

Versa-haul: A Versatile Solution for Everyday Transportation

Mariana Cruz and Samantha Granados

Department of Manufacturing Systems Engineering & Management
California State University, Northridge
Northridge, CA, USA

Mariana.cruz.452@my.csun.edu, Samantha.granados.283@my.csun.edu

Hugo Martir

Department of Manufacturing Systems Engineering & Management
California State University, Northridge
Northridge, CA, USA

Hugo.martir.833@my.csun.edu

Sepideh Abolghasem

Professor

Department of Manufacturing Systems Engineering & Management
California State University, Northridge
Northridge, CA, USA

Sepideh.abolghasem@csun.edu

Abstract

Our study focused on finding a better and more effective alternative to everyday wagons and dollies by bringing both together. By researching similar products, we were able to find a way to make ours more suitable and customizable to a range of consumers by implementing all-terrain and stair-climbing wheels, a wheelchair attachment, and adjustable handles. The results showed that with the help of both types of wheels, consumers would be less likely to face injury and strain when maneuvering through different types of terrains and stairs. With the wheelchair attachment, our product would also reach a bigger demographic of consumers, making it more versatile. We were able to conclude our findings on the basis of the aluminum body of our product and its ability to disperse weight across the wheels. This gave our product a max load capacity of 330 pounds, due to aluminum's lightweight composition.

Keywords

Transportation, wagon, terrain, stair-climbing wheels