Need

Current mobile food preparation kitchens suffer from many serious flaws which undermine their safety, productivity and profitability. Most commercial mobile kitchens available today are merely pre-fabricated trailers or campers which have been filled with kitchen equipment, rather than being designed from the beginning as a functional unit. Because of this lack of focused design, they can be unsanitary, uncomfortable and unsightly. Each year, preventable food-borne illnesses and work related injuries take a large toll on our economy, in both monetary and human costs.

Project Statement

Our project objective is to propose a new and innovative design of a mobile food preparation unit. Through this design we intend to address problems found in current mobile kitchens in an attractive and functional package. Our primary goal is to develop these kitchens with a focus on sanitation and preventing worker fatigue, and to produce a multi-functional unit that can do more than just provide food and beverages in an efficient manner.

Food Safety and Worker-Environment Interactions

The most important factor to consider in the design of a kitchen is the interaction between workers and the workplace. A poorly designed workplace can make employees less productive both directly and indirectly. Directly the workplace can slow the movements of workers and increase the time it takes to complete tasks, and make these tasks more difficult. Indirectly, a poorly designed workplace can cause fatigue, which increases mistakes and lowers productivity. Fatigued workers are more likely to neglect sanitation, which is an extremely important aspect of any kitchen.

Conclusions

The final kitchen unit was designed using extensive research in sanitation, ergonomics and human factors, and is intended to operate as part of a coordinated system. This system consists of three basic components: mobile kitchen units, resupply vehicles, and a centralized control system responsible for routing orders and deliveries. The mobile kitchen units, which our design work focuses on, are responsible for the final preparation and presentation of food to the customer. Each of these units would operate more or less autonomously, with limited interaction with the other food preparation and serving units. For more information, please refer to the submitted project report.