otherwise, that would involve the emission or handling of hazardous or acutely hazardous materials. Therefore, there would be no expected impacts to hazards and hazardous materials related to the emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No further analysis is warranted.

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to the Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials related to the location of the proposed ordinance on a site that is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Although there are numerous hazardous materials sites within the unincorporated territories of the County, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail elements that would be located on a site or sites, including hazardous materials sites. Therefore, there would be no expected impacts from hazards and hazardous materials related to location of the proposed ordinance on a hazardous materials site, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials related to the location of the proposed ordinances on a site that is included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. Although there are numerous hazardous materials sites within the incorporated cities of the County, the proposed

ordinances would not entail elements that would be located on a site or sites, including hazardous materials sites. Therefore, there would be no expected impacts from hazards and hazardous materials related to location of the proposed ordinances on a hazardous materials site, and no further analysis is warranted.

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials in relation to its proximity to an airport and thus would not be expected to result in a safety hazard for people residing or working in the unincorporated territories of the County, which would be subject to the proposed ordinance. Numerous airports exist within the unincorporated territories of the County; however, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not include elements that would be located on any site or sites, including one near a public airport or public use airport or within an airport land use plan. Therefore, there would be no expected impacts to hazards and hazardous materials in relation to the proximity of the proposed ordinance to an airport and would not be expected to create a safety hazard for people residing or working in the proposed ordinance area. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials in relation to its proximity to an airport and thus would not be expected to result in a safety hazard for people residing or working in the incorporated cities of the County, which would be subject to the proposed ordinances. Numerous airports exist within the incorporated cities of the County; however, the proposed ordinances would not include elements that would be located on any site or sites, including one near a public airport or public use airport or within an airport land use plan. Therefore, there would be no expected impacts to hazards and hazardous materials in relation to the proximity of the proposed ordinances to an airport and would not be expected to create a safety hazard for people residing or working in the area that would be affected by the proposed ordinances. No further analysis is warranted.

(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials due to the location of the proposed ordinance in the vicinity of a private airstrip and the potential for safety hazards for people residing or working in the unincorporated territories of the County, which would be subject to the proposed ordinance. Although many private airstrips exist throughout the unincorporated territories of the County, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not include physical elements that would be located on a site or sites within the vicinity of a private airstrip that would be expected to result in impacts related to safety hazards for people residing or working in the vicinity of a private airstrip.

Therefore, there would be no expected impacts to hazards and hazardous materials due to the location of the proposed ordinance within a private airstrip and the potential for safety hazards for people residing or working in the proposed ordinance area. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials due to the location of the proposed ordinances in the vicinity of a private airstrip and the potential for safety hazards for people residing or working in the incorporated areas of the County, which would be subject to the proposed ordinances. Although many private airstrips exist throughout the incorporated cities of the County, the proposed ordinances would not include physical elements that would be located on a site or sites within the vicinity of a private airstrip that would consequently be expected to result in impacts related to safety hazards for people residing or working in the vicinity of a private airstrip. Therefore, there would be no expected impacts to hazards and hazardous materials due to the location of the proposed ordinances within a private airstrip and the potential for safety hazards for people residing or working in the areas that would be subject to the proposed ordinances. No further analysis is warranted.

(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials related to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not entail the development of structures or any components that would interfere with emergency response plans or evacuation plans. Therefore, there would be no expected impacts from hazards and hazardous materials from impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials related to impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. The proposed ordinances would not entail the development of structures or include any components that would interfere with emergency response plans or evacuation plans. Therefore, there would be no expected impacts from hazards and hazardous materials from impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan, and no further analysis is warranted.

(h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hazards and hazardous materials related to exposing people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Although wildlands exist within the unincorporated territories of the County, the proposed ordinance would ban plastic carryout bags issued by certain stores and would not contain any components that would expose people or structures to significant risks. Therefore, there would be no expected impacts related to the exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hazards and hazardous materials related to exposing people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. Although wildlands exist within the incorporated cities of the County, the proposed ordinances would not contain any components that would expose people or structures to significant risks. Therefore, there would be no expected impacts related to the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. No further analysis is warranted.

3.9 HYDROLOGY AND WATER QUALITY

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to hydrology and water quality, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Hydrology and water quality within the County, which would be subject to the proposed ordinances, were evaluated with regard to the County of Los Angeles General Plan,[2] State of California Regional Water Quality Control Board (RWQCB) Basin Plan for the Colorado River RWQCB Region 7,[3] and the National Flood Insurance Program Flood Insurance Rate Maps for the County.[4]

The State CEQA Guidelines recommend the consideration of 10 questions when addressing the potential for significant impacts to hydrology and water quality.

Would the proposed ordinances:

(a) Violate any water quality standards or waste discharge requirements?

Unincorporated Territories of the County of Los Angeles

The net impact to hydrology and water quality in relation to water quality standards or waste discharge requirements would be expected to be below the level of significance. The impacts to hydrology and water quality related to water quality standards or waste discharge requirements from the proposed ordinance would be expected to assist the County in better achieving water quality standards over time through a net reduction of litter comprised of plastic carryout bags. Over time, the transition from carryout bags to reusable bags would be anticipated to reduce the amount of litter found in water sources such as drain outlets and storm water runoff that can be attributed to plastic carryout bags, which in turn would be expected to have a positive impact on the water waste discharge requirements within the unincorporated territories of the County. However, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in environmental impacts that could result in violations of water quality standards due to the increased reliance on paper bags during the period required for consumers to transition to using reusable bags.[5]

The proposed ordinance would not entail elements that would directly violate the standards or requirements specified in the County of Los Angeles General Plan[6] or the Water Quality Control Plan for the Colorado River Basin (Region 7), and adoption of the proposed ordinance would not

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[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] State Resources Control Board. 2007 (Adopted June 2006). *Water Quality Control Plan - Colorado River Basin – Region 7*. Palm Desert, CA. Available at: http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basinplan_2006.pdf

[4] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. Washington, DC.

[5] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco*. Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[6] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

permit or sanction the violation of any established industry standards, management, or policies.[7] The proposed ordinance would ban the issuance of plastic carryout bags by certain stores within the unincorporated territories of the County that are subject to the ordinance. While certain representatives of the plastic bag industry argue that any proposed ordinance could potentially temporarily increase the consumption and production of paper bags as stores and consumers transition to the use of reusable bags, any ordinance would be consistent with the applicable standards or requirements for the area. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County.[8] Direct discharge of pollutants into a water body from point sources such as the manufacturing of paper bags, which could be subject to the regulatory authority of the RWQCB under the federal Clean Water Act, is required to comply with the Water Quality Control Plan for the Colorado River Basin (Region 7). However, due to arguments raised by certain representatives of the plastic bag industry in this area, the County has decided to present the analysis of this issue in an EIR.

Incorporated Cities of the County of Los Angeles

Impacts to hydrology and water quality in relation to water quality standards or waste discharge requirements would be expected to be below the level of significance. As with the discussion above for the unincorporated territories of the County, the proposed ordinances would ban the issuance of plastic carryout bags by certain stores within the incorporated cities of the County that are subject to the ordinance. While certain representatives of the plastic bag industry argue that any proposed ordinance could potentially temporarily increase the consumption and production of paper bags as stores and consumers transition to the use of reusable bags, any ordinance would be consistent with the applicable standards or requirements for the area. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County.[9] Direct discharge of pollutants to a water body from point sources such as the manufacturing of paper bags, which could be subject to the regulatory authority of the RWQCB under the federal Clean Water Act, would be required to be consistent with the Water Quality Control Plan for the Colorado River Basin (Region 7). However, due to arguments raised by certain representatives of the plastic bag industry in this area, the County has decided to present the analysis of this issue in an EIR.

[7] State Resources Control Board, California Regional Water Quality Control Board. 2007 (adopted June 2006). *Water Quality Control Plan: Colorado River Basin – Region 7*. Palm Desert, CA. Available at: http://www.waterboards.ca.gov/coloradoriver/publications_forms/publications/docs/basinplan_2006.pdf

[8] Reusable bags have been defined as having a lifetime of 2 to 5 years or at least 300 uses for its useful lifetime. Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Also available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[9] Reusable bags have been defined as having a lifetime of 2 to 5 years or at least 300 uses for its useful lifetime. Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Also available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

(b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in less than significant impacts to hydrology and water quality in relation to groundwater supplies or groundwater recharge in relation to the proposed ordinance. The proposed ordinance would ban the issuance of plastic carryout bags by certain stores within the unincorporated territories of the County. Certain representatives of the plastic bag industry have argued that the proposed ordinance could result in an increase in the consumption of paper bags as stores and consumers transition to the use of reusable bags.[10] As a result, they argue that there could be an expected increase in the manufacturing of paper bags. Studies prepared or referred to by certain representatives of the plastic bag industry that compare the production of plastic bags to that of paper bags have stated their position that manufacturing of plastic bags consumes less than 4 percent of the total amount of water needed to manufacture paper bags (5,527 cubic meters of water to produce 100 million plastic bags versus 145,729 cubic meters of water to produce 100 million paper bags).[11] Their perception of the comparable water demand for production of paper bags versus production of plastic bags underlies their position that the banning of plastic bags would result in a net increase in water consumption due to production of alternative bag choices; therefore, the County has decided to present the analysis of this issue in an EIR.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would be expected to result in less than significant impacts to hydrology and water quality in relation to impacts from the proposed ordinances to groundwater supplies or groundwater recharge. As discussed above, the proposed ordinances would be expected to cause a decrease in the number of plastic carryout bags used throughout the County, which would be expected to reduce the amount of water consumed related to the manufacturing of plastic carryout bags. However, based on the perception of certain representatives in the plastic bag industry that the comparable water demand for production of paper bags versus production of plastic bags would result in a net increase in water consumption, the County has decided to present the analysis of this issue in an EIR.

[10] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[11] Based upon an anticipated worst case scenario as described in: Save the Plastic Bag. 2008. *Review of Life Cycle Data Relating to Disposable, Compostable, Biodegradable, and Reusable Grocery Bags*. Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.deq.state.mi.us/documents/deq-ess-p2-recycling-PaperPlasticSummary_2.pdf

(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to altering existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site. The proposed ordinance would not entail construction elements and would not involve any changes to existing physical property within the unincorporated territories of the County, which would be subject to the proposed ordinance. Alterations to drainage patterns are subject to the regulatory authority of the U.S. Army Corps of Engineers, the CDFG, and the County, and the proposed ordinance does not sanction any change in drainage pattern. Consequently, there would be no potential for impacts to hydrology and water quality in relation to the alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site. Therefore, there would be no expected impacts to hydrology and water quality related to alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to altering existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site. The proposed ordinances would not entail construction elements and would not involve any changes to existing physical property within the incorporated cities of the County that would be subject to the proposed ordinance. . Alterations to drainage patterns are subject to the regulatory authority of the U.S. Army Corps of Engineers, the CDFG, and the County, and the proposed ordinances do not sanction any change in drainage pattern. As a result, there would be no potential for impacts to hydrology and water quality in relation to alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site. Therefore, there would be no expected impacts to hydrology and water quality related to alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation on or off site, and no further analysis is warranted.

(d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to altering existing drainage patterns in a manner that would result in flooding on or off site. The proposed ordinance would not entail construction elements and would not involve any changes to existing physical property within the unincorporated territories of the County. As such, there would be no potential for impacts to hydrology and water quality in relation to the alteration of existing drainage patterns in a manner that would result in flooding on site or off site. Therefore, there would be no significant impacts to hydrology and water quality related to alteration of existing drainage patterns in a manner that would result in flooding on site or off site, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to altering existing drainage patterns in a manner that would result in flooding on or off site. The proposed ordinances would not entail construction elements and would not involve any changes to existing physical property within the incorporated cities of the County. As such, there is no potential for impacts to hydrology and water quality in relation to the alteration of existing drainage patterns in a manner that would result in flooding on site or off site. Therefore, there would be no significant impacts to hydrology and water quality related to alteration of existing drainage patterns in a manner that would result in flooding on site or off site, and no further analysis is warranted.

(e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff?

Unincorporated Territories of the County of Los Angeles

There would be no anticipated impacts from the proposed ordinance to hydrology and water quality in relation to creating or contributing runoff water that would exceed the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff. The proposed ordinance would ban the issuance of plastic carryout bags by certain stores within the unincorporated territories of the County. Plastic carryout bags have a high propensity to become litter and account for as much as 25 percent of the litter stream within the County.[12] Due to the thin film used to create plastic carryout bags (which is generally 0.025 millimeter or less),[13] their low density, and their light weight (which has been noted as anywhere between 6 to 10 times lighter than paper bags),[14] plastic carryout bags have a very high propensity to become airborne and to ultimately contribute to the pollution in storm water drainage systems and runoff. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County.

The proposed ordinance would not entail construction elements and would not involve any changes to existing physical property within the unincorporated territories of the County. Consequently, there would be no potential for impacts to hydrology and water quality in relation to creating or contributing runoff water that would exceed the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff. No further analysis is warranted.

[12] County of Los Angeles Department of Public Works, Environmental Programs Division. October 2008. *County of Los Angeles Single Use Bag Reduction and Recycling Program – Program Resource Packet*. Alhambra, CA.

[13] Green Seal, Inc. 13 October 2008. *Green Seal Proposed Revised Environmental Standard For Reusable Bags (GS-16)*. Washington, DC. Also available at: http://www.greenseal.org/certification/gs-16_reusable_bag_proposed_revised_standard_background%20document.pdf

[14] Save the Plastic Bag. 2008. *Scottish Executive 2005 Environment Group Research Report (2005/06).* Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf

Incorporated Cities of the County of Los Angeles

There would be no anticipated impacts from the proposed ordinances to hydrology and water quality in relation to creating or contributing runoff water that would exceed the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff.

As with the proposed ordinance discussed above, the proposed ordinances would not entail construction elements and would not involve any changes to existing physical property within the incorporated cities of the County. Consequently, there would be no potential for impacts to hydrology and water quality in relation to creating or contributing runoff water that would exceed the capacity of existing or planned storm water drainage systems or providing substantial additional sources of polluted runoff. No further analysis is warranted.

(f) Otherwise substantially degrade water quality?

Unincorporated Territories of the County of Los Angeles

There would be no anticipated adverse impacts from the proposed ordinance to hydrology and water quality related to the substantial degradation of water quality. Water quality and use within California is regulated by the State Water Resources Control Board. The proposed ordinance would not entail construction elements and would not involve any changes to existing physical property within the unincorporated territories of the County that would negatively affect water quality. However, the reduction of plastic bag litter in the litter stream resulting from implementation of the proposed ordinance would be expected to benefit the unincorporated territories of the County. Consequently, further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinance.

Incorporated Cities of the County of Los Angeles

There would be no anticipated adverse impacts from the proposed ordinances to hydrology and water quality related to the substantial degradation of water quality. As previously mentioned, water quality and use within California is regulated by the State Water Resources Control Board. The proposed ordinances would not entail construction elements and would not involve any changes to existing physical property within the incorporated cities of the County that would negatively affect water quality. The reduction of plastic bag litter in the litter stream resulting from implementation of the proposed ordinance would be expected to benefit the incorporated cities within the County. Consequently, further analysis is warranted to discuss the potential beneficial effects that may result from the proposed ordinances.

(g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to the placement of housing within a 100-year flood hazard area. The proposed ordinance would ban the issuance of plastic carryout bags by certain stores and would not entail the construction of housing units; thus, there is no potential for impacts to hydrology and water

quality in relation to the placement of housing within a 100-year flood hazard area. Therefore, there are be no expected impacts to hydrology and water quality related to the placement of housing within a 100-year flood hazard area, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to the placement of housing within a 100-year flood hazard area. The proposed ordinances would not entail the construction of housing units or the development of any structures. As such, there would be no potential for impacts to hydrology and water quality in relation to the placement of housing within a 100-year flood hazard area. Therefore, there are no expected impacts to hydrology and water quality related to the placement of housing within a 100-year flood hazard area, and no further analysis is warranted.

(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to the placement of structures (other than housing) within a 100-year flood hazard area. Although there are 100-year flood hazard areas identified within the unincorporated territories of the County that would be subject to the proposed ordinance, the proposed ordinance would ban the issuance of plastic carryout bags by certain stores and would not entail any construction and thus would not place or develop structures within a 100-year flood hazard area.[15] As such, there would be no potential for impacts to hydrology and water quality in relation to placement of structures (other than housing) within a 100-year flood hazard area. Therefore, there are no expected impacts to hydrology and water quality related to placement of structures (other than housing) within a 100-year flood hazard area, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to the placement of structures (other than housing) within a 100-year flood hazard area. As within the unincorporated territories of the County, there are 100-year flood hazard areas identified within the incorporated cities of the County. The proposed ordinances would ban the issuance of plastic carryout bags by certain stores and would not entail any construction, and thus structures would not be placed or developed within a 100-year flood hazard area.[16] As such, there would be no potential for impacts to hydrology and water quality in relation to placement of structures (other than housing) within a 100-year flood hazard area. Therefore, there are no expected impacts to hydrology and water quality related to placement of structures (other than housing) within a 100-year flood hazard area, and no further analysis is warranted.

[15] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. Washington, DC.

[16] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. Washington, DC.

(i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to the failure of a levee or dam. The proposed ordinance would ban the issuance of plastic carryout bags by certain stores and would not entail the construction, placement, or development of structures within or adjacent to an area that would be susceptible to flooding.[17] The proposed ordinance would not result in or expose people to areas that are susceptible to flooding.[18] There would be no potential for and thus no expected impacts to hydrology and water quality related to the failure of a levee or dam, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to the failure of a levee or dam. The proposed ordinances would not entail the construction, placement, or development of structures within or adjacent to an area that would be susceptible to flooding.[19] The proposed ordinances would ban the issuance of plastic carryout bags by certain stores, and as such, they would not result in or expose people to areas that are susceptible to flooding.[20] There would be no potential for and thus no expected impacts to hydrology and water quality related to the failure of a levee or dam, and no further analysis is warranted.

(j) Inundation by seiche, tsunami, or mudflow?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to hydrology and water quality in relation to inundation by seiche, tsunami, or mudflow. Although there are areas located within the unincorporated territories of the County where seiches, tsunamis, or mudflows are potential threats, the proposed ordinance would not entail components that would result in or be subject to a potential threat by such occurrences. The proposed ordinance would ban the issuance of plastic carryout bags by certain stores and would not be expected to impact lakes and/or flood control basins or areas adjacent to any steep-sided slopes covered with soils and/or vegetation. Therefore, there would be no potential for and thus no expected impacts to hydrology and water quality in relation to inundation by seiche, tsunami, or mudflow, and no further analysis is warranted.

[17] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. Washington, DC.

[18] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[19] Federal Emergency Management Agency. December 1980. *Flood Insurance Rate Maps for the County of Los Angeles*. Washington, DC.

[20] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to hydrology and water quality in relation to inundation by seiche, tsunami, or mudflow. As with the unincorporated territories of the County, there are areas within the incorporated cities of the County where seiches, tsunamis, or mudflows are potential threats. The proposed ordinances would not entail components that would result in or be subject to a potential threat by such occurrences. The proposed ordinances would not be expected to impact lakes and/or flood control basins or areas adjacent to any steep-sided slopes covered with soils and/or vegetation. Therefore, there would be no potential for and thus no expected impacts to hydrology and water quality in relation to inundation by seiche, tsunami, or mudflow, and no further analysis is warranted.

3.10 LAND USE AND PLANNING

This analysis is undertaken to determine if the proposed ordinances might have a significant impact to land use and planning, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Land use and planning within the County, which would be subject to the proposed ordinances, were evaluated with regard to the County of Los Angeles General Plan[2] and its adopted maps, the County Code,[3] and coordination with the USFWS and the CDFG regarding the applicable proposed or adopted land use plans and regulations.

The State CEQA Guidelines recommend the consideration of three questions when addressing the potential for significant impacts to land use and planning.

Would the proposed ordinances:

(a) Physically divide an established community?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to land use and planning through the physical division of an established community. The proposed ordinance would ban plastic carryout bags issued at certain stores within the unincorporated territories of the County. Specifically, implementation of the proposed ordinance would require that no store subject to the proposed ordinance would be allowed to make available or distribute plastic bags to customers. As such, it would not be expected that there would be a physical division of an established community resulting from the implementation of the proposed ordinance. Therefore, there would be no expected impacts to land use and planning related to the physical division of an established community, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to land use and planning through the physical division of an established community. The proposed ordinances would ban plastic carryout bags issued at certain stores within the incorporated cities of the County. The proposed ordinances would not require any changes to the existing conditions within the established communities. As such, implementation of the proposed ordinances would not be expected to physically divide an established community. Therefore, there would be no expected impacts to land use and planning related to the physical division of an established community, and no further analysis is warranted.

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles. 2 June 2009. Los Angeles County Code. Tallahassee, FL. Available at: http://ordlink.com/codes/lacounty/index.htm

(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to land use and planning in relation to a conflict with adopted or proposed land use plans, policies, or regulations. A review of the Land Use element of the County of Los Angeles General Plan identifies Policy 9.0 pursuant to the goal of providing sufficient commercial and industrial land to protect major landfill and solid waste disposal sites from encroachment of incompatible uses.[4] This policy observes the existing conditions in the County, where each year approximately 6 billion plastic carryout bags are consumed,[5] and where the annual disposal rate of plastic carryout bags at landfills is 45,000 tons.[6] The proposed ordinance would aim to significantly reduce the amount of litter that can be attributed to carryout or compostable plastic bags by ensuring that no subject retail establishment would be allowed to distribute or make available to customers any carryout or compostable plastic bags. As such, the proposed ordinance would comply with Policy 9.0 of the County of Los Angeles General Plan Land Use element, as it would be anticipated that the reduced number of plastic bags available to consumers would in turn lower the volume of waste deposited in landfills. Therefore, there would be no expected impacts to land use and planning related to a conflict with adopted or proposed land use plans, policies, or regulations, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to land use and planning in relation to a conflict with adopted or proposed land use plans, policies, or regulations. As previously noted, the County of Los Angeles General Plan Land Use element identifies Policy 9.0 pursuant to the goal of providing sufficient commercial and industrial land to protect major landfill and solid waste disposal sites from encroachment of incompatible uses.[7] The proposed ordinances would aim to significantly reduce the amount of litter that can be attributed to carryout or compostable plastic bags by ensuring that no subject retail establishment would be allowed to distribute or make available to customers any carryout or compostable plastic bags. As such, the proposed ordinances would be in compliance with Policy 9.0 of the County of Los Angeles General Plan Land Use element, as it would be anticipated that the reduced number of plastic bags available to consumers would in turn lower the volume of waste deposited in landfills. Therefore, there would be no expected impacts to land use and planning related to a conflict with adopted or proposed land use plans, policies, or regulations, and no further analysis is warranted.

[4] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[5] California Integrated Waste Management Board. 12 June 2007. Board Meeting Agenda, Resolution: Agenda Item 14. Sacramento, CA.

[6] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table 7: Composition of California's Overall Disposed Waste Stream, 2003." *Contractor's Report to the Board: 2004 Statewide Waste Characterization Study*. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097

[7] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

(c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to land use and planning in relation to a conflict with any applicable HCP or NCCP. The proposed ordinance would not alter the existing land uses in the unincorporated areas of the County. According to the National Community Conservation Planning program of the CDFG, the only Natural Community Conservation Planning region[8] that would be affected by the proposed ordinance is the Palos Verdes Peninsula NCCP, which lies approximately 26 miles south of the City of Los Angeles and which addresses the conservation of most of the coastal sage scrub habitat as well as other habitats on the Palos Verdes Peninsula.[9] Moreover, the USFWS HCP program does not include any HCPs that would apply to the unincorporated territories of the County.[10] Therefore, there would be no expected impacts to land use and planning related to a conflict with any adopted HCP or NCCP, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to land use and planning in relation to a conflict with any applicable HCP or NCCP. The territory that would be affected by the proposed ordinances would encompass the incorporated cities of the County, whose existing land uses would not be altered by implementation of the proposed ordinances. Therefore, there would be no expected impacts to land use and planning related to a conflict with any adopted HCP or NCCP, and no further analysis is warranted.

[8] California Department of Fish and Game. Accessed on: 5 August 2009. "Natural Community Conservation Planning (NCCP)." *Resource Management*. Available at: http://www.dfg.ca.gov/habcon/nccp/

[9] U.S. Fish and Wildlife Service. May 2005. *Habitat Conservation Plans: Working Together for Endangered Species*. Available at: http://www.fws.gov/endangered/pubs/HCPBrochure/HCPsWorkingTogether5-2005web%20.pdf

[10] U.S. Fish and Wildlife Service. May 2005. *Habitat Conservation Plans: Working Together for Endangered Species*. Available at: http://www.fws.gov/endangered/pubs/HCPBrochure/HCPsWorkingTogether5-2005web%20.pdf

3.11 MINERAL RESOURCES

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to mineral resources, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Mineral resources within the County, which would be subject to the proposed ordinances, were evaluated with regard to California Geological Survey and U.S. Geological Survey (USGS) publications and the adopted County of Los Angeles General Plan.[2]

The State CEQA Guidelines recommend the consideration of two questions when addressing the potential for significant impact to mineral resources.

Would the proposed ordinances:

(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to mineral resources in relation to the loss of availability of a known mineral resource. The proposed ordinance would affect approximately 2,649 square miles encompassing the unincorporated territories of the County. According to the USGS,[3] the County is a major producing area of common clay, crushed stone, construction sand and gravel, perlite, lime, sulfur (oil), and gypsum. A review of the County of Los Angeles General Plan confirmed that California is the largest producer of sand and gravel in the nation, and that the greater Los Angeles area is the nation's leading producer for its geographic size.[4] As such, sand and gravel must be protected and conserved because sand and gravel reserves have declined in the past due to the encroachment of incompatible development. According to "Mines and Minerals Producers Active in California (1997–98)," published by the Division of Mines and Geology of the CDC, there are 25 active mines located within the County, which further indicates the presence of mineral resources within the boundary of the jurisdictional areas for the proposed ordinance.[5] However, the proposed ordinance would ban plastic carryout bags issued at certain stores and would not be expected to affect the extraction of these resources. Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known mineral resource, and no further analysis is warranted.

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] U.S. Department of the Interior, U.S. Geological Survey. 2006. *2006 Minerals Yearbook: California*. Available at: http://minerals.usgs.gov/minerals/pubs/state/2006/myb2-2006-ca.pdf

[4] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[5] California Department of Conservation, Division of Mines and Geology.1990. "Mines and Mineral Producers Active in California (1997–98)." *Special Publication 103*. Prepared by: Division of Mines and Geology, Los Angeles, CA.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to mineral resources in relation to the loss of availability of a known mineral resource. Based on a review of California Division of Mines and Geology publications, it is found that there are 25 active mines located within the County, which further indicates the presence of mineral resources within the incorporated territories included within the jurisdictional areas of the proposed ordinances.[6] However, the proposed ordinances would not be expected to affect the extraction of these resources. Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known mineral resource, and no further analysis is warranted.

(b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to mineral resources in relation to the loss of availability of a known mineral resource recovery site. Based on a review of California Division of Mines and Geology publications,[7,8] in conjunction with the Conservation element of the County of Los Angeles General Plan, there are no known mineral resources of state-wide or regional importance located within the unincorporated territories of the County, nor are there known mineral resource recovery sites of local importance located within the unincorporated territories.[9] Furthermore, the proposed ordinance would ban plastic carryout bags issued at certain stores and would not be expected to alter the availability of locally important mineral resources. Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known locally important mineral resource recovery site, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to mineral resources in relation to the loss of availability of a known mineral resource recovery site. There are no known mineral resources of state-wide or regional importance located within the incorporated cities of the County, nor are there any known mineral resource recovery sites of local importance located within the incorporated cities.[10] Moreover, the proposed ordinances would ban plastic carryout bags issued at certain stores and would not be expected to alter the availability of locally important mineral resources. Therefore, there would be no expected impacts to mineral resources related to the loss of availability of a known locally important mineral resource recovery site, and no further analysis is warranted.

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[6] California Department of Conservation, Division of Mines and Geology.1990. "Mines and Mineral Producers Active in California (1997–98)." *Special Publication 103*. Prepared by: Division of Mines and Geology, Los Angeles, CA.

[7] California Department of Conservation, Division of Mines and Geology. 1966. "Minerals of California Volume (1866–1966)." *Bulletin 189*. Prepared by: CDMG, Los Angeles, CA.

[8] California Department of Conservation, Division of Mines and Geology. 1990. "Mines and Mineral Producers Active in California (1988–89)." *Special Publication 103*. Prepared by: CDMG, Los Angeles, CA.

[9] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[10] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

3.12 NOISE

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to noise, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Noise within the County, which would be subject to the proposed ordinances, was evaluated with regard to the County of Los Angeles General Plan Noise element[2] and the County Noise Control Ordinance.[3]

The State CEQA Guidelines recommend the consideration of six questions when addressing the potential for significant impact to noise.

Would the proposed ordinances result in:

(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in less than significant impacts to noise in relation to exposure or generation of noise levels in excess of established standards. The proposed ordinance would ban plastic carryout bags issued at certain stores and would apply to areas located within the unincorporated territory of the County. The County's unincorporated areas have a wide range of noise environments, from quiet residential and rural areas to relatively noisy commercial and industrial areas. The method commonly used to quantify environmental noise involves evaluation of all frequencies of sound, with an adjustment to reflect the constraints of human hearing. Since the human ear is less sensitive to low and high frequencies than to midrange frequencies, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting." A measured noise level is called the A-weighted sound level measured in A-weighted decibels, written as dBA. The County does not set land use standards for noise in the Noise element of the County of Los Angeles General Plan. However, the County has adopted a noise control ordinance that specifies exterior noise standards as shown in Table 3.12-1, *County of Los Angeles Exterior Noise Standards*.[4] The exterior noise levels presented in the final column of Table 3.12-1 indicate the average hourly dBA to be maintained for designated noise zone level use.

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles. 1978. *Noise Control Ordinance of the County of Los Angeles*. Ord. 11778, Section 2 (Art.1, Section 101), and Ord.11773, Section 2 (Art. 1, Section 101). Available at: http://ordlink.com/codes/lacounty/index.htm

[4] County of Los Angeles. 1978. *Noise Control Ordinance of the County of Los Angeles*. Ord. 11778, Section 2 (Art.1, Section 101), and Ord.11773, Section 2 (Art. 1, Section 101). Available at: http://ordlink.com/codes/lacounty/index.htm

TABLE 3.12-1
COUNTY OF LOS ANGELES EXTERIOR NOISE STANDARDS

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval	Exterior Noise Level[1]
I	Noise-Sensitive Area[2]	Anytime	45 dBA
II	Residential Area	10:00 p.m.–7:00 a.m. (nighttime) 7:00 a.m.–10:00 p.m. (daytime)	45 dBA 50 dBA
III	Commercial Area	10:00 p.m.–7:00 a.m. (nighttime) 7:00 a.m. – 10:00 p.m. (daytime)	55 dBA 60 dBA
IV	Industrial Area	Anytime	70 dBA

NOTES:
1. Required average hourly noise standard
2. Noise-sensitive area is designated to ensure exceptional quiet

SOURCE: County of Los Angeles. 1978 (updated 21 July 2009). *Noise Control Ordinance of the County of Los Angeles*, Title 12, Chapter 12.08.390. Ordinance 11778, Section 2 (Article1, Section 101); and Ordinance11773, Section 2 (Article 1, Section 101). Available at: http://ordlink.com/codes/lacounty/index.htm

The proposed ordinance would be expected to have an inconsequential impact to noise levels in the unincorporated areas of the County and the surrounding vicinity. There are two ways in which the proposed ordinance could have potential noise impacts:

1. Certain plastic bag industry representatives have postulated that the banning of plastic carryout bags could potentially result in increased numbers of vehicles transporting carryout bags. A change in the noise generated by these vehicles, which are mobile noise sources, could potentially alter the noise levels in the areas surrounding major roadways.
2. Certain plastic bag industry representatives of the plastic bag industry have postulated that the banning of plastic carryout bags could potentially result in the increased manufacture of paper carryout bags, thus requiring the consideration of the effect of fixed-point manufacturing noise sources on ambient noise levels.

While the proposed ordinance would be expected to reduce the need for vehicles to transport plastic carryout bags, it could also potentially increase the number of vehicles or the number of vehicle miles traveled for vehicles transporting paper bags and reusable bags. Certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase reliance on paper carryout bags.[5] Implementation of the proposed ordinance could potentially lead to an increase in noise levels related to the increase in delivery of paper carryout and reusable bags to the unincorporated areas of County. Although the number of vehicles on the roads does affect ambient noise levels, neither the decrease in vehicles transporting plastic carryout bags nor the potential increase in the number of vehicles transporting paper carryout and reusable bags would likely be on a scale that would be large enough to result in a discernable change in noise levels around roadways in areas in and around the unincorporated

[5] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

areas of the County. Further, the truck trips would be dispersed over a large network of roadways and highways and would not substantially increase truck traffic along any one route.

While the proposed ordinance would potentially result in reduced demand for plastic bags, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase demand for paper carryout bags.[6] A lower demand for plastic bags would likely result in either a decrease in the number of plastic carryout bag manufacturing facilities or a decrease in the operation of existing facilities, or some combination of the two scenarios. Therefore, the noise produced by these facilities would be either eliminated or reduced. A potential increase in the demand for paper bags could likely result in either an increase in the number of paper carryout bag and reusable manufacturing facilities or an increase in the operation of existing facilities, or some combination of the two scenarios. An increase in production at existing facilities could potentially increase the noise produced by those facilities.

However, it is assumed that both plastic and paper carryout bag manufacturing facilities are located within areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted. The facilities would also be required to comply with the relevant local or County noise ordinances. Similarly, the proposed ordinance could potentially result in an increased number of reusable bag manufacturing facilities that in turn could create new noise sources. It is assumed that any new manufacturing facilities would be located in similar locations where noise-sensitive receptors would not be expected to be impacted. Therefore, the proposed ordinance would be expected to result in less than significant impacts to noise in relation to exposure or generation of noise levels in excess of established standards. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would be expected to result in less than significant impacts to noise in relation to exposure or generation of noise levels in excess of established standards. As stated in the previous discussion, the proposed ordinances would be expected to reduce the need for vehicles to transport plastic carryout bags, but would also potentially increase the number of vehicles or the number of vehicle miles traveled for vehicles transporting paper carryout and reusable bags. While the number of vehicles on the roads does affect ambient noise levels, neither the decrease in vehicles transporting plastic bags nor the potential increase in the number of vehicles transporting paper carryout and reusable bags would likely be on a scale large enough to result in a discernible change in noise levels around roadways in the incorporated cities of the County. Furthermore, the truck trips would be dispersed over a large network of roadways and highways and would not substantially increase truck traffic along any one route.

In addition, a lower demand for plastic bags would likely result in a decrease in the number of plastic carryout bag manufacturing facilities or a decrease in the operation of existing facilities, or some combination of the two scenarios. Therefore, the noise produced by these facilities would be either eliminated or reduced. Conversely, a potential increase in the demand for paper carryout and reusable bags would likely result in either an increase in the number of facilities that manufacture paper bags and reusable bags or an increase in the operation of existing facilities, or some combination of the two scenarios. An increase in production at existing facilities would

[6] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

potentially increase the noise produced by those facilities. However, it is assumed that paper carryout and reusable bag manufacturing facilities are, and would continue to be, located within areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted. The facilities would also be required to comply with the relevant local or County noise ordinances. Therefore, the proposed ordinances would be expected to result in less than significant impacts to noise in relation to exposure or generation of noise levels in excess of established standards. No further analysis is warranted.

(b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in less than significant impacts to noise in relation to generation of excessive groundborne vibration or groundborne noise. The County deems it a violation of the Noise Control Ordinance to operate or permit the operation of any device that creates vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property, or at 150 feet (46 meters) from the source if on a public space or public right-of-way. The Noise Control Ordinance considers the perception threshold to be a motion velocity of 0.01 inch per second over the range of 1 to 100 Hertz.[7] There would be two ways in which the proposed ordinance could have potential vibration impacts:

1. Certain plastic bag industry representatives have postulated that the banning of plastic carryout bags could potentially result in increased numbers of vehicles transporting carryout bags. A change in the vibration levels generated by these vehicles, which are mobile noise sources, could potentially alter the perceived vibration levels in the areas surrounding major roadways.
2. Certain plastic bag industry representatives of the plastic bag industry have postulated that the banning of plastic carryout bags could potentially result in the increased manufacture of paper carryout bags, thus requiring the consideration of the effect of fixed-point manufacturing noise sources on perceived vibration levels.

In regard to the transportation of plastic carryout bags, paper carryout bags, and reusable bags, while the proposed ordinance would be expected to eliminate the need for vehicles to transport plastic bags to and from the unincorporated territory of the County, it could also potentially increase the number of vehicles or the number of vehicle miles traveled for vehicles transporting paper bags and reusable bags, as certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the reliance on paper bags .[8] The proposed ordinance would also potentially result in increased demand for reusable bags. While the number of vehicles on the roads does affect vibration levels in the vicinity of the roadway, neither the decrease in the number of vehicles transporting plastic bags nor the potential increase in the number of vehicles transporting paper bags would likely be on a scale that would be large enough to result in a discernable change in vibration levels at sensitive receptors near roadways in areas in and around the unincorporated areas of the County.

[7] County of Los Angeles. 1978. *Noise Control Ordinance of the County of Los Angeles*. Ord. 11778, Section 2 (Art.1, Section 101), and Ord.11773, Section 2 (Art. 1, Section 101). Available at: http://ordlink.com/codes/lacounty/index.htm

[8] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

In terms of the production of plastic and paper bags, while the proposed ordinance would potentially result in reduced demand for plastic bags, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase demand for paper bags.[9] The proposed ordinance would also potentially result in increased demand for reusable bags.

A lower demand for plastic bags would likely result in either a decrease in the number of plastic bag manufacturing facilities or a decrease in the operation of existing facilities, or some combination of the two scenarios. Therefore, the vibration levels produced by these facilities would be expected to be either eliminated or reduced. An increase in the demand for paper bags and reusable bags could likely result in either an increase in the number of manufacturing facilities or an increase in the operation of existing facilities, or some combination of the two scenarios. An increase in the production at existing facilities would potentially increase the vibration levels produced by those facilities. However, it is assumed that paper bag manufacturing facilities are located within areas zoned for industrial uses, where receptors sensitive to vibration would not be expected to be impacted.

There are two ways in which the proposed ordinance could have potential impacts related to groundborne noise:

1. Certain plastic bag industry representatives have postulated that the banning of plastic carryout bags could potentially result in increased numbers of vehicles transporting carryout bags. A change in the groundborne noise generated by these vehicles, which are mobile noise sources, could potentially alter the noise levels in the areas surrounding major roadways.
2. Certain plastic bag industry representatives of the plastic bag industry have postulated that the banning of plastic carryout bags could potentially result in the increased manufacture of paper carryout bags, thus requiring the consideration of the effect of fixed-point manufacturing noise sources on groundborne noise levels.

In regard to the transportation of plastic carryout bags, paper carryout bags, and reusable bags, while it would be anticipated that the proposed ordinance would reduce or eliminate the need for vehicles to transport plastic bags, it would also potentially increase the number of vehicles or the number of vehicle miles traveled for vehicles transporting paper bags as certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the reliance on paper bags.[10] While the number of vehicles on the roads does affect ambient noise levels, neither the decrease in vehicles transporting plastic bags nor the increase in the number of vehicles transporting paper bags would likely be on a scale that would be large enough to result in a discernable change in groundborne noise levels around roadways in areas in and around the unincorporated areas of the County.

In terms of the production of plastic and paper carryout bags, while the proposed ordinance would potentially result in a reduction in the demand for plastic carryout bags, certain representatives of the plastic carryout bag industry have argued that similar proposed ordinances have the potential to

[9] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[10] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

result in an increase in the demand for paper carryout bags.[11] Furthermore, it could be anticipated that the proposed ordinance would increase the demand for reusable bags. As noted, a lower demand for plastic bags would likely result in either a decrease in the number of plastic bag manufacturing facilities or a decrease in the operation of existing facilities, or some combination of the two scenarios. Therefore, the groundborne noise produced by these facilities would be expected to be either eliminated or reduced. A potential increase in the demand for paper bags and reusable bags would likely result in either an increase in the number of paper bag manufacturing facilities or an increase in the operation of existing facilities, or some combination of the two scenarios. An increase in the production at existing facilities would potentially increase the noise produced by those facilities. However, it is assumed that paper bag manufacturing facilities are located within areas zoned for industrial uses where higher noise levels are permitted or in areas where noise-sensitive receptors would not be impacted due to their distance away from these facilities. Therefore, an increase in the level of production of paper bags at manufacturing facilities would be expected to result in less than significant impacts to noise in relation to exposure or generation of groundborne vibration or groundborne noise levels in excess of established standards. An anticipated increase in the number of paper bag manufacturing facilities would be expected to create new noise sources; however, it is assumed that any new manufacturing facilities would be located in areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted. The facilities would be required to comply with the relevant local or County noise ordinances. Therefore, the proposed ordinance would be expected to result in less than significant impacts related to exposure or generation of groundborne vibration or groundborne noise levels in excess of established standards, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would be expected to result in less than significant impacts to noise in relation to generation of excessive groundborne vibration or groundborne noise. While it would be anticipated that the proposed ordinances would reduce or eliminate the need for vehicles to transport plastic bags, they would also potentially increase the number of vehicles or the number of vehicle miles traveled for vehicles transporting paper bags, as certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase reliance on paper bags.[12] While the number of vehicles on the roads does affect ambient noise levels, neither the potential decrease in vehicles transporting plastic bags nor the potential increase in the number of vehicles transporting paper bags would be on a scale that would be large enough to result in a discernible change in groundborne noise levels around roadways in and around the incorporated areas of the County.

In addition, while the proposed ordinances would potentially result in reduced demand for plastic bags, certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase demand for paper bags.[13] It could also be anticipated

[11] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[12] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[13] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

that the proposed ordinance would increase the demand for reusable bags. As previously noted, a lower demand for plastic bags would likely result in either a decrease in the number of plastic bag manufacturing facilities or a decrease in the operation of existing facilities, or some combination of the two scenarios. Therefore, the groundborne noise produced by these facilities would be expected to be either eliminated or reduced. A potential increase in demand for paper bags would likely result in either an increase in the number of paper bag manufacturing facilities or an increase in the operation of existing facilities, or some combination of the two scenarios. An increase in production at existing facilities could potentially increase the noise produced by those facilities. However, it is assumed that paper bag manufacturing facilities are located within areas zoned for industrial uses, where noise-sensitive receptors would not be impacted, and where higher noise levels are permitted. Therefore, an increase in the level of production of paper bags at manufacturing facilities would be expected to result in less than significant impacts to noise in relation to exposure or generation of groundborne vibration or groundborne noise levels in excess of established standards. An anticipated increase in the number of paper bag manufacturing facilities would be expected to create new noise sources; however, it is assumed that any new manufacturing facilities would be located in areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted. The facilities would be required to comply with the relevant local or County noise ordinances. Therefore, the proposed ordinances would be expected to result in less than significant impacts related to exposure or generation of groundborne vibration or groundborne noise levels in excess of established standards, and no further analysis is warranted.

(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in less than significant impacts to noise in relation to permanent increases in ambient noise levels. The County Noise Control Ordinance does not define "substantial." In general, one way of estimating a person's subjective reaction to a new noise is to compare the new noise with the existing noise environment to which the person has become adapted; for example, the increase over the so-called "ambient" noise level. An increase of 1 dBA over the ambient noise level cannot be perceived unless it occurs in carefully controlled laboratory experiments; a 3-dBA increase is considered as a just-perceivable difference; an increase of at least 5 dBA is a noticeable change, thereby causing community response and often being considered a significant impact; and a 10-dBA increase is subjectively heard as approximately a doubling in loudness, thereby almost always causing an adverse community response. As a 5-dBA increase is often considered a significant increase, in lieu of a County standard, this analysis will consider an increase in noise levels of 5 dBA to be considered substantial.

As discussed in the response to question (a), any potential increase in noise levels that would result from the implementation of the proposed ordinance would not be perceptible at noise-sensitive receptors. A doubling of traffic volumes on a roadway would be expected to result in a 3-dBA increase in noise generated by traffic, which is the human threshold for perceiving a change in the ambient noise level. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase reliance on paper bags,[14] the potential

[14] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

decrease in the number of vehicles transporting plastic bags, when compared with the potential increase in the number of vehicles transporting paper bags resulting from implementation of the proposed ordinance, would not double traffic volumes on the roadways in and around the unincorporated areas of the County. While the proposed ordinance could likely result in either an increase in the number of paper bag manufacturing facilities or an increase in the operation levels of existing facilities, or some combination of the two scenarios, it is assumed that existing and new manufacturing facilities would be located in areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted.

Similarly, the proposed ordinance could potentially result in an increase in demand for reusable bags, subsequently leading to a potential increase in the number of vehicles transporting and facilities manufacturing reusable bags. It is anticipated that any potential increase in the number of vehicles transporting reusable bags would not likely be on a scale that would be large enough to result in a discernable change in noise levels around roadways in areas in and around the unincorporated areas of the County. The facilities would also be required to comply with the relevant local or County noise ordinances. Consequently, any increase in ambient noise levels would not be considered a significant impact. Therefore, the proposed ordinance would be expected to result in less than significant impacts to noise in relation to permanent increases in ambient noise levels, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would be expected to result in less than significant impacts to noise in relation to permanent increases in ambient noise levels. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County. As previously discussed, lower demand for plastic bags would likely result in either a decrease in the number of plastic bag manufacturing facilities or a decrease in the operation of existing facilities. While the proposed ordinances would likely result in either an increase in the number of paper bag manufacturing facilities or an increase in the operation levels of existing facilities, or some combination of the two scenarios, it is assumed that existing and new manufacturing facilities would be located in areas zoned for industrial uses, where noise-sensitive receptors would not be expected to be impacted, and where higher noise levels are permitted. Consequently, any increase in ambient noise levels would not be considered significant. The proposed ordinance could potentially result in an increase in demand for reusable bags, and subsequently lead to a potential increase in the number of vehicles transporting and facilities manufacturing reusable bags. It is anticipated that any potential increase in the number of vehicles transporting reusable bags would not be on a scale that would be large enough to result in a discernable change in noise levels around roadways in areas in and around the incorporated areas of the County. The facilities would be required to comply with the relevant local or County noise ordinances. Therefore, the proposed ordinances would be expected to result in less than significant impacts to noise in relation to permanent increases in ambient noise levels, and no further analysis is warranted.

(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity about levels existing without the project?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to noise in relation to temporary or periodic increases in ambient noise levels. The proposed ordinance would not

include components that would be sources of temporary or periodic noise. Therefore, there would be no expected impacts to noise related to temporary or periodic increases in ambient noise levels, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to noise in relation to temporary or periodic increases in ambient noise levels. The proposed ordinances would not include components that would be sources of temporary or periodic noise. Therefore, there would be no expected impacts to noise related to temporary or periodic increases in ambient noise levels, and no further analysis is warranted.

(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to noise in relation to public airports. The proposed ordinance would not require people to be located or to work near any public airport. Therefore, there would be no expected impacts to noise related to public airports, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to noise in relation to public airports. The proposed ordinances would not require people to be located or to work near any public airport. Therefore, there would be no expected impacts to noise related to public airports, and no further analysis is warranted.

(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to noise in relation to private airstrips. The proposed ordinance would not require people to be located or to work near any private airstrips. Therefore, there would be no expected impacts to noise related to private airstrips, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to noise in relation to private airstrips. The proposed ordinances would not require people to be located or to work near any private airstrips. Therefore, there would be no expected impacts to noise related to private airstrips, and no further analysis is warranted.

3.13 POPULATION AND HOUSING

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to population and housing, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[1] Population and housing within the County, which would be subject to the proposed ordinance, was evaluated with regard to state, regional, and local data and forecasts for population and housing, and the proximity of the County to existing and future planned utility infrastructure.

The State CEQA Guidelines recommend the consideration of three questions when addressing the potential for significant impacts to population and housing.

Would the proposed ordinances:

(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to population and housing in relation to inducing substantial direct or indirect population growth. The proposed ordinance would ban plastic carryout bags issued at certain stores within the unincorporated territories of the County. As such, the proposed ordinance would not be anticipated to increase the demand for new housing, nor would it be expected to increase the quantity of new homes and businesses constructed. In addition, the proposed ordinance would not entail construction of infrastructure in areas not currently served by existing roads and utilities. As determined in the LACDPW staff report on plastic bags, the expansive and lightweight characteristics of plastic bags allow them to be carried by wind to become entangled in brush, tossed along freeways, and caught on fences throughout the County, thereby causing a visual impact to the surrounding areas.[2] The proposed ordinance would be expected to reduce the occurrence of fly-away plastic bag litter and consequently to improve the visual quality of the areas that are accessible and visible to sensitive receptors such as residences, schools, churches, and recreational areas. Furthermore, the distinct white or bright colors of plastic bags, and the difficulty of collecting the bags, cause a greater visual eyesore than other materials. The aesthetic and economic value associated with an increase in visual quality of the areas as viewed from such sensitive receptors could potentially induce a minor migration of individuals into these areas. However, it is expected that population growth within the jurisdictional areas for the proposed ordinance would remain consistent with the existing population growth projection for the County because the proposed ordinance would not entail development or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories of the County. Migration is a basic component of observed population growth, of which a majority of people relocate for housing-related reasons.[3] It is unlikely then that the proposed ordinance would be a contributor to population growth within the unincorporated areas of the County.

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[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[3] U.S. Census Bureau. 2000. *Population Profile of the United States: 2000*.

According to data obtained from the California Department of Finance, the population of the unincorporated territories of the County was estimated to be 1,083,392 in 2008, and in 2009 added 8,586 residents, which represents an annual average growth rate of approximately 0.79 percent,[4] indicating a limited projected population growth. Therefore, there would be no expected impacts to population and housing related to inducing substantial direct or indirect population growth. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to population and housing in relation to inducing substantial direct or indirect population growth. The proposed ordinances would not be expected to cause an increase in demand for new housing, nor would it be expected to increase the quantity of new homes and businesses constructed within the 88 cities that govern the incorporated cities of the County. In addition, the proposed ordinances would not entail construction of infrastructure in areas not currently served by existing roads and utilities. As such, it would be expected that population growth in the incorporated cities of the County would remain consistent with the existing population growth projection for the County. Therefore, there would be no expected impacts to population and housing related to inducing substantial direct or indirect population growth. No further analysis is warranted.

(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to population and housing in relation to the displacement of substantial amounts of existing housing that would necessitate construction of replacement housing elsewhere. The proposed ordinance would aim to curb the amount of litter that can be attributed to plastic carryout bags within the unincorporated territories of the County and it would not contain any components that would result in the displacement of existing housing. The unincorporated areas that would be affected by the proposed ordinance provide residences and employment for approximately 1 million people in the County.[5] The implementation of the proposed ordinance would not be expected to lead to an increase in population, but rather would be expected to be consistent with the County's projected population growth. As such, existing housing is anticipated to accommodate the current population and projected population growth in the County and thus would not necessitate construction of replacement housing elsewhere. Therefore, there would be no expected impacts to population and housing related to the displacement of substantial amounts of existing housing as a result of the proposed ordinance. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to population and housing in relation to the displacement of substantial amounts of existing housing that would necessitate the construction of replacement housing elsewhere. The proposed ordinances would not be expected

[4] State of California Department of Finance. May 2009. *E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark*. Sacramento, CA.

[5] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

to result in the displacement of existing housing. The implementation of the proposed ordinances would not be expected to lead to an increase in population, but rather would be expected to be consistent with the projected population growth for the 88 incorporated cities of the County. As such, existing housing is anticipated to accommodate the present population and projected population growth in these areas, and thus would not necessitate the construction of replacement housing elsewhere. Therefore, there would be no expected impacts to population and housing related to the displacement of substantial amounts of existing housing as a result of the proposed ordinance. No further analysis is warranted.

(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to population and housing in relation to the displacement of substantial numbers of people that would necessitate the construction of replacement housing elsewhere. The proposed ordinance would limit the amount of litter that can be attributed to plastic carryout bags within the unincorporated territories of the County and would not contain any components that would result in the displacement of substantial numbers of people. The implementation of the proposed ordinance would not be expected to lead to an increase in population, but rather would be expected to be consistent with the County's projected population growth. As such, existing housing would accommodate the projected County population growth and would not necessitate the construction of replacement housing elsewhere. Therefore, there would be no expected impacts to population and housing related to the displacement of substantial numbers of people. No further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to population and housing in relation to the displacement of substantial numbers of people that would necessitate construction of replacement housing elsewhere. The implementation of the proposed ordinances would not be expected to lead to an increase in the population of the 88 incorporated cities of the County; the proposed ordinances would be expected to be consistent with the projected population growth for these areas. As such, existing housing would accommodate the projected growth in population in the County and would not necessitate the construction of replacement housing elsewhere. Therefore, there would be no expected impacts to population and housing related to the displacement of substantial numbers of people. No further analysis is warranted.

3.14 PUBLIC SERVICES

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to public services, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Public services within the County, which would be subject to the proposed ordinances, were evaluated based on review of the County of Los Angeles General Plan,[2] the County Web site,[3] Web sites of the County police and fire departments,[4,5] and previously completed environmental documentation related to the proposed ordinances.

The State CEQA Guidelines recommend the consideration of one question when addressing the potential for significant impact to public services.

Would the proposed ordinances result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

(1) Fire protection?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to public services in relation to fire protection. As determined in Section 3.12 of this Initial Study, the proposed ordinance would not be anticipated to contribute to significant population growth in the County, and would not include the provision of new or physically altered fire protection services. Implementation of the proposed ordinance would be expected to improve the visual quality of areas of the unincorporated of the County that are accessible and visible to sensitive receptors–residences, schools, churches, and recreational areas–due to the anticipated reduction of plastic bag litter in those areas. The aesthetic and economic value associated with the anticipated increase in the visual quality of the areas as viewed from sensitive receptors could potentially induce migration of individuals into these areas. However, it is anticipated that population growth within the unincorporated territories of the County would remain consistent with the current population growth projection for the County. Migration is a basic component of observed population growth, with a majority of people relocating for housing-related reasons.[6] The proposed ordinance would not entail development or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories of the County. Therefore, the proposed ordinance would not be expected to affect population growth or migration

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles. Accessed June 2009. *Unincorporated Areas*. County of Los Angeles Web site. Available at: http://portal.lacounty.gov/

[4] Los Angeles County Sheriff's Department. Accessed August 2009. Los Angeles County Sheriff's Department Web site. Available at: http://www.lasd.org/lasdservices.html

[5] Los Angeles County Fire Department. Accessed 6 July 2009. Los Angeles County Fire Department Web site. Available at: http://www.fire.lacounty.gov/

[6] U.S. Census Bureau. 2000. *Population Profile of the United States: 2000*.

within the unincorporated territories of the County, and thus would not be expected to increase the need for fire protection services or related facilities.

According to data obtained from the California Department of Finance, the population of the unincorporated territories of the County was estimated to be 1,083,392 in 2008, with the addition of 8,586 residents in 2009, representing an annual average growth rate of approximately 0.79 percent.[7] Implementation of the proposed ordinance would not be expected to affect the County's current growth rate projection, and thus would not be anticipated to overburden existing fire protection facilities or to interfere with service benchmarks, response times, or other performance objectives related to fire protection. As a result, it is anticipated that existing fire protection services would be adequate to support the projected population growth of the unincorporated territories of the County, and no additional fire protection facilities would be required. Therefore, there would be no expected impacts to public services related to fire protection, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to public services in relation to fire protection. As previously discussed, the proposed ordinances would not be anticipated to contribute to significant population growth in the County, and would not include the provision of new or physically altered fire protection services. According to data obtained from the California Department of Finance, the population of the incorporated cities of the County was estimated to be 9,218,266 in 2008, with the addition of 82,941 residents in 2009, representing an annual average growth rate of approximately 0.90 percent.[8] The aesthetic and economic value associated with the anticipated increase in the visual quality of these areas could potentially induce migration of individuals into these areas. However, it is anticipated that population growth within the incorporated cities of the County would remain consistent with the existing population growth projection for the County. Moreover, the proposed ordinances would not entail development or other features that would be expected to shift or influence the growth or migration rates within the incorporated cities of the County. Therefore, the proposed ordinances would not be expected to affect population growth or migration within the incorporated cities of the County, and thus would not be expected to increase the need for fire protection services or related facilities. Therefore, there would be no anticipated impacts to public services related to fire protection, and no further analysis is warranted.

(2) Police protection?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to public services in relation to police protection. As determined in Section 3.12 of this Initial Study, the proposed ordinance would not be anticipated to contribute to the County's projected population growth and would not include or require the provision of new or physically altered facilities for police protection services. Implementation of the proposed ordinance would be anticipated to improve the visual quality of areas of the unincorporated territories of the County that are accessible and visible to sensitive

[7] State of California Department of Finance. May 2009. *E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark*. Sacramento, CA.

[8] State of California Department of Finance. May 2009. *E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark*. Sacramento, CA.

receptors–residences, schools, churches, and recreational areas–due to the anticipated reduction of plastic bag litter in those areas. The aesthetic and economic value associated with an increase in the visual quality of the areas as viewed from sensitive receptors could potentially induce migration of individuals into these areas. However, the population growth within the unincorporated territories of the County would be expected to remain consistent with the current County population growth projection. Migration is a basic component of observed population growth, with a majority of people relocating for housing-related reasons.[9] The proposed ordinance would not entail any development or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories the County. It would not be anticipated that the proposed ordinance would contribute to population growth or migration within the unincorporated territories of the County and thus would not be expected to affect the need for police protection.

According to data obtained from the California Department of Finance, the population of the unincorporated territories of the County was estimated to be 1,083,392 in 2008, with the addition of 8,586 residents in 2009, representing an annual average growth rate of approximately 0.79 percent.[10] Implementation of the proposed ordinance would not be expected to affect the projected population change in relation to this average growth rate, and thus it would not be anticipated to overburden existing police protection facilities or to interfere with service benchmarks, response times, or other performance objectives for police protection services. As a result, it is anticipated that existing police protection services would be adequate to support the projected population growth of the unincorporated territories of the County, and no additional police protection or related facilities would be required. Therefore, there would be no expected impacts to public services related to police protection, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to public services in relation to police protection. The proposed ordinances would not entail any development or other features that would be expected to shift or influence population growth within the incorporated cities of the County. The proposed ordinances would not be expected to contribute to population growth or migration within the incorporated cities of the County and thus would not be expected to increase the need for police protection. As a result, it is anticipated that existing police protection services would be adequate to support the projected population growth of the incorporated cities of the County, and no additional police protection or related facilities would be required. Therefore, there would be no anticipated impacts to public services related to police protection, and no further analysis is warranted.

(3) Schools?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to public services in relation to schools. As determined in Section 3.12 of this Initial Study, the proposed ordinance is not anticipated to contribute to the County's projected population growth. The proposed ordinance would not include or be expected to require the provision of new or physically altered

[9] U.S. Census Bureau. 2000. *Population Profile of the United States: 2000*.

[10] State of California Department of Finance. May 2009. *E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark*. Sacramento, CA.

governmental facilities related to schools. Implementation of the proposed ordinance would be anticipated to improve the visual quality of areas of the unincorporated territories the County that are accessible and visible to sensitive receptors–residences, schools, churches, and recreational areas–due to the anticipated reduction of plastic bag litter in those areas. The aesthetic and economic value associated with an increase in the visual quality of these areas as viewed from sensitive receptors could potentially induce migration of individuals and families into these areas. However, it is anticipated that population growth within the unincorporated territories of the County would remain consistent with the currently projected population growth for the County. As noted, migration is a basic component of observed population growth, with a majority of people relocating for housing-related reasons.[11] The proposed ordinance would not entail development of structures or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories of the County. It would not be expected that the proposed ordinance would contribute to population growth or migration within the unincorporated territories of the County, and thus would not be expected to create an additional demand for schools or related facilities.

As previously stated, according to data obtained from the California Department of Finance, the population of the unincorporated territories of the County was estimated to be 1,083,392 in 2008, with the addition of 8,586 residents in 2009, representing an annual average growth rate of approximately 0.79 percent.[12] Implementation of the proposed ordinance would not be expected to affect the County's current or projected average growth rates, and thus would not be anticipated to contribute to the exceedance of existing school facility capacities or to prevent the attainment or maintenance of school-related performance objectives. As a result, it would be expected that the services provided by the Los Angeles Unified School District as well as other educational facilities would be adequate to support the projected population growth of the County, including areas within the unincorporated territories of the County, and no additional schools would be required. Therefore, there would be no expected impacts to public services related to schools, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to public services in relation to schools. It is anticipated that population growth within the incorporated cities of the County would remain consistent with the currently projected population growth for the County. The proposed ordinances would not entail any development or other features that would be expected to shift or influence the growth or migration rates within the incorporated cities of the County. It would not be expected that the proposed ordinances would contribute to population growth or migration within the incorporated areas of the County, and thus would not be expected to create an additional demand for schools or related facilities. As a result, it would be expected that the services provided by the Los Angeles Unified School District as well as other educational facilities would be adequate to support the projected population growth of the County, including areas within the incorporated cities of the County, and no additional schools would be required. Therefore, there would be no anticipated impacts to public services related to schools, and no further analysis is warranted.

[11] U.S. Census Bureau. 2000. *Population Profile of the United States: 2000*.

[12] State of California Department of Finance. May 2009. *E-4 Population Estimates for Cities, Counties and the State, 2001–2009, with 2000 Benchmark*. Sacramento, CA.

(4) Parks?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to public services in relation to parks. As determined in Section 3.12 of this Initial Study, the proposed ordinance would not be anticipated to affect the projected population growth in the County, and would not include the provision of new or physically altered governmental facilities related to parks. As previously mentioned, implementation of the proposed ordinance would be anticipated to improve the visual quality of areas of the unincorporated territories of the County that are accessible and visible to sensitive receptors–residences, schools, churches, and recreational areas–due to the anticipated reduction of plastic bag litter in those areas. The aesthetic and economic value associated with an expected increase in the visual quality of the areas as viewed from sensitive receptors could potentially induce migration of individuals into these areas. However, it is anticipated that population growth within the unincorporated territories of the County would remain consistent with the current County population growth projection. Migration is a basic component of observed population growth, with a majority of people relocating for housing-related reasons.[13] The proposed ordinance would not entail development or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories of the County. It would not be expected that the proposed ordinance would significantly contribute to population growth or migration within the unincorporated territories of the County.

The currently projected population change according to the average growth rate noted in the two previous responses would not be anticipated to lead to the exceedance of existing park facility capacities with the implementation of the proposed ordinance, as the proposed ordinance would not expected to affect population. As such, existing local and regional parks within the County would be expected to adequately accommodate the projected population growth of the unincorporated territories of the County, and no additional parks would be required. Therefore, there would be no expected impacts resulting from the proposed ordinance to public services related to parks, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to public services in relation to parks. As previously discussed, the proposed ordinances would not be anticipated to affect population growth in the County, and would not include the provision of new or physically altered governmental facilities related to parks. It is anticipated that population growth within the incorporated cities of the County would remain consistent with the current population growth projection for the County. The proposed ordinances do not entail development or other features that would be expected to shift or influence the growth or migration rates within the incorporated cities of the County. It would not be expected that the proposed ordinance would significantly contribute to population growth or migration within the incorporated cities of the County. As such, existing local and regional parks within the County would be expected to adequately accommodate the projected population growth of the incorporated cities of the County, and no additional parks would be required. Therefore, there would be no anticipated impacts resulting from the proposed ordinance to public services related to parks, and no further analysis is warranted.

[13] U.S. Census Bureau. 2000. *Population Profile of the United States: 2000*.

(5) Other public facilities?

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The proposed ordinance would not be expected to result in impacts to public services in relation to other public facilities. The proposed ordinance would ban plastic carryout bags issued by certain stores in the unincorporated territories of the County and would not entail any development or features that would be expected to affect population growth in the County in such a way that it would lead to an increase in the demand for and use of public facilities. Furthermore, the proposed ordinance would not include elements that would directly or indirectly require residential development or the construction of public facilities. Therefore, there would be no expected impacts to public services related to other public facilities, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to public services in relation to other public facilities. The proposed ordinances would not entail any development or features that would be expected to affect population growth in the incorporated cities of the County in such a way that it would lead to an increase in the demand for and use of other public facilities. Furthermore, the proposed ordinances do not include elements that would directly or indirectly require residential development or the construction of public facilities. Therefore, there would be no anticipated impacts to public services related to other public facilities, and no further analysis is warranted.

3.15 RECREATION

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to recreation, thus requiring the consideration of mitigation measures or alternatives in accordance with Section 15063 of the State CEQA Guidelines.[1] Recreation within the County, which would be subject to the proposed ordinances,was evaluated with regard to the County of Los Angeles General Plan,[2] expert opinion, and technical studies, and in consideration of the potential for growth-inducing impacts evaluated in Section 3.12, Population and Housing, of this Initial Study.

The State CEQA Guidelines recommend the consideration of two questions when addressing the potential for significant impacts to recreation:

(a) Would the proposed ordinances increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

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The proposed ordinance would not be expected to result in impacts to recreation in relation to the increased use of existing neighborhood and regional parks or other recreational facilities that would contribute to their physical deterioration. A review of the Conservation, Open Space, and Recreation elements of the County of Los Angeles General Plan indicates that 71,800 acres of existing open space in the County consist of public and private land utilized for outdoor recreation.[3] This land area includes, but is not limited to, 67 local parks, 17 community regional parks, and 10 regional parks.[4] As such, the County's recreational resources are varied and extensive, where the National Forests and Santa Catalina Island are the largest recreational areas in the County. The proposed ordinance would not contain any components that would increase or impact the demand for the existing recreational facilities. As such, it is expected that existing recreational facilities would be able to support the present and future needs of residents and visitors to the County. This is supported by Section 3.12 of this Initial Study, which states that the proposed ordinance would not be expected to cause an increase in residents or visitors because the proposed ordinance would not entail development or other features that would be expected to shift or influence the growth or migration rates within the unincorporated territories of the County. Furthermore, the proposed ordinance, which would aim to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags, would likely lead to the improved aesthetic appearance and opportunities of recreational facilities, because, as found in the County staff report on plastic bags, due to their expansive and lightweight characteristics, plastic bags are easily carried by wind to become entangled in brush, tossed along freeways, and caught on fences throughout the County.[5] Furthermore, the distinct white or bright colors of plastic bags and the

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[4] County of Los Angeles Department of Parks and Recreation. 2007. *Department of Parks and Recreation Annual Report 2005–2006 County of Los Angeles*. Los Angeles, CA. Available at: http://parks.lacounty.gov/cms1_069242.pdf?Title=2005-2006%20Annual%20Report

[5] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

difficulty of collecting the bags cause a greater visual eyesore than other materials when they are improperly disposed of. Therefore, there would be no expected impacts to recreation related to increased use of existing neighborhood and regional parks or other recreational facilities that would contribute to the physical deterioration of existing facilities. No further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to recreation in relation to the increased use of existing neighborhood and regional parks or other recreational facilities that would contribute to their physical deterioration. The proposed ordinances would not contain any components that would increase or impact the demand for the existing recreational facilities. As such, it is expected that existing recreational facilities would be adequate to support the present and future needs of residents and visitors to the County. Therefore, the proposed ordinances would not require any changes to the established existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No further analysis is warranted.

(b) Do the proposed ordinances include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

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The proposed ordinance would not be expected to result in adverse physical effects on the environment as a result of existing recreational facilities or proposed construction or expansion of recreational facilities. Section 3.12 of this Initial Study concluded that although it would be expected that the implementation of the proposed ordinance would improve the visual quality of the areas accessible and visible to sensitive receptors, such as residences, schools, churches, and recreational areas, the projected population growth would remain consistent with the existing growth rates. The proposed ordinance would not increase or impact the demand for the existing recreational facilities. As such, it is expected that existing recreational facilities would be able to support the present and future needs of residents and visitors to the County. The proposed ordinance would aim to limit the amount of litter that can be attributed to the use of plastic carryout bags within the unincorporated territories of the County, and it would not include construction or expansion of recreational facilities. Therefore, there would be no expected impacts to recreation related to adverse physical effects on the environment as a result of existing recreational facilities or proposed construction or expansion of recreational facilities. No further analysis is warranted.

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The proposed ordinances would not be expected to result in adverse physical effects on the environment as a result of existing recreational facilities or proposed construction or expansion of recreational facilities. The proposed ordinances would not increase or impact the demand for the existing recreational facilities. As such, it is expected that existing recreational facilities would be able to support the present and future needs of residents and visitors to the County. Therefore, there would be no expected impacts to recreation related to adverse physical effects on the environment as a result of existing recreational facilities or proposed construction or expansion of recreational facilities. No further analysis is warranted.

3.16 TRANSPORTATION AND TRAFFIC

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to transportation and traffic, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Transportation and traffic related to the proposed ordinances were evaluated with regard to the Circulation element of the County of Los Angeles General Plan,[2] the Congestion Management Plan for the County,[3] and Caltrans.[4]

The State CEQA Guidelines recommend the consideration of seven questions when addressing the potential for significant impact to transportation and traffic.

Would the proposed ordinances:

(a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

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The proposed ordinance would be expected to result in less than significant impacts to transportation and traffic related to creating a substantial increase in traffic in relation to the existing traffic load and capacity of the street system. The proposed ordinance would aim to significantly reduce the amount of litter in the unincorporated territories of the County that can be attributed to the use of plastic carryout bags, which would potentially lead to a reduction in the amount of waste transported throughout the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to increase the number of paper carryout bags used, disposed of, and transported throughout the County,[5] the proposed ordinance would also be expected to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags used, disposed of, and transported throughout the County compared to existing conditions. In addition, a decrease in the number of plastic carryout bags delivered throughout the County would be expected to further reduce the volume of traffic related to the transportation of plastic bags. As a result, the proposed ordinance would not be expected to generate any vehicle trips that would contribute to the existing traffic within the County, and may have the potential to reduce the number of vehicle trips caused by the transportation of plastic carryout bag waste throughout the County. Therefore, the proposed ordinance would not be expected to increase vehicle/capacity ratio or level of service (LOS) at any of the streets, highways, or intersections located throughout the County. Therefore, impacts related to transportation and traffic related to creating a substantial increase in traffic would be expected to be less than significant, and no further analysis is warranted.

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[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, CA. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] County of Los Angeles Metropolitan Transportation Authority. 2004. *2004 Congestion Management Program for Los Angeles County*. Los Angeles, CA.

[4] California Department of Transportation. Web site. Available at: http://www.dot.ca.gov/

[5] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

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The proposed ordinances would be expected to result in less than significant impacts to transportation and traffic related to creating a substantial increase in traffic in relation to the existing traffic load and capacity of the street system. The proposed ordinances would aim to significantly reduce the amount of litter in the incorporated cities of the County that can be attributed to the use of plastic carryout bags, which would potentially lead to a reduction in the amount of waste transported throughout the incorporated cities of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags used, disposed of, and transported throughout the County,[6] the proposed ordinances would also serve to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags used, disposed of, and transported throughout the County compared to existing conditions. In addition, a decrease in the number of plastic carryout bags delivered throughout the County would further reduce the volume of traffic related to the transportation of bags. As a result, the proposed ordinances would not be expected to generate any vehicle trips that would contribute to the existing volume of traffic within the County, and would have the potential to reduce the number of vehicle trips generated during the transportation of plastic carryout bag waste throughout the County. Therefore, the proposed ordinances would be expected to increase vehicle/capacity ratio or LOS at any of the streets, highways, or intersections located throughout the incorporated cities of the County. Therefore, impacts to transportation and traffic related to creating a substantial increase in traffic would be expected to be less than significant, and no further analysis is warranted.

(b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

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The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to exceeding, either individually or cumulatively, an LOS standard established by the County congestion management agency for designated roads or highways. The proposed ordinance would aim to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags, which would have the potential to lead to a reduction in the amount of waste transported throughout the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags used, disposed of, and transported throughout the County,[7] the proposed ordinance would be expected to facilitate an increase in the use of reusable bags, thereby resulting in an expected reduction in the total number of carryout bags used, disposed of, and transported throughout the County compared to existing conditions. In addition, a decrease in the number of plastic carryout bags being delivered throughout the County would further reduce the volume of traffic related to the transportation of bags. The County congestion management

[6] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[7] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

program set the threshold for arterial roadways to achieve an LOS E or above.[8] The proposed ordinance would not directly generate new or additional trips as it is not anticipated to increase development in the unincorporated areas of the County more than would be expected without the proposed ordinance. The proposed ordinance may have the potential to reduce the amount of vehicle trips caused by transporting plastic bag waste throughout the County. Therefore, the proposed ordinance would not serve to increase LOS at any of the streets, highways, or intersections located throughout the County. There would be no expected adverse impacts to transportation and traffic related to exceeding an LOS standard established by the County congestion management agency for designated roads or highways, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to exceeding, either individually or cumulatively, an LOS standard established by the County congestion management agency for designated roads or highways. The proposed ordinances would aim to significantly reduce the amount of litter that can be attributed to the use of plastic carryout bags, which would have the potential to lead to a reduced amount of waste transported throughout the incorporated cities of the County. As previously noted, although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags used, disposed of, and transported throughout the County,[9] the proposed ordinances would be expected to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags used, disposed of, and transported throughout the County compared to existing conditions. In addition, a decrease in the amount of plastic carryout bags being delivered throughout the County would further reduce the volume of traffic related to the transportation of bags. The County congestion management program set the threshold for arterial roadways to achieve an LOS E or above.[10] The proposed ordinances would not directly generate new or additional trips as it is not anticipated to increase development in the incorporated areas of the County more than would be expected without the proposed ordinances. The proposed ordinances would have the potential to reduce the number of vehicle trips generated by transporting plastic bag waste throughout the County. Therefore, the proposed ordinances would not be expected to increase LOS at any of the streets, highways, or intersections located throughout the incorporated cities of the County. There would be no expected adverse impacts to transportation and traffic related to exceeding an LOS standard established by the County congestion management agency for designated roads or highways, and no further analysis is warranted.

[8] County of Los Angeles Metropolitan Transportation Authority. 2004. *2004 Congestion Management Program for Los Angeles County*. Los Angeles, CA.

[9] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[10] County of Los Angeles Metropolitan Transportation Authority. 2004. *2004 Congestion Management Program for Los Angeles County*. Los Angeles, CA.

(c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Unincorporated territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed ordinance would not include any direct development, and as such it would not entail elements that would be located near a private or public airport. The proposed ordinance would ban plastic carryout bags issued by certain stores and it would not result in any direct or indirect effects upon air traffic patterns. Therefore, there would be no expected impacts to transportation and traffic related to a change in air traffic patterns that would result in substantial safety risks, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. The proposed ordinances would not include any direct development, and as such they would not entail elements that would be located near a private or public airport. The proposed ordinances would ban plastic carryout bags issued by certain stores and it would not be expected to result in any direct or indirect impacts to air traffic patterns. Therefore, there would be no expected impacts to transportation and traffic related to a change in air traffic patterns that would result in substantial safety risks, and no further analysis is warranted.

(d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to substantially increasing hazards due to a design feature or incompatible uses. The proposed ordinance would not include any development. The proposed ordinance would ban plastic carryout bags issued by certain stores and it would not entail elements that require construction, and thus would not result in any direct or indirect effects upon increasing hazards due to a design feature. Therefore, there would be no expected impacts to transportation and traffic related to substantially increasing hazards due to a design feature, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to substantially increasing hazards due to a design feature or incompatible uses. The proposed ordinances would not include any development. The proposed ordinances would ban plastic carryout bags issued by certain stores, which would not entail elements that require construction, and thus would not result in any direct or indirect effects upon increasing hazards due to a design feature. Therefore, there would be no expected impacts to transportation and traffic related to substantially increasing hazards due to a design feature, and no further analysis is warranted.

(e) Result in inadequate emergency access?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to inadequate emergency access. The proposed ordinance would not include any development. The proposed ordinance would ban plastic carryout bags issued by certain stores, and would not be expected to result in any direct or indirect effects upon the availability of emergency access as the proposed ordinance would not include elements that would require or alter the availability of or access to any emergency route within the unincorporated territories of the County. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to inadequate emergency access. The proposed ordinances would not include any development. The proposed ordinances would ban plastic carryout bags issued by certain stores, and would not be expected to result in any direct or indirect effects upon the availability of emergency access as the proposed ordinances would not include elements that would require or alter the availability of or access to any emergency route within the incorporated cities of the County. Therefore, there would be no expected impacts to transportation and traffic related to inadequate emergency access, and no further analysis is warranted.

(f) Result in inadequate parking capacity?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to inadequate parking capacity. The proposed ordinance would not include any development. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not include any components that would be expected to result in any direct or indirect effects upon parking capacity within the unincorporated territories of the County. Therefore, there would be no expected impacts to transportation and traffic related to inadequate parking capacity, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to inadequate parking capacity. The proposed ordinances would not include any development. The proposed ordinances would ban plastic carryout bags issued by certain stores and would not include any components that would be expected to directly or indirectly affect parking capacity within the incorporated cities of the County. Therefore, there would be no expected impacts to transportation and traffic related to inadequate parking capacity, and no further analysis is warranted.

(g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to transportation and traffic in relation to conflicts with adopted policies, plans, or programs supporting alternative transportation. The proposed ordinance would not include any development that would conflict with alternative transportation in the unincorporated areas of the County. The proposed ordinance would ban plastic carryout bags issued by certain stores and would not include any components that would directly or indirectly affect adopted policies, plans, or programs supporting alternative transportation within the unincorporated territories of the County. Therefore, there would be no expected impacts to transportation and traffic related to conflicts with adopted policies, plans, or programs supporting alternative transportation, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to transportation and traffic in relation to conflicts with adopted policies, plans, or programs supporting alternative transportation. The proposed ordinances would not include any development that would conflict with alternative transportation in the incorporated areas of the County. The proposed ordinances would ban plastic carryout bags issued by certain stores and would not include any components that would be expected to directly or indirectly affect adopted policies, plans, or programs supporting alternative transportation within the incorporated cities of the County. Therefore, there would be no expected impacts to transportation and traffic related to conflicts with adopted policies, plans, or programs supporting alternative transportation, and no further analysis is warranted.

3.17 UTILITIES AND SERVICE SYSTEMS

This analysis is undertaken to determine if the proposed ordinances may have a significant impact to utilities and service systems, thus requiring the consideration of mitigation measures or alternatives, in accordance with Section 15063 of the State CEQA Guidelines.[1] Utilities and service systems within the County, which would be subject to the proposed ordinances, were evaluated with regard to the County of Los Angeles General Plan[2] and the California RWQCB Basin Plan for the Los Angeles Region. The scope of the utilities and service systems investigations included natural gas, telephone, electric, sewer, storm drain, and water utilities.

The State CEQA Guidelines recommend the consideration of seven questions when addressing the potential for significant impacts to utilities and service systems.

Would the proposed ordinances:

(a) Exceed wastewater treatment requirements of the applicable regional water quality control board?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would be expected to result in a less than significant impact to utilities and service systems in relation to exceeding the wastewater treatment requirements of the Los Angeles RWQCB. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in increased reliance on paper bags,[3] the proposed ordinance would facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags consumed in the unincorporated territories of the County compared to existing conditions. In addition, although the proposed ordinance would be expected to lead to an increase in the number of reusable bags manufactured for use in the unincorporated territories of the County, the number of reusable bags required would be significantly lower than the number of plastic carryout bags currently consumed. Therefore, a reduction in the total consumption of plastic bags would be expected to decrease the amount of wastewater generated by bag manufacturing facilities. Further, a potential increase, if any, in the production of paper bags would not be expected to increase wastewater treatment requirements of the Los Angeles RWQCB. Any County project or facility is adjudicated by the Water Quality Control Plan for the Los Angeles Region (Basin Plan) for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, impacts to utilities and service systems related to exceeding wastewater treatment requirements of the Los Angeles RWQCB would be expected to be less than significant, and no further analysis is warranted.

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[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

[2] County of Los Angeles Department of Regional Planning. 1980 (updated 6 December 1990). *Existing Adopted Los Angeles County General Plan*. Los Angeles, California. Available at: http://planning.lacounty.gov/generalplan#gp-existing

[3] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

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The proposed ordinances would be expected to result in less than significant impacts to utilities and service systems in relation to exceeding the wastewater treatment requirements of the Los Angeles RWQCB. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the reliance on paper bags,[4] the proposed ordinances would serve to facilitate an increase in the use of reusable bags in the long-term, thereby resulting in a reduction in the total number of carryout bags consumed in the incorporated cities of the County compared to existing conditions. In addition, although the proposed ordinances would be expected to lead to an increase in the number of reusable bags manufactured for use in the incorporated cities of the County, the number of reusable bags required would be significantly lower than the number of carryout bags currently consumed. A reduction in the total consumption of plastic bags would be expected to decrease the amount of wastewater generated by bag manufacturing facilities. Therefore, as with the unincorporated territories of the County, the proposed ordinances would be expected to result in less than significant impacts to utilities and service systems in the incorporated cities of the County in relation to exceeding the wastewater treatment requirements of the Los Angeles RWQCB, and no further analysis is warranted.

(b) Require or result in the construction of new water or wastewater treatment facilities, the construction of which could cause significant environmental effects?

Unincorporated Territories of the County of Los Angeles

The proposed ordinance would not be expected to result in impacts to utilities and service systems in relation to the construction of new water or wastewater treatment facilities or expansion of facilities, causing significant environmental effects. The proposed ordinance would ban the plastic carryout bags issued by certain stores within the unincorporated territories of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags,[5] the proposed ordinance would serve to facilitate an increase in the use of reusable bags in the long-term, thereby resulting in a reduction in the total number of carryout bags consumed in the County compared to existing conditions. In addition, although the proposed ordinance is expected to lead to an increase in the number of reusable bags manufactured for use in the County, the number of reusable bags required would be significantly lower that the number of carryout bags currently consumed. Therefore, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of wastewater generated by bag manufacturing facilities. A potential increase in the production of

[4] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[5] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

paper bags would not be expected to increase the requirement for water or wastewater treatment facilities. Any County project or facility is adjudicated by the Basin Plan for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, there would be no expected impacts to utilities and service systems related to the construction of new water or wastewater treatment facilities or expansion of facilities that could cause significant environmental effects, and no further analysis is warranted.

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in impacts to utilities and service systems in relation to the construction of new water or wastewater treatment facilities or expansion of facilities, causing significant environmental effects. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of carryout paper bags consumed,[6] the proposed ordinances would serve to facilitate an increase in the use of reusable bags in the long-term, thereby resulting in a reduction in the total number of carryout bags consumed in the incorporated cities of the County compared to existing conditions. In addition, although the proposed ordinances are expected to lead to an increase in the number of reusable bags manufactured for use in the incorporated cities of the County, the number of reusable bags required would be significantly lower that the number of carryout bags currently consumed. Therefore, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of wastewater generated by bag manufacturing facilities. Therefore, as with the unincorporated territories of the County, there would be no expected impacts to utilities and service systems related to the construction of new water or wastewater treatment facilities or expansion of facilities that could cause significant environmental effects, and no further analysis is warranted.

(c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts?

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The proposed ordinance would not be expected to result in impacts to utilities and service systems in relation to the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental impacts. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County, which would not be expected to result in an increase in storm water runoff in the County. Plastic bags that end up in storm drain systems serve to impede the system's ability to channel storm water runoff.[7] Therefore, a reduction in the number of plastic bags used in the County would have the potential to lead to improvements in the efficiency of the currently existing storm water

[6] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[7] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf.

drainage facilities. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags disposed of,[8] paper bags are less likely to be littered and to end up in storm water runoff as they are heavier (paper bags have been noted to be anywhere between 6 to 10 times heavier than plastic bags) and also quickly biodegrade, even if littered, and therefore less likely to become airborne and scattered throughout the areas that would be subject to the proposed ordinance.[9] Therefore, there would be no expected adverse impacts to utilities and service systems related to the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental impacts, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to utilities and service systems in relation to the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental impacts. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County, which would not be expected to result in an increase in storm water runoff in the incorporated cities of the County. Plastic bags that end up in storm drain systems serve to impede the system's ability to channel storm water runoff.[10] Therefore, a reduction in the number of plastic bags used in the incorporated cities of the County would have the potential to lead to improvements in the efficiency of the currently existing storm water drainage facilities. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags disposed of,[11] paper bags are less likely to be littered and to end up in storm water runoff as they are heavier (paper bags have been noted to be anywhere between 6 to 10 times heavier than plastic bags) and also quickly biodegrade, even if littered and therefore less likely to become airborne and scattered throughout the areas served by the proposed ordinances.[12] Therefore, there would be no expected adverse impacts to utilities and service systems related to the construction of new storm water drainage facilities or expansion of existing facilities, which could cause significant environmental impacts, and no further analysis is warranted.

[8] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[9] Save the Plastic Bag. 2008. *Scottish Executive 2005 Environment Group Research Report (2005/06).* Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf

[10] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors.* Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf.

[11] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[12] Save the Plastic Bag. 2008. *Scottish Executive 2005 Environment Group Research Report (2005/06).* Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf

(d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

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The proposed ordinance would not be expected to result in impacts to utilities and service systems in relation to having sufficient water supplies available to serve the unincorporated territories within the County from existing entitlements and resources, or having new expanded entitlements needed. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags manufactured for use,[13] it is anticipated that the proposed ordinance would serve to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags consumed in the County as compared to existing conditions. In addition, although the proposed ordinance would be expected to lead to an increase in the number of reusable bags consumed in the County, the number of reusable bags required would be expected to be significantly lower that the number of carryout bags (both paper and plastic) that are currently used. Therefore, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of water required by bag manufacturing facilities. A potential increase in the production of paper bags, if any, would not be expected to increase the demand for water supplies in California. Any County project or facility is adjudicated by the Basin Plan for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, there would be no expected adverse impacts to utilities and service systems related to having sufficient water supplies available to serve the proposed ordinance from existing entitlements and resources, or having new expanded entitlements needed, and no further analysis is warranted.

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The proposed ordinances would not be expected to result in impacts to utilities and service systems in relation to having sufficient water supplies available to serve the incorporated cities within the County from existing entitlements and resources, or having new expanded entitlements needed. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags manufactured for use,[14] it is anticipated that the proposed ordinances would serve to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags consumed in the incorporated cities of the County as compared to existing conditions. In addition, although the proposed ordinances would be expected to lead to an increase in the number of reusable bags consumed in the

[13] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[14] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

incorporated cities of the County, the number of reusable bags required would be expected to be significantly lower than the number of carryout bags (both paper and plastic) that are currently used. Therefore, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of water required by bag manufacturing facilities. Any County project or facility is adjudicated by the Basin Plan for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, as with the unincorporated territories of the County, there would be no expected adverse impacts to utilities and service systems related to having sufficient water supplies available to serve the proposed ordinances from existing entitlements and resources, or having new expanded entitlements needed, and no further analysis is warranted.

(e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

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The proposed ordinance would not be expected to result in impacts to utilities and service systems in relation to resulting in a determination by the wastewater treatment provider which serves or may serve the unincorporated territories of the County that it has adequate capacity to serve the projected demand in the unincorporated territories of the County in addition to the provider's existing commitments. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the unincorporated territories of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags consumed,[15] the proposed ordinance would also serve to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags consumed in the County compared to existing conditions. In addition, although the proposed ordinance is expected to lead to an increase in the number of reusable bags manufactured for use in the County, the number of reusable bags required would be significantly lower that the number of carryout bags currently consumed. Therefore, over time, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of water required and discharged by bag manufacturing facilities. A potential increase, if any, in the production of paper bags would not be expected to increase wastewater treatment requirements in California. Any County project or facility is adjudicated by the Basin Plan for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, there would be no expected adverse environmental impacts to utilities and service systems related to resulting in a determination by the wastewater treatment provider that serves or may serve the unincorporated territories of the County that it has adequate capacity to serve the projected demand of these areas in addition to the provider's existing commitments, and no further analysis is warranted.

[15] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

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The proposed ordinances would not be expected to result in impacts to utilities and service systems in relation to resulting in a determination by the wastewater treatment provider that serves or may serve the incorporated cities of the County that it has adequate capacity to serve the projected demand in the incorporated cities of the County in addition to the provider's existing commitments. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County. The proposed ordinance would be expected to result in a significant reduction in the consumption of plastic carryout bags and to significantly increase the use of reusable bags within the incorporated cities of the County. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags consumed,[16] it is anticipated that the proposed ordinances would also be expected to facilitate an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags consumed in the incorporated cities of the County compared to existing conditions. In addition, although the proposed ordinances would be expected to lead to an increase in the number of reusable bags manufactured for use in the incorporated cities of the County, the number of reusable bags required would be significantly lower that the number of carryout bags currently consumed. Therefore, over time, a reduction in the total number of bags manufactured would be expected to lead to a decrease in the amount of water required and discharged by bag manufacturing facilities. Any County project or facility is adjudicated by the Water Quality Control Plan for the Los Angeles Region (Basin Plan) for water resources and is required to comply with the relevant local or County wastewater regulations and ordinances. Therefore, as with the unincorporated territories of the County, there would be no expected adverse environmental impacts to utilities and service systems related to resulting in a determination by the wastewater treatment provider that serves or may serve the incorporated cities of the County that it has adequate capacity to serve the projected demand of these areas in addition to the provider's existing commitments, and no further analysis is warranted.

(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

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The proposed ordinance would be expected to result in potentially significant impacts to utilities and service systems in relation to being served by a landfill that has sufficient permitted capacity to accommodate the solid waste disposal needs resulting from the implementation of the proposed ordinance. The expected impacts would be reduced to below the level of significance with the incorporation of mitigation measures. The proposed ordinance would ban plastic carryout bags issued by certain stores within the unincorporated territories of the County, which would be expected to result in a significant decrease in the amount of waste attributable to plastic carryout bags. The California Integrated Waste Management Board estimates that approximately 3.9 percent of plastic waste can be attributed to plastic carryout bags related to grocery and other merchandise. That represents approximately 0.4 percent of the total waste stream in California.[17,18]

[16] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[17] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table ES-3: Composition of California's Overall Disposed Waste Stream by Material Type, 2003." *Contractor's Report to the Board:*

Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags that are consumed,[19] it is anticipated that the proposed ordinance would also lead to an increase in the use of reusable bags, thereby resulting in a reduction in the total number of carryout bags (both paper and plastic) disposed of in the County compared to existing conditions. In addition, paper bags are more likely to be recycled than plastic bags, as supported by the higher recycling rate of paper as compared to that of plastic.[20] Due to the fact that paper bags have a greater volume than plastic bags,[21] some representatives of the plastic bag industry have argued that similar proposed ordinances may result in adverse impacts to utilities and service systems related to being served by a landfill with sufficient permitted capacity to accommodate the solid waste disposal needs that would be anticipated to result from implementation of the proposed ordinance. If true, the potential increase in the usage of paper bags that would be expected to result from the implementation of the proposed ordinance would require mitigation to reduce the impact to below the level of significance. However, the County has decided to present the analysis of this issue in an EIR.

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The proposed ordinances would be expected to result in potentially significant impacts to utilities and service systems in relation to being served by a landfill with sufficient permitted capacity to accommodate the solid waste disposal needs that would be anticipated to result from the implementation of the proposed ordinances. The expected impacts would be reduced to below the level of significance with the incorporation of mitigation measures. The proposed ordinances would ban plastic carryout bags issued by certain stores within the incorporated cities of the County, which would be expected to result in a significant decrease in the amount of waste attributable to plastic carryout bags. Due to the greater volume of paper bags than of plastic bags,[22] some representatives of the plastic bag industry have argued that similar proposed ordinances would be expected to result in adverse impacts to utilities and service systems related to being served by a landfill with sufficient permitted capacity to accommodate the solid waste disposal needs that would be anticipated to result from implementation of the proposed ordinances. If true, the potential increase in the usage of paper bags that would be expected to result from the implementation of the proposed ordinances would require mitigation to reduce the impact to below the level of significance. However, the County has decided to present the analysis of this issue in an EIR.

Statewide Waste Characterization Study, p. 6. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097

[18] Note: Plastics make up approximately 9.5 percent of California's waste stream by weight, including 0.4 percent for plastic carryout bags related to grocery and other merchandise, 0.7 percent for non-bag commercial and industrial packaging film, and 1 percent for plastic trash bags.

[19] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[20] U.S. Environmental Protection Agency. November 2008. *Municipal Solid Waste in the United States: 2007 Facts and Figures*. Washington, DC. Available at: http://www.epa.gov/waste/nonhaz/municipal/pubs/msw07-rpt.pdf

[21] Save the Plastic Bag. 2008. *Scottish Executive 2005 Environment Group Research Report (2005/06).* Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf

[22] Save the Plastic Bag. 2008. *Scottish Executive 2005 Environment Group Research Report (2005/06).* Available at: http://www.savetheplasticbag.com/ReadContent486.aspx or http://www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf

(g) Comply with federal, state, and local statutes and regulations related to solid waste?

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The proposed ordinance would not be expected to result in adverse environmental impacts to utilities and service systems in relation to compliance with federal, state, and local statutes and regulations related to solid waste. The California Integrated Waste Management Act of 1989 (AB 939) requires the County to attain specific waste diversion goals. These goals can be met through the implementation of County waste reduction policies, which could include the proposed ordinance once adopted. The California Integrated Waste Management Board estimates that approximately 3.9 percent of plastic waste can be attributed to plastic carryout bags related to grocery and other merchandise. That represents approximately 0.4 percent of the total waste stream in California.[23,24] Therefore, the proposed ordinance, which would be expected to significantly reduce the amount of litter attributed to plastic carryout bags, would serve to facilitate compliance with AB 939. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags that are consumed,[25] it is anticipated that the proposed ordinance would also promote an increase in the use of reusable bags, thereby resulting in a reduction in the total number of plastic carryout bags disposed of in the County compared to existing conditions. In addition, paper bags are more likely to be recycled than plastic bags, as supported by the higher recycling rate of paper as compared to that of plastic.

The Los Angeles RWQCB adopted a Basin Plan Amendment on March 4, 2004, requiring the TMDL of trash in the Ballona Watershed to be incrementally reduced to zero within 10 years.[26] In addition, the Los Angeles RWQCB adopted a Basin Plan Amendment on August 9, 2007, requiring the TMDL of trash in the Los Angles River Watershed to be incrementally reduced to zero within 9 years.[27] The Los Angeles RWQCB acknowledges that the majority of the trash in these watersheds comes primarily from trash in storm water runoff, and it has been documented that a significant percentage of trash in storm water runoff in the County is composed of plastic film, such as plastic carryout bags.[28] Therefore, the proposed ordinance, which would aim to significantly reduce the amount of litter attributable to plastic carryout bags, would comply with the TMDL requirements of

[23] California Environmental Protection Agency, Integrated Waste Management Board. December 2004. "Table ES-3: Composition of California's Overall Disposed Waste Stream by Material Type, 2003." *Contractor's Report to the Board: Statewide Waste Characterization* Study, p. 6. Produced by: Cascadia Consulting Group, Inc. Berkeley, CA. Available at: http://www.ciwmb.ca.gov/Publications/default.asp?pubid=1097

[24] Note: Plastics make up approximately 9.5 percent of California's waste stream by weight, including 0.4 percent for plastic carryout bags related to grocery and other merchandise, 0.7 percent for non-bag commercial and industrial packaging film, and 1 percent for plastic trash bags.

[25] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco*. Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

[26] Los Angeles Regional Water Quality Control Board. 4 March 2004. *Amendments to the Water Quality Control Plan – Los Angeles Region for the Ballona Creek Trash TMDL*. Available at: http://63.199.216.6/larwqcb_new/bpa/docs/2004-023/2004-023_RB_BPA.pdf

[27] Los Angeles Regional Water Quality Control Board. 9 August 2007. *Amendments to the Water Quality Control Plan – Los Angeles Region to Incorporate the TMDL for Trash in the Los Angeles River Watershed*. Available at: http://63.199.216.6/larwqcb_new/bpa/docs/2007-012/2007-012_RB_BPA.pdf

[28] Combs, Suzanne, John Johnston, Gary Lippner, David Marx, and Kimberly Walter. *Results of the Caltrans Litter Management Pilot Study*. Sacramento, CA: California Department of Transportation. Available at: http://www.owp.csus.edu/research/papers/papers/PP020.pdf

the Los Angeles RWQCB. In addition, the adopted TMDL requirements also call for the initial 20-percent reduction to be achieved by September 30, 2006, and 100-percent trash reduction to be achieved by September 30, 2015.[29] There would be no expected adverse environmental impacts to utilities and service systems related to compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, no further analysis is warranted.

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The proposed ordinances would not be expected to result in adverse environmental impacts to utilities and service systems in relation to compliance with federal, state, and local statutes and regulations related to solid waste. As with the unincorporated territories of the County, the proposed ordinances, which would be expected to significantly reduce the amount of litter attributed to plastic carryout bags, would serve to facilitate compliance with AB 939. Although certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in an increase in the number of paper carryout bags that are consumed,[30] it is anticipated that the proposed ordinances would also promote increased use of reusable bags, thereby resulting in a reduced total number of plastic carryout bags disposed of in the incorporated cities of the County compared to existing conditions.

As with the unincorporated territories of the County, the proposed ordinances, which would aim to significantly reduce the amount of litter attributable to plastic carryout bags, would comply with the TMDL requirements of the Los Angeles RWQCB. There would be no expected adverse environmental impacts to utilities and service systems related to compliance with federal, state, and local statutes and regulations related to solid waste. Therefore, no further analysis is warranted.

[29] City of Los Angeles. 2009. *City of Los Angeles Stormwater Program: Trash TMDLs.* Available at: http://www.lastormwater.org/Siteorg/program/TMDLs/trashtmdl.htm

[30] Save the Plastic Bag. 2008. *The ULS Report: A Qualitative Study of Grocery Bag Use in San Francisco.* Available at: http://www.savetheplasticbag.com/ReadContent700.aspx or http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

This analysis was undertaken to determine if the proposed ordinances would result in any of the conditions that would require the preparation of an EIR, in accordance with Section 15065 of the State CEQA Guidelines.[1] Mandatory Findings of Significance for the proposed ordinances were evaluated with regard to the information contained in this Environmental Analysis gathered during literature reviews (see Section 4.0, References, for a list of reference materials consulted).

The State CEQA Guidelines require the consideration of three questions when determining whether a project may have a significant effect on the environment.

Would the proposed ordinances:

(a) Do the proposed ordinances have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

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The proposed ordinance would not be expected to result in Mandatory Findings of Significance in relation to the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. The proposed ordinance intends to ban plastic carryout bags issued in certain stores in the unincorporated territories of the County, and thus would not be expected to create or result in any changes to the existing environmental as related to biological and cultural resources. As discussed in Section 3.4, Biological Resources, and Section 3.5, Cultural Resources, of this Initial Study, the proposed ordinance does not include any development, alteration, or degradation of any habitat, physical sites, buildings, or structures, nor does it include any ground-disturbing activities. Conversely, the proposed ordinance would be expected to result in beneficial environmental effects (resulting from the reduction of litter in plant and wildlife habitats, aesthetic improvements, and other impacts discussed in this Initial Study) as they relate to biological and cultural resources within the County. Adoption of the proposed ordinance would not permit any direct or indirect degradation of the existing conditions within the County. Therefore, there would be no expected Mandatory Findings of Significance related to the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. No further analysis is warranted.

[1] *California Code of Regulations*, Title 14, Division 6, Chapter 3, Sections 15000–15387, Appendix G.

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The proposed ordinances would not be expected to result in Mandatory Findings of Significance in relation to the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. The proposed ordinances would not include any development, alteration, or degradation of any habitat, physical sites, buildings, or structures, nor would they include any ground-disturbing activities. The proposed ordinances would be anticipated to result in beneficial environmental effects as described above. Adoption of the proposed ordinances would not permit any direct or indirect degradation of the existing environmental conditions within the County. Therefore, there would be no expected Mandatory Findings of Significance related to the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory. No further analysis is warranted.

(b) Do the proposed ordinances have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

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The proposed ordinance would be expected to result in less than significant impacts to Mandatory Findings of Significance in relation to impacts that are individually limited but cumulatively considerable. The proposed ordinance would not be expected to contribute to the incremental environmental impacts when viewed in connection with the effects of past, current, or reasonably foreseeable projects. Although the proposed ordinance would not entail development, a ban of plastic carryout bags issued at some stores may lead to an increase in the consumption of paper bags as subject stores transition to the use of reusable bags. A temporary increase could result in indirect impacts to air quality, greenhouse gases, hydrology and water quality, noise, and utilities and service systems as discussed in this Initial Study. However, the indirect impacts that would be attributed to the proposed ordinance would be anticipated to be temporary and localized, and the County maintains that the adoption of the proposed ordinance would not permit the violation of existing County policies. Furthermore, the County has proposed efforts to minimize these impacts through outreach and educational programs. In addition, although there have been comparable ordinances in other jurisdictions, the proposed ordinance would not be expected to exacerbate any existing conditions within the County. As such, these indirect impacts would not be cumulatively considerable in connection with the effects of past, current, or reasonably foreseeable projects. Therefore, the expected Mandatory Findings of Significance related to impacts that are individually limited but cumulatively considerable would be below the level of significance. However, the County has decided to present the analysis on this issue in an EIR to verify these findings.

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The proposed ordinances would be expected to result in Mandatory Findings of Significance in relation to impacts that are individually limited but cumulatively considerable. The proposed ordinances would not be expected to contribute to the incremental impacts when viewed in connection with the effects of past, current, or reasonably foreseeable projects. As discussed above, a ban on plastic carryout bags issued at certain stores may lead to a temporary increase in the consumption of paper bags as subject stores transition to the use of reusable bags. This temporary increase could result in indirect impacts to air quality, greenhouse gases, hydrology and water quality, noise, and utilities and service systems as discussed in this Initial Study. However, the indirect impacts that would be attributed to the proposed ordinances would be anticipated to be temporary and localized, and the County maintains that the adoption of the proposed ordinances would not permit the violation of existing County policies. Furthermore, the County has proposed efforts to minimize these impacts through outreach and educational programs. As such, these indirect impacts would not be cumulatively considerable in connection with the effects of past, current, or reasonably foreseeable projects. Therefore, the expected Mandatory Findings of Significance related to impacts that are individually limited but cumulatively considerable would be below the level of significance. However, the County has decided to present the analysis on this issue in an EIR to verify these findings.

(c) Does the proposed ordinance have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

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The proposed ordinance would not be expected to result in Mandatory Findings of Significance in relation to having environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. While the adverse impacts related to the issuance and consumption of plastic carryout bags designed for single use, and the litter associated with them, have been evaluated,[2] the proposed ordinance would ban the issuance of such bags to significantly reduce these impacts. However, the proposed ordinance may result in indirect impacts because a ban on plastic carryout bags would be expected to increase the issuance and consumption of paper bags within the unincorporated territories of the County. An increase in the use of paper bags could be expected to result in indirect impacts to air quality, greenhouse gases, hydrology and water quality, noise, and utilities and service systems as discussed in this Initial Study. These indirect impacts to human beings would not be considered substantial as they would be limited and would be significantly reduced by the County's efforts to encourage the use of reusable bags in place of plastic carryout bags. The beneficial environmental impacts discussed in the response to question (a) above and throughout this Initial Study would be expected to have positive impacts on human beings and their environment. In addition, the five goals of the proposed ordinance––(1) litter reduction, (2) blight prevention, (3) coastal waterways and animals and wildlife protection, (4) sustainability (as it relates to the County's energy and environmental goals), and (5) landfill reduction––are intended to directly and indirectly benefit human beings. Therefore, there would be no expected Mandatory Findings of Significance related to environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, and no further analysis is warranted.

[2] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. *An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of Supervisors*. Alhambra, CA. Available at: http://dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

Incorporated Cities of the County of Los Angeles

The proposed ordinances would not be expected to result in Mandatory Findings of Significance in relation to having environmental effects that would cause substantial adverse effects to human beings, either directly or indirectly. As previously discussed, the proposed ordinances may result in indirect impacts, as a ban on plastic carryout bags issued at certain stores would be expected to increase the issuance and consumption of paper bags within the incorporated cities of the County. An increase in the use of paper bags would be expected to result in indirect impacts to air quality, greenhouse gases, hydrology and water quality, noise, and utilities and service systems as discussed in this Initial Study. These indirect impacts would not be considered substantial to human beings as they would be limited and would be significantly reduced by the County's efforts to encourage the use of reusable bags in place of plastic carryout bags designed for a single use. The beneficial environmental impacts discussed in the response to question (a) above and throughout this Initial Study would be expected to have positive impacts on human beings and their environment. In addition, the five goals of the proposed ordinance––(1) litter reduction, (2) blight prevention, (3) coastal waterways and animals and wildlife protection, (4) sustainability (as it relates to the County's energy and environmental goals), and (5) landfill reduction––are intended to directly and indirectly benefit human beings. Therefore, there would be no expected Mandatory Findings of Significance related to environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, and no further analysis is warranted.

SECTION 4.0
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From: Lisa Foster [mailto:LisaFoster@1bagatatime.com]
Sent: Wednesday, December 09, 2009 4:44 PM
To: Skye, Coby
Subject: RE: EIR for plastic bags

Coby—

I hope you can please include these issues. They do not seem to be included as yet, but the exemptions seem to be a fait accompli.

It would be an amazing thing to have a study to see what the plastic bag disposal rate becomes when a bag ban with these kinds of exceptions is implemented say in Santa Monica or San Francisco. Rates of 2.5 mil bags should be counted before and after, or at least after to see if they are indeed "reused" as the plastic industry says they are. We really need research on that. It would be a great thing!

I can't take part in these scoping meetings, much as I would like to. The closest one to me is Calabasas which is about 1.5 to 2 hours in traffic to get to at 6 pm. I just can't do it though I wish I could. I wish a meeting were held in downtown LA. Why wasn't there a scoping meeting in Los Angeles? These all seem to be pretty outlying.

Thanks
Lisa

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"The Earth is what we all have in common." Wendell Barry

From: Skye, Coby [mailto:CSKYE@dpw.lacounty.gov]
Sent: Wednesday, December 09, 2009 4:02 PM
To: Lisa Foster
Cc: Alva, Paul; Chong, Suk; Gemeniano, Nilda; TBarranda@sapphosenvironmental.com
Subject: RE: EIR for plastic bags

Hi Lisa,
Yes, both of these issues will be evaluated in the EIR, and the results will inform the ultimate Ordinance considered by the Board. I am cc□ng our environmental document consultant to ensure that your comments below will be incorporated as a part of the formal record. Will you also be participating in any of the scoping meetings?

From: Lisa Foster [mailto:LisaFoster@1bagatatime.com]
Sent: Friday, December 04, 2009 3:27 PM
To: Skye, Coby
Cc: Alva, Paul
Subject: EIR for plastic bags

Hi Coby and Paul—

I'm delighted the county is moving toward banning bag. I have two serious issues regarding the ordinance as written:

1. The definition of a reusable bag as a plastic bag 2.25 mils thick
2. The exemption for stores less than 10,000 sq feet in size

Given that the major objective (as stated) is to encourage more reusable bag use, these exemptions seem to be serious weaknesses in the legislation proposed. I hope you can answer a few questions for me regarding this issue.

- Has there ever been a study that shows 2.25 mils bags are reused and actually reduce single-use bags? I.e., How does this exemption achieve the goal you desire?
- How does this proposal address the problem of bag litter hot-spots, where most the garbage is generated but the retail landscape is dominated by smaller vendors?
- Has a bag ban with these exemptions (which have been enacted in China, SF, Santa Monica, and elsewhere) been shown to reduce single use bags?
- What about the effects on grocery store prices for low income groups when grocery stores factor in the higher price of thicker bags for give-away, which will remain the most attractive option since every small seller can still offer a plastic bag for free?

I've been impressed with your thoroughness and thoughtfulness in this matter. Your first report and this report both recommend reusable bags as the best solution. You are unlikely to get a second chance at this issue, and it seems your legislation is too weak to address your goals in the real world, and more likely to lead to worse results—more plastic thrown away not less, higher prices for groceries and environmental damage not less, little or no abatement of litter or other polluting impacts of bags.

I'll be calling you next week. I hope we can discuss it. If you have good reason that these exemptions will achieve the goal you state, I hope you will share your insights.

Thanks
Lisa

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"The Earth is what we all have in common." Wendell Barry

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December 21, 2009

Mr. Coby Skye
County of Los Angeles Department of Public Works
Environmental Programs Division
900 South Fremont Avenue, 3rd Floor
Alhambra, CA 91803

Dear Mr. Skye:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the Ordinances to Ban Plastic Carryout Bags in Los Angeles County Project

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Electronic files include spreadsheets, database files, input files, output files, etc., and does not mean Adobe PDF files. Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Daniel Garcia, Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,

Susan Nakamura

Susan Nakamura
Planning Manager
Planning, Rule Development and Area Sources

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December 22, 2009

County of Los Angeles Department of Public Works
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Sent via e-mail (cskye@dpw.lacounty.gov)

RE: Ordinance to Ban Plastic Carryout Bags in Los Angeles County – Initial Study and EIR Scoping Comments

Dear Mr. Skye:

On behalf of Heal the Bay and our 13,000 members, we thank you for giving us the opportunity to provide written comments on Los Angeles County's proposed Environmental Impact Review ("EIR") and initial study for an ordinance to ban plastic carryout bags. For over 20 years we have worked to make Southern California's watersheds, including Santa Monica Bay, safe, healthy and clean through science, education, research and advocacy.

From our own cleanups in Los Angeles County, plastic single-use bags have been one of the top five most abundant items of plastic debris found on Santa Monica Bay beaches.[1] Despite both voluntary and statewide efforts to implement recycling programs, less than 5% of plastic bags are actually recycled[2]; the majority ends up in our landfills and litter stream, polluting our inland and coastal communities. We provide detailed comments below regarding the Initial Study and EIR scoping for the proposed plastic bag ban policy.

The Program Objectives Should Be Strengthened

Given the magnitude of the plastic bag pollution problem, Heal the Bay believes that these objectives need to be strengthened to adequately address this issue. The Initial Study currently includes the following areas in the program objectives[3]:

- Reduce the Countywide consumption of plastic carryout bags from the estimated 1,600 plastic carryout bags per household in 2007, to fewer than 800 plastic bags per household in 2013.

[1] Coastal Conservancy's Adopt-A-Beach Program, Santa Monica Trash Totals since 1999. Data compiled from Heal the Bay's Marine Debris Database available at: www.healthebay.org/mddb

[2] California Integrated Waste Management Board (Available at: www.zerowaste.ca.gov/PlasticBags/default.htm); US EPA 2005 Characterization of Municipal Solid Waste, Table 7.

[3] Sapphos Environmental, Inc., "Ordinances to Ban Plastic Carryout Bags in Los Angeles County INITIAL STUDY." Prepared for: County of Los Angeles Department of Public Works Environmental Programs Division, December 1, 2009.

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- Reduce the Countywide contribution of plastic carryout bags to litter that blights public spaces Countywide by 50 percent.

Approximately six billion plastic carryout bags are consumed in Los Angeles County each year. A 50 percent reduction in the status quo would result in the distribution of three billion plastic carryout bags annually throughout the County and would not yield a sufficient reduction in plastic bag pollution. Supermarkets, pharmacies, and convenience stores are the largest providers of plastic carryout bags in the County, therefore banning plastic bags at these retailers would likely generate a much larger reduction of their distribution than 50 percent. Therefore, we urge the County to set stronger, yet realistic objectives, and aim for a minimum of a 90 percent reduction in plastic bag distribution to adequately address this issue.

Impacts of Single-Use Plastics on Biological Resources

Designed only for single-use, plastic bags have a high propensity to become litter and marine debris. These lightweight bags are easily carried great distances by wind when littered or blown from trash receptacles. As plastic debris makes its way into the ocean via stormdrain systems it becomes a persistent threat to marine life. Plastic, unlike paper or other materials, photodegrades, or breaks into smaller pieces when exposed to sunlight, but never completely biodegrades.[4] Over 267 species have been affected by plastic debris, including plastic bags, by ingesting this debris or becoming entangled in it.[5]

In addition to harming wildlife through physical entanglement and ingestion, plastic debris in the marine environment has been known to adsorb and transport polychlorinated biphenyls (PCBs), phthalates, and certain classes of persistent organic pollutants (POPs).[6,7] Phthalates and bisphenol-A have also been shown to impair development in crustaceans, mollusks, and amphibians at concentration levels that are already present in some marine environments.[8] While the majority of existing research documents the effects of these chemicals on human health, the effects of toxic plastic on the marine environment is an emerging area of research. The Office of Environmental Health Hazards Assessment is conducting studies of fish that have been collected from the North Pacific Gyre, a convergence zone where most of this plastic debris can be found,

[4] Thompson, R. C. (2004-05-07). "Lost at Sea: Where Is All the Plastic?,". *Science* **304** (5672): 843.

[5] Laist, D. W. (1997). "Impacts of Marine Debris: Entanglement of Marine Life in Marine Debris Including a Comprehensive List of Species with Entanglement and Ingestion Records." In: Coe, J. M. and D. B. Rogers (Eds.), Marine Debris -- Sources, Impacts and Solutions. Springer-Verlag, New York, pp. 99-139.

[6] Mato, Y., Isobe, T., Takada, H., et al. (2001) "Plastic Resin Pellets as a Transport Medium for Toxic Chemicals in the Marine Environment." *Environ. Sci. Technol. 35*, 308-324.

[7] Moore, C.J.; Lattin, G.L., A.F. Zellers. (2005). "A Brief Analysis of Organic Pollutants Absorbed to Pre- and Post-Production Plastic Particles from the Los Angeles and San Gabriel River Watersheds," *Presentation at Plastic Debris Rivers To Sea Conference*, Long Beach , CA, 2005.

[8] Thomson, R. et al. (2009). "Plastics, the Environment and Human Health: Current Consensus and Future Trends, *Phil. Trans. R. Soc.* B 27, 364 (1526): 2153-2166.

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to investigate the potential for plastics to release adsorbed chemicals to wildlife when ingested.[9] There is also research suggesting that plastics may be important agents in the transport of these contaminants to sediment-dwelling organisms.[10] Trash and other debris, especially suspended plastic solids, have also been known to transport invasive species to the aquatic environment.[11] Thus, we strongly agree with the conclusion in the Initial Study that the proposed ordinance to reduce litter associated with plastic bags would have the potential to result in a beneficial effect to species.

We further urge you to broaden the scope of your determination of potential biological impacts and benefits to marine species that live in the Los Angeles area. Approximately 80 percent of marine debris comes from land-based sources, yet the some of the largest wildlife impacts are on marine species. Accounting for the benefits of a single-use carryout bag reduction policy to the marine environment is critical to the overall environmental evaluation. We recommend you expand Table 3.4-1 and the associated analysis to include special status marine species that occur in the Los Angeles County area, such as the Green sea turtle (*Chelonia mydas,* Federally Threatened), Leatherback sea turtle (*Dermochelys coriacea*, Federally Endangered), Short-tailed albatross (*Phoebastria albatrus*, Federally Endangered) Blue whale (*Balaenoptera musculus,* Federally Endangered), Humpback whale (*Megaptera novaeangliae*, Federally Endangered), Steller sea lion (*Eumetopias jubatus*, Federally Threatened), Guadalupe fur seal (*Arctocephalus townsendi*, Federally Threatened), and others.[12]

Impacts of Single-Use Plastics on Water Quality

The Initial Study raises the question of whether a policy banning plastic bags may have a significant impact on water quality based on industry concerns, and specifically states, "certain representatives of the plastic bag industry have argued that similar proposed ordinances have the potential to result in environmental impacts that could result in violations of water quality standards due to the increased reliance on paper bags during the period required for consumers to transition to using reusable bags."[13] These concerns are unsubstantiated and unnecessary to

[9] Gassell, M. "Human Health and Water Quality Impacts of Marine Debris." Office of Environmental Health Hazards Assessment. Presentation to the California Assembly Committees on Environmental Safety & Toxic Materials and Natural Resources. *Informational Hearing on Marine Debris, Its Impacts, and Strategies for Its Reduction*, November 15, 2009. Available at: http://www.oehha.org/fish/pdf/GasselTestimony17Nov09.pdf. Data samples were collected between August 4-31, 2009.

[10] Teuten, E.L., Rowland, S.J., Galloway, T.S., et al. (2007). "Potential for Plastics to Transport Hydrophobic Contaminants." *Environ. Sci. Technol.* 41, 7759–7764.

[11] Barnes, D.K.A. (2002). "Invasions by Marine Life on Plastic Debris." *Nature*, 416 (25), 808–809.

[12] California Department of Fish And Game, Biogeographic Data Branch. California Natural Diversity Database "State & Federally Listed Endangered & Threatened Animals of California," October 2009. Available at: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEAnimals.pdf (accessed 18 Dec 09).

[13] Sapphos Environmental, Inc., "Ordinances to Ban Plastic Carryout Bags in Los Angeles County INITIAL STUDY." Prepared for: County of Los Angeles Department of Public Works Environmental Programs Division, December 1, 2009.

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address because of the Trash Total Maximum Daily Load (TMDL) requirements.[14] Los Angeles County is using full capture devices to comply with TMDL requirements for the Los Angeles River and Ballona Creek, which prevent all trash of 5mm in diameter or greater from entering a catch basin. These devices will prevent both paper and plastic bags from getting into the stormdrain system. Furthermore, the introduction of a plastic bag ban in Los Angeles County will actually improve water quality impacts, as plastic bags have a high propensity to become litter. If an analysis of potential water quality impacts from policies banning plastic bags is included in the EIR, we also urge the County to incorporate an investigation of the benefits to water quality associated with such policies.

Impacts of Other Types of Single-Use Bags

While paper bags are less likely to become persistent marine debris when disposed in the environment, serious negative environmental impacts occur during the production of these bags. The production of paper bags made from virgin materials contributes to deforestation, greenhouse gas emissions, and additional waterborne wastes.[15,16,17] Thus, it is important that the County's action and environmental review consider an associated ban or fee on single-use paper bags. In addition, Heal the Bay supports the inclusion of a ban on bio-plastic bags in the scope of this action and environmental review. Plastics claiming to be "biodegradable" or "compostable" have not proven to degrade in the ocean and may pose the same serious threats to marine life as petroleum-based plastic bags.[18,19] These bags require conditions only present in large-scale composting facilities to properly degrade. As pointed out in the County's August 2007 staff report, Los Angeles has very few composting facilities available to responsibly collect and dispose of these bags.[20] In addition, the lack of standard labeling of these bags makes it

[14] List of Trash Total Maximum Daily Loads in Los Angeles County: Malibu Creek (effective July 2009); Los Angeles River Watershed (effective Sept 2008); Legg Lake, San Gabriel River Watershed (effective Mar 2008); San Gabriel River (effective April 2001); Revolon Slough & Beardsley Wash, Calleguas Creek Watershed (effective Mar 2008); Machado Lake, Dominguez Channel Watershed (effective March 2008); and Ballona Creek (effective Aug 2002). Note that on Dec 12, 2009 the Los Angeles Regional Water Quality Control Board incorporated the Los Angeles River Trash TMDL as part of the Municipal Separate Storm Sewer System (MS4) permitting process.

[15] Australian Department of the Environment and Heritage Plastic Shopping Bags – Analysis of Levies and Environmental Impacts Final Report, prepared by Nolan-ITU, December 2002, Page 33.

[16] U.S. Energy Information Administration, U.S. Department of Energy, "Energy-Related Carbon Emissions in the Paper Industry, 1994." Available at: www.eia.doe.gov/emeu/efficiency/carbon_emissions/paper.html (Retrieved 12/31/08).

[17] U.S. EPA Toxic Release Inventory 2008 data for Paper Industry-NAICS code 322. (Retrieved 12/14/09).

[18] California Integrated Waste Management Board (June 2007), "Performance Evaluation of Environmentally Degradable Plastic Packaging and Disposable Food Service Ware: Final Report," pp. 38-39.

[19] Galbraith, K. "F.T.C. Sends Stern Warning on 'Biodegradable' Market Claims" *New York Times*, 11 June 2009. Available at: greeninc.blogs.nytimes.com/2009/06/11/ftc-sends-stern-warning-on-biodegradable-marketing-claims (Accessed on 12/11/09).

[20] County of Los Angeles Department of Public Works, Environmental Programs Division. August 2007. "An Overview of Carryout Bags in Los Angeles County: A Staff Report to the Los Angeles County Board of

difficult for consumers to distinguish these types of bags from other bags and thus avoid contaminating the recycling stream.[21]

In order for a ban on plastic bags to be effective, the County's ordinance must address all types of single-use bags. Heal the Bay supports a ban on plastic and compostable bags with a fee of at least $0.25 on all paper carryout bags to further drive consumers away from other types of environmentally damaging single-use bags and encourage greater use of reusable bags. State law currently prohibits municipalities from placing fees on plastic bags but does not currently preclude cities from imposing fees on paper bags.[22] As proven in Ireland, a 33-cent fee was successful in deterring consumers from using single-use bags by over 90% and has dramatically decreased bag liter.[23]

Definition of Reusable Bags Must Be Modified

The current definition for "reusable bag" in the definitions section of the Initial Study may create a loophole to allow slightly thicker and heavier plastic bags from being sold or distributed in lieu of more durable cloth-like or woven polypropylene bags as was the case in San Francisco according to news reports.[24] The types of bags allowed under this proposed law are the thickness of a boutique bag and may not be designed or intended for multiple reuse. We recommend modifying the definition of "reusable bag" to account for this current loophole. An example of a more appropriate definition is the following:

"Reusable bag" means a bag that is made of cloth or other durable material specifically designed and manufactured for multiple reuse, and has a lifespan of at least 100 uses.

An alternative standard for reusable bags is offered by Green Seal™, an independent, non-profit certification organization, which recommends reusable bags have a minimum lifespan of 300 uses and must be durable enough to withstand typical loads under wet conditions. [25]

Scope of Ordinance and Environmental Review Must Be Expanded to Include a Wider Range of Retailers

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Supervisors," Page 31. Alhambra, CA. Available at: dpw.lacounty.gov/epd/PlasticBags/PDF/PlasticBagReport_08-2007.pdf

[21] *Ibid*., Biodegradable Products Institute. *Fact sheet.* "'Biodegradable' Plastic Bags Make Sense For Your Community, When Integrated with Composting." Available at: www.bpiworld.org (Accessed 12/14/09).

[22] CA Public Resources Code § 42254 (Assembly Bill 2449, statutes of 2006).

[23] Ireland Department of the Environment, Heritage & Local Government. Available at: www.environ.ie/en/Environment/Waste/PlasticBags

[24] Gorn, D. "San Francisco's Plastic Bag Ban Interests Other Cities," *National Public Radio*, March 27, 2008. http://www.npr.org/templates/story/story.php?storyId=89135360 (Retrieved October 26, 2009).

[25] Green Seal GS-16 Standard for Reusable Utility Bags. Available at: http://www.greenseal.org/certification/standards/reusable_utility_bags_gs-16.pdf

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The proposed ordinance is currently limited to supermarkets, retail pharmacies and chain convenience stores over 10,000 combined square feet. However, the Initial Study states that "… the County is considering extending the jurisdiction of the proposed ordinances to stores that are part of a chain of convenience food stores, including franchises primarily engaged in retailing a limited line of goods that includes milk, bread, soda, and snacks, that have a total combined area of 10,000 square feet or greater within the County." [26] We strongly support this approach. In addition, we encourage the County to expand the scope of the ordinance and environmental review to include all retail stores, restaurants, liquor stores, and food vendors that distribute single-use carryout bags since these types of establishments also contribute to the plastic bag proliferation problem.[27] A similar approach was taken by the City of Malibu and the City of Santa Monica (currently drafting an ordinance banning plastic bags), where the ordinance applies to all retail stores, regardless of size.[28] Thus, we strongly urge the incorporation of a broader set of retailers within the scope of the EIR.

Applicability of LA County EIR to Other Municipalities Must Be Clarified, and Coordination across Local Governments is Encouraged

At a minimum, we urge the County to clarify what ordinance alternatives will be reviewed in the EIR. We understand that this EIR will be based on the Board of Supervisors' last motion to direct staff to investigate a plastic bag ban; however a range of alternatives that achieve the objective of the project must be analyzed in the environmental review process. Therefore, the EIR should include a wide range of options that would reduce single use carryout bag distribution in the County of Los Angeles including: 1) A Ban on plastic and compostable bags with a fee on paper bags; 2) Ban on all plastic, paper, and compostable bags; and 3) Fees on all plastic, paper, and compostable bags. This will also help provide sufficient analysis for policy options to be considered by the 88 cities in the County.

In addition, we suggest that the EIR include an analysis of the varying environmental impact for different fee levels. For example, testing a range of fees from $0.10 to $0.25 would be appropriate and is consistent with other published cost-benefit studies.[29,30,31] As demonstrated in

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[26] Sapphos Environmental, Inc., "Ordinances to Ban Plastic Carryout Bags in Los Angeles County INITIAL STUDY." Prepared for: County of Los Angeles Department of Public Works Environmental Programs Division, December 1, 2009.

[27] S. Lopez. "Awash in the Muck of a Single-Use Society" *Los Angeles Times*, September 12, 2007. Steve Lopez observed wrappers and plastic bags from stores such as 7-Eleven and Circle K floating in Compton Creek. Clearly, convenience stores and other retailers are part of the problem.

[28] The Santa Monica City Council draft ordinance (13 January 2009), which includes a plastic carryout bag ban at all retail establishments citywide, with some exceptions made for take-out food from restaurants. The staff report and ordinance is available at: http://www01.smgov.net/cityclerk/council/agendas/2009/20090113/s2009011307-D.htm

[29] City of Seattle Public Utilities (Jan 2008) "Alternatives to Disposable Shopping Bags and Food Service Items," Prepared by Herrera Environmental Consultants, Inc. Available at: www.seattle.gov/mayor/issues/bringYourBag/docs/Report_Executive_Summary.pdf

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these studies, placing a high enough fee on consumers rather than on manufacturers and retailers results in the greatest shift in use of reusable bags and increases overall environmental benefit.[32,33]

Local momentum is building throughout the state to ban or place fees on single-use bags. We encourage the County to continue to coordinate with other cities that are in the process of conducting environmental assessments of potential policy action to reduce the distribution of single-use bags. Specifically, we encourage the County to coordinate with the City of San José, which has proposed to ban both plastic and paper bags, and the City of Santa Monica, which has proposed to ban plastic and compostable bags and charge a fee on paper bags. These cities have already started the CEQA process and expect to have their final EIRs before their councils next year.

Conclusion

We urge the County to adopt these recommendations to strengthen the scope of the EIR. The urgency for local government to take action has never been greater. Many local governments are recognizing the great environmental and economic costs associated with single-use bags and are taking action to curb their use. As zero trash TMDLs and waste diversion requirements draw near, it is even more imperative that the County move expeditiously to implement this critical policy.

Sincerely,

Sarah Sikich
Director of Coastal Resources

Sonia Díaz
Legislative Associate

[30] Cadman, J. et al. (2005). "Proposed Plastic Bag Levy – Extended Impact Assessment Final Report." Prepared for the Scottish Executive Environment and Rural Affairs Department by AEA Technology Environment.

[31] Australia Department of the Environment and Heritage (Dec 2002). "Plastic Shopping bags - Analysis of Levies and Environmental Impacts." Prepared by Nolan-ITU Pty Ltd.

[32] Convery, F., McDonnell, S. et al. (2007). "The Most Popular Tax in Europe? Lessons from the Irish Plastic Bag Levy," *Environmental Resource Economics,* 38:1-11.

[33] Pearce D.W., Turner R.K. (1992) "Packaging Waste and the Polluter Pays Principle: A Taxation Solution." *Journal of Environmental Management Planning* 35(1):5–15.

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January 4, 2010

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RE: Project Title: "Ordinances to Ban Plastic Carryout Bags in Los Angeles County" Submission to County of Los Angeles regarding Notice of Preparation of Draft EIR and scope of EIR

INTRODUCTION

Save The Plastic Bag Coalition ("STPB") hereby submits these comments to the County of Los Angeles (the "County") to ensure that the EIR on the proposed plastic carryout bag ordinance (i) makes clear and unambiguous findings on all environmental impacts and (ii) is based exclusive on substantial evidence.

On March 8, 2008, *The Times* of London stated in an editorial:

> There is a danger that the green herd, in pursuit of a good cause, stumbles into misguided campaigns….
>
> Analysis without facts is guesswork. Sloppy analysis of bad science is worse. Poor interpretation of good science wastes time and impedes the fight against obnoxious behavior. There is no place for bad science, or weak analysis, in the search for credible answers to difficult questions….
>
> Many of those who have demonized plastic bags have enlisted scientific study to their cause. By exaggerating a grain of truth into a larger falsehood they spread misinformation, and abuse the trust of their unwitting audiences.

www.timesonline.co.uk/tol/comment/leading_article/article3508113.ece

The above extract from *The Times* of London explains why STPB was formed. STPB's mission is (i) to provide the facts about the environmental impacts of plastic bags and the alternatives (including paper bags and reusable bags) to decision-makers and the public; and (ii) to provide corrective information in response to the myths, misinformation and exaggerations

that have been disseminated about the environmental impacts of plastic bags.

In California, people are bombarded with messages about plastic bags being bad for the environment. Consequently, there is a high level of public awareness that plastic bags present an environmental issue. By now, a large number of people have formed a negative opinion about plastic bags by dint of the repetitious one-sided messaging and sound bites, particularly in Los Angeles County. They believe that paper bags are better for the environment. However, very few people have more than a superficial understanding of the subject. Most people just accept what they are told.

Many people want to make the right environmental choice when they choose paper or plastic, assuming that they do not have a reusable bag with them. They are collectively making decisions about environmental impacts millions of times each day at the checkout. STPB believes that they have been fed a diet of myths, selective facts, misinformation and exaggerations about plastic bags. They should know, and have a right to know, the truth.

One of the most egregious examples of misinformation is the heavily publicized and widely held belief that 100,000 marine mammals and a million seabirds die each year as a result of ingesting plastic bags. That allegation has caused great consternation among decision makers and the general public. However, it is untrue. It is based upon a typographical error. The Canadian study on which the assertion is based reported that the deaths resulted from discarded fishing tackle. The study did not mention plastic bags at all. ("Series of blunders turned the plastic bag into global villain." *The Times* of London, March 8, 2008, www.timesonline.co.uk/tol/news/environment/article3508263.ece)

The media has spread the false allegation by copying and pasting it without checking the facts. It is impossible to purge it from the Internet because it is repeated thousands of times, as a Google search will show. However, when an EIR is completed and publicized, articles on the Internet pointing out that the allegation has been confirmed to be false should eventually predominate.

Another example of a myth is the idea that paper bags are better for the environment than plastic bags. They are not, especially regarding greenhouse gas emissions, as discussed herein.

STPB is determined to ensure that lawmakers arrive at their decisions about plastic and paper bags with the benefit of accurate and comprehensive environmental information. We hope that an EIR prepared in accordance with the strict requirements of CEQA will be seen as an authoritative document that will put an end to the myths and misinformation about plastic bags.

An EIR must be based on "substantial evidence." CEQA Guidelines §15064(f) states:

> Argument, speculation, unsubstantiated opinion or narrative, or evidence that is clearly inaccurate or erroneous, or evidence that is not credible, shall not constitute substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.

CEQA Guidelines §15144 states:

> Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.

STPB will be vigilant in enforcing the "substantial evidence" requirement. Every statement and source cited in the EIR, without exception, will be thoroughly scrutinized by STPB. If there is any deviation from the substantial evidence standard including §15064(f), STPB will not hesitate to litigate the issue. Regrettably, we believe that we need to emphasize this point to the County because the plastic bag issue has been plagued with environmental misinformation, including by the County. See for example:
www.savetheplasticbag.com/ReadContent676.aspx

We will object to the cherry-picking of facts.

We will object to selective photographs.

We will object when context is not provided.

We will object to anything that is misleading.

We will object to vague or ambiguous statements or terminology.

We will object to sweeping statements.

We will object when sources cited in footnotes do not support statements.

We will object to bias and sensationalism.

Context is crucially important. Showing a photograph of a litter hotspot without showing adjacent clean areas is a misrepresentation to decision-makers and the public. If there is an accumulation of litter in one hotspot, photographs of clean areas should be shown too. It should be explained in the EIR that the photograph is an isolated area and not representative or typical of conditions anywhere else. Sensationalism can turn a molehill into a mountain.

One of the most egregious examples of ambiguity and misinformation is the following statement in the Los Angeles County staff report, *An Overview of Carryout Bags in Los Angeles County*, August 2007:

> Several studies have reported that up to 90 percent of marine debris is plastic, with plastic carryout bags making up a portion of the litter. [Footnote] It is estimated that over 267 species of wildlife have been affected by plastic bag litter, including birds, whales, turtles and many others. [Footnote.]

The first quoted sentence is highly ambiguous and grossly misleading. What portion of marine debris is plastic carryout bags? 0.001%? 75%? We would strongly object to any such statement in the EIR.

The second quoted sentence is simply a misrepresentation. Greenpeace issued a report entitled: "Plastic Debris in the World's Oceans," which is original source of the 267 figure. The Greenpeace report states at page 5:

> At least 267 different species are known to have suffered from entanglement or ingestion of ***marine debris*** including seabirds, turtles, seals, sea lions, whales and fish. (Emphasis added.)
>
> http://oceans.greenpeace.org/raw/content/en/documents-reports/plastic_ocean_report.pdf

The Greenpeace report does ***not*** say that 267 species of wildlife have been affected by "plastic bag litter." It does not even say "plastic" litter." It is think kind of gross misrepresentation by the County that has made STPB so insistent on a truthful and comprehensive EIR.

We are concerned by the statement in the Initial Study (at page 1-6) that plastic carryout bags have "adverse effects on marine wildlife." This kind of sweeping statement is objectionable in an EIR.

We caution the County to be ultra-careful about the terms "marine debris" and "plastic debris." They do not mean plastic bags. STPB will litigate any attempt to misrepresent or cloud the facts to fit the County's predetermined objective to ban plastic bags.

We will object to any attempt to whitewash the environmental impacts of paper bags or reusable bags. We see numerous signs of that in the Initial Study, such as at pages 1-8 to 1-9.

We call the County's attention to the following statement of law in *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 311, which is particularly important regarding reusable bags:

> The agency [will] not be allowed to hide behind its own failure to gather relevant data.... CEQA places the burden of environmental investigation on government rather than the public. If the local agency has failed to study an area of possible environmental impact, a fair argument may be based on the limited facts in the record. Deficiencies in the record may actually enlarge the scope of fair argument by lending a logical plausibility to a wider range of inferences.

In *People v. County of Kern* (1974) 39 Cal. App. 3d 830, 842, the court stated:

> Only by requiring [an agency] to fully comply with the letter of the law can a subversion of the important public purposes of CEQA be avoided, and only by this process will the public be able to determine the environmental and economic values of their elected and appointed officials, thus allowing for appropriate action come election day should a majority of the voters disagree.

THE INITIAL STUDY AND THE PROSPECT OF LITIGATION

STPB strongly hopes that litigation against the County regarding the EIR will not be necessary. We can avoid litigation over the EIR if the EIR is totally honest, objective, scientific, reliable, forthright, non-argumentative, non-politicized, unambiguous, comprehensive, and based only on substantial evidence and good faith. The County has nothing to gain from spinning a trumped up case against plastic bags in the EIR. If that happens, we will take the County to court and demand that it produce serious science and hard evidence to back up its assertions and solid environmental and scientific justifications for its omissions.

Accordingly, we urge and strongly recommend that the County abandon the anti-plastic bag bias that is clearly evident in the Initial Study, including blatantly misrepresenting and exaggerating the impacts of plastic bags and understating and concealing the environmental impacts of paper bags and reusable bags (including CO_2 emissions). The County cannot ignore data that does not conform to its predetermined objective to ban plastic bags.

The purpose of the EIR is not to make *arguments* to support the proposed ordinance. The purpose of the EIR is to describe and disclose the environmental impacts to the County Board of Supervisors and the voters in an objective way and in *good faith*.

For example, asserting in the EIR that up to 25% of all litter in the County is plastic carryout bags is *ridiculous* and *guarantees* a lawsuit. (Initial Study at pages 1-3 and 3.9-5.) The San Francisco Department of the Environment litter audit conducted before plastic bags were banned in that city showed that plastic retail bags were 0.6% of all litter. The Florida figure is 0.72%. The Toronto figure is 1%.

The worst figure that we have found is in the Keep America Beautiful litter audit. That figure is 5%. The figure in that audit for plastic bags at storm drains is 0.9%. However, the definition of plastic bags in that audit (at page A-2) is as follows: "Plastic trash bags, and plastic grocery, and other merchandise shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase (including dry cleaning bags). This category includes full bags…."

Another example of bias and misinformation in the Initial Study (at pages 1-9 and 3.17-4) is the assertion that paper bags have the "potential to biodegrade" when exposed to oxygen or sunlight, and "quickly biodegrade, even if littered." We say to the County open your eyes and see if paper is disappearing when exposed to air or the sun. This kind of lame and *absurd* proposition is not acceptable in an EIR. We have fought in the courts for truthful EIRs by cities and counties on the plastic bag issue and we will not settle for statements such as that.

Let us be clear. We are not saying that plastic bags have no negative environmental impacts. They do, just as all manufactured products do. We *want* the actual negative environmental impacts of plastic bags to be *fully and accurately disclosed.* But we expect and demand exactly the same for paper bags and reusable bags.

We suggest that the County rethink its approach to the EIR immediately, before proceeding along its present track which leads directly to the courthouse. All rights are reserved.

We will gladly provide all the cooperation that we possibly can to make sure that the County has all of the information that it needs.

CALCULATING AND DISCLOSING GREENHOUSE GAS EMISSIONS (CEQA Guidelines §15064.4 adopted January 1, 2010)

The CEQA Guidelines have been amended, effective January 1, 2010, pursuant to SB 97 (enacted in 2007). New CEQA Guidelines §15064.4, which is retroactive (see SB 97), states:

> The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.

In accordance with §15064.4, the Board of Supervisors and the voters have the right to know that the life cycle of paper bags produces *at least* 2.0 (Boustead report) to 3.3 times (Scottish report) more greenhouse gas emissions than plastic bags.

The Weyerhaeuser pulp and paper mill
Longview, Washington State

Both the Scottish report (see page 22) and the Boustead report (see page 7) are based on ***equivalent carrying capacity***. The ratio in the Boustead report (see page 7) is 1,500 plastic bags = 1,000 paper bags. In fact, the impact of paper bags is actually *even greater* than shown in the Boustead report because:

- Paper bags are frequently double bagged as they have weak glued inelastic paper handles. Double bagging means double greenhouse gas emissions.

- When there are low volumes are placed in bags, carrying capacity is irrelevant and the ratio is 1 plastic bag = 1 paper bag. For example, when there are two items in a paper bag as in the photo below, it is replacing one plastic bag.

Despite the fact that the 1500 plastic = 1,000 paper ratio does not take into account the frequent double bagging of paper bags and the fact that carrying capacity is irrelevant when bags are not filled, we will use the 1500 plastic = 1,000 paper ratio in our calculations. (However, we believe the true ratio is closer to 1,100 plastic = 1,000 paper.)

The recycling assumptions in the Boustead report (at page 46) are 5.2% for plastic bags and 21% for paper bags. The plastic bag recycling rate in the Initial Study (at page 1-9) is 5% which the County describes as a "conservative" estimate.

Recycling is a major collection, transportation, washing and reprocessing operation with major environmental impacts. A 21% recycling rate for paper bag does not mean a 21% reduction in environmental impacts of paper bags. In fact, recycling may create *more* adverse environmental impacts than not recycling. It must not be assumed that recycling is environmentally benign.

The County says that 6 billion plastic bags are used in the County each year. Replacing 6 billion plastic bags with 4 billion paper bags (i.e. 1500 plastic = 1,000 paper) would have the following results.

Based on a 2.0 times worse greenhouse gas (GHG) impact (i.e. the best case least environmentally damaging scenario in the Boustead report), the GHG equivalencies *of the increase* are as follows:

- *Increase* in GHG per 1,000 paper bags = 0.04 CO_2 equivalent tons
- 4 billion paper bags divided by 1,000 = 4 million
- 4 million x 0.04 = 160,000 added CO_2 equivalent tons

According to the U.S. Environmental Protection Agency, that is equivalent to:

- **Annual CO_2 emissions from 27,753 passenger vehicles**
- **Annual CO_2 emissions from 16,327,284 gallons of gasoline consumed**
- **Annual CO_2 emissions from 337,557 barrels of oil consumed**
- **Annual CO_2 emissions from 1,938 tanker truck's worth of gasoline**
- **Annual CO_2 emissions from the *total electricity* use of 18,851 homes**
- **Annual CO_2 emissions from the *total energy* use of 12,948 homes**

www.epa.gov/RDEE/energy-resources/calculator.html

The equivalencies *of the increase* based on the 3.3 ratio in the Scottish report are:

- *Increase* in GHG per 1,000 paper bags = 0.092 CO_2 equivalent tons
- 4 billion paper bags divided by 1,000 = 4 million
- 4 million x 0.092 = 368,000 added CO_2 equivalent tons

According to the U.S. Environmental Protection Agency, that is equivalent to:

- **Annual CO_2 emissions from 63,832 passenger vehicles**
- **Annual CO_2 emissions from 37,552,752 gallons of gasoline consumed**
- **Annual CO_2 emissions from 776,381 barrels of oil consumed**
- **Annual CO_2 emissions from 4,458 tanker truck's worth of gasoline**
- **Annual CO_2 emissions from the *total electricity* use of 43,356 homes**
- **Annual CO_2 emissions from the *total energy* use of 29,781 homes**

www.epa.gov/RDEE/energy-resources/calculator.html

The fact that plastic bags do not degrade in landfills "for a thousand years" is an environmental benefit. Why? *Because the carbon is trapped in the bags.* The U.S. Government is trying to find ways to trap carbon. Plastic does it automatically. When paper decomposes in a landfill, it emits methane which is a greenhouse gas with 23 times the global warming power of CO_2. http://en.wikipedia.org/wiki/Carbon_sequestration

The fact that plastic bags do not degrade in landfills "for a thousand years", and therefore do not emit methane, must be noted in the EIR as an environmental benefit. The carbon is trapped in the bags. The U.S. Government is trying to find ways to trap carbon. Plastic does it automatically. When paper decomposes in a landfill, it emits methane which is a greenhouse gas with 23 times the global warming power of CO_2.
http://en.wikipedia.org/wiki/Carbon_sequestration

CO_2 emissions have a major impact on ocean acidification and marine life, which must be stated in the EIR. The County will do far more harm than good to marine life by banning plastic bags. http://news.bbc.co.uk/2/hi/science/nature/8411135.stm.

The County cannot take action that would increase greenhouse gas emissions to such a massive degree without advising and *strongly warning* the Board of Supervisors and the voters in the clearest possible terms in the EIR. In order to serve as an information and disclosure document as CEQA requires, the EPA equivalencies must be stated in the EIR because this will make the data meaningful to decision-makers and the public. Any attempt to manipulate data to cover up the extent of increased greenhouse gas emissions, or the use of ambiguous language to belittle or underplay the extent or significance of the increase, will certainly result in litigation.

In addition, as acknowledged in the Initial Study (at page 3.7-5), the County must state how the banning of plastic bags will conform to the (California) Global Warming Solutions Act of 2006, the California and Federal Clean Air Acts, and California Executive Order S-3-05. An ordinance to ban plastic bags cannot be enacted or enforced if it is unlawful.

www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.html

www.arb.ca.gov/cc/cc.htm

STPB is deeply concerned that the County will try to avoid addressing the increase in greenhouse gas emissions in the EIR. At page 3.7-6 of the Initial Study, the County states:

> Direct reductions in GHG emissions would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and the collection of plastic bag litter along roadways and water channels. In addition, reductions in GHG emissions would be expected to result from the expected reduction in production of plastic carryout bags.

STPB strongly objects that there is no mention in the quoted statement that reducing plastic bags means an increase in the number of paper bags, which will lead to *increased* greenhouse gas emissions. The County is attempting to bush aside or conceal the impacts of greenhouse gases from increasing the number of paper bags.

There must be a *separate, specific and unambiguous* finding regarding greenhouse gas emissions in the EIR. Any attempt to cover up the increase in greenhouse gas emissions in the EIR will be met with litigation.

All rights are reserved, including the right to challenge whether the County has the legal power to pass an ordinance that would significantly increase greenhouse gas emissions.

SUBJECTS THAT MUST BE ADDRESSED IN THE EIR

In order to comply with CEQA, the foregoing and following issues and questions must be addressed in the EIR. *Each question and issue must be the subject of a separate finding.* This list is not exhaustive and no waivers are intended by any omissions.

(When addressing environmental impacts, mitigation and alternatives, the term "County" includes incorporated and unincorporated areas as the Initial Study encompasses both. Initial Study §1.4. Note that all environmental impacts must be disclosed and described, within and outside the County.)

The term "plastic bag" when used herein is broken down into two categories:

- TYPE 1 BAGS: Plastic bags that would be banned under the ordinance.
- TYPE 2 BAGS: Plastic bags that would not be banned under the ordinance. For example, produce bags, restaurant take-out bags, dry cleaning bags, newspaper bags and trash bags.

In this document, the bag type will be indicated by number in parentheses. For example, plastic bag (1,2) means type 1 and 2 bags using the above definitions.

The EIR should *always* indicate which category of plastic bags is being referred to rather than using generic and ambiguous terms such as "plastic bags" or "plastic carryout bags." Whenever possible, the EIR should provide separate statements or answers for each of the two categories of plastic bags.

1. Objective and consequences of the proposed ordinance

A. State in as much detail as possible how the proposed ordinance(s) would achieve the Program Goals and Countywide Objectives described in the Initial Study §1.10. Cite substantial evidence and credible verifiable sources.

B. State in as much detail as possible how the proposed ordinance(s) would achieve the $4 million in reduced spending stated in the Initial Study (at page 1-12). Cite substantial evidence and credible verifiable sources.

Making one product disappear from the litter stream does not make other items disappear. Cleanup crews will still have to clean up the other items. Moreover, paper bags become litter too and the proposed ordinance will increase the number of free paper bags provided by stores, notwithstanding wishful thinking about reusable bags. See the video at www.californians4epr.com/Litter-reduction.html.

C. State in as much detail as possible the meaning of "greener" practices in the Initial Study (at page 1-5) and whether it includes reducing greenhouse gas emissions.

D. State in as much detail as possible alternative ways to achieve the Program Goals and Countywide Objectives without adopting the proposed ordinance and the costs of each such alternative. Cite substantial evidence and credible verifiable sources.

E. State in as much detail as possible the unintended environmental consequences of the proposed ordinance, including but not limited to increased paper bag litter and (based on a cumulative analysis) increased CO_2 and methane emissions resulting from paper bag production and disposal.

2. Number of plastic bags (1) used in the County each year

A. The Initial Study in §1.8 states as follows: "According to research conducted by the Los Angeles County Department of Public Works (LACDPW), each year approximately 6 billion plastic carryout bags are consumed in the County, which is equivalent to approximately 1,600 bags per household per year." Citing CIWMB June 12, 2007 Board Meeting Agenda, Resolution: Agenda Item 14 and U.S. Census Bureau figure of almost three people per household.

It must be pointed out in the EIR that based on the Census Bureau figure of three persons per household, that is just 1.48 bags per person per day. That is *all* plastic carryout bags (1,2).

B. How many *paper* carryout bags are used in the County each year?

C. How many paper carryout bags would replace the plastic bags in the County if the County bans plastic bags (1)?

3. Extent and causes of the carryout bag litter issue

A. Based on surveys and audits, how much plastic bag (1) litter has there been and is there in the County? To the extent possible, break down the response into types of bags and give percentages for each. Cite substantial evidence and credible verifiable sources, including but not limited to County litter surveys and audits.

In the Initial Study (at page 1-3), the following statement is made: It is estimated that litter from plastic carryout bags that are designed for single use accounts for as much as 25 percent of the litter stream." The following sources are cited:

- City of Los Angeles, 10 June 2004, *Waste Characterization Study*, Los Angeles CA.

- County of Los Angeles Department of Public Works, Environmental Programs Division, October 2008. *County of Los Angeles Single Use Bag Reduction and Recycling Program - Program Resource Packet*, Alhambra, CA

The October 2008 County program resource packet uses the 25% figure, but cites only the City of Los Angeles June 10, 2004 study as the basis for the figure, so it is not a separate source.

The City of Los Angeles June 10, 2004 study apparently determined that 19% of trash by weight and 25% by volume in *30 catch basins* along a one mile stretch of North Figueroa Street between Cypress Avenue and Avenue 43 was "plastic bags." Catch basins are not the same as roads, sidewalks, parks, and other areas.

According to another study by the City of Los Angeles, the area surveyed on June 10, 2004 is part of the central part of the city which

> contributes disproportionately more trash per unit area. The central part of the City is characterized with higher population density, has more commercial and industrial areas, and has more pedestrian traffic than other areas of the City.

Watershed Quality Compliance Master Plan For Urban Runoff, Watershed Protection Division, Bureau of Sanitation, Department of Public Works, City of Los Angeles, May 2009 at page 4-2.
www.lacitysan.org/wpd/Siteorg/download/pdfs/tech_docs/WQCMPURChapters.pdf

The term "plastic bags" is not defined in the City of Los Angeles June 10, 2004 study, so it could include produce bags, food packaging in the form of bags, restaurant take out bags, dry cleaning bags, newspaper bags, trash bags, and other plastic bags.

We have requested, but not received from the County, Attachments A and B to the June 10, 2004 study. The attachments include photographs of the June 10, 2004 survey. We will object to any reference to the June 10, 2004 study in the EIR unless the attachments are produced.

The Keep America Beautiful study discussed below showed that a mere 0.9% of storm drain litter is plastic bags. It is impossible to reconcile the 25% and 0.9% figures.

The purpose of a catch basin is to catch litter. Obviously, the catch basins are *successful* at catching plastic bags, which is the true conclusion of the June 10, 2004 study.

The picture below is tons of garbage that swept down the Los Angeles River after a storm which has been corralled by a boom in Long Beach. It is simply wrong to say that 25% of the litter in the picture is "plastic bags."

Los Angeles River trash: ***not*** 25% plastic bags
Source: http://www.yudulife.com/acleanlife

The LA River: ***not*** 25% plastic bags

The Initial Study §1.9 states that various studies have concluded that "plastic film (including plastic bag litter) comprises between 7% and 30% by mass and 12% to 34% of the total litter collected." The Initial Study does not state how much of the "plastic film" is plastic bags, so the statement is irrelevant and misleading in a study about *plastic bags*, not plastic film. Moreover, the studies cited in support of these figures did not even mention plastic bags, except for the June 10, 2004 Waste Characterization study which surveyed 30 catch basins. Here is a table from the County staff report summarizing all of the cited studies:

Table 5 -- Summary of Litter Studies

	All Plastic Film		Plastic Bags	
	Weight %	Volume %	Weigh %	Volume %
Caltrans Litter Management Pilot Study (1998-2000)	7	12		
Great Los Angeles River Clean Up (4/30/04)		34		
City of Los Angeles Catch Basin Cleaning (6/10/04) (Note, plastic carryout bags listed separately; not included under All Plastic Film)	30	24	25	19
Hamilton Bowl Project-Street Sweeping (2006)	20			
Hamilton Bowl Project-Trash Capture Devices (Feb. 2007)	30			

STPB objects to the citation of those studies for any proposition regarding plastic bags, other than the City of Los Angeles June 10, 2004 study, and that study is only potentially the basis for an assertion about 30 catch basins in a particular location. It is misleading to decision-makers and the public.

In the San Francisco litter audit conducted in 2007, before plastic bags (1) at large stores were banned in that city, plastic bags of all kinds were just 0.6% of total litter. (Audit at page 29.) www.sfenvironment.org/downloads/library/rolitterstudy12june07final.pdf

Reports by the Washington State Department of Ecology found that plastic bags accounted for a much smaller percentage of urban and rural litter than we are often led to believe.
http://www.ecy.wa.gov/pubs/0007023.pdf
http://www.ecy.wa.gov/pubs/0507029.pdf

The Florida Litter Study 2001 shows plastic retail bags in 32nd place among littered items, constituting just 0.72% of litter.
www.hinkleycenter.com/publications/Litter2001.pdf.

The Toronto Litter Survey shows plastic retail bags in 25th places among littered items, constituting just 1% of all litter.
www.cpia.ca/anti-litter/pdf/Litter%20Survey-final.pdf

One of the alternatives that must be addressed in the EIR is the alternative of the County banning items higher up on the Florida and Toronto lists.

This is a compilation of the Washington State reports results regarding *all* plastic bags

and film by weight:

Source	1999	2000-1	2004-5
All Roadways	4.5%	3.4%	2.9%
Interstates	NR	1.8%	1.9%
Interchanges (Urban)	3.9%	3.0%	3.1%
State and County Parks	NR	2.9%	NR
Fish wildlife and DNR Sites	NR	1.9%	NR
Rest areas	NR	3.0%	NR

Keep America Beautiful has also conducted a litter survey. Keep America Beautiful, *National Litter Study 2009*. "Plastic bags" are defined in the study as follows: "Plastic trash bags, and plastic grocery, and other merchandise shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase (including dry cleaning bags). This category includes full bags; bags will not be opened for the study." The following charts and tables are extracted from the study: www.kab.org/site/DocServer/Final_KAB_Report_9-18-09.pdf?docID=4561

Figure 3-27 Plastic and Other Materials at Storm Drains

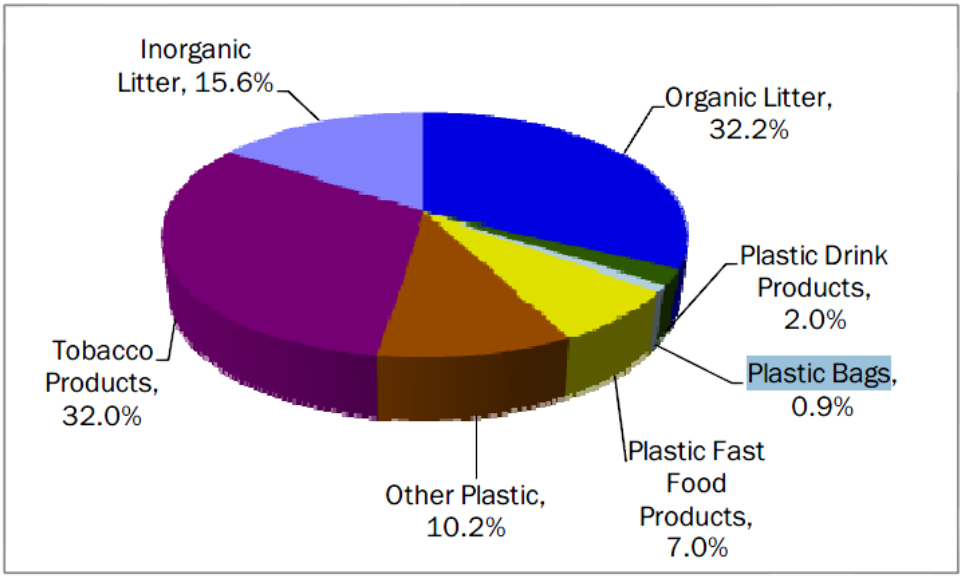

Figure 3-30 Top 10 Most Common Litter Items at Retail Areas (Items/1,000 sq ft)

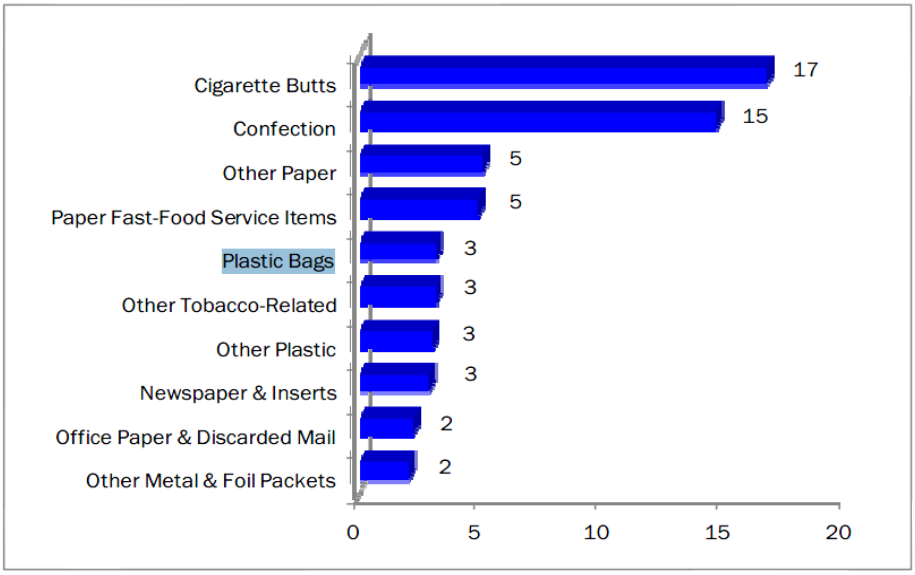

Table ES-3 Top 5 Most Common Litter Items at Non-Roadway Sites (Items/1,000 sq ft)

Ranking	Transition Points	Loading Docks	Storm Drains	Retail Areas	Recreational Areas	Construction Sites
1	Confection Litter	Cig. Butts	Cig. Butts	Cig. Butts	Cig. Butts	Cig. Butts
2	Cig. Butts	Other Metal and Foil	Confection Litter	Confection Litter	Confection Litter	Other Paper
3	Vehicle Debris	Wooden Pallets	Other Paper	Other Paper	Other Paper	Other Plastic
4	Broken Glass or Ceramic	Other Plastic	Broken Glass or Ceramic	Paper Fast Food Service	Food Waste	Confection Litter
5	Other Paper	Other Paper	Other plastic	Plastic Bags	Other Plastic	Other Metal and Foil

Table 6. Type and Frequency of Disposed Objects

	Proper	Improper	% Littered
Cigarette Butt	146	194	57%
Combo/Mixed Trash	325	12	4%
Paper	251	20	7%
Beverage Cup	180	5	3%
Napkin/Tissue	110	9	8%
Beverage Bottle: Plastic	100	5	5%
Food Remnants	65	16	20%
Food Wrapper	85	14	14%
Beverage Can	59	8	12%
Food Container	57	1	2%
Plastic Bag	38	2	5%
Beverage Bottle: Glass	11	0	0%
Unknown	116	10	8%
Other	77	46	37%
TOTAL	**1,620**	**342**	**17%**

The June 10, 2004 study is not substantial evidence for the assertion that 25% of the entire litter stream in all parts of the County consists of plastic bags. The assertion is totally inconsistent and irreconcilable with all litter characterization studies. The figure is also absurd on its face. Anyone can see that plastic carryout bags do not comprise one-fourth of all litter. STPB strongly objects to this gross and biased misrepresentation in the Initial Study and will litigate this issue if it is not expressly retracted. It is exactly this kind of misinformation that gets copied and pasted into other reports and websites and misleads decision-makers and the public.

B. Based on surveys and audits, how much *paper* carryout bag litter has there been and is there in and near to the County? To the extent possible, break down the response into types of paper carryout bag and give percentages for each. Cite substantial evidence and credible verifiable sources, including but not limited to County litter surveys and audits.

   Obviously, paper bag litter will increase if plastic bags are banned and continued distribution of free paper bags is permitted.

C. What are the exact locations of the highest concentrations or "hotspots" of plastic bag (1) and paper carryout bag litter in and near to the County? Cite substantial evidence and credible verifiable sources.

D. Other than "hotspots," what other locations in and near to the County tend to accumulate concentrations of plastic bag (1) litter? Cite substantial evidence and credible verifiable sources.

E. To what extent is plastic bag (1) and paper carryout bag litter caused by such bags flying off the back of trucks, including but not limited to garbage and recycling haulage trucks? Quantify. Cite substantial evidence and credible verifiable sources. What steps can be taken to address this problem, including equipment changes or additions?

According to Caltrans research, a significant amount of trash ends up on highways by "flying out" the back of pickup trucks, either from loads that are not tied down or from the occasional piece of trash in the truck bed that becomes airborne when the truck travels on the highway. www.dot.ca.gov/hq/paffairs/news/pressrel/06pr6.htm.

F. To what extent are plastic bags (1) and paper carryout bags being carried by the wind as a result of refuse collection and transportation practices? Quantify. Cite substantial evidence and credible verifiable sources. Can improvements be made to refuse collection practices and vehicles to address this problem?

G. What are the other sources and causes of plastic bag (1) and paper carryout bag litter in the County? Cite substantial evidence and credible verifiable sources, including litter audits.

H. To what extent are plastic bags (1) and paper carryout bags blocking or entering the County's storm drains? Quantify. Once in the storm drains, where do the bags go?

I. What regulatory requirements (including stormwater permitting) does the County have to comply with as a result of plastic bags (1) and paper carryout bags being provided to consumers in the County?

J. What are the locations of the highest concentrations or "hotspots" of plastic bag (1) litter in and near to the County? Cite substantial evidence and credible verifiable sources. STPB plans to visit the location, so precise locations and addresses are requested. It is not sufficient to state "LA River" for example. STPB needs to know where along the LA River.

K. What are the alternative solutions to the plastic bag (1) and paper carryout bag litter issue other than the proposed ordinance?

4. <u>Environmental impacts of plastic bags on the marine environment</u>

If, and only if, there is substantial evidence that plastic bags (1) from the County reach the Pacific Ocean, then the issue of the impact of such bags on the marine environment must be addressed. This issue has been the subject of egregious myths, misinformation, speculation, and exaggeration. It is not legally sufficient for the EIR to state that plastic bags have "other adverse effects on marine wildlife" as stated in the Initial Study (at page 1-6).

The following questions must be addressed:

A. Is there a concentration or island of plastic debris in the North Pacific Gyre? Cite substantial evidence and credible verifiable sources.

Note that the Project Kaisei log states as follows:

> And what we are discovering through all of our tests is that the Ocean's surface is covered in these minute particles of broken down plastic. I came out thinking we would find an island, but instead what we found could be potentially worse, bits of broken down plastic that covers the surface of the ocean, just like plastic soup.

http://newhorizonprojectkaisei.wordpress.com/

> We have just passed through the convergence zone, leaving the gyre, after two weeks in only one area of a large water mass, known as the North Pacific Gyre. Our findings made believers out of doubters, if there were any before we set out. We found bits of plastic debris, consistently, in over 100 sample nets, towed on the surface, over 900 miles of water. These samples were random in their location, but scheduled in their intervals.
>
> I too was surprised. I knew we would not find an "island" out here, but I also didn't expect to find the mass-existence of so much smaller debris. Now the question is "how deep does it go?" How fast does the material break down into this small, "confetti" state, after being at sea in the form of a large object from the beginning of its journey to the gyre?
>
> We only scratched the surface. That is sad, because there is a lot of ocean that we did not survey, and the water characteristics in the gyre suggest that there is much more than what we witnessed in just a two-week period.

http://newhorizonprojectkaisei.wordpress.com/

B. What is the quantity and concentration of plastic "confetti" in the North Pacific Gyre? Cite substantial evidence and credible verifiable sources.

The "Junk" voyage is discussed at www.savetheplasticbag.com/ReadContent684.aspx. It appears that the amount of plastic debris gathered during a 24 hour trawl over about 50 miles in the Gyre is insignificant. This should be addressed in the EIR. We have provided evidence on the cited webpage that one of the videos contains a clip from another time and place and is therefore doctored.

C. What are the sizes of the plastic "confetti" pieces in the North Pacific Gyre? Cite substantial evidence and credible verifiable sources.

D. Is there any substantial evidence that the "confetti" consists of plastic bag fragments?

We have inspected fragments collected from the Gyre. All of them appear to be too thick to be from plastic carryout bags. They appear to be hard plastic fragments.

E. Is there plastic debris below the surface of the water in the North Pacific Gyre? Is so, how far below the surface and in what quantities and concentrations? Cite substantial evidence and credible verifiable sources.

F. Are there any intact plastic bags (1) in the North Pacific Gyre? Quantify. Cite substantial evidence and credible verifiable sources.

G. What is the debris in the North Pacific Gyre composed of? Provide details and percentages. Cite substantial evidence and credible verifiable sources, including analysis of samples collected from the ocean.

The following article appeared in the *Seattle Times*:

> I figured if anyone would jump for joy at Seattle's crusade against plastic bags, it would be the flotsam guy.
>
> Maybe you've heard of Curt Ebbesmeyer. He's considered one of the world's leading oceanic garbologists (though, as he jokes, how many can there be?). From his basement in Ravenna, he uses beachcomber reports to track the comings and goings of floating sea trash. Like dozens of rat-poison canisters that washed onto Washington shores this spring. Or computer monitors, which "always float screen up, eyes peering out of the waves."
>
> An oceanographer, he also named the Earth's most shameful man-made feature, the "great Eastern garbage patch." That's a Texas-sized soup of plastic junk, swirling in floating clouds across the Pacific between us and Hawaii.
>
> It's such a huge and indestructible soiling of the sea that Ebbesmeyer feels bad he dubbed it only a "patch."
>
> "It's trash that will never go away, stretching across the water farther than you can see," Ebbesmeyer says. "It would absolutely horrify you to see it."
>
> So when I asked him what he thought of Seattle's plan to crack down on disposable grocery bags, I was surprised when he sort of shrugged.
>
> "It's OK, but plastic bags are not the real problem," he said. "It's one little battle out of a million. Go look at what the ocean carries in on a given day. You'll see what I mean."
>
> Last month, Ebbesmeyer held a "Dash for Trash" in Ocean Shores.

> In two hours, 50 people collected an astonishing 2,000 pounds of junk from the beach. Almost all of it was plastic -- from fishing floats to shotgun shells to dolls from Japan. Yet very little of it was the plastic bags targeted by Seattle.
>
> I did my own garbology "dig" at low tide in Seattle's Myrtle Edwards Park. In half an hour poking along 300 yards of shoreline, I found a demoralizing 173 pieces of trash.
>
> Take out the wood (paintbrush), the metal (beer cans, foil wrappers) and the miscellaneous (earplugs, nicotine patches, ropes, a corncob, an orange traffic cone), and I was left with 137 pieces of plastic.
>
> Top item, by far: Plastic bottles. Followed by plastic bottle caps. Then plastic lids and plastic cups. Plus a slew of plastic food packaging.
>
> Number of plastic grocery or drugstore bags? One.
>
> The plan is to levy a 20-cent-per-bag fee on both plastic and paper bags, in hopes we'll all stop using them. That's fine, Ebbesmeyer told me. But it's such a tiny slice of the global plastic problem it's scarcely worth commenting on.
>
> "If the mayor really wants to get on the stick, he should go after plastic bottles. Or plastic wrapping of food products. Or how about a tax or a ban on petroleum-based plastic, period?"
>
> Now some of you have written to say the mayor, for proposing even this mild intrusion into our lives, is an eco-fascist who'll pry your bags only from your cold, dead fingers.
>
> But take it from the flotsam guy. He has seen a seabird with 700 bits of plastic in its stomach. He has sampled seawater in which plastic particles outnumber plankton six to one. He has gazed into the planet's plasticizing heart of darkness.
>
> From out there, this bag flap is a drop in the ocean.

http://seattletimes.nwsource.com/html/dannywestneat/2004336327_danny09.html

H. Do plastic bags (1) break down in the North Pacific Gyre? If so, to what extent do they break down? What causes them to break down? How long does it take for them to break down? Cite substantial evidence and credible verifiable sources.

I. If it is believed that any of the plastic debris in the North Pacific Gyre is from plastic bags (1) in the County, describe in detail the basis for this belief, including testing of samples collected from the North Pacific Gyre. Cite substantial evidence and credible verifiable sources.

J. What percentage of any plastic bag (1) debris in the North Pacific Gyre comes from Asia or other Pacific Rim countries such as China, Australian and New Zealand? Cite substantial evidence and credible verifiable sources.

K. Are inadequate litter cleanup practices in other Pacific Rim countries, including along beaches, the source of some, most or all of the (alleged) plastic bags (1) in the Pacific Ocean, including but not limited to the North Pacific Gyre? Quantify with percentages. Cite substantial evidence and credible verifiable sources.

L. Are ships vessels the source of some of the plastic bag (1) debris in the Pacific Ocean? Quantify with percentages. Cite substantial evidence and credible verifiable sources.

M. If it is asserted that marine mammals, marine animals, and seabirds in the Pacific Ocean (including but not limited to the North Pacific Gyre) ingest or become entangled in plastic bags (1) and die as a result, state in detail the basis for the belief. Quantify annual ingestion and deaths per species. Cite substantial evidence and credible verifiable sources.

The Initial Study (at page 1-6) states: "Plastic carryout bags … have other adverse effects on marine wildlife" (Citing UNEP study at: www.unep.org/regionalseas/marinelitter/publications/docs/Marine_Litter_A_Global_Challenge.pdf and CIWMB June 12, 2007 Board Meeting Agenda item 14, and County staff report.)

The UNEP study does not include any surveys of the Pacific Gyre or anywhere that would be affected by a County plastic bag (1) ban. At page 199 of the study, it is stated that 71.9% of total entanglements were accounted for by fishing line, ropes and nets. In the table on the same page, the ***global*** results for marine entanglements by plastic bags were as follows:

Invertebrates	2 plastic bags
Fishes	3 plastic bags
Reptiles	0 plastic bags
Birds	12 plastic bags
Mammals	5 plastic bags
Amphibian	0 plastic bags

There must be no reference to the UNEP report in the EIR without disclosing the numbers in the table above, the fact that the Pacific Gyre was not surveyed, and that there is no indication in the study where in the world the entanglements occurred.

This is an extract from *The Times* of London article entitled "Series of blunders turned the plastic bag into global villain."
www.timesonline.co.uk/tol/news/environment/article3508263.ece

Scientists and environmentalists have attacked a global campaign to ban plastic bags which they say is based on flawed science and exaggerated claims.

The widely stated accusation that the bags kill 100,000 animals and a million seabirds every year are false, experts have told The Times. They pose only a minimal threat to most marine species, including seals, whales, dolphins and seabirds….

Campaigners say that plastic bags pollute coastlines and waterways, killing or injuring birds and livestock on land and, in the oceans, destroying vast numbers of seabirds, seals, turtles and whales. However, The Times has established that there is no scientific evidence to show that the bags pose any direct threat to marine mammals.

They "don't figure" in the majority of cases where animals die from marine debris, said David Laist, the author of a seminal 1997 study on the subject. Most deaths were caused when creatures became caught up in waste produce. "Plastic bags don't figure in entanglement," he said. "The main culprits are fishing gear, ropes, lines and strapping bands. Most mammals are too big to get caught up in a plastic bag."

He added: "The impact of bags on whales, dolphins, porpoises and seals ranges from nil for most species to very minor for perhaps a few species. For birds, plastic bags are not a problem either."

The central claim of campaigners is that the bags kill more than 100,000 marine mammals and one million seabirds every year.

However, this figure is based on a misinterpretation of a 1987 Canadian study in Newfoundland, which found that, between 1981 and 1984, more than 100,000 marine mammals, including birds, were killed by discarded nets. The Canadian study did not mention plastic bags.

Fifteen years later in 2002, when the Australian Government commissioned a report into the effects of plastic bags, its authors misquoted the Newfoundland study, mistakenly attributing the deaths to "plastic bags".

The figure was latched on to by conservationists as proof that the bags were killers. For four years the "typo" remained uncorrected. It was only in 2006 that the authors altered the report, replacing "plastic bags" with "plastic debris". But they admitted: "The actual numbers of animals killed annually by plastic bag litter is nearly impossible to determine."

In a postscript to the correction they admitted that the original

> Canadian study had referred to fishing tackle, not plastic debris, as the threat to the marine environment.
>
> Regardless, the erroneous claim has become the keystone of a widening campaign to demonise plastic bags.
>
> David Santillo, a marine biologist at Greenpeace, told The Times that bad science was undermining the Government's case for banning the bags. "It's very unlikely that many animals are killed by plastic bags," he said. "The evidence shows just the opposite. We are not going to solve the problem of waste by focusing on plastic bags.
>
> "It doesn't do the Government's case any favours if you've got statements being made that aren't supported by the scientific literature that's out there. With larger mammals it's fishing gear that's the big problem. On a global basis plastic bags aren't an issue. It would be great if statements like these weren't made…."
>
> A 1968 study of albatross carcasses found that 90 per cent contained some form of plastic but only two birds had ingested part of a plastic bag.
>
> Professor Geoff Boxshall, a marine biologist at the Natural History Museum, said: "I've never seen a bird killed by a plastic bag. Other forms of plastic in the ocean are much more damaging. Only a very small proportion is caused by bags…."

The Australian Government's correction of the typographical error is at: www.environment.gov.au/settlements/publications/waste/plastic-bags/analysis.html.

This is a table from the Ocean Conservancy report on marine debris on a *worldwide* basis:

MARINE WILDLIFE FOUND ENTANGLED IN MARINE DEBRIS

	BALLOONS	BEVERAGE BOTTLES	BEVERAGE CANS	BUILDING MATERIALS	CRAB, LOBSTER, FISH TRAPS	FISHING HOOKS	FISHING LINE	FISHING NETS	PLASTIC BAGS	RIBBON/STRINGS	ROPE	SIX-PACK RINGS	TIRES	WIRES	TOTAL WILDLIFE
Amphibians	0	1	0	0	0	0	0	2	1	0	1	1	1	0	7
Birds	1	4	1	0	0	3	57	4	9	5	13	1	0	1	99
Fish	0	16	10	0	21	4	70	33	24	2	9	4	1	3	197
Invertebrates	0	12	4	1	35	1	12	24	11	4	9	3	4	2	122
Mammals	0	2	0	0	0	0	2	2	0	1	1	0	0	0	8
Reptiles	0	0	0	0	0	0	2	2	2	0	3	1	0	0	10
Total Debris Items	1	35	15	1	56	8	143	67	47	12	36	10	6	6	443

Source: Ocean Conservancy/2008 International Coastal Cleanup

Source: www.oceanconservancy.org/pdf/A_Rising_Tide_full_hires.pdf.

N. What are the environmental impacts of plastic bags (1) in the Pacific Ocean to the extent not addressed above? Quantify. Cite substantial evidence and credible verifiable sources.

5. Costs of the plastic bag issue

A. What is the annual cost to the County of cleaning up plastic bag (1) litter? What would be the annual cost to the County of maximizing the cleanup of all plastic bag (1) litter by dedicating more manpower and resources for this purpose? Provide a complete detailed breakdown of all costs and expenditures, including man-hours. Make a reasonable allocation of cost between plastic bag types 1 and 2 and state the basis for the allocation. Include and identify any funding received from the state. Cite substantial evidence and credible verifiable sources.

B. The Initial Study (at page 1-3) states: "The County of Los Angeles Flood Control District alone spent more than $18 million annually for prevention, clean up, and enforcement efforts to reduce litter, of which plastic bags are a component." The cited source for this assertion is the County's August 2007 staff report on plastic bags. That report states (at page 25):

> The Los Angeles County Department of Public Works, as the lead County agency responsible for implementing litter reduction and education programs, implements a variety of programs to reduce the impact of litter on our communities. This includes litter collection along roadways, channel inverts, street sweeping, emptying public trash containers, catch basin cleanouts, flood

> control channel cleanups, stormwater pollution prevention activities, capital improvement projects, implementing best management practices, and implementing public education and outreach activities. The County of Los Angeles Department of Public Works and the Flood Control District spends approximately $18 million per year to carry out these responsibilities."

The County staff report does *not* say that the *Flood Control District* spends $18 million on litter cleanup. It is stated to be the entire County litter budget.

C. Provide a detailed and complete breakdown and explanation of how the $18 million (or updated amount) is spent.

D. How much of that $18 million (or updated amount) will be saved if plastic bags (1) are banned? Explain exactly how it will be saved? Cite substantial evidence and credible verifiable sources.

E. What is the annual cost to the County of all of the environmental problems that plastic bags (1,2) cause (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements)? Provide a detailed and complete breakdown and explanation of the costs. Make a reasonable allocation of cost between bag types 1 and 2 and state the basis for the allocation. Include and identify any funding received from the state or state agencies. Cite substantial evidence and credible verifiable sources.

F. As an alternative to a ban, if plastic bag (1,2) manufacturers or suppliers were to be asked to pay money to the County each year to solve the environmental problems caused by plastic bags (1,2) (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements), how much money would that be? Provide a detailed and complete breakdown of the basis and justification for the figure. Make a reasonable allocation between bag types 1 and 2 and state the basis for the allocation. Cite substantial evidence and credible verifiable sources.

G. As an alternative to the proposed ordinance, if plastic bag (1) manufacturers or suppliers were to be asked to pay money to a statewide fund each year to solve the environmental problems caused by plastic bags (1) statewide (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements), how much of that money would the County need to solve those problems? Provide a detailed and complete breakdown of the basis and justification for the figure. Cite substantial evidence and credible verifiable sources.

H. If the proposed ordinance is adopted, would the County save any money as a result of the solving of any environmental problems (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements)? If the answer is yes, provide a detailed and complete breakdown and explanation of the savings. Cite substantial evidence and credible verifiable sources.

I. What changes and improvements can be made to prevent plastic bags (1) from blocking or entering the County's storm drains? For example, storm drain screens or "Gross Pollutant Traps." What is the cost of such changes and improvements? Provide a detailed and complete breakdown of such costs. Cite substantial evidence and credible verifiable sources. See:

www.wordconstructions.com/articles/technical/gpt.html

www.hydro-international.biz/us/stormwater_us/nettech.php

www.lbpost.com/ryan/7415

The City of Los Angeles determined in a pilot study that catch basin screen covers would achieve an 86% effectiveness rate.

www.san.lacity.org/wpd/Siteorg/program/poll_abate/PilotStudyCovers.pdf

The possibility of installing storm drain screens such as these must be addressed in the EIR.

J. Is the County receiving or has it requested funding for storm drain improvements such as that received by the City of Long Beach as described in the following article?

www.lbpost.com/ryan/7415

6. Costs of the paper bag issue

A. What is the annual cost to the County of cleaning up paper carryout bag litter? What would be the annual cost to the County of maximizing the cleanup of all paper carryout bag litter by dedicating more manpower and resources for this purpose? Provide a complete detailed breakdown of all costs and expenditures, including man-hours. Cite substantial evidence and credible verifiable sources.

B. What is the annual cost to the County of all of the environmental problems that paper carryout bags cause (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements)? Provide a complete detailed breakdown of the costs and expenditures. Include and identify any funding received from the state or state agencies. Cite substantial evidence and credible verifiable sources.

C. If paper carryout bag manufacturers or suppliers were to be asked to pay money to the County each year to solve the environmental problems caused by paper carryout bags (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements), how much money would that be? Provide a detailed and complete breakdown of the basis and justification for the figure. Cite substantial evidence and credible verifiable sources.

D. If paper carryout bag manufacturers or suppliers were to be asked to pay money to a statewide fund each year to solve the environmental problems caused by paper carryout bags statewide (including but not limited to litter, storm drain issues, and storm water permitting and other regulatory requirements), how much of that money would the County need to solve those problems? Provide a detailed and complete breakdown of the basis and justification for the figure. Cite substantial evidence and credible verifiable sources.

7. Acknowledging and quantifying the increase in the number of paper bags if only plastic bags are banned.

Will the banning of plastic bags (1) result in an increase in the number of paper carryout bags provided by stores in the County? Quantify. Cite substantial evidence and credible verifiable sources.

Use-less-stuff.com ("ULS") conducted a survey on the effect of the plastic bag (1) ban in San Francisco on paper carryout bag usage. ULS found that paper bag (3,4) use increased significantly. There is no fee on paper carryout bags in San Francisco.
http://www.use-less-stuff.com/Field-Report-on-San-Francisco-Plastic-Bag-Ban.pdf

STPB objects to the statement in the Initial Study (at page 3.3-2) that "a net increase in

the use of reusable bags would be expected." It is a sweeping statement and speculation based on wishful thinking that is not permitted in an EIR. It is not a basis for minimizing the description and disclosure of the environmental impacts of paper bags in the EIR. As long as the County permits stores to give away free paper bags as in San Francisco, no such increase can be expected. People do not buy what they are given for free.

8. <u>Environmental impacts of plastic versus paper bags.</u>

Would an increase in the number of paper carryout bags provided to customers in the County result in significant negative environmental impacts? Describe all of those impacts in detail, including but not limited to impacts in other parts of the United States, Canada and other countries. Cite substantial evidence and credible verifiable sources.

Paper comes from trees. The process to get that paper bag to the grocery store is long and exacts a heavy environmental toll. First, the trees are felled in a process that often involves clear-cutting, resulting in massive habitat destruction and long-term ecological damage.

Large machinery comes in to remove the logs from what used to be forest, either by logging trucks or even helicopters in more remote areas. This machinery requires fossil fuel to operate and roads to drive on, and, when done unsustainably, logging even a small area has a large impact on the entire ecological chain in surrounding areas.

Once the trees are collected, they must dry at least three years before they can be used. More machinery is used to strip the bark, which is then chipped into one-inch squares and cooked under tremendous heat and pressure. This wood stew is then "digested," with a chemical mixture of limestone and acid, and after several hours of cooking, what was once wood becomes pulp. It takes approximately three tons of wood chips to make one ton of pulp.

The pulp is then washed and bleached; both stages require thousands of gallons of clean water. Coloring is added to more water, and is then combined in a ratio of 1 part pulp to 400 parts water, to make paper. The pulp/water mixture is dumped into a web of bronze wires, and the water showers through, leaving the pulp, which, in turn, is rolled into paper.

Chlorine and compounds of chlorine are used in the bleaching of wood pulp, especially chemical pulps produced by the kraft process or sulfite process. Plants using elemental chlorine produce significant quantities of dioxins. Dioxins are persistent organic pollutants that are generally recognized among the most toxic human-released pollutants in existence. Elemental chlorine has largely been replaced by chlorine dioxide in some and dioxin production. However, as of 2005, only 5-6% of kraft pulp is bleached without chlorine chemicals.

The used process water from a pulp mill contains a lot of organic material such as lignin and other organic material from the trees (including chlorinated organic material)

resulting in high biological oxygen demand (BOD) and dissolved organic carbon (DOC). It also contains alcohols, and chelating agents and inorganic materials like chlorates and transition metal compounds. Recycling the effluent and burning it, using bioremediation ponds and employing less damaging agents in the pulping and bleaching processes can help reduce water pollution.

Sulfur-based compounds are used in both the kraft process and the sulfite process for making wood pulp. Sulfur is generally recovered, with the exception of ammonia-based sulfite processes, but some is released as sulfur dioxide during combustion of black liquor, a byproduct of the kraft process, or "red liquor" from the sulfite process. Sulfur dioxide is of particular concern because it is water soluble and is a major cause of acid rain.

Air emissions of hydrogen sulfide, methyl mercaptan, dimethyl sulfide, dimethyl disulfide, and other volatile sulfur compounds are the cause of the odor characteristic of pulp mills utilizing the kraft process. Other chemicals that are released into the air and water from most paper mills include the following: carbon dioxide, carbon monoxide, ammonia, nitrogen oxide, mercury, nitrates, methanol, and benzene.

This all requires huge energy inputs and create air and water pollution.

To recycle paper bags, the paper must first be re-pulped, which usually requires a chemical process involving compounds like hydrogen peroxide, sodium silicate and sodium hydroxide, which bleach and separate the pulp fibers. The fibers are then cleaned and screened to be sure they are free of anything that would contaminate the paper-making process, and are then washed to remove any leftover ink before being pressed and rolled into paper, as before.

The County must consider the following reports:

The 1990 Franklin report: This report is a life cycle assessment of plastic bags (1) and paper carryout bags used in the United States. It shows that plastic bags (1) are substantially better for the environment than paper carryout bags for the following reasons: (see Conclusions section of report):

- The energy requirements for plastic bags are between 20% and 40% less than for paper carryout bags at zero percent recycling of both kinds of bags. Assuming paper carryout bags carry 50% more than plastic bags (1), the plastic bag (1) continues to require 23% less energy than paper bags even at 100% recycling.

- Plastic bags (1) contribute between 74% and 80% less solid waste than paper carryout bags at zero percent recycling. Plastic bags (1) continue to contribute less solid waste than paper carryout bags at all recycling rates.

- Atmospheric emissions for plastic bags (1) are between 63% and 73% less than for paper carryout bags at zero percent recycling. Plastic bags (1) continue to contribute less atmospheric emissions than paper carryout bags at all recycling rates.

- At a zero percent recycling rate, plastic bags (1) contribute over 90% less waterborne wastes than paper carryout bags. This percentage actually increases as the recycling rate increases.

- The landfill volume occupied by plastic bags (1) is 70% to 80% less than the volume occupied by paper carryout bags (2) based on 10,000 uses.

The 2005 Scottish report: www.scotland.gov.uk/Resource/Doc/57346/0016899.pdf. This report was published by the Scottish Government. It is an environmental impact assessment of the effects of a proposed plastic bag (1) levy in Scotland. The report (at page 22) takes into account the fact that a paper carryout bag holds more than a plastic bag (1) and makes appropriate adjustments. The report includes the following findings:

- Page vi: "If only plastic bags were to be levied…, then studies and experience elsewhere suggest that there would be some shift in bag usage to paper bags (which have worse environmental impacts)."

- Page 31: "[A] paper bag has a more adverse impact than a plastic bag for most of the environmental issues considered. Areas where paper bags score particularly badly include water consumption, atmospheric acidification (which can have effects on human health, sensitive ecosystems, forest decline and acidification of lakes) and eutrophication of water bodies (which can lead to growth of algae and depletion of oxygen)."

- Page 31: "Paper bags are anywhere between six to ten times heavier than lightweight plastic carrier bags and, as such, require more transport and its associated costs. They would also take up more room in a landfill if they were not recycled."

- Page 23: Paper carryout bags result in:

  - 1.1 times more consumption of nonrenewable primary energy than plastic bags (1).

  - 4.0 times more consumption of water than plastic bags (1).

  - 3.3 times more emissions of greenhouse gases than plastic bags (1).

  - 1.9 times more acid rain (atmospheric acidification) than plastic bags (1).

  - 1.3 times more negative air quality (ground level ozone formation) than plastic bags (1).

  - 14.0 times more water body eutrophication than plastic bags (1).

  - 2.7 times more solid waste production than plastic bags (1).

The 2007 Boustead report:
www.americanchemistry.com/s_plastics/doc.asp?CID=1106&DID=7212
This report is an extremely thorough and detailed life cycle assessment of the environmental impacts of plastic bags (1) and paper carryout bags in the United States. It is packed with data. It studied the types of plastic bags (1) and paper carryout bags commonly used in the United States. It takes into account that a paper carryout bag holds more than a plastic bag (1) and applies an adjustment factor.

The Boustead report (at page 4) includes the following findings *based on carrying capacity equivalent to 1000 paper bags*:

- Total energy use: Paper carryout bags = 2622 megajoules. Plastic bags (1) = 763 megajoules.
- Fossil fuel use: Paper carryout bags = 23.2 kilograms. Plastic bags (1) = 14.9 kilograms.
- Municipal solid waste: Paper carryout bags = 33.9 kilograms. Plastic bags (1) = 7.0 kilograms.
- Greenhouse gas emissions: Paper carryout bags = 0.08 CO_2 equivalent tons. Plastic bags (1) = 0.04 CO_2 equivalent tons.
- Fresh water usage: Paper carryout bags = 1004 gallons. Plastic bags (1) = 58 gallons.

The Boustead report studied paper bags with 30% post consumer recycled content. The Initial Study (at page 1-6) defines a "Recyclable Paper Bag" as having 40% post-consumer recycled content. Recycling is a collection, transportation, washing and industrial operation with environmental impacts, so an extra 10% of recycled content would not result in a 10% improvement in environmental impacts. (Obviously, a paper carryout bag with 100% post consumer recycled content would not have zero environmental impacts.) However, if we take optimism to the extreme and assume that an extra 10% of recycled content would decrease all environmental impacts of paper carryout bags by 10%, paper carryout bags are still far worse than plastic bags (1) in every environmental category. For example, instead of consuming 2622 megajoules of total energy, 1000 paper carryout bags would consume 2360 megajoules. Plastic bags (1) with the same carrying capacity consume 763 megajoules.

The Boustead report was commissioned by Progressive Bag Affiliates, a plastic bag industry organization. It was peer reviewed by an independent third party, a Professor of Chemical Engineering at North Carolina State University. (Boustead report at pages 63-64.) He is an expert on life cycle analysis with extensive experience in the field. He commented that the Boustead report "provides both a sound technical descriptions (sic) of the grocery bag products and the processes of life cycle use…. Whatever the goals of the policy makers, these need to be far more explicit that general environmental improvement, since the life cycle story is consistent in favor of recyclable plastic bags."

(Boustead report at page 63.)

The professor reviewed every single one of the figures in the report and disagreed with some of them. The Boustead report was amended to the extent that the Boustead report author agreed with the professor's comments. For example, the figure "103" for electricity in Table 9B was corrected to "154." (Boustead report at pages 64 and 19.)

The March 2008 ULS report:
http://use-less-stuff.com/Paper-and-Plastic-Grocery-Bag-LCA-Summary-3-28-08.pdf
This report addresses the impact of San Francisco's ordinance banning plastic bags (1) at large stores. San Francisco defines acceptable paper carryout bags as containing "no old growth fiber…100% recyclable… contains a minimum of 40% post-consumer recycled content." San Francisco Environment Code, Chapter 17, §1702(j). The report contains the following findings (at pages 3-4):

- Plastic bags (1) generate 39% less greenhouse gas emissions than uncomposted paper carryout bags.
- Plastic bags (1) consume less than 6% of the water needed to make paper carryout bags.
- Plastic bags (1) consume 71% less energy during production than paper carryout bags.
- Plastic bags (1) generate approximately only one-fifth of the amount of solid waste that is generated by paper carryout bags.

The March 2008 ULS report concludes as follows (at page 5):

> Legislation designed to reduce environmental impacts and litter by outlawing grocery bags based on the material from which they are produced will not deliver the intended results. While some litter reduction might take place, it would be outweighed by the disadvantages that would subsequently occur (increased solid waste and greenhouse gas emissions) [from paper bags]. Ironically, reducing the use of traditional plastic bags would not even reduce the reliance on fossil fuels, as paper and biodegradable plastic bags consume at least as much non-renewable energy during their full life cycle.

The evidence is *unanimous* that paper carryout bags are worse for the environment than plastic bags (1).

The Initial Study (at pages 3.3-2 and 3.7-3) states:

> However, any increases [in negative environmental impacts of paper bags] would be offset to some extent due to the fact that

> paper bags can contain a larger volume of groceries than plastic bags. In addition, a net increase in the use of reusable bags would be expected and would further reduce the potential for increased use of paper carryout bags utilized.

(See also Initial Study at page 3.7-7.)

The Franklin report, the Scottish report, and the Boustead report, all of which are discussed in the next section of this paper, *take into account* the fact that paper bags hold more than plastic bags. The Scottish report (at page 23) states that the calculations are "normalized against the volume of shopping carried."The Boustead report (at page 4) shows the impact of bag types based on "carrying capacity equivalent to 1,000 paper bags." The ratio in the Boustead report (see page 7) is 1,500 plastic bags = 1,000 paper bags.

All of the reports show, *based on the equivalent carrying capacity*, that paper bags have much worse environmental impacts than plastic bags. STPB objects to the County's statement which clearly implies that the reports are not based on equivalent carrying capacity.

The EIR must describe and quantify all of the environmental impacts of increased paper carryout bag usage wherever they occur, not just in and around the County. Climate change and the other impacts of paper bags are *global*.

In *Massachusetts v. EPA*, 549 U.S. 497 (2007), the U.S. Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The U.S. Environmental Protection Agency has made a finding under the Clean Air Act that carbon dioxide (CO_2) and methane (CH_4) (and other greenhouse gases) in the atmosphere "threaten the public health and welfare of current and future generations."
http://epa.gov/climatechange/endangerment.html

There is one report that the County must *not* rely upon in determining whether paper carryout bags are worse for the environment than plastic bags (1). That is the CIT Ekologik report issued in 2000 that was prepared on behalf of European paper bag producers Eurosac and CEPI Eurokraft. The Cities of Manhattan Beach and Berkeley have inappropriately referred to this report as support for the proposition that paper carryout bags are better for the environment than plastic bags (1). However, the CIT Ekologic report studied *55 lb capacity animal feed distribution sacks*. STPB will strongly object to any reference in the EIR to this totally irrelevant report. It is not substantial evidence for the proposition that paper carryout bags are better for the environment than plastic bags (1) and its inclusion in the EIR would be misleading to the County Board of Supervisors, other decision-makers, and the public.

There appears to be an error in the Initial Study. On page 3.7-1, it is stated that OPR recommends that *two* questions be considered regarding greenhouse gases. However, only one question is stated.

9. Impacts on air quality

(SEE ALSO SECTION OF THESE COMMENTS ENTITLED: "CALCULATING AND DISCLOSING GREENHOUSE GAS EMISSIONS"

A. The Initial Study (at page 3.3-2) states:

> The manufacture and transport of plastic and paper carryout bags is a regulated industry that does not represent a measureable contribution to emissions *in the County*. Therefore, the proposed ordinance would not be expected to have the potential to result in indirect significant impacts to air quality related to conformance with the applicable air quality plans. [Emphasis added.]

The EIR must determine describe and disclose the impacts of air quality in the County and beyond to other areas, including any locations where paper bags are produced in the United States and Canada and other countries. If the County is going to create negative environmental impacts outside the County, the Board of Supervisors and the voters in the County must be fully informed in the EIR. STPB objects to the failure to consider, describe and disclose negative environmental impacts outside the County.

B. The Initial Study (at page 3.3-2) states:

> Direct beneficial impacts to air quality would be expected to occur as a result of decreased vehicle emissions related to the distribution of plastic carryout bags, the transport of plastic bag waste, and litter collection along roadways and water channels.

Describe and quantify such impacts. Cite substantial evidence and credible verifiable sources.

The Scottish report noted at page 23: "Paper bags are anywhere between six to ten times heavier than lightweight plastic carrier bags and, as such, require more transport and its associated costs." STPB objects to the failure to describe and quantify such impacts.

Plastic bag (1) litter would be replaced with paper carryout bag litter. STPB objects to the failure to describe and quantify such impacts.

C. The Initial Study (at page 3.3-2) states:

> In addition, beneficial impacts to air quality would be expected to result from the reduced demand for the production of plastic carryout bags.

STPB objects to the failure to describe and quantify the negative impacts on air quality that would be expected to result from the increased demand for the production of paper bags.

D. The Initial Study (at page 3.3-2) states that ozone (O_3) would be reduced as a result of the production of plastic bags. According to the Scottish report (at page 23), the life cycle of paper carryout bags (with equivalent carrying capacity) creates 1.3 times more negative air quality (ground level ozone formation) than plastic bags (1). STPB objects to the failure to mention and address this point in the Initial Study. In fact, ozone would *increase* if plastic bags are banned. If this is contended that this is not correct, state in detail the basis for the contention and cite substantial evidence and credible verifiable sources.

10. <u>The effect of CO_2 emissions on the marine environment</u>

The issue of the effect of CO_2 emissions on the oceans must be considered and addressed in the EIR, because paper carryout bags create significantly more CO_2 emissions than plastic bags (1). See:

www.nytimes.com/2009/11/14/science/earth/14turtles.html

www.timesonline.co.uk/tol/news/uk/article4092822.ece

http://news.bbc.co.uk/2/hi/science/nature/7498502.stm

http://news.bbc.co.uk/2/hi/science/nature/8411135.stm

11. <u>Biodegradability of plastic bags</u>

A. Will plastic bags (1) degrade or biodegrade in certain conditions such as when exposed to oxygen and sunlight? Cite substantial evidence and credible verifiable sources.

B. There are different additives available that will make plastic bags (1) biodegrade or degrade in different environments and various conditions. Are such additives effective? Cite substantial evidence and credible verifiable sources.

C. In what ways do such additives lessen the negative environmental impacts of plastic (1) bags? Cite substantial evidence and credible verifiable sources.

D. Should such additives be required as an alternative to banning plastic bags (1)? Cite substantial evidence and credible verifiable sources.

The Initial Study (at page 1-5) states: "Biodegradable carryout bags are not a practical solution to this issue in Los Angeles County because there are no local commercial composting facilities able to process the biodegradable carryout bags at this time." ***<u>This statement shows a failure to understand, or even to be aware of, biodegradable additives that are used to make plastic bags biodegradable.</u>***

To be perfectly clear, there are two types of bags:

- "Compostable" bags designed to turn into compost in an industrial composting facility; and

- "Biodegradable" bags, that is plastic bags that have a biodegrading additive added. (There are two kinds of additive: the kind produced by ECM and the kind produced by Symphony. See below.)

"Biodegradable" bags are designed to biodegrade in the open environment, not in a composting facility. Biodegradation in the environment is not the same thing as composting. Industrial composting is an artificial process operated to a much shorter timescale than the processes of nature.

ASTM D6400 is designed for compostable plastics and is not applicable to plastics with an additive that are designed to self-destruct if they get into the environment. (Section 1.1 of ASTM D6400 states: "This specification covers plastics and products made from plastics that are designed to be composted in municipal and industrial aerobic composting facilities.")

The authors of the EIR are requested to contact the following two companies that have additives available that will effectively cause plastic bags to biodegrade. *The companies provide different types of additives so both should be contacted.* The representatives of those companies have agreed to provide information for the EIR. As the EIR must address all available alternatives, these two companies must be contacted as they are ready with the information, including the results of research and scientific papers. Of course, any other companies providing biodegradability additives may be contacted too.

The Initial Study (at page 1-6) states that the Biodegradable Product Institute (BPI) is a recognized verification entity. STPB objects to this incorrect characterization. Despite its name, BPI is merely a lobbying group for the *compostable* bag industry. BPI is working against biodegradable additives which it regards as an industry competitor. ***BPI is not a recognized verification entity regarding biodegradable bags, that is the type of bags that biodegrade in the open environment as a result of an biodegrading additive.***

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Robert Sinclair robert.sinclair@ecmbiofilms.com.

The ECM MasterBatch technology is delivered in the form of a pellet that may be added to many conventional plastic resins. The pellet is blended into the resin at a loading of not less than one percent. Bags can be produced from the resin with little or no process changes and the physical/structural properties of the resultant bags are virtually unchanged.

Biodegradation of plastic bags (1) produced with the ECM MasterBatch technology is initiated when the bag is exposed to other organic materials that are biodegrading. The components of the additive allow for the creation of communities, or biofilms, composed of microorganisms such as bacteria, fungi and algae. As these communities grow, acids, enzymes and other compounds, capable of breaking the polymer chemical bonds, are created. As the microbes consume the polymer, bonds are broken and more organics are available for food, strengthening the community and the process continues. Since the microorganisms exist in aerobic, anaerobic and marine conditions, the bags produced with ECM technology will biodegrade above ground, underground and in marine environments.

ECM's additive is fully available today and is being used in plastic bags (1).

SYMPHONY ENVIRONMENTAL TECHNOLOGIES
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Michael Stephen: michael.stephen@degradable.net and kkrkyz@gmail.com.

Oxo-biodegradation is degradation resulting from oxidative and cell-mediated phenomena, either simultaneously or successively. Symphony's oxo-biodegradation additive breaks the molecular chains within the polymer and makes it degrade and then biodegrade in the presence of air, on land or at sea, in the light or the dark, in heat or cold, leaving no methane, no toxic dust, and no other harmful residues. Oxo-bio can be tested according to American Standard 6954. Plastics with Symphony's additive can be recycled and made from recyclate, and there is little or no additional cost.
See www.biodeg.org/position-papers/recycling/?domain=biodeg.org.

Symphony's d2w additive has been independently tested to prove degradation, biodegradation and non eco-toxicity. and is certified safe for food-contact.

Symphony's additive is fully available today and is being used in plastic bags (1) around the world.

Oxo-biodegradable plastic is not a disposal option. It is a low cost insurance if all else fails. These plastics have been in use now for more than five years and are available in more than 80 countries. There is no evidence that degradable plastics (whether oxo-biodegradable or hydro-biodegradable) are more likely to be littered than any other packaging material.

12. <u>Superfast oxo-biodegradable bags</u>

Are superfast oxo-biodegradable bags a viable alternative to the proposed ordinance? Cite substantial evidence and credible verifiable sources.

Superfast oxo-biodegradable bags degrade and disappear very quickly. The bags are vacuum packed so that they will not biodegrade before they are handed out by stores. The bags will biodegrade in a few days or a few weeks. The speed of biodegradation can be controlled by the manufacturer by changing the amount of the biodegrading additive and anti-oxidants and making other adjustments.

Upon exposure to the environment the molecular weight is be rapidly reduced by an oxidative process and the bag disintegrates into small pieces. Because the pieces are no longer composed of long entangled molecular-chains, they are no longer a plastic and they are bioassimilated by naturally-occurring micro-organisms. They leave no fragments, no methane, and no harmful residues.

The bags will be *very conspicuously* marked so that consumers will know that the bags will disappear very quickly.

The bags will not be a litter problem because they will vanish in the open air and in water within a very short period of time.

Contact SYMPHONY ENVIRONMENTAL TECHNOLOGIES for samples and further information. (See section 11 above.)

13. <u>Water soluble bags</u>

Are water soluble bags a viable alternative to the proposed ordinance? Cite substantial evidence and credible verifiable sources.

Water soluble bags made of polyvinyl alcohol dissolve and disappear very quickly when they come into contact with water. The bags would be *very conspicuously* marked so that consumers would know that the bags should not come into contact with water as they will dissolve. The bags will not be a problem in storm drains, the LA River or the oceans.

STPB has such bags available to demonstrate to the County. The demonstration consists of placing the bag in tap water or seawater. The Bag disappears in about 30 seconds without leaving any particles.

The bags can be made more or less soluble and more or less rapidly soluble.

Bags can also be made that will dissolve only in hot water.

In Los Angeles County's dry summer climate, the bags would be completely practical. They simply have to withstand the journey from the store to the home, most of which would be in a car or on public transportation. The only time not to use them is when it is

raining. When it rains, plastic or paper carryout bags or reusable bags can be used.

Contact SYMPHONY ENVIRONMENTAL TECHNOLOGIES for samples and further information. (See section 11 above.)

14. <u>Biodegradability of paper bags</u>

The Initial Study (at page 1-9) states: "However, paper bags have the potential to biodegrade when exposed to oxygen, sunlight, moisture, soil, and microorganisms (such as bacteria…."

A. Do paper carryout bags biodegrade in landfills, the open air, or in water? Cite substantial evidence and credible verifiable sources.

B. Over what period of time do paper carryout bags fully degrade? Cite substantial evidence and credible verifiable sources.

C. What chemicals, particles or residues remain after such full biodegradation? Cite substantial evidence and credible verifiable sources.

D. Do such particles or residues absorb or serve as a vehicles for PCB, DDT, and other toxic substances in the ocean or elsewhere? Cite substantial evidence and credible verifiable sources.

Polyethylene consists of two elements of carbon and hydrogen. These two elements are strongly bonded together, which means that they cannot bond with molecules of PCBs, DDT or any other chemicals in the ocean at ocean temperatures. Consequently, the allegation that is frequently heard that PCBs, DDT and other chemicals in the ocean bond with plastic bag debris is physically impossible and false. Such chemicals will simply wash off plastic film in the water.

Organic materials such as paper contain oxygen, nitrogen, sulfur and phosphorus. These are elements that have a weaker bond with carbon and/or each other and therefore can easily bond with chemicals such as DDT and PCBs.

15. <u>Verification and environmental impacts of recycled content in paper bags</u>

The Initial Study (at page 1-6) defines a Recyclable Paper Bag as having a minimum of 40 percent post-consumer recycled content and containing no old growth fiber. However, the term is not used again in the Initial Study. It is not clear why the term is defined if it is not used. On the *assumption* that the County may require that paper carryout bags be Recycled Paper Bags as defined, then this section applies.

A. How will the County verify that Recyclable Paper Bags actually contain 40% post-consumer recycled content, including but not limited to in imported bags? Cite substantial evidence and credible verifiable sources.

B. If Recyclable Paper Bags are not permitted to contain old growth fibers, how will that be verified? Cite substantial evidence and credible verifiable sources.

C. To what extent does the inclusion of post-industrial scrap reduce the environmental impacts of paper carryout bags? Quantify. Cite substantial evidence and credible verifiable sources.

D. To what extent does the inclusion of post-consumer recycled content reduce the environmental impacts of paper carryout bags? Quantify. Cite substantial evidence and credible verifiable sources.

The EIR must make no assumptions regarding the "green" nature of paper carryout bags with 40% "recycled" content. Paper carryout bag recycling is an operation that involves collection, transportation, washing, and reprocessing. This all needs to be taken into account and addressed in the EIR.

The following article appeared in the Sacramento Bee on November 9, 2009: http://www.sacbee.com/capitolandcalifornia/story/2314229.html.

> **Bee exclusive: State's recycled paper trail not so green for climate**
>
> Near Mark Oldfield's desk at the California Department of Conservation sits a ream of copy paper that is more than a routine office commodity.
>
> Made in part from recycled fiber, it is a symbol of the state's green spirit, one ream among thousands backing the department's claim that it is a champion of the environment -- and complies with state law requiring it to buy recycled paper.
>
> There is a dark side to those sheets of bright, white paper: the part that isn't recycled comes from trees logged in the biologically rich but endangered forests of Indonesia.
>
> Oldfield, a public affairs officer, was not aware of the connection until contacted by The Bee. Now that he knows, Oldfield said his office will not buy anymore and may try to return the unused reams.
>
> "We're required to buy this type of paper," he said. "And that's what we did."
>
> California has a worldwide reputation as a leader in global warming, more so than any other state. But an ongoing Bee investigation has found some of the state's choices -- such as

failing to evaluate environmental costs of printer ink cartridge recycling and allowing its employees to travel on the dime of energy companies -- raise questions about the effectiveness of its efforts.

The state law requiring agencies to buy large quantities of paper with a minimum of 30 percent recycled content is another seemingly green choice that may be backfiring on the climate.

Over the past two decades, that mandate has helped achieve one of the bedrock missions of the environmental movement: keeping as much scrap paper from piling up in landfills as possible. But the state makes no effort to track the carbon footprint of its policies.

In fact, records obtained by The Bee through the California Public Records Act indicate the state -- which purchases about 6 million pages of office copy paper a day and recycles much of it – actually knows little about the full impact of recycled paper.

"There is on-going controversy regarding…post-consumer recycled content in paper products," says a June 24 Department of General Services memo. "We do not understand the process…or its environmental impact."

Wisdom of mandate argued

Like offices everywhere, the state consumes a blizzard of copy paper. About 3.2 million reams, each containing 500 sheets – 1.6 billion in all -- were bought last year, state officials estimate. Lay those pages end-to-end and they would reach around the world 11 times.

One of the largest worries is that relying on recycled paper without reducing consumption will hasten climate change because the paper is shipped in from distant locations, increasing greenhouse gas pollution. Nearly all of the paper the state recycles, in turn, is shipped back out again, generating still more greenhouse gas.

"The world is going to fry because we want to buy recycled fiber from the wrong sources around the world and ignore the transportation impacts," said Stan Rhodes, president of Scientific Certification Systems, a Bay Area company that verifies green standards for Starbucks, Home Depot and other companies.

Yalmaz Siddiqui, director of environmental strategy for Office

Depot, a major supplier of recycled paper to California from sources in the southern United States and Wisconsin, has urged the state to be skeptical about Rhodes' concerns.

“It's very dangerous to open up the notion that ‘recycled is not good’ to the marketplace,” Siddiqui wrote in an April 27 e-mail to the Department of General Services.

“Yes, Stan will be able to find specific examples where recycling loops cause additional carbon,” Siddiqui added. “We need to be very careful that these examples do not confuse the marketplace and force people to simply give up buying green altogether because they don't know what the right 'green' thing to do is.”

Currently, about $7 out of every $10 state agencies spend on paper buys paper with 30 percent or higher recycled content -- exceeding the legal requirement that half of such spending be for recycled paper. Some agencies -- including California Environmental Protection Agency, the state Integrated Waste Management Board and the Department of General Services -- even buy 100 percent recycled-content paper.

Conservation focus shifting

California's State Agency Buy Recycled Campaign grew out of legislation passed in 1989, when times were simpler. Garbage was the enemy. Almost no one talked about global warming.

Now that the state is a leader in the war against climate change and seeking to shrink its carbon footprint, some say it's time to adapt and measure the effort's climate impact.

“You can't automatically assume recycled content is good,” said Robert Tetz, former manager of the state's environmentally preferable purchasing program at a conference this spring.

“You have to be careful about the energy and environmental impacts we incur in the process of recycling,” he continued. "When we talk about what's green, a lot of the 100 percent-recycled paper we're buying in California is not green.”

Chris Peck, director of the office of public affairs at the California Integrated Waste Management Board, which oversees the Buy Recycled campaign, said agency staffers are interested but must remain focused on their legislative mission.

“Because of our statutory responsibility, which is to keep material out of the landfill, we have to filter what we see and learn through that lens,” Peck said.

Tetz convened a June meeting on the subject with paper specialists.

“There is growing debate regarding the wisdom of our many choices,” he said in an April e-mail invitation.

At the meeting, Rhodes -- the green certification specialist - displayed slides and data suggesting the state's carbon footprint actually grows larger when it buys recycled paper from distant mills.

“Is the (recycled content) law counterproductive for global warming?” Rhodes asked in an interview. “Yes. It's insane. … It has ignored the fact we're in a climate crisis. And stubbornly the state of California refuses to deal with it.”

Others challenge his assertions. “Some of the information doesn't make sense,” said Susan Kinsella, executive director of Conservatree, a nonprofit that promotes the purchase of recycled-content paper.

“When you produce recycled paper, you're reducing the amount of energy overall that's used; you reduce what goes into landfills,” said Kinsella, who attended the June meeting. “If paper goes into landfills, it produces methane, which is 25 times the strength of carbon dioxide.”

Minutes of the June session show that interest was high: “Scott Harvey, DGS chief deputy director…commented on the importance of the topic of discussion and expressed strong support for our efforts from the Director all the way to the Governor's office.”

The minutes also note that Tetz hoped that in-depth study – known as a life-cycle impact analysis – would grow from the meeting, to sort out competing claims and scrutinize all of the environmental impacts of recycled paper.

Instead, Tetz was transferred to another job in September after complaining that a state printer ink cartridge recycling program was less eco-friendly than refilling and re-using them. At the time,

his boss said the transfer was not related to his criticism.

“I did not have the necessary support here at the Department of General Services,” he wrote in an e-mail to meeting participants apologizing for the lack of action. “At least we tried.”

Jeffrey Young, deputy director for public affairs at General Services, said officials would like to have an in-depth paper study done -- and actually solicited bids for one earlier this year -- but were unable to proceed because of the state's budget crisis.

Conserving and recycling

There is a far more certain way for state employees to help forests, landfills and climate, according to Rhodes: Don't hit the print button.

“Don't use paper,” he said. “Only use paper when you want to archive.”

Indeed, some e-mails sent by state employees now contain a green logo that says: “Please consider the environment before printing.”

Nonetheless, thousands of tons of scrap paper find their way every month from state recycling bins and loading docks to a 3-acre industrial site in south Sacramento, where it is sorted and bundled for shipment to China on fossil fuel-powered ocean tankers.

What happens once it gets to China is not clear, but paper industry officials say little comes back to California as recycled office paper. Instead, they said, much of it is made into cardboard, tissue paper and paper plates, at paper mills powered by polluting coal-fired power plants.

Dave Kuhnen, general manager of the Sacramento facility, Recycling Industries, recently walked through gigantic mounds and bales of paper speckled with state trash, from a Department of Fish and Game manual on waterfowl and upland game hunting regulations to unused Department of Motor Vehicles change of address forms.

“Recycling is always better,” said Kuhnen. “Anytime you can reduce the demand for the Earth's resources, and keep material out of the landfill, I think we are better off.”

It is not a panacea, however. Some pulp from trees always will be a necessary part of the paper-making process because the microscopic fibers that bind it together eventually break down.

“One hundred percent post-consumer recycled content paper isn't sustainable,” said Andrew Hurst, a waste management specialist at the California Integrated Waste Management Board. “If everybody did it…we wouldn't have paper.

“A piece of fiber is only good for about seven turns,” Hurst said. “And then it is so short, it comes out in the wash and is part of the sludge.”

Paper's sources questioned

Dwelling on the recycled content of paper overlooks other critical issues, according to Jim Butler, director of procurement at the Department of General Services.

“There is nothing inherently wrong with 100 percent, or 30 percent,” Butler said. “We have to get beyond what percent recycled it is (to) where the source is, and what are the feed stocks that are contributing to this.”

Interviews and records obtained by The Bee show that the state buys recycled paper from at least two companies that environmentalists say are logging in destructive ways.

One is International Paper, which operates across the American South. Last year, dozens of state agencies, departments and other jurisdictions, from the California Conservation Corps to the Governor's Office, bought at least 20,000 reams of paper -- or 10 million pages -- made in IP mills.

“IP is known for some of the most egregious practices in the region, including large-scale clear-cutting and conversion of natural forests to plantations,” said Scott Quaranda, campaign director for the Dogwood Alliance, a North Carolina environmental group.

Kathleen Bark, an IP spokeswoman, disputed that. “International Paper has a long history of responsible forest practices,” she said in an e-mail. “When we owned forest lands, we continually balanced the growing and harvesting of trees with protecting biodiversity. … Although we no longer own forest lands, we have continued our

commitment to sustainable forestry."

The other company targeted by environmentalists is Asia Pulp and Paper, which has extensive operations in Indonesia and manufactures the 30 percent recycled content paper called Exceedo purchased in June by the Department of Conservation.

When those five boxes of paper – containing 50 reams – arrived in the state office wrapped in greenish paper with a leafy motif, they certainly looked eco-friendly.

But Lafcadio Cortesi, forest campaign director for the Rain Forest Action Network in San Francisco, said the company's logging practices are so harmful that his organization and others have persuaded major U.S. retailers to stop selling its paper.

"It's some of the worst forest destruction in the world," said Cortesi, who has visited Indonesia several times. Because carbon-rich peat lands are logged and converted to plantations – releasing greenhouse gases into the atmosphere in the process – it is bad for global warming, too, he said.

Asked about the state's purchase, Cortesi said: "They need to do their due diligence. If you do any homework at all, Indonesia pops up with a big red flag."

Oldfield, the Department of Conservation spokesman, said his office was focusing instead on recycled content.

"We were consuming a paper with certain guidelines -- 30 percent recycled content -- without knowing the background of the manufacturer," he said. "It's not something we would typically look into."

They also were focusing on price. Each case cost the department $32.98 -- the lowest of four bids solicited.

Now, Oldfield said, the office is debating what to do with the 30 or so reams of paper that remain.

"We are going to see if we can return it," he said.

That would mean contacting Burkett's Office Supplies on Younger Creek Drive in Sacramento where owner Randy Mael said he also sold some of the paper to the Department of Health Services.

> Mael said he was not aware of any problem with it.
>
> "We buy 50,000 different products," Mael said. "We are a company with 30 people. Unfortunately, we just don't have the time to research all the products that we buy."
>
> But, he added, "I don't have any interest in harming the environment. … If it was found that this was something that -- according to reliable standards -- was harming the environment, we wouldn't sell it."

In addition, there has been a recycled paper fraud scandal in Japan. See: http://wildsingaporenews.blogspot.com/2008/01/recycled-paper-scandal-in-japan.html

The County is on notice that there are serious issues regarding the accuracy of claims that paper contains recycled content. There is no certification program to verify recycled content in paper bags. This must be addressed in the EIR.

16. <u>The issue of what materials are used in the manufacture of plastic bags</u>

A. It is often alleged that plastic bags (1,2) are made of oil and that we import 12 million barrels of oil into the United States each year to make plastic bags. (Google: "plastic bags 12 million barrels".) Is the allegation true? What are the true facts? Cite substantial evidence and credible verifiable sources.

In fact 85% of plastic bags (1) used in the United States are made in the United States. Plastic bags are made out of polyethylene. Polyethylene is made of ethylene. In the United States, ethylene is made of ethane which is extracted from *domestically* produced natural gas. As a result, plastic bags (1) manufactured in the United States are not made out of oil.

Ethane must be removed from the natural gas anyway to lower the BTU value of the natural gas to an acceptable level. Ethane burns too hot to be allowed to remain in high levels in natural gas that is delivered to homes and businesses for fuel. There is nothing else that the ethane can be used for except to make ethylene. If ethane is not used to make plastic, it will have to be burned off, resulting in greenhouse gas emissions.

Using the ethane to make plastic does not in any way reduce the amount of fuel available for transportation or power generation or increase our energy imports.

Some *imported* bags are made from naphtha which is a *waste by-product* of oil. As long as the world refines crude oil there will be a naphtha residue after the petroleum has been extracted. Naphtha needs a secondary use such as plastics. At the present time, too much is being produced so the need for secondary uses is more pressing.
www.poten.com/Opinion.aspx?id=4030.

Domestic plastic bag (1) manufacturers say that it would be economically absurd to make

plastic bags from oil. The price of oil is presently $77 per barrel and in July 2008 reached per barrel. At those prices, the plastic bags (1) would be much more expensive.

The myth about plastic bags (1) being made out of oil has become one of the major justifications for banning plastic bags (1).

Far more oil (and non-renewable energy) is used to make paper carryout bags as the Scottish and Boustead reports show.

B. The County asserted in the staff report, *An Overview of Carryout Bags in Los Angeles County*, August 2007 (at page 30) that "plastic carryout bags contain many different additives such as PCBs, DDT and nonylphenols which can seep into marine animals that inadvertently ingest them, which endangers their health." If it alleged in the EIR that the allegation is true, cite substantial evidence and credible verifiable sources.

In fact, plastic bags (1,2) in the United States contain no such additives. Such additives are illegal and are not used in bags in this country. If they are used in any other country, we are not aware of it.) There is no reason for such additives to be used. It should be obvious that DDT, which is a pesticide, would not be used as an additive in a plastic bag.

Polyethylene consists of two elements of carbon and hydrogen. These two elements are strongly bonded together, which means that they cannot bond with molecules of PCBs, DDT or any other chemicals in the ocean at ocean temperatures. Consequently, the allegation that PCBs, DDT and other chemicals in the ocean bond with plastic bag debris is physically impossible and false. Such chemicals will simply wash off plastic film in the water.

Organic materials such as paper contain oxygen, nitrogen, sulfur and phosphorus. These are elements that have a weaker bond with carbon and/or each other and therefore can easily bond with chemicals such as DDT and PCBs.

17. <u>Environmental impacts of cockroach infestation</u>

Would an increase in the number of paper carryout bags result in a greater number of cockroaches in the County, including increased infestation of apartment blocks? Will such infestation result in the need for increased spraying of harmful insecticides in homes and workplaces? Cite substantial evidence and credible verifiable sources.

Here is an extract from a commercial website regarding cockroach infestation:

> The German cockroach loves grocery bags. This roach will infest a stack of paper grocery bags at the grocery store and then sneak home in between the flaps in the bottom of the bag. You will not even know that the roaches are there until the bag is put away or used. The roach may stay hidden until it is dark and then come out to infest your home. The best way to prevent this type of intrusion

is to keep your paper grocery bags stored outside or in a sealed container.

www.gettingridofroaches.net/How-To-Prevent-Roaches-In-Cardboard-and-Paper-Grocery-Bags.html

Orkin advises as follows: "Disposing of cardboard boxes and paper grocery bags, which provide shelter sites for cockroaches." www.orkin.com/press-room/article-1059

Terminix gives similar advice: "In homes, do not store paper bags under the sink or elsewhere in the kitchen." [Click on the "Tips for Control" tab on the Terminix website.] www.terminix.com/Information/Pest-Identification/Cockroaches/Brown_Banded_Cockroach/

The U.S. Environmental Protection Agency states advises that in order to prevent roach infestation: "Get rid of stacks of newspapers, paper bags, and cardboard boxes." www.epa.gov/opp00001/kids/roaches/english/keepthem/index.html

http://www.acsh.org/healthissues/newsID.1692/healthissue_detail.asp

18. <u>Environmental impact of the loss of plastic bag recycling bins at stores.</u>

Plastic bags are 100% recyclable. However, in the County, plastic bags may not be placed in curbside recycling bins.
http://www.sjrecycles.org/residents/special_stuff.asp#bags

Consequently, the *only* plastic bag (1,2) recycling infrastructure in the County is the plastic bag (1,2) recycling bins required by Pub. Res. Code §42251(a) and §42252(b).

All stores that are (i) supermarkets or (ii) occupy over 10,000 square feet and have a licensed pharmacy are required to install those bins and arrange for the recycling of the contents, if the store "provides plastic carryout bags." Pub. Res. Code §42250(e). If the store does not "provide plastic carryout bags" it is not required to install a plastic bag recycling bin.

The effect of banning plastic bags (1) is that stores will be free to remove every single plastic bag recycling bin in the County. The County is not permitted to require the stores to retain the bins because Pub. Res. Code §42254b)(1) states that cities and counties may not "require a store that is in compliance with this chapter to collect, transport, or recycle plastic carryout bags." Therefore, one of the environmental impacts of the proposed ordinance will be the destruction of the County's only plastic bag recycling infrastructure.

It is not just plastic grocery bags that are deposited in the bins. *Newspaper bags, dry cleaning bags, and plastic film are deposited in the bins and recycled. Such bags and film would not be banned under the proposed ordinance but would lose their recycling infrastructure.* Therefore all such bags and film would be sent to landfills.

Virtually every plastic bag (1,2) and the plastic film deposited in store recycling bins is recycled. The major recycling customers for the contents of the bins are Trex and AERT, which use them instead of wood for plastic and composite lumber. They buy the contents of the bags from stores, sometimes for 25 cents per lb or more.

Many plastic bags contain recycled post-industrial and post-consumer material, but that fact has not been well advertised. The paper industry has done a far better job of marketing its products as "recycled." For example, the largest manufacturer of plastic bags (1), Hilex Poly, picks up used plastic bags (1), transports them to its recycling facility, and turn them into new bags. Hilex is in the process of doubling its recycling capacity. See:

http://hilexpoly.com/going-green/bag-2-bag.html.

http://hilexpoly.com/going-green/recycling-plant.html

http://hilexpoly.com/news/single/article/hilex-poly-announces-plan-to-double-recycling-capacity-37//nbp/194.html

19. Environmental impacts on landfills.

A. Would an increase in the number of paper carryout bags as a result of the proposed ordinance result in a greater volume and weight of paper carryout bags in landfills? Would this cost the County more in tipping fees (which are determined by weight)? Cite substantial evidence and credible verifiable sources.

We often hear in the media and from anti-plastic bag activists that plastic bags (1,2) "clog up" landfills. However, in a Statewide Waste Characterization Study conducted in 2004 for the California Integrated Waste Management Board, it was determined that plastic bags (1,2) constitute a mere 0.4% of the content of landfills. Paper carryout bags constitute 1.0%. The tonnage is about the same despite the facts that retailers provide far more plastic bags (1) than paper carryout bags. Paper carryout bags are bigger, thicker and heavier. Tipping fees are based on weight.
http://www.ciwmb.ca.gov/Publications/LocalAsst/Extracts/34004005/ExecSummary.pdf.

B. What are the environmental impacts of increasing the number of paper carryout bags in landfills? Cite substantial evidence and credible verifiable sources.

This is discussed in an Environmental Paper Network ("EPN") report: "The State of the Paper Industry." www.environmentalpaper.org/stateofthepaperindustry/confirm.htm. The EPN report states (at page v):

> If paper is landfilled rather than recycled, it decomposes and produces methane, a greenhouse gas with 23 times the heat-trapping power of carbon dioxide. More than one-third of municipal solid waste is paper, and municipal landfills account for

> 34 percent of human related methane emissions to the atmosphere, making landfills the single largest source of such emissions. The U.S. Environmental Protection Agency has identified the decomposition of paper as among the most significant sources of landfill methane.

An article in the *Ecocycle Times* states:

> Methane is produced in a landfill when the organic materials like paper, yard debris, wood, and food waste undergo anaerobic decomposition—a process that shouldn't be confused with the oxygen-dependent aerobic process that breaks downs the fruit rinds and leaves in your backyard composter. As a result of anaerobic decomposition, the methane gas seeps to the surface, enters the lower atmosphere, and in concert with carbon dioxide and other gases, creates a warming blanket that retains solar infrared radiation and warms the earth.

http://www.ecocycle.org/TimesSpring2002/NewEvidence.cfm

20. <u>Environmental impacts of reusable bags.</u>

What would be the environmental impacts of an increased number of reusable bags? Cite substantial evidence and credible verifiable sources.

Like any other manufactured product, reusable bags have a negative environmental impact. The following information and metrics must be addressed in the EIR:

- Metrics of consumption of nonrenewable energy to produce reusable bags. (An article in the *Wall Street Journal* ("An Inconvenient Bag," Sep 26, 2008, states: "Many of the cheap, reusable bags that retailers favor are produced in Chinese factories and made from nonwoven polypropylene, a form of plastic that requires about 28 times as much energy to produce as the plastic used in standard disposable bags and eight times as much as a paper sack, according to Mr. Sterling, of Natural Capitalism Solutions."
  http://online.wsj.com/article/SB122238422541876879.html
  (The *Wall Street Journal* website requires a password. STPB will provide a copy of the article if requested.)

- Metrics on emissions of greenhouse gases in the production of reusable bags.

- Metrics on consumption of water to produce reusable bags.

- Metrics on creation of acid rain (atmospheric acidification) in the production of reusable bags.

- Metrics on creation of negative air quality in the production of reusable bags

- Metrics on water pollution or eutrophication in the production of reusable bags.

- Metrics on the consumption of nonrenewable energy to transport reusable bags. (Most reusable bags are made in China and have to be shipped to the United States and then transported by truck. Reusable bags are more voluminous and heavier than plastic bags, thereby requiring more diesel fuel to transport.)

- Recyclability of reusable bags. (Most reusable bags are made from nonwoven polypropylene, which is not recyclable.)

- Metrics on solid waste production caused by disposal of reusable bags.

- Metrics on the extent to which reusable bags are actually reused. (The above-mentioned *Wall Street Journal* article states: "Earlier this year, KPIX in San Francisco polled 500 of its television viewers and found that more than half -- 58% -- said they almost never take reusable cloth shopping bags to the grocery store."

We can't always anticipate what we will need.
Sometimes we need carryout bags as well as reusable bags.

21. Environmental impacts of lead and other toxics in reusable bags

A. To what extent are lead and heavy metals present in reusable bags? Cite substantial evidence and credible verifiable sources.

B. What is the environmental impact of the presence of such amounts of lead and heavy metals in reusable bags? Cite substantial evidence and credible verifiable sources.

C. Has the County determined whether any of the reusable bags that it has been providing to the public contain lead or heavy metals?

D. What steps must the County take to *ensure* that all retailers covered by the proposed ordinance comply with Health and Safety Code §§25214.11-25214.26, including obtaining Certificates of Compliance?

www.dtsc.ca.gov/toxicsinpackaging/index.cfm

www.dtsc.ca.gov/ToxicsInPackaging/upload/TIP_FS_Bags_Totes.pdf

22. Hygiene of reusable bags

A. To what extent are reusable bags actual or potential carriers of dangerous or unhealthy bacteria? Cite substantial evidence and credible verifiable sources.

www.cpia.ca/epic/media/default.php?ID=2054

www.cpia.ca/files/files/A_Microbiological_Study_of_Reusable_Grocery_Bags_May20_09.pdf

http://network.nationalpost.com/np/blogs/theappetizer/archive/2009/05/20/back-to-plastic-reusable-grocery-bags-may-pose-public-health-risk.aspx

B. There is substantial evidence that some reusable bags are manufactured in grossly unhygienic conditions, including an eyewitness report with photographs in the Scottish Sunday Express on February 10, 2008. This must be addressed in the EIR. What steps will the County take to prevent such bags from being distributed, sold or used in the County? See:

http://www.google.com/url?sa=t&source=web&ct=res&cd=2&ved=0CBMQFjAB&url=http%3A%2F%2Fwww.carrierbagtax.com%2Fdownloads%2FSunday%2520Express%252010%2520feb.pdf&ei=KNMrS7KPFouMswPJ5oHXAw&usg=AFQjCNHGZR6R2PgPA-1msv30-xKmo3-ZMA&sig2=4z2ove15MZSTeVZaFealDw

C. Plastic bag (1) manufacturers have obtained "No Objection Letters" from the U.S. Food and Drug Administration, permitting plastic bags (1) including supermarket/grocery checkout bags to come into contact with food. To what extent have reusable bag manufacturers complied with FDA regulations and standards regarding food contact?

Cite substantial evidence and credible verifiable sources.

www.fda.gov/Food/FoodIngredientsPackaging/FoodContactSubstancesFCS/default.htm

Hygiene of reusable bags is an important issue
that must be addressed in the EIR.

23. <u>The reusability and reuse of plastic bags.</u>

A. STPB objects to the use of the term "single-use" plastic bags. Plastic bags (1) are reused for many purposes such as bin liners and animal waste pickup. The metrics of plastic bag (1) and paper carryout bag reuse must be factored into all aspects of the EIR. Cite substantial evidence and credible verifiable sources.

B. If plastic bags (1) are not available for reuse, will consumers buy plastic bags to replace them for bin liners and other uses? This would reduce any environmental benefits from banning plastic bags. Cite substantial evidence and credible verifiable sources. See: http://archives.tcm.ie/irishexaminer/2003/01/29/story651891687.asp

24. <u>The alternative of improving plastic bag litter prevention and cleanup</u>

A. As an alternative to banning plastic bags (1), what changes can the County make to improve plastic bag (1) litter *abatement* in the County?

B. As an alternative to banning plastic bags (1), what changes can the County make to improve plastic bag (1) litter *cleanup* in the County?

C. As an alternative to banning plastic bags (1), what changes can the County make to improve plastic bag (1) litter cleanup at the *litter hotspots* in the County?

25. The Los Angeles County "Plastic Litter Patrol" would make banning plastic bags unnecessary

In 2001, STPB's counsel Stephen Joseph and a colleague developed a "Green Patrol" concept in San Francisco. The sole purpose of the Green Patrol was to clean up litter and graffiti in North Beach. The San Francisco Department of Public Works hired personally for the Green Patrol and Mayor Brown launched the program in 2001. The program was successful and proved the concept, but ultimately it was the victim of budget cuts. Stephen Joseph received a commendation from the Board of Supervisors. www.californians4epr.com/Green_Patrol_resolution.pdf

The Green Patrol consisted of two full time San Francisco Department of Public Works employees with special T-shirts and baseball caps and a dedicated van with the Green Patrol logo. The principle was that they would become familiar with the area and take pride in keeping it clean. They would also be accountable. North Beach went from litter and graffiti-strewn to litter and graffiti-free virtually overnight and remained that way as long as the Green Patrol existed.

STPB is *considering* creating a Los Angeles County Plastic Litter Patrol ("PLP") along the lines of the San Francisco Green Patrol. PLP will be a separate entity. The PLP will manage the operation and employ its own personnel. Plastic bag, film and other plastic product manufacturers and retailers will make direct payments to the PLP. No government funds or personnel will be used.

The PLP will employ full-time personnel to search the County on a regular basis looking for littered plastic bags (1,2), plastic film, plastic packaging and (possibly) plastic bottles. The search locations will include the coast and beaches, streets, highways, stormwater drains, creeks, rivers, landfills, and trees, etc. They will clean the cleanable bags and film (and possibly bottles) and deposit them in store plastic bag recycling bins or deliver them directly to recyclers such as Trex, AERT, Hilex and TieTek.

The frequency of visits will be reviewed after determining the rate of the accumulation of such litter. The objective will be to keep the areas clean of all plastic bags (1,2), plastic film, plastic packaging, and possibly plastic bottles. The PLP will perform special cleanups of storm drains, creek and rivers following storms.

The PLP will maintain a website at www.plasticlitterpatrol.com. Photographs of "before and after" cleanups will be posted. Anyone noticing plastic bags or film caught in tree or at any other location will be able to report them by e-mail to the PLP and personnel will be sent to remove them.

The PLP will work in conjunction with the County "adopt-a" programs and the CalTrans adopt-a-highway program.

http://adopt-a-highway.dot.ca.gov.

The PLP will submit its cleanup plan to the County for comments. The PLP is not

dependent on the County's cooperation.

It is easy to keep the County free of plastic bag (1,2) litter without banning bags. All that is required is to stop talking about the problem and actually do something about it. Banning a product to prevent litter is an absurd overkill solution to an easily solvable problem.

The EIR must take the PLP into account in determining the environmental impacts of the proposed ordinance. If the County is truly incapable of cleaning up plastic bags as it claims, the industry will take matters into its own hands.

San Francisco Mayor Willie Brown cuts the ribbon launching the Green Patrol in 2001.

The tarnished Italian flags on the North Beach lamp posts were eventually restored by the Green Patrol.

The first San Francisco Green Patrol. Note the tarnished Italian flag painted on the North Beach lamp post. The Green Patrol kept the area 100% litter free on a daily basis.

26. <u>The alternative of legislating mandatory best practices for stores.</u>

What would be the environmental benefits of legislating the following program instead of the proposed ordinance?

- Store cashiers or baggers would be *required by law* to ask customers purchasing a single item whether they need a carryout bag. Note that Pub. Res. Code §42252(e) requires stores (as defined) to make reusable bags (as defined) available to customers.

- Double bagging of plastic bags (1) and paper carryout bags would be *prohibited by law*.

- Store cashiers or baggers would be *required by law* to ask all customers to return plastic bags (1,2) to the store for recycling and point out the location of plastic bag recycling bins. This should result in a huge increase in the number of plastic bags (1,2) deposited in bins by consumers. Note that Pub. Res. Code §42252(b) requires stores (as defined) to make plastic bag recycling bins available to customers.

- Uniform signage and a logo would be *required by law* for all plastic bag recycling bins.

- See photograph of Tesco recycling bin at: www.californians4epr.com/Waste-reduction.html. Bins as prominent and well-marked as the Tesco bins should be placed in stores in the County.

- Encourage stores to fill the maximum item count or weight per carryout bag.

- Encourage stores not to give carryout bags to customers to hold a single item, subject to appropriate exceptions.

- Encourage stores to ensure that the required plastic bag recycling bins are placed in highly visible locations and clearly marked with a uniform logo.

- Encourage stores to print their logo and commercial messages on only one side of plastic bags (1) and use the opposite side only for prominent messages to request and encourage customers to use the plastic bag recycling bins.

- Encourage stores to ask customers to bring *clean* plastic (1,2) and paper carryout bags back to the store for future shopping rather than asking for new bags. Plastic bags (1,2) can be reused many times and can fit into a glove compartment when not in use. (See the wording on the Tesco bin: www.californians4epr.com/Waste-reduction.html.)

The major British stores achieved a 48% reduction of plastic carryout bags in three years based on best practices. (There is some disagreement about how the calculation of the percentage but the raw numbers speak for themselves: 870 million plastic bags in May 2006; 418 million plastic bags in May 2009.) American stores can achieve similar results.www.retail-week.com/in-business/responsible-retail/grocers-slash-plastic-bag-usage-by-48/5004605.article.

27. The alternative of legislating mandatory percentage reductions for stores.

As an alternative to the ordinance, what would be the environmental benefits of legislating mandatory percentage reductions of the number of plastic bags (1) and paper carryout bags provided by stores? For example, stores as defined in Pub. Res. Code §42250(e) might be required to reduce such bags by x% using 2011 as the baseline and 2013 as the goal. The goal could be enforced by sanctions.

Under Pub. Res. Code §42252(d) and California Integrated Waste Management Board regulations, store (as defined) are required to report plastic bag (1) usage. See: www.ciwmb.ca.gov/RuleArchive/2008/PlasticBags/default.htm. The collected data is being made available to the County. The County could legislate a similar reporting requirement for paper carryout bags at stores as defined in Pub. Res. Code §42250(e).

28. Cumulative environmental impacts.

What are the cumulative environmental impacts of the proposed ordinance? Quantify. Cite substantial evidence and credible verifiable sources.

CEQA Guidelines §15130(a) states that an EIR "shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a)(3).

CEQA Guidelines §15065(3) states that an EIR must be prepared if "the project has possible environmental effects that are individually limited but cumulatively considerable." CEQA Guidelines §15065(3) states that "cumulatively considerable" means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

CEQA Guidelines §15355 defines "cumulative impacts" as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines §15355(b) states that "[c]umulative impacts can result from individually minor but collectively significant projects taking place over a period of time."

In *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, the court stated:

> At 114: Cumulative impact analysis is necessary because the full environmental impact of a proposed project cannot be gauged in a vacuum. [Footnote] One of the most important environmental lessons that has been learned is that environmental damage often occurs incrementally from a variety of small sources. These sources appear insignificant when considered individually, but assume threatening dimensions when considered collectively with other sources with which they interact.
>
> At 118: From *Kings County* and *Los Angeles Unified*, the guiding criterion on the subject of cumulative impact is whether *any* additional effect caused by the proposed project should be considered significant given the existing cumulative effect. (Emphasis added.)
>
> At 119: However, under CEQA section 21083, under the Guidelines section 15355 definition of cumulative impacts, and under the *Kings County/Los Angeles Unified* approach, the need for an EIR turns on the impacts of *both* the project under review and the relevant past, present and future projects. [Emphasis by court.]

Based on the foregoing, the EIR must consider the impact of the proposed County ordinance together with the following projects:

- The San Francisco plastic bag (1) ban ordinance adopted in 2007.
- The City of Los Angeles resolution to ban plastic bags (1) in 2010 if no plastic bag fee bill is enacted by the state by that time.
- The City of Malibu plastic bag (1) ban ordinance adopted in 2008.
- The City of Manhattan Beach plastic bag (1) ban ordinance adopted in 2008 (if it is not invalidated).
- The City of San Jose proposed plastic bag ban (and probable paper bag fee).
- The Palo Alto plastic bag (1) ban ordinance adopted in 2009.
- The proposed City of Santa Monica plastic bag (1) ban ordinance.
- The proposed City of Berkeley plastic bag (1) ban ordinance.
- All plastic bag (1) ban ordinances and reduction projects that are being considered or may be or have been implemented in California and outside California.

In *San Franciscans for Reasonable Growth v. City and County of San Francisco*, (1984) 151 Cal.App.3d 61, 75, the court stated:

> [W]e must reject the argument that, because some of the projects under review might never be built, it was reasonable for the Commission not to consider any of them in its cumulative analyses. Such argument is without merit. The fact that the EIR's

subject project itself might be built, rather than the fact that it might not be built, creates the need for an EIR. Similarly, the fact that other projects being reviewed are as close to being built as the subject project makes it reasonable to consider them in the cumulative analyses.

REQUEST FOR NOTICES

I request that you send me by e-mail and regular mail any future public notices regarding the proposed ordinance and the EIR.

CONTACT PERSON

I am the designated contact person for the Save The Plastic Bag Coalition.

CONCLUSION

STPB is available to provide information, documents, contacts, and research regarding the EIR. We want to help in every possible way to ensure the whole truth is described and disclosed to the Board of Supervisors and the voters.

All rights are reserved, including the right to challenge the validity of a plastic bag ban based on the preemptive effect of Pub. Res. Code §42250-57. See: http://gov.ca.gov/pdf/press/ab_2449_sign.pdf.

Nothing is waived by any statement or omission herein. Strict compliance with all the applicable provisions of CEQA is hereby demanded.

Dated: January 4, 2010

STEPHEN L. JOSEPH
Counsel, Save The Plastic Bag Coalition

Surfrider Foundation
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San Clemente, CA 92674
www.surfrider.org

County of Los Angeles Department of Public Works
Attn: Mr. Coby Skye
Environmental Programs Division
900 South Fremont Avenue, 3rd Floor
Alhambra, CA 91803
Sent via e-mail (cskye@dpw.lacounty.gov)

Re: Ordinance to Ban Plastic Carryout Bags in Los Angeles County- Initial Study and EIR Scoping Documents

Dear Mr. Skye,

On behalf of the Surfrider Foundation ("Surfrider") and our over 55,000 members, we would like to thank you for providing us with the opportunity to submit comments on the Los Angeles County's proposed Environmental Impact Review (EIR) and Initial Study for an ordinance to ban plastic carryout bags. Through our collaborations with environmental groups and local government entities, as well as our own "Rise Above Plastics" campaign, The Surfrider Foundation continuously works to address what is potentially the most harmful threat to our oceans today – the ubiquitous and destructive presence of ocean litter polluting our marine environment.

Plastic currently comprises 60 to 80 percent of all marine debris, and 90 percent of floating debris.[1] The prevalence of this plastic pollution results in both direct and indirect negative impacts to marine wildlife. Seabirds, sea turtles, fish, and marine mammals often ingest marine debris after mistaking it for food, or become entangled in the debris which can suffocate them or interfere with their growth. [2] Other substantial impacts include ecosystem alterations, clean-up

[1] Resolution of the California Ocean Protection Council on Reducing and Preventing Marine Debris, (February 8, 2007, November 20, 2008) Implementation Strategy to Reduce and Prevent Ocean Litter. http://resources.ca.gov/copc/

[2] U.S. Environmental Protection Agency, Marine Debris impacts. (Available at http://www.epa.gov/owow/oceans/debris/md_impacts.html)

costs, and aesthetic impacts which may affect California's tourism industry. Reducing the amount of single-use plastic grocery bags, 6 billion of which are used each year in Los Angeles County alone[3], will save the County money in clean-up costs as well as help us to achieve our mission of protecting our oceans, waves, and beaches. We are extremely supportive of Los Angeles County's initiatives to reduce the consumption of single-use plastic carryout bags, and we have included in this comment letter constructive suggestions regarding the Initial Study and EIR Scoping document for the proposed bag ban.

The Proposed Ordinance Should Be Expanded to Include a Greater Number of Stores

The proposed ordinance would only apply to stores within the County that (1) meet the definition of a "supermarket" as found in the California Public Resources Code, Section 14526.5; (2) are buildings that have over 10,000 square feet of retail space that generates sales or use tax pursuant to the Bradley-Burns Uniform Local Sales and Use Tax Law and have a pharmacy licensed pursuant to Chapter 9 of Division 2 of the Business and Professions Code. The initial study also indicates that the County is considering extending the jurisdiction of the proposed County ordinance to stores within the unincorporated territories of the County that are part of a chain of convenience food stores, including franchises primarily engaged in retailing a limited line of goods that includes milk, bread, soda, and snacks, that have a total combined area of 10,000 square feet or greater within the County.

We urge the County to expand the jurisdiction of the proposed ordinance to include chains of convenience stores and franchises, as these establishments contribute significantly to the level of plastic bag pollution in Los Angeles County. This would be similar to the plastic bag ban enacted in San Francisco, which in May 2008 was broadened to include not only large grocery stores and pharmacies, but also chain pharmacies with 5 or more locations in the city[4]. Furthermore, we believe that the ordinance should also include retail stores in addition to supermarkets, as well as facilities that have less than 10,000 square feet of retail space. Enacting a ban on plastic bags which will cover a broad range of stores will result in a further reduction of clean-up costs to the County of Los Angeles ("the County") and the state of California, and go further than the currently proposed policy towards protecting marine life and the ocean environment.

The County Should Establish More Ambitious Program Objectives

The program objectives discussed in the initial study, although capable of producing a positive environmental impact, are not strong enough to encourage an adequate level of plastic carryout bag litter reduction and should be strengthened to include more ambitious goals that will

[3] Ordinances to Ban Plastic Carryout Bags in Los Angeles County, Initial Study. Contribution of Plastic Carryout bags to the litter stream.

[4] http://www.sfgov.org/site/uploadedfiles/bdsupvrs/ordinances07/o0081-07.pdf

more effectively support the policies behind the proposed ordinance. Included in the list of objectives are for the county to "Reduce the Flood Control District's cost for prevention, clean-up, and enforcement efforts to reduce litter in the county by $4 million," and "Reduce Countywide disposal of plastic carryout bags from landfills by 50 percent from 2007 annual amounts." Both of these objectives could be more readily achieved, and even exceeded, if the following other objectives were strengthened:

- Reduce the Countywide consumption of plastic carryout bags from the estimated 1,600 plastic carryout bags per household in 2007, to fewer than 800 plastic bags per household in 2013.

- Reduce the Countywide contribution of plastic carryout bags to litter that blight public spaces Countywide by 50 percent.

If the ordinance enacted includes prohibiting large supermarkets and retailers from distributing single-use plastic bags, then these objectives would be easily achieved and further actions to reduce plastic bag litter may not be pursued by the state or individual distributors. Setting higher goals will encourage a more timely reduction of plastic litter, and will result in a corresponding decrease in cleanup costs to the County as well as a decrease in the adverse environmental impacts. Therefore, we urge the County to strengthen these objectives by aiming for the Countywide contribution of plastic carryout bags to be reduced by 90%, rather than the stated 50%. Furthermore, the County should aim to reduce the Countywide consumption of plastic carryout bags to fewer than 400 per household annually, rather than the less ambitious 800 bags per household contemplated by the current objectives.

Another of the program objectives is to "Substantially increase awareness of the negative impacts of plastic carryout bags and the benefits of reusable bags, and reach at least 50,000 residents (5 percent of the population) with an environmental awareness message." Educating the public about this issue is absolutely essential, and should be a great priority with regards to this proposed ordinance. Few citizens are aware of the numerous negative biological impacts caused by plastic bag pollution, and even fewer are likely aware of great costs to themselves, as tax-payers, that must go towards the clean-up of this pollution. We therefore encourage the County to aspire to reach at least 100,000 residents, if not more, with an environmental awareness message. We believe that this will help substantially in the furtherance of the County's other goals and objectives.

Biological Impacts of Single-Use Plastic Carryout Bags

We urge the County to take into consideration the following additional information, and to enact strict plastic bag prohibitions in order to benefit not only the citizens of the County and the State, but the United States as a whole.

Increased Dependency on Fossil Fuels

It is estimated that about 1 trillion of these plastic bags are used each year world-wide. Over 100 billion of these petroleum-based bags are used in the United States annually and in addition to the harm caused to the marine environment, the production of these bags requires 12 million barrels of oil per year.[5] Given the difficult state that our economy is in, and the mounting crisis regarding the limited supply of fossil fuel energy available to us, decreasing the unnecessary use of the petroleum- based plastic bags will help to reduce the United States' dependency on foreign oil supplies and serve as a step on the way towards utilizing clean, renewable energy resources.

Harms Caused to Marine Life

It is estimated that more than 267 species have suffered a negative impact as a result of plastic marine debris, and it is estimated that this debris results in the deaths of thousands of marine mammals and turtles each year. Often these animals mistake the plastic (bags especially) for food, and consume the non-digestible materials[6]. One study found that out of 38 green turtles found and tested, 61 percent had ingested some form of marine debris including plastic bags, cloth, and rope or string (Bugoni et al., 2001)[7]. As described on the U.S. Environmental Protection Agency website:

> Ingestion can lead to starvation or malnutrition when the marine debris collects in the animal's stomach causing the animal to feel full. Starvation also occurs when ingested marine debris in the animal's system prevents vital nutrients from being absorbed. Internal injuries and infections may also result from ingestion. Some marine debris, especially some plastics, contain toxic substances that can cause death or reproductive failure in fish, shellfish, or any marine life. In fact, some plastic particles have even been determined to contain certain chemicals up to one million times the amount found in the water alone (Moore, C., 2002).

There are many other statistics regarding the severe negative impacts that plastic bags can cause to the marine environment, several of which are very well discussed in the initial study prepared for the proposed ordinance. We urge you to take these concerns seriously, and we emphasize how important our marine ecosystems are to all of the members of the Surfrider Foundation.

The County Should Consider a Tax or Ban on Paper Bags in Addition to Plastic Bags in The Future

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[5] http://www.healthebay.org/assets/pdfdocs/actionalerts/2007_08_27_plasticbagban/staffreport.pdf

[6] Californians Against Waste. The Problem With Plastic Bags. http://cawrecycles.org/issues/plastic_campaign/plastic_bags/problem

[7] U.S. Environmental Protection Agency. Marine Debris Impacts. http://www.epa.gov/owow/oceans/debris/md_impacts.html

One major concern of plastic bag ban ordinances, and a large part of why an EIR is being considered for this Los Angeles County Ordinance, is that some consumers will opt to use paper bags as a substitute for plastic bags, rather than use reusable bags. The Initial Study states the following: "The County anticipates that a measurable percentage of affected consumers would subsequently use reusable bags (this percentage includes consumers currently using reusable bags) once the proposed ordinances take effect. The County further anticipates that some of the remaining consumers, those who choose to forgo reusable bags, may substitute plastic carryout bags with paper carryout bags." While we recognize that evaluating the realistic environmental impacts of a plastic bag ban ordinance is essential, we believe that the county should take further measures in the future to further assure the transition to reusable bags and away from disposable, single use bagging options.

The City of Berkeley has recently proposed an ordinance that would ban the distribution of single-use plastic carryout bags at certain locations, and also place a 25 cent tax on paper bags in order to reduce the negative environmental impact of the ordinance[8]. Before declaring that the ordinance would result in no significant environmental impacts, the City released an initial study, part of which explained the following:

> Life cycle analyses of the relative environmental impacts of manufacturing and transporting paper compared to plastic single use bags reach different conclusions. Some studies conclude that paper bags have more impact than plastic[9], while a more recent study concludes that paper bags have substantially less impact than plastic[10]. The analyses differ in the specific pollutants measured, the manufacturer's location, sources of raw materials and energy, manufacturing practices, and the degree of local recycling of the product[111213]
>
> A 2005 study of various proposed plastic and paper bag levies in Scotland concludes that setting a fee on both plastic and paper bags results in improvement in all eight environmental indicators considered, because of the resulting shift to reusable bags.

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[8] City of Berkeley, Public Works Department. Proposed Bag Reduction Ordinance. http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=44530

[9] "Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks", Franklin Associate, Ltd., 1990.

[10] "Distribution in Paper Sacks", CIT Ekologik, Chalmers Industriteknik, 2000.

[11] Cadman, Evans, Holland and Boyd; AEA Technology Environment: Environment Group Research Report: Proposed Plastic Bag Levy – Extended Impact Assessment; produced for the Scottish Executive, August 2005. (www.scotland.gov.uk/publications)

[12] Fridge: "Socio-economic Impact Assessment of Proposed Plastic Bag Regulations"

[13] Alternatives to Disposable Shopping Bags and Food Service Items, Appendix N. Prepared for Seattle Public Utilities by Herrera Environmental Consultants, Inc., January 29, 2008, (http://www.seattle.gov/util/Services/Recycling/Reduce,_Reuse_&_Exchange/ProposedGreenFee/index.htm)

> There is general agreement that a shift to reusable bags has less environmental impact than any single use bag system. Therefore, to minimize possible negative impacts of conversion to paper bags, the Ordinance is designed to reduce total bag use, whether paper or plastic, and to minimize he impact of those paper bags that are used....
>
> In 2008 the City of Seattle commissioned a study of the environmental, economic and social impacts of various programs to reduce the use of single-use carryout bags[14]. As part of this study, the contractor prepared a sensitivity analysis, which predicts the shift from single use to reusable bags at various fee levels. It concluded that a fee on both paper and plastic would result in reduced bag use as follows:
>
> 60% bag reduction at 10 cents
> 70% reduction at 20 cents
> 80% reduction at 25 cents.

As this information makes clear, placing a tax on paper bags in addition to plastic could serve as an effective part of a comprehensive plan to achieve the goals that the county of Los Angeles has set out in this proposed bag ban ordinance.

Conclusion

We thank the County of Los Angeles for taking the initiative to protect our precious and valuable marine resources from the threat of plastic pollution. We are greatly concerned with the ongoing detriment to our ocean ecosystems and wasteful use of our natural resources posed by the unregulated use of plastic bags. We strongly urge the County to accept our recommendations and take into account our recommended considerations, and thank you for the opportunity to comment on this issue.

Sincerely,

Rachel E. Dorfman, Esq.
Surfrider Foundation
San Diego Chapter Executive Committee, Surfrider Rise Above Plastics Program Contact
Phone: (770) 630- 6956
Rachel@surfridersd.org

[14] Alternatives to Disposable Shopping Bags and Food Service Items, Appendix N. Prepared for Seattle Public Utilities by Herrera Environmental Consultants, Inc., January 29, 2008, (http://www.seattle.gov/util/Services/Recycling/Reduce,_Reuse_&_Exchange/ProposedGreenFee/index.htm)

APPENDIX E
KEY PERSONNEL RÉSUMÉS

MARIE C. CAMPBELL
PRINCIPAL

Ms. Marie Campbell is principal of Sapphos Environmental, Inc. She is an environmental compliance specialist with more than 20 years of experience in project management of all aspects of environmental compliance and resource management planning. As principal of Sapphos Environmental, Inc., she has served as project manager on more than 100 projects, including state and federal environmental compliance documents, technical reports, mitigation monitoring plans, resource management plans, and consensus planning efforts. During her tenure as president of Sapphos Environmental, Inc. she has overseen the firm's successful performance pursuant to 13 open-end contracts for environmental services. Typically, these projects involve coordination of a multidisciplinary team with the project design and engineering team. In addition, Ms. Campbell has extensive experience with capital improvement projects undertaken by the County of Los Angeles. Ms. Campbell has served in the role as project coordinator representing clients in the public and private sectors, including not-for-profits, on environmental compliance matters pursuant to the regulatory oversight of the California Environmental Protection Agency, Department of Toxic Substances Control.

Project Management

Since establishing Sapphos Environmental, Inc., Ms. Campbell has served as project manager on open-end contracts for environmental services, as well as numerous high-profile, complex environmental documents. Under Ms. Campbell's direction, Sapphos Environmental, Inc. has provided open-end environmental services to numerous public agencies: Caltrans, Metropolitan Water District of Southern California, Southgate Recreation and Park District, Great Basin Unified Air Pollution Control District, County of Los Angeles Chief Executive Office, County of Los Angeles Department of Public Works, County of Los Angeles Department of Parks and Recreation, and City of Los Angeles Bureau of Engineering. In the performance of services under these open-end contracts, she has managed multidisciplinary teams consisting of geologists, registered environmental assessors, health risk assessment professionals, biologists, archaeologists, paleontologists, land use planners, air and water quality specialists, acoustical engineers, traffic engineers, and civil engineers. As many as 15 simultaneous delivery orders (during a one-month period) have been managed during the course of these contract efforts. As project manager, Ms. Campbell's responsibilities included preparation of individual scopes of service for each delivery order (including schedules and estimated costs), client and project team coordination, project staffing, supervision of all work efforts, timely submission of all work products, provision of technical input and graphics for internal and external project briefings, and quality control. Ms. Campbell has managed the preparation of environmental compliance and public involvement efforts for a variety of projects where hazards and hazardous materials were a key issue:

- Long Beach Memorial Medical Center Expansion and 2010 Master Plan Environmental Impact Report (EIR)
- South Coast Golf Course (at Palos Verdes Landfill) EIR
- Victoria County Golf Course Rehabilitation EIR and Supplemental EIR
- Victoria Cricket Fields Rehabilitation EIR
- Biological Resources Technical Report, Oak Tree Report, and Expert Witness for Puente Hills Landfill EIR

- Huntington Regional Park Complex EIR (closed Landfill and active petroleum extraction field)
- Kenneth Hahn Ballfield Complex EIR (closed petroleum extraction and storage field)

Environmental Compliance

National Environmental Protection Agency / California Environmental Quality Act Documents

Ms. Campbell has prepared all types of environmental compliance documents for state and federal lead agencies, including categorical exclusions, negative declarations, mitigated negative declarations, environmental assessments, EIRs, environmental impact statements (EISes), and joint environmental documents (EIRs/EISes). Ms. Campbell served as project manager for the National Environmental Protection Agency (NEPA) input to the EIS/EIR in support of the Berth 97–109 Container Terminal Project (China Shipping I, II, and III) project at the Port of Los Angeles. Ms. Campbell also served as a strategic consultant for the EIS/EIR for the Los Angeles International Airport Expansion for all issues related to biological resources, threatened and endangered species, wetlands, and related regulatory permits. Ms. Campbell served in a similar capacity on the recently completed EIR for the 2003 Owens Lake Demonstration of Attainment for PM_{10} State Implementation Plan that addresses a 38-square mile study area requiring implementation of a variety of dust control measures. Ms. Campbell completed joint NEPA / California Environmental Quality Act (CEQA) documents for several other projects: Categorical Exclusion / EIR for the Grand Avenue Environs Project, Programmatic Negative Declaration / Environmental Assessment (Los Angeles County Department of Public Works and U.S. Army Corps of Engineers), Environmental Assessment / Mitigated Negative Declaration for the R-Line Interstate Transmission Corridor, Mitigated Negative Declaration and Environmental Assessment / Finding of No Significant Impact (FONSI) for the Bosque del Rio Hondo Riverfront Park Project (Mountains Recreation and Conservation Authority, Los Angeles County Department of Parks and Recreation, and U.S. Army Corps of Engineers, and Joint Environmental Assessment and Mitigated Negative Declaration for the Lake Mathews Ecological Reserve (U.S. Fish and Wildlife Service and The Metropolitan Water District of Southern California).

Public Outreach

Effective communication and public and agency outreach is fully integrated into the technical approach and scope of services for all work efforts undertaken by Sapphos Environmental, Inc. Ms. Campbell has successfully completed the federal government training for Negotiating, Bargaining, and Conflict Resolution. In addition, Ms. Campbell has taught at the collegiate level. Ms. Campbell has the ability to assist clients and regulatory oversight personnel in developing a strategy to address complex environmental issues and the related public outreach program to ensure that the goals of NEPA and CEQA are fulfilled. Ms. Campbell has extensive experience preparing and delivering oral presentations that effectively convey technical information in a manner that is understandable for the layperson. Ms. Campbell developed the technical training program used to train all technical staff at Sapphos Environmental, Inc. in effective listening and facilitation of community and agency meetings and workshops. Ms. Campbell has made numerous presentations to Special District Boards, County Boards of Supervisors, and City Councils and Planning Commission for a variety of high-profile capital projects.

Legal Defensibility

As principal of Sapphos Environmental, Inc., Ms. Campbell developed the standard work approach to minimize exposure to litigation and maximize protection in the limited cases where a plaintiff pursues litigation. In this approach, the project manager initiates each project with the assumption that the potential for litigation is always present. Therefore, the work plan consists of the necessary efforts to build a comprehensive and defensible administrative record to support the lead agency's decision-making process. Sapphos Environmental, Inc. has prepared numerous environmental documents, including negative declarations, mitigated negative declarations, and various types of EIRs for public- and private-sector clients under the threat of potential litigation. Of the hundreds of environmental documents prepared, legal challenges pursuant to the CEQA were ultimately filed in only nine instances. Each of these documents successfully withstood all legal challenges:

- **Hollywood Bowl Shell Rehabilitation Project and Acoustical Improvements EIR**
  Prepared for the Los Angeles Philharmonic Orchestra and County of Los Angeles Chief Executive Office
  On August 20, 2002, the appellate court upheld the adequacy of the EIR. The project was completed in 2004 for the new season.

- **Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan EIR**
  Prepared for the Great Basin Unified Air Pollution Control District
  On July 28, 1998, the superior court upheld the adequacy of the EIR. The project has been successfully completed.

- **Frank G. Bonelli Regional Park Master Plan EIR**
  Prepared for the County of Los Angeles Department of Parks and Recreation
  On February 24, 1998, litigation was withdrawn as a result of a Negotiated Settlement Agreement.

- **Longden Reservoir No. 1, Van Nuys Reservoir, Van Nuys Booster Pump Station and 24-inch Parallel Pipeline Project EIR**
  Prepared for the San Gabriel County Water District
  On October 31, 1997, the superior court upheld the adequacy of the EIR. The project has been completed.

- **Deane Dana Friendship Community Regional County Park EIR**
  Prepared for County of Los Angeles Department of Parks and Recreation
  On November 15, 1996, the superior court of the County of Los Angeles ruled to deny writ of mandate.

- **Los Angeles International Airport Master Plan EIR/EIS**
  As a subcontractor to CDM and URS, Sapphos Environmental, Inc. prepared the biological resources, threatened and endangered species, and wetlands components of the EIR/EIS.
  In December 2005, litigation was withdrawn as a result of a Negotiated Settlement Agreement.

- **Symantec Office Development 800-900 Corporate Pointe EIR**
  Sapphos Environmental, Inc. worked in concert with Century Housing's legal team on the CEQA writ and mandate against the City of Culver City. Century Housing

received their requested mitigation as compensation as a result of a Negotiated Settlement Agreement.

- **EIR for Specific Plan for the Development of State Surplus Property and Amendment to the Redevelopment Plan for the Merged Chino Development Project Area**
  Prepared for the City of Chino and the State Department of Health Services.
  Litigation was withdrawn as a result of a Negotiated Settlement Agreement. Project construction initiated January 2005.

- **Hyundai Annexation, Detachment, Sphere of Influence, Amendment, Redevelopment Area Expansion, General Plan Update for the Automotive Test Course Project EIR**
  Prepared for the City of California City and Hyundai Motor America
  Defenders of Wildlife and the Center for Biological Diversity filed a lawsuit against the U.S. Fish and Wildlife Service over permits issued to Hyundai Motor Company and California City to build an automotive test track near California City. On February 27, 2004, the lawsuit was settled in favor of the project applicant as a result of a Settled Arbitration Agreement, Case Number CV04-01073TJH (AJMx).

Regulatory Permitting

Regulatory permitting has been undertaken by Ms. Campbell in support of a variety of infrastructure projects. Ms. Campbell served as the principal-in-charge, representing the City of Carson, in after-the-fact Section 404 permit from the U.S. Army Corps of Engineers, water quality certification with the Regional Water Quality Control Board, and Streambed Alteration Agreement with the California Department of Fish and Game for the Del Amo Boulevard overcrossing. Ms. Campbell prepared the Mitigation Plan Biological Assessment for the Proposed Erosion Protection Facilities for the Valencia Water Reclamation Plant Solids Processing Plant, Los Angeles County, California, for the County Sanitation Districts of Los Angeles County. Regulatory permitting included documentation for a Pre-discharge Notification for use of Nationwide Permit submitted to the U.S. Army Corps of Engineers (including formal consultation with the U.S. Fish and Wildlife Service), Streambed Alteration Agreement submitted to the California Department of Fish and Game), and Request for Waiver of Water Quality Certification to the Regional Water Quality Control Board. Similar efforts were undertaken for two projects for the Metropolitan Water District of Southern California, emergency pipeline repairs and recurring maintenance for the Box Springs Feeder Project, and emergency debris removal and routing channel maintenance for the Weldon Canyon Creek tributary to Bull Creek at the Jensen Filtration Plant.

Hazards and Hazardous Materials

Ms. Campbell has served as project coordinator for a number of high-profile projects involving redevelopment of closed landfill and active or closed petroleum extraction fields. Most recently, Ms. Campbell served as the project coordinator representing Memorial Health Services and the City of Long Beach in relation to the proposed redevelopment of the Long Beach Memorial Medical Center Campus. Ms. Campbell worked with the clients and the Department of Toxic Substances Control to negotiate a Voluntary Clean-up Agreement that provided for assessing the Campus as three operable units. Assessment of two of the operable units was successfully completed; the investigation of the third operable unit is ongoing. Ms. Campbell served in a similar capacity, representing Meritage Partners and the County of Los Angeles, in relation to the proposed

redevelopment of the closed Palos Verdes Landfill as a public golf course. Ms. Campbell has represented public agencies, including the Mountains Restoration and Conservation Authority, the County of Los Angeles, the County Sanitation Districts of Los Angeles County, and the City of Huntington Beach in the redevelopment of brownfield properties to accommodate public benefit land uses, including the Bosque del Rio Hondo community park, Kenneth Hahn Ballfield Complex, Puente Hills Landfill, and Huntington Regional Sports Complex.

Resource Management

Ms. Campbell has extensive experience conducting Section 7 consultations on behalf of federal agencies, including the U.S. Army Corps of Engineers, USDA Bureau of Land Management, and the USDOT Federal Aviation Administration, and USDOT Federal Highway Administration with the US Fish and Wildlife Service. Similarly, Ms. Campbell has overseen the negotiation and environmental documentation related to federal Section 10(a) permits and State 2081 permits for incidental take of endangered species. All these projects have involved the preparation and implementation of long-term habitat management and conservation plans:

- Long-term Habitat Management Plan for the Red Tail Golf and Equestrian Project
- Long-term Habitat Management Plan for Los Angeles Airport / El Segundo Dunes
- Lake Mathews Fire Management Plan, Riverside County, California
- Habitat Restoration Program for Palos Verdes Blue Butterfly at Deane Dana Friendship Community Regional County Park,
- Revegetation Plan in Support of the Bosque del Rio Hondo Project
- Habitat Restoration Program in Support of the Valencia Water Reclamation Plant Solids Processing Expansion Project
- Biological Assessment, Negotiated Settlement Agreement, and Biological Resources Evaluation for the East Orange General Plan Amendment EIR

Construction Monitoring

Numerous construction monitoring projects have been supervised by Ms. Campbell to ensure compliance with mitigation programs defined in environmental compliance documents and as part of regulatory permitting programs. She prepared a construction monitoring and wildlife relocation program for the Cascades Golf Course project. Previously, she served as the in-field supervisor for construction monitoring of the repair and rehabilitation of the Orange County Feeder Extension and Related Protective Improvements, Newport Back Bay, California. Construction monitoring was required to ensure compliance with permit conditions established by the U.S. Fish and Wildlife Services (California gnatcatcher), U.S. Army Corps of Engineers (Nationwide Permit), Regional Water Quality Control Board (Water Quality Certification), California Department of Fish and Game (Streambed Alteration Agreement), and California Coastal Commission (Coastal Development Permit).

Professional History

- Sapphos Environmental, Inc., Principal, October 1992–Present
- Michael Brandman Associates, Associate, Manager of Environmental Protection Services, 1989–1992
- U.S. Army Corps of Engineers, Environmental Protection Specialist, 1984–1989

- University of California at Los Angeles, Teaching Assistant / Research Analyst, 1982–1985

Education

- Master of Arts, Geography (Geomorphology/Biogeography), University of California, Los Angeles, 1988
- Bachelor of Arts, Ecosystems: Conservation of Natural Resources, University of California, Los Angeles, 1982

Professional Affiliations

- American Planning Association
- Association of Environmental Professionals
- Association of American Geographers
- UCLA Alumni Association

Selected Publications

Campbell, Marie. 1990. *Mitigation Monitoring AB 3180: The NEPA Perspective*. California Chapter of the American Planning Association. AB 3180 Revisited Workshops. March 16, 23, and 30, 1990.

Campbell, Marie. 1990. *Mitigation Monitoring AB 3180: The NEPA Perspective*. California Chapter of the American Planning Association. AB 3180 Revisited Workshops. March 16, 23, and 30, 1990.

Campbell, M.C. 1988. Rill Erosion in a Post-Burn Chaparral Environment. Unpublished master's thesis. Department of Geography, University of California, Los Angeles.

Mackey, Ellen, R. Green, B. Newby, D. Matis, J. Bradley, D. Karavidas, and M. Campbell. 11 August 1994. *Integrating Fire Management Plans and Conservation of Endangered Species*. Poster session. Ecological Society of America Conference, Knoxville, Tennessee.

Mackey, Ellen (Metropolitan Water District of Southern California, Los Angeles), and Marie C. Campbell (Sapphos Environmental, Inc., Pasadena, CA). 1995. *Using Integrated Pest Management Approach to Ensure Conservation of Endangered Species*. Ecological Society of America Conference, Snow.

LAURA R. KAUFMAN, AICP
DIRECTOR OF ENVIRONMENTAL COMPLIANCE

Ms. Kaufman is the Director of Environmental Compliance overseeing Sapphos Environmental, Inc.'s Environmental Assessment and Planning/GIS programs. Experienced in environmental assessment and planning, Ms. Kaufman has provided technical and administrative direction and management to a multitude of projects in both the public and private sectors. In particular, she has developed a well-balanced expertise in environmental compliance for development and re-development projects, specializing in California Environmental Quality Act and National Environmental Policy Act (CEQA/NEPA) compliance.

Project Management and Oversight

Ms. Kaufman has provided consulting services meeting the standards of a wide array of southern California city, regional, state, and federal agencies, and accepted by public and private sector legal counsel. Ms. Kaufman has provided CEQA/NEPA guidance for varied development teams on large, complex and controversial projects. Past projects for which she provided consulting services include the Pasadena Art Center Master Plan for the City of Pasadena; the Malibu Bay Company Development Agreement project for the City of Malibu (12 development sites in three separate geographic areas, evaluated by site, by geographic area and cumulatively), Douglas Ranch Planning Unit #5 for the City of Simi Valley; the East Branch Extension Project for the state Department of Water Resources, and several projects for the Port of Long Beach and Port of Los Angeles; the City of Coachella General Plan Update for the City of Coachella; JMBM's high rise office building (now MGM Plaza) in Century City for JMBM and the City of Los Angeles as lead agency; several redevelopment projects for the Community Redevelopment Agency of Los Angeles (CRA/LA); the Burbank Hydrogen Refueling Station for the City of Burbank, US DOE and BP; Devers Mirage Transmission Line/Substation Improvement Project EIR for the CPUC; Fogarty Substation Project Proponent's Environmental Assessment (EA) for Southern California Edison (SCE); Tosco Oil Tank and Pipeline Relocation Project and Tank Site Redevelopment Project for Tosco; several environmental consulting for industrial and energy-related projects (both in the preparer and peer review capacity) for the Port of Long Beach; and three Sand and Gravel Mining EIRs located in Grimes Canyon for the County of Ventura, among others. Ms. Kaufman has also prepared CEQA instructional materials as project manager for the City of Los Angeles CEQA Thresholds Guide.

Ms. Kaufman has prepared or overseen preparation of joint CEQA/NEPA documents for the Federal Emergency Management Agency (FEMA), U.S. Department of Veterans Affairs (VA), US. Department of Energy (DOE), and the Army Corps of Engineers (ACOE); served as consulting project manager for the City of Los Angeles Threshold Guide under direction from the Los Angeles Department of Environmental Affairs; has participated in long range general plan, community plan, and specific plan processes; and has provided development counseling regarding local government zoning and permitting requirements.

The following list is a sampling of Ms. Kaufman's project experience in various development sectors:

Capital Improvement/Educational/Institutional

- Martin Luther King, Jr. Medical Center Campus Redevelopment, Willowbrook, CA.
- County of Los Angeles Data Center, Downey, CA.

- Los Angeles Unified School District (LAUSD) 9th Street K-8 Span School Redevelopment, Los Angeles (City Center), CA.
- Art Center College of Design Development Master Plan EIR, Pasadena, CA.
- West Los Angeles College Master Plan EIR, Los Angeles, CA.
- Los Angeles Unified School District, Ambassador Hotel Conversion SEIR, Los Angeles, CA.
- VA Sepulveda Buildings Renovation (Veterans Housing) MND/EA, Los Angeles (Sepulveda), CA.

Energy/Industrial

- CPUC/SCE Devers Mirage Transmission Line/Substation Improvement Project MND. Palm Springs, CA.
- SCE Fogarty Substation Project PEA, Lake Elsinor, CA.
- Port of Long Beach On-call Master Services for CEQA/NEPA Peer Review (various projects including pier/terminal improvement projects, bridges, tank farm/storage facilities), Long Beach, CA.
- Port of Long Beach On-call Master Services for CEQA/NEPA Document Preparation (various projects including pier/terminal improvement projects, aggregate and cement import facilities, rail upgrades), Long Beach, CA.
- Port of Los Angeles On-call Master Services for CEQA/NEPA Document Preparation (various projects including pier/terminal modification/upgrades), Los Angeles, CA.
- Port of Los Angeles San Pedro Waterfront Economic Analysis, Los Angeles, CA.
- Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) EIR, SCAG region, Southern California, CA.
- Tosco Oil Tank and Pipeline Relocation Project and Tank Site Redevelopment Project Entitlement and CEQA counseling, Los Angeles County, CA.
- US DOE, BP, Chrysler & Burbank Hydrogen Fuel Station MND/EA, Burbank, CA.

Water Resources

- CA DWR Lake Perris Dam Renovation Project EIR/EIS, Perris, CA.
- Las Virgenes Municipal Water District (various CEQA projects, including recycled water pipeline extensions and pump stations, Unincorporated Los Angeles County, Calabasas and Los Angeles, CA.

Plans/Planning/Entitlement Application/Sustainability

- City of Coachella General Plan EIR, Coachella, CA.
- Port of Los Angeles Sustainability Plan, Los Angeles, CA.
- Port of Los Angeles Sustainability Plan, Los Angeles, CA. (noted above, as well)
- Baldwin Park Specific Plan and EIR, City of Baldwin Park, CA.
- Santa Clarita Valley Areawide General Plan and EIR, Unincorporated Los Angeles County, CA.
- County of Los Angeles Development Project Entitlement, Unincorporated Los Angeles County, CA.
- City of Los Angeles CEQA Threshold Guide, Los Angeles, CA.
- Holiday Harbor Courts Mixed Use Development Entitlement Applications and MND, Unincorporated Los Angeles County (Marina del Rey), CA.
- Oceana Retirement Facility Housing Project Entitlement Applications and MND, Unincorporated Los Angeles County (Marina del Rey), CA.
- *Community Development (Residential, Commercial, Parks)*
- Luxe Mixed Use Project (commercial/residential) MND, Los Angeles, CA.
- Andalusia Senior Housing Project MND, Los Angeles, CA.

- Caruso Burton Way Mixed Use Project (commercial/residential) MND, Los Angeles, CA.
- Palazzo Westwood Mixed Use Project (commercial/residential) EIR, Los Angeles (Westwood), CA.
- Constellation Place (MGM Tower) Office High-rise EIR, Los Angeles (Century City), CA.
- Sorensen County Park Gymnasium/Community Building Project EIR/EA.
- Agua Dulce Residential Project Supplemental EIR, No. LA County Unincorporated Area, CA.
- Bee Canyon Manufactured Housing Project EIR, No. LA County Unincorporated Area, CA.
- Rancho Malibu Hotel Project CEQA analysis, Malibu, CA.
- Malibu Bay Development Agreement Projects EIR, Malibu, CA.
- City of Los Angeles/US ACOE - Field of Dreams Ball Field MND/EA, Los Angeles (Bielensen Park), CA.
- Documentation for expert witness testimony (various projects, regarding environmental and planning factors affecting the valuation of land)

Professional History

- Sapphos Environmental, Inc., Director of Environmental Compliance (2009–Present)
- Environmental Science Associates (ESA), (Senior Director I) Director Community Development/Office Director Woodland Hills (2006-2009
- Envicom Corporation, Vice President and Director of Environmental Services (2000-2006)
- Christopher A Joseph & Associates (CAJA), Senior Project Manager (1999-2000)
- PCR Services Corporation, Project Manager/Principal Planner (1995-1999)
- Sikand Engineering, Project Manager (1988-1995)
- County of Los Angeles Department of Regional Planning, Associate Planner (1980-1987)

Education

- B.S., Social Science/Urban Planning, Michigan State University (1979)
- Attendance at Conferences or Seminars: AEP Conferences and Workshops, APA Conferences, UCLA Land Use Law Conference, CELSOC/ACEC and HAIC Events

Professional Affiliations and Achievements

- Member, American Planning Association (APA)
- Member, American Institute of Certified Planners (AICP)
- Member, Association of Environmental Professionals (AEP)
- Board Member, Los Angeles Chapter Association of Environmental Professionals (Channel Counties Chapter 2007, 2008) (Los Angeles County Chapter 2009, 2010)
- Moderator,.Advanced CEQA Workshop, Ventura, CA, 2008
- Evaluation Juror, California AEP statewide environmental document awards (2005, 2006)
- Lecturer for Los Angeles Chapter AEP for "California Environmental Quality Act (CEQA) Basics Workshop," 2009
- Member, Southern California Planning Congress

LAURA A. WATSON, PhD
ENVIRONMENTAL COMPLIANCE SPECIALIST

Dr. Laura Watson, environmental compliance specialist for Sapphos Environmental, Inc., holds a PhD in atmospheric chemistry, with an emphasis on computer modeling of urban air pollution. Dr. Watson also holds a master's degree in Chemistry and is a LEED Accredited Professional. Her experiences cover the broad areas of chemistry and environmental science, but her specialization is in air quality.

Since joining Sapphos Environmental, Inc., Dr. Watson has been involved in numerous California Environmental Quality Act (CEQA) projects. Most recently, she has been the project manager for a project that includes a data center facility and a specific plan for a 123-acre redevelopment project, including public participation, environmental impact report, and project-level air quality and greenhouse gas emissions technical analysis. Dr. Watson has also performed air quality impact analyses and prepared environmental documentation for several projects, including the proposed development of a 10-story courthouse building, a recreational facility, and a wind energy farm.

Before joining Sapphos Environmental, Inc., Dr. Watson served as a chemist for the South Coast Air Quality Management District (SCAQMD). Her responsibilities included preparing equipment for use at air quality monitoring stations throughout Southern California, using state-of-the-art laboratory techniques to quantify pollutants in air samples, and compiling and analyzing air quality data.

Dr. Watson focused her PhD thesis on the photochemical reactions that occur in the urban atmosphere to produce secondary pollutants, such as ozone. She developed an efficient code to describe gas-phase atmospheric reactions. This code has recently been implemented in several global atmospheric models that will be used for research purposes in the United Kingdom and the United States. Using dispersion modeling, Dr. Watson tracked the chemical evolution of air parcels traveling across the Atlantic Ocean and the European continent. In addition to her thesis and dissertation research, she also supervised undergraduate students, published several papers in scientific journals, and participated in conferences on air quality and global warming. For her undergraduate studies, Dr. Watson spent one year working in the research and development department of ICI Paints, developing water-based wood stain to comply with volatile organic compound (VOC) emission standards.

Professional History

- Sapphos Environmental, Inc., Environmental Compliance Analyst, 2008–present
- South Coast Air Quality Management District, 2008
- ICI Paints, 2002–2003

Education

- PhD, Atmospheric Chemistry, University of Bristol, Bristol, United Kingdom, 2008
- MS, Chemistry, University of Bristol, Bristol, United Kingdom, 2004

Conferences/Workshops/Training

- AEP Spring CEQA Workshop, Los Angeles, 2010
- Navigating the American Carbon World Conference, Santa Barbara, 2010
- Air & Waste Management Association's Specialty Conference: Guideline on Air Quality Models: Next Generation of Models, Raleigh, North Carolina, 2009
- Introduction to the CALPUFF Modeling System, Raleigh, North Carolina, 2009
- Introduction to AERMOD, Raleigh, North Carolina, 2009
- Navigating the American Carbon World Conference, San Diego, 2009
- International Seminar on Energy and Resource Productivity, Santa Barbara, 2008
- AEP CEQA Basics Workshop, Los Angeles, 2008
- One Planet Agriculture: Preparing for a post-peak oil food and farming future, Cardiff, Wales, 2007
- American Geophysical Union, Fall Meeting, San Francisco, 2005

Publications

- Watson, Laura. March 2009. *CEQA Approach to Addressing AB32*. Association of Environmental Professionals Interchange, Los Angeles, CA.
- Watson, L.A.; Shallcross, D.E.; Utembe, S.R.; Jenkin, M.E. 2008. "A Common Representative Intermediates (CRI) Mechanism for VOC Degradation. Part 2." In *Atmospheric Environment*, Volume 42, Issue 31, pp. 7196-7204.
- Watson, L.A. 2007. *Energy Efficiency and Production Elan Valley Case Study*. Soil Association, Bristol, UK.
- Watson, L.A.; Wang , K.Y.; Hamer, P.D.; Shallcross, D.E. 2006. "The Potential Impact of Biogenic Emissions of Isoprene on Urban Chemistry in the United Kingdom." In *Atmospheric Science Letters*, Volume 7, Issue 4, pp. 96-100.

Professional Affiliations

- Association of Environmental Professionals
- Leadership in Energy and Environmental Design (LEED) Accredited Professional
- Air and Waste Management Association

EIMON RAOOF
SENIOR ENVIRONMENTAL COMPLIANCE COORDINATOR

Ms. Eimon Raoof, senior environmental compliance coordinator at Sapphos Environmental, Inc., holds a master's degree in public policy from the University of Southern California. With more than five years of experience in the field of consulting, Ms. Raoof's experience has involved developing, evaluating, and implementing projects and plans that comply with local and national policies for both the private and public sector. Her work has included project management, environmental compliance assessments, and environmental and economic analysis for organizations in Southern California; New Haven, Connecticut; and Chicago, Illinois. Ms. Raoof has evaluated environmental events and policies as they relate to urban life and has considered methods to reduce undesired impacts. In addition, Ms. Raoof's efforts are supported by her bachelor of science degree in Environmental Engineering from Yale University. Ms. Raoof has conducted a significant amount of research pertaining to environmental compliance that has strengthened her work with environmental regulations, including the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and sustainable development.

Ms. Raoof currently serves as the Legislative Liaison for the Association of Environmental Professionals (AEP) Los Angeles Chapter board. Additionally, Ms. Raoof has collaborated with a team of consultants to develop a standards-setting environmental agenda for planning in the City of Los Angeles, specifically assessing current development practices and presenting advice on sustainable methods, standards, and implementation. Ms. Raoof has served as a liaison to various agencies during projects that required her to assess their compliance with state and national environmental policies and standards. Ms. Raoof has researched specific environmental areas of interest to contribute to programs and projects located throughout California. She has also led and provided additional support to staff conducting site assessments and evaluating potential opportunities for mediation, program, and site development.

Ms. Raoof's project management expertise and ability to plan, develop, and execute activities, and other agency events has led to the successful completion of a significant number of projects over the years. Currently, Ms. Raoof is the project manager for a wind energy project located in County of Kern, California, as well as for a project for the County of Los Angeles Department of Public works. Ms. Raoof has recently completed a project for the development of the Kroc Community Center in the City of Long Beach; a second wind energy project located in Kern County; and a school project located in Los Angeles, California. She has also successfully managed the evaluation of various project scenarios and site locations for various projects, including work with the Long Beach Memorial Medical Center and a redevelopment project for improvements at the Martin Luther King Jr. hospital facilities located in the Community of Willowbrook, in the County of Los Angeles, California. Ongoing projects in the County of Los Angeles and throughout Southern California are representative of Ms. Raoof's project management experience and have allowed her the opportunity to successfully coordinate interagency activities; complete costs analyses; write environmental, technical, and legal documents; perform environmental assessments; and continue to grow in her work and knowledge of the environmental compliance and consulting fields.

Professional History

- Sapphos Environmental, Inc., Environmental Compliance Coordinator, 2007–present
- Resource Opportunities Consulting, Consultant, 2007-2005
- Los Angeles Unified School District, Program Coordinator, 2004 – 2006

Education

- Master Public Policy, Environmental Policy, Economic Development, University of Southern California, 2007
- Bachelor of Science, Environmental Engineering, Yale University, 2004

Conferences/Workshops/Training

- U.S. Green Building Conference, Boston, MA, 2008
- Retrofitting Green, Los Angeles, CA, 2008
- Association of Environmental Professionals Advanced CEQA Workshop, Los Angeles, CA, 2008
- University of California Los Angeles Project Management Extended Learning Course, Pasadena, CA 2007
- U.S. Green Building Conference, Chicago, Il, 2007
- Association of Environmental Professionals CEQA Workshop and Advanced CEQA Workshop, Pasadena, CA 2007

Professional Affiliations

- Association of Environmental Professionals (AEP), Los Angeles Chapter Board Member, Legislative Liaison
- US Green Building Council(USGBC), Los Angeles Chapter, Member
- Western Center on Law and Poverty (WCLP), Advisory Board

TONY BARRANDA
ENVIRONMENTAL SPECIALIST

Mr. Tony Barranda is currently pursuing his PhD in Geography at UCLA, with concentrations in cultural, sociopolitical, and urban geography. He holds a master's degree in Geography, with an emphasis in transportation planning, environmental analysis, and architectural perception. Mr. Barranda is attempting to frame his dissertation around the reconfigured spatiality of the modern day airport terminal, using LAX as the basis for his research. He intends to investigate how the airport experience has changed given the heightened security measures after September 11 and to determine whether such measures have come to deter terrorist attacks and alter passenger perception of the terminal as a place. His knowledge and professional experience straddles the disciplines of geography, architecture and urban design, and urban planning. Mr. Barranda's role at Sapphos Environmental, Inc. is balanced between the preparation and the coordination of environmental compliance documents such as Environmental Impact Reports (EIRs), Mitigated Negative Declarations, Environmental Assessments, Initial Studies, and preparation of regulatory permits.

Since joining Sapphos Environmental, Inc., Mr. Barranda has been involved in numerous California Environmental Quality Act (CEQA) projects. Mr. Barranda's recent efforts as project manager have included projects for the 2008 Owens Valley PM_{10} Planning Area Demonstration of Attainment State Implementation Plan, a Right-of-Way Grant for Wind Energy Development in San Bernardino County, an adaptive reuse for Descanso Gardens, and for an Addendum EIR for the Rancho Los Amigos Medical Center. He has also been involved in various projects including a proposed interpretive center for Vasquez Rocks Natural Area Park, a proposed County of Los Angeles Fire Station, Long Beach Memorial Center Miller Children's Hospital, and policy for Marina del Rey.

Prior to joining Sapphos Environmental, Inc., Mr. Barranda served as a teaching associate at UCLA and Arizona State University. His teaching experience includes both the physical and cultural fields of geography, especially issues of urbanization, community, demography and population, climatology, biogeography, and geology. He also served as book review editorial assistant for the academic journal *Ethics, Place, and Environment*. During his master's work, Mr. Barranda took an internship with the City of Phoenix, Water Services department, analyzing water and sewer coordinates to update the city's geographic information system (GIS) database. His master's thesis evaluated the architectural perceptions of the historic Art Deco District in Miami Beach, Florida, comparing architectural perceptions by residents and aesthetic practitioners working in the city. Mr. Barranda also had the opportunity to study the historical and geographic contexts of the British Landscape during his study abroad experience at the University of Oxford.

Professional History

- Sapphos Environmental, Inc., environmental specialist, 2006–present
- UCLA, undergraduate advisor, College of Letters and Science, 2005–2007
- UCLA, teaching associate, Department of Geography, 2004–2005
- UCLA, graduate research assistant and book review editorial assistant, 2003–2004
- Arizona State University, research and teaching assistant, Department of Geography, 2001–2003

Education

- PhD (in progress), Geography, University of California, Los Angeles, 2003–present
- MA, Geography, Arizona State University, Tempe, Arizona, 2001–2003
- BA, Geography and Psychology, University of Texas, Austin, Texas, 1996–2001

Conference Presentations

- Transgressing the Airport Terminal: Are We There Yet? Presented at the 101st Annual Meeting of the Association of American Geographers, Denver, Colorado, April 2005.

- Places of Remembrance: American Commemoration of the Jewish Holocaust. Presented at the 100th Annual Meeting of the Association of American Geographers, Philadelphia, Pennsylvania, March 15, 2004.

- Cracking the Architectural Codes of Miami Beach: Postmodern Space and Place. Presented at the 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, March 4–8, 2003.

- A Regression Model of Passenger Boardings at Light-Rail Stations in the U.S. Presented at the 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, March 4–8, 2003 (with M. Kuby and C. Upchurch).

- Combining Raster and Vector Data Models for Generating Mutually Exclusive Network-Based Service Areas. Presented at the 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, March 4-8, 2003 (with C. Upchurch, M. Kuby, and M. Zoldak).

- Stratified Architectural Preferences: Sense of Place in Miami Beach. Presented at the 4th Annual Graduate Earth, Life and Social Sciences Research Symposium, Arizona State University, February 2003.

Professional Affiliations

- Association of Environmental Professionals
- Association of American Geographers

Publications

- Kuby, M., A. Barranda, and C. Upchurch. 2004. A Regression Model of Passenger Boardings at Light-Rail Stations in the U.S. *Transportation Research Part A*, *38* (3): 223–247.

- Upchurch, C., M. Kuby, M. Zoldak, and A. Barranda. 2004. Using GIS to Generate Mutually Exclusive Service Areas Linking Travel on and off a Network. *Journal of Transport Geography*, *12*:23–33.

- Barranda, A. 2003. Essentials of Geography: Understanding Scale and Direction. *Introductory Physical Geography Laboratory Manual*, ed. E.M. Saffell. Plymouth, MI: Hayden-McNeil. 174 pp.

Stephanie W. Watt, MPP

MPP, Public Policy, University of California, Los Angeles, 2007

BA, Economics, University of California, Berkeley

Environmental Compliance Coordinator

- *CEQA compliance assessment and document preparation for Fatal Flaw Analysis, Initial Study, Environmental Impact Report, Addendum Environmental Impact Report*
- *Environmental impact analysis*
- *Project initiation, management, coordination, and facilitation of project development*
- *Coordination and facilitation of project development and meetings with regulatory agencies*

Years of Experience: 1.5

Relevant Experience:

- *Applied policy analysis*
- *Knowledge in California carbon dioxide emission and alternative fuel policies*
- *Qualitative data collection*
- *Technical report writing in support of Alternative Fuel Vehicles in California*
- *Project planning and management*
- *Client management*

Ms. Stephanie Watt, environmental compliance coordinator for Sapphos Environmental, Inc., received her master's degree in public policy in 2007 from the University of California, Los Angeles. During her graduate studies, she developed an interest in sustainability, urban planning and design, ecology, and conservation. Sapphos Environmental, Inc. has allowed her to apply her skills of environmental and policy analysis, technical report writing, and project management, and has given her exposure to the complexities of environmental regulation.

While at Sapphos Environmental, Inc., Ms. Watt has supported the work efforts for the Vasquez Rocks Natural Area Park Interpretive Center project, with the incorporation of the Escondido Canyon Road–widening effort. Her larger project work efforts include contributing environmental analysis to the Environmental Impact Report for the Kroc Community Center, helping to prepare the Marina del Rey Affordable Housing Policy Handbook, and contributing analysis to the Pacific Wind Energy Project Initial Study. Most recently, Ms. Watt oversaw the preparation of an Addendum Environmental Impact Report for LA Plaza de Cultura y Artes and the Fatal Flaw Analysis for the Avalon I Wind Energy Project. She is currently overseeing the completion of the geology and hydrology technical reports for the Pacific Wind and Avalon I Wind Energy Projects. Her work across these projects also involved preparing visibility analyses for the various wind energy projects.

Prior to working at Sapphos Environmental, Inc., Ms. Watt's interest in "green" technology brought her to work at Larta Institute as a programs associate. There, she was responsible for management of the IP Review Panels program, which involved the coordination of technology-specific professionals to provide their review and analysis of university research aiming to be patented and entered into the mainstreamed market. Her primary duties included daily communication and scheduling with clients, familiarity with the IP technologies, coordination of written materials for the review panel meetings, coordination of completed reviews, and preparation of IP Review Panel meetings.

As the project lead for her master's thesis group project, Ms. Watt performed short-term and long-term planning and management over the project's eight-month duration, including coordination with team members, the client, and faculty advisors. Her primary responsibilities included research and study of California state regulations for carbon dioxide emission reductions and alternative fuel and alternative fuel vehicle support; data collection via interview from legislative, industry, and nonprofit representatives; project scheduling and planning of the policy problem, objectives, background information, data analysis, recommendations, and criteria for choosing alternatives; and report writing.

Donna M. Grotzinger, MS

Master of Science, Environmental Science and Engineering, Virginia Tech, 1984

Master of Education, Boston College, 2000

Bachelor of Science Biology, Gannon University, 1982

Senior Environmental Compliance Coordinator

Years of Experience: 10

Relevant Experience:

- *Conduct remedial investigations and feasibility studies of hazardous waste sites*
- *Conduct predesign studies of contaminated groundwater*
- *Conduct subsurface investigations, including soil and groundwater sampling*
- *Historical records review of waste management and disposal activities*
- *Evaluation of water quality and hazards issues for CEQA and NEPA*
- *Perform postconstruction restoration assessment*

Ms. Donna Grotzinger, senior environmental compliance coordinator for Sapphos Environmental, Inc., has 10 years of experience in managing remedial investigations and feasibility studies at hazardous waste sites and in participating in environmental assessments and impact statements. Specifically, she has been involved with investigations of contamination at Superfund sites, in public-supply aquifers and former coal gasification facilities, feasibility studies for remedial action of groundwater contamination, and assessment of potential construction impacts on water quality.

Ms. Grotzinger has managed several remedial investigations at hazardous waste sites involving organic and inorganic contamination of surface and subsurface soils, surface water, and groundwater. She has been responsible for project planning with clients and federal, state, and local authorities; project scoping and development; preparation of proposals; work plans and reports; and coordination and supervision of project personnel, field activities, and subcontractors.

Ms. Grotzinger's responsibilities at Superfund sites span a wide range of activities, from project initiation to the final Record of Decision. Specifically, she has been accountable for initial project development for investigating groundwater contamination, management of soil and groundwater sampling activities and data analysis, risk assessment preparation, identification and evaluation of potential cleanup remedies, and client support for community relations and preparation of the Record of Decision. She also managed an enforcement oversight of Potentially Responsible Parties' remedial investigation and feasibility study activities and a predesign study of groundwater treatment. In addition to these federal projects, Ms. Grotzinger was responsible for oversight of subcontractors conducting remedial actions at two sites that involved removal of contaminated soils. She has also conducted a Phase I Environmental Site Assessment for a wind energy project in Kern County, California.

Ms. Grotzinger has provided technical support for preparation of environmental assessments and environmental impact statements for gas pipeline projects in the Northeast, Midwest, and Northwest, United States, providing an assessment of the impacts of natural gas pipeline installation on water resources. She has also conducted postconstruction visits to sensitive right-of-way areas to evaluate restoration progress. Ms. Grotzinger has provided technical evaluation of water quality and hazards impacts on several California Environmental Quality Act (CEQA) projects.

CRISTINA V. YAMASAKI
TECHNICAL EDITOR

Ms. Cristina Yamasaki earned a Bachelor of Arts degree in English from the University of California at Los Angeles (UCLA) in 2007 and has three years of editing and writing experience for both print and web-based media.

Prior to working at Sapphos Environmental, Inc., Ms. Yamasaki worked as the office manager for Pauley Pavilion at UCLA, where she produced a variety of documents, including memoranda, correspondences, notices, schedules, invoices, timesheets, and maintenance requests. In addition, she oversaw three student clerks and handled facility and personnel scheduling. In this capacity, Ms. Yamasaki became the primary person responsible for answering all editing and proofreading questions from office personnel.

Ms. Yamasaki's prior work also includes editorial internships at print and web-based publications based in El Segundo and North Hollywood, California, respectively. At these positions, Ms. Yamasaki researched and edited stories, reviewed products, and generated content for a web-based community. In addition, as an assistant editor for one installment in a series of print books, she was responsible for editing, proofreading, managing, and generating material. It was in these positions that she became familiar with the magazine and book publishing process, including web-based and print media.

Ms. Yamasaki also worked as a bilingual transcriber and technical editor at a UCLA research center focused on family life. There, she interpreted and transcribed discourse from more than 100 hours of video footage and produced technical documents used for a variety of university research purposes. Ms. Yamasaki oversaw the editing, proofreading, and formatting of bilingual text in line with precise technical specifications. Ms. Yamasaki is also a volunteer associate editor for the UCLA campus-based publication Bruin Business Review.

At Sapphos Environmental, Inc., Ms. Yamasaki verifies the accuracy and consistency of environmental technical reports and other materials for publication and distribution. Responsibilities include ensuring correct grammar and spelling, recasting sentences to ensure readability, formatting documents for consistency, incorporating comments made by project team members, and verifying content and references. She is familiar with the AP, MLA, and Chicago style guides. Her experience in earth and biological sciences includes university courses completed in geography, life sciences, oceanography, landscape architecture, and physics.

In addition, Ms. Yamasaki has worked on various projects as a technical editor while at Sapphos Environmental, Inc.: the proposed Vasquez Rocks Natural Area Park Interpretive Center project, which encompassed a large document consisting of more than 1,000 pages of text and high-quality graphics; the Addendum Environmental Impact Report for the LA Plaza de Cultura y Artes project in El Pueblo de Los Angeles Historic District; the proposed One Carter Avenue Project for the City of Sierra Madre, entailing a cultural resources construction monitoring report; and Initial Studies, Environmental Impact Reports, and other California Environmental Quality Act–related documentation for various projects, among others. Ms. Yamasaki has also edited and produced thousands of pages of documents, including, but not limited to, proposals and statements of qualifications, environmental documents, memoranda for the record, and monthly status reports, and has also coordinated the design and production of high-quality images and graphics.

Professional History

- Sapphos Environmental, Inc., Pasadena, California—Technical Editor
- Bruin Business Review, Los Angeles, California–Associate Editor
- UCLA Department of Recreation, Event Facilities Management Office, Los Angeles, California—Office Manager
- Savvy Miss, LLC, Los Angeles, California—Editorial Intern
- UCLA SLOAN Center on the Everyday Lives of Families, Los Angeles, California—Transcriber
- Better Nutrition Magazine / Vegetarian Times Magazine, El Segundo, California—Editorial Intern
- The Guide to Laughing Institute (Shawn Gold, Author), Los Angeles, California—Assistant Editor

Education

- BA, English, University of California, Los Angeles
- Professional Certificate in Copyediting, University of California, San Diego (in progress)

Christine Safriet
Senior Associate

Education
MBA, Anderson School at the University of California, Los Angeles
MA, Urban Planning, University of California, Los Angeles
BS, Geophysics, Boston College

Affiliations
Member, Urban Land Institute
Member, American Planning Association

Lectures + Instruction
Adjunct Faculty, SCIARC Urban Futures Initiative, Geographic Information Systems, 2008-present

Professional History
2006 – Present
Economics at AECOM
(formerly Economics Research Associates or ERA)

Christine Safriet provides real estate and urban planning consulting services to both private industry and public sector clients. Her work focuses on analyzing market support and determining the feasibility of real estate projects, as well as quantifying the fiscal and economic impacts of such projects. She is skilled in the use of mapping technology to analyze spatial and temporal changes in land use and demographics.

Ms. Safriet is a core member of the Geographic Information Systems (GIS) team in the Economics Practice at AECOM, and has wide experience in optimizing GIS applications for land use economics analysis.

Select Project Experience

Fiscal and Economic Impacts of Proposed Solar Farm, Unincorporated Imperial County
Fiscal & economic impact analysis of proposed solar facility on Imperial County (2010)

The Economics practice at AECOM was retained by a confidential client to provide net fiscal analysis of a proposed 50 megawatt, 320-acre photovoltaic solar farm on the Imperial County General Fund and select special revenue funds (fire, police). In addition, we estimated the economic impacts of annual facility operations and one-time construction to the regional economy. Christine served as the project manager for this analysis and worked closely with Amitabh Barthakur and Lance Harris, key members of the project team.

On-Call Peer Review Services, Sarasota County, Florida
Peer review of numerous fiscal neutrality impact analyses for Sarasota County Government (2009 & 2010)

The Economics practice at AECOM has been retained on an on-call basis by the Sarasota County Planning Department to provide statutorily-required peer reviews of fiscal neutrality reports (fiscal impact analyses) provided by private developers as part of the development review process. Christine has served as the project manager for three fiscal neutrality reviews provided in 2009 and 2010, for projects ranging in size from 500 to 2500 residential units, with additional hotel, retail, and commercial office components. For each peer review, AECOM reviews the developer's fiscal neutrality report and analysis and provides a memorandum presenting our observations and comments on issues related to methodology and assumptions, and how those issues may impact the analytical outcomes.

Economic Impact of USC , City of Los Angeles, CA
Impact analysis of programs and operations at University of Southern California on regional economy, 2006 baseline and 2008 update

In 2006, we were retained by University of Southern California to develop a baseline analysis of the direct, indirect, and induced economic impacts of activities at USC based on four core sets of activities and agents: students, visitors, general Universtiy operations, and capital expenditures. The analysis was published online and widely distributed to funders, local and regional politicians, and others to demonstrate the impact of the University in theon the local economy. In 2008, the University re-engaged us to complete a two-year update of economic impacts and provide a comparison to the earlier report.

Fiscal and Economic Impacts of Proposed NFL Stadium, Confidential Location
Economic & fiscal impact of proposed NFL stadium on host city and other local municipalities

We were retained by a confidential client to conduct economic and fiscal impact analyses of a proposed NFL stadium and surrounding mixed-use development on approximately 600 acres of undeveloped land in a large metropolitan area. The stadium facility is proposed as part of a larger, master-planned development that will include retail and office space and an entertainment complex. We analyzed the economic and fiscal impacts of the master plan program on the host city and surrounding municipalities under a regular season scenario and a Super Bowl scenario. The results were also compared to the impacts of the original master plan for the site, which did not include stadium uses.

Land Swap Valuation Matrix, City of Chula Vista, CA
Analysis of the incremental value of land use options at varying densities to inform pricing for a land swap between the City and private developers

We estimated the economic value of potential land-use entitlement allocations in order to assist the City of Chula Vista in evaluating a land acquisition strategy for the University Park and Research Center by entering into a land swap and/or land dedication arrangement with private landowners in exchange for potentially higher value entitlements. In the course of this assignment, we examined land market and residential sales to benchmark the relationship between use/density and values; analyzed the potential impact of land use category changes from non-residential to residential; and analyzed the incremental value impacts from density changes under alternative scenarios for the University area.

Laguna Caren Master Plan, Santiago, Chile
Market feasibility analysis and financial performance estimates for 1,800-acre mixed use master plan development

The 1,800 acre Laguna Caren site, located on the outskirts of western Santiago, is currently undeveloped grassland with several lakes and streams running from the foothills. The site is controlled by a local university

via a permanent land lease from the government, and will be developed through a public/private partnership. Overall project components will include a university campus, office, retail, entertainment, and residential land uses.

We were sought out by the private developer partner and design team (project team) to assess market demand for a wide variety of potential land uses. Our results informed the development of a market-based program for the master plan, with appropriate density and product positioning to support active use. Based on our recommendation, the project will be anchored by two recreational components (a waterpark and amphitheater) and an outlet retail center. In phase 2 of the study, we were brought back to analyze the financial performance of the master plan in order to confirm the sizing and product mix for presentation to the University and other investment partners.

Economic Strategy for Los Angeles State Historic Park (Cornfields), City of Los Angeles, CA
Market support, attendance projections, and governance options for the Los Angeles State Historic Park

ERA conducted a comprehensive market and comparable facilities review for the Los Angeles State Historic Park (also known as the Cornfields) in downtown Los Angeles. In conjunction with a physical plan provided by the park architect and a set of core values provided by the CA Department of Parks and Recreation, ERA developed park attendance projections, estimated earned revenue capacity and operating expenditures, and developed strategic options for the park's governance structure.