Fighting Food Waste with Portion Sizes

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Problem Statement

The US wastes nearly 40% of our food, creating 125-160 billion pounds of waste annually, leading to high emission rates, resource depletion, and food insecurity.

Background

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- Food is an emission contributor throughout its lifecycle
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- Food is an emission contributor throughout its lifecycle
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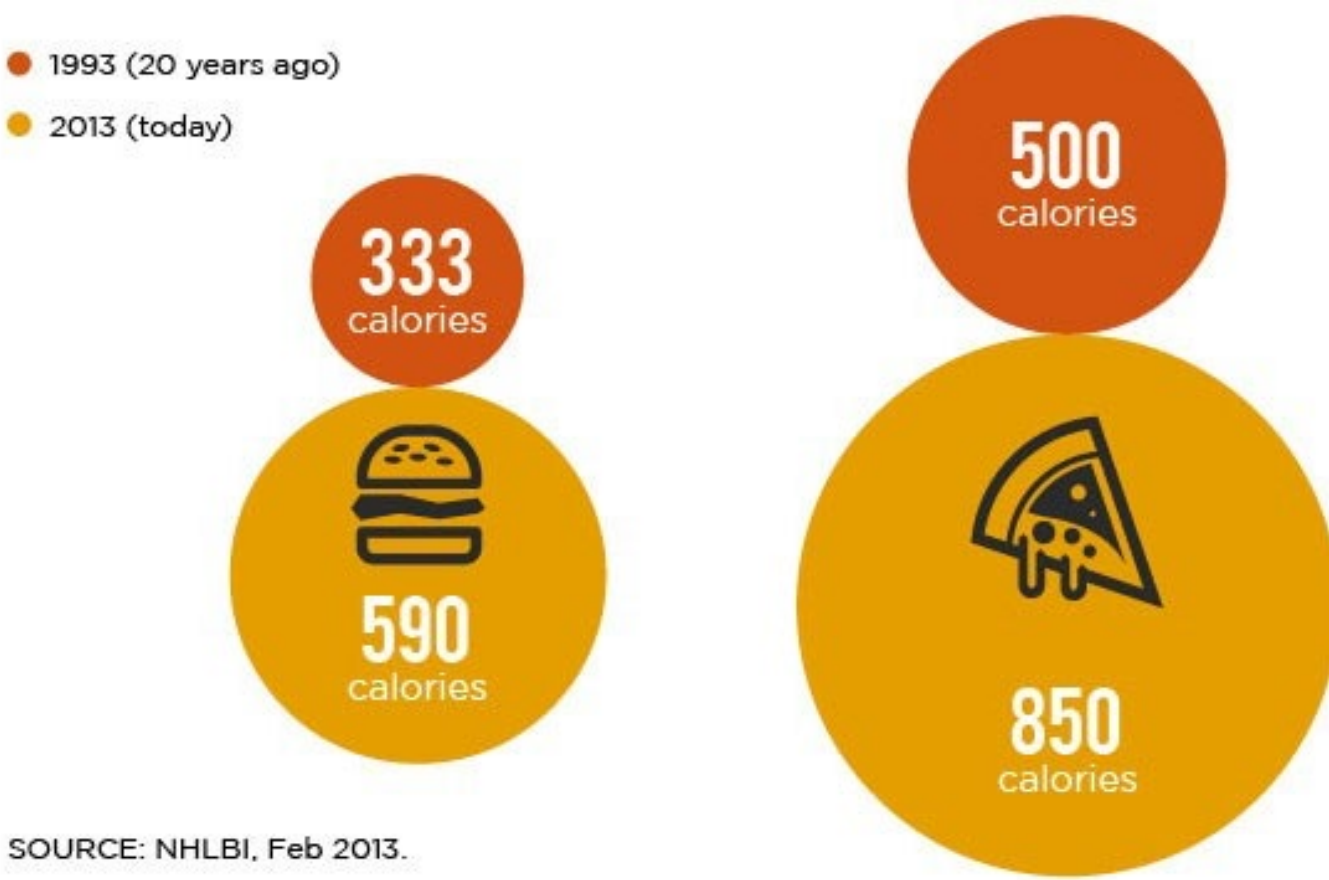
- Almost 20% of the food we produce is wasted on the buyer side
- 13.7 billion metric tons of carbon dioxide equivalents emitted through the food supply chain annually

Research Question

What would be the most effective waste **mitigation** and **management strategies** in the restaurant industry that Pittsburgh could utilize to produce a more sustainable environment?



92% of US restaurants serve oversized portions

Thinking about the types of restaurants you go out to eat in; what percent of your meal do you typically throw out?

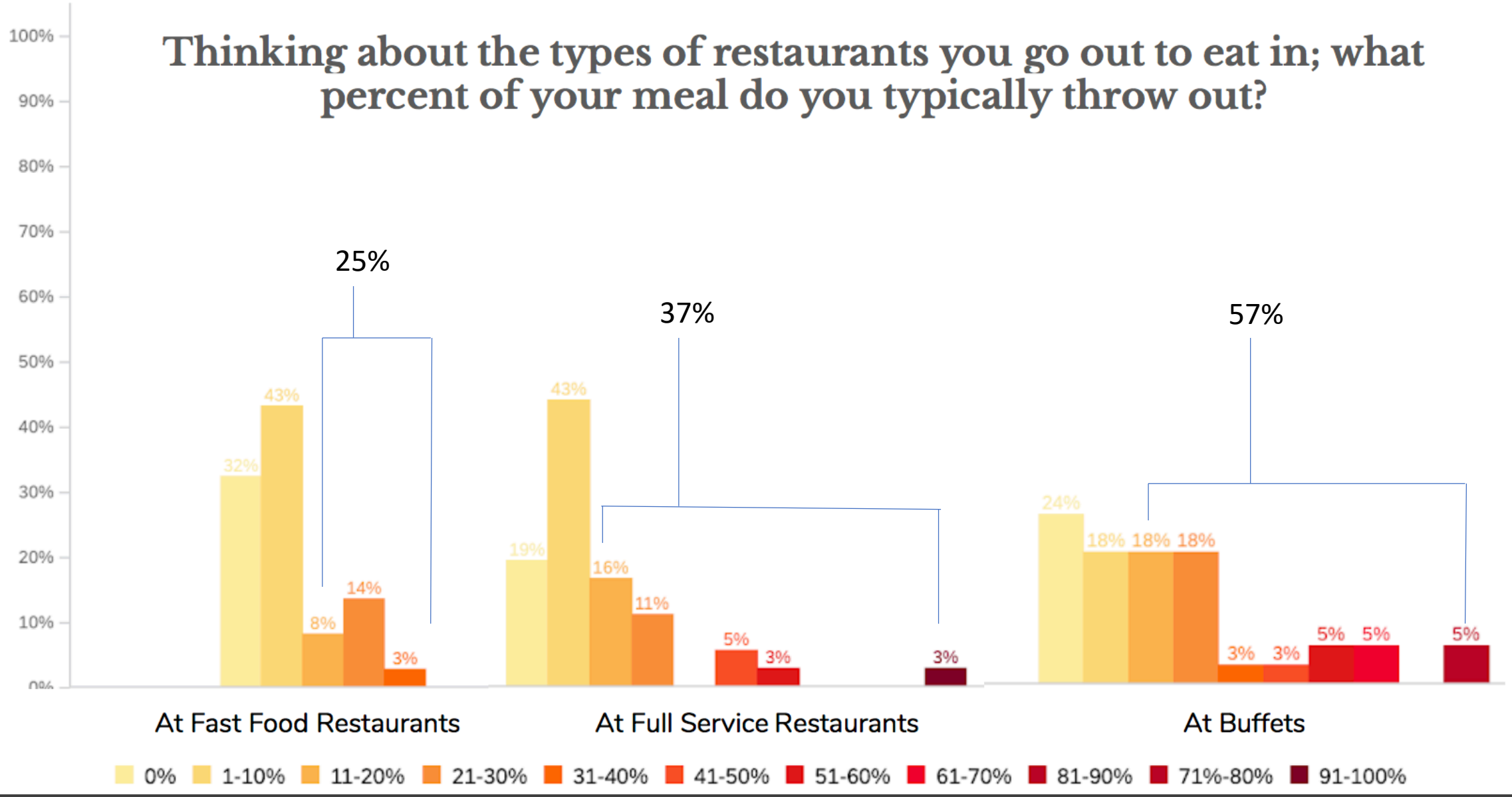
At fast food restaurants

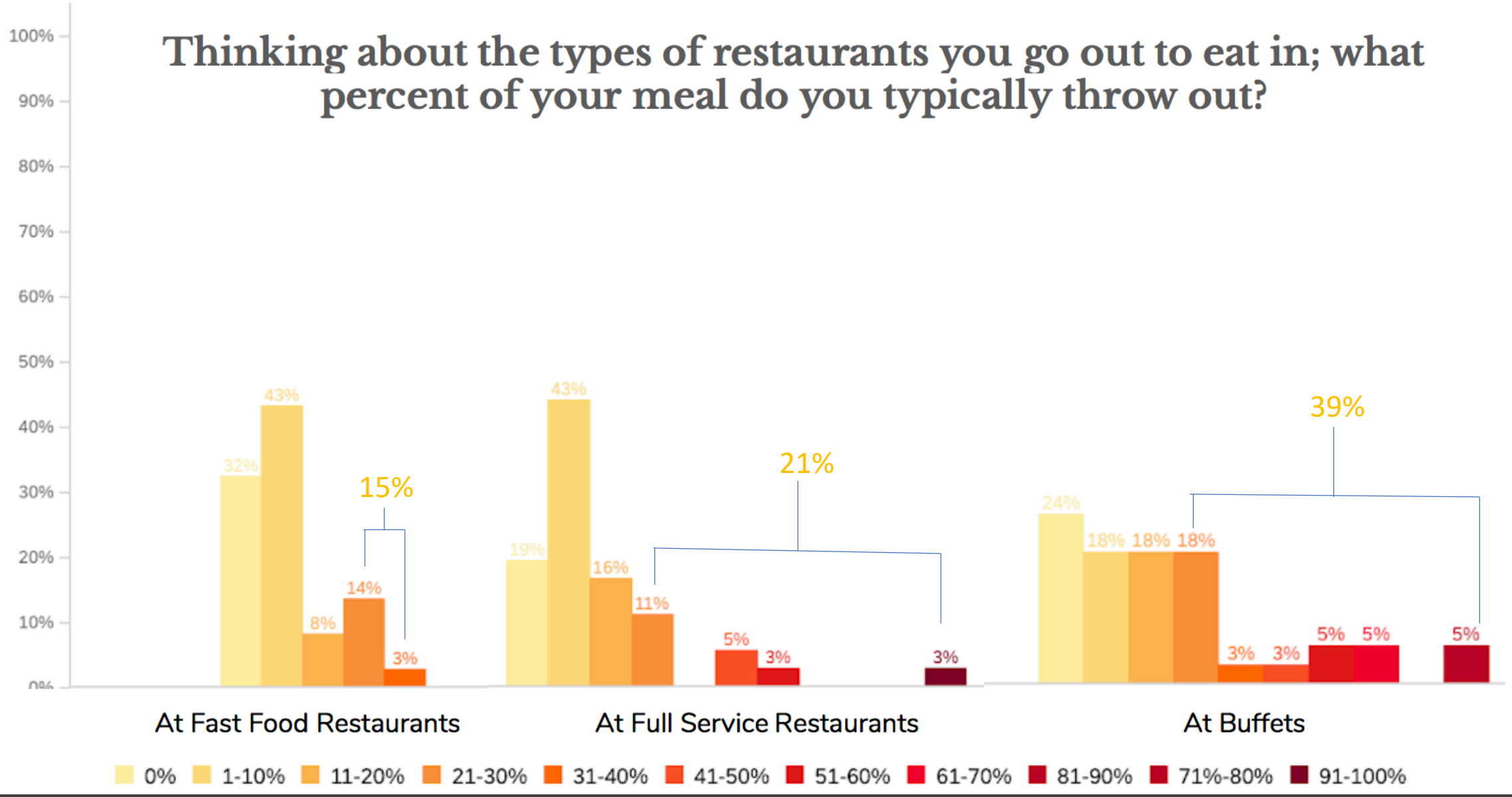
At full service restaurants

Other non-home dining locations

At buffets

Other:


Thinking about the types of restaurants you go out to eat in; what percent of your meal do you typically throw out?
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
25%
37%
57%
32%
43%
8%
14%
3%
19%
43%
16%
11%
5%
3%
3%
24%
18%
18%
18%
3%
3%
5%
5%
5%
At Fast Food Restaurants
At Full Service Restaurants
At Buffets
0%
1-10%
11-20%
21-30%
31-40%
41-50%
51-60%
61-70%
81-90%
71%-80%
91-100%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32%
43%
8%
14%
3%
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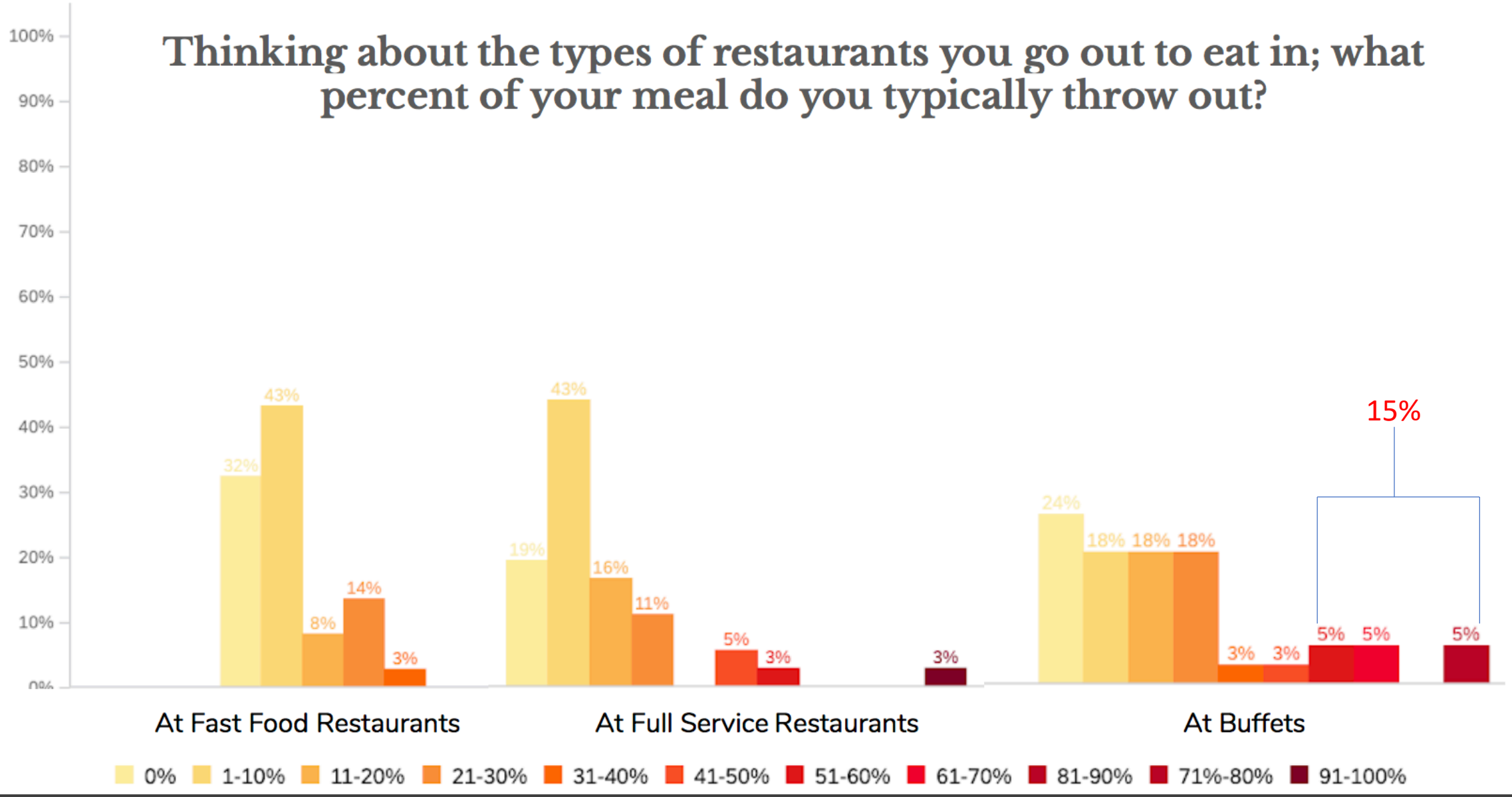
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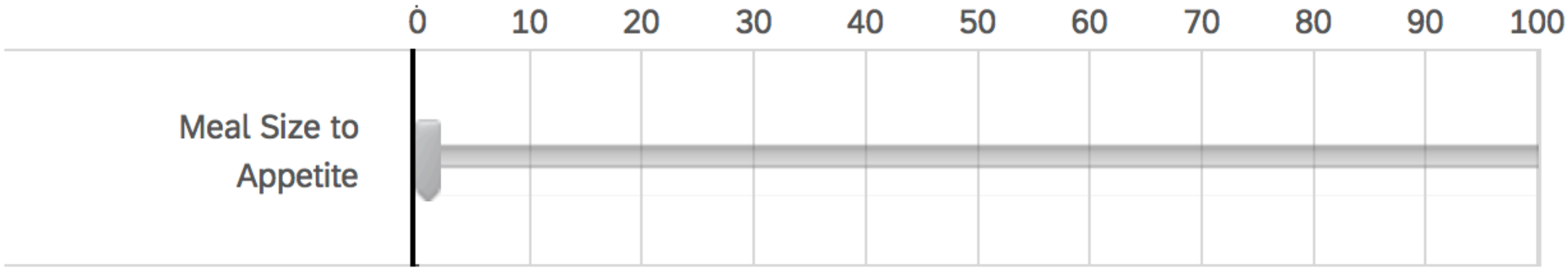
71%-80%
91-100%

Thinking about the previous question on the percentage of food that you typically throw out; Please explain why you throw out the amount of food you identified above. If you don't throw any food out you may put NA

Most Common Responses

- **Portion sizes are too big and they can't eat it all**
- Leftovers brought home get thrown out
- Order too much
- Inconsistent appetites
- Food taste bad or bad quality

How often do you feel the portion size of your meal correlates to your appetite? (Numbers are percentages i.e. 0% = never, 50% = half the time, 100% = always)



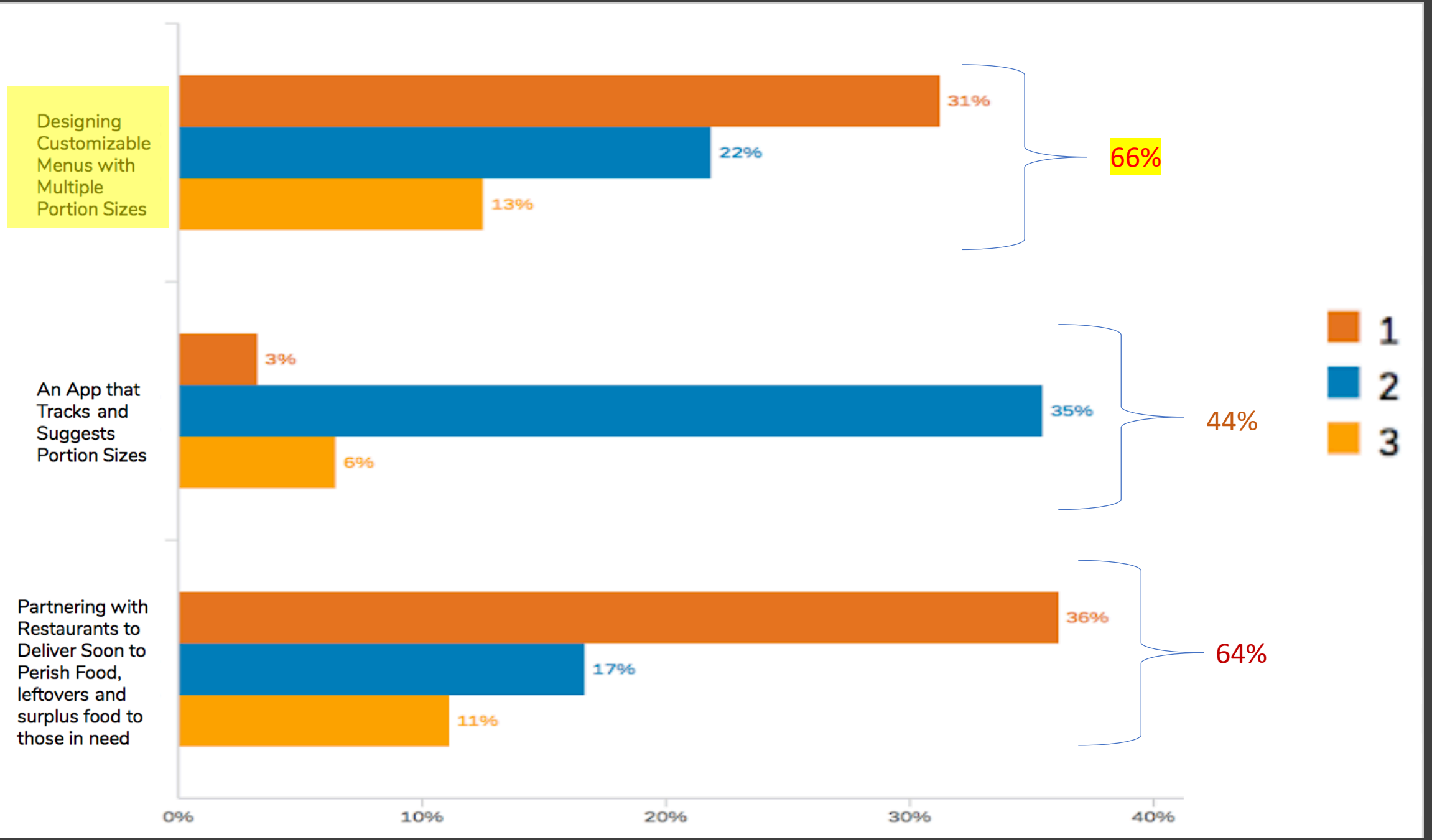
How often do you feel the portion size of your meal correlates to your appetite?

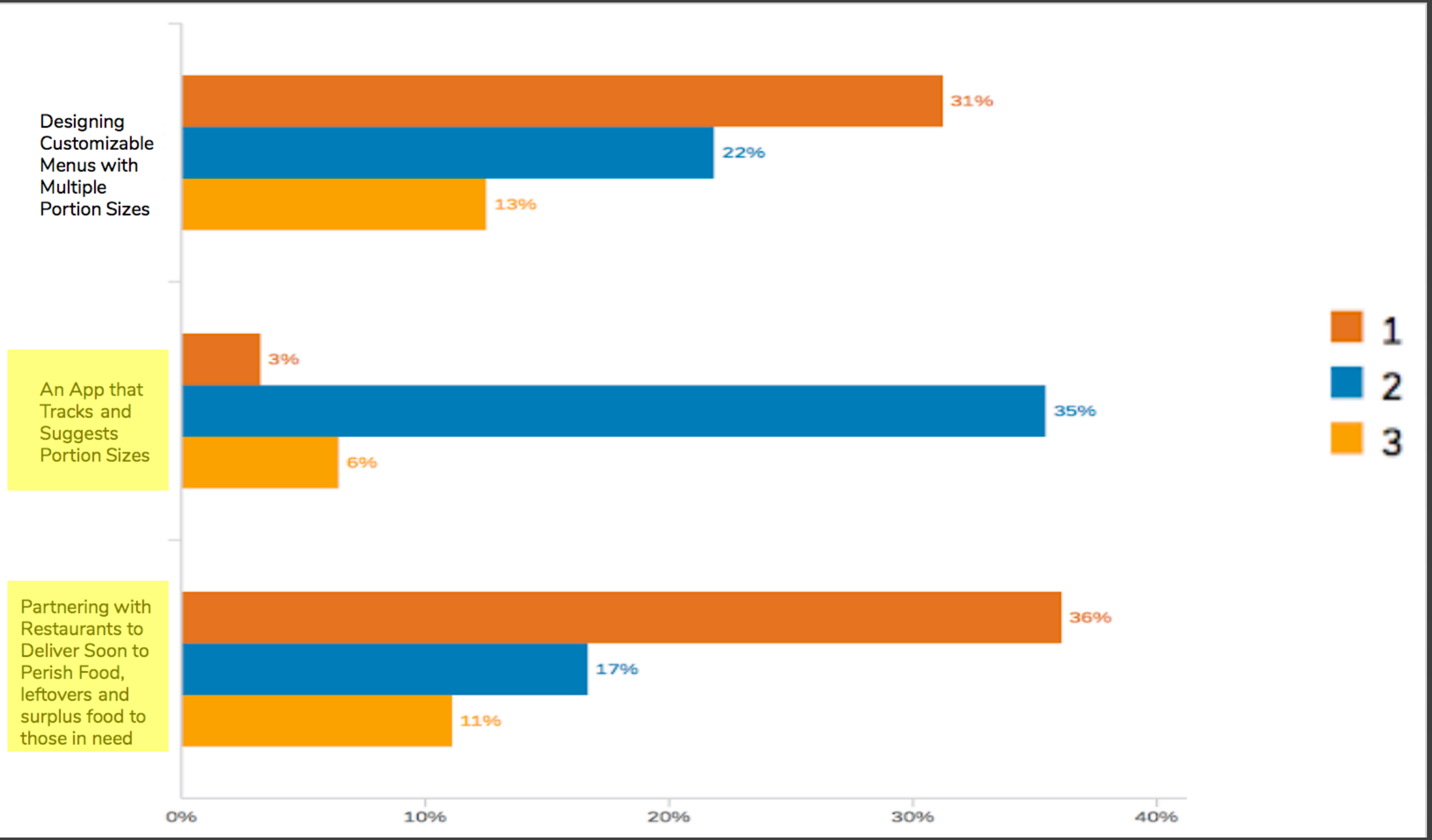
Mean

Male	Female
69%	57%

Please rank the following proposed strategic solutions for combating food waste, in the order of ideas you'd most likely support. (Rank by selecting the bubble that corresponds with your response 1=highest , 6=lowest)

	1	2	3	4	5	6
Designing customizable menu's with multiple portion options	○	○	○	○	○	○
Creating centralized compost areas	○	○	○	○	○	○
An app that tracks and suggests portion sizes	○	○	○	○	○	○
Improving and implementing inventory management systems	○	○	○	○	○	○
Encouraging the sorting and separating of food waste from other trash	○	○	○	○	○	○
Partnering with restaurants to deliver soon to perish food, leftovers and surplus food to those in need	○	○	○	○	○	○


Designing Customizable Menus with Multiple Portion Sizes
31%
22%
13%
66%
An App that Tracks and Suggests Portion Sizes
3%
35%
6%
44%
Partnering with Restaurants to Deliver Soon to Perish Food, leftovers and surplus food to those in need
36%
17%
11%
64%
1
2
3
0%
10%
20%
30%
40%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35%
6%
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36%
17%
11%
0%
10%
20%
30%
40%
1
2
3

How likely would you be to order smaller food portions?

	Very Likely	Somewhat Likely	Not likely	× N/A
For a lower cost	○	○	○	○
For the same cost	○	○	○	○
For a higher cost	○	○	○	○

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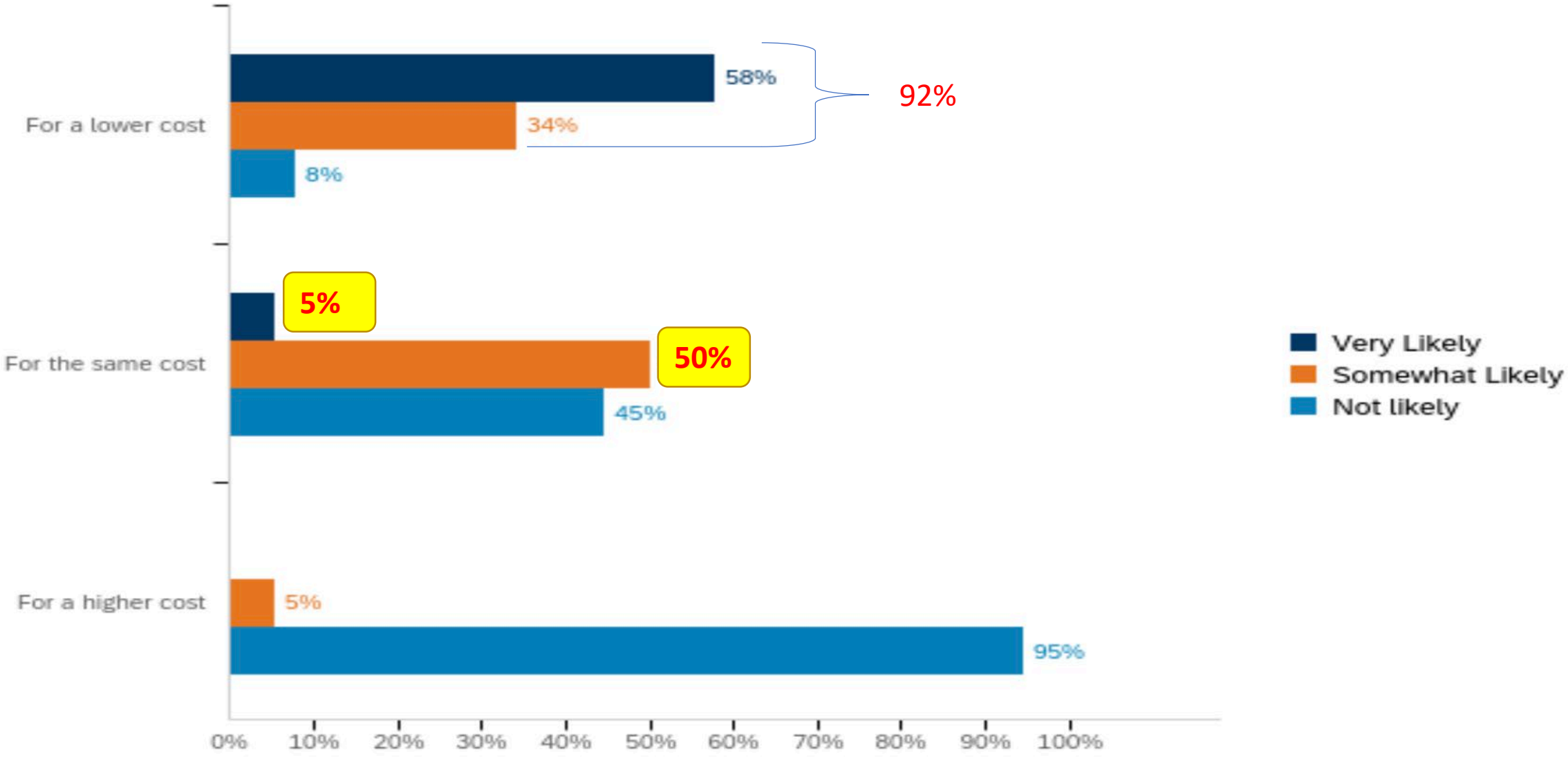
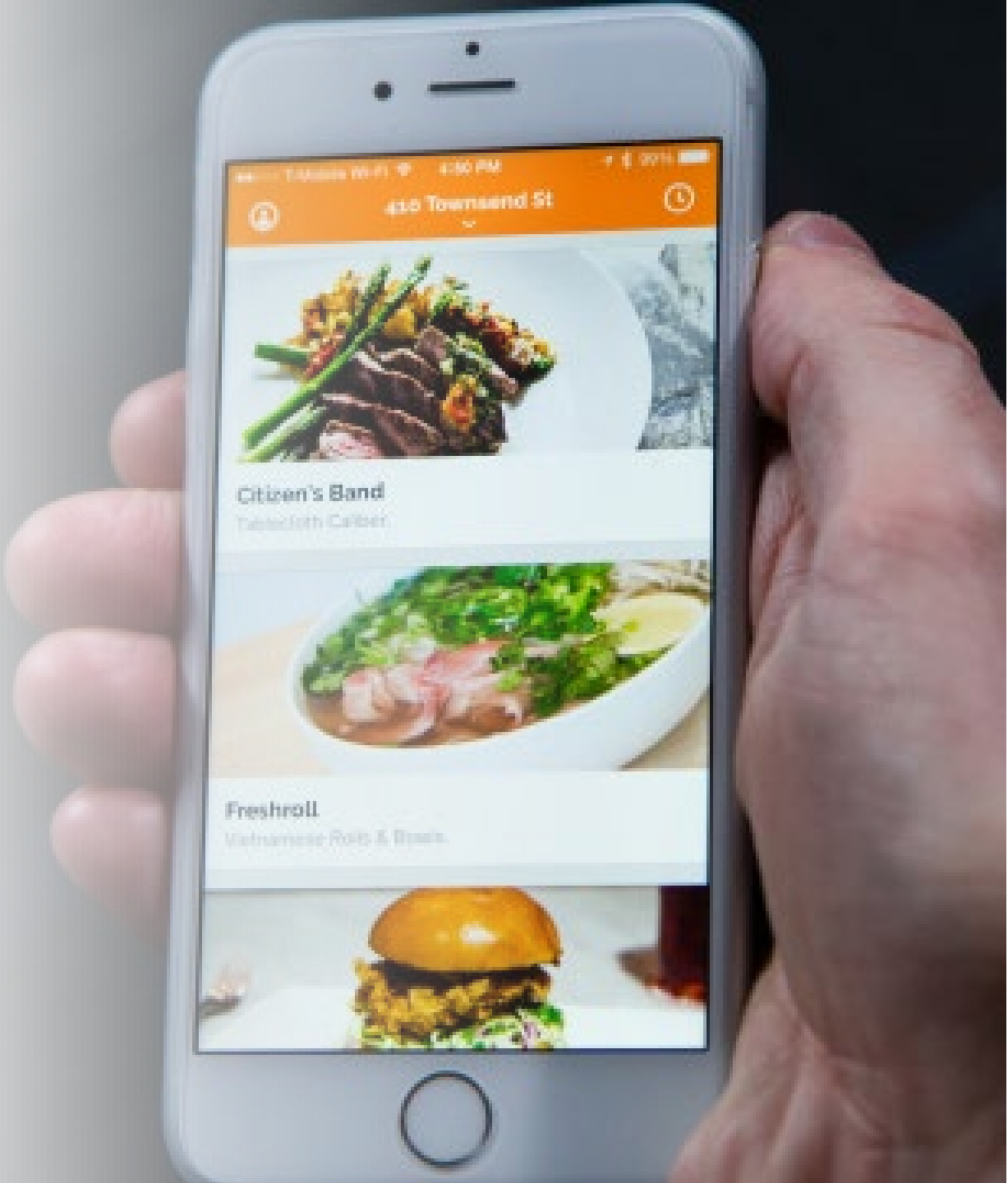
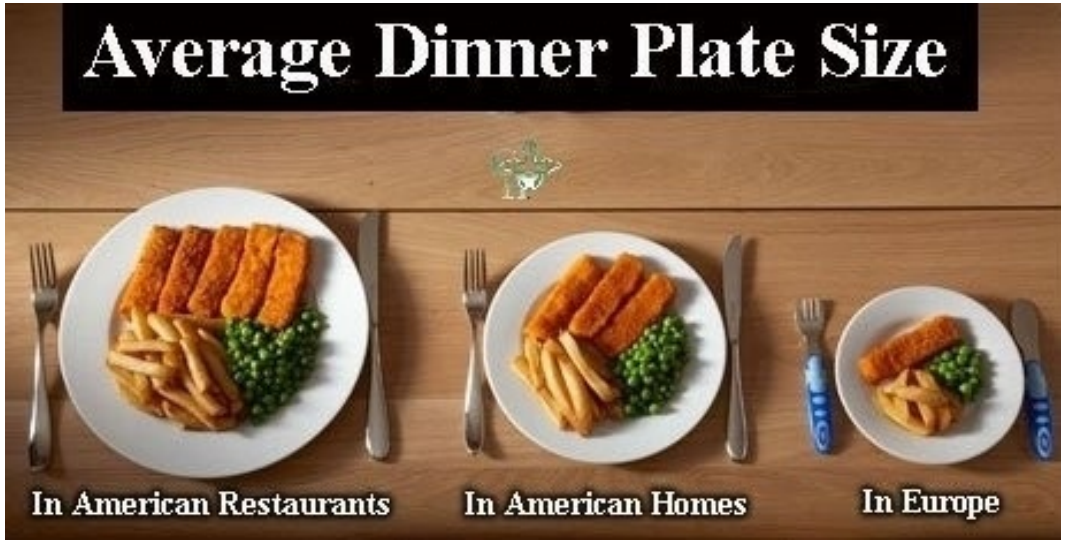


Proposed Strategy

Helping consumers control the size of their meal by implementing smaller portion options at all restaurants.



Questions for Further Research

Do these trends around food waste continue beyond the Bucknell community?

How could we enable full-service restaurants implement portion options?