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October 25, 2016

TO: Each Supervisor
FROM: Gail Farber 
Director of Public Works

**BOARD MEETING OF OCTOBER 21, 2014, AGENDA ITEM NO. 34
ROADMAP TO A SUSTAINABLE WASTE MANAGEMENT FUTURE
ANNUAL REPORT: OCTOBER 2015 THROUGH OCTOBER 2016**

On October 21, 2014, the Board of Supervisors adopted the Roadmap to a Sustainable Waste Management Future. The Roadmap identifies three focus areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed of at landfills.

The Board directed the Department of Public Works to submit annual reports on the progress of the implementation of the Roadmap. Attached is the second Annual Report in response to this Board action for the period of October 2015 through October 2016.

If you have any questions regarding this report, please contact me or your staff may contact Shari Afshari at (626) 458-4008 or safshari@dpw.lacounty.gov.

VO:jl

P:\Sec\Roadmap Report Oct. 2015 - Oct.2016 (Memo).docx

Attach.

cc: Chief Executive Office (Rochelle Goff)
County Counsel
Executive Office
All County Departments

2016

Report to the Board

**Roadmap to a Sustainable
Waste Management Future**



October 25, 2016

Roadmap Participant List

Prepared in coordination with the Roadmap Working Group, which includes the following County Departments and Special Districts:

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

Other Roadmap participating County Departments:

Agricultural Commissioner/ Weights & Measures	Fire
Alternate Public Defender	Human Resources
Animal Care and Control	Medical Examiner – Coroner
Arts Commission	Mental Health
Auditor-Controller	Military and Veterans Affairs
Beaches and Harbors	Parks and Recreation
Board of Supervisors	Probation
County Counsel	Public Social Services
District Attorney	Registrar-Recorder/County Clerk
	Treasurer and Tax Collector

Participating Cities:

City of Burbank
City of Glendale
City of Long Beach
City of Palmdale

Other Participants:

Algalita
Seed Consulting Group

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EXECUTIVE SUMMARY

On October 21, 2014, the Los Angeles County (County) Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). This second Annual Report on the Roadmap summarizes the activities, initiatives, and programs implemented by the Department of Public Works (Public Works) in coordination with the Roadmap Interdepartmental Working Group (Working Group) for the 12-month period ending on October 21, 2016.

The Roadmap identified priority issues, and the strategies and initiatives to address them within three Focus Areas: (1) County Unincorporated Communities, (2) Regional/Countywide, and (3) County Operations. The priority issues are described below and the progress on the strategies and initiatives within each Focus Area is discussed in detail in the body of the report.

PRIORITY ISSUES

This reporting year, progress was made on all 12 priority issues identified in the Roadmap, including Resource Recovery Centers, which was not discussed in the first Annual Report. The following is a highlighted summary of the progress to date:



Organic Waste Management: Organic waste is the largest component of the waste stream currently being disposed. As such, management of organic waste is addressed across all Roadmap focus areas and strategies. A comprehensive Organics Management Plan describing the County's role and efforts to comply with Assembly Bill 1826 (AB 1826, 2014 Mandatory Commercial Organics Recycling) has been developed. Milestones within the plan include identifying and educating businesses and County facilities that are within the first tier of compliance for organics recycling under AB 1826, conducting pilot organic waste collection projects, and conducting an analysis on the need for additional processing capacity. The comprehensive plan addresses on-site coordination (County Operations), collection (County Unincorporated Communities), and the end-destination (Regional/Countywide) for organics management.



Conversion Technologies: Public Works continued to facilitate the development of Conversion Technology (CT) projects in the County by providing technical assistance, educating stakeholders, and working to remove regulatory barriers. CTs are critical to reducing reliance on landfills and recovering energy, fuels, and other products from waste. Public Works has been providing semi-annual status reports to the Board on the development of CT facilities that would serve Los Angeles County. Progress has been made on the CT projects at the Joint Water Pollution Control Plant, Perris Materials Recovery Facility, Lancaster Landfill, and Pitchess Detention Center. These four projects are discussed further under the Regional/Countywide section of the report.

Public Works hosted the 2016 Southern California Conversion Technology Conference (SCCTC) on July 29, 2016. SCCTC provided local government officials, the waste hauling industry, environmental organizations, technology vendors, and the financial industry a valuable opportunity to exchange information and learn about all aspects of CTs and ways to spur their development in California. Public Works presented the results of a Comparative Greenhouse Gas (GHG) Emissions Analysis, which demonstrates the GHG emissions reduction benefits of an integrated CT facility versus landfill disposal.

Public Works also established numerical milestones to measure progress in implementing the CT program starting with the current in-County CT capacity of 65 tons per day (tpd) and continuously increasing the capacity to reach 3,000 tpd of conversion capacity by 2035. The County has met the first milestone and is on track to achieve the next milestone of 200 tpd in-County waste conversion capacity by 2020. All future CT updates to the Board will be provided within the Roadmap annual report.



Product Stewardship/Extended Producer Responsibility: Extended Producer Responsibility (EPR) remains a high priority. A draft ordinance was presented to the Board for a Pharmaceutical and Sharps EPR Program; however the Board directed a voluntary Industry-led program consisting of public education and outreach and quarterly collection events for the unincorporated communities of the County. Industry submitted a revised proposal on August 12, 2016. However, following review by the Department of Public Health and the County EPR Working Group, the proposal was not approved and the Industry was provided feedback in order to strengthen its proposal to meet the Board's intention. As of September 16, 2016, the Industry informed the Board members that they plan to launch the MyOldMeds campaign in October 2016. A report is due to the Board on November 1, 2016, from the Working Group.



Household Hazardous Waste and Electronic Waste: Public Works reevaluated the Household Hazardous Waste and Electronic Waste (HHW/E-Waste) Program schedule and collection data to identify ways in which customer service and efficiency could be enhanced. As a result, Public Works will add two more collection events in 2017 and will revise the 2017 event schedule to offer convenient opportunities for residents to properly dispose of their HHW/E-Waste throughout the year. By the end of 2016, handheld electronic devices will replace the paper surveys currently being used to gather information during HHW/E-Waste collection events.



Emergency Management and Regional Debris Management Planning: Completed a new Countywide Operational Area Mass Debris Management Plan (OA MDMP), which will be shared with all 88 cities within the County. The OA MDMP will serve as a resource guide to establish a collaborative and coordinated mass debris management structure during a major emergency or disaster and maximize the diversion of material. Work has also begun on an Unincorporated Area Mass Debris Management Plan specific to the Unincorporated County Communities. County agencies involved in this effort include Public Works, the Chief Executive Office (CEO)/Office of Emergency Management (OEM), Public Health, the Sheriff's Department (LASD), Fire Department, and the County Sanitation Districts.



Waste Prevention and Source Reduction: Public Works increased efforts to promote the Los Angeles County Materials Exchange (LACoMAX) program. This is a free service that helps residents, businesses, and organizations find an alternative to the disposal of unwanted materials at landfills. Public Works, in collaboration with the Internal Services Department (ISD), is developing a proposal to update the County's Surplus Policy and incorporate LACoMAX as an additional diversion option prior to disposing materials at landfills. In addition, Public Health, in collaboration with a team of County Departments and other stakeholders, is working on the Los Angeles County Food Recovery Initiative, a food donation program aimed at preventing food waste from occurring, promoting safe food donation, and promoting safe food waste recycling.



Construction and Demolition Debris: Public Works drafted revisions to the County's Construction & Demolition (C&D) Debris Recycling Ordinance to increase the required minimum recycling rate from 50 percent to 70 percent. Public Works is currently preparing to release the draft Ordinance for stakeholder review and comment. Based on the stakeholder feedback, the draft Ordinance will be revised and the proposed Ordinance will be submitted for Board consideration in summer 2017.



Resource Recovery Centers: A portion of materials disposed are from self-haul customers at landfills and transfer stations. Resource recovery centers would allow materials to be dropped off for donation or buyback and provide a place to co-locate synergistic diversion-related activities. Discussions have begun with stakeholders such as cities on options to develop resource recovery centers in the County to address the need and aid in diverting useful materials from going to the landfill.



Assessment and Evaluation: During this reporting year, Public Works conducted waste characterization studies at three large County facilities. These include LASD's Twin Towers, the Department of Health Services Headquarters, and Public Works Headquarters. In January 2016, a new Commercial and Industrial Recycling Program (CIRP) contract was executed to provide the resources to help businesses and institutions, such as County facilities achieve large-scale waste diversion and recycling, as well as implement environmentally sustainable practices and zero-waste programs. The CIRP contractor has conducted site visits at the Los Angeles County Museum of Art and LAC+USC Medical Center. Additional site visits will be scheduled throughout the year for County facilities.

Separate from the CIRP site visits and the waste characterization studies conducted at County facilities, a contract is being finalized for a comprehensive waste characterization study for all of Unincorporated Los Angeles County. The study, which is expected to begin in 2017, will help determine where best to target future waste reduction efforts outlined in the Roadmap.



Facilitating Sustainable Practices: The Working Group discussed and is currently evaluating and implementing several initiatives to facilitate waste reduction and recycling and further increase diversion rates. These include alternate trash collection methods and source reduction practices that can be implemented with ease and with minimal startup cost. These practices include: hydration stations to allow for refilling reusable water bottles; community libraries to share unused books and other reading material, similar to the one featured at Grand Park; and encouraging the use of reusable utensils and drinkware through a "Bring Your Own" campaign currently in development.



Local Green Business and Market Development: Public Works continued to serve as the Los Angeles County Recycling Market Development Zone (RMDZ) Program Administrator. The RMDZ serves the County unincorporated areas and 19 cities. The RMDZ program helped connect businesses that manufacture products using recycled-content feedstock, or process materials for recycling, with financial and marketing assistance. A joint outreach event with the City of Los Angeles RMDZ to educate manufacturing businesses about the RMDZ Program and other resources available to them is being discussed. Public Works is currently developing a proposal for a Green Business Recognition Program to encourage businesses to implement sustainable practices.



Outreach and Education: Tailored and effective outreach and education is key to driving behavior change. The Working Group has developed educational materials to inform County staff and the general public on what they can do to be more sustainable. As initiatives in the three Focus Areas are developed, additional communications and stakeholder engagement plans will be developed to address the specific educational and outreach needs of each initiative. The goal is to communicate effectively to the appropriate stakeholders and target audiences.

INTRODUCTION/BACKGROUND

On October 21, 2014, the Los Angeles County (County) Board of Supervisors (Board) adopted the Roadmap to a Sustainable Waste Management Future (Roadmap). The Roadmap identifies three Focus Areas (County Unincorporated Communities, Regional/Countywide, and County Operations) and lays out the general framework for the strategies and initiatives the County can implement to maximize the recovery of products, materials, and energy from waste that would otherwise be disposed at landfills. The Roadmap established disposal reduction targets to divert 80 percent of waste from landfill disposal by 2025, 90 percent by 2035, and 95+ percent by 2045.

The Roadmap identified the following four broad strategies for the three Focus Areas: (1) Programs and Services, (2) Measuring Results, (3) Facilities and Infrastructure, and (4) Outreach and Education.

The County has been successful in further diverting solid waste from landfills. The County Unincorporated Communities (CUCs) per capita disposal rate declined from 3.92 pounds per person per day (ppd) in 2014 to 3.78 ppd (74 percent diversion) in 2015. Therefore, the CUCs remain in compliance with the State's 50 percent waste diversion mandate and per capita disposal target of 7.4 ppd.

The following report expands on the Roadmap's progress and accomplishments in each Focus Area in its second year of implementation.

PROGRESS OF INITIATIVES BY FOCUS AREA

The Roadmap Interdepartmental Working Group (Working Group) continued to work on numerous initiatives since the last report. The following provides the progress and next steps for those initiatives advanced by the Working Group during this reporting period including some newly added initiatives to the Roadmap effort.

Detailed descriptions of the priority issues and background information on initiatives discussed in last year's annual report can be reviewed by referencing the Roadmap document and the first annual report to the Board at <http://dpw.lacounty.gov/epd/Roadmap/index.cfm>.

County Unincorporated Communities

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Explore and, if feasible, develop and implement more aggressive reuse programs.
 - 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 Los Angeles County Materials Exchange

Program (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.

Accomplishments and Milestones for the Next Annual Reporting Period

To generate traffic to the LACoMAX website, various forms of advertising have been utilized, such as flyers, attending Earth Day events, and tweets with information on current listings from the website. To increase awareness of the program we will continue to attend and/or provide informational flyers at community events in the unincorporated areas as well as include information in newsletters provided to residents. We will also continue to encourage interdepartmental collaboration, such as asking County Departments to include the LACoMAX website on their Department's website and intranet pages.

A nexus between the LACoMAX program and the Countywide Surplus Property Disposal program (Surplus Program) has been identified. Both programs facilitate diversion of materials from going to landfills. Public Works in collaboration with Internal Services Department (ISD) is drafting a Board Letter to revise the Surplus Program Policy to incorporate LACoMAX as the last step in the process to allow the general public to take the materials the County cannot donate or sell through the Surplus Program. This would allow others such as artists and do-it-yourselfers to access materials that may have been deemed trash to create artwork or make repairs thereby diverting materials from going to landfills.

Initiative B: Advocate for Extended Producer and Manufacturer Responsibility in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Explore the feasibility of establishing a County Extended Producer Responsibility (EPR) Ordinance for materials, such as pharmaceuticals and needles to ensure that collected items are properly managed in accordance with Federal, State, and local laws using environmentally sound practices.
- ❖ Support voluntary take-back initiatives. Encourage and incentivize businesses and institutions to take back products and packaging they sell and are sold by others.

Accomplishments and Milestones for the Next Annual Reporting Period

In June 2015, the Board adopted a motion directing the Department of Public Works, in coordination with the Chief Executive Office (CEO), County Counsel, Sheriff's Department (LASD), Department of Health Services, Mental Health, Department of Public Health, and the County Sanitation Districts, collaboratively, the EPR Working Group to investigate whether an EPR Ordinance would be feasible, similar to what other counties in the State have passed. In July 2015, the Working Group submitted a report that concluded an Ordinance was indeed feasible. In August 2015, the Board directed the CEO in collaboration with the County's Sustainability Council and the EPR Working Group to work with stakeholders to develop an Ordinance for their consideration. After several stakeholder meetings and a draft Ordinance, which was released for public review, the EPR Working Group presented the draft Ordinance for the Board's consideration in June 2016. The draft Ordinance was not adopted by the Board; however, the Board passed a motion which ultimately directed the EPR Working Group to work with the manufacturers of pharmaceuticals and sharps to develop a voluntary Industry-led program to (1) conduct quarterly collection events in 10 unincorporated communities, (2) implement a public education and outreach campaign, and (3) establish benchmarks to determine the success of the events and public education campaign. In August 2016, the EPR Working Group submitted a status update report to the Board.

In response, the Industry submitted an initial proposal on July 20, 2016. The EPR Working Group met with Industry representatives on July 26, 2016, for an initial review of the proposal submitted by the Industry and followed-up with an e-mail that provided a re-cap of the meeting. The Working Group provided key revisions necessary to address the intent of the June 14, 2016, Board Motion so that the Industry could submit revised plans to the Working Group for evaluation. Additionally, the Industry was provided with a list, developed by Health Services and Public Health, of the 10 unincorporated communities in which to conduct the take-back events.

The Industry submitted a revised proposal that included three component plans on August 22, 2016, which was evaluated by the Working Group. The plans were not approved and the Industry was provided with a formal letter from Health Services dated August 26, 2016, which contained recommendations for the Industry to address deficiencies in the plans. On September 16, 2016, the Industry informed the Board that they plan to launch the MyOldMeds campaign in October 2016. A report back from the EPR Working Group on these efforts is due to the Board on November 1, 2016.

Initiative C: Make Sustainability Easy and Discourage “Trashing” in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ 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 2-bin collection system (wet and dry) processed at a Materials Recovery Facility (MRF) for separation and recovery.

Accomplishments and Milestones for the Next Annual Reporting Period

An Organics Options Analysis has been completed, which provides guidance about what changes to the current system may be needed to comply with Assembly Bill (AB) 1826 and the feasibility of those changes. Some of the options identified are being further considered by Public Works with input from the Working Group. One such option is to make changes to existing contract language to include requirements for organics recycling services. This language change is currently being developed and is expected to be implemented in upcoming waste hauling contracts.

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

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Collaborate with waste haulers to develop organics collection and diversion programs in County Unincorporated Communities, where feasible.
- ❖ Explore and implement, if feasible, Food Donation Recovery Outreach Program for unused edibles in County Unincorporated Communities.

Accomplishments and Milestones for the Next Annual Reporting Period

The identification and education of businesses meeting the threshold in unincorporated areas began in February 2015 resulting in the collection of initial data:

- Waste haulers operating under the Commercial Franchise service more than 10,000 accounts, providing trash collection for businesses and multifamily units in unincorporated County areas.

- Public Works visited over 1,300 accounts with the potential to generate a large amount of organic waste and identified 435 that need to comply with the first two phases of AB 1826, which apply to businesses that generate 4 and 8 cubic yards or more of organic waste per week, respectively.

The Organics Management Plan for CUCs describes the County’s role and efforts to comply with AB 1826. Public Works has been working through the Smart Business Recycling Program and in partnership with Public Health to educate organics generating businesses on organics recycling requirements and options. In the coming year, follow-up visits will be conducted at these businesses to further assist them in their recycling efforts. The County Unincorporated Organics Management Plan also discusses the potential barriers and potential solutions to barriers involved with organic recycling.

Food Donation Recovery Outreach Program - Public Health, in coordination with Public Works and other stakeholders, has begun work on the Los Angeles County Food Recovery Initiative (LACFRI). Goals for the program include preventing food waste from occurring, promoting safe food donation, and promoting safe food waste recycling. The LACFRI Working Group is currently developing outreach materials to help increase awareness of the food waste problem and provide guidance on proper food handling, donation, and recycling.

Collection of Food Waste Pilot Project - As of July 2016, 56 businesses have been participating in the Garbage Disposal District (GDD) food waste collection pilot program and have diverted over 171 tons of organics. As part of the pilot, Republic Services is delivering the organic material to the Puente Hills MRF, operated by the County Sanitation Districts. The material is then sent to a third-party waste management company who processes the material. The processed material is either sent to the company’s anaerobic digestion facility or sent to the Sanitation Districts’ Waste Water Treatment Plant in Carson for co-digestion with sewage sludge depending on which company is doing the processing. In April 2016, a pilot organics collection program was also started with several County Commercial Franchise haulers. This pilot project is scheduled to run for 12 months and to date has collected 29 tons of organic waste, which is delivered to Puente Hills.

Initiative E: Maximize Diversion of Construction and Demolition Debris in County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Revise the Construction & Demolition (C&D) Debris Recycling Ordinance.

Accomplishments and Milestones for the Next Annual Reporting Period

The revised C&D Ordinance is 90 percent complete. The proposed revisions include (1) raising the minimum requirement to 70 percent of mixed C&D material to be recycled or reused, (2) requiring a security deposit as an incentive for businesses to comply with the recycling requirement, and (3) ensuring County projects comply with the provisions of the Ordinance. The most recent California Standards Building Code requires 65 percent diversion for construction projects and the most recent County Green Building Standards Code requires 65 percent diversion for construction projects. Additional revisions are currently being reviewed by County Counsel. Meetings with public stakeholders such as land developers, construction companies, demolition companies, C&D debris recycling facilities, and waste haulers will be conducted to obtain input prior to finalizing the Ordinance. Public Works will subsequently submit the revised C&D Ordinance to the Board for its consideration in summer 2017.

The following data has been gathered from July 1, 2005, to June 30, 2015, on C&D plans:

- 4,993 C&D plans approved
- 3,024 of the 4,993 C&D approved plans submitted Final Compliance Reports
 - 1,969 C&D projects did not submit Final Compliance Reports
- 135 C&D projects were issued administrative monetary penalties
 - 61 of the 135 C&D projects paid the administrative monetary penalties
 - Penalties are up from last year due to the summation from 2005 to 2015, compared to last year which summed up 2005 to 2014

During calendar year 2015, for the unincorporated County areas, completed projects generated 75,388 tons of C&D debris and recycled 65,743 tons of C&D debris, for an overall recycling rate of 87 percent. This number combines mixed and inert C&D debris. In addition, projects generated 85,808 tons of soil and recycled the same amount. The recycling rate from C&D increased by 6 percent compared to a year ago.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Conduct an 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.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works refined the Request for Proposals (RFP) and is in the process of soliciting a contract for a waste characterization study of the CUCs, which is projected to begin in 2017 as discussed on page 4. 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 to achieve the long-term disposal targets. A large-scale study may be needed every 5 years, with smaller individual assessments on a more frequent basis, including waste surveys at County facilities.

When data becomes available from the waste characterization study it will be used to assess the success of existing programs, evaluating the feasibility of implementing new programs in the CUCs, and assessing how these new programs would assist in achieving the County's overarching goals. Each new program or policy recommended through the Roadmap could 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 in achieving the long-term disposal reduction targets. The County may need multiple solutions tailored to specific situations. Existing County programs continuously need to be evaluated for effectiveness, cost, and determination of whether they should be maintained at their current resource expenditure level, expanded and/or modified, or eliminated. In the past year, Public Works evaluated the Countywide Battery Recycling Program where containers are available for residents to properly dispose of household batteries at County Public Libraries. As a result of this evaluation, the program was expanded from 16 libraries to 21 libraries and containers were redesigned to provide more capacity and reduce the frequency of collection, which reduces program costs.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure in the County Unincorporated Communities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate options to encourage the development of local organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations, to assist businesses in the CUCs with AB 1826 compliance.

Accomplishments and Milestones for the Next Annual Reporting Period

On October 6, 2015, the Board adopted the updated General Plan for the County, which places additional emphasis on equity and sustainability, including implementation programs for enabling critical infrastructure, such as organics diversion facilities. The Department of Regional Planning is in the process of developing a new recycling and ordinance in order to update obsolete definitions and streamline the permitting process for recycling facilities of all types, including organics recycling facilities. The Ordinance will encourage recycling and solid waste facilities in a manner that protects public health and safety, helps achieve the County's sustainability and climate goals, and promotes local management of solid waste. As mentioned, AB 1826 will create the need for additional organic waste separation and collection which in turn will necessitate the development of additional organics processing infrastructure. The Recycling and Solid Waste Ordinance is an important step in ensuring that the necessary processing infrastructure can be developed in an environmentally sustainable and equitable manner. Regional Planning will begin conducting broader outreach in early 2017 and anticipates adoption of the Ordinance and its Environmental Impact Report in 2018.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan for County Unincorporated Communities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ 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.
- ❖ Newly Added Roadmap Element: Develop a beverage container recycling outreach and education plan for multifamily residences in the County Unincorporated Communities.

Background

The existing County Beverage Container Recycling (BCR) Program consists of extensive education and outreach activities, including community engagement that encourages the 1 million County residents and businesses of the CUCs to properly manage and recycle all beverage containers. The program has conducted numerous public outreach and education campaigns comprised of local events, informational meetings, and various media outlets.

Recycling receptacles in a variety of sizes have also been purchased for distribution to local schools, multifamily complexes, and business within the CUC. The Working Group is proposing to enhance the existing BCR program by continuing education and outreach media campaigns, increasing recycling opportunities at local schools and multifamily dwellings located in the CUC.

Accomplishments and Milestones for the Next Annual Reporting Period

The Working Group was effective in facilitating a number of discussions that improved communications related to expanding education and outreach efforts to customers within the CUCs. The main goal is to educate CUC residents and businesses about waste reduction and recycling. Efforts to achieve this goal include focusing outreach on food waste reduction/prevention and sustainability, such as buying less, throwing less away, understanding food expiration dates; coordinating with other County Departments to disseminate recycling information to CUC residents and businesses; and coordinating with the business license application process to provide recycling information to business owners.

In addition, Public Works will implement a beverage container recycling outreach program for multifamily residences in the unincorporated areas of the County and at County facilities. Program goals and objectives will be developed after conducting meetings with waste haulers and recyclers to determine the type of service that would work best for the multifamily and County facilities for this program.

Regional/Countywide

Strategy 1: Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate with local municipalities and other public agencies opportunities to implement policies, such as EPR Ordinances.

Accomplishments and Milestones for the Next Annual Reporting Period

In addition to what was previously discussed in the CUC section, on June 14, 2016, the Board also directed the EPR Working Group to:

- Work with Walgreens in order to assess the performance of Walgreens' 24-hour kiosks located throughout the County.
- Report back on any established benchmarks and best practices that may have been developed as a result of their take-back operation within Walgreens' pharmacies.

The Working Group contacted Walgreens to obtain information on their 24-hour kiosks to assess the performance of its program. An update on the Walgreen's assessment will be provided separately to the Board by November 1, 2016.

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

The Working Group began addressing Initiative C this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Partner with school districts to ensure that every school in the County has a garden.

Background

In addition to the food donation program, LACFRI, aimed at preventing food waste from occurring, the Countywide School Gardening Program provides an opportunity for students and teachers to work together, learn how to grow their own food, learn how to recover food waste to produce compost, get exercise, and eat healthy. This instills pride in themselves, the community, and the environment. The gardens are an outside classroom where skills in math, science, art, health,

physical education, and social studies come together for a fun learning experience. With the skills learned and effort put into growing their own food, students will learn to value and prevent food from going to waste, which is at the top of the new waste management paradigm.

Accomplishments and Milestones for the Next Annual Reporting Period

By the end of the 2016 calendar year, the Vanguard Learning Center's School and Community Garden is expected to officially open. Located within the Compton Unified School District, the garden is an example of a successful Urban Greening Project. This project developed an under-utilized school property into a community garden with drought tolerant landscaping and shade trees, an outdoor learning center, and a system of bio-swales, which will not only improve air and water quality, but will also reduce greenhouse gas emissions.

The Countywide Smart Gardening and School Gardening Programs will continue to look for on-going and additional grant funding opportunities to support additional improvements and Urban Greening Projects throughout the County. At this time, two other projects are underway: Hillcrest Drive Elementary School located in the View Park community of Los Angeles and the Buford Seed Project located in the unincorporated community of Lennox.

Initiative E: Maximize Diversion of Household Hazardous Waste and Electronic Waste at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Work with cities and landfill operators to increase the number of permanent Household Hazardous Waste and Electronic Waste (HHW/E-Waste) collection centers where feasible.
 - Identify potential locations convenient to the community to increase participation and reduce the amount of toxic materials improperly disposed.

Accomplishments and Milestones for the Next Annual Reporting Period

Analyzed the existing HHW/E-Waste program schedule to determine if and where more events are needed. Two additional events will be added in 2017, and the 2017 schedule will be revised to more evenly distribute events in all Supervisorial Districts throughout the year. A public education and outreach campaign will be launched in 2017 and continue to 2018 to encourage participation in areas where attendance at temporary events are low.

Collection Statistics

- Approximately 11.8 million pounds of HHW/E-Waste are collected through HHW/E-Waste collection events annually:
 - Approximately 3.6 million pounds of HHW/E-Waste are collected through **1-day** collection events annually.
 - Approximately 700,000 pounds of HHW/E-Waste are collected through the **Antelope Valley Environmental Collection Center** annually.
 - Approximately 700,000 pounds of HHW/E-Waste are collected through **EDCO Environmental Collection Center** annually.
 - 6.8 million pounds of HHW/E-Waste are collected through the cities **S.A.F.E.** centers annually.

The increase in the total pounds collected this year can be attributed to an increase of resident participation as a result of continued outreach and education. In this report, we have itemized the various collection methods to reflect the pounds of HHW/E-Waste collected for each method.

The cost of the HHW/E-Waste program is substantial at approximately \$10 million annually. These costs include the routine operation of permanent centers; facilitation of temporary events including setup, collection, and disposal of the materials; and administrative functions.

1-Day Event Costs

- Average operational cost per pound - \$0.71
- Average operational cost per event - \$41,000
- Average number of households participating per event - 720
- Average cost per household per event - \$57

A major contributing factor for the decrease in cost of the 1-day events compared to last year is the PaintCare program. Residents are now able to dispose of their paint at retail stores throughout the County, which means less is being collected at the HHW/E-Waste events. In addition, the paint that is collected at the events is being diverted to the PaintCare program, so the County no longer has to pay the disposal costs.

Permanent Collection Center Costs

- Average operational cost per pound - \$0.53
- Average operational cost per event - \$22,000
- Average number of households participating per event - 588
- Average cost per household per event - \$37

The increase in cost of the permanent collection centers is due to the higher number of participating households.

Strategy 2: Measuring Results

Initiative B: Ensure Sustainable Funding and Alignment of Incentives with Program Goals at Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate and modify, if needed, existing revenue streams to mitigate funding lost from waste reduction efforts, and align incentives with waste reduction goals.
 - 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.

Accomplishments and Milestones for the Next Annual Reporting Period

As evaluations are being conducted on the need, if any, to modify existing revenues, Public Works continues to seek grants and other funding opportunities. Below is a status of Public Works' grant applications during this reporting period.

Type of Grant Application/Program	Grantor/Type of Grant	Grant Amount	Award Status
Tire Recycling Grants	Cal Recycle	\$200,000	Awarded
HHW	CalRecycle	\$75,000	Awarded
Urban Greening Project (Torrance)	California Natural Resources Agency	\$140,000	Awarded
Beverage Container Recycling	CalRecycle	\$250,000	Pending

In addition, Public Works has also entered into an agreement with Bye Bye Mattress and Blue Marble Material to fund mattress collection events for the residents in the Antelope Valley where illegal dumping is prevalent.

Public Works staff continues to provide extensive feedback on legislative actions, regulatory changes, and incentives being proposed by CalRecycle through the State budget process. Public Works sent a letter to the Governor to support increasing Cap & Trade funding for waste diversion, including organic waste diversion, and for the production of bioenergy or biofuels. Public Works staff monitored AB 1063, a bill that would increase the State fee for operators of a disposal facility from \$1.40 to \$4.00 per ton, but the bill did not make it out of committee.

Strategy 3: Facilities and Infrastructure

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

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Newly Initiated Key Element: Work with State and regional agencies, to streamline the permitting process for essential waste management facilities that are environmentally sound and technically feasible, including conversion technologies, MRFs, 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 CTs and build a coalition of organizations to do so.
- ❖ Evaluate options to establish incentives in order to level the cost differential between CT 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 CT development.

Background

Public Works is currently collaborating with Regional Planning to develop a recycling and solid waste ordinance, which will serve as a pathway to enhance development certainty and ensure public health and safety for siting and land use permitting of recycling and solid waste facilities. There have been successful CT projects around the world that use proven technologies to increase diversion and create renewable energy, fuels, and other useful products from waste materials that would otherwise end up in a landfill. CT facilities, especially anaerobic digestion (AD) facilities, will also be vital to comply with AB 1826, which requires businesses to recycle organics.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works continues to actively pursue and support the passage of legislation that encourages the siting of CT facilities. Public Works cleared a significant hurdle for the siting of biomass conversion facilities in the County by supporting Senate Bill 498 (2014), which added “non-recyclable byproduct or residue from composting,” to the definition of biomass as a way to encourage CT projects to use this feedstock.

Public Works presents at various waste conferences on our CT program and shares knowledge and resources with the goal of promoting CT. On July 29, 2016, Public Works hosted the 2016 Southern California Conversion Technology Conference (SCCTC). The conference will be discussed in further detail below.

Working with various cities in the County, Public Works has developed a list of potential CT sites in cities and CUCs. CT companies have also consulted with Public Works to discuss permitting of CT sites in the County. A number of CT projects within the County are in various stages of development, including:

- **Lancaster Landfill:** Waste Management (WM) developed a draft project concept for a CT facility and provided it Regional Planning and Public Works in September 2015. Subsequent meetings were held between the three parties to discuss the proposed project. WM has indicated that they have secured initial agreements to move forward with a full-scale composting operation, but no permitting or physical construction is expected within the immediate future.
- **Joint Water Pollution Control Plant (JWPCP):** The County Sanitation Districts continues to operate a CT demonstration project for co-digesting food waste at the District's JWPCP in the City of Carson.

WM recently increased the supply of food waste to JWPCP from 25 tons per day (tpd) to 40 tpd, due in part to the continued food waste collection pilot programs within the GDDs which began in October 2015. Starting in July 2016, collection for the County's commercial franchise food waste pilot program began. This program will provide insight on the challenges and costs associated with separate organic waste collection, which Public Works would review before implementing food waste collection throughout the unincorporated County areas. Understanding the challenges and cost associated with separate organic waste collection will assist the County in complying with AB 1826 requirements and securing a feedstock for current and potential CT projects. The pilot programs are expected to further increase the amount of food waste already being digested at the JWPCP and thus, increasing the production of biogas. The Sanitation Districts determined that it can be technically viable to expand the co-digestion project at JWPCP into a commercial-scale AD facility, if it is determined to be financially viable and after a consistent and clean food waste supply can be secured.

In addition, the Sanitation Districts partnered with Anaergia, a renewable energy and waste-to-resources company, to pilot a small-scale "press" at the Puente Hills MRF. The press is an advanced material separation technology that recovers organics from the waste stream by separating the dry inorganic fraction of the waste from the wet organic fraction. Public Works sent waste from County unincorporated areas including GDDs and commercial franchise accounts during the testing of the press. The press will also help determine organics recovery rates and contamination levels of different types of commercial and residential loads. A complete analysis and report of the results is currently being prepared by the Sanitation Districts.

- **Pitchess Detention Center (PDC):** Public Works, along with its technical consultant Alternative Resources Incorporated, is assisting LASD with preparing a draft Request for Qualifications and Proposals (RFQP) for an AD system at the PDC, a cluster of jail facilities in Castaic. The proposed \$20 million AD project would digest 40,000 tons per year (tpy) of

source-separated food and green waste from PDC, nearby County facilities, and the surrounding region to create biogas for energy generation and heat as well as compost for farming operations. However, additional consideration would need to be given to the availability and commitment of organic waste feedstock within the region. The proposed project would help reduce landfill disposal, thereby assisting County Departments and potentially businesses in complying with State legislation, including AB 1826, AB 341, and AB 32. The AD facility would be mutually beneficial to all parties involved and create useful products including a rich soil amendment for PDC farmland and biogas that could be used for low-carbon electricity, heat generation, and vehicle fuel.

- **Perris Materials Recovery Facility, CR&R Incorporated:** A local solid waste management company, CR&R Waste and Recycling Services, has completed construction of the first phase of this AD project in Riverside County. This project is designed to convert organic waste into renewable fuels for use by their waste collection vehicles. The facility will begin operating a 83,750 tpy digester in fall 2016. This facility has plans to scale-up in four equal phases and ultimately digest up to 335,000 tpy, which could allow the facility to process organic waste generated in unincorporated Los Angeles County. The facility is also expected to process waste from the City of Los Angeles starting in 2017. Construction of Phase II is approximately 50 percent complete and should be completed by the end of 2016.
- **White Paper: A Comparative Greenhouse Gas (GHG) Emissions Analysis** was commissioned by Public Works to compare the net GHG emissions of two scenarios. The baseline scenario is a transport and disposal of residuals from a mixed waste MRF in a modern sanitary landfill. The alternative scenario is processing the residuals at an Integrated MRF with CT. The Comparative Analysis shows the net environmental benefits of managing residual solid waste using AD and gasification at an integrated CT facility, as opposed to transporting it to a landfill for disposal. This analysis helps educate stakeholders of the role CT facilities can play to improve air quality and combat climate change. Public Works released the Comparative Analysis in February 2016, which has been mentioned in multiple waste management media articles.
- **SCCTC:** On July 29, 2016, Public Works hosted the SCCTC, which was attended by approximately 200 people. The goal of the conference was to educate attendees on the many benefits of an integrated approach with CTs. There was a very diverse audience including academia, local jurisdictions, regulators, elected officials, and community environmental justice groups that engaged in the discussion and expressed concerns, as well as a willingness to continue conversations and learn more about CTs and the role each stakeholder can play. Conference agenda topics included CTs and best practices throughout the world; environmental findings from CT studies and projects; permitting; and legislation. There were a total of 20 speakers including Assemblymember Mike Gatto. Because of the success of the 2016 Conference, Public Works plans to host more CT conferences in the future. Videos of the conference are posted on the www.SoCalConversion.org website.

The goal for the near future is to make significant advancement toward establishing commercial-scale CT facilities. Public Works will:

- Provide technical assistance to facilitate the CT project at PDC, including assistance with finalizing and releasing a RFQP.

- Secure new feedstock, especially organics, for CT facilities through the pilot food waste collection program in the GDDs and commercial franchise areas.
- Continue to educate stakeholders such as other jurisdictions, environmental groups, community organizations, residents, etc., about CTs and promote CT project development in the County by promoting the Comparative Analysis, hosting annual or biennial CT Conferences, and continuing to meet with technology providers and potential CT site owners.
- Continue to conduct stakeholder outreach to promote CT project development, including hosting CT conferences for Southern California on an annual or biennial basis.
- Continue to pursue legislation facilitating CT project permitting, financing, and development in the County and Statewide.
- Continue to collaborate with regional agencies to develop a streamlined permitting process for CT facilities in the County.

Initiative B: Organic Processing Infrastructure at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Evaluate opportunities to encourage the development of regional organics diversion facilities, including composting, anaerobic digestion, and chipping/grinding operations.

Accomplishments and Milestones for the Next Annual Reporting Period

An analysis was performed to determine if the County's 15-year needs can be met utilizing the existing organic waste processing capacity. The plan discusses strategies that can be adopted to meet any organic waste capacity needs. Additionally, markets for compost and other organic residuals will be identified, along with an analysis of options for mechanisms that jurisdictions may implement to ensure that commercial organic waste is collected and recycled in the most efficient and economical way. The anticipated projected completion date for the organics plan is December 2016.

Additionally, Public Works initiated a partnership with the County Sanitation Districts for a commercial organics collection pilot project. Public Works started a food waste collection pilot program which began in October 2015. Currently businesses from within the Belvedere and Firestone GDDs and Avocado Heights and Rowland Heights CUCs are participating in the program. The pilot collection program delivers food waste to the Puente Hills MRF and is being used to expand the Sanitation Districts' co-digestion operation in the City of Carson from 25 tpd to 40 tpd.

The Sanitation Districts determined that it is technically viable to expand the co-digestion project in Carson into a commercial-scale AD facility. To further increase the amount of food waste being digested at the Carson plant and increase the production of biogas, in April 2016, the food waste pilot collection program was expanded to include the County's commercial franchise; and as of July 2016, an additional 29 tons of organic waste was delivered to the MRF. This program will provide insight on the challenges and costs associated with separate organic waste collection, which will be taken into consideration as organics collection programs are implemented throughout the unincorporated County areas.

Initiative C: Local Green Business & Market Development at a Regional/Countywide level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

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

Accomplishments and Milestones for the Next Annual Reporting Period

Since the inception of the County RMDZ Zone in 1993, 190 loans have been granted to qualifying businesses. From October 2015 to October 2016, RMDZ met with five new companies to discuss possible business assistance. Out of the five companies, one company qualified for an RMDZ loan but did not pursue applying for the loan. The remaining four companies did not qualify but were provided with other business assistance resources. In 2015, U.S. Corrugated of Los Angeles, Inc., a manufacturer of cardboard boxes from recycled paper, applied for a loan in order to purchase equipment. The loan in the amount of \$2 million was disbursed in December 2015. In addition to purchasing new equipment, the company also created 80 new jobs.

The County RMDZ is exploring the possibility of partnering with the City of Los Angeles RMDZ to pool Zone Incentive Funds to further expand outreach and education for the RMDZ program. An idea being explored is to jointly host an event to educate manufacturing businesses about the RMDZ program and other programs available to them.

In August 2016, the RMDZ Administrator attended the California Financing Coordinating Committee event in Alhambra. The event was held to educate the public and local businesses about financial and technical assistance available from State and Federal agencies. The event provided the RMDZ Administrator an opportunity to meet local businesses and provide information about the program.

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

The Working Group began addressing Initiative D this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Partner with the County Sanitation Districts 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.

Background

A portion of the materials disposed 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. These facilities provide additional recycling opportunities for self-hauled loads and can make a landfill or transfer station more sustainable by diversifying revenue, conserving capacity, and extending the useful life of those facilities.

Accomplishments and Milestones for the Next Annual Reporting Period

The Working Group has begun discussions with stakeholders, such as cities on options to develop resource recovery centers to address the need for diverting useful materials from going to the landfill.

Initiative E: Emergency Management/Debris Management Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Update County's Debris Management Plan to maximize diversion of materials following emergencies and disasters.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works worked with other County Departments, including the CEO, Office of Emergency Management and agencies to develop an Operational Area Mass Debris Management Plan (OA MDMP) to identify roles and mechanisms to collect, stockpile, dispose, and recycle debris to the extent feasible following an emergency or disaster. The OA MDMP also serves as a resource guide to support the removal process for the debris and to ensure that debris collection, disposal, and recycling efforts are conducted in an efficient, economical, and environmentally beneficial manner while considering the safety of the public and personnel. The OA MDMP is 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.

The OA MDMP, which was developed by a consultant, has been completed and will serve as a resource guide for the County and its 88 cities to establish a collaborative and coordinated mass debris management structure during a major disaster event that impacts the County.

Strategy 4: Outreach and Education

Initiative A: Communication Action Plan at a Regional/Countywide Level

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ 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 partnership to build on and promote other sustainability programs, and partner with jurisdictions or agencies, as appropriate, to leverage resources and amplify the message of sustainability.

Accomplishments and Milestones for the Next Annual Reporting Period

During this reporting year, Public Works had the opportunity to act as a Juror for the Land Art Generator Initiative (LAGI) 2016, an international design competition. A benefit from participating as a Juror for LAGI 2016 was the opportunity to begin branding the Roadmap logo/messaging not just locally but internationally. The Roadmap logo was used in marketing material and on the LAGI 2016 website.

The tagline, Sustainable is Attainable, and the Roadmap logo are now being included in all outreach material developed by the Outreach and Education Subcommittee. The logo is also being used for other sustainability programs developed outside of the subcommittee to continue to increase visibility of the logo and expand its branding. The logo is being used on program material, promotional giveaways, and equipment, such as County Library Battery Recycling Program receptacles. The more exposure the Roadmap logo and slogan get, the more the Roadmap's message is understood and associated with sustainable practices.

Through the regular Roadmap meetings, we continue to identify programs and resources that can be incorporated or assist in developing outreach material or messaging to help meet the diversion goals set in the Roadmap. Some of those resources are the new members of the subcommittees as they include City and nonprofit organization representatives that bring different perspectives and experiences to the table.

Public Works is developing the scope of work to issue an RFP for a technical consultant and stakeholder engagement contract. Current contracts are being reviewed to ensure the new contract will not duplicate their efforts but enhance them. The draft language will include a creative strategist component with guidance from the Arts Commission. The work of the County's abundant creative sector, which consists of more than 3,600 nonprofit arts organizations and 228,500 artists, can be used to advance the strategies and initiatives of the Roadmap. The RFP will also include stakeholder engagement tasks for the strategies and initiatives for each of the Focus Areas of the Roadmap. Due to change of scope and additional resources needed, the RFP will now be released in 2017.

In an effort to educate residents on the importance of recycling beverage containers, the County and the LA Dodgers teamed up to launch a public education campaign, "Strike Out Landfill Waste." Out of the 21 billion beverage containers sold in California each year, 3 billion containers eligible for California Redemption Value (CRV) still end up in landfills. The campaign message emphasized the importance of recycling beverage containers to divert landfill waste and to highlight that the 3 billion containers that are not recycled equates to \$100 million of eligible CRV funds in the trash - literally. The multimedia campaign included on-air endorsements, visibility at Dodger games, freeway billboards, messaging at convenient stores, and community activation among little league teams that played baseball at Dodger Dreamfields across the County. Not only were thousands of pounds of beverage containers recycled, but nearly \$10,000 in California redemption value money was earned by and paid back to participants, five and ten cents at a time. This campaign effort was awarded the 2016 Green Leadership Award.

County Operations

Strategy 1: Quality Programs and Services

Initiative A: Institutionalize Waste Prevention and Source Reduction at County Operations

The Working Group began addressing Initiative A this year. During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Provide technical assistance, training, financing, and other resources for County Departments.
- ❖ Evaluate County purchasing practices:
 - Review and make enhancements to the County's Green Purchasing Policy and other similar policies.
- ❖ Explore and, if feasible, develop and implement more aggressive reuse programs.
 - Consider policies to discourage use of 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.
- ❖ Newly Added Roadmap Element: Identification of waste reduction opportunities at County facilities and develop Resource Management Plans to assist these facilities to achieve sustainable operations.

Background

Public Works began implementation of the Commercial and Institutional Recycling Program (CIRP) by executing a contract with a consultant to conduct site visits to County facilities located throughout the County in order to identify waste reduction opportunities and develop resource management plans to assist facilities in utilizing the latest information and technology for increasing efficiency, cost-effectiveness, and productivity of sustainable operations.

Since the inception of the County Department Recycling Program (CDRP) in 1990, the Board has instituted a number of policies related to County purchasing practices. These policies included requirements for purchasing recycled-content and remanufactured products. In 2007, ISD established the Purchase of Environmentally Preferable Products (Green Purchasing) Policy, which established objectives for the purchase of products that conserve natural resources, minimize environmental impacts, eliminate toxics, and reduce materials sent to landfills.

Under this Purchasing Policy, easy to adopt purchasing categories, (e.g., paper, and cleaning supplies), were implemented and a pricing advantage for green products was put in place. The County maintains central purchasing agreements with a catalogue of environmentally friendly and energy efficient products. Existing databases were modified for the easy identification of green products.

Single-use water bottles are used throughout the world. Although these items are frequently recycled, particularly in states like California with the CRV, many of them continue to be part of the litter stream which contributes to pollution to our environment. Public Works prepared an internal memo for a pilot program at its Headquarters facility for the installation of hydration stations to replace traditional water fountains in a few select locations. The purpose of the hydration stations is to encourage employees and visitors to the building to use reusable water containers to reduce the use of single-use water bottles. The equipment includes a filter, chiller, and counter for the number of single-use water bottles saved.

Accomplishments and Milestones for the Next Annual Reporting Period

The CIRP consultant has begun preparing Resource Management Plans for each County facility following site visits. These plans will provide recommendations for increased diversion, which may include changes in operations and services, additional equipment, and other ways to divert more materials from being landfilled while potentially reducing costs, energy, and resource consumption. Public Works anticipates the CIRP contractor will visit up to 20 County facilities throughout the County, including some in the CUCs, during the next reporting period as well as visit up to three large venues in the CUCs.

The CIRP contractor has begun preparing a zero-waste event guide which can be used by County Departments as well as by other entities conducting events. The purpose of the guide is to provide a simple checklist of activities and equipment necessary to prepare for and conduct a zero-waste event. Once completed, this guide will be shared with the entire Roadmap Working Group as well as be made available on the Roadmap website for use by external stakeholders.

ISD has organized a “Green Product Workgroup” which consists of representatives from Public Health, Probation, LASD, and Public Works to evaluate the County’s existing Green Product policies and determine which policies should be updated, and identify new policies that should be developed. These efforts are discussed at Roadmap meetings.

As of September, one hydration station has been installed at Public Works Headquarters and over 11,000 water bottles have effectively been reduced according to the counter on the hydration station since it's installation in May 2016. Public Works hopes to install three additional units by the end of the year in high traffic areas that will be accessible to many employees and visitors. Based on the success of the hydration stations, Public Works may recommend these be installed at additional County facilities.

Initiative C: Make Sustainability Easy and Discourage "Trashing" at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Expand the County Recycling Coordinator program and develop standardized reuse and recycling processes.

Accomplishments and Milestones for the Next Annual Reporting Period

At the request of Public Works, the CEO sent a letter to each County Department requesting they confirm or identify a Department Recycling Coordinator (DRC). The letter included a brief list of duties for the coordinator as well as a survey for each coordinator to complete in order to assess where improvements to the CDRP can be made. To date, 16 County Departments completed the survey. Public Works has been reaching out to the DRCs of the Departments where facility site visits through the CIRP contract will be conducted.

Departments were included in the review process of outreach materials such as sustainable practices and using reusable food ware flyers through the Working Group.

Public Works attended a Surplus Program Coordinator meeting on October 28, 2015, and presented information on the CDRP as well as discussed the LACoMAX program and how this may be incorporated into the Surplus Program. Public Works in coordination with ISD has begun preparation of a Board Letter, which is expected to be completed in the next year to update the Surplus Program to make available to the public through the LACoMAX program any surplus County materials not sold or donated to Board-approved charitable organizations.

ISD has released an amendment to the existing Facility Ancillary Services Master Agreement waste hauling contract for County Departments which includes requirements for providing organics waste recycling services to County Departments. It is expected that this amended contract will provide services to County Departments until a new hauling contract is solicited. Public Works is currently working with ISD to determine the appropriate method for soliciting a new waste hauling contract, which will meet the recycling and waste disposal needs of all County Departments.

Initiative D: Recover Organic, including Food Waste, to the Highest and Best Uses at County Facilities

The Working Group began addressing Initiative D this year. During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ 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 organic waste among County facilities.
 - Create a pilot program to be a model program that would be implemented at other County facilities.

Background

According to recent waste characterization studies, organic material is the largest component in the disposed waste stream. Organic material decomposes in landfills which generates methane gas, a potent greenhouse gas that contributes to global warming and other adverse climate changes. As discussed in previous sections, businesses including County facilities, must comply with AB 1826 according to the amount of organic waste they generate.

Public Works utilized the current waste hauling contract information provided by ISD to estimate how much organic waste County facilities generated. Factors used in the estimates considered facilities that may have cafeterias or housing, such as at hospitals, jails, and probation facilities where they prepare food or have large landscape areas, such as parks.

The current contract for Public Works Headquarters cafeteria included a section on Removal of Debris/Garbage, Kitchen Compostable Waste, and Cardboard. In order to lead by example, Public Works created a pilot food waste program at its Headquarters facility. The purpose of this pilot program is to reduce the amount of organic material that is disposed as well as to demonstrate to employees and visitors the ease of home composting and potentially at other County facilities.

Accomplishments and Milestones for Next Annual Reporting Period

Public Works compiled a list of County facilities expected to need to comply with the first tier of AB 1826 generating more than 8 cubic yards of unwanted organic material per week. A letter was sent by Public Works to each County Department informing them of the requirements of AB 1826 and also included the Tier 1 list of facilities, which will need to sign up for organics collection services in 2016. Public Works is in the process of identifying the list of Tier 2 facilities, those that generate more than 4 cubic yards of organic material, which will need organics processing services beginning on January 1, 2017.

In 2016 Public Works completed construction of its demonstration Annex Garden. Public Works Headquarters' cafeteria began implementation of the pilot food composting program in late 2015. Cafeteria staff separately collect pre-consumer food waste and store it in designated bins. The food waste is weighed, and then fed weekly to 4 individual vermicomposting bins (worm bins). Public Works' Smart Gardening contractor services the bins, harvests the produced compost and liquid, and applies the compost and liquid to the demonstration Annex Garden. There is a large sign above the worm bins to educate employees and visitors about the composting process and its benefits.

Initiative E: Maximize Diversion of Construction and Demolition Debris at County Facilities

The Working Group began addressing Initiative E this year. During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Revise the Recycling and Reuse Ordinance to:
 - Include standards for County facilities and projects.
- ❖ Newly Added Roadmap Element: Create a pilot program to serve as a model that would be implemented at other County facilities.

Background

Currently, County projects are exempted from the Construction and Demolition (C&D) Recycling and Reuse Ordinance. Under the current County specifications for capital projects, the contractor is to submit a Debris Recycling Summary on a monthly basis. In most cases, the contractor does not comply with this requirement and submits it after the project is completed. There are no

penalties for noncompliance. We are currently working on enhancing the County specifications for capital projects to include submitting the required forms on time and subjecting the project to liquidated damages for not meeting the diversion rate for debris.

Accomplishments and Milestones for Next Annual Reporting Period

The draft revision of the C&D Ordinance is being reviewed by affected divisions within Public Works. We anticipate all new capital projects will be subject to the new specifications once it becomes incorporated into the bid package by the next annual reporting period.

Strategy 2: Measuring Results

Initiative A: Waste Sector Assessment at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Develop a methodology to conduct waste generation and disposal surveys at County operations.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine which County facilities are required to comply with AB 341 and AB 1826, it is necessary to know which County facilities are generating large amounts of solid waste and organic waste. Public Works and ISD worked together on a facility survey that included questions on current service levels for County facilities, estimates of the amount of organics in the waste stream, current recycling efforts, and opportunities for additional diversion.

Waste Assessments were conducted at Health Services' Administrative offices, LASD's Twin Towers Facility, and Public Works Headquarters facility. Waste assessments at these facilities provided an in depth look at the waste streams and recommendations that each facility can implement to reduce waste. Brief waste assessments were also conducted at the County Museum of Arts and LAC+USC Medical Center. A preliminary list of County facilities has been forwarded to the CIRP contractor to conduct waste assessment studies at about 20 facilities over the next year. The list is constantly being updated in consideration of inquiries received from County Departments.

Measurement

The department facility survey form was sent to each County Department's procurement manager. More than 260 County facilities responded to the survey. The results were compiled by ISD and provided to Public Works for analysis and to aid in determining when County facilities would likely need to begin their compliance with AB 1826.

Initiative B: Evaluate and Measure the Success of Existing Programs and Consider New Programs at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Create a framework to monitor and measure the success of waste reduction programs targeted at County facilities.
- ❖ Newly Initiated Key Element: Establish benchmarks tied to waste reduction goals – disposal, recycling, and other diversion.
- ❖ Newly Added Roadmap Element: Evaluate waste reduction practices for County employees through individual employee survey and to assess the reporting period performance of the DRCs.

Background

Public Works Headquarters Cafeteria is participating in the US Environmental Protection Agency's Food Recovery Challenge, a voluntary program that tracks current food waste and sets goals for future years. Public Works had to input baseline data for 2015 and set diversion goals for 2016. Many of the goals for 2016 include working with cafeteria staff to measure the amounts of food waste diverted through various practices. By the end of 2016 there should be enough baseline data to set specific numerical goals for diversion for 2017.

Accomplishments and Milestones for the Next Annual Reporting Period

To determine the effectiveness of these recycling programs and gauge each County Department's participation in recycling efforts, the Working Group finalized and distributed a Facility Survey to each County Department. This survey provided feedback about current recycling efforts and assisted in determining the need for additional education and outreach to County Departments about existing County recycling policies. It will also help identify opportunities to achieve additional waste diversion through new policies focused on materials not currently being recycled, such as food waste and other materials.

An employee survey will also be initiated over the next year to assess waste reduction practices of individual employees, and to assess the performance of the County's DRC Program.

Another tool in discussion is a database to collect diversion data from County facilities for materials, such as paper, batteries, toner, etc. The system would initially allow vendors to login and input weight information and dates of pick up. A pilot will be conducted by Public Works prior to offering access to other County Departments. The long-term goal is to use this system to generate various types of reports, such as diversion, number of requests, and also assist with reviewing invoices.

Strategy 3: Facilities and Infrastructure

Initiative B: Organics Processing Infrastructure at County Facilities

During this reporting period, the Working Group focused on the following key elements of this Roadmap initiative:

- ❖ Establish guidelines and enable County facilities that are large-quantity food waste generators to do their own composting where feasible.
 - 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.
- ❖ Newly Initiated Key Element: Investigate sites along with cost and permitting details to construct a County anaerobic digestion facility.

Background

Additional in-County waste conversion capacity is needed to process organic waste diverted pursuant to AB 1826. Public Works established numerical milestones to increase the current in-County CT capacity from 65 tpd to 3,000 tpd of conversion capacity by 2035. The next upcoming milestone is to establish 200 tpd in-County waste conversion capacity by 2020. In order to achieve these milestones, Public Works has been collaborating with site owners, project developers, and regional permitting agencies, as well as conducting feasibility and economic analyses, in order to facilitate the development of potential CT projects in the County.

Accomplishments and Milestones for the Next Annual Reporting Period

Public Works continues to implement a pilot food waste reduction and recycling program in partnership with its onsite cafeteria. On average, 7 percent of the pre-consumer food waste generated in the cafeteria each month is diverted through food donation or is used in on-site vermicomposting (worm composting) bins.

Public Works and LASD are working together to develop a commercial scale composting operation and an anaerobic digester at PDC, a jail facility in Castaic. To make the project economically feasible, it is anticipated the total project capacity would be at least 40,000 tpy. PDC would provide the 1,000 tpy of organic waste feedstock that are generated on-site. The additional feedstock would be comprised of organic waste generated at surrounding County facilities and the local region. LASD's Twin Towers Correctional Facility and Men's Central Jail generates approximately 27,000 tpy of organic waste and could potentially supply a large portion of the project feedstock. Public Works is working with Alternative Resources, Inc., to finalize and release an RFQP for this project.

Strategy 4: Outreach and Education

Initiative B: Leadership in Sustainability at County Facilities

During this reporting period, the Working Group focused on the following key element of this Roadmap initiative:

- ❖ Work with County Departments to implement sustainable practices, where fiscally feasible, based on feedback from waste surveys.

Accomplishments and Milestones for the Next Annual Reporting Period

Through the CEO, a memo was sent to each County Department requesting that they identify their DRC. The DRCs completed surveys which are currently being reviewed and evaluated to determine the type of resources the DRCs will need to be able to meet their responsibilities.

A meeting with DRCs will be held later this year to provide participants with resources and education on various County programs, such as the Countywide Surplus Program, and County policies related to recycling and sustainability.

Through DRCs, Public Works will educate all County staff on what they can do to help meet the Roadmap's diversion goals. A sustainability tips flyer was recently approved and will be distributed to County staff along with other fact sheets on specific recycling programs. Additionally, a Bring Your Own (BYO) flyer is currently being developed to encourage County staff to BYO mug/cup, plate, and utensils to use at work.

RELEVANT SOLID WASTE MANAGEMENT STATUS REPORTS

The Board directed that the Roadmap annual report serve to consolidate other solid waste management status reports including the Conversion Technologies in Los Angeles County Six-Month Status Update and the Status Report on Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element. These reports are included below:

Conversion Technologies Update

On January 27, 2015, a Board motion instructed Public Works to provide semi-annual reports that include clear benchmarks for measuring the actual progress being made towards establishing viable CT projects, including the amount of waste to be diverted, financial viability, project status, and significant impediments that will allow the Board to meaningfully assess the efficacy of CTs in meeting the County's goal of a sustainable waste management future. On August 17, 2016, Public Works submitted the third semi-annual report to the Board.

CTs are critical to reducing our reliance on landfills and recovering energy, fuels, and other products from waste. The report notes that CT facilities are being successfully developed. After a small number of facilities become operational and demonstrate their viability, the market for CT in the County will quickly expand. The report noted that significant progress has been made in the development of CT projects in the County, including the completion of the County Sanitation Districts AD co-digestion at the Carson facility, and completion of the first phase of the AD facility in Perris.

Public Works will continue to facilitate the development of CTs in the County by working with stakeholders to identify barriers and creating solutions to those barriers as described in this report. All future CT updates to the Board will be within the Roadmap annual report.

Elsmere Canyon Landfill Status Report

On September 30, 2003, the Board instructed Public Works to take the necessary steps to remove Elsmere Canyon from the Los Angeles County Countywide Siting Element's list of future landfill sites and to report back every 60 days. Based on our August 23, 2010, status report to the Board, the reporting frequency was changed from every 60 days to semiannually. On October 21, 2014, the Board directed Public Works to consolidate the Status Report on the Removal of Elsmere Canyon Landfill from the Los Angeles County Countywide Siting Element and submit it with the Roadmap annual report.

The Siting Element is a long-term solid waste planning and policy document that describes how the County and the cities within the County plan to manage the disposal of their solid waste for a 15-year planning period as required by AB 939. AB 939 also requires the Siting Element to establish goals and policies for the proper planning and siting of landfills, inert waste landfills, waste-to-energy facilities, and alternatives to landfill technologies, such as CTs on a Countywide basis.

Since our last report, Public Works has updated the Preliminary Draft Siting Element, which was previously reviewed, and considered by the Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force in November 2012. The document has

been revised to update the base year of 2014, including disposal projections covering the planning period beginning 2014 through 2029, and to include the impacts of current legislation, such as mandatory commercial recycling (AB 341), diversion of organic waste from landfills through organics recycling programs (AB 1826), and prohibition on local disposal limits (AB 845) on the Countywide diversion and disposal quantities.

In February 2016, Public Works resubmitted the document to the Task Force for their review. The Task Force considered the revised Preliminary Draft Siting Element in April 2016. The next step entails preparation of the environmental document prior to releasing the document to the public for review. The revised Siting Element and its environmental documents will undergo additional reviews by the public in compliance with statutory and regulatory requirements, including approvals by cities, the Board, and CalRecycle.

APPENDICES

Appendix A - List of Abbreviations

AB	Assembly Bill
AD	Anaerobic Digestion
BYO	Bring Your Own
BCR	Beverage Container Recycling
CEO	Chief Executive Office
C&D	Construction and Demolition
CalRecycle	California Department of Resources and Recovery
CDRP	County Department Recycling Program
CUCs	County Unincorporated Communities
CIRP	Commercial and Institutional Recycling Program
CRV	California Refund Value
CT	Conversion Technology
DRCs	Department Recycling Coordinators
EPR	Extended Producer Responsibility
GDD	Garbage Disposal District
GHG	Greenhouse Gas
HHW/E-Waste	Household Hazardous Waste and Electronic Waste
ISD	Internal Services Department
JWPCP	Joint Water Pollution Control Plant
LACFRI	Los Angeles County Food Recovery Initiative
LACoMAX	Los Angeles County Materials Exchange program
LAGI	Land Art Generator Initiative
LASD	Los Angeles County Sheriff's Department
MRF	Materials Recovery Facility
OA MDMP	Operational Area Mass Debris Management Plan
OEM	Office of Emergency Management
PDC	Pitchess Detention Center
ppd	pounds per person per day
RFP	Request for Proposals
RFQP	Request for Qualifications and Proposals
RMDZ	Recycling Market Development Zone
Roadmap	Roadmap to a Sustainable Waste Management Future
SCCTC	Southern California Conversion Technology Conference
tpd	tons per day
tpy	tons per year
WM	Waste Management