

HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE  
MANAGEMENT AT DISNEY PARKS AND RESORTS.

Harmonizing Magic and Sustainability: A Case Study of Food Waste Management at Disney  
Parks and Resorts.

Daniella V. Delgado Gomez

University of Arizona Online.

Author's Notes:

Daniella V. Delgado Gomez, College of Architecture, Planning and Landscape Architecture.

University of Arizona Online.

Professor Sandra M. Bernal.

# HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

## **Abstract:**

This paper dives into the practices and impact of food waste at the Disney Parks and Resorts, with supporting information from regulations in a normal setting restaurant in the hospitality industry and Universal Parks and Resorts. Through an exploration of food waste data and sustainability initiatives, the paper highlights the economic, environmental, and social implications of food waste. It also discusses the importance of education and awareness in addressing this pressing issue. Using a mix of methods combining quantitative analysis and qualitative examination, we aim to uncover differences in how food waste is handled and what it means for the business, Casts, and Guests. Our findings show that there are big gaps between what is happening and what should be happening, pointing to the need for more education on sustainability. Why does this matter? Understanding how theme parks deal with food waste can give us an insight on how to improve food waste management in the hospitality industry around the world. By tackling this problem head-on and providing proper education, we can create a world where we waste less and utilize our resources efficiently.

*Keywords:* Food waste, Disney Parks and Resorts, Sustainability, Environmental impact, Economic implications.

# HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

## **Introduction:**

Food waste is a significant issue with far-reaching consequences for the economy, environment, and society. This paper focuses on food waste practices at Disney Parks and Resorts. By examining current practices and initiatives, the goal is to identify opportunities for improvement and promote sustainable waste management. The extensive goal is to raise awareness of the economic, environmental, and social implications of food waste and advocate for sustainable solutions.

In addition to exploring Disney's food waste management practices, it's important to consider how they compare to regular food waste management procedures in the hospitality industry. Typically, hospitality venues claim to employ sustainable strategies such as: source reduction, donation, composting, and recycling to minimize food waste and its environmental impact. Based on data reviewed in this paper, the hospitality industry is not consistent in following those practices. Disney Parks, however, stand out due to their scale, global presence, and commitment to immersive Guest experiences.

In this paper, the focus will be in the American parks: Disneyland Resort, and Walt Disney World Resort, but Disney Parks and Resorts are located across multiple continents, drawing in millions of visitors annually, making them influential hubs of entertainment and tourism. Disney's global reach enables them to implement best practices from various regions, adapting strategies to local contexts while maintaining a consistent commitment to sustainability. This includes partnerships with local suppliers and community organizations to support food recovery efforts and promote responsible consumption.

By examining Disney's food waste management practices alongside industry standards, we can gain insights into both the challenges and opportunities inherent in addressing food waste

# HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

within the hospitality sector.



*Figure 1: Disney Planet Possible. Source: Disney Parks Blog by Shelby Grasser.*

## **Literature review:**

Food waste contributes to economic losses, environmental degradation, and social disparities. In the United States, restaurants generate an estimated 22 to 33 billion pounds of food waste annually, with significant environmental consequences (National Restaurant Association). This waste not only represents lost revenue for businesses but also contributes to greenhouse gas emissions and resource depletion (EPA). Additionally, food waste increases food insecurity and maintains socioeconomic inequalities (RTS). Understanding the multifaceted impacts of food waste is crucial for developing effective mitigation strategies.

## **Statement of Sustainability and Problem Statement:**

As a sustainable built environment major, the goal is to address food waste at Disney Parks and Resorts, recognizing its significance in the hospitality industry. The overarching goal

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

is to raise awareness of the economic, environmental, and social implications of food waste and advocate for sustainable solutions.

### **Methodology:**

The methodology adopts a qualitative approach, wherein the methods are executed concurrently.

### **Research Question:**

How do regulations and sustainability practices and operations in Disney Parks and Resorts address economic, environmental, and social impacts of food waste, and how would that compare to regular restaurant operations?

- Method 1, Perception Analysis through Expert Interview:
  - o For this methodology, the researcher aimed to conduct three separate interviews with experts from Disney Parks and Resorts specializing in Sustainability, and Food and Beverage management including both restaurants and quick service stand sectors. However, due to practical limitations, I was only able to secure an interview with one individual. This contact was referred to me by a Food and Beverage Guest Experience Manager at the Disney Parks, whose expertise encompasses not only food and beverage management but also sustainability and food waste reduction initiatives; our interview was conducted asynchronously via email correspondence. During the interview, a series of pertinent questions were posed:
    - What is the typical daily volume of food prepared and subsequently wasted?

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

- Could you outline the regulatory framework leading food handling and disposal timelines for guest-serving establishments?
  - How does your organization manage food that cannot be served?
  - In what ways are Guests educated about food waste concerns, if at all?
  - Which food items tend to generate the most waste: grab-and-go snacks like pretzels, churros, and popcorn, or restaurant-style meals? Additionally, which type of food is most frequently purchased by Guests?
  - What sustainable practices are currently in place to address food waste?
- Method 2, Document Review:
    - Examine regulations in other participants of the hospitality industry such as normal restaurants and Universal Parks and Resorts to identify supporting practices for food waste management. Mixed data, concurrent data.
  - Method 3, Case Studies Comparison Analysis:
    - Examine sustainability initiatives at Disney Parks and Resorts and evaluate their effectiveness. Mixed, again, some numbers cannot be shared due to code of business conduct. Concurrent data.

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

- Method 4, Integrated Analysis of Food Waste Impacts on Economy, Environment, and Society.:
  - o Explore the economic, environmental, and social implications of food waste, and literature review to gather information on food waste practices at the parks.

In the initial stages of the research, it was aimed to utilize at least five resources to commence my investigation into the topic. However, as my exploration progressed, I found it necessary to expand my resource base, ultimately incorporating insights from a total of nine different sources. My research was guided by keywords such as theme parks, sustainability, food waste, food waste management, Disney Parks and Resorts, environmental impacts, social impacts, economic implications, and sustainable practices. These keywords served as foundational pillars for sourcing relevant literature and data. The bulk of my resources were sourced through online browsing, and an interview with a subject matter expert. Throughout this process, the central focus of my investigation remained the assessment of the efficiency of food waste management practices at Disney Parks and Resorts.

### **Justification:**

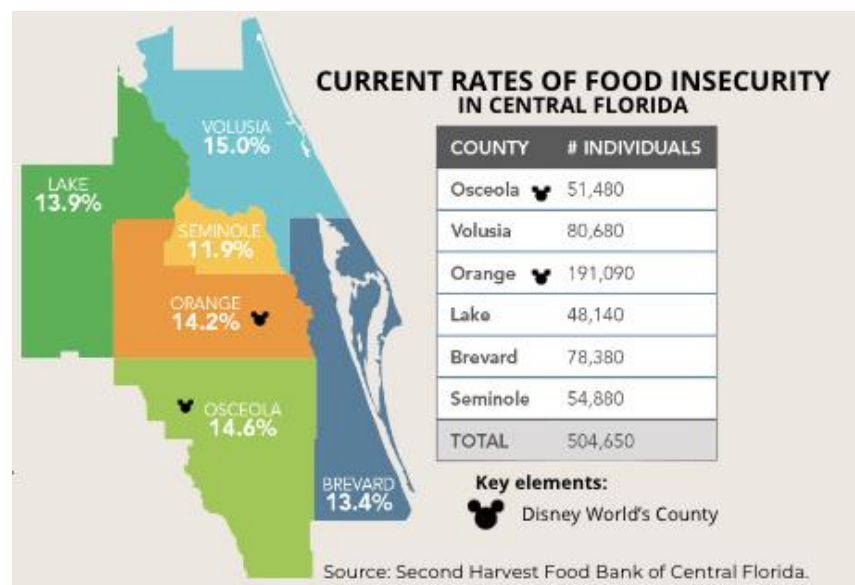
Considering the food waste handling practices at the Disney Parks and Resorts, education and awareness should be addressed and should have, stronger initiatives for mitigating food waste be in place. The methods enable a comprehensive examination of food waste practices and their impacts. By incorporating regulatory analysis alongside interviews, surveys, and case studies, we can gain insights from multiple perspectives. The literature review provides context for the broader implications of food waste, while regulatory analysis highlights supporting practices from other sectors.

# HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

## Results:

Method 1: Expert Interview on Food Waste Management at Disney Parks.

The expert interview with the Food and Beverage Project Manager in the Environmental department at the Disney Parks, provided insights into the intricacies of food waste management within the parks. They highlighted the dynamic nature of food preparation and waste generation, influenced by factors such as park occupancy, reservations, and weather conditions. Food items unable to be served undergo careful monitoring for time and temperature, with leftovers potentially donated to local food banks and the remainder composted into nutrient-rich soil by third-party companies. Food items being donated to food banks is a huge win not only for Disney as they promote sustainable food waste, but also for the Orange and Osceola County food banks. According to Second Harvest Food Bank (Figure 2), 28.8% of Disney World's County is affected by food insecurity. These practices represent Disney's dedication to minimizing food waste and maximizing resource utilization, aligning with broader sustainability goals.





## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

*Figure 2: Current Rates of Food Insecurity in Central Florida. Source: Second Harvest Food Bank of Central Florida.*

Method 2: Comparative Analysis of Food Waste Management Practices in the Hospitality Industry and Universal Parks and Resorts.

The examination of regulations and practices within the hospitality industry, including normal restaurant operations and Universal Parks and Resorts, offers valuable insights into supporting practices for food waste management. According to the National Restaurant Association, the restaurant industry generates an estimated 22 to 33 billion pounds of food waste annually in the United States (National Restaurant Association), and with a 244 billion tons estimated annual global food waste in the food service (Food Waste Index, 2021) industry with a significant portion being discarded rather than recycled or donated.



*Figure 3: Food Waste in Tons. Source: UNEP, Food Waste Index.*

The importance of reducing food waste extends beyond individual establishments to broader societal and environmental concerns. Addressing food waste presents opportunities to mitigate climate change, increase food security, conserve energy and resources, and enhance economic efficiency (EPA). The United States has set a 2030 Food Loss and Waste Reduction goal to cut food loss and waste in half by 2030, aiming to reduce associated climate and environmental impacts while improving food security

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

and savings costs (EPA). Despite these efforts, the United States discards nearly 60 million tons of food annually, amounting to almost 40% of the entire U.S. food supply (Recycle Track Systems).



Figure 4: Food Waste in America. Source: EPA, and EasyHomeMeals.

Universal Parks and Resorts employ various strategies to manage food waste within their theme parks. Food waste from over 30 restaurants across Universal properties is collected and sent to anaerobic digestion sites, where organic material is broken down to produce biogas for energy generation. Additionally, Universal Studios Hollywood CityWalk in California boasts a 100% participation rate in recycling and composting programs, diverting waste from landfills through comprehensive waste management initiatives (Comcast Corporation, 2018).

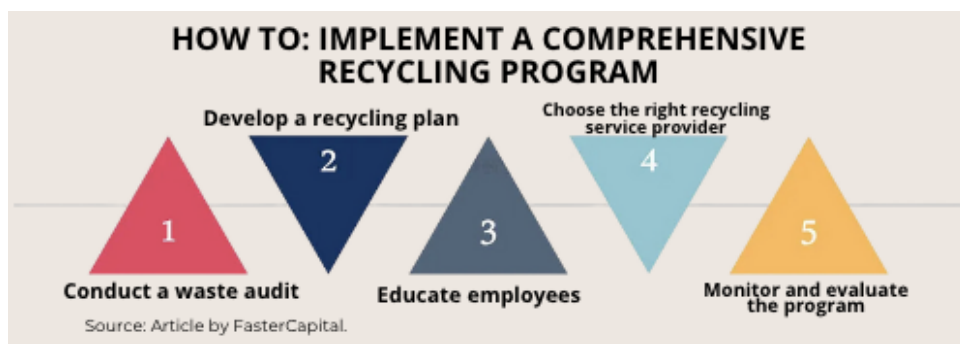


Figure 5: Implementing a Comprehensive Recycling Program. Source:

*FasterCapital.*

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

Method 3: Analysis of Sustainability Initiatives and Food Waste Management at Disney Parks and Resorts.

Examining the sustainability initiatives at Disney Parks and Resorts provides valuable insights into their effectiveness in managing food waste. Educationally, Cast Members undergo mandatory training encompassing various aspects of food handlings, safety, sanitation, and disposal, indicating a commitment to ensuring proper waste management practices. While direct education for Guests on food waste may be limited, indirect initiatives such as refillable souvenir popcorn buckets promote sustainability by encouraging waste reduction through discounted refills. Notably, perishable items like produce, meats, and fish contribute significantly to food waste, emphasizing the need for targeted waste reduction efforts.

Disney employs a multifaceted approach to food waste management within its theme parks. The focus on zero waste to landfill efforts underscores a commitment to minimizing environmental impact (Disney Rewards). Technologies and programs such as community donations, composting, anaerobic digestion, and more are utilized to reduce and divert food waste, with the goal of achieving a minimum 50% food waste diversion.

Turning food scraps into compost and animal feed is a key strategy employed by Walt Disney World Resort, with approximately 30 million pounds of non-consumable food composted annually. Furthermore, Disney's partnership with Second Harvest Bank of Central Florida facilitates the donation of unused prepared food, resulting in a commitment to addressing food insecurity in surrounding communities. Additionally, the conversion of used cooking oil to biodiesel at Disneyland Resort demonstrates innovative

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

approaches to waste reduction, resulting in significant environmental benefits (Disney Rewards).

Disney's dedication to storytelling and guest engagement allows them to seamlessly integrate waste reduction efforts into the guest experience. For instance, Disney offers educational tours, like the "Behind the Seeds" tour at EPCOT (Figure 6) in their Orlando parks, which showcases innovative agricultural practices and how leftover food is repurposed as compost to nourish the park's gardens.



*Figure 6: Behind the Seeds Tour. Source: Walt Disney World Resort.*

Additionally, the use and promotion of popcorn buckets is a huge sustainability initiative which allows Guests to pay more for a collectable popcorn bucket that they can then get refills for \$2 which is less than the normal popcorn price of \$5 by simply showing their popcorn bucket during their visit.

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.



*Figure 7: Attraction Themed Popcorn Bucket at Disney's Hollywood Studios. Source: WDW News Today.*

Method 4: Integrated Analysis of Food Waste Impacts on Economy, Environment, and Society.

Economically, food waste represents a significant financial burden, with Americans alone wasting more than \$408 billion annually on food (Recycle Track Systems), and with the restaurant industry in the United States generating 22 to 33 billion pounds of food waste annually, highlighting 90.5% of total value of surplus food being food waste (Figure 8) and the substantial economic losses associated with inefficient food management practices (National Restaurant Association).

Environmentally, food waste contributes to greenhouse gas emissions and resource depletion. Sustainable practices such as composting and anaerobic digestion can mitigate these environmental impacts by diverting food waste from landfills and promoting resource recovery.

HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

Socially, food waste exacerbated food insecurity and inequities in access to nutritious food. Donating unused prepared food to organizations such as food banks can help alleviate hunger and reduce food waste. Engaging workers, and Guests can assist in fostering a culture of sustainability and promoting social responsibility.

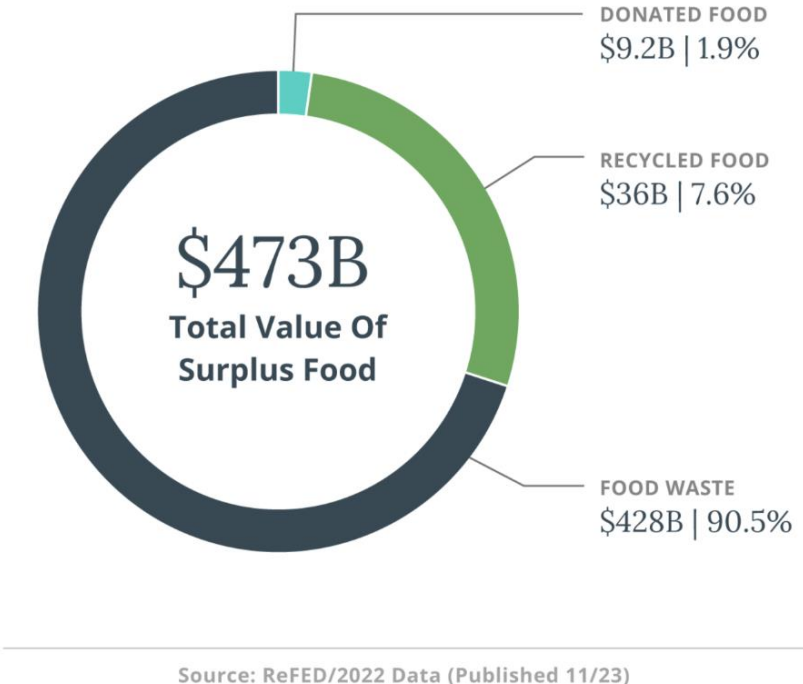


Figure 8: Total Value of Surplus Food. Source: ReFED.

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

### **Discussion:**

The results underscore the importance of sustainable food waste management practices in the hospitality industry. Regulatory support from normal restaurant regulations and Universal Parks and Resorts provides a framework for effective food waste management. Education and awareness initiatives play a crucial role in promoting sustainable behavior among guests and staff.

Expanding upon these findings, it becomes evident that each method employed – regulatory support, industry practices, and educational initiatives – mutually reinforce and complement one another in achieving sustainable food waste management goals. Regulatory frameworks established within the hospitality industry, including normal restaurant operations and Universal Parks and Resorts, provide a solid foundation for implementing and expecting sustainable practices. These regulations set standards and guidelines for food handling, safety, and waste management, ensuring compliance and accountability across the industry.

Furthermore, educational and awareness initiatives emerge as essential drivers of behavior change among guests and staff. By promoting sustainability principles and highlighting the actively participate in waste reduction efforts. For instance, educational programs implemented by Disney Parks and Resorts emphasize the importance of proper food handling and disposal, instilling a culture of responsibility and stewardship among Cast Members and Guests.

The synergistic effects of these methods extend beyond individual establishments to broader societal and environmental benefits. By aligning regulatory mandates, industry practices, and educational efforts, the hospitality industry can contribute significantly to addressing global challenges such as climate change, food insecurity, and resource depletion. Through

## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

collaborative action and continuous improvement, sustainable food waste management can become not only a regulatory requirement but also a shared commitment towards building a more resilient and equitable future.

### **Conclusion:**

Food waste presents a multifaceted challenge with far-reaching economic, environmental, and social consequences. Insights obtained from regulatory frameworks within normal restaurant operations and sustainability initiatives at Universal Parks and Resorts underscore the effectiveness of practices adopted by Disney Parks and Resorts. Through heightened awareness and the implementation of sustainable strategies, the hospitality industry plays a pivotal role in advancing towards a more sustainable future. To effectively address the complexities of food waste, ongoing research and collaboration are essential. By utilizing collective expertise and fostering innovation, the industry can further mitigate the impacts of food waste and promote responsible resource management.

### **Limitations:**

Several challenges must be addressed to effectively implement sustainable food waste management practices in the hospitality industry. One such challenge is data limitations, as the availability and reliability of food waste data may vary across different settings, making it difficult to accurately assess and address the problem. Resource constraints present another obstacle, as the implementation of sustainability initiatives may be hindered by financial and logistical challenges. Additionally, stakeholder engagement plays a crucial role in the success of sustainability efforts, yet the involvement and commitment of stakeholders may vary, impacting the effectiveness of initiatives aimed at reducing food waste. Overcoming these challenges, require a coordinated effort involving collaboration between industry stakeholders, regulatory



## HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

bodies, and advocacy groups to develop comprehensive solutions that address the complex nature of food waste in the hospitality industry.

### **Future work:**

To effectively promote sustainable food waste management practices in the hospitality industry, a multifaceted approach is essential. This includes developing targeted education campaigns aimed at both Guests and Cast Members to raise awareness and encourage sustainable behavior. Additionally, fostering partnerships with other organizations can facilitate the implementation of standardized waste management practices, promoting consistency and efficiency across the industry. Moreover, advocating for policy reforms is crucial to incentivize sustainable practices and regulate food waste management, ensuring accountability and alignment with broader environmental goals. By integrating education, collaboration, and policy advocacy, the hospitality sector can work towards comprehensive solutions that address the complex challenges of food waste while promoting environmental stewardship and sustainability.

# HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

## Works Cited

Comcast Corporation. (2018). Sustainable excellence: Theme parks.

<https://corporate.comcast.com/values/csr/2018/sustainable-excellence/theme-parks>

Disney Parks Blog. (April, 2022). From farm to fork, or food bank, and beyond: The journey of

Disney food. <https://disneyarks.disney.go.com/blog/2022/04/from-farm-to-fork-or-food-bank-and-beyond-the-journey-of-disney-food/>

Feed Hope Now. About Map the Meal.

[https://www.feedhopenow.org/site/SPageServer/?pagename=about\\_mapthemeal2020#:~:text=One%20in%20seven%20people%20are,in%20Central%20Florida%20face%20hung%20er](https://www.feedhopenow.org/site/SPageServer/?pagename=about_mapthemeal2020#:~:text=One%20in%20seven%20people%20are,in%20Central%20Florida%20face%20hung%20er)

Recycle Track Systems. Food Waste in America. [https://www.rts.com/resources/guides/food-waste-](https://www.rts.com/resources/guides/food-waste-america/#:~:text=The%20root%20is%20complex%20and,too%20much%20food%20is%20produced)

[waste-america/#:~:text=The%20root%20is%20complex%20and,too%20much%20food%20is%20produced](https://www.rts.com/resources/guides/food-waste-america/#:~:text=The%20root%20is%20complex%20and,too%20much%20food%20is%20produced)

ReFED. Food waste: The problem. <https://refed.org/food-waste/the-problem/>

Statista. Estimated annual global food waste by sector.

<https://www.statista.com/chart/24349/estimated-annual-global-food-waste-by-sector/>

Squarespace. Austin Resource Recovery. Quick Service Restaurant Waste Composition Study.

<https://static1.squarespace.com/static/54d3a62be4b068e9347ca880/t/55a02366e4b0a2f986e5762b/1436558182730/AustinFFStudy.pdf>

The Barbecue Lab. (2024). Food Waste Statistics. <https://thebarbecuelab.com/food-waste/>

HARMONIZING MAGIC AND SUSTAINABILITY: A CASE STUDY OF FOOD WASTE MANAGEMENT AT DISNEY PARKS AND RESORTS.

United States Department of Agriculture. Safe handling of take-out foods. Food Safety and Inspection Service. <https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/safe-handling-take-out-foods>

United States Environmental Protection Agency. United States 2030 Food Loss and Waste Reduction Goal. <https://www.epa.gov/sustainable-management-food/united-states-2030-food-loss-and-waste-reduction-goal>