

Towson University Data Analytics Competition: Perdue Drop Trailer Analysis

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How do customers benefit from "Drop Trailers"?

It is essential for companies to understand how customers benefit from features and services provided to them to ensure quality and customer loyalty. Drop Trailers have been implemented into the Perdue Farms delivery process. The purpose of a drop trailer is to offer customers the opportunity to reduce the cost of their delivery by reducing their held time.

This question will be explored by finding answers to the following three sub questions.

- Which customers would offer the greatest savings by using a drop trailer?
- Which 10 customers had the highest incidence of held time?
 - a. Number of occurrences
 - b. Percent of deliveries
 - c. Overall cost of occurrences
- What are the top 10 customers in combined delivery and held time cost per pound?

About the Dataset

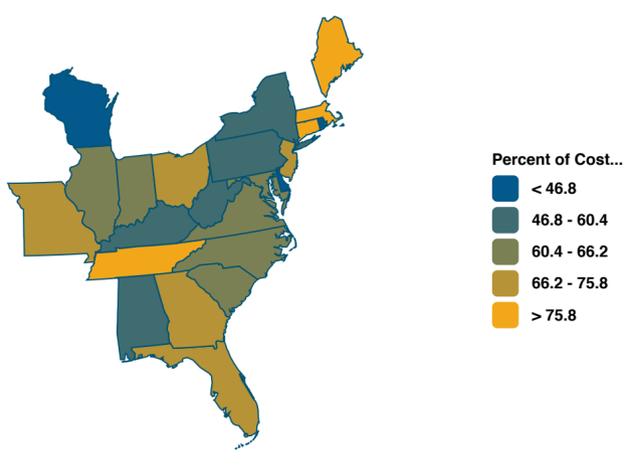
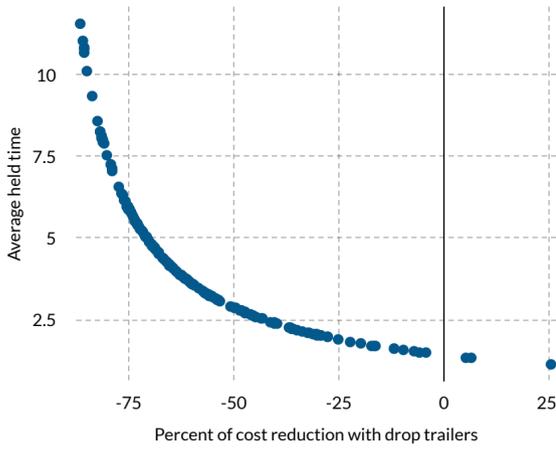
- The Dataset was filter based on three parameters
- There was data in every sheet of the workbook for each customer and shipment ID combined
- Perdue is the carrier for the shipment
- The maximum number of stops is 1
- After cleaning the data 4,179 cases remained

Which customers would offer the greatest savings by using a drop trailer?

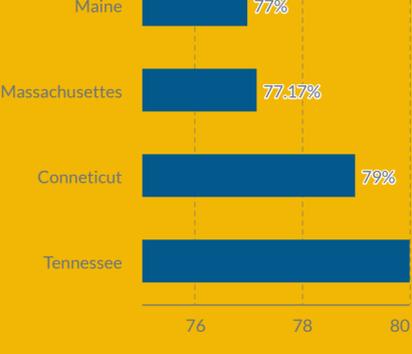
Customers with higher Average held times receive the greatest savings when using a drop trailer.

Average amount of held time (hours)	Average percent of reduction in cost with drop trailers
< 3.048	▼ 53%
3.048 - 8.011	▼ 70%
8.011 <	▼ 81%

Cost Reduction by Percentage based on Current Held Time



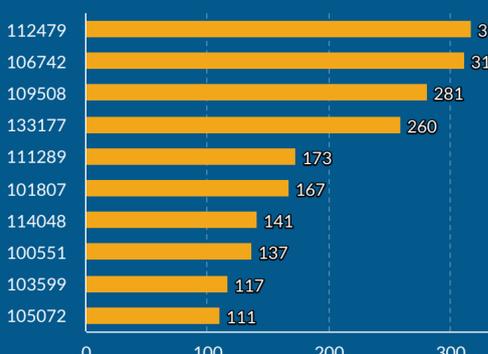
Percent of Cost reduction by state



The states with the highest average percentage of reduction in cost when using drop trailers are **Maine, Massachusetts, Connecticut, and Tennessee.**

Which 10 Customers had the highest incidence of held time?

Count of Held Time Occurrences

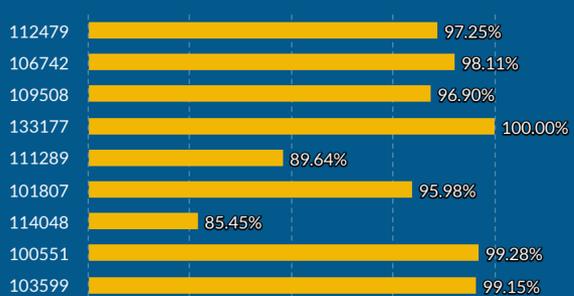


The top 10 customers with the highest incidence of held time are

- 112479
- 101807
- 106742
- 114048
- 109508
- 100551
- 133177
- 103599
- 111289
- 105072



Percent of Deliveries with Held Time



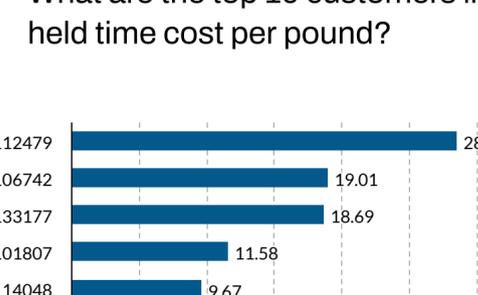
The customer with the highest percent of held time deliveries is customer **133177**. The lowest of the top 10 is **114048**. Within this top 10 the percentages range from **85.45%-100%** deliveries with held time.

Cost of Held Time



The most expensive held time comes from customer **112479**. The least expensive held time comes from customer **105072**.

What are the top 10 customers in combined delivery and held time cost per pound?



Customer **112479** has the highest cost per pound. Customer **112575** has the lowest cost per pound.

Key Findings

- There is a direct relationship between the average amount of held hours and the percent of reduction in cost when using drop trailers
- Customers who have about 8 or more hours on average in held time offer the greatest savings when using a drop trailer
- Customers located in Tennessee offer the greatest savings when using drop trailers
- The top 7 customers with the highest incidence of held time are also apart of the top 10 customers with the highest combined delivery and held time cost per pound.