

A DIET FOR LANDFILLS: Cutting Down on Food Waste



**2019-2020
Los Angeles County
Civil Grand Jury**

A DIET FOR LANDFILLS: Cutting Down on Food Waste

EXECUTIVE SUMMARY

"Cutting food waste is a delicious way of saving money, helping to feed the world and protect the planet."

--Tristram Stuart, Environmentalist¹

Food does not belong in the garbage. When edible, it can and should be consumed (Appendix 1 and 2). Food waste is the largest portion of the “organic waste” stream taken to landfills every year, instead of being separated and recycled for secondary use.² Diverting organic waste from landfills will significantly reduce methane gas emissions, which have a negative impact on public health and contribute to climate change.³

This Committee investigated how Los Angeles County (County) disposes of its waste, and more specifically, how it addresses one of its own diversion goals: reducing waste sent to landfills by 80% by the year 2025,⁴ with a 75% reduction in the organic waste sent there.⁵

Organic waste--which also includes green/yard waste, nonhazardous wood waste, and food-soiled paper⁶--makes up the largest portion of the garbage going to landfills.⁷ The State of California has mandated that all commercially-generated organic waste must be diverted from landfills, and recycled.⁸

According to the County sustainability plan:⁹

“Most important to the growth of organics recycling is proper source separation of waste. Any contaminated waste streams provide difficulties to waste management and oftentimes deem waste non-recyclable. It is critical that all LA County residents are educated on waste separation.”

¹ <https://www.azquotes.com/quote/1504986> (accessed 4/20/20)

² 2018 Countywide Organic Waste Management Plan Annual Report (published December 2019), <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> Page 8 (accessed on 4/16/20)

³ <https://www.epa.gov/sustainable-management-food/reducing-impact-wasted-food-feeding-soil-and-composting> (accessed 4/14/20)

⁴ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Page 1 (accessed 10/22/19)

⁵ “Los Angeles Countywide Sustainability Plan”, <https://ourcountyla.lacounty.gov/strategies/strategy-9d?goal=836>

⁶ *ibid*

⁷ https://www.salon.com/2018/12/15/already-a-climate-change-leader-california-takes-on-food-waste_partner/

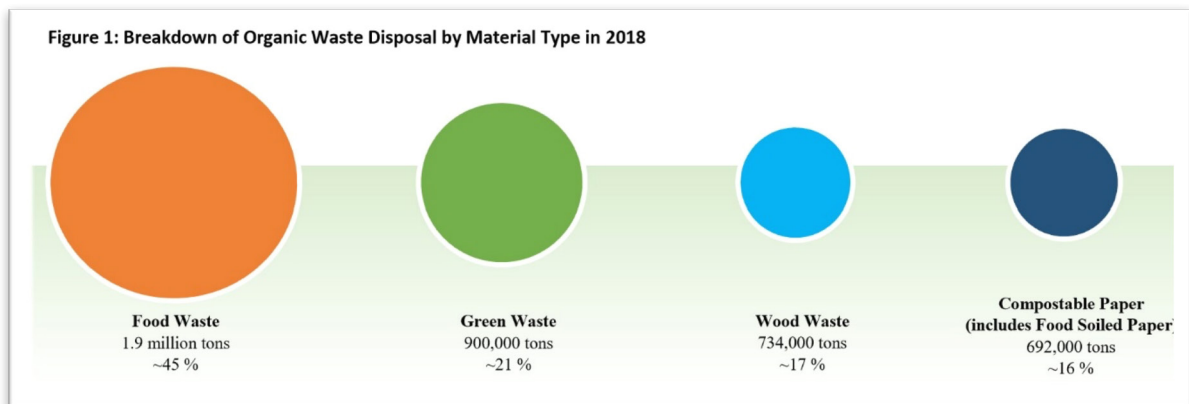
⁸ <https://www.calrecycle.ca.gov/Recycle/Commercial/Organics/>

⁹ “Our County” Los Angeles Countywide Sustainability Plan, <https://ourcountyla.lacounty.gov/strategies/strategy-9d?goal=836>

This separation of organic waste is an important component in sustaining an effective recycling program. Once organic waste is properly separated (both from the rest of the garbage, and by whether it's green or food waste), it can be processed through composting or anaerobic digestion.¹⁰

Within the County, the latest estimate shows that 1.9 million tons of food waste is being sent to landfills each year,¹¹ with a per day estimate of 4,000 to 6,000 tons.¹² In order for that to change, this Committee found that an adequate framework at the grassroots level is needed. We discovered a labyrinth of ways that food waste continues to end up in landfills, with many roadblocks standing in the way of fully implementing the State mandate.

In addition, those residents, schools, and businesses committed to appropriate food waste separation and recycling are often left to their own devices, unless their waste hauler or jurisdiction offers this service. The Committee identified several opportunities for supportive public policies that can incentivize and create avenues to increase food waste recycling and organic waste diversion rates.



*2018 Countywide Organic Waste Management Plan Annual Report
(see footnote 11)*

¹⁰ *ibid.* Compost: The product, rich in nutrients, results from the decomposition of organic material. Anaerobic Digestion: Organic matter, such as food waste or sewage, is broken down to produce biogas and biofertilizer.
<https://ourcountyla.lacounty.gov/strategies/strategy-9d?goal=836> and <https://ourcountyla.lacounty.gov/wp-content/uploads/2019/07/OurCounty-Final-Plan.pdf> Page 206 (Appendix IV)

¹¹ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> 2018 Countywide Organic Waste Management Plan Annual Report, Page 9

¹² <https://www.sgvtribune.com/2016/07/30/your-food-waste-is-clogging-up-californias-landfills-heres-how-recycling-could-fix-it/> (accessed 9/12/19)

BACKGROUND

“People put their trash out, and I like to joke that they think the trash fairies picked it up . . . they don’t know where it went . . . they just want it gone.”

--waste management expert¹³

Critical mass in the need for more effective waste management has been building for years in the County. The year 2019 provided this Committee with two urgent reasons to make changes when it comes to food waste separating and recycling.

1. Recycle Markets Collapse, Sending More Waste to Landfills

- In 2017, China announced it would no longer accept most of the mixed paper and plastics shipped from the United States and other countries.¹⁴
- Chinese officials pointed to “contamination”¹⁵ as one of the reasons they were not willing to take America’s shipments.¹⁶ All of a sudden, more material is being landfilled instead of recycled, negatively impacting the County’s diversion rates.¹⁷
- A City of Los Angeles official told this Committee that the result of the China policy change is this: previously, the City received \$1 million per year for the recyclable materials it collected; now, the City pays \$5 million per year in order to have it processed.¹⁸
- Landfills in the County will eventually reach capacity (Appendix 3).
- **County officials are looking to organics recycling as a solution.**¹⁹

2. State Mandates Big Changes in Organics Recycling

- The mission of the California Department of Resources Recycling and Recovery (CalRecycle) includes increasing “the diversion of organic materials

¹³ Per Committee interview on 1/7/20

¹⁴ China National Sword Policy, https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Page 1 (accessed 10/22/19)

¹⁵ “Recycling contamination is a significant issue. Contamination happens when items are placed in the incorrect system/bin. If recyclables are placed in the appropriate recycling bin, but contain food remnants, the food can contaminate the bin and its contents. Therefore, all the bin’s content would need to be landfilled.” Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019 https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Page 6

¹⁶ <https://e360.yale.edu/features/piling-up-how-chinas-ban-on-importing-waste-has-stalled-global-recycling> (accessed 2/20/20)

¹⁷ Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019

https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Executive Summary, Page 1

¹⁸ Interview was conducted on 2/27/20

¹⁹ Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019

https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Page 1

away from landfills and toward the production of value-added products such as compost, fertilizers, and biofuels.”²⁰

- Assembly Bill 1826 (Mandatory Commercial Organics Recycling) required the following, as of January 1, 2019:²¹ all businesses and multi-family dwellings with five units or more, generating four or more cubic yards of solid waste per week,²² must separate and recycle their organic materials.
- As of January 1, 2020, Assembly Bill 1594 requires green waste to be diverted from landfills for recycling in order to meet diversion goals.²³ Otherwise, green waste in landfills would be considered “disposal.” Landfills use green waste as Alternative Daily Cover,²⁴ part of operating a landfill.
- Failure to comply will subject the jurisdiction (whether County or a city) to fines of up to \$10,000 per day.²⁵

METHODOLOGY

1. Visited the following:

- ✓ landfills
- ✓ anaerobic digesters
- ✓ Materials Recovery Facilities (MRF, pronounced “murfs”)
- ✓ compost facilities

2. Interviewed waste management experts, including:

- ✓ County Department of Public Works officials
- ✓ municipal public works officials
- ✓ state officials
- ✓ federal officials
- ✓ waste haulers
- ✓ engineers
- ✓ academicians
- ✓ atmospheric scientists
- ✓ food policy experts
- ✓ business owners
- ✓ large facility managers

²⁰ <https://www.calrecycle.ca.gov/Organics/>

²¹ <https://www.calrecycle.ca.gov/recycle/commercial/organics/>

²² Waste of about 24 large trash bags: <https://wasteindustries.com/commercial/dumpster/4yardtrash>

²³ <https://www.cawrecycles.org/ab-1594-williams-compostable-organics-management>

²⁴ <https://www.calrecycle.ca.gov/LGCentral/Basics/ADCBasic>

²⁵ <https://www.calrecycle.ca.gov/LGCentral/Reporting/Biennial/>

- ✓ teachers and public education officials
 - ✓ non-profit organizations dealing with edible food recovery
3. Conducted in-person interviews, site visits, phone interviews, and research into a number of the 88 cities in the County to assess food waste collection services available to businesses, residents or both
 4. Conducted on-site visits to the trash areas of some buildings in the County that generate a large amount of food waste
 5. Researched cities in the United States and in other countries that are separating and recycling food waste

RESULTS OF INVESTIGATION

“In the year 2019, waste management should be more of a priority. We have the conversion technologies available: anaerobic digestion, thermal conversion, etc. . . . there isn’t any reason to throw anything in a landfill.”

--County waste management expert²⁶

Landfills

- Landfills are complex operations, with liners, rainwater collection, ground monitoring, and gas collection²⁷ (Appendix 4 “Anatomy of a Landfill”).²⁸
- “Landfills in California are the biggest belchers of methane,” the potent Greenhouse Gas (GHG) that contributes to climate change, according to a 2019 study by research scientists at the Jet Propulsion Laboratory in Pasadena, CA.²⁹ Researchers used an airborne imaging spectrometer to show that 41 percent of emissions in the atmosphere came from landfills, while the dairy, oil & gas industries contributed 26 percent each.³⁰
- Methane, as described in the Countywide Sustainability Plan, “. . . is released . . . by the decay of organic waste in landfills.”³¹

²⁶ Per Committee interview 11/19/19

²⁷ https://www.sfwma.org/wp-content/uploads/2011/11/Anatomy_of_a_Landfill.pdf (click on Anatomy of a Landfill; accessed on 5/13/20)

²⁸ The illustration was a poster the Committee saw displayed in the lobby area of the Environmental Health Protection Branch of the County Public Health Department on 2/19/20

²⁹ <https://www.sciencenews.org/article/california-landfills-are-belching-high-levels-climate-warming-methane> (accessed 1/14/20), study published in the magazine Nature, Nov. 6, 2019

³⁰ *ibid*

³¹ <https://ourcountyla.lacounty.gov/wp-content/uploads/2019/07/OurCounty-Final-Plan.pdf> Page 213 (Appendix IV) (accessed 9/13/19)

- Landfill managers showed us their onsite gas-to-energy system, which captures methane and converts it into electricity that can be used by the facility or sold. Several landfill operators expressed concern that their gas-to-energy operation depends on the organic waste brought to the landfill.
- Gas capture at landfills creates electricity and revenue for the landfill operator, but also has economic and environmental disadvantages.³² State officials report that even the best-managed landfills only capture 50% to 80% of the methane gas generated.³³
- Even closed landfills in the County may need to be managed for decades.³⁴ The South Coast Air Quality Management District held community meetings in the fall of 2019 to alert residents in East Los Angeles about Cogen Landfill, closed in 1959, which was now, 60 years later, showing elevated gas emissions.³⁵ The County is planning to build a system for managing the remaining methane gas emissions.³⁶
- Per CalRecycle: “Diverting organic waste from landfills to compost facilities and anaerobic digestion facilities, along with implementing food recovery programs, will significantly reduce methane emissions from landfills, many of which are located in or near disadvantaged communities. Reducing these emissions will have beneficial impacts on climate and public health and will result in avoided social costs. Social costs estimate the health and environmental damage that is avoided by reducing GHGs [Greenhouse Gases], as opposed to representing the cost of achieving the GHG reductions.”³⁷
- According to County officials, the demand for organic waste processing capacity is currently being handled by existing facilities located both in and out of the County.³⁸ However, looking to the future, County officials said there is a shortfall when it comes to food waste recycling infrastructure, in particular,

³² <https://www.wastedive.com/news/disputed-ground-the-future-of-landfill-gas-to-energy/557706/>

³³ CalRecycle, “Proposed Regulation for Short-Lived Climate Pollutants: Organic Waste Methane Emissions” Page 11 (document provided to Committee by County official on 12/2/19) https://www.google.com/url?client=internal-element-cse&cx=017557373779849962485:erv3s56gka0&q=https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/impactassessmnt.pdf&sa=U&ved=2ahUKewjzkd7nj_3pAhWkZjQIHQo2D18QFjABegQICRAB&usg=AOvVaw3wpNngocnTPeO9PaPSWsbG

³⁴ <https://pw.lacounty.gov/pmd1/easternhilllandfill/> (accessed 2/20/20)

³⁵ <https://pw.lacounty.gov/pmd1/easternhilllandfill/docs/City-Terrace-Community-Meeting-10.29.19.pdf>

³⁶ *ibid*

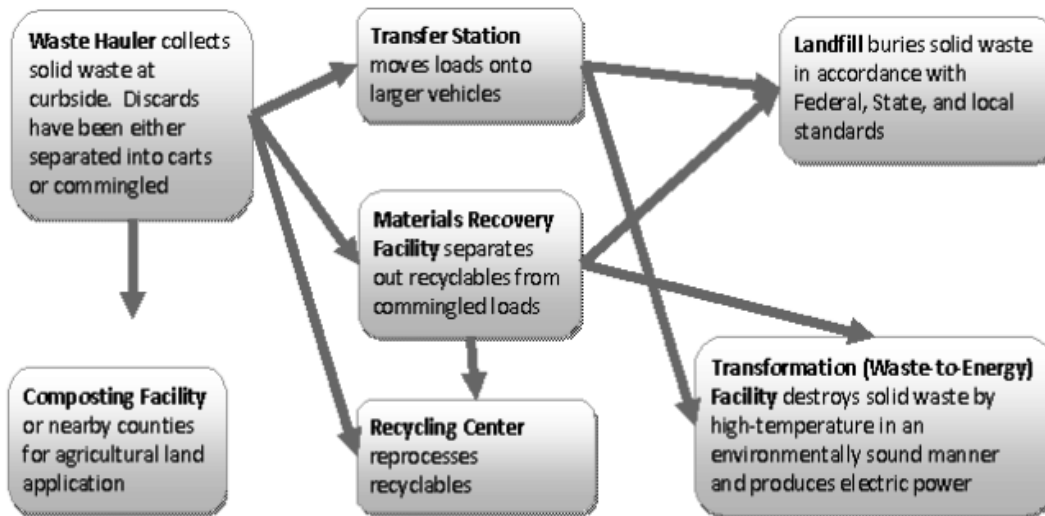
³⁷ CalRecycle, “Proposed Regulation for Short-Lived Climate Pollutants: Organic Waste Methane Emissions” Page 37 (document provided to Committee by County official on 12/2/19) https://www.google.com/url?client=internal-element-cse&cx=017557373779849962485:erv3s56gka0&q=https://www.calrecycle.ca.gov/docs/cr/laws/rulemaking/slcp/impactassessmnt.pdf&sa=U&ved=2ahUKewiP0pqbmv3pAhX2CzQIHWASARgQFjAAegQIBRAB&usg=AOvVaw0p_Lv9IiayvzUCkKqB45u

³⁸ <https://pw.lacounty.gov/epd/swims/ShowDoc.aspx?id=8693&hp=yes&type=PDF> 2018 Countywide Organic Waste Management Plan Annual Report, Page 1

and more facilities need to be built in Los Angeles County, rather than continuing to rely on out-of-County sources as has been the custom.³⁹

- Landfills we visited had a constant flow of trucks bringing in waste from throughout the County; “tipping fees” were displayed at each front gate, letting the waste hauler know the cost per ton for the material that was being brought for disposal.⁴⁰ A 2019 study by Harvard Law School⁴¹ pointed out that banning organics from landfills can lead to a reduction in landfill hauling and tipping costs.⁴²

Where solid waste goes in Los Angeles County⁴³



Waste Hauler

- ◇ The County Department of Public Works serves the 125 unincorporated areas, and has contracts with 30 authorized waste haulers, including such companies

³⁹ ibid

⁴⁰ https://www.lacsd.org/services/solidwaste/tipping_fees.asp

⁴¹ <https://wastedfood.cetonline.org/wp-content/uploads/2019/07/Harvard-Law-School-FLPC-Center-for-EcoTechnology-CET-Organic-Waste-Bans-Toolkit.pdf>, Pages 20-21 (accessed 11/4/19)

⁴² ibid

⁴³ <https://dpw.lacounty.gov/epd/swims/Help/faq.aspx> About Solid Waste, #2, “Where does our solid waste go?”

as Athens Services,⁴⁴ NASA Services,⁴⁵ Waste Management⁴⁶ and Waste Resources.⁴⁷

- ◇ Some waste-hauling companies own or operate landfills in the County or in nearby counties and take material to that landfill.
- ◇ Most of the 88 cities in the County have a contract with a single waste hauling company; a small number provide their own municipally staffed waste collection services for residential or both residential and commercial.⁴⁸
- ◇ In 2016, the City of Los Angeles created 11 franchise zones and awarded exclusive contracts to seven waste haulers to handle the waste for commercial and multifamily properties.⁴⁹
- ◇ Most communities don't offer a food waste collection service; instead, most offer one for yard and garden waste.⁵⁰ In a throwback to the City of Los Angeles' ranching days, the City offers curbside collection of horse manure to its residential horse owners.⁵¹
- ◇ There are more avenues in place for systematic collection of yard/green waste (Appendix 5).
- ◇ **Only 4% of the County's organic waste recycling infrastructure is able to accept food waste.**⁵²

Transfer Station/Materials Recovery Facility

- ◇ These are facilities that receive unprocessed waste, temporarily store it, and transport it off-site to another facility.⁵³ Some of the facilities also sort and separate, by hand, or by use of machinery, items that can be recycled or composted.⁵⁴
- ◇ Out of 20 transfer stations in the County, **only eight** are designated as having capacity to receive separated food waste.⁵⁵

⁴⁴ <https://athensservices.com/>

⁴⁵ <http://nasaservices.com/>

⁴⁶ <https://www.wm.com/us/en/mybusiness>

⁴⁷ www.wasteresources.com

⁴⁸ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Page 42

⁴⁹ <https://labusinessjournal.com/news/2016/dec/09/l-council-approves-huge-trash-franchise-system/> (accessed 10/20/19)

⁵⁰ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Page 38

⁵¹ https://www.lacitiesan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-c/s-lsh-wwd-s-c-hmc?_afLoop=9961970215956670&_afWindowMode=0&_afWindowId=null&_adf.ctrl-state=f6dfvfe8p_1#!%40%40%3F_afWindowId%3Dnull%26_afLoop%3D9961970215956670%26_afWindowMode%3D0%26_6_adf.ctrl-state%3Df6dfvfe8p_5 (accessed 5/13/20)

⁵² <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Page 32, (accessed 5/8/20)

⁵³ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019, Page 50

⁵⁴ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019, Page 48

⁵⁵ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Table 4A-1 (accessed 5/8/20)

Composting Facility

- ◇ There are eight composting facilities and 12 facilities called “chip and grind”; all of them process green waste, not food waste.⁵⁶

Waste-to-Energy Facility

- ◇ The County lists three facilities as providing Anaerobic Digestion, a process by which organic matter, such as food waste or sewage, is broken down in the absence of oxygen to produce biogas and biofertilizer.⁵⁷ Only two process food waste: the Joint Water Pollution Control Plant in Carson, and the Kroger Co (Ralphs/Food4Less) facility in Compton which recycles food waste from its own stores (around 300, from Bakersfield to San Diego).

This Committee found a patchwork system of managing food waste, whether generated from businesses or residents. A consultant hired by the County to examine the changes needed in order to build a strong organic recycling program identified 11 ways the County can do things differently,⁵⁸ including:

- Getting elected officials more involved in supporting and endorsing change
- Reducing amount of food waste at the source (Appendix 6)
- Building more capacity at nine anaerobic digestion facilities that can process food waste
- Simplifying the permitting process to increase food waste processing
- Creating incentives to start diversion; offer subsidies; modify contracts
- Adopting ordinances for single family residences and apartment buildings with less than five units, with a process that quantifies, monitors and enforces
- Emphasize education and public outreach⁵⁹

“Los Angeles County is close to the largest agricultural production center in the world and has many viable markets for organic materials . . . There is strong statewide policy, financial incentives to assist in the development of facilities, and state incentives for the marketing and sales of the by-products of organic waste recycling (like compost and mulch) . . . However, the biggest disincentive may be the status quo, which is less costly to rate-payers and provides for significant revenue for collection and disposal companies.”⁶⁰

⁵⁶ Ibid, Table 4A-1

⁵⁷ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> 2018 Countywide Organic Waste Management Plan Annual Report, Appendix B, Table 1B

⁵⁸ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Page 39

⁵⁹ ibid

⁶⁰ ibid, Page 49

“...at the end of the day, public agencies ultimately control solid waste and how it is handled. Cities and counties are already sending clear signals to their service-provider haulers on what types of facilities and programs they need to meet new legislative mandates.”⁶¹

Food Waste Recycling Examples Throughout the County

- In the unincorporated areas of the County, a few businesses currently subscribe to food waste collection services, including four supermarkets that are enrolled in the County’s pilot food waste diversion program.⁶²
- The County’s Department of Public Works headquarters in Alhambra serves as a good model for other cafeterias: food waste generated at the employee cafeteria is separated from other trash, composted in special containers outside the cafeteria, with the resulting compost used to provide nutrient-rich cover to the onsite garden (Appendix 7). Good signage and ongoing employee training are vital to this process.
- For those businesses separating food waste and having arranged its pickup by their waste hauler, the food waste is taken to the Puente Hills Materials Recovery Facility (MRF). The Committee observed that this was a small pile in a corner of the massive facility (Appendix 8). Food waste material arrives from restaurants, grocery stores, and other businesses from the following cities: Arcadia, Baldwin Park, Gardena, Glendale, Industry, La Verne, Long Beach, Los Angeles, Pasadena, Pomona, San Dimas, and Santa Fe Springs. In addition, some commercial businesses in the unincorporated communities of Hacienda Heights and Rowland Heights have made arrangements to have food waste processed at this facility, according to an official at the Sanitation Districts of Los Angeles County (the Districts).⁶³
- At the Puente Hills MRF, a bio separator turns the food waste pile into a type of “slurry” that will then be taken to the Districts’ wastewater treatment plant in Carson.⁶⁴ Digesters at the Carson plant use sewage material to turn the food waste slurry into a biogas that provides electricity to the plant, and provides compressed natural gas (CNG) for vehicles that pull up to fuel.⁶⁵

⁶¹ *ibid*, Page 49

⁶² https://dpw.lacounty.gov/epd/tf/isw/isw_2019_09.pdf Page 3 (accessed 3/23/20)

⁶³ <https://www.lacsd.org/aboutus/default.asp>

⁶⁴ <https://www.biocycle.net/2019/12/04/sanitation-districts-gear-food-waste-codigestion/>

⁶⁵ *ibid*

- **City of Los Angeles**--A City official mentioned several pilot programs that deal specifically with food waste:⁶⁶
 - some food service employees at LAX have been trained to separate food waste from the trash⁶⁷
 - 522 homes in the Westchester area have been given special garbage disposals (In-Sink Pilot) that can break down certain food waste for processing at the Hyperion Water Reclamation Plant⁶⁸
 - an upcoming pilot planned for 18,000 homes, that will allow food waste to be placed in the green bin for weekly curbside pickup⁶⁹

- **Manhattan Beach**--Since 2015, the city has offered food waste curbside pickup and recycling to all its businesses and residents, at no extra cost to them.
 - The city contracts with Waste Management for its waste hauling needs. Food waste is taken to the company's CORE food waste recycling facility in Orange and turned into "slurry."
 - The material is then transported to the wastewater treatment plant in Carson.
 - Manhattan Beach residents are billed in a Pay-As-You-Throw system,⁷⁰ where 100% of the cost is dependent on the weight of the grey-color bin, which is for regular trash.⁷¹

- **Culver City**--The city uses its own city staff for waste collection,⁷² and contracts with Athens Services for the food waste that is placed in the green bins, along with yard waste to be recycled at its composting facility in Victorville (American Organics), according to a city official.⁷³
 - Once a year, Athens brings Culver City 20 tons of the compost material and the city gives most of it away to residents as a gift for gardens.⁷⁴
 - "It is the best-smelling stuff you can imagine, it is so earthy and high-end as a nutrient for the soil," one city official told us. "Our gardeners love it."

⁶⁶ Per Committee interview on 2/27/20

⁶⁷ <https://www.lawa.org/en/lawa-sustainability/sustainability-elements-material-resource-management> (accessed 3/2/20)

⁶⁸ https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-o/s-lsh-wwd-s-o-isp:jsessionid=2bZ0gJ_enNejz3sx4nR_7yAVHcBXLbRq6WYPusobejfpXtBx7VDe!-839466798!-945519779?_adf.ctrl-state=iheptuwke_1&_afLoop=10334715382636628&_afWindowMode=0&_afWindowId=null#!%40%40%3F_afWindowId%3Dnull%26_afLoop%3D10334715382636628%26_afWindowMode%3D0%26_adf.ctrl-state%3Diheptuwke_5 (accessed 3/6/20)

⁶⁹ https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-s-o-cyfwp (accessed 10/6/19)

⁷⁰ <https://patch.com/california/manhattanbeach/city-approves-pay-as-you-throw-trash-rates>

⁷¹ https://tbrnews.com/news/manhattan-beach-food-waste-program-recycled-million-pounds-since/article_bcc4a38a-ac25-11e6-a470-1376873e5c29.html (accessed 9/25/19)

⁷² <https://wasteadvantagemag.com/from-metal-to-plastic-culver-city-ca-makes-the-move-to-more-durable-containers/>

⁷³ Committee interview on 10/22/19

⁷⁴ *ibid*

- **Claremont**--The city offers its businesses a free food waste recycling program, and hired a new driver to pick up food waste from about 65 businesses that have signed up.⁷⁵
 - The food waste (food scraps, vegetable trimmings, plate scrapings, and spoiled food) is taken to a Burrtec Industries facility in Fontana for recycling.⁷⁶
 - The city is working on expanding the food waste pickup in 2021 to all residents.⁷⁷

- **Redondo Beach**--The city contracts with Athens Services for waste disposal,⁷⁸ which offers businesses a food scrap collection program, where food waste can be placed in the green bin, along with yard waste.⁷⁹
 - “A recycling program can reduce your trash service and save you money,” according to the city’s website.⁸⁰

Food Waste Recycling in the United States and Around the World

- As of 2016, at least 198 communities in the United States offer curbside food waste pickup.⁸¹ These include cities such as:
 - ✓ **Seattle**--offers residents and businesses curbside food waste collection
 - ✓ **New York City**--offers certain businesses curbside food waste collection
 - ✓ **San Francisco**--in 1996, became the first city in the nation to establish a large-scale food composting program for businesses and residents.⁸²
 - ✓ **Santa Barbara**--offers businesses and residents food waste pickup, with a fee reduction if less trash goes to the landfill⁸³
 - ✓ **Portland**--offers curbside food waste pickup and yard waste that can be combined in the green bin

- **Alameda County**⁸⁴ offers food waste curbside collection in all of its 14 cities (including Berkeley and Oakland) and six unincorporated areas⁸⁵

⁷⁵ Committee interview with city staff member on 1/2/20

⁷⁶ Per Committee interview on 1/2/20

⁷⁷ <https://business.claremontchamber.org/blog/claremont-chamber-chatter-2371/post/organics-newsletter-article-city-of-claremont-6317> (accessed 9/13/19)

⁷⁸ <https://athensservices.com/residential-services/city-of-redondo-beach/>

⁷⁹ <https://www.redondo.org/news/displaynews.asp?NewsID=2084&TargetID=9> (accessed 10/4/19)

⁸⁰ *ibid*

⁸¹ <https://www.biocycle.net/2015/01/15/residential-food-waste-collection-in-the-u-s-2/> (accessed Jan. 8, 2020)

⁸² www.nrdc.org/resources/san-francisco-composting, published on 10/24/17, (accessed on 10/30/19)

⁸³ <https://www.santabarbaraca.gov/services/recycling/business/bins.asp> (accessed 9/27/19)

⁸⁴ <https://www.biocycle.net/2015/01/15/residential-food-waste-collection-in-the-u-s-2/>

⁸⁵ <https://dusp.mit.edu/sites/dusp.mit.edu/files/attachments/project/Municipal%20Curbside%20Compostables%20Collection%20%20What%20Works%20and%20Why.pdf> Pages 8, 11, 53-56

- Dozens of municipalities have formalized weekly drop-off programs for residential food scraps at central locations, including:
 - ✓ **Fort Worth**⁸⁶
 - ✓ **Washington D.C.**⁸⁷
 - ✓ **Buffalo**⁸⁸
 - ✓ **Orlando**⁸⁹
- **Sweden** banned organic waste from landfills in 2005; less than 1% of household waste goes to landfills; waste-to-energy infrastructure turns food waste and organic waste into biogas that runs more than 200 city buses, as well as garbage collection trucks.⁹⁰
- **South Korea** has had a Pay-As-You-Throw type system of charging households for waste collection since 2013.⁹¹ Food waste has been banned from landfills since 2005; Seoul's 10 million residents separate their food waste. These policies have led Seoul's food waste to decrease by 10%, or by more than 300 tons a day.⁹²

Schools in Los Angeles County

- Every school in the 80 school districts in the County has excess edible food and food scraps going to landfills, and County health officials have developed strategies that can help.⁹³ Cal Recycle also encourages each school district to work with its contracted waste hauling company to implement organics recycling on campus.⁹⁴
- The Los Angeles Unified School District (LAUSD), the second-largest school district in the country,⁹⁵ has a waste hauling contract with Republic Services.⁹⁶ This Committee could not find a provision for systematic food waste separation/recycling; the only two bins observed at randomly selected schools were a large blue dumpster and a black dumpster in parking lots.

⁸⁶ <https://fortworthtexas.gov/solidwaste/compost/>

⁸⁷ <https://zerowaste.dc.gov/page/food-yard-waste-residents#:~:text=Food Waste Drop-Off District residents, How to Compost at Home>

⁸⁸ <https://wasteadvantagemag.com/buffalo-ny-offers-food-scrap-recycling-program/#:~:text=The City of Buffalo is,be safely recycled into compost.>

⁸⁹ <https://www.orlando.gov/Initiatives/Food-Waste-Drop-Off>

⁹⁰ <https://www.nytimes.com/2018/09/21/climate/sweden-garbage-used-for-fuel.html> (accessed 1/15/20)

⁹¹ <https://www.theguardian.com/lifeandstyle/2014/mar/27/food-waste-around-world> (accessed 5/7/20)

⁹² <https://www.pbs.org/newshour/show/policies-helped-south-koreas-capital-decrease-food-waste> (5/4/20)

⁹³ http://publichealth.lacounty.gov/eh/docs/LACFRI_ShareTablesFoodDonationsInSchools.pdf Page 5

⁹⁴ <https://www.calrecycle.ca.gov/reducewaste/schools>

⁹⁵ <https://achieve.lausd.net/about#:~:text=Second largest in the nation,,School District Board of Education.>

⁹⁶ <https://home.lausd.net/apps/news/article/322535> (accessed 5/10/20)

- **LAUSD throws away 600 tons of food waste each week, at a cost of at least \$100,000.**⁹⁷ In 2017, Gov. Jerry Brown signed a law that allows campuses to collect unopened items and untouched fruit and donate them to food banks.⁹⁸ In addition, there is a program called Share Table (Appendix 6) where unwanted items can be safely offered to those who want them.
- In Los Angeles County, an estimated two million people face food insecurity.⁹⁹
- Education officials interviewed by this Committee spoke about some LAUSD schools, where children as young as preschool-age learn about separating food waste, and teachers and volunteer parents use a compost bin onsite in order to “feed” the school garden.¹⁰⁰ However, several education officials stated that many schools do not recycle food waste, and the dumpsters are only for trash and recyclables.
- Aside from a school garden increasing healthy eating habits in children,¹⁰¹ the care and maintenance of a garden teaches students about food waste and composting. A County official told this Committee that a garden on every campus would need institutional support from top leadership in order to be sustained.¹⁰²
- A County health education official expressed frustration that nutrition education is getting short shrift at schools and recounted a health insurance executive stating: “We keep seeing kids with Type II diabetes, who don’t know the difference between a protein and a carbohydrate.”¹⁰³
- A survey sent to all school districts by the County Department of Public Health in 2019 to assess food waste on the 2,206 campuses in the County got a 50% response rate, according to a County health official.¹⁰⁴ A preliminary look at the results showed a wide variety of recommended strategies being used to reduce food waste: from “Offer vs. Serve,” to using the Share Table idea.¹⁰⁵ Only 3% of schools reported composting food scraps onsite or offsite, according to the County health official.

⁹⁷ <https://www.latimes.com/local/lanow/la-me-edu-school-food-waste-law-20170928-story.html> (accessed 5/10/20)

⁹⁸ *ibid*

⁹⁹ <https://www.lafoodbank.org/about/hunger-in-la/> (accessed 9/20/19)

¹⁰⁰ Committee interview on 2/25/20

¹⁰¹ <https://www.heart.org/en/professional/educator/teaching-gardens>

¹⁰² Committee interview on 2/25/20

¹⁰³ *ibid*

¹⁰⁴ Committee interview on 1/3/20

¹⁰⁵ <http://publichealth.lacounty.gov/eh/LACFRI/>

- The County Department of Public Works offers free consultations and materials in a School Garden Program,¹⁰⁶ and has installed gardens at Fishburn Elementary School in Maywood and McKinley Elementary School in San Gabriel.¹⁰⁷

Obstacles for those who want to recycle food waste

- Even when restaurants WANT to separate and recycle food waste, they are thwarted: the waste hauler takes it to a landfill anyway (Sweetgreen example)¹⁰⁸
- Cafeterias located in some buildings owned and/or managed by the State (case in point, the cafeteria on the ground floor of the Clara Shortridge Foltz Criminal Justice Center in Downtown Los Angeles)¹⁰⁹ do not have any visible mechanism for separating/recycling food waste, according to numerous Committee visits per week over a period of several months. According to an interview with a cafeteria employee on November 15, 2019, the only product recycled is cooking oil.
- The Committee also interviewed a waste expert familiar with the workings of the Clara Shortridge Foltz building who said food waste collected from the cafeteria, as well as waste that ends up in the large dumpsters in the loading dock area of the building, is probably going to a landfill.¹¹⁰ “There is just so much contamination in the bins,” the expert told our Committee. “It’s cheaper and easier for companies just to take it to a landfill. All staff would need training about separating in order for organics recycling to work.” Committee members visited the loading dock area on October 15, 2019, and observed seven large dumpsters, most filled with trash bags that appeared to be unsorted, and blue recycling-designated dumpsters empty and off to the side.
- The expert, who is also familiar with waste collection in the Downtown Los Angeles area, told our Committee that all large companies and agencies in the area are encouraged to recycle food waste, but few do. Waste hauling companies that collect trash have to pay to dump the trash, and they “have to pay more to dump organics, so there needs to be more of an incentive” to get properly-sorted waste to its proper destination.¹¹¹

¹⁰⁶ <https://dpw.lacounty.gov/epd/sg/school.cfm>

¹⁰⁷ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019, Page 19

¹⁰⁸ <https://www.latimes.com/business/technology/story/2020-01-15/sweetgreen-green-image>

¹⁰⁹ Per Committee interview on 10/15/19, where the “LunchStop Weekly Menu” was provided to cafeteria patrons at the Clara Shortridge Foltz Criminal Justice Center

¹¹⁰ Committee interview on 10/15/19

¹¹¹ *ibid*

- This Committee identified a food vendor company called LunchStop,¹¹² which offers franchisees the opportunity to operate employee and other types of cafeterias¹¹³ in the County. Some are in courthouses (such as the one in Pasadena¹¹⁴ and the one at the Edmund D. Edelman Children’s Court¹¹⁵) with no visible food waste recycling option that our Committee could determine.
- While many courthouses in Los Angeles County are under the jurisdiction of the State (Judicial Council of California), most cafeterias in these buildings are inspected by the County Department of Public Health.¹¹⁶
- Even in some buildings or facilities where the County has jurisdiction, the cafeteria vendor does not appear to offer food waste separation/recycling, e.g., at the cafeteria operated by a LunchStop franchisee in the Hall of Administration,¹¹⁷ where the County Board of Supervisors meets. Our Committee also learned that there is no separation/recycling of food waste at the Hollywood Bowl,¹¹⁸ where the County has contracts with other food vendors.¹¹⁹
- Some employees at businesses that have special bins throughout the store (Target, Costco, etc.) with special signage to collect food waste told this Committee that those bags are thrown into the regular trash bin in the back.¹²⁰
- For some managers of large facilities in the City of Los Angeles, there seems to be no cost savings in taking on the issue of food waste. In fact, there is an added cost for the trouble of separating out food waste and training staff, several managers told this Committee.¹²¹
- During the course of our investigation, the Committee found that for those who do not live in a city that offers food waste recycling options, residents are left either to do backyard composting themselves, or throw food waste in the trash.

¹¹² <http://www.lunchstop.com/>

¹¹³ <http://file.lacounty.gov/SDSInter/bos/supdocs/117393.pdf>

¹¹⁴ <https://www.pasadenastarnews.com/2011/07/20/pasadena-courthouse-cafeteria-reopens-after-six-year-hiatus/> ; This link demonstrates that LunchStop was still operating in the Pasadena Courthouse in 2020:

http://www.decadeonline.com/results.phtml?agency=pas&violsortfield=TB_CORE_INSPECTION_VIOL.ENTERED_BY&violortorder=DESC&forceresults=1&forcefac=0&offset=0&businessname=LunchStop&businessstreet=&city=&zip=&facilityid=&FTS=&soundslike=&sort=FACILITY_NAME

¹¹⁵ <http://file.lacounty.gov/SDSInter/bos/supdocs/117393.pdf>

¹¹⁶ <https://ehservices.publichealth.lacounty.gov/ezsearch>

¹¹⁷ Per Committee visit and interview with cafeteria employee on 11/15/19

¹¹⁸ Per Committee interview with County official on 2/19/20

¹¹⁹ Our Committee found the vendors of Sodexo/Compass and the Lucques Group. <https://www.reuters.com/article/us-sodexo-centerplate-idUSKBN1DF0S2> <https://thelucquesgroup.com/hollywood-bowl.html> Committee concluded that Sodexo was still one of the vendors, based on the 2019 Public Health Department inspection list:

<https://ehservices.publichealth.lacounty.gov/ezsearch>

¹²⁰ Per Committee interview with employees on 11/6/19, and on 11/6/19 and 11/9/19 visits to a Costco and Target

¹²¹ Per Committee interviews/visits to large facilities on 11/27/19, 12/16/19, and 2/13/20

- In the city of Los Angeles, for residents, it doesn't matter how much trash you generate, the cost is the same, according to the bimonthly bill many of our Jury members receive every month. Residents are charged a flat Solid Resources Fee (SRF) that is applied to the City's Clean Water, Solid Resources, and Watershed Protection.¹²² The fee funds the collection of solid waste, landfill costs, and a numerous list of associated costs. "Since the Solid Resources Fee funds more than just refuse collection, the fee is still applied—even if your dwelling produces little, or no, refuse waste,"¹²³ according to the City's LA Sanitation website.
- A City official stated, "it's hard for people to separate food waste; it can be smelly; where do you keep it, etc. We're working on a good way to do it. We have pilot programs."¹²⁴
- This Committee found strong interest from residents and businesses interviewed. For those residents who are already committed to food waste separation and recycling (whether from their single-family house, or apartment), the only option our Committee found was LA Compost:¹²⁵
 - a nonprofit organization that has a drop-off booth at several weekly farmer's markets
 - relies on volunteers and donations
 - operates several hubs throughout the City where residents can drop off their food waste¹²⁶
 - in January of 2020, before the Covid-19 Pandemic, only eight of the 32 hubs were open due to growing demand, and not enough capacity¹²⁷
 - during the pandemic, LA Compost continued accepting food waste drop-offs at one of the 26 community gardens throughout the City, and volunteers said that every Sunday, there was a constant stream of people

¹²² https://www.lacitysan.org/san/faces/home/portal/s-lsh-au/s-lsh-au-r/s-lsh-au-r-b.jsessionid=uynsAdj5Ie5pC1htNKKGWExRuZ0qern6N_Mv-lZPs-8bGx0gKmq!-839466798!-945519779?_afzLoop=8682239760179039&_afzWindowMode=0&_afzWindowId=Ed19IWET&_adf.ctrl-state=197i51z7vh_1#!%40%40%3F_afzWindowId%3DEd19IWET%26_afzLoop%3D8682239760179039%26_afzWindowMode%3D0%26_adf.ctrl-state%3D197i51z7vh_5 (click on "About Us" and then "Understanding Rates")

¹²³ *ibid*

¹²⁴ Per Committee interview on 2/27/20

¹²⁵ www.lacompost.org

¹²⁶ <https://www.lacompost.org/faq>

¹²⁷ <https://www.kcrw.com/news/shows/greater-la/the-challenges-of-composting-in-la/composting-in-la-isnt-as-easy-as-it-sounds>

- Many college campuses in the County have ongoing sustainability initiatives:
 - Cal State Northridge--dining services staff collects kitchen plant food waste and uses it for composting in its garden on campus.¹²⁸
 - Occidental College in Eagle Rock--students have begun composting programs for food waste, but continue to find it challenging to sustain the program as students graduate.¹²⁹ In 2016, the campus contracted with waste hauling company Athens Services to have food waste taken to the company's composting facility in Victorville.¹³⁰
 - Students whose home cities, like Seattle, have curbside compost pickup programs express surprise that fellow students are not as diligent about food separation/recycling.¹³¹

- The County's Department of Public Works has identified nearly 200 facilities where organic waste should be separated and recycled, from cafeteria kitchen food prep areas ("back of house"); cafeteria dining areas, lunch rooms, employee workstations, landscaping.¹³² Educational material has been provided, and compliance is encouraged, according to County officials.¹³³ However, County officials said they don't know how many of the identified entities are meeting the mandate, which requires organic waste recycling as of January 1, 2019,¹³⁴ and that more action may be forthcoming once the State outlines regulations around the \$10,000 fine per day. A random check by our Committee calling and visiting a few of the facilities, in conjunction with our conversations with waste haulers, leads us to believe that there is room for improvement in implementing organic waste recycling in these facilities.

¹²⁸ <https://www.csun.edu/sustainability/sustainable-garden-education-center>

¹²⁹ <https://www.theoccidentalnews.com/features/2018/03/27/good-waste-composting-efforts-campus/2892421> (accessed 11/3/19)

¹³⁰ <https://www.theoccidentalnews.com/news/2016/01/01/college-looking-to-further-expand-composting-program/2880886>

¹³¹ <https://www.theoccidentalnews.com/news/2018/03/20/student-led-compost-initiative-begins-braun-hall/2891999> (accessed 2/17/20)

¹³² https://dpw.lacounty.gov/epd/organics/pdf/AB1826Memo_2018.pdf

¹³³ Per Committee interviews on 10/7/19 and 11/19/19

¹³⁴ https://dpw.lacounty.gov/epd/organics/pdf/AB1826Memo_2018.pdf Page 2

COVID-19

The pandemic provides an opportunity to reimagine how things can be, and our Committee was pleased to see the word “waste” in the mix in an article published on May 13, 2020, in the *Los Angeles Times*:¹³⁵

Gov. Gavin Newsom appointed Tom Steyer, a billionaire former hedge fund manager turned climate change activist, to co-chair his Task Force on Business and Jobs Recovery. Twenty state lawmakers signed a letter last month to Steyer and Newsom’s chief of staff, Ann O’Leary, urging the governor’s office to consider recovery investments that prioritize “clean economy job creation.”

The letter reads, “We know the clean economy — transportation, housing, energy, water, manufacturing, **waste**, and natural and working lands — is one of the most cost-effective, resilient job creation sectors economy-wide.”

RECOMMENDATIONS

This Committee recommends a public education campaign around food waste that creates drop-off food waste centers in more areas of the County and provides financial incentives, as well as County-owned facilities “leading by example” in recycling food waste—all of which require *a little help from our friends*.¹³⁶

We recommend:

- 1.1 Each of the 88 cities, and the County’s unincorporated areas, should establish a weekly food waste drop-off center. The center can be at a farmer’s market, such as the one held each Thursday near Los Angeles City Hall, or at another appropriate site. City and County officials can arrange for the food waste collected to be taken to a nearby facility for recycling, or can establish contracts with organizations such as the Los Angeles Community Garden Council or landscaping companies for composting.
- 1.2 County officials should initiate programs using composting technology (such as Compostology¹³⁷ or Earth Cube¹³⁸) that can compact food waste and can be easily installed in offices and schools.¹³⁹

¹³⁵ <https://www.latimes.com/environment/story/2020-05-13/half-million-clean-energy-job-losses-amid-coronavirus>

¹³⁶ From the Beatles song “With a Little Help From My Friends.”

¹³⁷ <https://www.compostology.us/about> (accessed 9/26/19)

¹³⁸ <http://compostingtechnology.com/in-vessel-composting-systems/earth-cube/>

¹³⁹ <https://www.biocycle.net/2015/03/31/school-district-rolls-out-food-waste-reduction/> (accessed 10/12/19)

- 1.3 County and city officials should create an incentive program for residents and businesses to separate food waste. This could be in the form of a gift card to a local grocery store/farmer's market, or a discount on a solid waste fee. For example, in the city of Santa Barbara, 150 businesses (restaurants, grocery stores, coffee shops, etc.) have signed up for the city's *Foodscraps* program, and can save several hundred dollars a month off their trash collection fee.¹⁴⁰
- 1.4 County officials should work with community colleges and workforce training programs, to increase classes about food waste recycling and careers in waste management that focus on diversion and conversion technologies.
- 1.5 County officials should create a garden/compost program at Pitchess Detention Center in Castaic and investigate the option of a garden at some or all of the juvenile detention facilities.
- 1.6 The County Department of Public Health should develop a program to train its 300 food inspectors as "ambassadors" when they are in the field. The inspectors need to be armed with the Food DROP brochure,¹⁴¹ as well as information about how that establishment can safely separate and recycle any food waste. (This recommendation is also for Long Beach and Pasadena, which have their own Public Health departments.)
- 1.7 The County Department of Public Health should take the lead in creating a food waste education component as part of its permit process required for all outdoor public events that will be serving food. Department officials can work with the event manager ahead of time to plan for excess edible food donation, and for how food waste will be collected and separated. (This recommendation is also for Long Beach and Pasadena, which have their own Public Health departments.)
- 1.8 County officials should modify contracts with food vendor companies that are inside County facilities, such as the Hollywood Bowl, the Arboretum, the Los Angeles County Museum of Art, and cafeterias located at County hospitals, to include food waste separation and recycling. Especially at the Hollywood Bowl, which draws more than 17,000 people¹⁴² for most of its summer concert events, has several food options onsite,¹⁴³ and traditionally draws large pre-concert picknicking crowds, implementing a food waste recycling program can be part of a public education campaign.

¹⁴⁰<https://www.santabarbaraca.gov/services/recycling/business/foodscrap.asp#:~:text=About%20The%20Program,like%20your%20recycling%20and%20trash>. (accessed 2/17/20)

¹⁴¹ <https://pw.lacounty.gov/epd/sbr/food-drop.aspx>

¹⁴² https://en.wikipedia.org/wiki/Hollywood_Bowl

¹⁴³ <https://www.hollywoodbowl.com/visit/when-youre-here>

- 1.9 The County Board of Supervisors should require that the vendor operating the Hall of Administration cafeteria institute procedures to separate food waste, both in the food prep area, and in the dining room.
- 1.10 The City of Los Angeles should partner with LA Compost to expand that organization's footprint in the city to increase its capacity to collect and compost food waste.
- 1.11 The City of Los Angeles should work with its 99 Neighborhood Councils to increase public education around food waste separation/recycling programs.
- 1.12 All 80 school districts located in the County should work with local public works and health department officials to create a garden and compost program in every school,¹⁴⁴ and monitor edible food recovery efforts.¹⁴⁵
- 1.13 All 80 school districts should develop a garden/compost program that can be available for students in the myriad after-school daycare options available on campus (LACER, After the Bell, STAR, etc.).
- 1.14 Elected officials in the County and cities should adopt the 11 suggestions in the March 2018 Countywide Organics Waste Management Plan¹⁴⁶ and express support for the need to increase capacity and site and build new facilities to handle organic waste.

¹⁴⁴ www.ecocycle.org (accessed 5/2/20)

¹⁴⁵ <https://www.ecocycle.org/files/School%20Compost%20Programs%20Pathways%20to%20Success.pdf> "School Compost Programs: Pathways to Success" (accessed 4/3/20)

¹⁴⁶ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Page 39

REQUIRED RESPONSES

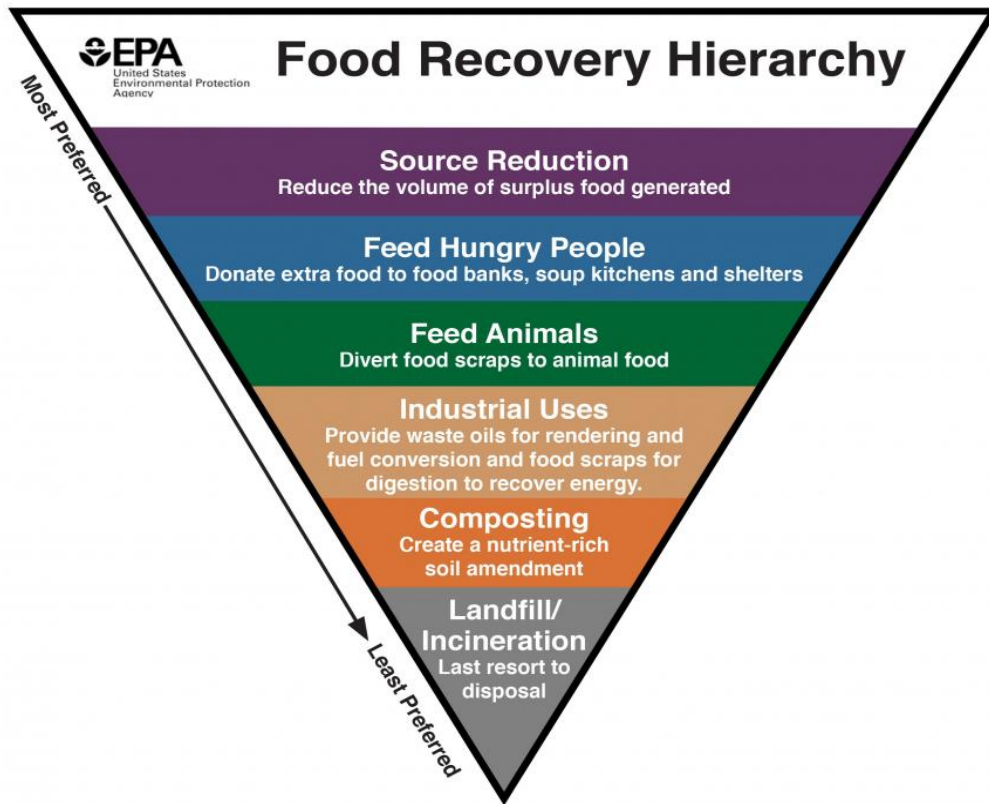
Responses are required from:

Recommendation	Responding Agency
1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.14	County Board of Supervisors
1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.14	Chief Executive Officer Sachi Hamai
1.1, 1.2, 1.3, 1.4, 1.5, 1.7, 1.8, 1.9, 1.12, 1.14	County Department of Public Works
1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11, 1.12, 1.13, 1.14	County Chief Sustainability Office
1.1, 1.3, 1.8, 1.14	Mayors of 88 cities
1.5	County Department of Probation
1.6, 1.7, 1.8, 1.9, 1.12, 1.13	County Department of Public Health
1.6, 1.7	Long Beach Department of Health and Human Services
1.6, 1.7	Pasadena Public Health Department
1.6, 1.7, 1.8, 1.9, 1.12, 1.13	County Department of Environmental Health
1.14	Internal Services Department
1.8	County Parks and Recreation Department
1.1, 1.3, 1.8, 1.10, 1.11, 1.14	Mayor of City of Los Angeles
1.12, 1.13	Superintendents of all 80 school districts
1.12, 1.13	Los Angeles County Office of Education

COMMITTEE MEMBERS

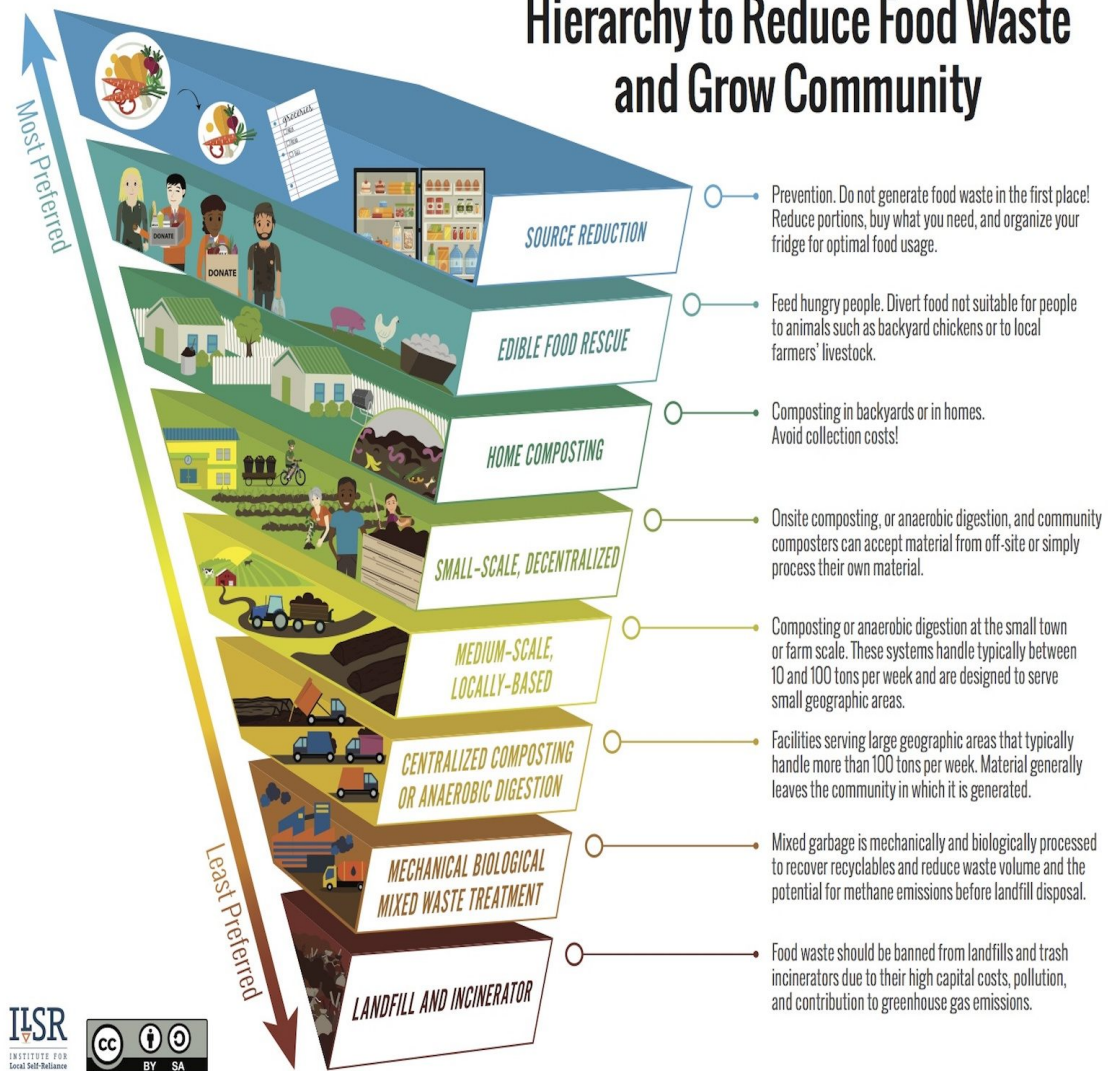
Hind Baki, Chair
 Nirja Kapoor
 John Palos
 Jenalea Smith
 Judith Whitman

APPENDIX 1¹⁴⁷



¹⁴⁷ <https://www.epa.gov/sustainable-management-food/food-recovery-hierarchy>

Hierarchy to Reduce Food Waste and Grow Community



¹⁴⁸ <https://ilsr.org/food-waste-hierarchy/>

APPENDIX 3¹⁴⁹


Active Landfills in Los Angeles County

Landfill Site	Owner	Operator	End of Operation
Antelope Valley Recycling and Disposal Facility	Waste Management, Inc.	Waste Management, Inc.	2042
Azusa Land Reclamation (Inert)	Azusa Land Reclamation Co., Inc.	Waste Management, Inc.	January 2025
Burbank Landfill #3	City of Burbank	City of Burbank Department of Public Works	January 2053
Calabasas Landfill	County of Los Angeles	Los Angeles County Sanitation Districts	September 2025
Lancaster Landfill & Recycling Center	Waste Management, Inc.	Waste Management, Inc.	March 2044
Pebbly Beach Landfill (Avalon)	City of Avalon	CR&R Environmental Services	July 2028
San Clemente Island Landfill	U.S. Navy	U.S. Navy	January 2032
Savage Canyon Landfill	City of Whittier	City of Whittier Public Works Department ¹⁵⁰	December 2048
Scholl Canyon Landfill	Co-Owned by City of Glendale and Los Angeles County Sanitation Districts	Los Angeles County Sanitation Districts	December 2024
Sunshine Canyon Landfill	Republic Services, Inc./BFI	Republic Services, Inc./BFI	February 2037

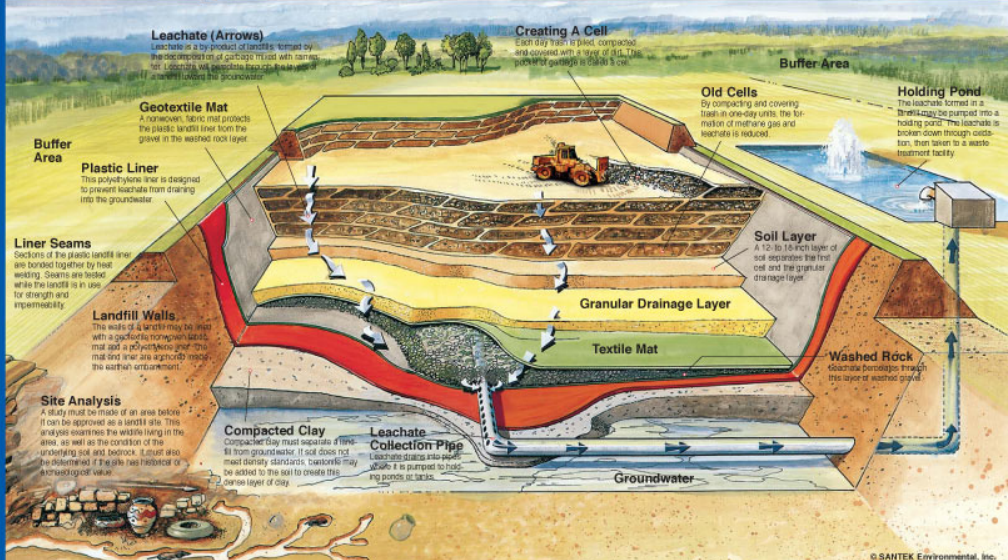
¹⁴⁹ http://www.publichealth.lacounty.gov/eh/EP/solid_waste/facilitieslandfill.htm?func=1&Landfill=landfill (accessed 1/31/20); <https://dpw.lacounty.gov/epd/swims/OnlineServices/search-solid-waste-sites-esri.aspx> (accessed 2/5/20)

¹⁵⁰ <https://www.cityofwhittier.org/government/public-works/trash/landfill-services>

Anatomy of a Landfill



602 265 Street, 4th Suite 101, Cheyenne, WY 82001
Phone: 307.637.0100, Email: info@santek.com



Leachate (Arrows)
Leachate is a by-product of landfills, formed by the decomposition of garbage mixed with water. Leachate will penetrate through the waste in a landfill and the groundwater.

Geotextile Mat
A nonwoven fabric mat protects the plastic landfill liner from the gravel in the washed rock layer.

Buffer Area
This polyethylene liner is designed to prevent leachate from draining into the groundwater.

Liner Seams
Sections of the plastic landfill liner are bonded together by heat welding. Seams are tested while the landfill is in use for strength and impermeability.

Landfill Walls
The walls of a landfill may be lined with a geotextile, nonwoven fabric mat and a polyethylene liner. This mat and liner are anchored into the earthen embankment.

Site Analysis
A study must be made of an area before it can be approved as a landfill site. This analysis examines the wastes being used in the area, as well as the condition of the underlying soil and bedrock. Leachate also be determined if the site has historical or archeological value.

Compacted Clay
Compacted clay must separate a new fill from groundwater. If soil does not meet density standards, bauxite may be added to the soil to create this dense layer of clay.

Leachate Collection Pipes
Leachate drains into pipes. Leachate is pumped to holding ponds or tanks.

Groundwater

Creating A Cell
Each day trash is piled, compacted and covered with a layer of soil. The pocket of garbage is 10 to 15 feet high.

Old Cells
By compacting and covering trash in one-day units, the formation of methane gas and leachate is reduced.

Soil Layer
A 10- to 14-inch layer of soil separates the first cell and the granular drainage layer.

Granular Drainage Layer

Textile Mat

Washed Rock
Leachate permeates through this layer of washed gravel.


Holding Pond
The leachate formed in a landfill may be pumped into a holding pond. The leachate is broken down through oxidation, then taken to a waste treatment facility.

© SANTEK Environmental, Inc.

Building A Landfill


Each landfill is designed individually to meet the needs of the community and environment at a selected site.

A basic landfill is a pit surrounded by an earthen embankment. This embankment is bordered by a buffer area, where dirt may be removed to cover trash within the pit. Demolition waste, inert materials such as wood and concrete, may be buried in this buffer area.



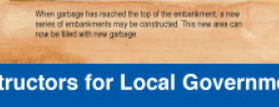
Buffer Area
Earthen Embankment
Municipal solid waste is buried inside pit.

Original Embankment 1



Fill


New Embankment 2



Fill

When garbage has reached the top of the embankment, a new series of embankments may be constructed. This new area can now be filled with new garbage.

End Use



Fill

When a landfill is declared full, it can be "capped" with a synthetic liner and soil layer. This area can then be converted into a park, golf course, ball field or other open-space project.

Landfill Managers and Constructors for Local Governments

¹⁵¹ https://www.sfsdma.org/wp-content/uploads/2011/11/Anatomy_of_a_Landfill.pdf

APPENDIX 5

Green Waste Pick-up and Recycling options available in County Unincorporated Areas (CUC)

- The County’s Department of Public Works oversees the waste hauler agreements for the 125 unincorporated areas,¹⁵² which include Altadena, Hacienda Heights, and Marina Del Rey. About 1 million people live in those areas; the “Mayor” of each area is the corresponding member of the County Board of Supervisors.¹⁵³
- Many franchise waste haulers offer separate collection and recycling services for green waste.¹⁵⁴ Some waste haulers offer one solid waste bin for mixed refuse for commercial clients. The mixed waste is hauled to a material recovery facility where some things may be diverted from a landfill, unless there is too much contamination.¹⁵⁵
- Landscapers can deliver green waste generated from their operation to processing facilities that specifically recycle green waste. Currently, there are over 100 facilities in Los Angeles County and nearby counties that accept green waste generated in Los Angeles County.¹⁵⁶
- In 2018, Public Works consultants visited over 70 multi-family complexes and found that only a few generated more than 1 cubic yard of green landscape waste.¹⁵⁷
- The various waste haulers serving residents in the CUC are required to provide three separate bins: one for trash, one for recyclables, and one for green waste.¹⁵⁸

Green Waste Pick-up and Recycling Options Available for City of Los Angeles

- The State’s most populous city, Los Angeles, manages its waste through the LA Sanitation Department.¹⁵⁹ For approximately 80,000 businesses and multi-family complexes, the City of Los Angeles is divided into service areas and assigned a waste hauler under the RecycLA program.¹⁶⁰ The program assigns seven waste haulers to 11 zones in the City.¹⁶¹

¹⁵² <https://dpw.lacounty.gov/epd/swims/News/WasteHauler/>

¹⁵³ <https://lacounty.gov/government/about-la-county/unincorporated-areas/>

¹⁵⁴ <https://pw.lacounty.gov/epd/swims/docs/pdf/faq/Commercial%20Waste%20Franchise%20System%20FAQ%20for%20Waste%20Haulers.pdf>

¹⁵⁵ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019, Page 47-48

¹⁵⁶ www.dpw.lacounty.gov/Epd/Tf/lsw/lsw

¹⁵⁷ *ibid*

¹⁵⁸ <https://pw.lacounty.gov/epd/swims/News/swims-more-links.aspx?id=4#> LA County Countywide Organic Waste Management Plan March 2018, Executive Summary xi

¹⁵⁹ www.lacitysan.org

¹⁶⁰ https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-zwlf/s-lsh-wwd-s-zwlf-au?_adf.ctrl-state=3z2x730v8_5&_afLoop=11962272467624951#!

¹⁶¹ <https://www.waste360.com/commercial/los-angeles-bpw-award-11-franchise-zones-seven-waste-haulers>

- Green waste is taken to Griffith Park, where it's mixed with zoo doo (collected from herbivores at the adjacent Los Angeles Zoo) and biosolids (sewage products).¹⁶² The Griffith Park Composting Facility makes a final compost product that is used throughout the park, and for the City's Free Mulch Give-Away Program.
- The mulch produced by the City is registered and trademarked as Topgro ®; the City gives its Department of Recreation and Parks half the compost created, and the rest is sold to private entities such as landscape companies.¹⁶³
- Residential customers in the City are provided three bins for separating items for trash day:¹⁶⁴ one for trash, one for recyclables, one for green waste (no food waste can be placed in this bin as it would contaminate the green waste); an extra bin for horse manure is provided for a nominal fee.¹⁶⁵

¹⁶² [https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-gw/s-lsh-wwd-s-gw-gpcf#::~:~:text=The Griffith Park Composting Facility,trimmings from acres of landscaping.](https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-gw/s-lsh-wwd-s-gw-gpcf#::~:~:text=The+Griffith+Park+Composting+Facility,trimmings+from+acres+of+landscaping)

¹⁶³ https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-gw/s-lsh-wwd-s-gw-faq?_adf.ctrl-state=3z2x730v8_758&_afLoop=11962739376231226#!

¹⁶⁴ https://www.lacitysan.org/san/faces/home?_adf.ctrl-state=3z2x730v8_758&_afLoop=11962955571838333#! Scroll down to “What Goes in Each Bin”

¹⁶⁵ *ibid*

APPENDIX 6

Edible Food Recovery

- In 2018, the County Department of Public Works launched the Food Donation and Recovery Outreach Program Food DROP website (www.FoodDROPLA.com) to provide resources for businesses in the unincorporated communities to safely donate excess edible food and reduce food waste. In addition to federal Good Samaritan laws that can provide legal protection, donating edible food can possibly provide a tax deduction.¹⁶⁶
- In 2018, the County’s Smart Business Recycling Consultants visited over 130 large food service establishments to survey how they currently manage organics and recyclables and to connect these businesses with local charities to donate edible excess food. Twenty-six businesses indicated that they donate edible food.¹⁶⁷
- Organizations like Food Forward¹⁶⁸ last year collected 26 million pounds of edible food from various companies.¹⁶⁹ The organization’s four 26-foot trucks pick up produce that otherwise would go to waste and distribute the bounty to agencies serving the needy from Santa Barbara to the California-Mexico border. Staff pick up excess produce from the largest produce market in the United States, located in Downtown Los Angeles, and nearby produce houses, as well as farmer’s markets. Volunteer teams also are sent to pick residents’ backyard fruit and distribute to food pantries.
- Companies like Imperfect Produce¹⁷⁰ ship boxes of imperfect-looking fruits and vegetables, and packaged food that has been rejected for cosmetic reasons.
- There are many websites available to help residents who want to reduce food waste in their kitchens
 - ✓ www.savethefood.com
 - ✓ www.cawrecycles.org (Californians Against Waste)
- For the K-12 school environment in Los Angeles County, the County Department of Public Health has developed resources to help each campus reduce food waste.
 - ✓ <http://publichealth.lacounty.gov/eh/LACFRI/>

¹⁶⁶ www.FoodDROPLA.com

¹⁶⁷ https://dpw.lacounty.gov/epd/tf/isw/isw_2019_09.pdf Page 3

¹⁶⁸ www.foodforward.org

¹⁶⁹ <https://www.dailynews.com/2019/06/20/this-new-produce-depot-is-a-game-changer-for-north-hollywood-based-food-forward/> (accessed 2/23/20)

¹⁷⁰ www.imperfectfoods.com (accessed 9/25/19)

APPENDIX 7¹⁷¹

Food Waste Recycling: County Department of Public Works Headquarters¹⁷²

County Department of Public Works Headquarters in Alhambra: Photos of the employee cafeteria signage, showing food waste separation, and serving as a model for other County facilities.



The Department reported that, in 2018, its food waste reduction practices in the cafeteria prevented over 300 pounds of food waste from being generated, and did not generate any leftover food for donation.

In addition, almost 18,000 pounds of food waste was collected from the cafeteria kitchen, dining area, break rooms, and special events and sent to be recycled at an anaerobic digestion facility. An additional 1,200 pounds of food waste from the cafeteria kitchen was composted on site in the worm bins (see picture below).



¹⁷¹ https://dpw.lacounty.gov/epd/Roadmap/PDF/annual_report_2019.pdf
Roadmap to a Sustainable Waste Management Future Annual Progress Report 2019, Page 37

¹⁷² All photos in Appendix 7 were taken by members of the 2019-2020 Los Angeles County Civil Grand Jury on 3/11/20



The food waste separated in the cafeteria is then brought to special worm-composting bins onsite. Worm composting is using worms to recycle food scraps and other organic material into a valuable soil amendment called vermicompost. Worms eat food scraps, which become compost as they pass through the worm's body.¹⁷³



The compost is then used at the onsite garden, which grows vegetables that can be offered to employees or cafeteria cooks.

¹⁷³ <http://compost.css.cornell.edu/worms/basics.html> (accessed 5/3/20)

APPENDIX 8

Food Waste Transfer and Processing: Puente Hills Materials Recovery Facility¹⁷⁴



A line of trucks bringing various types of separated waste such as cardboard and bottles/cans for recycling. The smallest pile below is the food waste pile.



¹⁷⁴ All photos in Appendix 8 were taken by members of the 2019-2020 Los Angeles County Civil Grand Jury on 10/15/19