



Roadmap to a Sustainable Waste Management Future

*Waste Diversion Strategies in the Unincorporated Communities of
Los Angeles County, Throughout the Region, and at County
Operations*

October 2014

Prepared by:



A
Trash
Solution
for a
Green
Evolution



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Department of Public Works
Department of Regional Planning
County Arts Commission
County Office of Sustainability
Sanitation Districts of Los Angeles County

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Executive Summary

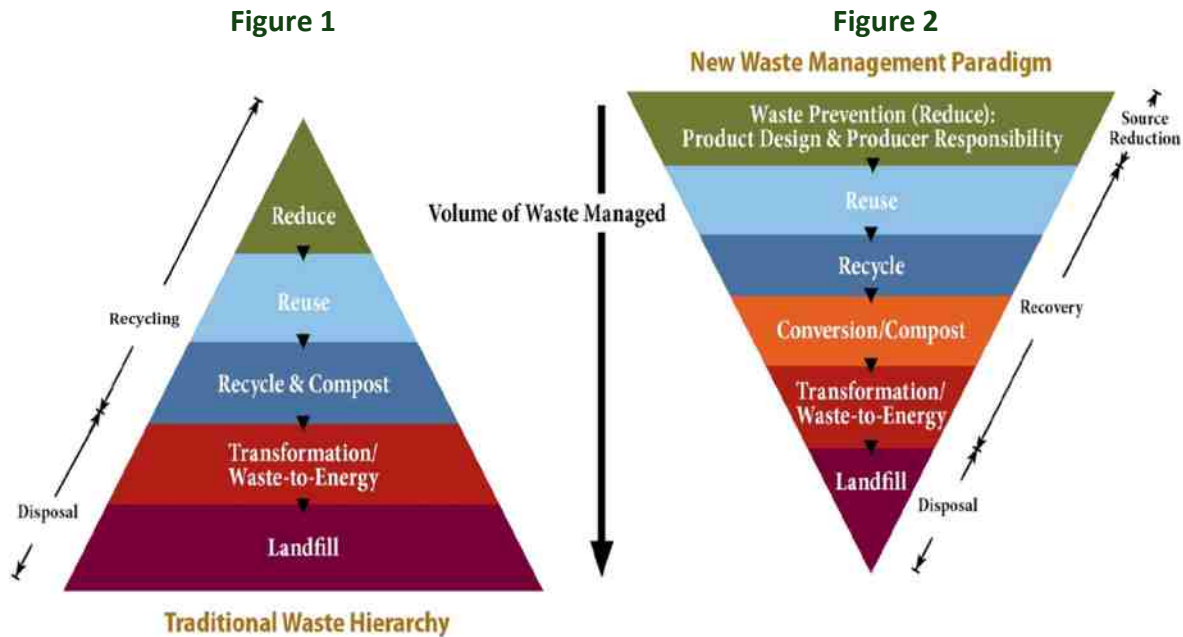
On April 22, 2014, the Board of Supervisors adopted a motion directing the development of a Roadmap to achieve a Sustainable Waste Management Future for the County unincorporated communities. The Board directed the Department of Public Works to prepare the Roadmap in coordination with the Chief Executive Office (CEO); the Office of Sustainability; and the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff's; and in consultation with the County Sanitation Districts. Accordingly, the Sustainable Waste Management Future Working Group (Working Group) was formed to collectively develop the Roadmap. The Working Group determined that in addition to unincorporated communities, the Board should consider planning for two other focus areas: Regional/Countywide and County Operations.

The Working Group identified four broad strategies for the three focus areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education. These four strategies establish a framework for the implementation of specific initiatives associated with the County Unincorporated Communities' residential and commercial sectors, the Regional/Countywide infrastructure, and County operations, which include County-owned and/or operated facilities and offices as well as County-sponsored events.

The County Unincorporated Communities have already achieved and surpassed California's 50 percent waste diversion mandate. Nevertheless, landfill space in Los Angeles County is decreasing and regulatory drivers are leading the County to initiate a comprehensive plan for a waste free future. The County must be proactive and develop innovative policies and procedures for managing waste that further reduce the County's reliance on landfills. To be Sustainable, we must be able to meet our current needs without compromising the ability of future generations to meet their needs. Achieving a sustainable waste management future takes a fundamentally new approach, which involves placing a greater emphasis on maximizing the benefits and use of materials over disposal. This in turn transforms waste from a liability into a resource, and creates a new vision to significantly reduce, and someday, eliminate waste.

The new, sustainable approach involves rethinking the manner in which the County approaches waste management. It also means rethinking what is characterized as waste and which materials might be suitable for reuse and recycling. A **Traditional Waste Hierarchy** (Figure 1) seeks to implement waste reduction measures, reuse practices, recycling and composting techniques, and waste-to-energy processing to handle a large portion of the typical waste stream. Even when this is done effectively, however, a large volume of waste is still disposed at landfills. By inverting the Traditional Waste Hierarchy and establishing a **New Waste Management Paradigm** (Figure 2), a greater emphasis is placed on maximizing the benefits and use of materials over disposal. This creates a new vision to significantly reduce, and someday, eliminate waste. As a result, an increasing amount of materials previously characterized as waste will be reduced, reused, or recycled, thereby minimizing the volume of materials remaining for disposal. An effective shift to the New Waste Paradigm for each of the three

focus areas, as well as for the four strategies and specific initiatives that are targeted for implementation, is a key guiding principle of the Roadmap.



The intent of the Roadmap is to guide the County in implementing the four strategies and supporting initiatives to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills. In doing so, the County hopes to achieve the following intermediate and long-term disposal reduction targets:

- 80 percent diversion from landfills by 2025
- 90 percent diversion from landfills by 2035
- 95+ percent diversion from landfills by 2045

Under each of the focus area strategies, the Working Group identified specific recommended initiatives, which will need to be further expanded in detailed implementation plans. Since the purpose of the Roadmap is to provide general strategies for the County to achieve a sustainable waste management future, the recommended initiatives identified in the Roadmap are not intended to be all-inclusive; and while some can be acted on right away, others will be implemented over a longer timeframe.

The Working Group recommends that, upon approval of the Roadmap by the Board, the County initiate a stakeholder process that will vet each of the initiatives from this Roadmap and solicit additional suggestions and feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and any other interested stakeholders. We recommend developing comprehensive and detailed implementation plans with a budget, timeline, and staffing plan as appropriate for each focus area. Sharing the Roadmap will also allow other entities to develop their own plans and strategies to reduce waste generation and disposal.

Introduction

Board Motion

On April 22, 2014, the Board adopted a motion directing Public Works, in coordination with the CEO; the Office of Sustainability; the Departments of Regional Planning, Internal Services, Public Health, Health Services, and the Sheriff's; and in consultation with the County Sanitation Districts, to establish a Working Group to develop a Roadmap for the Unincorporated Communities of the County to achieve a Sustainable¹ Waste Management Future. The motion directed Public Works to submit the Roadmap, including recommended strategies and disposal reduction targets, to the Board within six months.

Focus Areas

The Working Group determined that given the County's solid waste management responsibilities, including oversight for disposal capacity and regional diversion programs, a truly sustainable waste management system by necessity should encompass more than the unincorporated communities that are interspersed throughout the County. Therefore, a broader Regional/Countywide concept was developed. Additionally, it was essential to consider the footprint of County operations at both the unincorporated area and Regional/Countywide level. This resulted in three recommended focus areas: (1) County Unincorporated Communities, (2) Regional/Countywide, and (3) County Operations.

Under State law (Assembly Bill 939, 1989, as amended), each County is responsible for identifying a minimum of 15 years of estimated disposal capacity on a countywide basis. Providing regional leadership on sustainability is important to assist the County in continuing to assure the long-term waste disposal needs of the County. To account for population and economic growth as well as diminishing landfill capacity over time, implementation of effective policies aimed at reducing waste generation and boosting diversion from landfills is critical to meeting this goal. Since the Unincorporated Communities account for only ten percent of the County's total population, encouraging other jurisdictions and public agencies to make use of the recommendations developed in this Roadmap will further reduce Countywide waste disposal, and thereby reduce the need for future regional disposal capacity.

It is also important to improve coordination between County departments for waste reduction and recycling programs, clearly identify roles and responsibilities, and promote a consistent message in County operations, where feasible. In this way, the County can demonstrate sustainable practices at County operations and provide a model for County constituents.

¹Roadmap terms are defined in Appendix A: Definitions

Strategies

The Roadmap's focus areas include strategies and initiatives to reduce waste and divert material from landfills. The initiatives include a mix of "upstream" activities that identify ways to keep materials out of the waste stream entirely and "downstream" activities that sustainably manage materials that are currently going to landfills. Another critical strategy involves outreach and education related to creating a sustainable waste management future. The strategies also provide methodologies to measure the results of the programs and services, facility and infrastructure improvements, and outreach and education opportunities. The four strategies of the Roadmap are:

- Strategy 1: Programs and Services – *Develop, enhance, and expand high-quality programs and services to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at landfills.*

Quality programs and services are essential components to reducing waste. The County has initiated and maintains a number of highly successful and award-winning waste reduction, recycling, composting, conversion, and special waste programs and services. These programs and services have helped the County unincorporated communities meet and surpass the State's 50 percent waste diversion mandate. In order to end dependence on landfilling in the long-term and thereby ensuring a sustainable waste management future, the Roadmap's initiatives need to be enhanced and expanded while simultaneously identifying opportunities to develop new programs and services. The programs and services initiatives will be broken down and discussed for each of the focus areas described above.

- Strategy 2: Measuring Results – *Use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education in order to strive for continuous improvement and encourage innovation.*

Measurement is a key to success. It can provide understanding of how effectively and efficiently programs and services, facilities and infrastructure, and outreach/education are meeting waste reduction objectives. A series of initiatives designed to integrate both evaluation and continuous improvement mechanisms will be recommended for each focus area.

- Strategy 3: Facilities and Infrastructure – *Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner.*

An efficient waste diversion system is essential to implementing sustainability practices and meeting the State’s 75 percent “recycling” goal. In order to divert hundreds of thousands of tons of materials currently going to landfills each year, new infrastructure and facility improvements will need to be implemented to collect, process, and divert this material to beneficial uses. This will require identifying opportunities for improvements of existing and proposed facilities and infrastructure. Additional infrastructure will also require sustainable funding streams identified by local governments and businesses, and ultimately require support from customers, ratepayers, and taxpayers in order to be successful. Each focus area has unique facility and infrastructure challenges and requirements, which will be highlighted by the recommended initiatives in the Roadmap.

- Strategy 4: Outreach and Education – *Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future.*

Education and communication are critical elements of a successful endeavor to achieve a waste-free future. Educating diverse communities will require an innovative message in multiple languages. Additionally, it is critical to educate and engage the business community, the waste industry, and other stakeholders as well as County employees in order to implement sustainable practices. The initiatives recommended for education and outreach will provide a system of continuing outreach and education.

Each focus area contains elements of all four strategies. Within each strategy the Working Group identified specific recommended initiatives that will be further reviewed, assessed, and expanded in more comprehensive implementation plans. To achieve a sustainable waste management future, the identified initiatives were designed to build on the success of existing and proposed programs and services, integrate both evaluation and continuous improvement mechanisms, support the development of necessary facilities and infrastructure, and provide effective public outreach and education.

Roadmap

The Roadmap lays out the general framework for the strategies and initiatives that the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills and actuates sustainable waste management practices, in order to reuse and divert materials that are currently discarded for their highest and best purpose, such as the creation of renewable energy. Upon approval by the Board of this Roadmap, implementation plans will be developed for each initiative, which will incorporate specific details on feasibility, costs, proposed funding, and timelines.

Interdepartmental Sustainable Waste Management Future Working Group

The Interdepartmental Sustainable Waste Management Future Working Group was initially comprised of representatives from the following County departments and special districts:

- Chief Executive Office
- County Sheriff's Department
- Department of Health Services
- Internal Services Department
- Department of Public Health
- Department of Public Works
- Department of Regional Planning
- County Office of Sustainability
- Sanitation Districts of Los Angeles County

In consideration of facilities that they operate and/or assist in managing and their role in implementing sustainability initiatives, the Department of Beaches and Harbors, County Fire Department, Department of Parks and Recreation, and County Arts Commission were also invited to participate in the Working Group. Representatives from a number of Board offices also participated and contributed to the efforts of the Working Group.

Public Works is the lead County agency advising the Board on waste management issues. It is a regional leader in resource conservation and environmental protection. Public Works and the other members of the Working Group met monthly to discuss and develop the Roadmap within the timelines established by the Board. In addition, the Working Group created four subcommittees based on the four strategies to develop the recommended initiatives for incorporation into each of the Roadmap's focus areas.

Background

The State of Waste in 2014

Approximately 2.8 million tons of trash is generated annually in the unincorporated communities of the County. Approximately Seventy percent of these materials are diverted from landfill disposal through a number of existing waste reduction, reuse, and recycling programs. These programs are summarized in Appendix B.

Los Angeles County is home to a diverse and complex system of solid waste infrastructure. Given that the forthcoming revised Los Angeles County Countywide Siting Element² extensively addresses the current state of disposal options both in and out of the County, further discussion of disposal will not be addressed in this Roadmap. This Roadmap is a fundamentally different approach that describes visionary goals for keeping materials out of the waste stream in the first place and identifying solutions for recovering resources and commodities from the materials that must be managed in a sustainable waste management system.

The solid waste industry in California continues to undergo many changes. A number of drivers are prompting these changes, including diminishing landfill capacity within the County and new legislative mandates from the State. In addition, there is a strong desire to continuously improve the quality of life and preserve the environment for current communities and future generations.

It is worth noting two of the State's landmark environmental laws that have a significant impact on the current and future State of our waste management system. The first is Assembly Bill 32 (2006), which requires every sector of the economy to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020. A substantial portion of the materials disposed in landfills are organic, and when organic material decomposes in landfills, methane, a potent GHG, is generated. Landfills, as one of the largest potential anthropogenic sources of methane, are under increased scrutiny to reduce GHG emissions. As such, the State is moving towards regulatory and legislative measures to reduce the disposal of organics in landfills. In addition, Assembly Bill 341, adopted in 2011, established a policy goal that not less than 75 percent of the waste generated in the State be source reduced, recycled, or composted by 2020.

These policy drivers will change the way in which solid waste has been traditionally managed. Since the State has not provided many tangible programs or mechanisms through which to implement these new policy changes, the County of Los Angeles is taking the initiative to

² A copy of the current draft Countywide Siting Element can be downloaded and reviewed at <http://dpw.lacounty.gov/sitingelement/>

prepare for the impending changes at the local level by anticipating the implications, developing proposals that are feasible, and collaborating with a multidisciplinary stakeholder base to vet the proposals.

County Unincorporated Communities

More than 1 million people call the unincorporated communities of Los Angeles County home. The County Unincorporated Communities comprise 114 communities spread over more than 65 percent of the County's area – approximately 2,650 square miles – and represent approximately ten percent of the total population in Los Angeles County. It also represents a culturally and ethnically diverse community. The Board is the governing body responsible for establishing policies and regulations for the County unincorporated communities.

In the County Unincorporated Communities, the County provides solid waste collection services through a diverse and complex system that includes:

- Residential Waste Collection Franchise System: Public Works administers 21 exclusive residential waste collection franchises that serve approximately 600,000 residents. Each franchise waste hauler provides waste collection, recycling, and green waste services to customers under an agreement with the County.
- Garbage Disposal Districts: Public Works administers seven Garbage Disposal Districts that provide waste collection, recycling, and green waste services to approximately 380,000 residents and businesses within the Districts. The services are provided by private waste haulers under contract with the County. Property owners within the Districts pay for these services through an assessment on the property tax rolls.
- Non-Exclusive Commercial Waste Collection Franchise System: Public Works administers a commercial franchise system that provides waste collection and recycling services to over 20,000 businesses and multifamily residential complexes outside the Districts. The services are provided by 46 private waste haulers under a nonexclusive franchise agreement with the County.
- Open Market System: Approximately 100,000 residents of County Unincorporated Communities in the northern portion of Los Angeles County continue to operate under an open market system for waste collection. Under this system, residents contract directly with the waste haulers for waste collection, recycling, and/or green waste services.
- Self-Haul: Residents and businesses also have the option to haul their own waste directly to publicly or privately owned processing and disposal facilities. Certain categories of businesses, such as landscapers, are more likely to self-haul.

The materials collected by the private waste haulers under each of the above collection systems are taken to various publicly and privately owned processing and disposal facilities. Currently, waste haulers have the discretion to determine which facilities to direct the waste and materials to, and their decisions are made primarily based on economics. The County also offers curbside recycling, green waste collection, and many other innovative programs to encourage the four R's (Reduce, Reuse, Recycle, Rethink), as well as regulate solid waste management and disposal operations at solid waste facilities in the County Unincorporated Communities.

Recognizing the largest contributors to the solid waste disposal system for the County Unincorporated Communities will help identify where new programs and services, facilities and infrastructure, and outreach and education are required. The County will develop a more comprehensive understanding of their waste management practices as they relate to County Unincorporated Communities, evaluate options for waste diversion, assess program costs, and evaluate how options are implemented. The three aspects of sustainability - Environment, Economy, and Society - will be applied to assess the feasibility of these new initiatives.

Regional/Countywide

Public Works, as the lead County agency advising the Board on regional waste management issues, has a Countywide responsibility to oversee certain waste management programs. For example, the County of Los Angeles operates the largest household hazardous/electronic waste management program in the nation, and leads a nationally recognized research and development program for state-of-the-art technologies to convert municipal solid waste into electricity, green fuel, and other useful products. This has allowed the County to meet and exceed the State's 50 percent waste diversion mandate. The County is committed to providing high-quality solid waste management services that enhance the quality of life for County constituents and protects the environment and its resources. Therefore, the Roadmap contains a discussion of strategies and initiatives that could be applied on a regional or Countywide basis, including regional programs and services, facilities and infrastructure, and outreach and education needs.

County Operations

The Working Group is recommending that the Board consider piloting sustainable programs and services, facilities and operations, and outreach and education throughout County operations, as well as at County-sponsored events. The County could identify and develop effective pilot efforts focused on diverting waste from landfills while enhancing other sustainability goals. Such efforts provide opportunities to demonstrate programs that may be able to be implemented by the residents and businesses served throughout the County

Unincorporated Communities, as well as provide case studies for other departments and municipalities in the region. The following sections of the Roadmap describe the recommended strategies and initiatives in greater detail, including programs and services, facility and infrastructure improvements, measurement techniques, and outreach and education activities for County departments to implement, thereby paving the way towards a sustainable waste management future.

Alignment with Current County Priorities

The strategies identified in this Roadmap align closely with Los Angeles County’s adopted plans and priorities, as well as other sustainability efforts, including (1) the Los Angeles County General Plan Update; (2) the Los Angeles County Strategic Plan, Goal #2: Community Support and Responsiveness; (3) the final draft Community Climate Action Plan; and (4) the Public Works Strategic Plan.

1. As a long-range planning policy document, the Los Angeles County General Plan Update³ establishes future growth and land use development patterns for the County Unincorporated Communities. The Draft General Plan contains goals and policies that guide the provision of public services and facilities, including waste management in conjunction with future growth and land use development. Specifically, the Draft General Plan calls for “adequate disposal capacity and minimal waste and pollution.”⁴ The Roadmap is consistent with the Draft General Plan goals and policies pertaining to waste management, as the Roadmap aims to minimize waste generation, enhance diversion, and promote conversion technologies. Furthermore, the Draft General Plan organizes the County into 11 Planning Areas, which make up the Planning Areas Framework. The purpose of the Planning Area Framework is to provide a mechanism for local communities to work with the County to develop plans that respond to their unique and diverse character. The Roadmap will build on the Planning Areas Framework established by the Draft General Plan to target public outreach efforts and waste studies.
2. The County Strategic Plan Goal #2, Strategic Initiative 5, Environmentally Sustainable Practices identifies a specific focus area promoting net-zero waste in order to “Optimally manage and reduce solid waste by diverting from waste stream and maximizing recycling opportunities.”
3. The Final Draft of the County’s Community Climate Action Plan (July 2014) includes Goal SW-1: “For the County’s unincorporated areas, adopt a waste diversion goal to comply

³ At the time of preparation of this Roadmap, the proposed General Plan Update, also known as the Los Angeles County General Plan 2035, was being reviewed and considered by the Regional Planning Commission.

⁴ Goal PS/F 5, Chapter 13: Public Services and Facilities Element, Los Angeles County General Plan Revised Public Review Draft, 7/10/2014.

with all state mandates associated with diverting from landfill disposal at least 75% of the waste by 2020.”

4. Public Works’ Strategic Plan identifies Sustainability as a key value, and under the Waste Management Core Service Area, Public Works strives to “lead, inspire, and support communities toward a healthy, waste-free future.”

Additionally, the Board established the County Office of Sustainability to respond to legislation, regulation, and policy related to climate change and to serve as a central hub for coordination of energy efficiency, conservation, and sustainability programs within the County, its facilities, and the region.

Priority Issues

Certain issues are a major focus of the Roadmap due to the proportion of the waste stream potentially affected or the impacts those issues have on sustainability and the quality of life of residents in the County. This section provides a context for the Focus Areas, Strategies, and Initiatives described in the Roadmap with additional details regarding the impetus for the Roadmap's recommendations.

Facilitating Sustainable Practices

Cost and convenience are two of the most significant drivers of waste generation and disposal. Easy access to affordable products and materials is good for the economy while inexpensive and convenient curbside trash collection and free public trash receptacles have protected the environment from dumping and littering. They have also made it easy to dispose materials that might otherwise be put to productive use through reuse, recycling, composting, or conversion. The County has made great progress in recycling and other waste diversion options; for example the 3-bin system of trash collection that includes curbside recycling and green waste collection is now nearly universal throughout the County Unincorporated Communities. Nevertheless, the County can and should do more to make recycling at least as easy as throwing something away.

Changing markets and new products make it difficult to be sure what discards are recyclable, compostable, or must be disposed. A possible solution could be to implement a policy where most materials collected at curbside are first processed at a Materials Recovery Facility (MRF). In this way, MRFs can adjust their processing to recycle more materials in the future as recovery technology improves. Other alternative trash collection methods, such as reducing collection frequency, adjusting the number of bins per customer, or implementing a volume- or weight-based system for trash collection fees, are all options which have been implemented in other jurisdictions to increase the diversion of waste.

Another challenge facing some recycling and waste diversion programs is an unsustainable funding source, particularly those programs funded by the Countywide Solid Waste Management Fee, which is assessed on waste disposed at landfills and transfer stations. This means that as waste disposal decreases, fees collected and funding for diversion programs will decrease proportionally. To avoid this reduction spiral, new incentives will need to be identified to achieve waste reduction goals and the true cost of recycling will need to be identified and addressed. The challenging reality is that increased processing of materials will require additional funding. Ultimately, we must ensure adequate, sustainable funding is available to support an effective regional waste management system.

These changes cannot be considered lightly, as they can potentially have significant impacts on residents, businesses, and waste management companies, including haulers and solid waste facility operators. However, it is likely that such changes will be necessary to significantly increase diversion of materials from disposal, especially in light of pending State legislation and other factors which are already driving change. It is, therefore, crucial to conduct an evaluation of the current waste collection system for possible changes and improvements before implementing major changes to the current waste collection system. This Roadmap recommends exploring the feasibility of all options with all interested stakeholders in a thoughtful and transparent process and identifying the right combination of initiatives, including changes in collection, processing, and funding, that will best align with the sustainability goals of the County.

Local Green Business and Market Development

Additional materials pulled from the waste stream will result in more commodities for the marketplace. Partnerships with State and local economic development organizations to promote the development of recycling and remanufacturing businesses in the unincorporated communities will help create new markets for recycled materials while also spurring job creation and economic development. CalRecycle estimates California needs 44 million tons worth of remanufacturing infrastructure in-State to sustainably manage recyclables. At present, existing infrastructure is handling a little over 2 million tons of recyclable materials.⁵

There are a variety of materials that are remnants of advanced recycling methods and conversion technologies, such as compost, crushed glass, aggregate, slag, and ash. Cost effective and beneficial reuse options are not yet available on a local and widespread basis for some of these materials. Opportunities may exist to create partnerships between County facilities and local businesses that recover and reuse these materials, as part of the State's Recycling Market Development Zone program or other mechanisms.

Waste Prevention and Source Reduction

The U.S. Environmental Protection Agency (USEPA) defines source reduction as activities designed to reduce the volume or toxicity of waste generated, including the design and manufacture of products with minimum toxic content, minimum volume of material, and/or a longer useful life.⁶ Source reduction is fundamentally different from the other waste management approaches. It is at the top of the County's resource management hierarchy because it is considered to be more effective and yield the highest benefits from an

⁵ 2013 CalRecycle AB341 White Paper – Recycling, Reuse, and Remanufacturing

⁶ USEPA, Source Reduction Program Potential Manual, <http://www.epa.gov/osw/conserves/downloads/source.pdf>

environmental, economic, and social stand point. Source reduction preempts the need to collect, process, and/or dispose of materials by preventing their generation up front.

A useful mechanism for preventing waste generation and improving sustainability within many municipalities has been product bans and disposal bans. For example, in 2009 Los Angeles County adopted an ordinance banning single-use plastic carryout bags at supermarkets, pharmacies, and other stores. Although it took adjustment at first, customers quickly adapted to using far more sustainable reusable carryout bags, keeping billions of single-use bags out of the waste stream and from inadvertently becoming litter and harming our environment.⁷

Product Stewardship/Extended Producer Responsibility

Product Stewardship, also referred to as Extended Producer Responsibility (EPR), is a policy approach in which manufacturers assume a shared responsibility for the impacts and management costs of their products at the end of life. This shifts end-of-life management and financial responsibilities from local government to the manufacturers and consumers of products. This will require significant collaboration with the business community to explore more innovative and efficient approaches in package manufacturing.

The growing trend of “lean operations” is showing that businesses can reduce the amount of raw materials needed, which ultimately leads to decreased costs and waste reduction. Manufacturers are also often able to manage the end-of-life impacts of their products much more efficiently than local governments. For example, products could be carefully disassembled by manufacturers to refurbish working parts in the manufacturing of other products. In addition, providing a price signal⁸ creates an incentive to make improvements in product design that “designs the waste out” so that products can be readily reused, repaired, reconditioned, or recycled. In addition to the design of products, innovation in packaging has a tremendous potential for improvement. For example, Walmart redesigned their footwear packaging to reduce 400,000 pounds of solid waste in just 11 months, as well as decrease their costs by 28 percent.⁹ To ensure a level playing field for businesses, California may need to pass legislation that places greater emphasis on producer/manufacturer responsibility for the environmental impact of certain products and their corresponding waste byproducts.

Encouraging EPR in manufacturing consumer products is crucial since approximately 75 percent of our country’s waste stream comes from manufactured products – from common household items, such as magazines, prepared food, or toys to household hazardous waste products like

⁷ www.AboutTheBag.com

⁸ Price signal is information conveyed via the price charged for a product

⁹ <http://corporate.walmart.com/global-responsibility/environment-sustainability/packaging>

electronics, fluorescent lights, batteries, paint, and pesticides¹⁰. Packaging represents about 65 percent of household trash and about a third of materials disposed at an average landfill,¹¹ and out of every \$10 spent buying goods, \$1 (10 percent) is for packaging that is thrown away. Boosting the percentage of packaging that is more efficient, reusable, and/or recyclable not only reduces waste but could also reduce costs for manufacturers.

Furthermore, many of these materials contain toxic substances, such as heavy metals that present a threat to public health and safety when improperly disposed. In 2006, universal waste (such as fluorescent lights and batteries) was banned from California landfills, and in 2008 sharps (such as needles) were added to that list. However, local government solely instituting product or disposal bans cannot address the issue of problematic materials. Manufacturers should be encouraged to partner with local government on educating consumers and other business manufacturers on alternative packaging options and providing convenient collection options if there is to be success in diverting certain problematic materials from the waste stream.

Organic Waste Management

In 2013, the County Unincorporated Communities sent approximately 764,000 tons of waste to landfills.¹² Based on the percentages determined from the County's 2006 waste characterization studies¹³ performed on the County Unincorporated Communities, approximately 500,000 tons of that waste annually, equivalent to 1,631 tons per day (tpd), would be classified as "organic waste" as listed in Table 1 below, excluding "other waste material." The "organic waste" accounts for over 66 percent of the entire unincorporated communities' wasted materials.

¹⁰ California Product Stewardship Council, *Model Staff Report (2/1/2013)*, <http://www.calpsc.org>

¹¹ UCLA Zero Waste Plan, July 2012

http://cms.ipressroom.com.s3.amazonaws.com/173/files/20125/UCLA_Zero_Waste_Plan_Final.pdf

¹² 2013 Annual Report on the County unincorporated areas Source Reduction and Recycling Element

¹³ Los Angeles County baseline waste characterization study, 2006

Table 1: Waste Characterization for County Unincorporated Communities, 2013

| Material | Percentage | Tons |
|-----------------------------|-------------------|----------------|
| Paper | 20.4% | 155,856 |
| Leaves and Grass | 5.3% | 40,492 |
| Prunings and Trimmings | 3.0% | 22,920 |
| Branches and Stumps | 1.7% | 12,988 |
| Lumber | 10.3% | 78,692 |
| Food | 16.7% | 127,588 |
| Other Organics | 9.3% | 71,052 |
| <i>Other Waste Material</i> | <i>33.3%</i> | <i>254,412</i> |
| Total | 100.0% | 764,000 |

These categories of organic waste are classified as biogenic (originating from living organisms), which is different from biodegradable organic waste, which is a subset of this category, as well as nonbiogenic organic waste (e.g., plastics) that is exclusive of this “organics” category. The biodegradable organic waste stream, consisting primarily of green waste and food waste, amounts to roughly 27 percent of the entire waste stream. Food waste makes up a large percentage of each of the commercial, multifamily, and single-family sectors’ waste streams, and therefore, an important aspect in organic waste diversion. In the commercial sector, food waste alone comprises as much as 23 percent of the waste stream. Diverting this volume of material from landfill disposal is a formidable challenge to overcome, potentially necessitating hundreds of millions of dollars in new infrastructure.

The State of California is committed to diverting organic waste from disposal. The 2014 AB 32 Scoping Plan Update includes the following provision:

“ARB [CA Air Resources Board] and CalRecycle will lead the development of program(s) to eliminate disposal of organic materials at landfills. Options to be evaluated will include: legislation, direct regulation, and inclusion of landfills in the Cap-and-Trade Program. If legislation requiring businesses that generate organic waste to arrange for recycling services is not enacted in 2014, then ARB, in concert with CalRecycle, will initiate regulatory action(s) to prohibit/phase out landfilling of organic materials with the goal of requiring initial compliance actions in 2016.”

This effort is channeled through AB 1826, legislation which requires a business that generates a certain threshold of organic waste per week to arrange for organic waste “recycling services” and requires local jurisdictions to implement an organic waste recycling program to divert organic waste from landfills. This means a lot more organic waste will need to be managed and processed in a different way.

Green and food waste can be used to create energy through anaerobic digestion. Anaerobic digestion uses naturally occurring microorganisms to break down organic materials and produce biogas, a mixture of methane and carbon dioxide. The biogas can be combusted to produce renewable electricity, cleaned to pipeline natural gas standards, or further processed into renewable natural gas fuel.¹⁴ Remaining residuals can be a feedstock for composting. Unfortunately, there are currently no anaerobic digestion facilities in Los Angeles County that are open to the public. According to the California Energy Commission, there are 132 biomass-to-energy facilities in the entire State. This includes 22 digesters and 27 thermal biomass facilities.

Existing green waste infrastructure is limited to chipping and grinding, small scale composting, and transfer operations. The combined capacity of these operations in the County is only 3,783 tpd, which is far less than what is needed. Additional information about organics processing facilities in the County can be found at the following link:

<http://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=450&hp=yes&type=PDF>

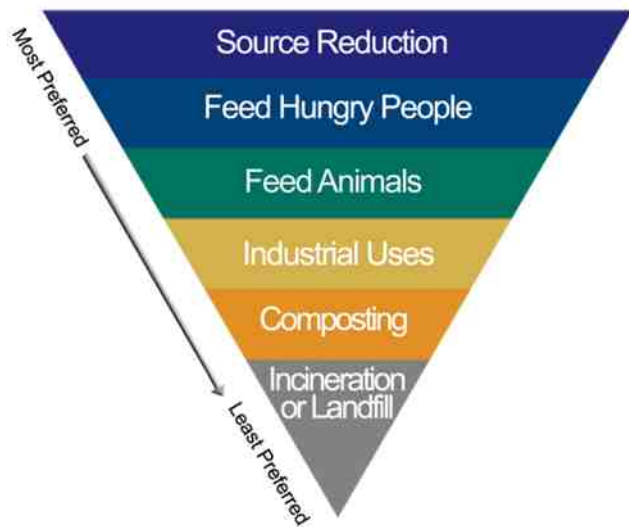
Several jurisdictions, including the County, have investigated the feasibility of siting regional or community-scale anaerobic digestion facilities. To manage the volume of waste discussed above, it would take seven facilities the size of the new anaerobic digestion facility in San Jose (250 tpd), which cost approximately \$40 million to build. Concerns regarding high costs, watershed restrictions, adequacy of available materials, collection infrastructure, environmental impacts, and market availability for compost continue to be challenges in developing this industry in the County. Despite these challenges, anaerobic digestion remains the most widely-accepted conversion technology by environmental groups and California regulators.

Although AB 1826 requires businesses to separate organic waste and send it to “organics recycling” facilities, there is insufficient funding available to develop the infrastructure needed to process this waste. For instance, CalRecycle is launching a \$30 million grant program, that includes organics facilities as well as recycling facilities, as a competitive grant for the entire state. Additional funding opportunities or incentives for infrastructure are absolutely crucial in order to manage the substantial quantities of organic waste currently sent to disposal.

Another option to address food waste is the implementation of the Food Donation Recovery Outreach Program (Food DROP). Some food waste is still edible, yet according to the LA Regional Food Bank, 1.7 million people in Los Angeles County are struggling with not having enough food. Public Works is developing Food DROP to simultaneously divert safe and clean food from landfills and feed hungry low-income residents.

¹⁴ Harvest Power, <http://www.harvestpower.com/capabilities/technology/anaerobic-digestion/>

Figure 4
Food Recovery Hierarchy



The Food DROP is a dynamic program to match food donors (restaurants, supermarkets, etc.) with receivers (food banks, soup kitchens, nonprofits, etc.) in the County, in an effort to feed hungry people with the excess food that businesses would otherwise dispose at landfills. Through Food DROP, the County would address the top two tiers in the U.S. EPA’s Food Recovery Hierarchy: Source Reduction and Feed Hungry People (see Figure 4).

Food waste that cannot be shared through Food DROP should be collected and processed through anaerobic digestion and/or composting facilities. Green materials used at County landfills for alternative daily cover will need to be similarly managed.

Through the implementation process, the County intends to continue to engage potential project developers and waste haulers in determining specific ways the County can advance the development of sustainable anaerobic digestion projects in the region.

Conversion Technologies

Public Works is actively promoting the development of solid waste conversion technologies as a way to diversify solid waste management practices. Now more than ever before, jurisdictions, such as the County, are looking at waste as a resource rather than “trash.”

A few jurisdictions in California including San Jose, Sacramento, Perris, and Santa Barbara have projects in development; however, the path to project development is fraught with many challenges. Currently, the largest obstacle is a permitting process that is more costly, time intensive, inconsistent, and confusing than necessary, largely due to out-of-date and even inaccurate language in State statute and regulations. Over a dozen project developers are interested in hosting projects in Los Angeles County, once regulations establishing a clear permitting pathway are worked out.

The County believes that advancements in clean technology need to be reflected in State statute and regulations to create a level playing field for project developers while protecting public health and safety and the environment. Together with the California State Association of

Counties, the County sponsored Senate Bill 498, authored by California State Senator Ricardo Lara (D-33). This bill includes conversion technologies in the definition of biomass conversion. Traditional biomass conversion has been limited to direct combustion of organic materials (wood, lawn and garden clippings, agricultural waste, leaves, tree pruning, as well as nonrecyclable paper) to generate heat and electricity. Adding conversion technologies to the biomass definition allows for cleaner and more efficient technologies to be used in processing these materials to create not just heat and electricity but also clean and renewable low-carbon fuels. It is a very small but positive step forward in facilitating the development of conversion technologies in California.

The County is recognized as a leader in evaluating and promoting the development of conversion technologies, and continues to encourage the development of commercial scale conversion technology projects within the County. The County will need to determine what resources and support are necessary to help spur the establishment of both public and private conversion technology facilities locally.

Household Hazardous and Electronic Waste

The County operates a substantial household hazardous waste (HHW) and electronic waste (E-Waste) collection program. Through strategic partnerships, the County coordinates over 60 mobile events with participation from over 47,000 households each year, funds the operation of nine permanent collection centers, and provides convenient additional drop-off locations for batteries, sharps, and pharmaceuticals throughout the County. Approximately 11 million pounds of HHW and E-Waste¹⁵ are collected on an annual basis in the County of Los Angeles excluding the City of Los Angeles, making this program the largest and most highly regarded in the nation.

According to the U.S. EPA and County data, permanent collection centers require a larger upfront investment than one-day collection, but they may reduce costs per participant in the long run¹⁶, therefore the Working Group, and in particular Public Works as the administrator of the Countywide HHW Program, views the addition of new permanent collection centers as a high priority for County residents to provide the most convenient and cost-effective system for providing residents opportunities to safely manage their HHW and E-Waste. In addition, HHW and E-Waste are prime candidates for EPR policies, since they are more toxic, difficult to manage, and cannot be disposed at traditional disposal facilities.

¹⁵ 2013-2014 CalRecycle Form 303 Household Hazardous Waste Collection

¹⁶ EPA Household Hazardous Waste Management "A Manual for One-Day Community Collection Programs, <http://www.epa.gov/osw/conservation/materials/pubs/manual/r92026.pdf>

Construction and Demolition Debris

Construction and demolition (C&D) debris consists of materials like lumber, drywall, metals, masonry (brick, concrete, ceramics, plasters, etc.), carpet, plastics, pipe, rocks, dirt, paper, cardboard, or green waste related to land development¹⁷. The Board adopted the C&D Recycling and Reuse Ordinance on January 4, 2005. County Code Title 20.87 & 22.52 now requires local C&D debris recycling for building, demolition, and grading permits in County Unincorporated Communities. Projects must divert 50 percent (65 percent for specified projects) of C&D debris generated and document compliance on completion. Given that, roughly 26 percent (by weight) of the County's total disposed tonnage is made up of C&D material¹⁸, more can be done to ensure that C&D materials are kept out of landfills. Also, there are a number of facilities that will process and divert C&D debris within the County, recovering this material and offering it for beneficial activities within the County, and the rates to send this material to such C&D processors is often lower than landfill disposal rates. As a result, establishing higher minimum diversion rates for C&D materials will likely save project developers money while benefiting the environment and the local economy. Private sector participation will be critical in identifying ways to incentivize the recycling and reuse of C&D materials.

Resource Recovery Centers

A significant portion of materials disposed in the unincorporated area of the County are from self-haul customers at landfills and transfer stations. Resource Recovery Parks or Resource Recovery Centers are places where materials can be dropped off for donation or buyback and provides a place to co-locate synergistic diversion-related activities, including reuse, recycling, composting, processing, manufacturing, and distribution. The Resource Recovery Center concept has been evolving naturally at landfills and transfer stations. Examples of these facilities can be found at the Cold Canyon Landfill in San Luis Obispo County; the City of El Cerrito Recycling Center in the East Bay; and the Center for Hard to Recycle Materials (CHaRM) in the City of Boulder, Colorado. These facilities have continued to provide additional recycling opportunities for self-hauled loads. A Resource Recovery Park can make the landfill or transfer station more sustainable by diversifying revenue, conserving capacity, and extending the useful life of those facilities.

“Re-stores” are businesses that sell used or donated surplus building materials. The re-store may be affiliated with a deconstruction entity that provides recovered building materials or receive donations from builders, contractors, brokers, businesses, and/or households that are

¹⁷ California Department of Resource Recycling and Recovery, <http://www.calrecycle.ca.gov/condemo/>

¹⁸ Los Angeles County baseline waste characterization study, 2006

remodeling their facilities, such as homes, hotels, apartments, or office buildings. This is a great way to put old but still useful cabinets, appliances, flooring, and other building materials to good use and keep them out of landfills.

Emergency Management and Regional Debris Management Planning

The County's unique geography makes it susceptible to various forms of natural disasters including earthquakes, landslides, wildfires, mudflows, and tsunamis. These natural occurrences have the potential to create large quantities of debris, which must be managed in order to maintain public services during and immediately following an emergency. Public Works is working with other County departments to develop the Operational Area (County, 88 cities, and all special districts in the County) Debris Management Plan (DMP) to identify agency roles and mechanisms to collect, stockpile, and recycle debris, to the extent feasible. It also ensures that the removal process for the debris is conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The DMP will be consistent with the existing policies and guidance provided by the County, State, and Federal Emergency Management Agencies for removal and management of disaster-related debris.

Assessment and Evaluation

Identifying the largest contributors to the waste disposal system will help shape where resources and efforts are needed to achieve the County's disposal reduction goals. This will enable the County to maximize short-term waste diversion while prospective strategies and initiatives that will take longer to develop are being researched and developed, and appropriate funds are pursued and secured.

Understanding the unique disposal characteristics of the various sectors of the economy is also important for the County on a continuous basis. Commercial, institutional, industrial, residential, multifamily, self-haul, and drop off are subsectors that identify where various waste streams are generated and where existing and new programs could be initiated, expanded, modified, or eliminated. Each sector has unique waste management practices that need to be examined to identify waste reduction opportunities and determine options for waste diversion processing.

The prevailing practices of local markets, and differences between various markets, are also important to consider in a county as large and diverse as the County. A starting point is to understand the proportion of waste from open market haulers, who are not required to provide waste collection data, versus registered haulers, who are required to provide data. Recognizing the areas where the County has control of the waste stream, such as within Garbage Disposal Districts or residential franchise areas, will assist in determining the level of influence the County has in implementing new programs. Within each registered and

unregistered hauling type, there will be a need to assess the types of waste sectors that are captured in the disposal stream.

Waste characterization studies are another tool for assessing and evaluating our waste diversion efforts. Waste characterization studies help determine how various sectors within the County are disposing of their waste and whether waste diversion programs are being utilized. Waste characterization assessments can be conducted for subsectors, such as businesses, multifamily residents, and single-family residences. Public Works is in the process of initiating a major waste characterization study for the County Unincorporated Communities, which is projected to be completed by 2016. Public Works will examine the solid waste composition and generation rates, and the highest and best use alternatives for diverting the major components of the waste stream. A large-scale study may be needed every five years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities. The most recent Countywide baseline waste characterization study¹⁹ was conducted in 2006. Since that time, new regulations have been passed that affected current waste characteristics, including Assembly Bill 341 which requires mandatory recycling in businesses and multifamily housing units.

Finally, having a better understanding of disposal and diversion quantities will assist the County in assessing the success of existing programs, exploring and identifying other waste reduction programs, evaluating the feasibility of implementing them in the County, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Sustainable Waste Management Roadmap should be tailored to location and customer and coupled with clear, meaningful, and achievable performance measures. With an ongoing baseline of disposal and diversion measurements, we can assess whether different programs and policies are effective.

Existing County programs and sustainability efforts, as identified in Appendix B, need to be evaluated for effectiveness, costs, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated. Some existing County programs, such as C&D Debris Diversion, are already being measured but will need to be described using metrics that will assist in comparison with other programs and the overall Roadmap goals.

There is a strong likelihood that, during the course of evaluating existing programs, the need for additional information will become apparent. Appropriate protocols will be developed to address these data gaps. This is likely to include, but will not be limited to, identifying resource requirements to obtain data, consulting with key stakeholders to determine the viability of protocols, and determining level of accuracy that can be expected.

¹⁹ Los Angeles County baseline waste characterization study, 2006

Outreach and Education

Given that unincorporated communities are spread throughout the County, the Working Group recommends establishing a broad communication plan focusing at the community scale. Identifying regions that include communities with common demographics, natural resources, and similar commercial and industrial businesses will help target messaging more effectively. The regions selected will be determined during the implementation process, but will consider the 11 Planning Areas identified in the County General Plan. Focused and relevant outreach can be conducted throughout these regions, encouraging maximum participation in the community. Effective public education will cultivate behavioral change that will lead toward a waste-free, safe, and healthy future for County communities. A comprehensive Action Plan will support the County's sustainable waste management priorities, such as ensuring communities understand the safety and relevance of conversion technologies.

Feedback from key stakeholders will be crucial to developing an effective implementation plan. Empowering stakeholders to provide input to the County's planning process not only facilitates a transparent process and a spirit of partnership, it also allows for the inclusion of diverse perspectives and backgrounds and will result in more effective programs and policies. Tapping into their knowledge and experience early in the planning process should enable the County to facilitate the highest degree of collaboration and cooperation when programs and policies are subsequently implemented. Stakeholders could also be helpful in identifying any potential adverse or unanticipated impacts as well as corresponding mitigation measures. The inclusion of diverse perspectives will help ensure that recommended strategies are environmentally, socially, and fiscally responsible. In addition, utilizing the abundant forms of social media is fundamental to promote the Roadmap, solicit feedback, and educate constituents to gain the maximum success and impact.

Artists and arts organizations are also key to the creative problem solving and public outreach necessary to achieve a waste-free future for the County. More than 3,000 nonprofit arts organizations and 150,000 artists serve the region. In addition to cultural production and economic impact, their work spans a growing range of real world situations, such as social services, education standards, public participation, and the quality of the built environment. Artists and arts organizations can advance the goals and objectives of the Roadmap, in its overarching strategies as well as in tactics for inspiring targeted audiences and addressing issues. The arts should be fully integrated into key County initiatives tackling intractable social challenges, such as sustainable solid waste management. The Los Angeles County network of artists and arts organizations can be a resource for public outreach programs, and develop campaigns for behavioral change and collaboration with unincorporated area communities and interested stakeholders.

Our Sustainable Waste Management Future

To achieve a sustainable waste management future, it is important to understand the terms “sustainable” and “waste.” “Sustainable development” is generally understood as development that meets current needs without compromising the ability of future generations to meet their own needs. Many organizations also highlight the three aspects of sustainability - Environment, Economy, and Society - as shown in Figure 3. Another way to express this concept is maintaining good care of people, planet, and prosperity in perpetuity. Waste, on the other hand, is defined as a material eliminated or discarded as no longer wanted, useful, or required. The notion of waste is at odds with the ideal of sustainability. Our vision for a sustainable waste management future identifies materials that were formerly considered waste as a resource rather than a liability, with the goal of one day eliminating waste in the unincorporated communities of the County.

The County aspires to be a regional leader in sustainability and adopt policies that support regional collaboration and strengthen private enterprise. In 2005 and 2006, the County conducted a comprehensive waste characterization study of the waste generation, disposal and diversion practices throughout the County Unincorporated Communities, including the residential and commercial sectors. At that time, the waste characterization found that the County Unincorporated Communities generated approximately 2.9 million tons of materials, equivalent to 14.8 pounds per resident per day (ppd), and 1.45 million tons were being disposed at landfills, resulting in a diversion rate of 50 percent, compared to a 1990 baseline. Currently, the County Unincorporated Communities dispose approximately 764,000 tons in landfills each year, or roughly 4 pounds of waste per person per day. The last official state approved diversion rate for the County Unincorporated Communities was 54 percent in 2006. The diversion rate is calculated based on the difference between estimated generation and measured disposal. Waste generation can be estimated based on the CalRecycle Adjustment method, which is a formula that accounts for population changes and economic conditions, or on a method based on the per capita generation estimate which only accounts for population. Both methods provide an estimated diversion rate of approximately 70 percent for 2013. This estimated diversion rate may be primarily attributable to the economic recession that began in December 2007, rather than to significant increases in recycling or other waste diversion activities. Therefore, Public Works will conduct a waste characterization study in the near future to determine an accurate diversion rate that reflects the success of the County’s waste diversion programs.

In developing the Sustainable Waste Management Future Roadmap, the Working Group prioritized minimizing dependence on landfilling and waste exportation, since landfill capacity within the County is diminishing over time and, therefore, unsustainable. The following

disposal reduction targets were identified by the Working Group as achievable milestones towards a sustainable waste management future:

- Diverting 80 percent of our waste from landfill disposal by 2025, equivalent to disposing no more than 3 pounds per person per day.
- Diverting 90 percent of our waste from landfill disposal by 2035, equivalent to disposing no more than 1.5 pounds per person per day.
- Diverting 95+ percent of our waste from landfill disposal by 2045, equivalent to disposing no more than 0.75 pounds per person per day.

The purpose of these ambitious targets is to set the bar high, providing the County with forward-looking goals to maintain momentum providing a crucial framework for the development of necessary infrastructure and services to achieve a truly sustainable waste management future. These goals are based on the per-capita disposal and generation figures established during the most recent waste characterization study completed by the County in 2005, which is the most complete and accurate estimate of total waste generation the County has conducted to date. The challenge with using this estimate as a baseline is that this study relies on an extrapolation of total waste generation from 2005, however actual waste generation fluctuates based on a number of factors, including population, economic activity, and adoption of various waste reduction and sustainability measures over time. As a result, although the disposal reduction targets established above will undoubtedly guide us towards a more sustainable waste management future, additional measures of success will be crucial to develop. In addition, a sound measurement system will need to be in place with consistent monitoring. These and other measures are discussed in more detail under *Strategy 2: Measuring Results*.

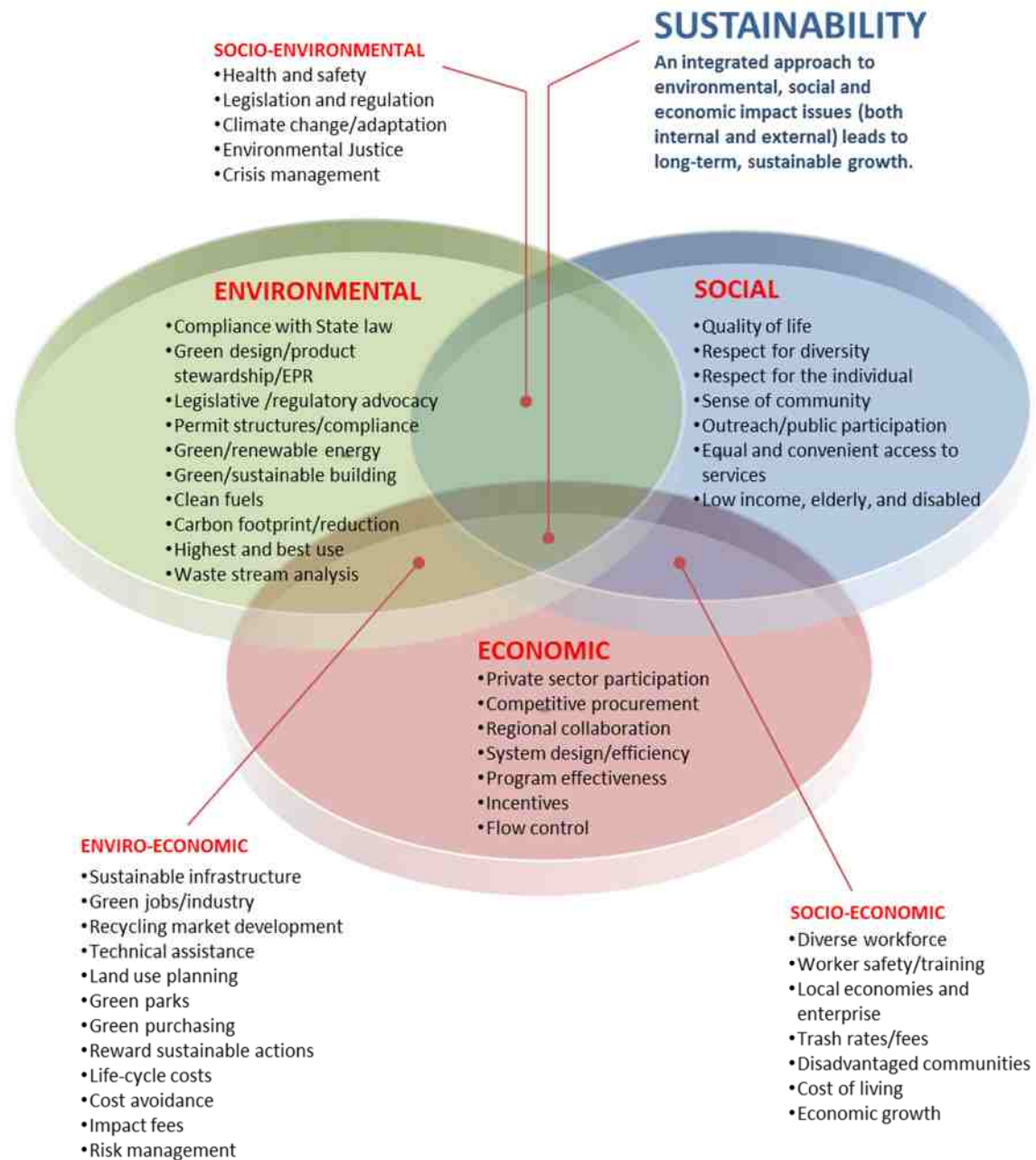
Beyond the disposal reduction targets, this Roadmap has the following overarching goals, directly related to the three aspects of sustainability:

- First, foster an environmentally sound waste management system that is focused on reducing waste generation and disposal. This system will make the best use of natural resources, support the production of recycled-content products, and expand local and sustainable infrastructure.
- Second, foster a system that is cost effective and efficient. Working collaboratively with regional partners and private enterprises, identifying new opportunities for innovation and green job creation.
- Third, foster a system that is responsive to the needs of the community by implementing programs and policies that are feasible, measurable, and meaningful for rate payers. A sustainable waste management system should empower residents and businesses to be successful while building a sense of community.

This Roadmap is intended to outline a recommended approach to establishing a sustainable waste management future. The Working Group recommends that, subject to approval by the Board, more detailed implementation plans be developed for each initiative, which will incorporate specific details on feasibility, costs, proposed funding, and timelines. It is also recommended that the Roadmap be shared with residents, businesses, public agencies, the waste industry, environmental organizations, and other interested stakeholders to solicit additional suggestions and feedback.

Figure 3

A Sustainable Waste Management System



The Roadmap - Focus Areas, Strategies, and Initiatives

COUNTY UNINCORPORATED COMMUNITIES

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services to provide for solid waste management needs in the County Unincorporated Communities while striving to reduce the amount of waste generated and disposed of at landfills to the reduction targets identified in the Roadmap.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

- ❖ *Develop a model purchasing guide/policy for businesses (e.g., fork dispensers instead of individually wrapped forks, recycled content office paper).*
- ❖ *Explore and, if feasible, develop and implement more aggressive reuse programs.*
 - ◆ *Consider policies to discourage single-use water bottles in favor of reusable water bottles;*
 - ◆ *Research the feasibility of assigning redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g., glass wine or liquor bottles).*
 - ◆ *Encourage local businesses to charge deposits to promote reuse of certain products (e.g., reusable milk bottles).*
 - ◆ *Enable and encourage reusable to-go containers.*
 - ◆ *Evaluate the most effective methods for implementing and enforcing policies such as bans, requirements, or ordinances, and determine the impact on residents and businesses.*
 - ◆ *Promote reuse and repair for residents, businesses, and nonprofits with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials, such as LACoMAX, the County’s free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries²⁰.*

²⁰ Tool Lending Libraries http://en.wikipedia.org/wiki/List_of_tool-lending_libraries

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

- ❖ *Establish a working group with businesses, waste haulers, and other interested stakeholders to develop solutions that promote EPR while ensuring materials continue to be collected and managed safely and efficiently.*
- ❖ *Explore the feasibility of establishing a County EPR ordinance for materials, such as pharmaceuticals, needles, carpet, mattresses, and battery management, while ensuring collected items are properly managed in accordance with Federal, State and local laws using environmentally sound practices.*
 - ◆ *Consider legal requirements for producers to phase out toxic materials or to take back these products at the end of life.*
- ❖ *Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back designated products and packaging they sell and are sold by others in their area (especially items that are toxic in their manufacture, use, or disposal, and/or are not currently reusable, recyclable, or compostable locally).*
- ❖ *Explore and implement, if feasible, a Green Business Certification that incentivizes local unincorporated area businesses to reduce their waste in operations and products.*
- ❖ *Promote EPR solutions that recognize fiscal challenges for small businesses and avoid, to the extent feasible, increased cost to consumers.*

Initiative (C) - Make Sustainability Easy and Discourage "Trashing" in County Unincorporated Communities

- ❖ *Prior to issuing new contracts, evaluate the sustainability of the existing solid waste collection system and modify if necessary, considering:*
 - ◆ *the effectiveness of the system;*
 - ◆ *customer satisfaction; and*
 - ◆ *effectiveness of the programs and policies in helping to meet and exceed the State's waste diversion mandates, other State and County priorities, and the disposal reduction targets established in this Roadmap.*
- ❖ *Evaluate and implement, if feasible, alternative trash collection methods, such as reducing trash collection frequency; adjusting the size of bins; implementing a volume or weight-based trash collection system (pay as you throw); collecting additional organics in the green waste bin; and/or a two-bin collection system (wet and dry) processed at a MRF for separation and recovery.*
- ❖ *Explore and implement, if feasible, revisions to current and future Franchise and Garbage Disposal District waste hauler contracts to advance the goals of the Roadmap, while respecting existing contracts. Consider:*
 - ◆ *Eliminating the collection of unlimited quantities of waste.*

- ◆ *Creating incentives or requirements to meet specific diversion standards (e.g., 80% by 2025).*
- ◆ *Developing incentives for local disposal to the nearest landfill or alternatives to landfills.*
- ◆ *Revising or eliminating Garbage Disposal Districts including possibly converting the residential or commercial customers to the franchise system.*
- ❖ *Explore and implement, with the concurrence of residents and businesses, modification to the County Code to include warnings and penalties for not recycling, and create a mechanism to monitor and enforce recycling (e.g., cameras on waste collection vehicles).*
- ❖ *Create and support an innovative “Tech Lab” incubator for reuse/recycle enterprise development.*
- ❖ *Research the feasibility of implementing product bans or disposal bans where sustainable alternatives are readily available and reasonable.*
- ❖ *Encourage additional recycling receptacles to be placed and maintained in business corridors, especially adjacent to existing public trash receptacles.*

Initiative (D) - Recover Organics, including Food Waste, to the Highest and Best Uses in County Unincorporated Communities

- ❖ *Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.*
- ❖ *Explore and implement, if feasible, Food DROP for unused edibles in County Unincorporated Communities (see description in the Priority Issues section).*
 - ◆ *Create a database of large food waste generators such as restaurants, cafeterias, hotels, and large event venues, in County Unincorporated Communities.*
 - ◆ *Explore and establish partnerships with food service providers, businesses, or nonprofits for development and operation of Food DROPs in County Unincorporated Communities.*
 - ◆ *Educate businesses in County Unincorporated Communities on the Bill Emerson Good Samaritan Food Donation Act²¹ to address liability concerns.*
- ❖ *Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.*
- ❖ *Consider establishing an ordinance for the food service industry to provide compostable take-out containers and utensils, once options to compost or recover such materials are widely available.*

Initiative (E) - Maximize Diversion of Construction and Demolition (C&D) Debris in County Unincorporated Communities

²¹ The Federal Bill Emerson Good Samaritan Food Donation Act, passed in 1996, protects both donors and recipients of donated food from legal liability, except in cases of gross negligence or intentional misconduct.

- ❖ *Revise the C&D Recycling and Reuse Ordinance to:*
 - ◆ *Match new requirements established by the County’s Green Building Ordinance and State Green Building Code and incorporate more green building standards.*
 - ◆ *Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.*
- ❖ *Consider incentives to promote deconstruction and the use of salvaged materials.*
 - ◆ *Prepare a deconstruction services guide.*
 - ◆ *Support used building materials outlets and stores as well as Resource Recovery Centers (as described in the Priority Issues section) at landfills and transfer stations that serve the County unincorporated communities.*
- ❖ *Support historic preservation and those seeking to restore and reuse buildings, include "adaptive reuse" as a priority in building standards and encourage the remodeling or repurposing of buildings that are still functional.*

Strategy 2: Measuring Results

Use benchmarking, goal-Setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education for residents and businesses in order to strive for continuous improvement and encourage innovation in reducing waste through source reduction in the County Unincorporated Communities.

Initiative (A) - Waste Sector Assessment in the County Unincorporated Communities

- ❖ *Conduct assessment of waste sectors that are sending waste to disposal facilities.*
 - ◆ *Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5- to 10-year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop off centers to determine accurate generation and diversion rates.*
 - ◆ *Conduct smaller sample audits of material types disposed that could be recycled, using hauler loads where feasible.*
 - ◆ *Assess the proportion of the waste that the County controls (e.g., through its franchise system) and quantities of recycling and organic waste diversion.*
 - ◆ *Examine the level of detail available in assessing the quantities from the various waste sectors.*
 - ◆ *Assess drivers that result in open market/self haulers sending waste to disposal.*
 - ◆ *Partner with academia to help mine data collected from waste assessments.*
- ❖ *Develop metrics for the movement of waste through the various stages of the solid waste management system, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.*

- ❖ *Account for scavenging and noncurbside recycling at recycling centers.*
- ❖ *Collaborate with organizations to offer waste stream studies to large businesses.*
 - ◆ *Build partnerships with hospitals, schools, hotels, and large manufacturers.*

Initiative (B) - Evaluate and Measure the Success of Existing Programs and Consider New Programs in the County Unincorporated Communities.

- ❖ *Create a separate framework/template to monitor and measure the success of each new proposed program or initiative as well as existing programs.*
 - ◆ *Obtain feedback from residents and businesses on existing programs prior to implementing new policies and standards.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Look into ways to get more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *Develop a tracking tool to measure and assess source reduction.*
- ❖ *Analyze the lifecycle effects of nonrecyclable, single-use materials (i.e., consumer rubber products, packaging, etc.) and recycled materials.*
 - ◆ *Partner with a research institution/university for assistance with lifecycle assessments.*
 - ◆ *This lifecycle assessment would be the basis for future action by the County to phase out or ban these materials.*
- ❖ *Create an Environmental Benefits Calculator for additional evaluation and benchmarking of programs or initiatives to recognize external benefits and successes, such as greenhouse gas (GHG) reductions and water conservation.*

Initiative (C) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals in the County Unincorporated Communities

- ❖ *Annually review program expenditures and revenues to ensure efficiencies and sustainable funding.*
- ❖ *Evaluate and modify, if needed, existing revenue streams, such as the Solid Waste Generation Service charge, to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.*
 - ◆ *Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.*
 - ◆ *If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.*

- ❖ *Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.*
- ❖ *Advocate for EPR to reduce County costs for collecting abandoned materials in road right-of-ways, such as paint, carpet, furniture, and mattresses.*
 - ◆ *Realize savings from program efficiencies and efforts, such as EPR, to ensure sustainable program funding.*
- ❖ *Explore grant funding and loans to augment program funding.*
- ❖ *Evaluate the financial impact of scavenging to recycling programs, and identify options to reduce the incidence of scavenging.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced local waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner in the County Unincorporated Communities.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities in the County Unincorporated Communities

- ❖ *Establish a streamlined and coordinated County permitting process for essential waste management facilities that are environmentally safe and technically feasible located in County Unincorporated Communities, including conversion technologies, material recovery facilities (MRFs), C&D processing facilities, transfer stations, etc.*
- ❖ *Develop educational pilot projects in the County Unincorporated Communities to demonstrate the benefits and safety of conversion technologies.*

Initiative (B) - Organics Processing Infrastructure in the County Unincorporated Communities

- ❖ *Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance.*
 - ◆ *Identify businesses that generate large amounts of food or green waste.*
 - ◆ *Investigate opportunities to develop micro-composters or digesters in County unincorporated communities at large community venues/facilities such as schools, restaurants, grocery stores, etc.*
 - ◆ *Investigate community digesters for food waste that cannot be donated.*
 - ◆ *Work with County CEO Real Estate Unit to identify possible sites for anaerobic digestion facilities.*
 - ◆ *Investigate opportunities to develop organics diversion facilities at landfills located in the County Unincorporated Communities.*

- ❖ *Partner with select County Unincorporated Communities to institute pilot compost programs that can be replicated on a broader scale if successful.*

Initiative (C) - Local Green Business and Market Development in County Unincorporated Communities

- ❖ *Seek and encourage new green businesses and remanufacturing facilities to locate in the County Unincorporated Communities.*
- ❖ *Determine how to incentivize the use of recycled products or re-use for businesses.*
 - ◆ *Seek out and promote grant funding for green businesses.*
- ❖ *Incorporate provisions to ensure the availability of a viable market for materials removed during sediment basin cleanouts.*

Initiative (D) - Resource Recovery Centers and “Re-stores” in the Unincorporated Area

- ❖ *Explore adoption of an ordinance or policy to develop Resource Recovery Centers, as described in the Priority Issues section, at all transfer stations and landfills in the unincorporated area.*
- ❖ *Explore processing of self-haul loads at transfer stations serving the County Unincorporated Communities.*
- ❖ *Support private sector investment in Resource Recovery Centers for self-haul customers.*
- ❖ *Support siting of re-stores in the County Unincorporated Communities throughout the County.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future for County Unincorporated Communities.

Initiative (A) - Communication Action Plan for County Unincorporated Communities

- ❖ *Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas.*
 - ◆ *Initiate a unifying slogan, such as “Don’t Waste Your Waste” in the outreach campaign, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to effect behavioral change in residents and businesses.*
 - ◆ *Include face-to-face and targeted communication as part of the plan.*
 - ◆ *Communication plan will focus on the 11 Planning Areas identified in the County General Plan to encourage maximum participation by the community.*

- ❖ *Establish partnerships to build on and promote other sustainability programs.*
- ❖ *Create more opportunities for effective communication with businesses and residents through social media (Blog posts, Twitter, Youtube, Instagram, Facebook, Pinterest, Tumblr, etc.).*
- ❖ *Conduct surveys, organized by regions, to determine program effectiveness and solicit feedback.*
- ❖ *Educate businesses on recycling programs that can help them reduce their disposal costs and increase their recycling rate.*
- ❖ *Educate the public on policy issues relative to sustainability.*
 - ◆ *Produce one or more short videos to get the message out to the public.*
 - ◆ *Partner with town councils, homeowners associations, chambers of commerce, faith-based organizations, etc., to get messaging out.*
- ❖ *Educate the public on the environmental benefits and safety of conversion technology facilities and inform them of successful conversion projects.*
- ❖ *Develop a social marketing program to find the best means to encourage people to use public recycling bins. Use a “Community-Based Social Marketing” style of analysis and focus groups to measure results and implement pilot programs.*
- ❖ *Develop an awareness campaign identifying problematic products (such as household hazardous waste, disposable diapers, and other single-use or hard-to-recycle items) and promote alternatives.*

Initiative (B) - Stakeholder Engagement and Empowerment in the County Unincorporated Communities

- ❖ *Incorporate incentives, awards, contests, etc., to encourage program participation by residents and businesses.*
- ❖ *Create an interactive website with a forum for residents to report their individual sustainability projects or personal waste reduction efforts.*
- ❖ *Sponsor an annual Business Zero Waste Workshop, with featured speakers from various zero-waste businesses demonstrating how to implement waste reduction programs in the workplace and how to measure progress.*
- ❖ *Host planning workshops with waste haulers, businesses, multifamily complex owners, and other stakeholders to solicit feedback and foster collaboration.*
- ❖ *Collaborate with County Unincorporated Communities during development of each implementation plan to encourage a broad commitment. Cultivate partnerships with like-minded entities to maximize education and outreach capabilities.*
- ❖ *Coordinate recycling events, such as a fashion show or art show, utilizing recycled and/or repurposed materials.*
- ❖ *Develop case studies of model sustainability programs and promote best practices.*

- ❖ *Incorporate multiple languages (Arabic, Armenian, Chinese, Farsi, Korean, Spanish, Tagalog, Vietnamese, etc.) in educational and outreach efforts.*
- ❖ *Support the formation of “Green Teams” (groups representing chambers of commerce, property managers, faith community, schools, etc.) and encourage them to work with their networks to pursue Zero Waste.*
- ❖ *Establish a “Sustainable Community Leader” award for unincorporated County residents and businesses. Residents and businesses would be recognized for taking initiative to reduce, reuse, recycle, and compost in their home or business.*

REGIONAL/COUNTYWIDE

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services at a Regional/Countywide level to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at all County landfills.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

- ❖ *Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.*
- ❖ *Share County purchasing guides with schools and other jurisdictions, as applicable.*
- ❖ *Evaluate reuse programs.*
 - ◆ *If found feasible and implemented in County Unincorporated Communities, encourage cities to assign redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g., glass wine or liquor bottles).*
 - ◆ *Explore with local municipalities and other public agencies the most effective methods for them to implement and enforce policies, such as bans, requirements, or ordinances. For policies determined to be more effective at a regional or Statewide level, encourage collaboration among cities and/or support legislation, as was done for the County’s policy to reduce plastic bag litter.*

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility at a Regional/Countywide Level

- ❖ *Be a strong advocate with partner agencies and municipalities for EPR policy, legislation and programs regionally, Statewide, and nationally, particularly to drive improvements in product design that are environmentally sustainable.*

- ❖ *Encourage cities within the County to adopt by resolution any County EPR ordinances, once established, in order to improve the benefits and economies of scale of such ordinances.*

Initiative (C) - Recover Organics, including Food Waste, to the Highest and Best Uses at a Regional/Countywide Level

- ❖ *Utilize the existing Smart Gardening program to promote the diversion of organic waste Countywide.*
 - ◆ *Provide food waste educational opportunities and composting resources for multifamily residents.*
 - ◆ *Establish a network of community gardens and facilities for composting of food/yard waste, and utilize this local network of micro-composters to produce compost from food and yard waste, which can be used for backyards and gardens at the neighborhood level.*
- ❖ *Partner with school districts to ensure that every school in Los Angeles County has a garden.*
- ❖ *Explore and implement, if feasible, Food DROP for unused edibles (see description in the Priority Issues section).*
 - ◆ *Explore and establish partnerships with food service providers, businesses, or nonprofits for development and operation of Food DROPs on a regional basis.*

Initiative (D) - Maximize Diversion of Construction and Demolition (C&D) Debris at a Regional/Countywide Level

- ❖ *Make the revised C&D Recycling and Reuse Ordinance available to other jurisdictions as a template for adoption.*

Initiative (E) - Maximize Diversion of Household Hazardous Waste (HHW) and Electronic Waste (E-Waste) at a Regional/Countywide Level

- ❖ *Work with cities and landfill operators to increase the number of permanent HHW and E-Waste collection centers where feasible.*
 - ◆ *Determine how many centers would be needed along with expected upfront and operating costs.*
 - ◆ *Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.*
- ❖ *Consider establishing swap stations for reusable products dropped off at permanent centers.*
- ❖ *Maintain agreement with PaintCare to collect and recycle residential consumer paint.*

- ❖ *Explore and implement, if feasible, a curbside HHW and E-Waste collection program.*

Strategy 2: Measuring Results

Encourage and partner with municipalities and regional special districts to use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure, and outreach and education to strive for continuous improvement and encourage innovation in reducing waste through source reduction at the Regional/Countywide level.

Initiative (A) - Evaluate and Measure the Success of Existing Programs and Consider New Programs at a Regional/Countywide level.

- ❖ *Create a separate framework/template to monitor and measure the success of each new proposed Countywide program or initiative as well as existing programs.*
 - ◆ *Obtain feedback from residents, businesses, jurisdictions, and other partners, including municipalities and special districts, on existing programs prior to implementing new policies and standards.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Encourage partner agencies to obtain and share more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *In cooperation with partner agencies, develop tracking tools to measure and assess source reduction.*

Initiative (B) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals at a Regional/Countywide Level

- ❖ *Annually review program expenditures and revenues for Countywide programs to ensure efficiencies and sustainable funding.*
- ❖ *Evaluate and modify, if needed, existing revenue streams, such as the Countywide Solid Waste Management Fee, to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.*
 - ◆ *Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources.*
 - ◆ *If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies.*

- ❖ *Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable.*
- ❖ *Explore grant funding and loans to augment program funding, identify partnerships with jurisdictions, agencies, and nonprofits on grant applications for regional programs and efforts to increase opportunities to obtain funding.*
- ❖ *Advocate for EPR to reduce County costs for operating collection programs at the Regional/Countywide level targeting “take back” materials, such as paint, pharmaceuticals, carpet, furniture, and mattresses.*
 - ◆ *Realize savings from program efficiencies and efforts, such as extended producer responsibility, to ensure sustainable program funding.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner at a Regional/Countywide level.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities at a Regional/Countywide Level

- ❖ *Work with State and regional agencies, such as CalRecycle, the Regional Water Quality Control Board, and the South Coast Air Quality Management District, to streamline the permitting process for essential waste management facilities that are environmentally safe and technically feasible, including conversion technologies, material recovery facilities, C&D processing facilities, transfer stations, etc., at the regional and State level.*
- ❖ *Continue to sponsor and support legislation to encourage the environmentally sound development of conversion technologies and build a coalition of organizations to do so.*
- ❖ *Evaluate options to establish incentives in order to level the cost differential between conversion technology facilities and landfills, or otherwise incentivize waste haulers to direct waste to such facilities.*
- ❖ *Increase awareness of the www.SoCalConversion.org website as a one-stop portal for information regarding local project development, local ordinances, permitting processes, and general information and resources related to conversion technology development.*

Initiative (B) - Organics Processing Infrastructure at a Regional/Countywide Level

- ❖ *Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.*
 - ◆ *Explore opportunities for co-digestion of source-separated commercial organics at wastewater treatment plants with excess digester capacity.*

Initiative (C) - Local Green Business and Market Development at a Regional/Countywide Level

- ❖ *Work with partner cities in the County Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in Los Angeles County.*
- ❖ *Continue to seek opportunities to expand the RMDZ to include additional interested cities in Los Angeles County.*

Initiative (D) - Resource Recovery Centers and “Re-stores” at a Regional/Countywide Level

- ❖ *Partner with the Sanitation Districts of Los Angeles County and municipalities in the County to facilitate the development of Resource Recovery Centers, as described in the Priority Issues section, at all publically-owned transfer stations and landfills.*

Initiative (E) - Emergency Management/Debris Management Plan at a Regional/Countywide Level

- ❖ *Update County’s Debris Management Plan to maximize diversion of materials following emergencies and disasters.*
 - ◆ *Include a list of as-needed emergency debris removal service contracts for handling disaster debris generated in the County Unincorporated Communities and contract cities.*
 - ◆ *Identify temporary storage areas for interim stockpiling of disaster debris for recycling.*
 - ◆ *Update the list of recycling and disposal facilities for managing disaster debris.*
 - ◆ *Ensure debris management practices include good-faith efforts to source separate, reuse, and recycle materials to the extent feasible.*
 - ◆ *Clarify lines of responsibility for various agencies.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future at a Regional/Countywide level.

Initiative (A) - Communication Action Plan at a Regional/Countywide Level

- ❖ *Develop an outline for a broad communication plan, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to inspire behavioral change in residents and businesses.*
 - ◆ *Include face-to-face and mass media communication as part of the plan.*

- ◆ *Brand the campaign slogan (e.g., “Don’t Waste Your Waste”) and encourage cities to adopt and include in their websites as a consistent slogan.*
- ◆ *Establish partnerships to build on and promote other sustainability programs, and partner with other jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.*

Initiative (B) - Stakeholder Engagement and Empowerment at a Regional/Countywide Level

- ❖ *Partner with universities and community colleges in the County to establish green workforce training programs and assist with data mining.*
- ❖ *Expand the Generation Earth Battle of the School program and encourage all schools serving the County Unincorporated Communities to participate.*

COUNTY OPERATIONS

Strategy 1: Programs and Services

Develop, enhance, and expand high-quality programs and services at County facilities to provide for solid waste management needs while striving to reduce the amount of waste generated and disposed of at landfills.

Initiative (A) - Institutionalize Waste Prevention and Source Reduction at County Facilities

- ❖ *Identify areas of excess waste at County facilities and operations and create source reduction policies within the framework of the County’s budget.*
- ❖ *Develop templates for programs and policies and implement them at County facilities and operations.*
- ❖ *Provide technical assistance, training, financing, and other resources for County departments to ensure their success.*
- ❖ *Evaluate County purchasing practices:*
 - ◆ *Find ways to save money and reduce the purchase of excess food, paper, and other supplies that may be wasted and disposed of at landfills. Provide a web-based inter-department materials exchange for office supplies and equipment. Remove barriers to donating unwanted or excess materials.*
 - ◆ *Review and make enhancements to the County’s Green Purchasing Policy to purchase products that are recyclable, compostable, reusable, repairable, and locally manufactured or grown. Publish a list of products that meet these standards.*
 - ◆ *Identify opportunities for Countywide purchasing initiatives for recyclable or compostable service ware (or other items that may be more expensive than the hard to recycle items).*

- ❖ *Establish a Paperless Office Initiative at County facilities where feasible, incorporating e-communication as much as possible.*
- ❖ *Explore and, if feasible, develop and implement more aggressive reuse programs.*
 - ◆ *Consider policies to discourage single-use water bottles in favor of reusable water bottles. Incorporate hydration stations at County facilities to encourage employees and visitors to bring reusable water containers.*
 - ◆ *Incorporate bulk dispensers at County facilities with cafeterias for commonly purchased items, such as milk, soda, juice, and condiments, to eliminate waste of individual packaged items.*
 - ◆ *Organize a once a month “swap yours for mine” event for employees to bring items that they would like to swap with other employees or donate.*
 - ◆ *Suggest replacement systems for reducing certain materials (e.g., tablets to facilitate a paperless office).*

Initiative (B) - Advocate for Extended Producer and Manufacturer Responsibility at County Facilities

- ❖ *Incentivize EPR, such as reduced packaging, in County procurement and contracts, giving consideration to vendors who utilize EPR.*

Initiative (C) - Make Sustainability Easy and Discourage "Trashing" at County Facilities

- ❖ *Provide for recycling at public venues, where feasible and funded, such as beaches, libraries, hospitals, and parks, internal County functions, and employee events; provide more public recycling receptacles placed adjacent to public trash receptacles.*
- ❖ *Provide waste reduction technical assistance to large County venues and events to achieve net-zero waste.*
- ❖ *Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.*

Initiative (D) - Recover Organics, including Food Waste, to the Highest and Best Uses at County Facilities

- ❖ *Explore and implement, if feasible and funded by the Board through a department’s annual budget appropriations, food waste/organics collection, food drops, and composting programs at specific County facilities.*
 - ◆ *Identify largest generators of food and green waste among County facilities.*
 - ◆ *Create a pilot program to be a model program that would be implemented at other County facilities.*

- ❖ *Encourage and incentivize organics collection or onsite management at venues with cafeterias, such as hospitals and detention centers.*
- ❖ *Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events.*

Initiative (E) - Maximize Diversion of Construction and Demolition (C&D) Debris at County Facilities

- ❖ *Revise the C&D Recycling and Reuse Ordinance to:

 - ◆ *Match new requirements established by the County’s Green Building Ordinance and State Green Building Code and incorporate more green building standards.*
 - ◆ *Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste.*
 - ◆ *Include standards for County facilities and projects to achieve net-zero waste.**
- ❖ *Require maintenance contracts to increase longevity of materials, such as carpet, upholstery, and furniture, used at County facilities.*
- ❖ *Provide incentives for green buildings, and update the County green building policy to provide incentives for use of products that are more durable, have a longer lifespan, require no additional finishing on-site, have less frequent maintenance and repair cycles, and give credits for products made from recycled content.*

Strategy 2: Measuring Results

Use benchmarking, goal-setting, monitoring, and evaluation to measure the effectiveness of programs and services, facilities and infrastructure and outreach and education in order to strive for continuous improvement and encourage innovation at County facilities.

Initiative (A) - Waste Sector Assessment at County Facilities

- ❖ *Develop a methodology, schedule, and budget to conduct waste generation and disposal surveys at County operations.*
- ❖ *Develop metrics for the movement of waste through County operations, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system.*

Initiative (B) - Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

- ❖ *Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.*
- ❖ *Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion.*
 - ◆ *Look into ways to get more data for recycling and waste reduction, such as collaboration with haulers and materials collection and processing facilities.*
 - ◆ *Develop a tracking tool to measure and assess source reduction.*
- ❖ *Incorporate sustainability practices and measurement in future County contracts.*

Initiative (C) - Ensure Sustainable Funding and Alignment of Incentives with Program Goals at County Facilities

- ❖ *Review and revise County contracts, such as waste collection franchises, Garbage Disposal Districts, and facility permits to create incentives to reduce waste, such as requiring green waste diversion in landscaping and tree trimming contracts.*
- ❖ *Combine or consolidate shared services and logistics across County departments to reduce operational costs.*
- ❖ *Involve key County departments including the CEO, Public Works, Internal Services, and other affected department(s) to identify County funding options during the budget cycle to implement County facility initiatives.*
- ❖ *Explore incentivizing departments to create budgetary savings in solid waste management that, with CEO concurrence and Board approval, could be redirected to a department's operating budget for main mission services and programs.*

Strategy 3: Facilities and Infrastructure

Incorporate sustainability practices and develop more advanced waste management facilities and infrastructure in a fiscally, socially, and environmentally responsible manner at County facilities.

Initiative (A) - Develop Conversion Technologies and Integrated Materials Recovery Facilities at County Facilities

- ❖ *Develop educational pilot projects, as funding is identified, at County facilities to demonstrate the benefits and safety of conversion technologies.*
- ❖ *Develop guidelines for utilizing byproducts generated through alternative technology facilities for beneficial purposes at County facilities and in County projects.*

Initiative (B) - Organics Processing Infrastructure at County Facilities

- ❖ *Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting, where feasible.*
 - ◆ *Create a list of County facilities that generate large amounts of food or green waste.*
 - ◆ *Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County departments.*
 - ◆ *Develop guidelines for utilizing locally-produced compost and mulch in County projects and at County facilities.*
 - ◆ *Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility.*

Initiative (C) - Local Green Business and Market Development at County Facilities

- ❖ *Promote the use of recycled materials (e.g., glass, compost) generated from County operations at County facilities, where feasible.*
- ❖ *Determine how to incentivize the use of recycled products or re-use for County operations.*

Strategy 4: Outreach and Education

Incorporate proactive and appropriate communication tools in order to engage and empower stakeholders and further promote a sustainable waste management future at County facilities.

Initiative (A) - Stakeholder Engagement and Empowerment

- ❖ *Incorporate incentives, awards, contests, etc., to encourage employee participation in sustainability programs.*

- ❖ *Create an interactive website with a forum for departments to report their individual sustainability projects or personal waste reduction efforts, including budgetary savings and efficiencies.*

Initiative (B) - Leadership in Sustainability

- ❖ *Work with County departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.*
- ❖ *Encourage innovation by establishing a fund for composting projects or facilities to be developed by County departments or in consultation with private operators.*
- ❖ *Provide training for staff in advance of any new initiative impacting County-owned or operated facilities.*
- ❖ *Establish an internal Sustainability Ambassador program for County employees to be responsible for monitoring recycling and composting bins in their designated work area and provide information on upcoming sustainability training available to County staff.*
 - ◆ *Encourage recycling coordinators from each department to meet routinely to share ideas, coordinate efforts, and provide progress reports.*
 - ◆ *Assign the Internal Services Department or a partner department to oversee waste reduction for departments without facilities staff.*
- ❖ *Apply for a Productivity Investment Fund grant (or similar grant) to implement a pilot program within the County family to fully implement Roadmap recommendations.*

Conclusion and Next Steps

Achieving a truly sustainable waste management future for the County is a complex and challenging goal; however, the potential rewards are substantial and well worth the effort, including:

- Reducing dependence on landfills and waste exportation.
- Conserving natural resources.
- Protecting the environment.
- Striving for a cost-effective waste management system.
- Creating green jobs.
- Facilitating community-based programs and venues through which to instill positive change.

The Working Group requests that the Board approve this Roadmap to allow for preparation of detailed implementation plans consistent with the focus areas, strategies, and recommended initiatives described in this Roadmap. Appendix C summarizes the program and policy options identified for each initiative in the Roadmap.

The Working Group recommends that the County initiate a stakeholder engagement process that will vet prospective recommendations from this Roadmap and solicit additional suggestions and feedback from residents, businesses, public agencies, the waste industry, environmental organizations, and any other interested stakeholders. Through a transparent stakeholder process, the Working Group recommends developing more detailed implementation plans with a budget, timeline, and staffing plan, as appropriate. In addition, for County operations, the Working Group recommends that participating departments continue to meet on a regular basis to share ideas, identify key strategies for implementation, and develop waste reduction projects and/or programs that are consistent with the Roadmap.

It is also the recommendation of the Working Group that, subject to Board approval, the Roadmap be shared with residents, businesses, public agencies, the waste industry, environmental organizations, and other interested stakeholders, which will allow other entities to develop their own plans and strategies to reduce waste generation and disposal.

APPENDIX A DEFINITIONS

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| AB 32 | The California Global Warming Solutions Act of 2006 requires California to reduce its GHG emissions to 1990 levels by 2020 — a reduction of approximately 15 percent below emissions expected under a “business as usual” scenario. |
| AB 341 | Mandatory Commercial Recycling Law. As of July 1, 2012, California requires all businesses that generate four (4) or more cubic yards of garbage per week and multi-family dwellings with five (5) or more units to recycle. The specific statutory language for the law (Assembly Bill 341) can be found in the State's Public Resources Code: PRC Division 30, Part 3, Chapter 12.8, Section 42649. |
| Alternative Technology | Refers to a technology capable of processing residual municipal solid waste (MSW), such as conversion technology, transformation, or other emerging technologies, in lieu of land disposal. |
| Anaerobic Digestion | A series of biological processes in which microorganisms break down biodegradable material in the absence of oxygen. |
| Beneficial Use Materials | Refers to: (1) solid waste that has been source-separated or otherwise processed and put to a beneficial use at a facility, or separated or otherwise diverted from the waste stream and exported from the facility, for purposes of recycling or reuse, and shall include, but not be limited to, green waste, wood waste, asphalt, concrete, or dirt; (2) clean dirt imported to cover and prepare interim and final fill slopes for planting and for berms; or (3) all Alternative Daily Cover materials types. |
| Biomass | Any organic material not derived from fossil fuels, such as agricultural crop residues, bark, lawn, yard and garden clippings, leaves, silvicultural residue, tree and brush pruning, wood and wood chips, and wood waste, including these materials when separated from other waste streams. ‘Biomass’ or ‘biomass waste’ does not include material containing sewage sludge, industrial sludge, medical waste, hazardous waste, or either high-level or low-level radioactive waste. |
| California Product Stewardship Council (CPSC) | The California Product Stewardship Council (CPSC) is a network of local governments, non-government organizations, businesses, and individuals supporting policies and projects where producers share in the responsibility for managing problem products at end of life commonly known as extended producer responsibility (EPR). |
| California State Association of Counties (CSAC) | The primary purpose of the California State Association of Counties (CSAC) is to represent county government before the California Legislature, administrative agencies and the federal government. CSAC places a strong emphasis on educating the public about the value and need for county programs and services. |

APPENDIX A DEFINITIONS

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| Compost | The product resulting from the controlled biological decomposition of organic wastes that are source separated from the municipal solid waste stream, or which are separated at a centralized facility. Compost includes vegetable, yard, and wood wastes which are not hazardous waste. |
| Compostable | Composed of materials such as vegetable matter, paper, cardboard, and plastics that must (1) break down to carbon dioxide, water, inorganic compounds, and biomass at a rate similar to paper, (2) disintegrate into small pieces within 90 days, so that the original product is not visually distinguishable in the compost, and (3) leave no toxic residue. |
| Composting | Defined in PRC, Section 40116.1 as "the controlled or uncontrolled biological decomposition of organic wastes." Further defined in CCR, Title 14, Section 17225.14 as "a controlled microbial degradation of organic wastes yielding a safe and nuisance free product." |
| Conversion Technologies | Refers to a wide array of technologies capable of converting post-recycled or residual solid waste into useful products, green fuels, and renewable energy through non-combustion thermal, chemical, or biological processes. Conversion technologies may include mechanical processes when combined with a non-combustion thermal, chemical, or biological conversion process. |
| County | The County of Los Angeles including the Board of Supervisors as the legislative and executive body of county government, and any designated agency responsible for solid waste management. |
| County Green Purchasing Policy | Los Angeles County Policy P-1050, Purchase of Environmentally Preferable Products, established objectives for the purchase of products commonly used by County departments. Under this Purchasing Policy, the County's developed a 5-year plan to phase-in categories of certified goods. Easy to adopt purchasing categories (e.g., paper, cleaning supplies) were implemented and a pricing advantage for green products is in place. |
| Countywide | The incorporated cities within the county and the unincorporated areas of the county. |
| Curbside Collection | The collection of solid waste, recyclables, or other materials placed in front of the property (curbside) by the generator who then returns the containers to their normal location after they have been emptied. Curbside collection is generally used in the collection of residential solid wastes and recyclables, or other materials. It is not normally used in commercial, institutional, or industrial solid waste collection. |
| CRV | California Redemption Value (CRV) is a deposit paid on sales of certain recyclable beverage containers in California. |

APPENDIX A DEFINITIONS

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| Direct Haul | Hauling of collected solid waste in the collection vehicle from its point of collection to a solid waste management facility (materials recovery, mulching, composting, waste-to-energy, or landfill facilities). |
| Disposal | The final deposition of solid waste onto land, into the atmosphere, or into the waters of the state; the management of solid waste through landfill disposal or transformation at a permitted solid waste facility; the final deposition of solid wastes onto the land; "the management of solid waste through landfilling or transformation at permitted solid waste facility. |
| Diversion | The act of diverting one or more designated materials from a solid waste stream. Diversion typically occurs at the point of generation. Normally, diversion is used to divert recyclables for separate collection, but it may also be used to prevent certain materials from being managed with the rest of a solid waste stream. |
| Extended Producer Responsibility (EPR) | A mandatory form of product stewardship that includes, at a minimum, the requirement that the producer's responsibility for their product extends to the post-consumer management of that product and its packaging. There are two related features of EPR policy: (1) the shifting of management and financial responsibility upstream to the producer and away from municipalities, and (2) to provide incentives to producers to incorporate environmental considerations in the design of their products. |
| Flow Controls | Legal provisions that allow state and local governments to designate the places where MSW is taken for processing, treatment, or disposal. Flow controls may take the form of a "wasteshed" restriction, limits on the amount of waste from individual jurisdictions, host fees, and/or outright bans on the importation of solid waste. |
| Green Waste | Organic wastes from lawn, tree, horticultural, and landscaping services including leaves, grass clippings, tree prunings, large cut waste timber and stumps, and other materials which are generated by commercial or nonresidential activities, as well as similar materials generated by homeowners from their lawns and gardens. |
| Household Hazardous Waste (HHW) | Solid waste generated by residential generators that exhibit the characteristics of a hazardous waste as established by United States Environmental Protection Agency (USEPA) hazardous waste regulations (USEPA 1980.) These wastes are exempt from the Resource Conservation and Recovery Act (RCRA) hazardous waste regulatory requirements, but may be included in state regulations. |
| Hydration station | Is a water fountain that provides a filtration unit designed to facilitate the filling of reusable water bottles and there by promote reuse and eliminate the need for disposable plastic water bottles. |

APPENDIX A DEFINITIONS

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| Landfill | A waste management unit at which waste is discharged in or on land for disposal. It does not include surface impoundment, waste pile, land treatment unit, injection well, or soil amendments. |
| Lean Operations | Reducing the amount of raw materials needed. |
| Materials Recovery Facility (MRF) | A solid waste facility where solid wastes or recyclable materials are sorted or separated, by hand or by use of machinery, for the purposes of recycling, composting, or use as feedstock for alternative technology facilities. |
| Organic | Material containing carbon and hydrogen. Organic material in [municipal solid waste] includes the biomass components of the waste stream as well as hydrocarbons usually derived from fossil sources (e.g., most plastics, polymers, the majority of waste tire components, and petroleum residues). |
| Paperless Office | Refers to a County initiative to eliminate paper and digitize filing systems and internal processes. |
| Pay as you throw | In communities with pay-as-you-throw programs (also known as unit pricing or variable-rate pricing), residents are charged for the collection of municipal solid waste—ordinary household trash—based on the amount they throw away. This creates a direct economic incentive to recycle more and to generate less waste. |
| Post-Recycled | Material remaining after recycling that would have otherwise gone to disposal |
| Price Signal | Information conveyed via the price charged for a product. |
| Putrescible Waste | Solid wastes that are capable of being decomposed by micro-organisms with sufficient rapidity as to cause nuisances because of odors, vectors, gases or other offensive conditions, and include materials such as, but not limited to, food wastes, offal and dead animals. |
| Recovery | Refers to any waste management operation that diverts a material from the waste stream and which results in a product with a potential economic or ecological benefit. Recovery mainly refers to the following operations 1) re-use, 2) material recovery such as recycling 3) biological recovery such as composting, and 4) energy recovery such as fuel production |
| Recycling | The process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become solid waste, and returning them to the economic mainstream in the form of raw material for new, reused, or reconstituted products which meet the quality standards necessary to be used in the marketplace. |
| Removal | Defined in CCR, Title 27, Section 20164 as “the act of taking solid wastes from the place of waste generation either by an approved collection agent or by a person in control of the premises.” |

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| Residual Solid Waste | Refers to the post-recycled content or remaining solid waste after MSW has gone through the recycling, source reduction, and reuse method. |
| Rubbish | Non-putrescible solid wastes such as ashes, paper cardboard, tin cans, yard clippings, wood, glass, bedding, crockery, plastics, rubber by-products, or litter. |
| Salvaging | The controlled removal of waste material for utilization. |
| Scavenging | Defined in CCR, Title 27, Section 20164 as “the uncontrolled and/or unauthorized removal of solid waste materials, or recyclable material at a solid waste facility.” |
| Sharps | Means hypodermic needles, pen needles, intravenous needles, lancets, and other devices that are used to penetrate the skin for the delivery of medications. |
| Solid Waste | <p>All putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes.</p> <p>(b) ‘Solid waste’ does not include any of the following wastes: (1) Hazardous waste, as defined in Section 40141. (2) Radioactive waste regulated pursuant to the Radiation Control Law (Chapter 8 (commencing with Section 114960) of Part 9 of Division 104 of the [HSC]). (3) Medical waste regulated pursuant to the Medical Waste Management Act (Part 14 (commencing with Section 117600) of Division 104 of the [HSC]). Untreated medical waste shall not be disposed of in a solid waste landfill, as defined in Section 40195.1. Medical waste that has been treated and deemed to be solid waste shall be regulated pursuant to this division.”</p> |
| Solid Waste Disposal | Refers to the final deposition of solid waste onto land, into the atmosphere, or into the waters of the state, as defined in PRC, Section 40192; or the management of solid waste through landfilling or transformation at a permitted solid waste facility. |
| Solid Waste Management | A planned program for effectively controlling the generation, storage, collection, transportation, processing and reuse, conversion or disposal of solid wastes in a safe, sanitary, aesthetically acceptable, environmentally sound and economical manner. It includes all administrative, financial, environmental, legal and planning functions as well as the operational aspects of solid waste |

APPENDIX A DEFINITIONS

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| | handling, disposal and resource recovery systems necessary to achieve established objectives.” |
| State | Refers to the State of California |
| Sustainable | Ability to meet the needs of the present without compromising the ability of future generations to meet their own needs |
| Toxic / Hazardous | Chemical hazards and toxic substances pose a wide range of health hazards (such as irritation, sensitization, and carcinogenicity) and physical hazards (such as flammability, corrosion, and reactivity). |
| Transfer Station | Refers to a facility that receives unprocessed waste, temporarily stores it, and ships it off-site to another facility. |
| Universal Waste | EPA's universal waste regulations streamline hazardous waste management standards for federally designated "universal wastes," which include: batteries, pesticides, mercury-containing equipment and bulbs (lamps). The regulations govern the collection and management of these widely generated wastes, thus facilitating environmentally sound collection and proper recycling or treatment. |
| U.S. Environmental Protection Agency | The United States agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources. |
| Waste | Material eliminated or discarded as no longer wanted, useful, or required. |
| Waste-Free/ Zero-Waste | Optimally manage and reduce solid waste by diverting from waste stream and maximizing recycling opportunities to eventually achieve 95% landfill diversion. |
| Wasteshed | Refers to a geographical area from which waste can logically be delivered to a given disposal facility. This term is synonymous with waste service area. |
| Waste Stream | Refers to the total flow of solid waste from homes, businesses, institutions, and manufacturing plants that must be recycled, reused, composted, converted to useful products or disposed of in a landfill; or any segment thereof, such as the "residential waste stream" or the "recyclable waste stream." |
| Waste-to-Energy | Refers to an incineration process in which the organic fraction of solid waste is combusted and the released heat is utilized to generate hot water, steam, and electric power, leaving the inorganic fraction (ash) as a residue. |

APPENDIX B

Existing Sustainability Efforts and County Programs

| Program | Description | Focus Area |
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| Battery Recycling Program | Educates and encourages County residents to properly dispose of their household batteries. Public Works partnered with County Public Library to collect household batteries at designated libraries throughout the County. The program was designed to offer residents a free and convenient outlet to dispose of common household batteries such as Dry Cell Batteries (AA, AAA, C, D, 9-Volt), Rechargeable Batteries (used in cell phones and power tools), and Button Cell Batteries (used in watches, cameras, and hearing aids). | Unincorporated County Areas |
| County Green Building Program | In 2008, Los Angeles County adopted the Green Building Program, which included the Drought-Tolerant Landscaping, Green Building, and Low Impact Development Ordinances (the Ordinances), and created an Implementation Task Force and Technical Manual. | Unincorporated County Areas |
| <ul style="list-style-type: none"> • Drought-Tolerant Landscaping Ordinance • County Green Building Code • Low Impact Development Standards Ordinance | <ul style="list-style-type: none"> • This ordinance establishes drought tolerant landscaping design requirements in Title 31 of the Los Angeles County Code • The 2011 County of Los Angeles Green Building Standards Code regulates the construction of new residential buildings for the purpose of improving public health, safety, and general welfare. This is accomplished by enhancing the design and construction of buildings to reduce their negative impact on the environment and encouraging sustainable construction practices. • The ordinance provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges. | |
| Community Climate Action Plan | To reduce the impacts of climate change, the County has set a target to reduce GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11% below 2010 levels by 2020. This Community Climate Action Plan (CCAP) describes the County’s plan for achieving this goal, including specific strategy areas for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas. The CCAP is a component of the Los Angeles County General Plan. | Unincorporated County Areas |
| Construction & Debris Ordinance | The Ordinance requires projects in the unincorporated areas to recycle or reuse 50 percent of the debris generated thereby increasing the diversion of construction and demolition debris from disposal facilities. | Unincorporated County Areas and County Operations |
| County Energy Investment Program | The Energy Investment Program (EIP) was approved by the Board of Supervisors in 2012. The EIP is a “Revolving Loan Fund” program which uses ARRA seed funding to implement efficiency projects. Department buildings which benefit from the projects repay the EIP fund through their utility savings until the project costs are paid back. | Unincorporated County Areas and County Operations |
| County Existing Building LEED Certifications | In 2008 the County adopted an ordinance requiring all new County facilities be LEED certified. | County Operations |
| County-wide Recycled Water Conversion Projects | Public Works has implemented various projects to recycle wastewater and either use it to recharge groundwater supplies, or to distribute for landscape and industrial uses through an expanding delivery infrastructure. ISD, Parks and Sheriff have also contributed to this program. | Countywide |
| DPH “Video Direct Observed Therapy” | This is a pilot program under development to reduce vehicle trips by staff. Currently, PH staff travel to various locations to directly observe that TB clients ingest their daily dosage of medicine. The pilot would allow the TB client to be observed via video (cell phone, Skype, etc.) by PH staff housed at a PH facility. This would reduce vehicular travel and staff time involved in ensuring the client takes their full course of daily medication. | County Operations |
| DPH Healthy Design Proposal | In 2009, the Board of Supervisors instructed DPH, DRP, DPW and other departments to develop design standards for building pedestrian, transit, and bicycle friendly developments, promote walking and other outdoor physical activities, which will ultimately be incorporated into the County’s Public Works design standards, and the DRP Healthy Design Ordinance. This effort is ongoing in the form of the Healthy Design Workgroup. | County Operations |

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Existing Sustainability Efforts and County Programs

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| DPR Sustainable Park Design | The Department of Parks and Recreation has developed Park Design Guidelines to provide guidance toward design and construction of sustainable park facilities. These guidelines have already been used to provide numerous sustainability improvements at Willowbrook Park, Crescenta Valley Dog Park, Peck Park and the MLK Exercise Garden. | County Operations |
| DPW Sustainability Infrastructure Rating System | In 2011, in order to establish a common platform to define sustainable infrastructure, DPW adopted EnviSlon™, the Institute for Sustainable Infrastructure (ISI) sustainability rating system. EnviSlon™ certification applies to civil infrastructure of all types and provides rating of the project’s economic, social, and environmental impact during design, planning, construction, and maintenance phases. | County Operations |
| DPW Sustainable Pavement Program | Public Works has developed a more sustainable and cost effective program for rehabilitation, construction, and maintenance of its road network. This approach focuses on addressing roads that are in good condition first (where full sub-grade replacement isn’t required), incorporating materials from recycled tires and aggregates from existing pavement and modifying the existing materials in-place by also adding cement to the sub-grade beneath the pavement to improve its strength. Since 2009 Public Works has completed 24 projects utilizing sustainable treatments. These projects have resulted in very significant reductions in energy usage, greenhouse gas emissions, and cost. | Unincorporated County Areas |
| Electric Vehicle Infrastructure | On March 5, 2013, ISD executed a Memorandum of Agreement with the South Coast Air Quality Management District (AQMD) to receive grant funding of \$120,000, and a Grant Agreement with Mobile Source Air Pollution Reduction Review Committee to accept grant funding of \$192,333, to partially fund the purchase and installation of electric vehicle charging devices at various County facilities. On November 20, 2013, ISD awarded master agreements for the required equipment based on a competitive solicitation process. As required by the AQMD grant, the equipment will be configured to collect data on each Electric Vehicle Supply Equipment charge with revenue grade meters for accuracy of data. ISD is now working with departments to schedule equipment installations during 2014. | County Operations |
| Expanded Polystyrene Food Container Eradication in County Buildings | The Los Angeles Board of Supervisors directed the Department of Public Works to phase out the use of expanded polystyrene (EPS) food packaging at all County operations, to include restricting the purchase and use of all EPS food containers at County facilities, offices, County-managed concessions, and by commercial food and beverage suppliers at County-permitted or -sponsored events. | County Operations |
| Farm Restoration at Pitchess Detention Center (PDC) | Farm operations offsets significant inmate food costs, provides vocational and educational opportunities for jail inmates, lowers the carbon footprint, and ensures food supply for inmates. The farm program includes bees and honey production, vermiculture, small scale protein production (tilapia and chickens), greenhouse plant propagation, and community gardens. Other planned programs will minimize water use and preserve the aquifer beneath PDC, eliminate the need for inorganic soil amendments, pesticides and herbicides, restore the health of the soil and watershed, enhance Education Based Incarceration programs, and ensure an optimal and sustainable source of inmate food with significant cost savings to the County. | County Operations |
| Green Purchasing Policy | In 1994, County adopted a procurement policy for purchase of recyclable materials and recycled-content products. In 1998, the policy expanded to include preference of re-refined motor oil for use in County vehicles if the re-refined oil is comparable and within a 5% cost. In 2000, County created a cooperative that enables government entities to join in purchasing recycled-content paper to stimulate the paper recycling market. It enables cities to benefit from the advantage of collective purchasing power, which reduces the cost for the paper. In 2007, County adopted stronger green purchasing policies to encourage manufacturers and vendors to reduce environmental impacts in production and distribution. | County Operations |
| Household Hazardous Waste Program (HHW) | Provides residents with a convenient outlet to dispose of their HHW/E-waste at a permanent center or collection event in various communities throughout the County. These events provide residents with a free means to dispose of their toxic, poisonous, corrosive, flammable, and combustible household items, as well as electronic waste. | Countywide |

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Existing Sustainability Efforts and County Programs

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| Illegal Dumping Reporting | Illegal dumping is any unauthorized disposal of waste on any public or private property. This program partners with residents to report illegally dumped material in the County unincorporated areas. | Unincorporated County Areas |
| LACoMax Materials Exchange Program | Designed to divert usable materials from disposal. Serves as an electronic marketplace where parties can exchange materials at no cost. Users of this on-line service can post or search listings of a wide variety of available and wanted materials. | Countywide |
| Library Book Recycling | The County of Los Angeles Public Library recycles 26,000 lbs. of books and paper yearly. By collecting books which have reached the end of their usefulness and diverting them from landfills, the Public Library takes a further step toward being a responsible steward of the environment. | Unincorporated County Areas |
| Pharmaceuticals - No Drugs Down the Drain | Provides for the proper collection and disposal of unused, unwanted, and expired medications. | Countywide |
| Plastic Bag Ban | An ordinance banning single-use plastic carryout bags at stores in the County unincorporated areas, while requiring they charge 10-cents for each paper carryout bag sold to a customer. The 10-cent charge on paper bags is not subject to State sales tax and will be retained by stores for use in complying with the ordinance. | Unincorporated County Areas |
| Recycling Market Development Zone (RMDZ) | Combines recycling with economic development to fuel new businesses, expand existing ones, create jobs, and divert waste from landfills. It also provides business and technical assistance, product marketing, and financial assistance to businesses that manufacture a recycled-content product or process materials for recycling. Manufacturing or processing must occur within the RMDZ. Developed by the California Department of Resources Recycling and Recovery (CalRecycle) in partnership with local jurisdictions. | Countywide |
| Residential Recycling | Teaches residents how to reduce the amount of waste they create. | Unincorporated County Areas |
| School Source Reduction Programs | Provides waste consultation to schools in unincorporated areas and youth education programs to teach students about recycling and waste reduction. | Unincorporated County Areas |
| Scrap Metal | Pitchess Detention Center and Men's Central Jail, recycle scrap metal, such as tin, copper, and aluminum. Under Project Isaiah, County Sheriff's Department and other law enforcement agencies recycle confiscated weapons into rebar. | County Operations |
| Sharps | Proper collection and disposal of home-generated sharps waste such as hypodermic needles, pen needles, intravenous needles, lancets, and other devices that are used to penetrate the skin for the delivery of medications. In addition, state approved containers are distributed to elderly and disabled residents. | Countywide |
| Sheriff/DPW Composting Pilot | Pitchess Detention Center (PDC) green waste and food waste is composted and used as a soil amendment for the PDC farm. This reduces waste going to landfills and the attendant transportation costs and dump fees. Compost production will provide soil amendments for Department farm operations. | County Operations |
| Smart Business | Helps businesses reduce the trash they generate and throw away. If a business is located in unincorporated Los Angeles County, the Business Recycling Consultants can assist in setting up or expanding waste prevention and recycling programs by providing consultation to reduce waste at no charge. | Unincorporated County Areas |
| Smart Gardening | Offers free workshops to all County residents so they can learn about backyard composting, worm composting, grass recycling, water-wise gardening, and fire-wise gardening. | Countywide |
| Solid Waste Information Management System (SWIMS) | Compiles disposal data collected from solid waste enterprises within the County. | Countywide |

APPENDIX B

Existing Sustainability Efforts and County Programs

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| <p>Southern California Regional Energy Network (SoCalREN)</p> | <p>The Southern California Regional Energy Network (SoCalREN) is a local government regional energy network (REN) pilot project serving public agencies and their constituents in the Southern California Edison (SCE) and Southern California Gas Company (SCG) service territories. Los Angeles County, will act as fiscal agent and contractor, and will lead a governance committee of representatives from the cities and counties served by the SoCalREN (including cities, counties and other selected public agencies in the SCE/SCG service territories). SoCalREN will reach nearly half of the cities in California within all or portions of the following counties: Los Angeles, Orange, Ventura, Santa Barbara, Riverside, San Bernardino, Kern, Tulare, Inyo, Mono (and very small portions of King and Fresno).</p> | <p>Unincorporated County Areas and County Operations</p> |
| <p>Sustainable Beaches Program</p> | <p>Water conservation measures in the form of high efficiency restroom fixture replacements, drought tolerant landscaping, and more efficient irrigation/controls. Alternative fuel vehicle replacements are ongoing, and nearing a total of 25% of DBH fleet. Installation of additional bike racks, LED lighting, and EV charging stations are also underway.</p> | <p>County Operations</p> |
| <p>Tire collection</p> | <p>Provides education on tire issues, conducts waste tire collection events, and constructs demonstration projects featuring practical uses for recycled tires. The waste tire events are rotated to different County areas for residents to drop off tires for free.</p> | <p>Unincorporated County Areas</p> |
| <p>TTC North County Tax Payment Processing</p> | <p>For two days each December and two days each April, taxpayers can pay their property tax bills in person in the City of Lancaster. This decreases emissions and air pollution by reducing the number of taxpayers driving downtown to make these payments.</p> | <p>Unincorporated County Areas</p> |
| <p>Youth Education</p> | <p>Programs that reach out to elementary and secondary school students to teach them about helping the environment and encourages them to make a difference in their local environment by creating campus eco-projects. It also provides development training and personalized support for school teachers including a resource guide.</p> | <p>Countywide</p> |

APPENDIX C

County Unincorporated Communities Policy & Program Options

| | | Time Frame | Resident | Business | Other Public Agency* | Waste Hauler/Operator | Stakeholders* | Costs |
|---|---|------------|----------|----------|----------------------|-----------------------|---------------|--------------|
| | | | | | | | Start-up cost | Annual costs |
| Strategy 1: Quality Programs and Services | | | | | | | | |
| A Initiative: Institutionalize Waste Prevention and Source Reduction | | | | | | | | |
| A1 | Develop model purchasing guide/policy for schools and businesses (e.g., fork dispensers instead of individually wrapped forks, recycled content office paper). | S | | Y | Y | | LOW | |
| A2 | Explore and, if feasible, develop and implement more aggressive reuse programs. | S M L | | | | | | |
| A2.a | Consider policies to discourage single-use water bottles in favor of reusable water bottles. | M | | | | | MED | LOW |
| A2.b | Research the feasibility of assigning redemption fees on items other than existing CRV beverage containers and expanding the list of CRV beverage containers to boost recycling and reuse (e.g. glass wine or liquor bottles). | M | | | | | MED | LOW |
| A2.c | Encourage local businesses to charge deposits to promote reuse of certain products (e.g. reusable milk bottles). | L | Y | Y | Y | Y | MED | MED |
| A2.d | Enable and encourage reusable to-go containers. | M | Y | Y | | | LOW | |
| A2.e | Evaluate the most effective methods for implementing and enforcing policies such as bans, requirements, or ordinances and determine the impact on residents and businesses. | M | Y | Y | Y | Y | MED | MED |
| A2.f | Promote reuse and repair for residents, businesses, non-profits and local governments with repair workshops (Repair Café and iFixit models); web-based directories for sharing reusable materials such as LACOMAX, the County's free materials exchange network; thrift stores and repair shops; reuse depots like East Bay Depot for Creative Reuse; and/or Tool Lending Libraries. | S | | | | | LOW | |
| B Initiative: Advocate for Extended Producer and Manufacturer Responsibility | | | | | | | | |
| B1 | Establish a working group with businesses, waste haulers and other interested stakeholders to develop solutions that promote EPR while ensuring materials continue to be collected and managed safely and efficiently. | S | Y | Y | Y | Y | MED | |
| B2 | Explore the feasibility of establishing a County EPR ordinance for materials such as pharmaceuticals, needles, carpet, mattresses, and battery management, while ensuring collected items are properly managed in accordance to Federal, State and local laws using environmentally sound practices. | S | | Y | | | MED | |
| B2.a | Consider legal requirements for producers to phase out toxic materials or to take back these products at the end of life. | S | | Y | | | MED | |
| B3 | Support voluntary take-back initiatives. Encourage businesses and institutions to take back designated products and packaging they sell and are sold by others in their area (especially items that are toxic in their manufacture, use, or disposal, and/or are not currently reusable, recyclable or compostable locally). | S | | Y | | | LOW | |
| B4 | Explore and implement, if feasible, a Green Business Certification that incentivizes local businesses to reduce their waste in operations and products. | M | | Y | Y | | MED | LOW |
| B5 | Promote EPR solutions that recognize fiscal challenges for small businesses and avoid, to the extent possible, increased cost to consumers. | M | Y | Y | Y | | LOW | LOW |
| C Initiative: Make Sustainability Easy and Discourage "Trashing" | | | | | | | | |
| C1 | Prior to issuing new contracts, evaluate the sustainability of the existing solid waste collection system and modify if necessary, considering: | S, M, L | Y | Y | Y | Y | MED | LOW |
| C1.a | The effectiveness of the system; | M, L | Y | Y | Y | Y | LOW | LOW |
| C1.b | Customer satisfaction; and | M, L | Y | Y | Y | Y | LOW | LOW |
| C1.c | Effectiveness of the programs and policies in helping to meet and exceed the State's waste diversion mandates, other State and County priorities, and the disposal reduction targets established in this Roadmap. | M, L | Y | Y | Y | Y | MED | LOW |
| C2 | Evaluate and implement, if feasible, alternative trash collection methods such as: reducing trash collection frequency; adjusting the size of bins; implementing a volume or weight-based trash collection system (pay as you throw); collecting additional organics in the green waste bin; and/or a two-bin collection system (wet and dry) processed at a MRF for separation and recovery. | L | Y | Y | Y | Y | HIGH | |
| C3 | Explore and implement, if feasible, revisions to current and future Franchise and Garbage Disposal District waste hauler contracts to advance the goals of the Roadmap, while respecting existing contracts. Consider: | L | | | | Y | MED | |
| C3.a | Eliminating the collection of unlimited quantities of waste. | M | | | | Y | MED | |
| C3.b | Creating incentives or requirements to meet specific diversion standards (e.g. 80% by 2025). | L | | | | Y | MED | |
| C3.c | Developing incentives for local disposal to nearest landfill or alternatives to landfills. | L | | | | Y | MED | |
| C3.d | Revising or eliminating Garbage Disposal Districts including possibly converting the residential or commercial customers to the franchise system. | L | | | | Y | MED | |
| C4 | Explore and implement, with the concurrence of residents and businesses, modification to the County Code to include warnings and penalties for not recycling, and create a mechanism to monitor and enforce recycling (e.g., cameras on waste collection vehicles). | S | | | | | LOW | MED |
| C5 | Create and support an innovative "Tech Lab" incubator for reuse/recycle enterprise development. | | | | | | | |
| C6 | Research the feasibility of implementing product bans or disposal bans where sustainable alternatives are readily available and reasonable. | S | | | | | LOW | |
| C7 | Encourage additional recycling receptacles to be placed and maintained in business corridors, especially adjacent to existing public trash receptacles. | S | | | | | LOW | |
| D Initiative: Recover Organics, including Food Waste, to the Highest and Best Uses | | | | | | | | |
| D1 | Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible. | L | Y | Y | Y | Y | LOW | MED |
| D2 | Explore and implement, if feasible, Food DROP for unused edibles. | M | Y | Y | Y | Y | MED | MED |
| D2.a | Create a database of large food waste generators such as restaurants, cafeterias, hotels, and large event venues in County Unincorporated Communities. | S | | | | | LOW | |
| D2.b | Explore and establish partnerships with food service providers, businesses, or non-profits for development and operation of Food DROP. | M | | Y | Y | | MED | |
| D2.c | Educate businesses on Bill Emerson Good Samaritan Food Donation Act to address liability concerns. | S | | Y | | | MED | |
| D3 | Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events. | M | Y | Y | | | MED | |
| D4 | Consider establishing an ordinance for the food service industry to provide compostable take-out containers and utensils, once options to compost or recover such materials are widely available. | M | Y | Y | Y | Y | MED | LOW |
| E Initiative: Maximize Diversion of Construction and Demolition (C&D) Debris | | | | | | | | |
| E1 | Revise the Construction and Demolition (C&D) Recycling and Reuse Ordinance to: | S | Y | Y | Y | Y | LOW | MED |
| E1.a | Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards. | S | | | | | LOW | |
| E1.b | Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste. | S | | | | | LOW | |
| E2 | Consider incentives to promote deconstruction and the use of salvaged materials. | S | | | | | LOW | |
| E2.a | Prepare deconstruction services guide. | S | | | | | LOW | |
| E2.b | Support used building materials outlets and stores as well as Resource Recovery Centers at landfills and transfer stations that serve the unincorporated areas of the County. | S | | | Y | Y | LOW | |
| E3 | Support historic preservation and those seeking to restore and reuse buildings, include "adaptive reuse" as a priority in building standards and encourage the remodeling or repurposing of buildings that are still functional. | M | | Y | Y | | LOW | |
| Strategy 2: Measuring Results | | | | | | | | |
| A Initiative: Waste Sector Assessment | | | | | | | | |
| A1 | Conduct assessment of waste sectors that are sending waste to disposal facilities. | S | Y | Y | Y | Y | MED | MED |
| A1.a | Conduct regular Waste Characterization Studies for entire County Unincorporated Communities (all sectors) at 5-10 year intervals to determine material types being disposed which could ultimately be recycled. Include MRFs and transfer stations, as well as self-haul, scavenging, and recycling drop off centers to determine accurate generation and diversion rates. | S | | | | | LOW | |

APPENDIX C

County Unincorporated Communities Policy & Program Options

| | | Time Frame | Resident | Business | Other Public Agency** | Waste Hauler/Operator | Stakeholders* | Costs |
|--|--|------------|----------|----------|-----------------------|-----------------------|---------------|--------------|
| | | | | | | | Start-up cost | Annual costs |
| A1.b | Conduct smaller sample audits of material types disposed that could be recycled, using hauler loads where feasible. | S | | | | | LOW | |
| A1.c | Assess the proportion of the waste that the County controls (e.g. through its franchise system) and quantities of recycling and organic waste diversion. | S | | | | | LOW | |
| A1.d | Examine the level of detail available in assessing the quantities from the various waste sectors. | S | | | | | LOW | |
| A1.e | Assess drivers that result in open market/self haulers sending waste to disposal. | S | | | | | LOW | |
| A1.f | Partner with academia to help mine data collected from waste assessments. | S | | | | | LOW | |
| A2 | Develop metrics for the movement of waste through the various stages of the solid waste management system, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system. | M | | | | | MED | MED |
| A3 | Account for scavenging and non-curb-side recycling at recycling centers. | M | | | | | MED | |
| A4 | Collaborate with organizations to offer waste stream studies to large businesses. | S | | | | | MED | |
| A4.a | Build partnerships with hospitals, schools, hotels, and large manufacturers. | S | | | | | MED | |
| B | Initiative: Evaluate and Measure the Success of Existing Programs and Consider New Programs | | | | | | | |
| B1 | Create a separate framework/template to monitor and measure the success of each new proposed program or initiative as well as existing programs. | S | | | | | LOW | |
| B1.a | Obtain feedback from residents and businesses on existing programs prior to implementing new policies and standards. | S | Y | Y | | | LOW | |
| B2 | Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion. | S | | | | | LOW | |
| B2.a | Look into ways to get more data for recycling and waste reduction such as collaboration with haulers and materials collection and processing facilities. | S | | | Y | | LOW | |
| B2.b | Develop a tracking tool to measure and assess source reduction. | M | | | | | MED | |
| B3 | Analyze the lifecycle effects of non-recyclable, single-use materials (i.e. consumer rubber products, packaging, etc.) and recycled materials. | M | | | | | MED | |
| B3.a | Partner with a research institution/university for assistance with lifecycle assessments. | M | | Y | | | MED | |
| B3.b | This lifecycle assessment would be the basis for future action by the County to phase out or ban these materials. | L | | | | | MED | |
| B4 | Create an Environmental Benefits Calculator for additional evaluation and benchmarking of programs or initiatives to recognize external benefits and successes such as greenhouse gas (GHG) reductions and water conservation. | M | | | | | MED | |
| C | Initiative: Ensure Sustainable Funding and Alignment of Incentives with Program Goals | | | | | | | |
| C1 | Annually review program expenditures and revenues to ensure efficiencies and sustainable funding. | S | | | | | LOW | MED |
| C2 | Evaluate and modify, if needed, existing revenue streams such as the Solid Waste Generation Service charge (SWGSC), to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals. | M, L | | | Y | | MED | |
| C2.a | Identify funding mechanisms/sources for current programs, and estimate future revenues from those sources. | S | | | Y | | MED | |
| C2.b | If revenues are projected to decline and programs cannot be realigned to mitigate this impact, identify options to augment revenue streams or accomplish the goals of the programs through other mechanisms, in order to ensure adequate funding is available to carry out programs and policies. | M, L | | | Y | | MED | |
| C3 | Identify options for program funding adjustments that incentivize recycling and fund diversion programs, in compliance with Prop 218 and Prop 26, as applicable. | S | Y | Y | | Y | LOW | |
| C4 | Advocate for EPR to reduce County costs for collecting abandoned materials in road right-of-ways, such as paint, carpet, furniture, and mattresses. | M | | Y | | | MED | |
| C4.a | Realize savings from program efficiencies and efforts such as EPR to ensure sustainable program funding. | L | | | | | LOW | |
| C5 | Explore grant funding and loans to augment program funding. | S | | | | | LOW | |
| C6 | Evaluate the financial impact of scavenging to recycling programs, and identify options to reduce the incidence of scavenging. | S | | | | | LOW | |
| Strategy 3: Facilities and Infrastructure | | | | | | | | |
| A | Initiative: Develop Conversion Technologies and Integrated Materials Recovery Facilities | | | | | | | |
| A1 | Establish a streamlined and coordinated County permitting process for essential waste management facilities that are environmentally safe and technically feasible located in County Unincorporated Communities, including conversion technologies, material recovery facilities (MRFs), C&D processing facilities, transfer stations, etc. | M | | Y | Y | | MED | |
| A2 | Develop educational pilot projects in County Unincorporated Communities to demonstrate the benefits and safety of conversion technologies. | L | | | | | HIGH | LOW |
| B | Initiative: Organics Processing Infrastructure | | | | | | | |
| B1 | Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the County Unincorporated Communities with AB 1826 compliance. | S | | | | | LOW | MED |
| B1.a | Identify businesses that generate large amounts of food or green waste. | S | | Y | | | LOW | |
| B1.b | Investigate opportunities to develop micro-composters or digesters in County unincorporated areas at large community venues/facilities such as schools, restaurants, grocery stores, etc. | S | | Y | Y | Y | LOW | |
| B1.c | Investigate community digesters for food waste that cannot be donated. | S | Y | Y | Y | Y | LOW | |
| B1.d | Work with County CEO Real Estate Unit to identify possible sites for anaerobic digestion facilities. | S | | | | | LOW | |
| B1.e | Investigate opportunities to develop organics diversion facilities at landfills located in County Unincorporated Communities. | S | | | Y | | LOW | |
| B2 | Partner with select County Unincorporated Communities to institute pilot compost programs that can be replicated on a broader scale if successful. | M | Y | Y | Y | Y | MED | MED |
| C | Initiative: Local Green Business & Market Development | | | | | | | |
| C1 | Seek and encourage new green businesses and remanufacturing facilities to locate in the County Unincorporated Communities. | M | | Y | | | LOW | |
| C2 | Determine how to incentivize the use of recycled products or re-use for businesses. | S | | Y | | | LOW | |
| C2.a | Seek out and promote grant funding for green businesses. | S | | Y | | | LOW | |
| C3 | Incorporate provisions to ensure the availability of a viable market for materials removed during sediment basin cleanouts. | M | | Y | | Y | LOW | |
| D | Initiative: Resource Recovery Centers and "Re-stores" in the Unincorporated Area | | | | | | | |
| D1 | Explore adoption of an ordinance or policy to develop Resource Recovery Centers, as described in the Priority Issues section, at all transfer stations and landfills in the unincorporated area. | L | | | | Y | MED | LOW |
| D2 | Explore processing of self-haul loads at transfer stations serving the County Unincorporated Communities. | M | | | | Y | MED | |
| D3 | Support private sector investment in Resource Recovery Centers for self-haul customers. | M | | | Y | Y | LOW | |
| D4 | Support siting of re-stores in County Unincorporated Communities throughout the County. | M | | | | | LOW | |
| Strategy 4: Outreach and Education | | | | | | | | |
| A | Initiative: Communication Action Plan | | | | | | | |
| A1 | Develop an outline for a unique communication plan, focused at the unincorporated community level based on demographics, resources, and commercial and industrial businesses in the targeted areas. | S | | | | | MED | MED |
| A1.a | Initiate a unifying slogan such as "Don't Waste Your Waste" in the outreach campaign, promoting the Four R's (Reduce, Reuse, Recycle, Rethink) to effect behavioral change in residents and businesses. | S | | | | | MED | MED |
| A1.b | Include face-to-face and targeted communication as part of the plan. | S | Y | Y | | | MED | |
| A1.c | Communication plan will focus on the 11 Planning Areas identified in the County General Plan, to encourage maximum participation by the community. | S | Y | Y | | | LOW | |
| A2 | Establish partnerships to build on and promote other sustainability programs. | S | | | | | LOW | |

APPENDIX C

County Unincorporated Communities Policy & Program Options

| | | Stakeholders* | | | | | | | Costs | |
|------|---|---------------|----------|----------|-----------------------|-----------------------|--------------|--------------|-------|-----|
| | | Time Frame | Resident | Business | Other Public Agency** | Waste Hauler/Operator | Startup cost | Annual costs | | |
| A3 | Create more opportunities for effective communication with businesses and residents through social media (Blog posts, Twitter, Youtube, Instagram, Facebook, Pinterest, Tumblr, etc.). | S | | | | | | | LOW | MED |
| A4 | Conduct surveys, organized by regions, to determine program effectiveness and solicit feedback. | S | Y | Y | | | | | LOW | MED |
| A5 | Educate businesses on recycling programs that can help them reduce their disposal costs and increase their recycling rate. | S | Y | Y | | | | | LOW | |
| A6 | Educate the public on policy issues relative to sustainability. | S | | Y | | | | | LOW | |
| A6.a | Produce one or more short videos to get the message out to the public. | | | | | | | | | |
| A6.b | Partner with town councils, homeowners associations, chambers of commerce, faith-based organizations, etc. to get messaging out. | | | | | | | | | |
| A7 | Educate the public on the environmental benefits and safety of conversion technology facilities and inform them of successful conversion projects. | S | Y | Y | | | | | LOW | |
| A8 | Develop a social marketing program to find the best means to encourage people to use public recycling bins. Use a "Community-Based Social Marketing" style of analysis and focus groups to measure results and implement pilot programs. | S | Y | Y | | | | | LOW | |
| A9 | Develop an awareness campaign identifying problematic products (such as household hazardous waste, disposable diapers and other single-use or hard-to-recycle items) and promote alternatives. | S | Y | Y | | | | | LOW | |
| B | Initiative: Stakeholder Engagement & Empowerment | | | | | | | | | |
| B1 | Incorporate incentives, awards, contests, etc. to encourage program participation by residents and businesses. | M | Y | | | | | | LOW | |
| B2 | Create an interactive website with a forum for residents to report their individual sustainability projects or personal waste reduction efforts. | M | Y | | | | | | LOW | |
| B3 | Sponsor an annual Business Zero Waste Workshop, with featured speakers from various zero-waste businesses demonstrating how to implement waste reduction programs in the workplace and how to measure progress. | M | | | Y | | | | MED | |
| B4 | Host planning workshops with waste haulers, businesses, multi-family complex owners, and other stakeholders to solicit feedback and foster collaboration. | S | Y | | Y | | | | LOW | |
| B5 | Collaborate with County Unincorporated Communities during development of each implementation plan to encourage a broad commitment. Cultivate partnerships with like-minded entities to maximize education and outreach capabilities. | S | | Y | | | | | MED | |
| B6 | Coordinate recycling events such as a fashion show or art show utilizing recycled and/or repurposed materials. | S | Y | Y | Y | Y | | | MED | |
| B7 | Develop case studies of model sustainability programs and promote best practices. | S | Y | Y | Y | | | | LOW | |
| B8 | Incorporate multiple languages (Arabic, Armenian, Chinese, Farsi, Korean, Spanish, Tagalog, Vietnamese, etc.) in educational and outreach efforts. | S | Y | | | | | | LOW | |
| B9 | Support the formation of "Green Teams" (groups representing chambers of commerce, property managers, faith community, schools, etc.) and encourage them to work with their networks to pursue Zero Waste. | S | | | | | | | LOW | |
| B10 | Establish a "Sustainable Community Leader" award for unincorporated County residents and businesses. Residents and businesses would be recognized for taking initiative to reduce, reuse, recycle, and compost in their home or business. | S | Y | Y | Y | Y | | | LOW | MED |

*Public Works will be the lead agency with support from the Working Group

**Other Public Agency refers to cities, Sanitation Districts, Solid Waste Management Task Force, water agencies, etc.

| | Low | Med | High |
|--------------|----------------|--------------|---------------|
| Capital Cost | <500K | 500K-5mil | >5mil |
| Annual Cost | <100K | 100K-1mil | >1mil |
| | Short Term (S) | Mid Term (M) | Long Term (L) |
| Time Frame | < 2 yrs. | 2-6 yrs. | 6+ yrs. |

APPENDIX C

Regional/Countywide Policy & Program Options

| | | Stakeholders* | | | | | | | Costs | |
|-------------|--|---------------|----------|----------|-----------------------|------------------------|---------------|--------------|-------|--|
| | | Time Frame | Resident | Business | Other Public Agency** | Waste Hauler/ Operator | Start-up cost | Annual costs | | |
| B | Initiative: Organics Processing Infrastructure | | | | | | | | | |
| B1 | Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations. | S | | | | | | LOW | MED | |
| B1.b | Explore opportunities for co-digestion of source-separated commercial organics at wastewater treatment plants with excess digester capacity. | S | | Y | Y | Y | | LOW | | |
| C | Initiative: Local Green Business & Market Development | | | | | | | | | |
| C1 | Work with partner cities in the County Recycling Market Development Zone (RMDZ) to encourage new green businesses and remanufacturing facilities to locate in Los Angeles County. | M | | Y | Y | | | LOW | | |
| C2 | Continue to seek opportunities to expand the RMDZ to include additional interested cities in Los Angeles County. | M | | | Y | | | LOW | | |
| D | Initiative: Resource Recovery Centers and “Re-stores” | | | | | | | | | |
| D1 | Partner with the Sanitation Districts of Los Angeles County and municipalities in the County to facilitate the development of Resource Recovery Centers, as described in the Priority Issues section, at all publically-owned transfer stations and landfills. | L | | | Y | Y | | MED | | |
| E | Initiative: Emergency Management – Debris Management Plan | | | | | | | | | |
| E1 | Update County’s Debris Management Plan to maximize diversion of materials following emergencies and disasters. | S | | | | | | LOW | | |
| E1.a | Include a list of as-needed emergency debris removal service contracts for handling disaster debris generated in the County Unincorporated Communities and contract Cities. | S | | Y | Y | Y | | LOW | | |
| E1.b | Identify temporary storage areas for interim stockpiling of disaster debris for recycling. | S | | | Y | Y | | LOW | | |
| E1.c | Update the list of recycling and disposal facilities for managing disaster debris. | S | | | | Y | | LOW | | |
| E1.d | Ensure debris management practices include good-faith efforts to source separate, reuse and recycle materials to the extent feasible. | S | | | | | | LOW | | |
| E1.e | Clarify lines of responsibility for various agencies. | S | | | Y | | | LOW | | |
| A | Strategy 4: Outreach and Education | | | | | | | | | |
| | Initiative: Communication Action Plan | | | | | | | | | |
| A1 | Develop an outline for a broad communication plan, promoting the Four R’s (Reduce, Reuse, Recycle, Rethink) to inspire behavioral change in residents and businesses. | S | | | | | | MED | MED | |
| A1.a | Include face-to-face and mass media communication as part of the plan. | S | | | | | | MED | MED | |
| A1.b | Brand the campaign slogan (e.g. “Don’t Waste Your Waste”) and encourage cities to adopt and include in their websites as a consistent slogan. | S | | | Y | | | LOW | | |
| A1.c | Establish partnerships to build on and promote other sustainability programs, and partner with other jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability. | S | | | | | | LOW | MED | |
| B | Initiative: Stakeholder Engagement & Empowerment | | | | | | | | | |
| B1 | Partner with universities and community colleges in the County to establish green workforce training programs and assist with data mining. | M | | | Y | | | MED | | |
| B2 | Expand the Generation Earth Battle of the School program and encourage all schools serving the County Unincorporated Communities to participate. | M | | | Y | | | MED | | |

*Public Works will be the lead agency with support from the Working Group

**Other Public Agency refers to cities, Sanitation Districts, Solid Waste Management Task Force, water agencies, etc.

| | Low | Med | High |
|--------------|----------------|--------------|---------------|
| Capital Cost | <500K | 500K-5mil | >5mil |
| Annual Cost | <100K | 100K-1mil | >1mil |
| | Short Term (S) | Mid Term (M) | Long Term (L) |
| Time Frame | < 2 yrs. | 2-6 yrs. | 6+ yrs. |

APPENDIX C

County Operations Policy & Program Options

| | | Time Frame | Resident | Business | Other Public Agency** | Waste Hauler/ Operator | Start-up Cost | Annual Costs | Stakeholders* | Cost |
|--|---|------------|----------|----------|-----------------------|------------------------|---------------|--------------|---------------|------|
| Strategy 1: Quality Programs and Services | | | | | | | | | | |
| A | Initiative: Institutionalize Waste Prevention and Source Reduction | | | | | | | | | |
| A1 | Identify areas of excess waste at County facilities and operations and create source reduction policies within the framework of the County's budget. | S | | | | | | | LOW | |
| A2 | Develop templates for programs and policies and implement them at County facilities and operations. | S | | | | | | | LOW | MED |
| A3 | Provide technical assistance, training, financing, and other resources for County Departments to ensure their success | S | | | | | | | LOW | LOW |
| A4 | Evaluate County purchasing practices: | | | | | | | | | |
| A4.a | Find ways to save money and reduce the purchase of excess food, paper, and other supplies that may be wasted and disposed of at landfills. Provide a web-based inter-department materials exchange for office supplies and equipment. Remove barriers to donating unwanted or excess materials. | M | Y | | | | | | LOW | |
| A4.b | Review and make enhancements to the County's Green Purchasing Policy to purchase products that are recyclable, compostable, reusable, repairable, and locally manufactured or grown. Publish a list of products that meet these standards. | S | | | | | | | | |
| A4.c | Identify opportunities for Countywide purchasing initiatives for recyclable or compostable service ware (or other items that may be more expensive than the hard to recycle items). | S | Y | Y | | | | | LOW | |
| A5 | Establish a Paperless Office Initiative at County facilities where feasible, incorporating e-communication as much as possible. | M | | | | | | | LOW | LOW |
| A6 | Explore and, if feasible, develop and implement more aggressive reuse programs. | | | | | | | | | |
| A6.a | Consider policies to discourage single-use water bottles in favor of reusable water bottles; Incorporate hydration stations at County facilities to encourage employees and visitors to bring reusable water containers. | M | | | | | | | MED | LOW |
| A6.b | Incorporate bulk dispensers at County facilities with cafeterias for commonly purchased items such as milk, soda, juice, and condiments to eliminate waste of individual packaged items. | M | | | | | | | MED | LOW |
| A6.c | Organize a once a month "swap yours for mine" event for employees to bring items that they would like to swap with other employees or donate. | S | | | | | | | LOW | LOW |
| A6.d | Suggest replacement systems for reducing certain materials (e.g. tablets to facilitate a paperless office). | M | | | | | | | MED | LOW |
| B | Initiative: Advocate for Extended Producer and Manufacturer Responsibility | | | | | | | | | |
| B1 | Incentivize EPR, such as reduced packaging, in County procurement and contracts, giving consideration to vendors who utilize EPR. | S | Y | | | | | | LOW | |
| C | Initiative: Make Sustainability Easy and Discourage "Trashing" | | | | | | | | | |
| C1 | Provide for recycling at public venues, wherever feasible and funded, such as beaches, libraries, hospitals, and parks and internal County functions and employee events; provide more public recycling receptacles placed adjacent to public trash receptacles. | M | Y | Y | Y | Y | | | HIGH | MED |
| C2 | Provide waste reduction technical assistance to large County venues and events. | S | | | | | | | LOW | MED |
| C3 | Enhance the County Recycling Coordinator program and develop standardized reuse and recycling processes. | S | | | | | | | LOW | |
| D | Initiative: Recover Organics, including Food Waste, to the Highest and Best Uses | | | | | | | | | |
| D1 | Explore and implement, if feasible and funded by the Board through a department's annual budget appropriations, food waste/organics collection, food drops, and composting programs at specific County facilities. | M | | Y | Y | | | | MED | MED |
| D1.a | Identify largest generators of food and green waste among County facilities. | S | | | | | | | LOW | |
| D1.b | Create a pilot program to be a model program that would be implemented at other County facilities. | M | | Y | | | | | HIGH | MED |
| D2 | Encourage and incentivize organics collection or onsite management at venues with cafeterias such as schools, hospitals, and detention centers. | L | Y | Y | Y | | | | LOW | MED |
| D3 | Research the feasibility of a mobile organics collection system for specific events like concerts and large picnic events. | M | Y | Y | Y | | | | LOW | |
| E | Initiative: Maximize diversion of Construction and Demolition (C&D) Debris | | | | | | | | | |
| E1 | Revise the Construction and Demolition (C&D) Recycling and Reuse Ordinance to: | | | | | | | | | |
| E1.a | Match new requirements established by the County's Green Building Ordinance and State Green Building Code and incorporate more green building standards. | S | Y | Y | Y | Y | | | LOW | MED |
| E1.b | Increase the diversion requirement to 70 percent for mixed C&D, 100 percent for all asphalt and concrete, unpainted wood, glass, sediment, and green waste. | S | | | | | | | LOW | |
| E1.c | Include standards for County facilities and projects. | S | | | | | | | LOW | |
| E2 | Require maintenance contracts to increase longevity of materials, such as carpet, upholstery and furniture used at County facilities. | M | Y | | | | | | MED | LOW |
| E3 | Provide incentives for green buildings, and update the County green building policy to provide incentives for use of products that are more durable, have a longer lifespan, require no additional finishing on-site, have less frequent maintenance and repair cycles, and give credits for products made from recycled content. | M | Y | Y | | | | | LOW | MED |
| Strategy 2: Measuring Results | | | | | | | | | | |
| A | Initiative: Waste Sector Assessment | | | | | | | | | |
| A1 | Develop a methodology, schedule, and budget to conduct waste generation and disposal surveys at County operations. | S | | | | | | | LOW | |
| A2 | Develop metrics for the movement of waste through County operations, and model the system for the purpose of assessing how new programs could affect the flow of waste through the system. | M | | | | | | | MED | MED |
| B | Initiative: Evaluate and Measure the Success of Existing Programs and Consider New Programs | | | | | | | | | |
| B1 | Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities. | S | | | | | | | LOW | |
| B2 | Establish benchmarks tied to waste reduction goals – disposal, recycling, other diversion. | | | | | | | | | |
| B2.a | Look into ways to get more data for recycling and waste reduction such as collaboration with haulers and materials collection and processing facilities. | S | | | Y | | | | LOW | |
| B2.b | Develop a tracking tool to measure and assess source reduction. | M | | | | | | | MED | |
| B3 | Incorporate sustainability practices and measurement in future County contracts. | S, M | | | | | | | MED | |
| C | Initiative: Ensure Sustainable Funding and Alignment of Incentives with Program Goals | | | | | | | | | |
| C1 | Review and revise County contracts, such as waste collection franchises, Garbage Disposal Districts, and facility permits to create incentives to reduce waste, such as requiring green waste diversion in landscaping and tree trimming contracts. | L | | | Y | | | | MED | |
| C2 | Combine or consolidate shared services and logistics across County departments to reduce operational costs. | S | | | | | | | LOW | |
| C3 | Involve key County departments including the Chief Executive Office, Public Works, Internal Services and other affected department(s) to identify County funding options during the budget cycle to implement County facility initiatives. | S | | | | | | | LOW | |
| C4 | Explore incentivizing departments to create budgetary savings in solid waste management that, with CEO concurrence and Board approval, could be redirected to a department's operating budget for main mission services and programs. | M | | | | | | | MED | |
| Strategy 3: Facilities and Infrastructure | | | | | | | | | | |
| A | Initiative: Develop Conversion Technologies and Integrated Materials Recovery Facilities | | | | | | | | | |
| A1 | Develop educational pilot projects, as funding is identified, at County facilities to demonstrate the benefits and safety of conversion technologies. | L | | | | | | | HIGH | LOW |

APPENDIX C

County Operations Policy & Program Options

| | | Stakeholders* | | | | | | Cost |
|--|--|---------------|----------|----------|-----------------------|-----------------------|--------------|--------------|
| | | Time Frame | Resident | Business | Other Public Agency** | Waste Hauler/Operator | Startup Cost | Annual Costs |
| A2 | Develop guidelines for utilizing byproducts generated through alternative technology facilities for beneficial purposes at County facilities and in County projects. | S | | | | | LOW | |
| Initiative: Organics Processing Infrastructure | | | | | | | | |
| B1 | Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible. | L | | | | | MED | |
| B1.a | Create a list of County facilities that generate large amounts of food or green waste. | S | | | | | LOW | |
| B1.b | Identify at least two micro-composter pilot project opportunities, including required funding, at County facilities that would foster interdepartmental collaboration and help meet the solid waste management needs of one or more large County departments. | M | | | | | LOW | |
| B1.c | Develop guidelines for utilizing locally-produced compost and mulch in County projects and at County facilities. | M | | | | | LOW | |
| B1.d | Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility. | M | | | | | MED | |
| Initiative: Local Green Business & Market Development | | | | | | | | |
| C1 | Promote the use of recycled materials (e.g. glass, compost) generated from County operations at County facilities wherever feasible. | S | | | | | MED | |
| C2 | Determine how to incentivize the use of recycled products or re-use for County operations. | S | Y | | | | LOW | |
| Strategy 4: Outreach and Education | | | | | | | | |
| Initiative: Stakeholder Engagement & Empowerment | | | | | | | | |
| A1 | Incorporate incentives, awards, contests, etc. to encourage employee participation in sustainability programs. | M | Y | | | | LOW | |
| A2 | Create an interactive website with a forum for Departments to report their individual sustainability projects or personal waste reduction efforts, including budgetary savings and efficiencies. | M | Y | | | | LOW | |
| Initiative: Leadership in Sustainability | | | | | | | | |
| C1 | Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys. | M | | | | | HIGH | |
| C2 | Encourage innovation by establishing a fund for composting projects or facilities to be developed by County departments or in consultation with private operators. | S | Y | Y | | | LOW | |
| C3 | Provide training for staff in advance of any new initiative impacting County-owned or operated facilities. | S | | | | | MED | MED |
| C4 | Establish an internal Sustainability Ambassador program for County employees to be responsible for monitoring recycling and composting bins in their designated work area and provide information on upcoming sustainability training available to County staff. | S | | | | | MED | MED |
| C4.a | Encourage recycling coordinators from each Department to meet routinely to share ideas, coordinate efforts, and provide progress reports. | S | | | | | LOW | MED |
| C4.b | Assign the Internal Services Department or a partner department to oversee waste reduction for Departments without facilities staff. | S | | | | | MED | MED |
| C5 | Apply for a Productivity Investment Fund grant (or similar grant) to implement a pilot program within the County family to fully implement the Roadmap recommendations. | S | | | | | LOW | |

*Public Works will be the lead agency with support from the Working Group

**Other Public Agency refers to cities, Sanitation Districts, Solid Waste Management Task Force, water agencies, etc.

| | Low | Med | High |
|--------------|----------------|--------------|---------------|
| Capital Cost | <500K | 500K-5mil | >5mil |
| Annual Cost | <100K | 100K-1mil | >1mil |
| | Short Term (S) | Mid Term (M) | Long Term (L) |
| Time Frame | < 2 yrs. | 2-6 yrs. | 6+ yrs. |