

Food Bank of Iowa Warehouse Redesign

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Abstract: The Food Bank of Iowa distributes product to food-insecure individuals in 55 Iowa counties. In the past years, the number of food-insecure individuals in Iowa has risen, requiring the Food Bank to increase distribution, resulting in challenges with the current storage capacity. The purpose of this project is to deliver a new warehouse layout to increase facility capacity by two to three times and optimize material flow to assist the Food Bank in meeting the next five years' projected demand. The warehouse's current state capacity, inventory, and operating procedures were evaluated. Anticipated yearly distribution growth rate was found to be 10%, requiring a 34% increase in pallet spaces. A flow analysis was conducted on potential solutions to study the operational efficiency. Several layout options, including associated costs, will be provided. A warehouse redesign will result in an estimated \$2.55 million in savings by the avoidance of a warehouse expansion.

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