



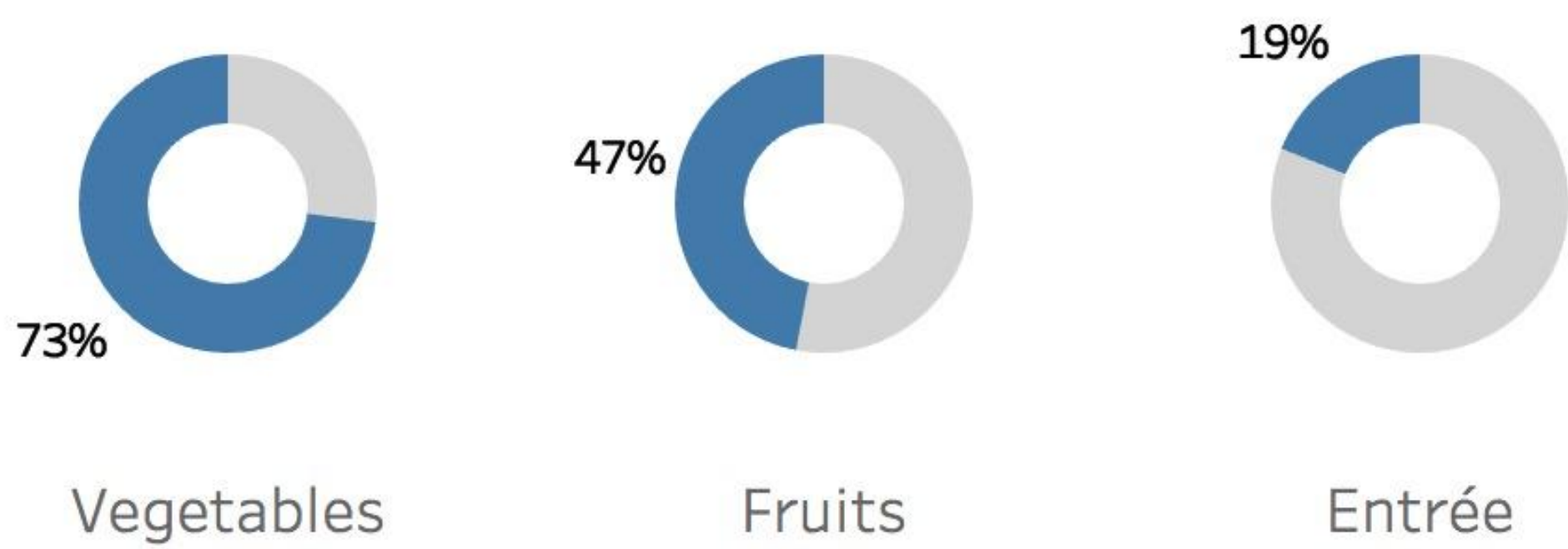
# FOOD WASTE AT GUNN: A BAD APPLE



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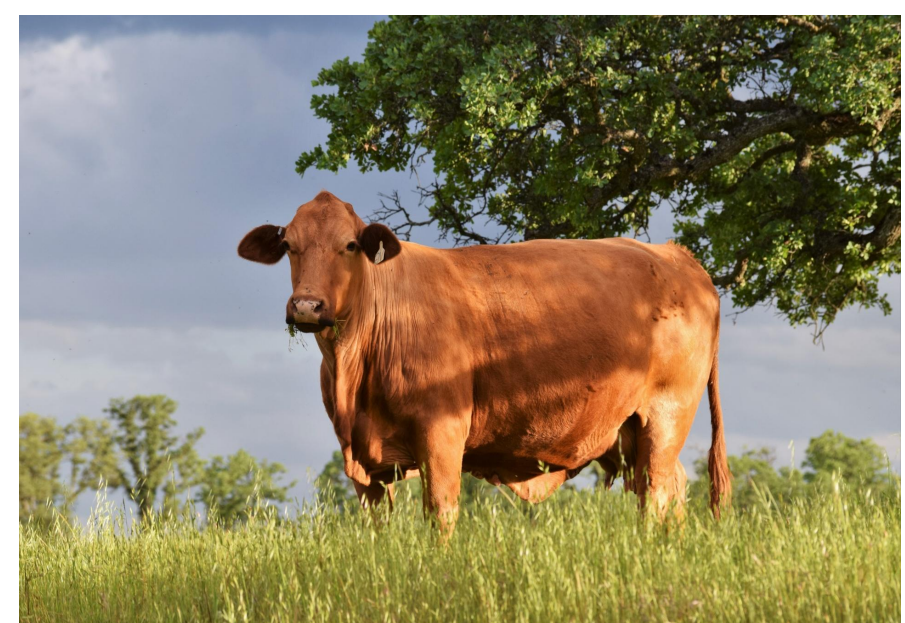
## FOOD WASTE EATS UP RESOURCES

In the United States, 161 billion dollars are lost in the form of food waste.<sup>1</sup> Although food is discarded throughout the manufacturing process, most is wasted by consumers in form of **plate waste: the amount of food left on a plate after a meal**. This problem is even more pressing in schools. A 2013 study found that students in public middle schools throw away almost 19% of their entrees.<sup>2</sup>



Average percentages of student lunches being thrown away, by type in Boston middle schools (Buzbie and Guthrie, 2013)

One crucial resource impacted by food waste is water. Because water is needed to grow all food on Earth, when we throw away this food, a large amount of water is wasted in the process. **Approximately 32% of our nation's fresh water supply is being eaten up by the unnecessary waste of food.**<sup>1</sup>



A normal serving of beef (4 oz) uses 1750 L (462 gal) of clean fresh water<sup>3</sup>



¼ cup of dry rice uses almost 125 L (33 gal) of clean fresh water<sup>3</sup>

**Plate waste is ubiquitous, and some loss is inevitable, but food waste can be reduced with proper accounting of certain factors.**

### Potential underlying causes of food waste:

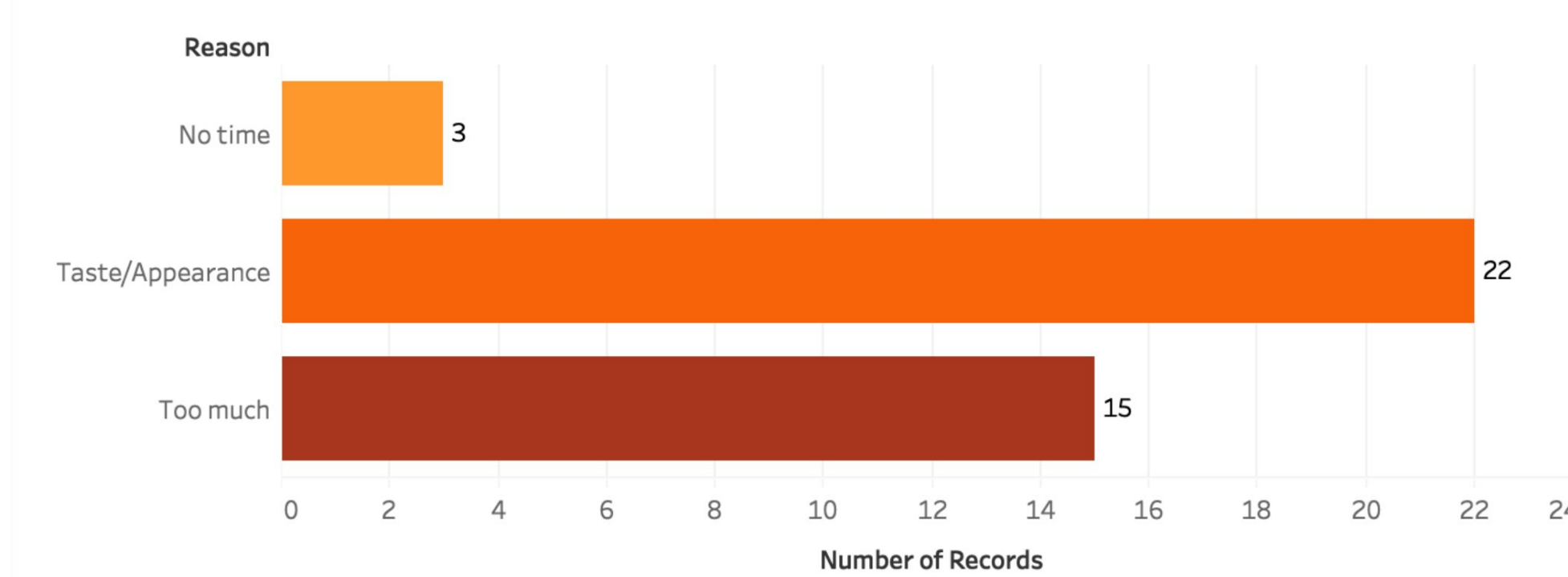
- Lack of time
- Appearance / Quality of food
- Excessive quantity
- Poor customization

The focus of this study is to assess recurring reasons for why students throw away food that they either buy or bring for lunch and to estimate the amount of food thrown away. **By better understanding why students throw away parts of their lunch, it becomes possible to customize approaches of reducing food waste specifically to Gunn High School, thus improving their efficiency and effectiveness.**

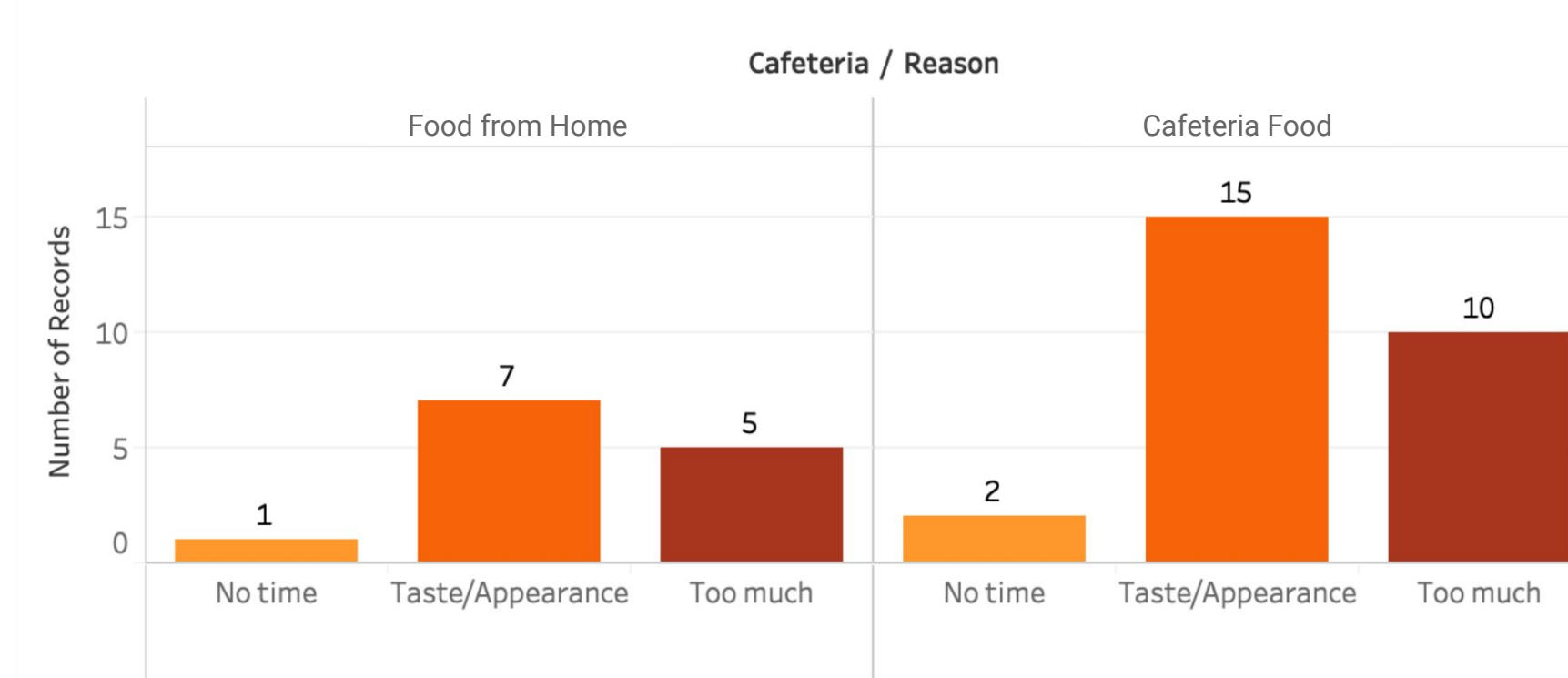
## STUDY BEARS FRUIT

By casual observation, **a much lower amount of food waste was observed than was expected based on prior studies**. Although ratios of different dimensions of the data remained similar to previous research, this study only targeted people with food waste as opposed to all students.

1. Total Recorded Numbers By Reason

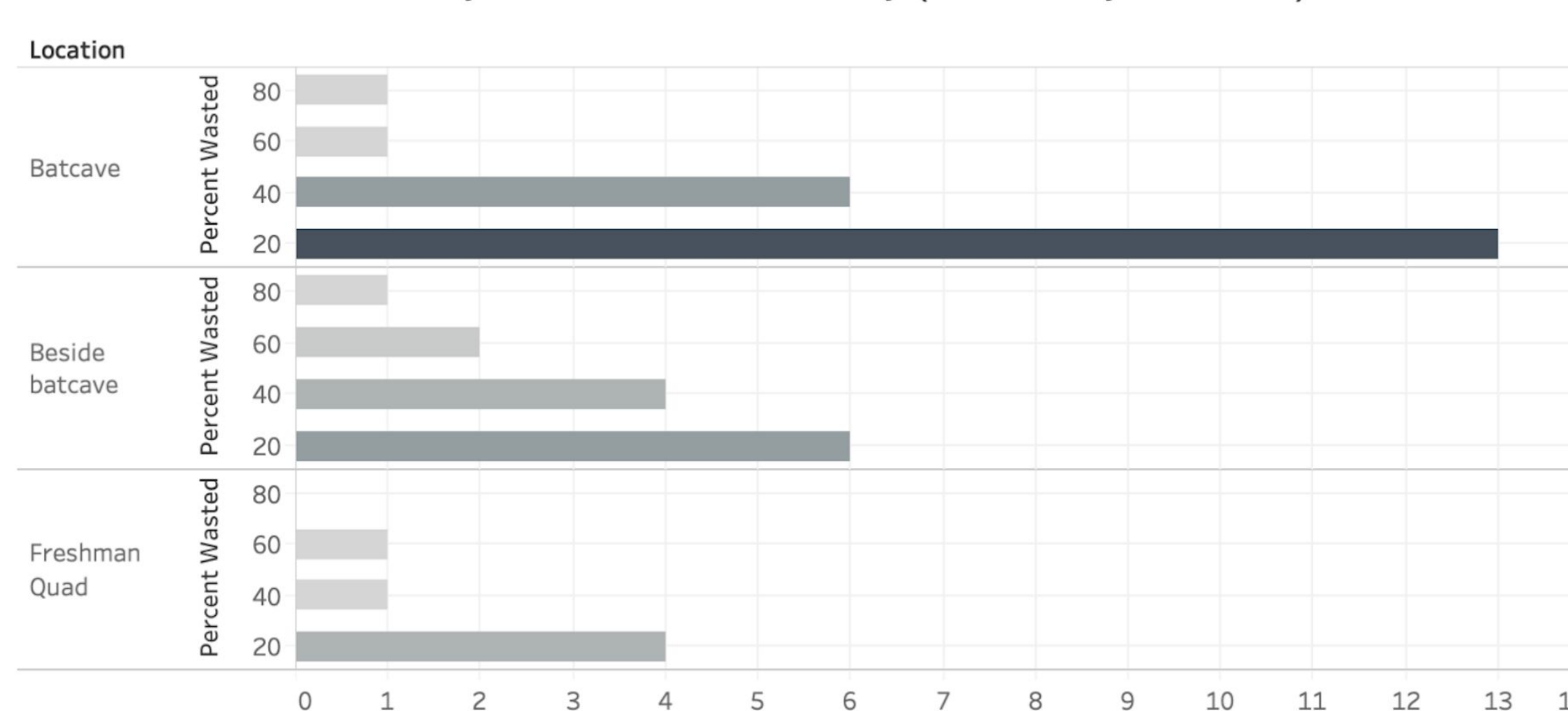


2. Recorded Numbers By Reason (Divided by Food Source)



No significant differences in reason were seen between students who brought their own food as opposed to students who bought from the cafeteria. **Even students who likely had greater ability to customize their meal (because they brought it from home) threw away their food because of its appearance or taste.** This is possibly an error due to low sample size; otherwise, parents could be forcing certain foods on their students or students themselves do not take the time to accurately gauge the type and amount of food that they should take each day.

4. Recorded Numbers By Percent Thrown Away (Divided by Location)



**No noteworthy differences were shown between locations on campus.** This disproves the initial hypothesis that longer walks could result in less time to eat and subsequently more plate waste.

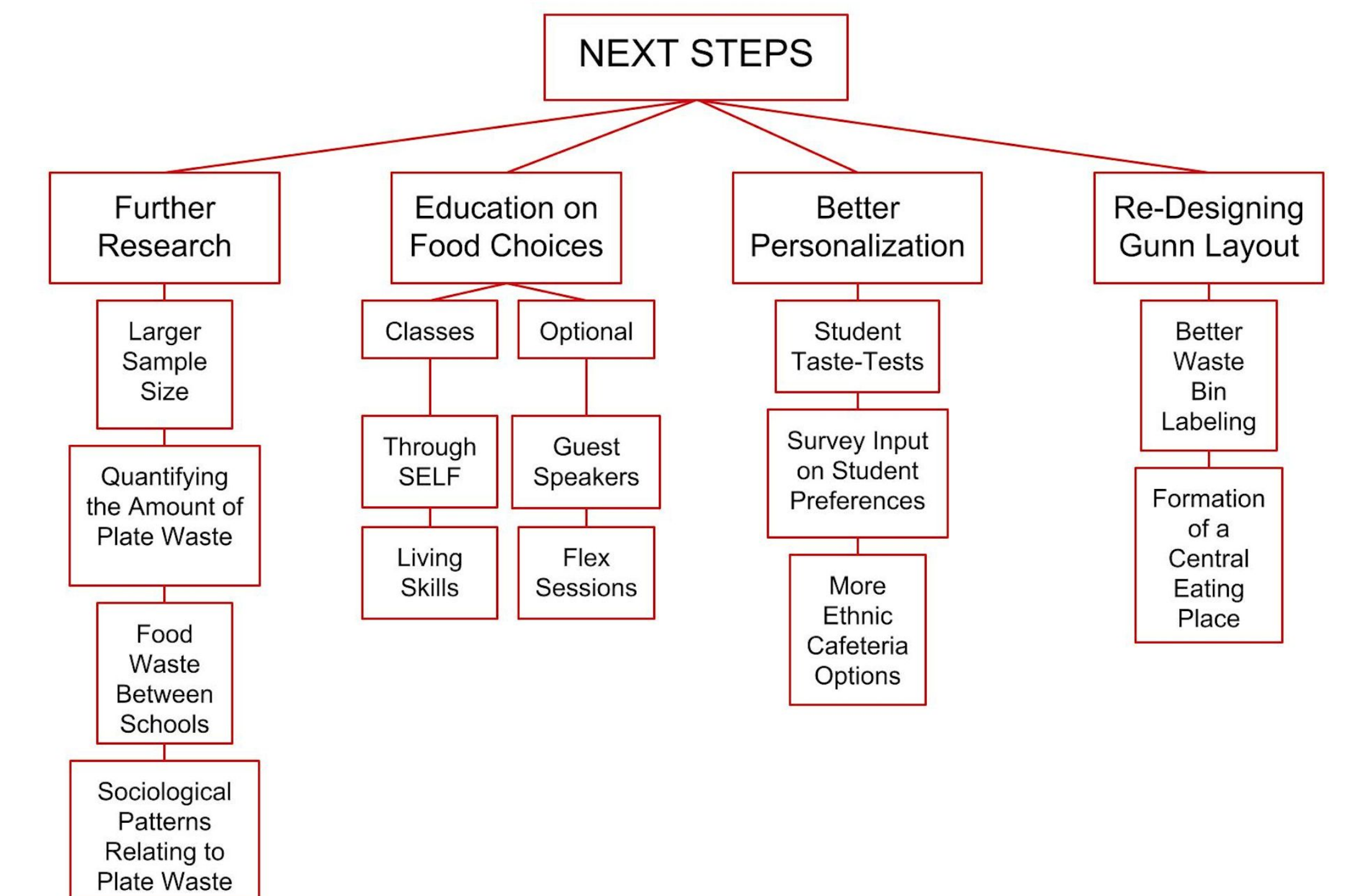
**The most common reason for students to throw away their food was the food's taste or appearance, followed by having too much food. Lack of time appeared to be only a nominal problem**

- Dimensions of the Data:
  - Given reason
  - Food source (home v. cafeteria)
  - Location
  - Before / After passing period bell
  - Date
  - Data collector
- Measures of the Data:
  - # of students
  - % of meal thrown away

## STUDENTS GRILLED OVER FOOD WASTING HABITS

During different lunch periods in January and February, a total of 40 students who were seen throwing plate waste into trash bins were asked several questions in different locations about what they were throwing away and why, each in a period of less than one minute so as to minimize the inconvenience and process more responses overall.

## IT'S THYME TO MAKE CHANGES



## FOOD FOR THOUGHT

\*\*\*Thank you Angela Dellaporta, Tarn Wilson, and Angela Merchant for helping make this project possible!

<sup>2</sup>Buzby, J. C., & Guthrie, J. F. (2002). Plate waste in school nutrition programs. *The Journal of Consumer Affairs*, 36(2), 220-238.

Gunders, D. (2012). Wasted: How America is losing up to 40 percent of its food from farm to fork to landfill. *Natural Resources Defense Council*, 26.

Jain, V. (2016, January). *eBin: An automated food wastage tracking system for dormitory student's mess* (Research Report No. 16286691). Retrieved from 2016 International Conference on Internet of Things and Applications website: <https://ieeexplore.ieee.org/document/7562694/>

Kessler, N. (2018). Reducing Food Waste with Fresh Food Date Labeling Terminology. *The University of the Pacific Law Review*, 49(2), 355-376.

<sup>1</sup>Office of the Chief Economist. (n.d.). [Impacts of food waste in the United States]. Retrieved November 30, 2018, from United States Department of Agriculture website: <https://www.usda.gov/oc/foodwaste/faqs.htm>

<sup>3</sup>The Guardian. (n.d.). How much water is needed to produce food and how much do we waste? Retrieved December 7, 2018, from Guardian News and Media website: <https://www.theguardian.com/news/datablog/2013/jan/10/how-much-water-food-production-waste>