

Spring 5-9-2018

# Procurement of Residence Hall Furniture

Hailley Coleman

Chapman University, [colem131@mail.chapman.edu](mailto:colem131@mail.chapman.edu)

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## Recommended Citation

Coleman, Hailley, "Procurement of Residence Hall Furniture" (2018). *Student Research Day Abstracts and Posters*. 280.  
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# Chapman University 2018 Environmental Audit: Procurement of Residence Hall Furniture



Coleman, Hailey  
ENV 498, Senior Capstone

School of Earth & Environmental Sciences, Chapman University, Orange, CA

## Introduction

Chapman University takes pride in its appearance. From perfectly trimmed grasses, to spotless sidewalks, the University takes the extra step to look aesthetically pleasing. Chapman also strives to be considered an environmentally friendly campus. It was awarded the most sustainable school in Orange County award in 2014 by the Orange County Chapter of the U.S. Green Building Council. The University takes steps such as using LED lighting, low-flow toilets, and educating the Chapman University community on ways to reduce their footprint. These extra efforts to be not only environmentally conscious, but also aesthetically pleasing seem to diminish when it comes to purchasing the furniture for residence buildings.

Chapman has seven residence halls, including both on and off campus apartments, with an additional 399 unit apartment complex opening in fall of 2018. Each residence hall is carpeted, and furnished with a twin sized bed frame, mattress, a dresser, desk, and chair, while apartments come fully furnished. The goals of this chapter include:

- To learn about Chapman's current procurement process.
- To evaluate and assess the furniture currently owned by Chapman.
- To determine the most environmentally friendly options for carpeting and furniture in the future.

## History at Chapman

Chapman's first on campus residence hall was built in 1959, and was an all men's dormitory known as Braden Hall. Although it was torn down and replaced in 2007, Chapman has been furnishing dorms and apartments ever since. The furniture for each building is coated in a different finish, and is often from varying lines or companies. As a result, staff cannot replace or share extra furniture between buildings. In total, Chapman owns over 2,500 bed frames and mattresses, approximately 2,600 desks and chairs, 2,300 dressers, 200 dining tables with 800 accompanying chairs, among hundreds of other furniture items.

### Mattress Replacements

- In the summer of 2016, \$75,000 was spent on 300 new mattresses to replace all those around 10 years old.
- An additional \$25,000 was spent on replacing broken desks and chairs.
- 2017: An inventory was conducted of all mattresses, and \$100,000 was spent on replacing an additional 400 mattresses.
  - Some mattresses were found still being used since the 1980's.

### Industry Standards

- Case goods: 10-12 years
- Mattresses: 7-8 years
- Upholstered goods: 5-6 years
- The goal of residence life staff is to have no mattresses purchased prior to 2008 by 2018

### Attic Storage

- There is limited "attic storage" space for extra residence life furniture (Figure 1).
- Storage currently holds:
  - 12 twin size mattresses
  - 22 desks
  - 4 dressers
  - 2 side tables



Figure 1. Furniture storage facility.

## Recommendations

### Low Cost/Effort

- Begin purchasing all future furniture from the same company
  - Recommended company: Sustainable Furniture Inc.
    - Renew and remanufacture old furniture and materials
  - Recommended line of furniture: Metropolitan series (Figure 2).
    - Modern pieces that would attract future students



Figure 2: Examples from the Metropolitan series at Sustainable Furniture Inc.

### High Cost/Effort

- Sustainable Service Program at Sustainable Furniture Inc.
  - Remove all of Chapman's old furniture
  - Reclaim the material
  - Remanufacture into brand new furniture
  - Cost estimate:
    - Will reduce waste and help reach sustainability goals
  - Develop a sustainability policy

### Medium Cost/Effort

- "Recycle Furniture" Program at Sustainable Furniture Inc.
  - Remove any old furniture, and make sure properly recycled
  - Cost estimate:
    - Switch to carpet tiles
    - Recommended company: Interface
      - Large variety of carpet tile styles
      - Feature patterns that won't show fading (Figure 3).
  - Over time will lead to cost and energy savings
    - Average cost of basic carpet tile is \$3 per sq ft
    - Average cost of broadloom carpeting is \$2.33 per sq ft
    - A 28% cost increase
    - When a small section of carpet needs to be replaced, rather than using a whole roll of carpet, one or two \$3 tiles could easily replace a tear or stain



Figure 3: Examples of carpet tiles from Interface that wouldn't show fading

## Current Status

### Leading Schools in Sustainable Purchasing

Top three performers in sustainable purchasing:

1. Macalester College
2. McGill University
3. Berea College

All three schools earned a score of 2.75 or higher out of a possible 3.00 points on their sustainable procurement policies. A commonality among these schools is that each one has "written policies, guidelines or directives that seek to support sustainable purchasing across commodity categories institution wide". Whenever it is possible, Macalester College purchases recycled materials that can be either recycled again or composted. Additionally, the school tends to purchase items from small, local businesses. All of these actions are done in order to reduce their carbon footprint. McGill University and Berea College both use their sustainability policies to ensure a dedicated approach to sustainable procurement. Both schools are committed to using their resources wisely, and supporting eco-friendly and local businesses. Chapman University would benefit from following in the footsteps of these schools by taking advantage of our resources to promote a more eco-friendly campus.

### Origin of Furniture

Chapman procures furniture from a variety of manufacturers and vendors. Different buildings tend to have furniture from different lines or companies, because of the different size requirements and finishes currently set as the standard for each building. The most likely explanation for this is simply that furniture for each residence hall was purchased at a different time by a different person. Chapman currently buys some furniture from University Loft Co., a local company called Foliot Furniture, and is looking into the company Sustainable Furniture Inc.

#### University Loft Co.

- Uses environmentally farmed timber which avoids contributing to deforestation
- Foliot Furniture
  - Located nearby in Nevada
  - Pioneer in the use of engineered wood
    - Uses 95% of a tree rather than the typical 63%

#### Sustainable Furniture Inc.

- Uses reclaimed and recycled materials to create new furniture at high qualities and typically lower prices
- Offers means of obtaining LEED certification for Universities
- Offers services and programs to remove, reclaim, and recycle old furniture

### Furniture Budget

The Chapman Residence Life and First Year Experience (RLFYE) department is awarded an annual budget of \$100,000. When furniture is purchased, it often uses the entire budget in addition to additional funding that comes from Facilities Management. For example, in 2017 when new mattresses were purchased for many of the buildings, Residence Life asked for additional funds from the Facilities Management department for new couches in the Panther Village Apartments. The RLFYE department is hoping to begin replacing most frequently used furniture (beds, couches, dressers) every five years.

### Survey Data

The target audience for the survey was the Chapman staff in charge of purchasing furniture for the residence halls, and Chapman University students who live in residence halls. With hundreds of responses, valuable information was gained about the furniture currently at Chapman, and the willingness of the Chapman community to change our ways.

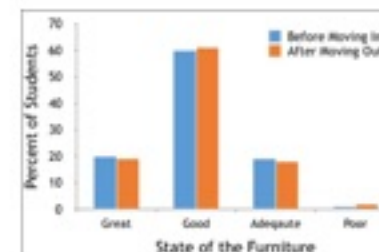


Figure 4: The state of the furniture across Chapman University residence hall rooms before students moved in and after they moved out.

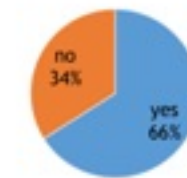


Figure 5: The percentage of those surveyed that said using eco-friendly furniture is important to them

As seen in Figure 4, less than 5% of students were using furniture they considered to be in "poor" condition before or after they moved out of their residence. From the beginning to the end of the year the condition of the furniture rarely changed. This shows that the companies Chapman currently buys from are providing durable, and reliable pieces.

In Figure 5, we see that 66% of those surveyed at Chapman University said that using environmentally friendly furniture is important to them. This indicates that about two thirds of the Chapman population would be supportive of a change to furniture that is more eco-friendly.

## Concluding Assessment

### Areas of progress

- Furniture is currently purchased from a relatively local company in Nevada (Foliot Furniture)
  - Supports small businesses
  - Reduces University's carbon footprint
- Currently supports companies that have green initiatives
- Does not buy furniture more than is necessary
  - Buys furniture that is durable and lasts for long periods of time

### Areas in which to improve

- Purchase all future furniture from the same line of the the same company
  - Items from storage can replace furniture in any residence hall
- Purchase items made of recycled materials
- Switch to carpet tiles

### Future Research

- Research on the waste of furniture at Chapman University
- Inventory on all of the furniture in Chapman's residence halls and the conditions of each place
  - Will help determine how much needs to be replaced immediately, and in the near future
- Useful information for the "Sustainable Service" Program at Sustainable Furniture Inc.

## Contacts

Mackenzie Crigger, Sustainability Manager, Facilities Management, Chapman University (crigger@chapman.edu, 714-504-4709)

David Sundby, Director of Residence Life, Davis Community Center, Chapman University (sundby@chapman.edu, 714-997-8503)

Ken Murali, Director of Campus Design, Campus Planning, Chapman University (murali@chapman.edu)

## Acknowledgements

This audit was made possible by Mackenzie Crigger. It was also made possible by the Sustainability Committee here at Chapman and the Sustainability Across the Curriculum Grant. Thanks also to every person listed in the contacts section for their valuable contributions to this project.

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