

# Executive Summary

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The Chapman University 2016 Waste Management and Dining Services Audit was conducted in spring semester of 2016. This audit focused on collecting and assessing data from Chapman's main campus, residence life facilities, and campus eateries, in order to provide insight into ways the University community could improve their environmental efficiency as a whole and reduce unsustainable, high cost practices involving their waste streams and dining service options. The authors of the audit provided background historical information, conducted assessments of current practices, identified opportunities for improvement, and made focused recommendations on the specific topics that were examined. The following are summaries of the eight chapters included in this report.

## *Waste Management on Campus*

In 2012, Chapman University released the statement that as an institution, we “strive to foster a culture of sustainability among the facilities, operations, and classrooms of the University”. In the last four years, the university has made efforts to implement sustainable waste management practices on campus through multiple initiatives, including the placement of recycling bins in various locations, introducing the Green Department Certification program, implementing printing policies, and an e-learning system. However, the University can further improve many aspects of waste management on among faculty, staff and students.

Recommendations include:

- Recycling efforts improved across campus through educational campaigns
- Introduce campus directed, local composting services

## *Residence Life Waste Management*

This chapter focuses on the waste management within the residence life facilities at Chapman University and aims to improve recycling habits among students in residence life. The data for this chapter was derived from waste audits conducted in campus residence halls. From the composition of collected trash and recycling observed, this audit decided to focus its educational awareness on five reoccurring items found in residence waste: Plastic Bottles, Paper Cups, Paper, Cardboard, and Plastic Utensils. Recommendations include:

- Increasing educational signage within the residence halls
- Implementing a sustainability program for students that equip them with the ability and the tools to properly dispose of their waste

## *Reusables in Residence Life*

Chapman has been installing water bottle refill stations on campus since 2012 and is now home to 17 stations, making it convenient and easy to utilize reusable plastic water bottles rather than relying on single use bottles. However, upon data collection in one 48 period of a

trash audit in Henley Hall, 413 plastic water bottles were thrown away, suggesting the need for accessible water sources, especially on upper floors of residence halls. This study aims to identify the main sources of waste within residential life and encourage the consistent use of reusable products when possible. Recommendations include:

- Adding additional water bottle refill stations in each of the residence halls
- Adding the option for reusable dishware for students on campus eateries

### *Hazardous Waste*

Household hazardous waste is often unaddressed in sustainability measures due to the lack of understanding that electronic items, light bulbs, batteries and other common items, are considered as impactful hazardous waste. However, improper disposal of these hazardous e-waste items can result in larger environmental issues in landfills in the future. In order to reduce the hazardous items in the waste stream from Chapman University, this portion of the audit aims to examine current items improperly thrown away and how to implement proper disposal options for faculty, staff, and students. Recommendations include:

- Educate campus community about hazardous waste items
- Create a more accessible location for students to dispose of their e-waste items

### *Main Campus Dining Services*

This chapter focuses on main campus dining services and seeks to examine the amount of post-consumer waste produced at on-campus eateries and what proportion of this waste is properly disposed of. The chapter provides qualitative and quantitative values on how these dining services are excessively using disposable goods, and makes recommendations for reducing these quantities in the future. Recommendations include:

- Offering a discounted price to consumers who provide their own reusable tumbler cup
- Improve the waste education and sustainable behaviors of the Chapman community by item specific signage

### *Main Campus Dining Options and Sourcing*

California's depleting water supply and practices in the food industry cannot continue with business as usual to attempt to feed a growing population. Finite resources in California not limited to water, but also energy and gas make importing purchasing food more expensive for buyers like Sodexo. Promoting less resource intensive products like vegetarian and vegan options will take a strain off our California agriculture business and promote a healthier diet. This chapter examined ways Chapman is currently sourcing its food and how to reduce the University's carbon footprint by adding additional vegan and vegetarian options from local sources. Recommendations include:

- Expanding vegan and vegetarian options at current on-campus eateries

- Reevaluating the sources from which Chapman’s produce currently is imported from to encourage a local produce profile on campus

#### *Residence Life Dining Services*

This chapter focuses on the efforts of Randall Dining Commons to curb pre- and post-consumer food waste. Weigh Your Waste events were used to standardize and achieve consistent results of food waste observations. Further, an interview with Sodexo management regarding current operational procedures of Randal Dining Commons from purchasing orders, station operations, preparations, and student preference considerations lead to insightful recommendations for improving the sustainability of these educational and operational practices. Recommendations include:

- More edible food waste should be donated to charitable organizations rather than being thrown away to the landfill
- A “Meatless Monday” program be implemented

#### *Residence Life Dining Services Equipment*

This chapter of the Waste Audit quantifies areas of mechanical and operational inefficiencies and provides recommendations for mitigation of wasted energy and water resources from the RDC commercial kitchen. kWh meters, water volume meters, and thermal meters were placed on refrigeration, heating, and sanitation equipment to understand the resource consumption patterns and were further analyzed for operational improvements, retrofits, and “green” upgrades. Recommendations include:

- Staff sustainability training and equipment operations education
- EnergyStar appliance upgrades to reduce long-term electricity and water costs