

Sanitary Transportation of Food Proposed Rule Survey Analysis

Prepared for the American Trucking Association
and Thermo King Corporation

July 2014



Introduction and Methodology

In July 2014, Hanover Research administered an online survey on behalf of Thermo King Corporation and the American Trucking Association (ATA). The survey was sent to ATA members as a way to understand the current issues facing the trucking industry as well as practices and protocols that are used to ensure the sanitary transportation of food. In total, 80 respondents took part in the survey.

This study is part of a larger effort to inform modifications to the Food and Drug Administration's Sanitary Transportation of Food (STF) rule, which is proposing to codify industry best practices in the transportation of food.

Summary

Temperature controls and sanitation requirements are key concerns regarding the Sanitary Transportation of Food Proposed Rule among surveyed ATA members. In the current environment, respondents rank temperature violations as the top non-conformance issue that carriers are facing.

Current temperature protocols include limiting refrigerated cargo exposure to non-temperature controlled docks as well as precooling trailers prior to loading. To ensure that their shipments are sanitary, most respondents do not have wood interiors in their refrigerated trailers nor do they participate in a wood pallet exchange program. The majority of participants wash trailer interiors and provide new drivers with training on loading refrigerated items.

While most respondents indicate that their companies keep records of the type of cargo hauled in past shipments, many do not use telematics systems or data loggers to track the temperature of their carriers. This may be due to the high installation costs, which are, on average, \$87,000 across respondents providing those data.

Key Findings

Key Issues

- More than a quarter of respondents, 28 percent, have discussed the Sanitary Transportation Food Proposed Rule with their refrigerator shippers.
- The vast majority of respondents believe that sanitation requirements for trailer interiors and temperature control tolerance requirements are important topics, regardless of whether they currently discuss those issues with shippers.

Non-Conformance

- When asked to pick from a list of frequent non-conformance issues, temperature violations was ranked as the top issue carriers face, followed by missing paperwork.
- The cost of rejected shipments as a result of non-conformance varies widely. The average cost among respondents is around \$20,000. However, it can range from \$300 to \$80,000.

Key Findings

Record Keeping

- The majority of respondents, 66 percent, keep records of the type of cargo hauled in past shipments. On average, these records cover the last 3 years.
- However, telematics systems and data loggers are not widely in use among study participants.
 - For those who use telematics, the average cost of installation is close to \$87,000.
 - Telematics users tend to implement temperature monitor equipment in the majority of their carriers.

Temperature Protocols

- Respondents limit exposure to non-temperature controlled docks. 48 percent do not receive any refrigerated cargo from docks that are not temperature regulated.
- In addition, over half of respondents precool their trailers to the appropriate temperature prior to loading cargo.
- However, 68 percent indicate that their companies do not issue pulp temperature accept-reject standards to drivers.

Key Findings

Sanitation, Training and Guidelines

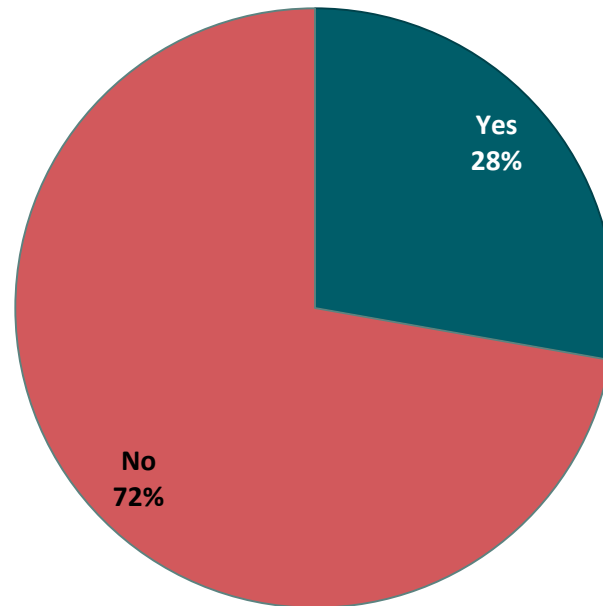
- The vast majority of respondents, 89 percent, do not have wood interiors in their refrigerated trailers.
- The majority of respondents, 74 percent, wash the interior of their trailers. However, the frequency of trailer washes varies among companies. On average, the cost for washing a trailer is approximately \$62.
- Over three quarters of respondents provide training to new drivers on refrigerated units and loads. However, the majority (62 percent) do not issue loading guidelines to drivers.
- Most respondents, 72 percent, do not participate in wood pallet exchange programs.

Key Issues

Key Issues

Sanitary Transportation of Food Proposed Rule

Q: Have you discussed the Sanitary Transportation of Food Proposed Rule with any of your refrigerated shippers?



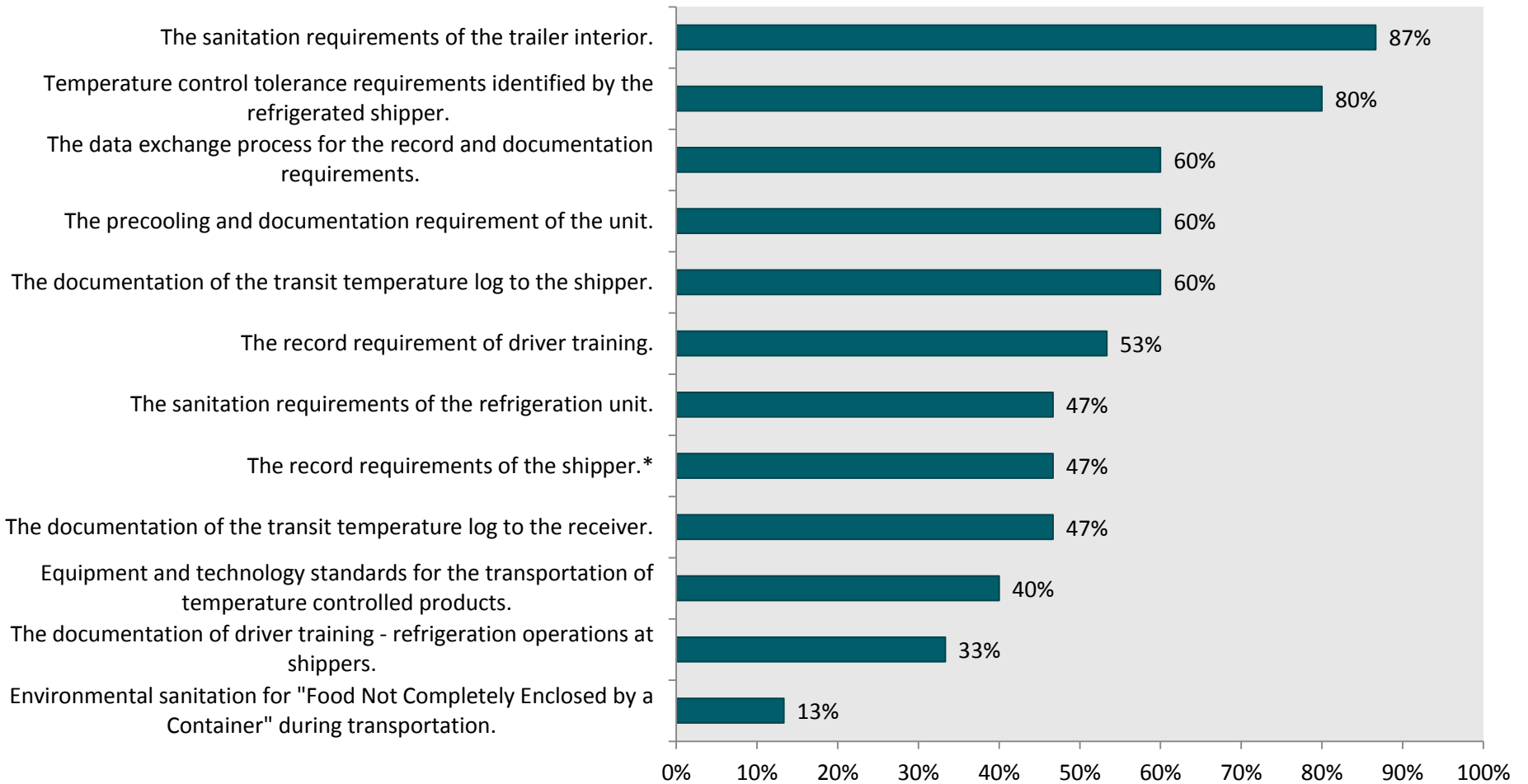
n=54

- Most respondents have not discussed the STF proposed rule with shippers.
- However, most respondents would agree that sanitation requirements for trailer interiors and temperature control tolerance requirements are important topics.

Key Issues

Topics among those who currently discuss

Q: Select the topics you discussed with your refrigerated shippers.



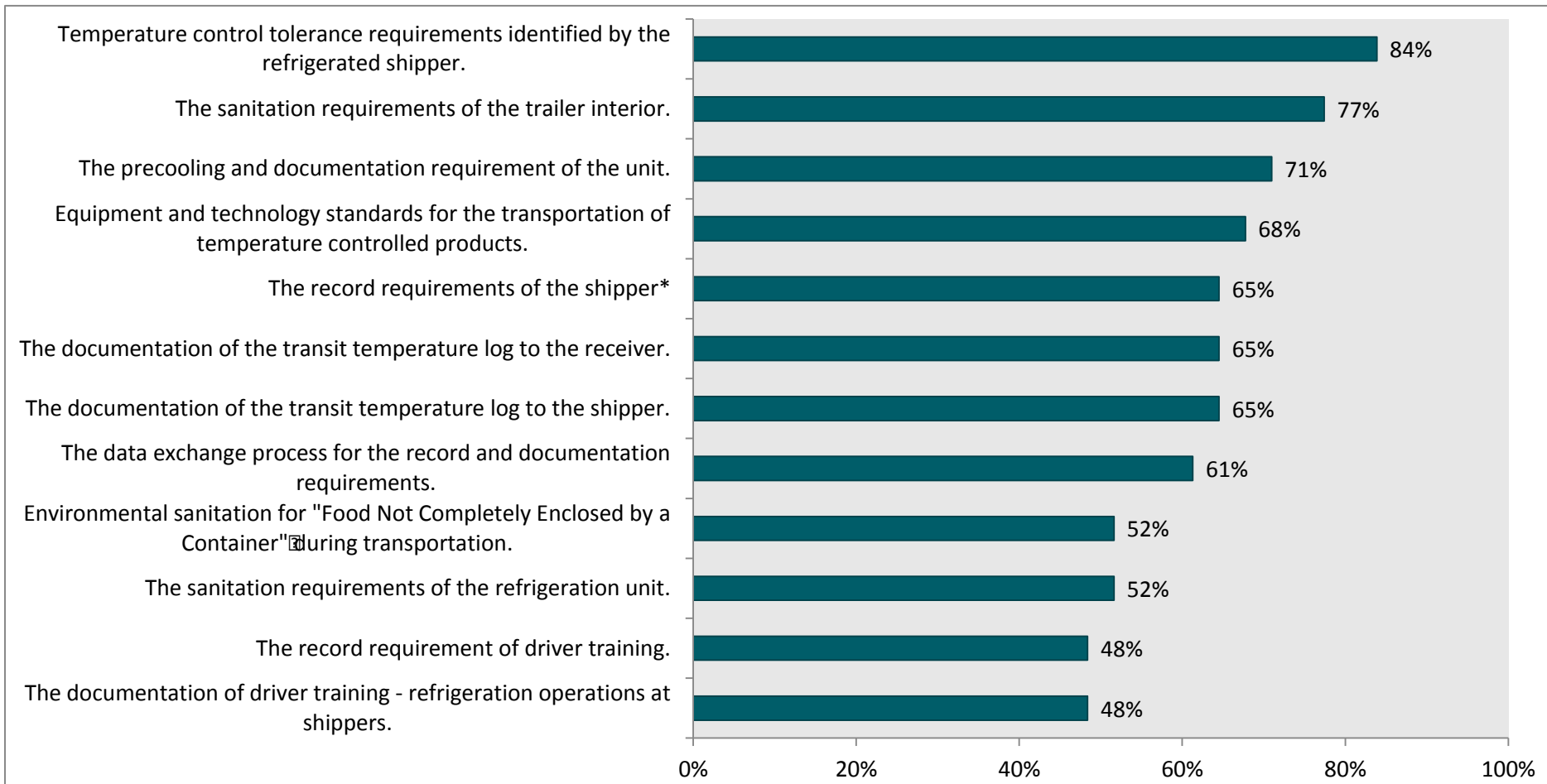
n=15

* Specifying to the carrier, in writing, all necessary temperature and sanitary requirements for the carrier's vehicle and transportation equipment, including any specific design requirements and cleaning procedures deemed necessary by the shipper.

Key Issues

Topics that should be discussed

Q: Select the topics from the STF Proposed Rule you believe you need to discuss with your refrigerated shippers. (This question was asked to those who have not discussed the STF Proposed Rule with their shippers)



n=31

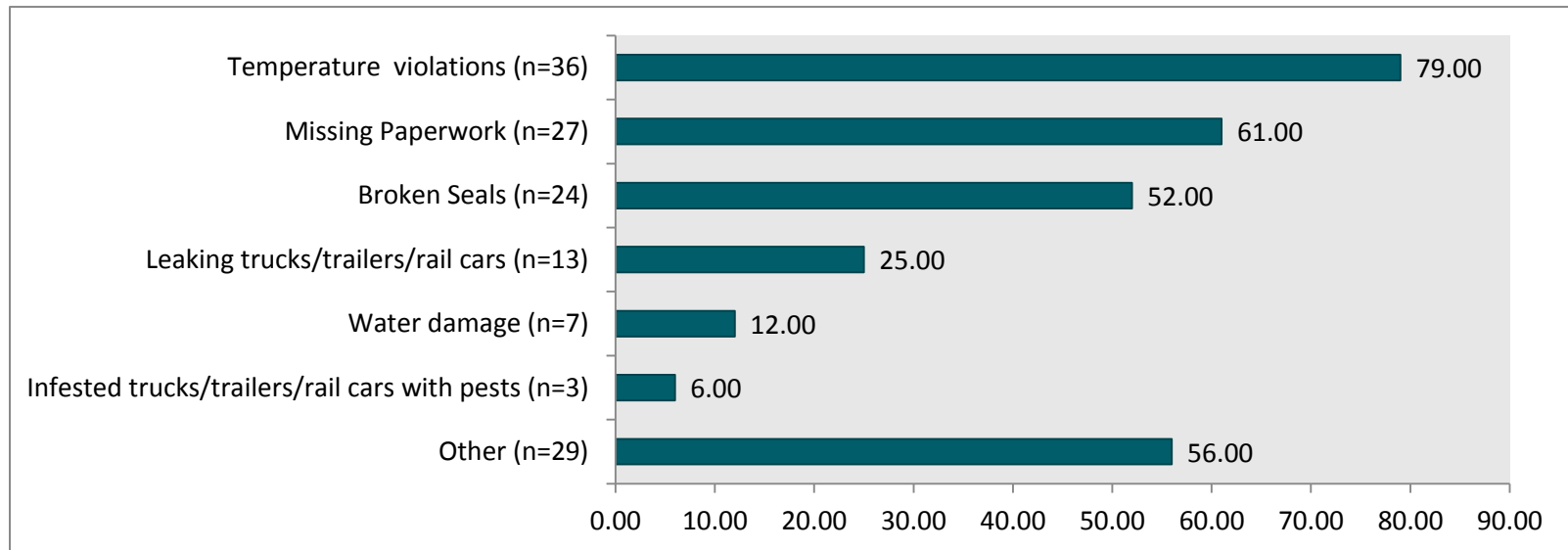
*Specifying to the carrier, in writing, all necessary temperature and sanitary requirements for the carrier's vehicle and transportation equipment, including any specific design requirements and cleaning procedures deemed necessary by 10 the shipper.

Non-conformance

Non-conformance

Top Compliance Issues

Q: Identify what are your company's top three shipping non-conformances. NOTE: The FDA has reported what some of the top issues/problems are with the transportation of food but it would be beneficial to provide them with actual data. (rank points)*

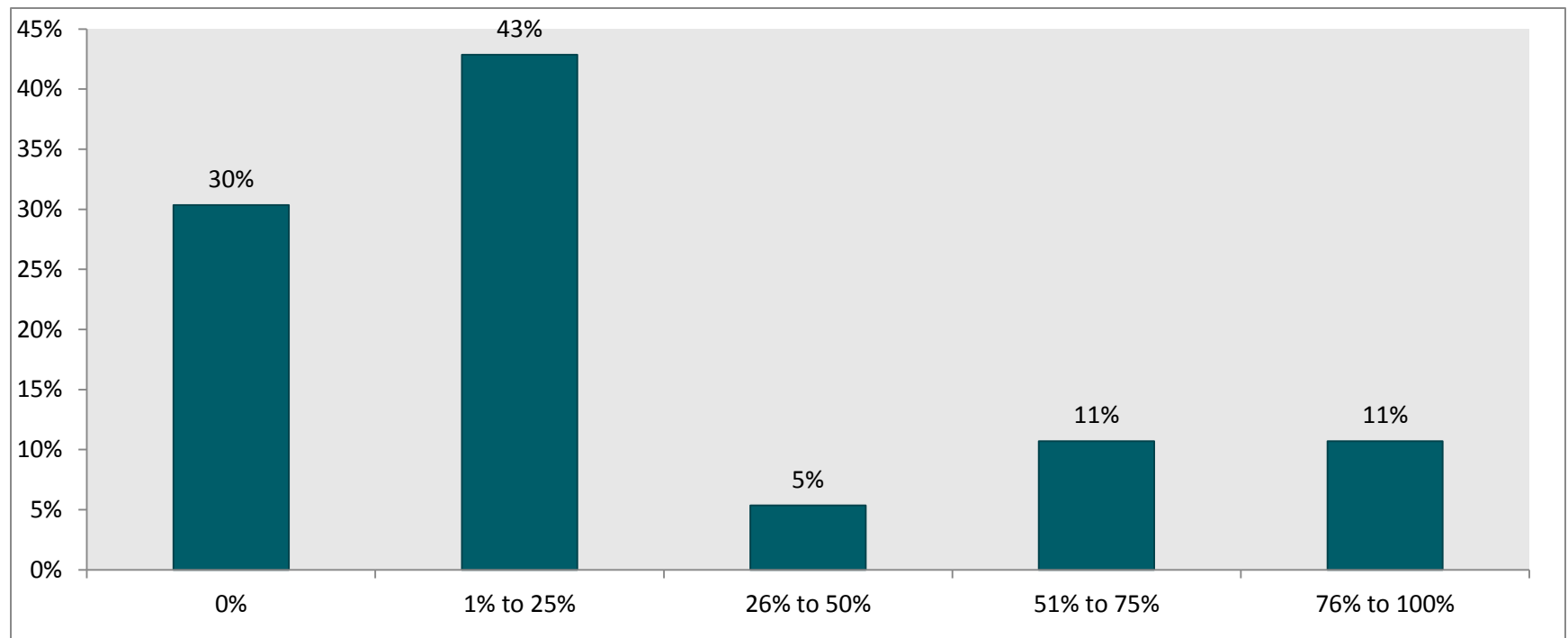


n=54

- Rank points are calculated by the frequency each attribute was rated a particular position and then a weight is applied according to the actual ranking. For example, if "temperature violations" was rated a '1' by 6 respondents, '2' by 5 respondents, and '3' by 4 respondents- the calculated ranking points would be $(3*6)+(2*5)+(1*14)$.

Non-conformance Temperature-Related

Q: What percentage of your shipping/receiving non-conformances is related to temperature violations?

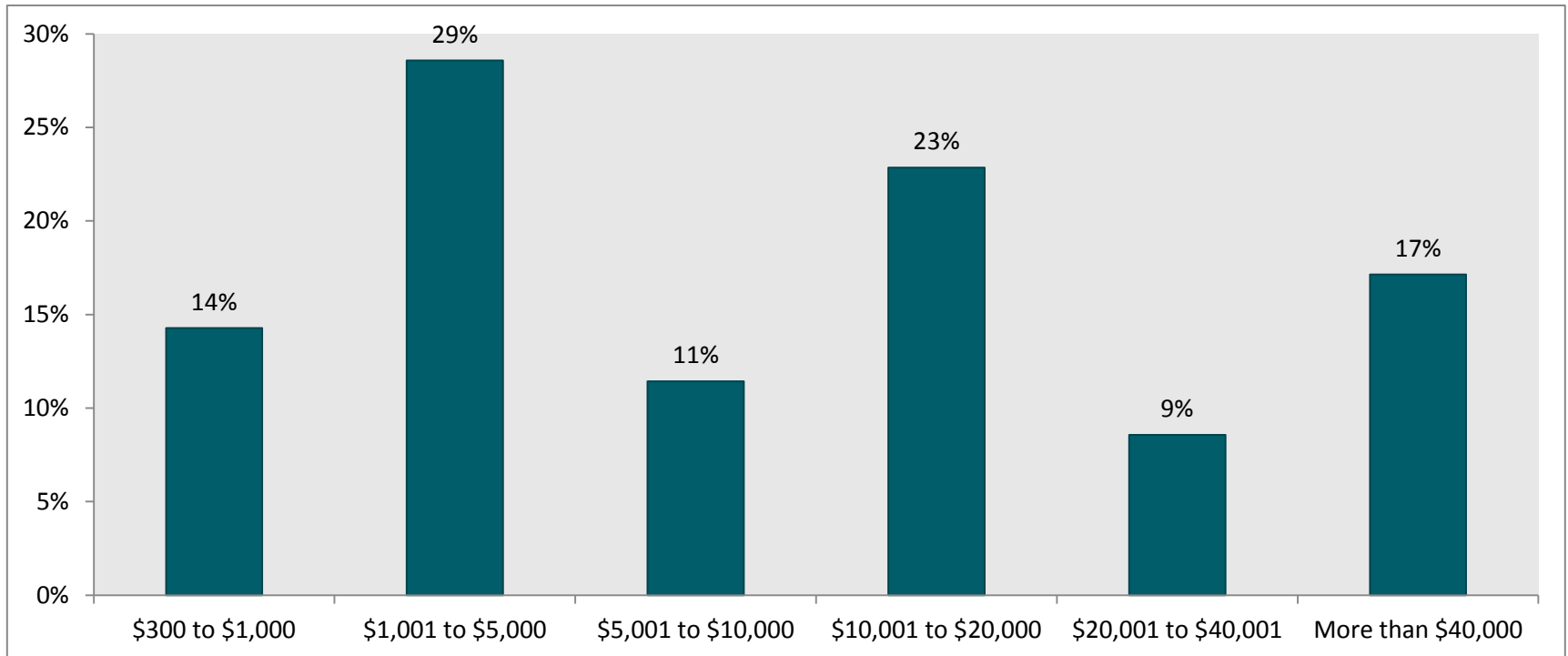


- For the majority of respondents, temperature violations make up less than 26 percent of non-conformances.

n=56
Mean: 22%
Median: 3%
St. deviation: 33%

Non-conformance Costs

Q: What is the average cost (i.e., freight claim) for rejected shipments in the case of a shipping non-conformance?



- Cost distributions varies greatly among respondents.

n=35

Mean: \$20,120.00

Median: \$10,000.00

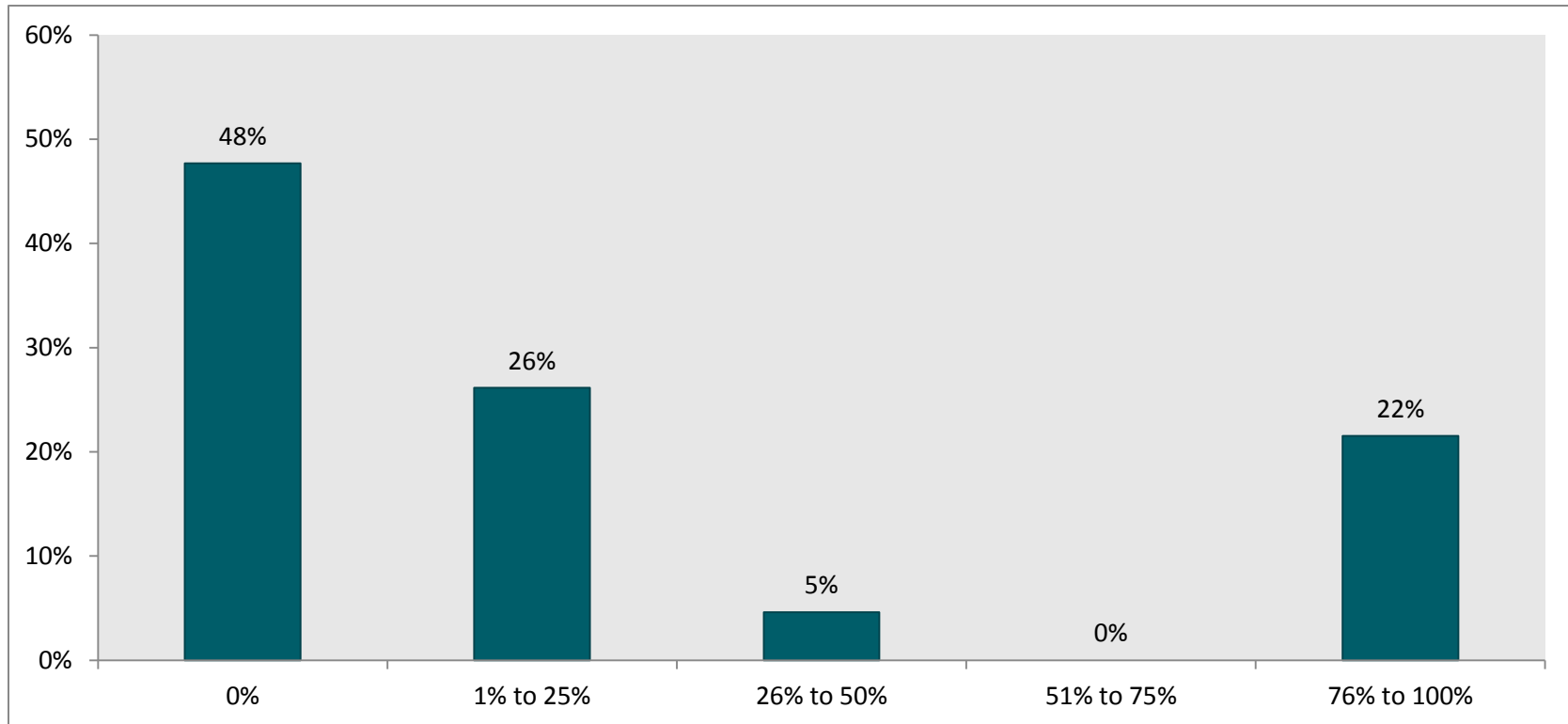
St. deviation: \$22,992.12

Range: \$300 to \$80,000

Record Keeping

Record Keeping Pulping

Q: What percentage of the time do your drivers “PULP” the cargo or measure the temperature of cargo prior to accepting a load?



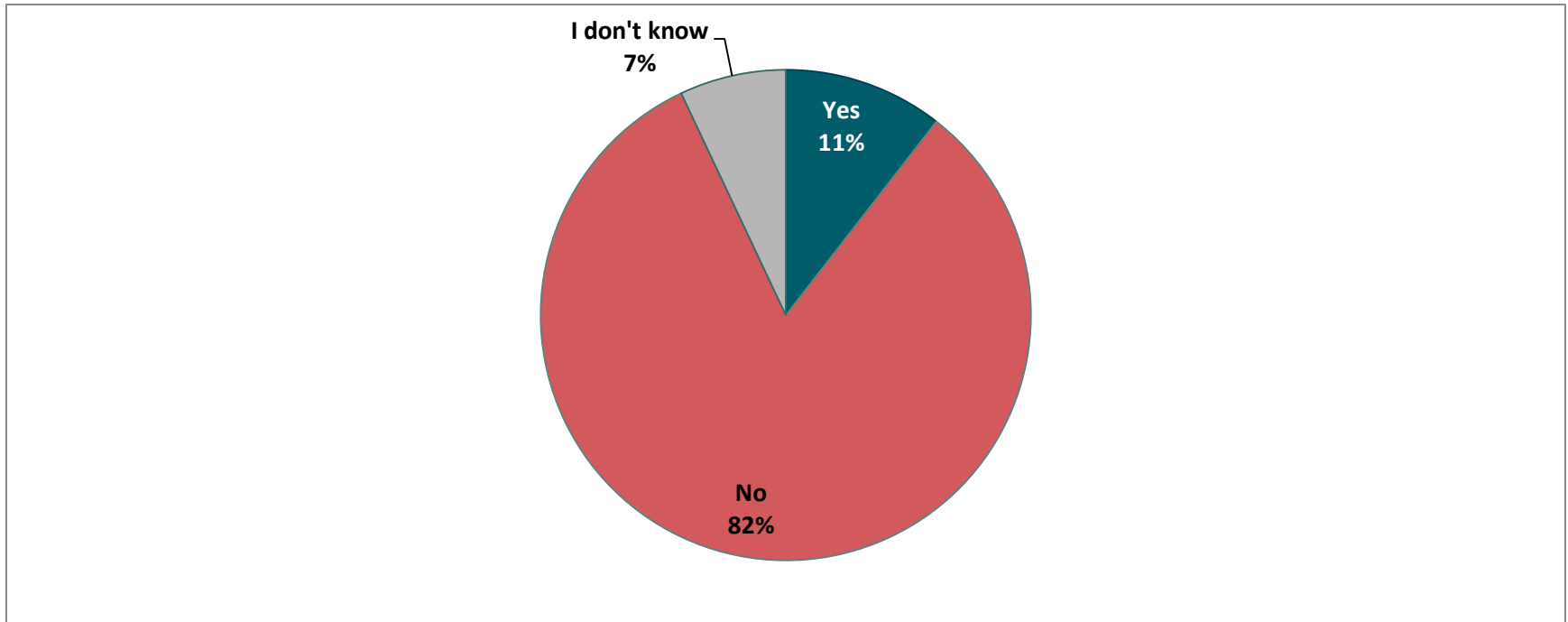
- Pulping is not a popular practice among respondents. However, 22 percent claim to pulp their cargo on a frequent basis.

n=65
Mean: 25%
Median: 2%
St. deviation: 40%

Record Keeping

Temperature monitoring logs

Q: Do your drivers fill out in-transit temperature monitoring logs for refrigerated cargo shipments?



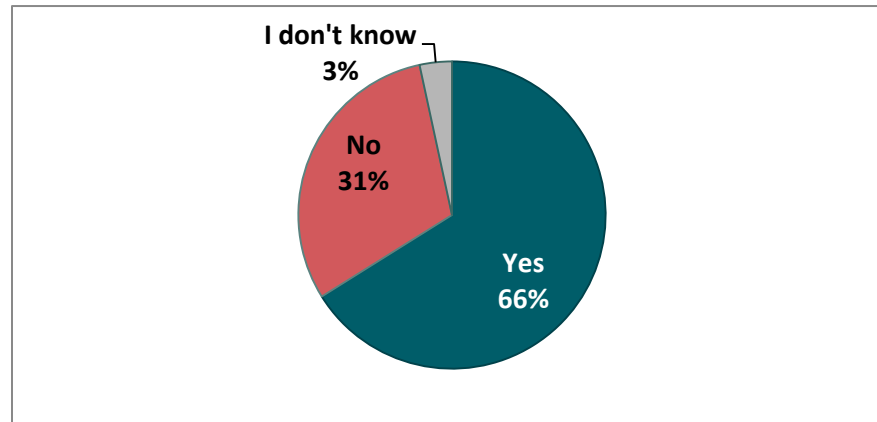
n=57

- Most respondents indicate that their drivers do not fill out in-transit temperature monitoring logs for refrigerated cargo.

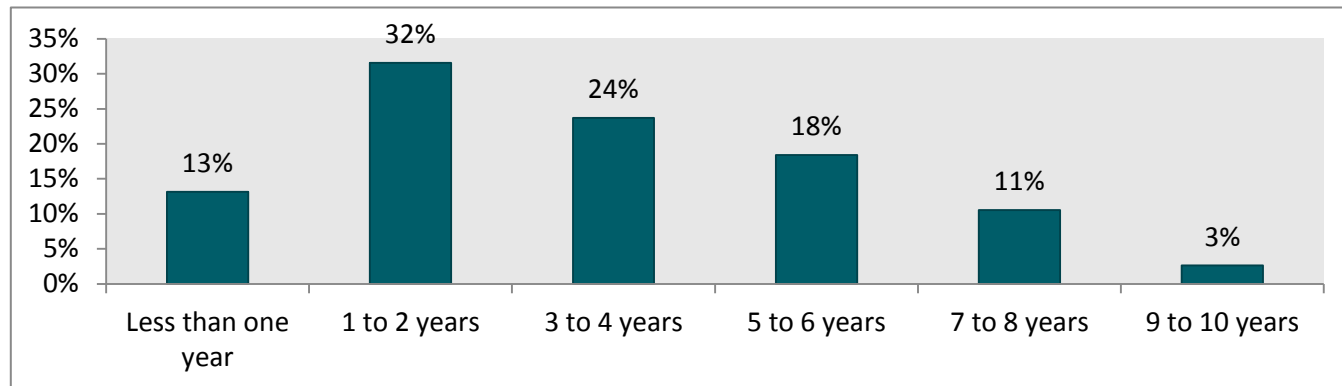
Record Keeping Shipments

Q: Does your company keep a record of the type(s) of cargo hauled in past shipments?

- The majority of respondents tend to keep records of the type of cargo hauled.
- Most respondents only keep records of the last one to four years.



Q: Please indicate how long you keep past shipment records. n=59

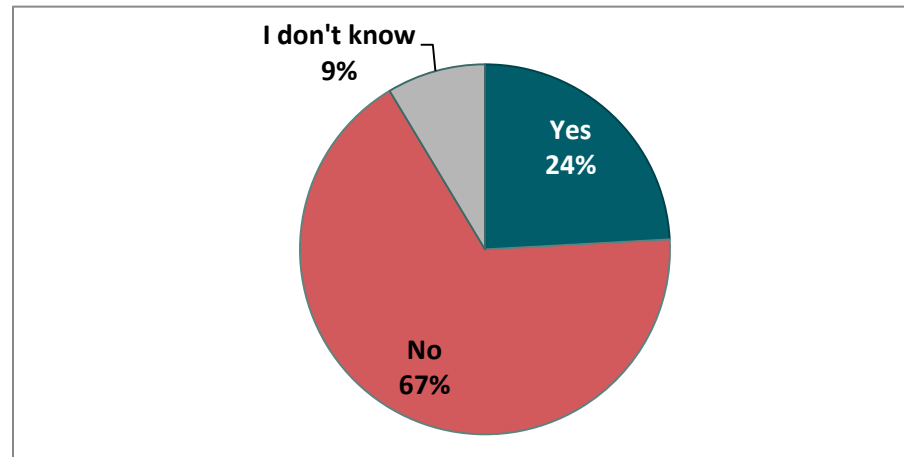


n=38
Mean: 3.2
Median: 3.0
St. deviation: 2.5
Range: 0.5 to 10

Telematics Systems Usage

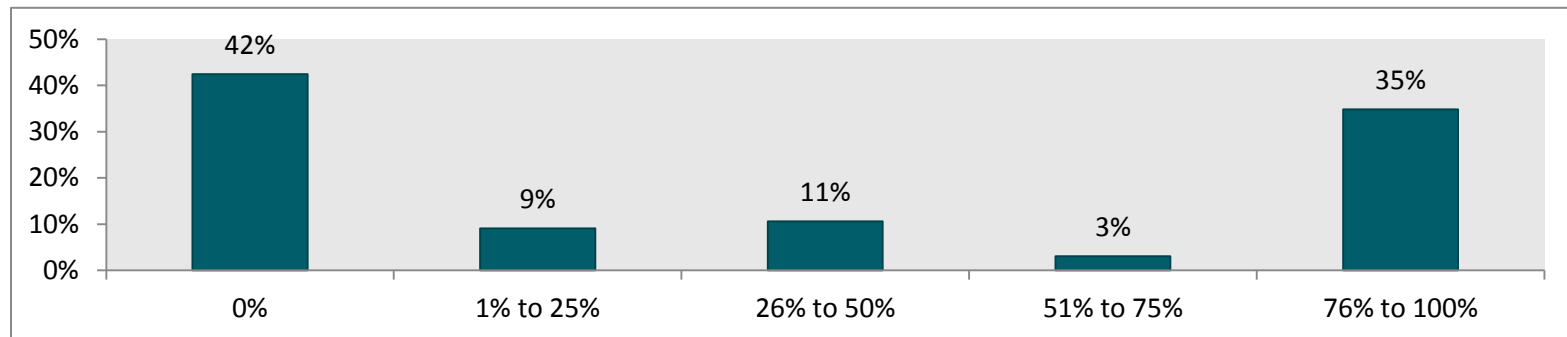
- Telematics systems and data loggers are not widely used among respondents.

Q: Do you use a telematics system for your refrigerated unit operations?



n=58

Q: What percentage of your refrigerated trailer fleet currently has data loggers or other temperature recording devices?



n=66

Mean: 43%

Median: 23%

St. deviation: 45%

Telematics Systems

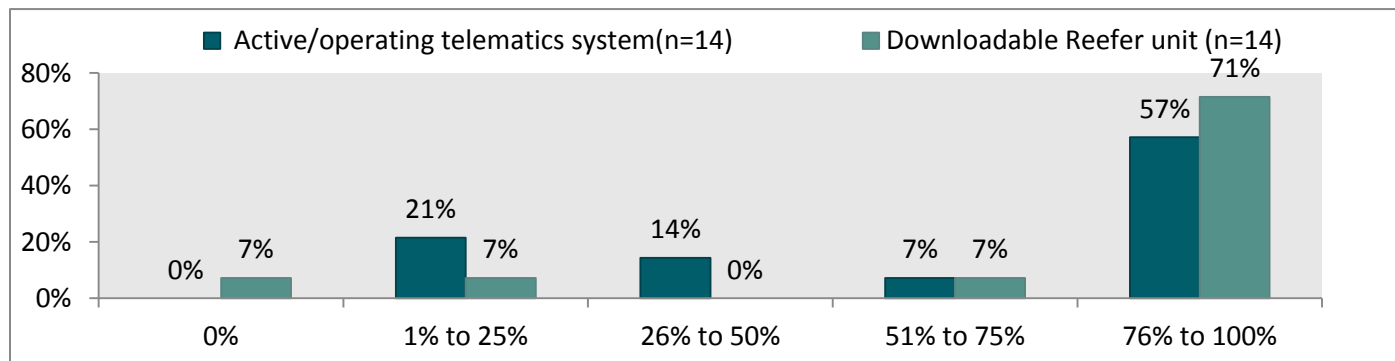
Costs and System Types

Q:What is your annual fleet cost associated with the installation, monitoring, calibration, etc. of this temperature monitoring equipment?

- The cost of installing telematics systems vary widely, but averages to around \$87,000.
- Telematics users tend to implement the equipment in the majority of their carriers.

Average Cost	Count (n=9)
\$5,000	1
\$9,800	1
\$25,000	1
\$30,000	1
\$38,000	1
\$50,000	1
\$125,000	2
Mean	\$86,977.78
Median	\$38,000
Std. Dev.	98823.6
Range	\$5,000 to \$250,000

Q:What percentage of your refrigerated fleet has an active/operating telematics system installed?/ What percentage of your fleet has a downloadable Reefer unit?



Active/operating telematics system (n=14)
 Mean: 71%
 Median: 98%
 St. deviation: 37%

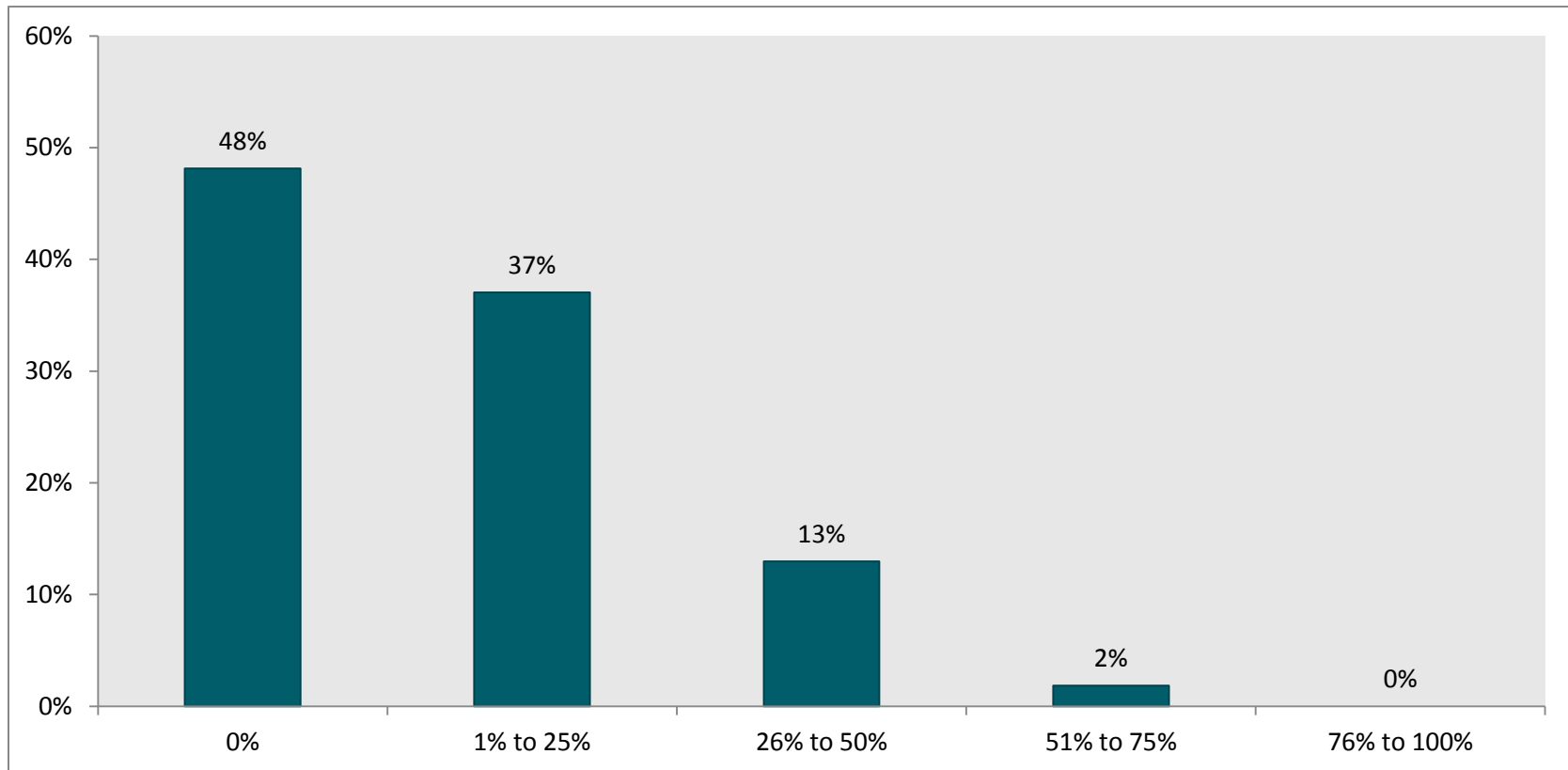
Downloadable Reefer unit (n=14)
 Mean: 83%
 Median: 200%
 St. deviation: 33%

Temperature Protocols

Temperature Protocols

Non-Temperature Controlled Docks

Q: What percentage of your refrigerated cargo comes from open and/or non-temperature controlled docks?



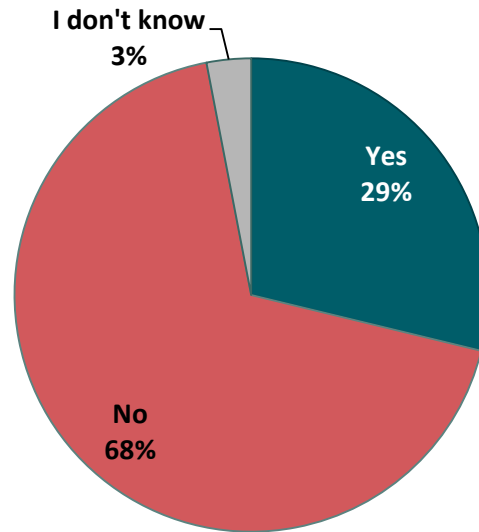
- Most surveyed ATA members tend to limit expose to non-temperature regulated docks.

n=54
Mean: 12%
Median: 2%
St. deviation: 17%

Temperature Protocols

Pulp Temperature Accept-Reject Standards

Q: Does your company issue pulp temperature accept-reject standards to drivers?



- Issuing pulp temperature accept-reject standards to drivers is not a common practice.

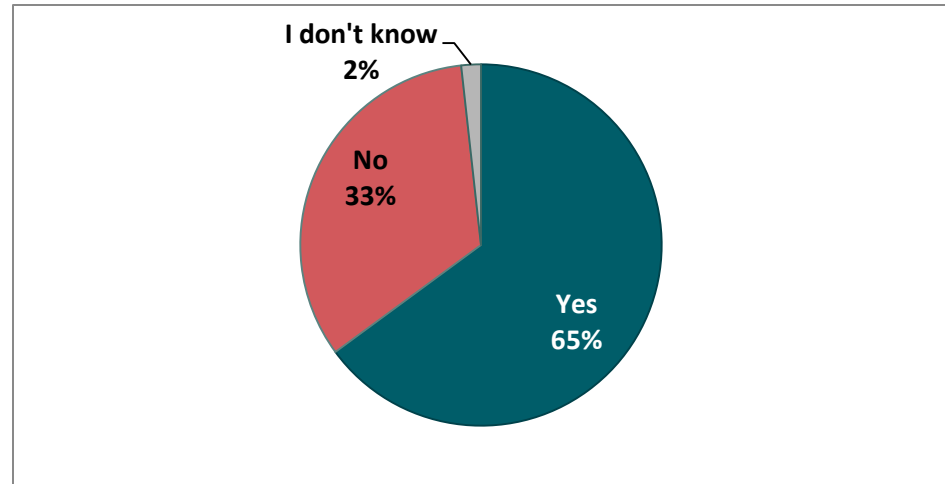
n=66

Temperature Protocols

Precooled Trailers

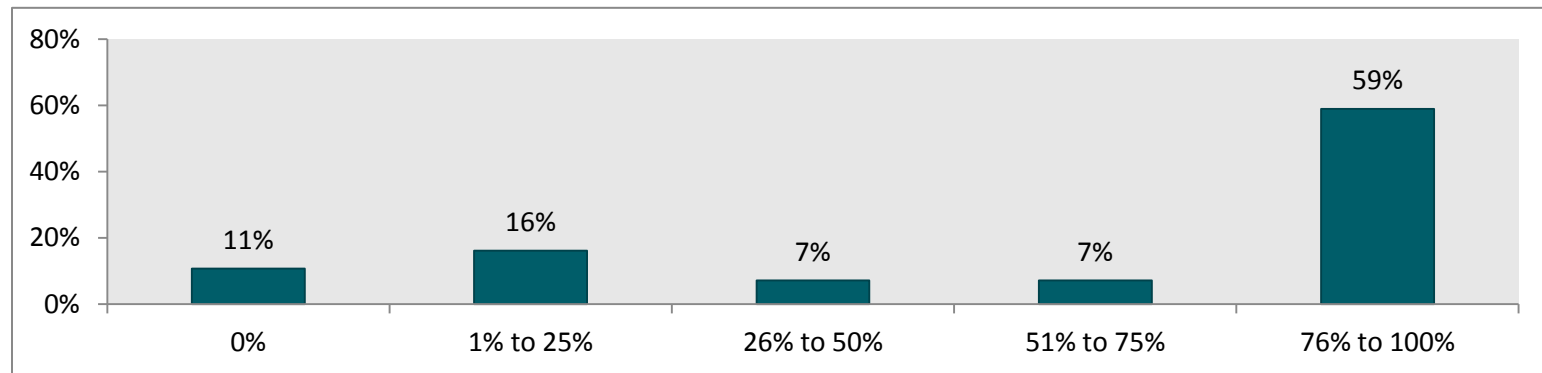
Q: Are your trailers always precooled to at least the required carrying temperature prior to loading cargo?

- Precooling trailers is a wide-spread practice among respondents in terms of usage and frequency.



n=57

Q: What is the estimated percentage trailers that are precooled to at least the required carrying temperature?



n=56

Mean: 69%

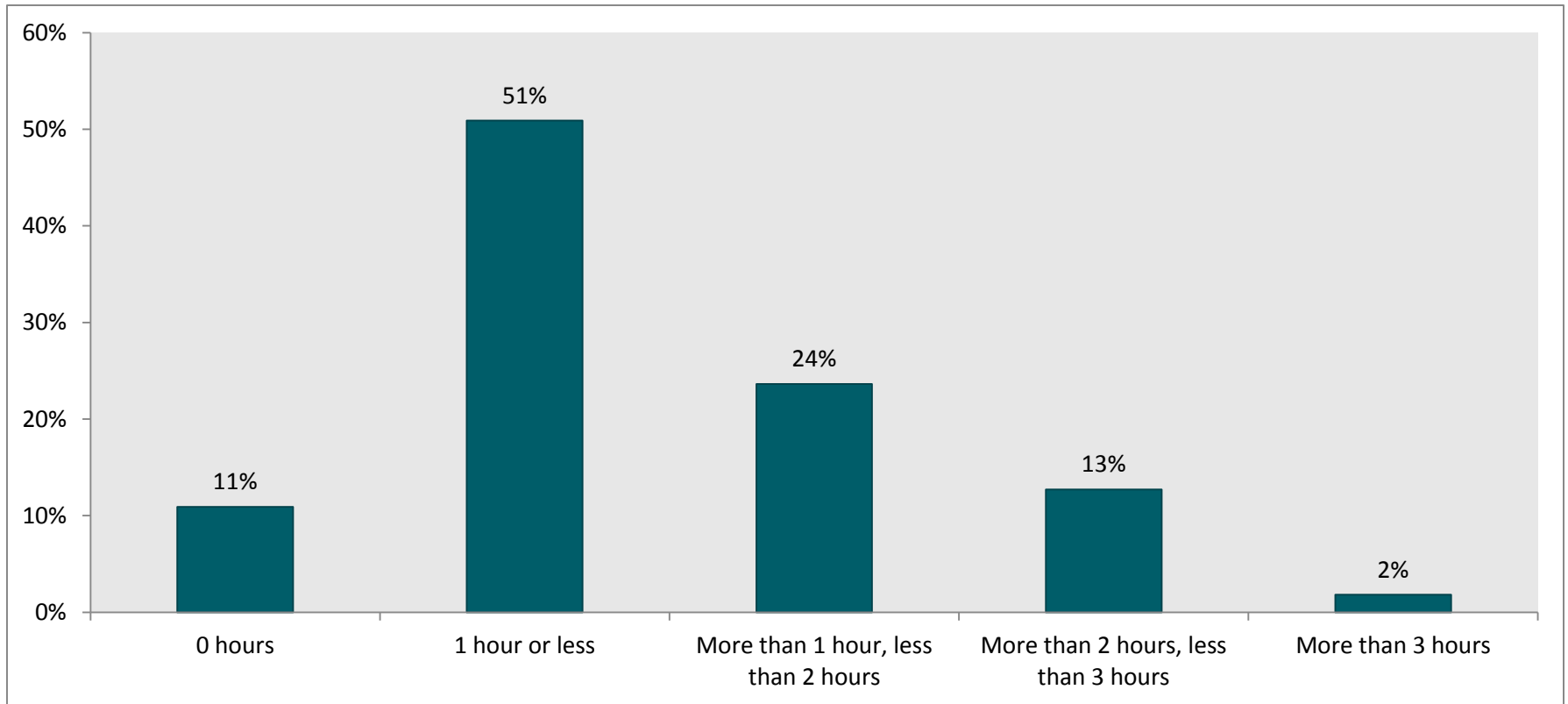
Median: 95%

St. deviation: 39%

Temperature Protocols

Precooling Process Duration

Q: How long is the average pre-cooling process for your product loads take (taking into account location and season)?



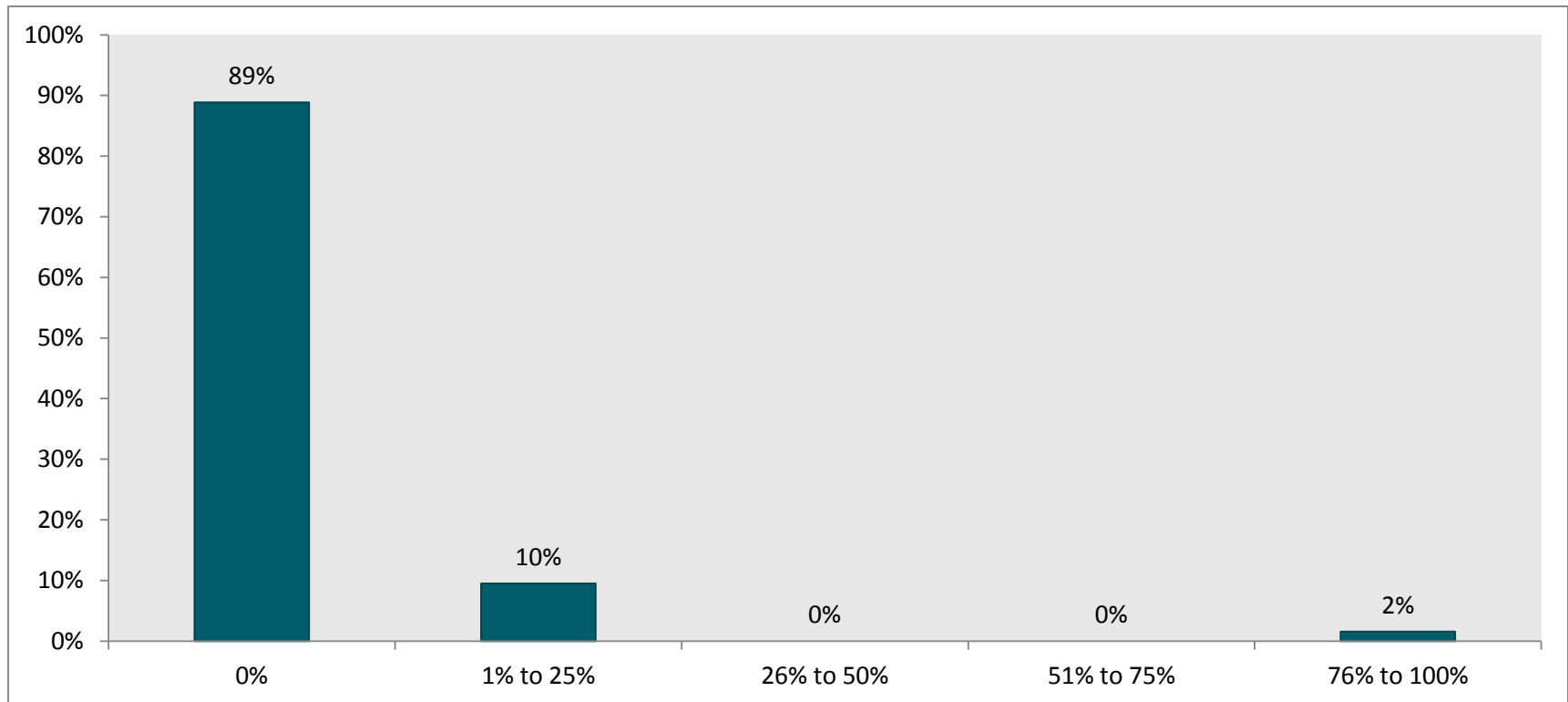
- More than half of respondents spend an hour or less pre-cooling trailers.

n=55
Mean: 1.2
Median: 1.0
St. deviation: 0.9
Range: 0 to 3.5

Sanitation

Trailer Cleaning Trailer Interiors

Q: Approximately what percentage of your refrigerated trailers has some wood interior such as floors, walls, ceilings or bulkheads?

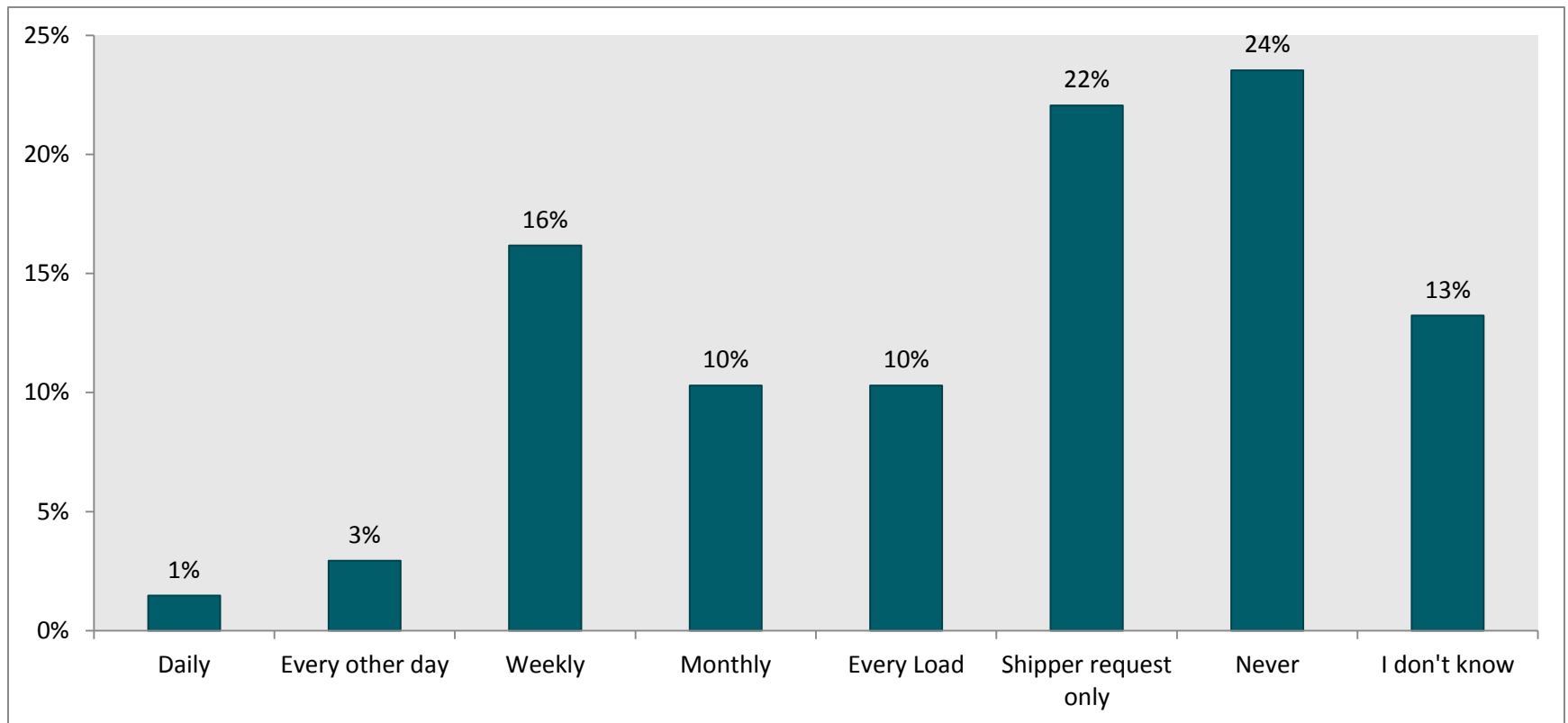


- The vast majority of respondents avoid wood interiors in their refrigerated trailers.

n=63
Mean: 2%
Median: 0%
St. deviation: 13%

Trailer Cleaning Frequency of Washing

Q: How frequently are your trailers interiors washed with 180 degree water and disinfectant?

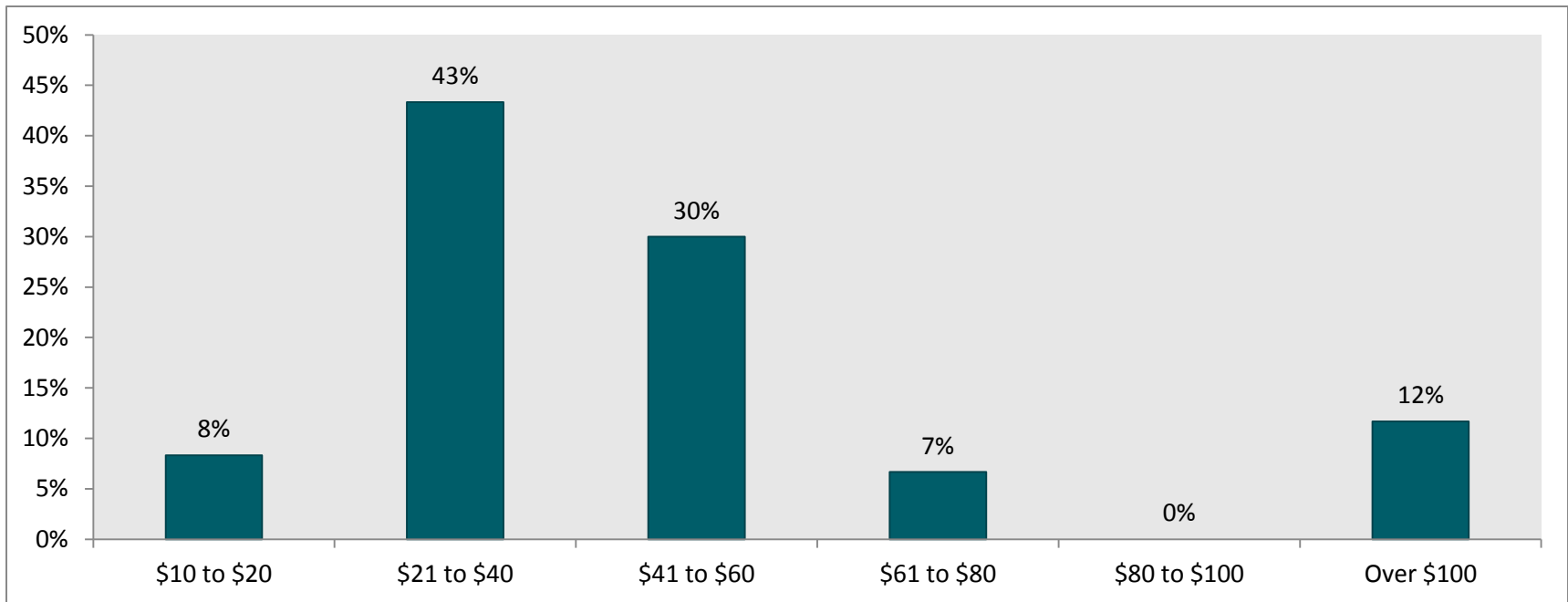


- Washing trailers is a common practice among survey participants.
- However, the frequency of washes varies greatly.

n=68

Trailer Cleaning Costs

Q: What is your average cost for a trailer interior washout?



- On average trailer washes tend to cost around \$55, while most respondents pay \$21 to \$40 per wash.

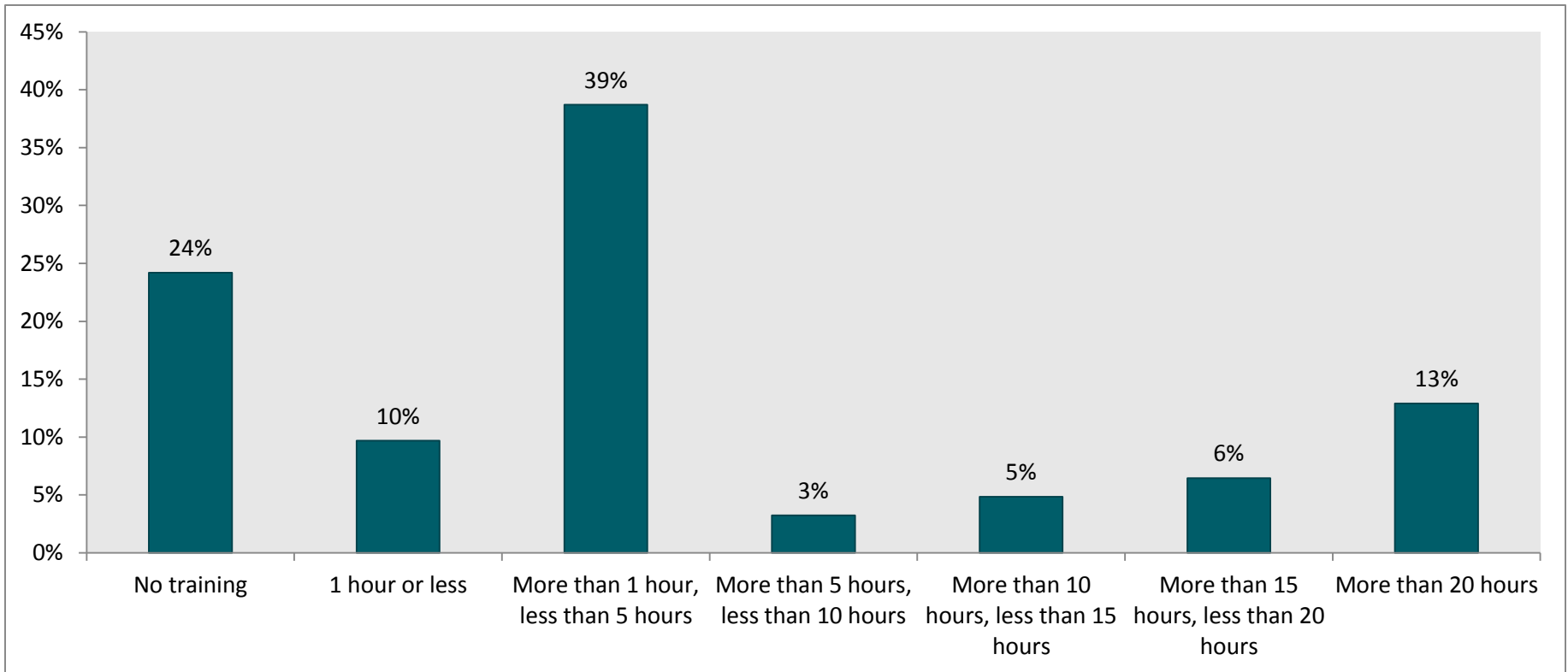
n=60
Mean: \$61.78
Median: \$40.00
St. deviation: \$65.89
Range: \$10 to \$325

Training and guidelines

Training and Guidelines

Hours of Training

Q: How many hours of training do you provide your new drivers on refrigerated units and loads?



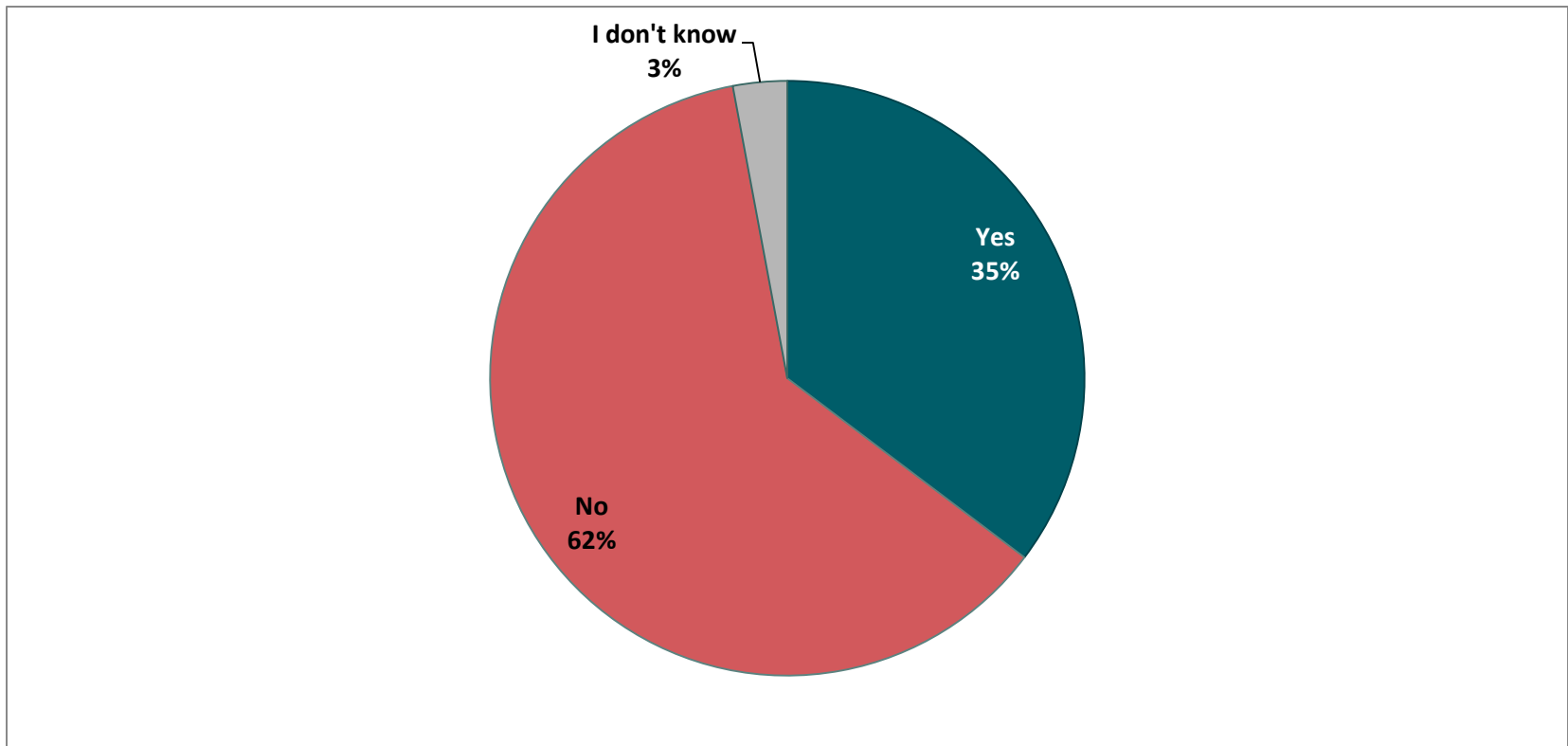
- Most respondents offer some type of training to new drivers.

n=62
Mean: 14.5
Median: 2.0
St. deviation: 35.0
Range: 0 to 200

Training and Guidelines

Published Loading Guidelines

Q: Do you issue "Published Loading Guidelines" to your drivers?



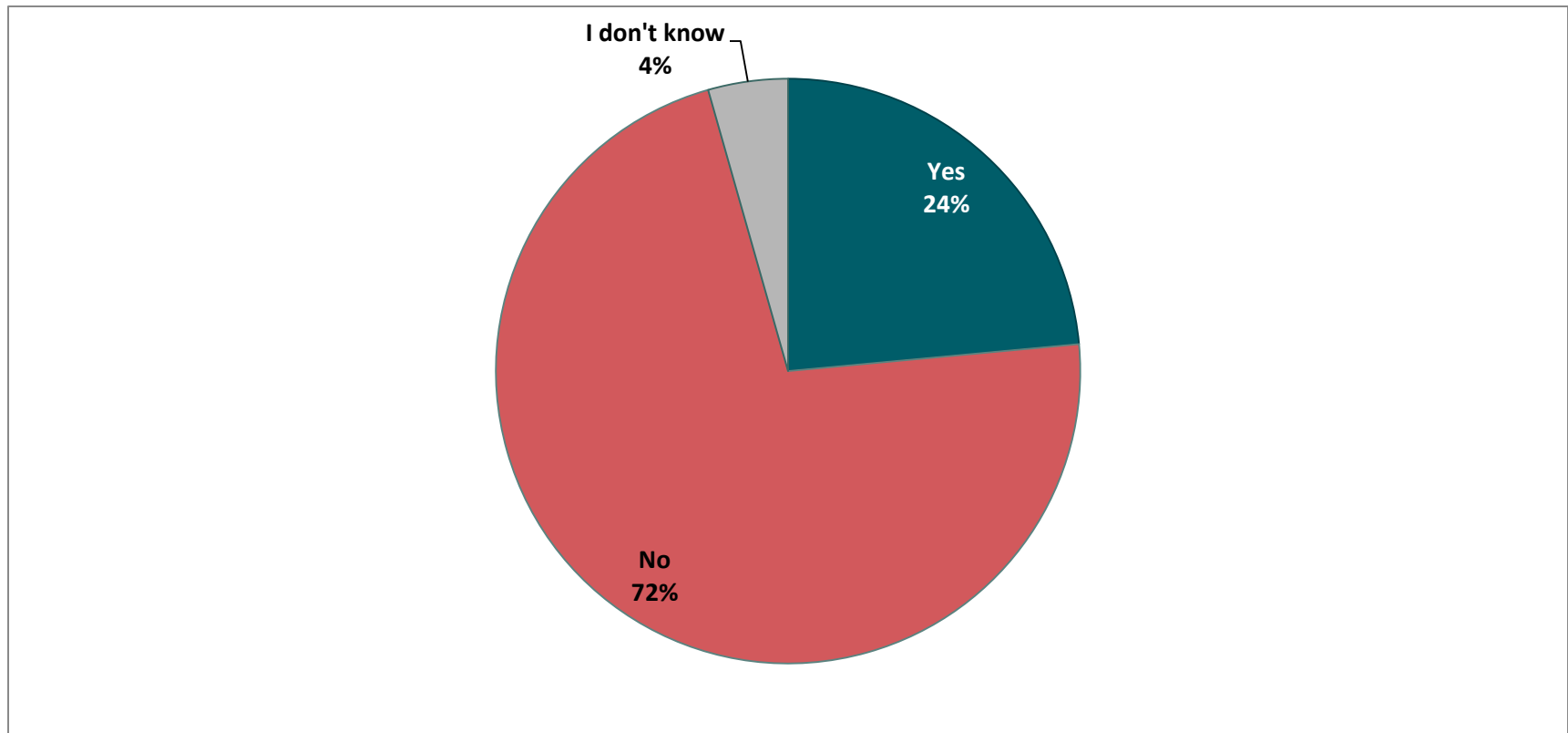
- Most drivers do not receive published loading guidelines.

n=68

Training and Guidelines

Wood Pallet Exchange Program

Q: Do you participate in a wood pallet exchange program?



n=68

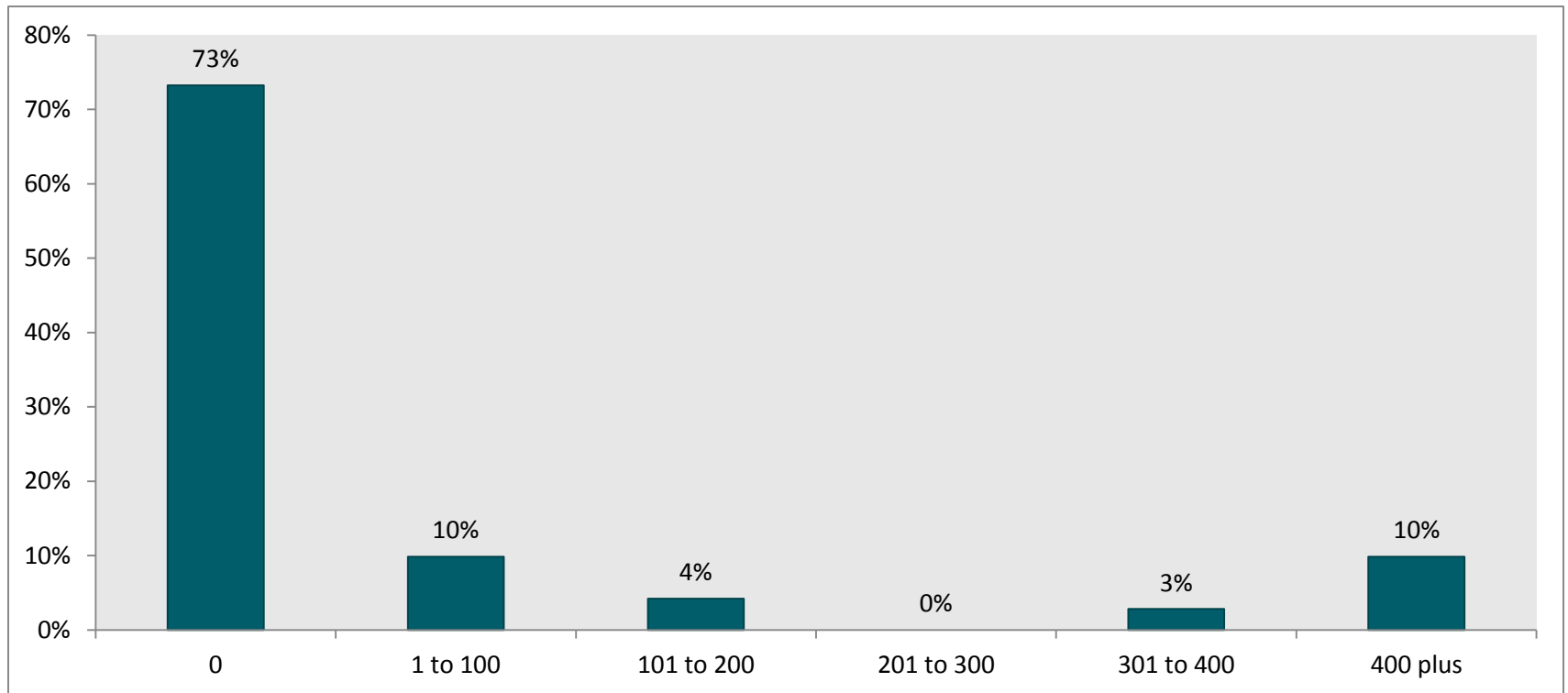
- Most respondents report that their companies do not participate in wood pallet exchange programs.

Respondent Characteristics

Respondent Characteristics

Intermodal Shipments

Q: What is your company's annual number of intermodal shipments per year?

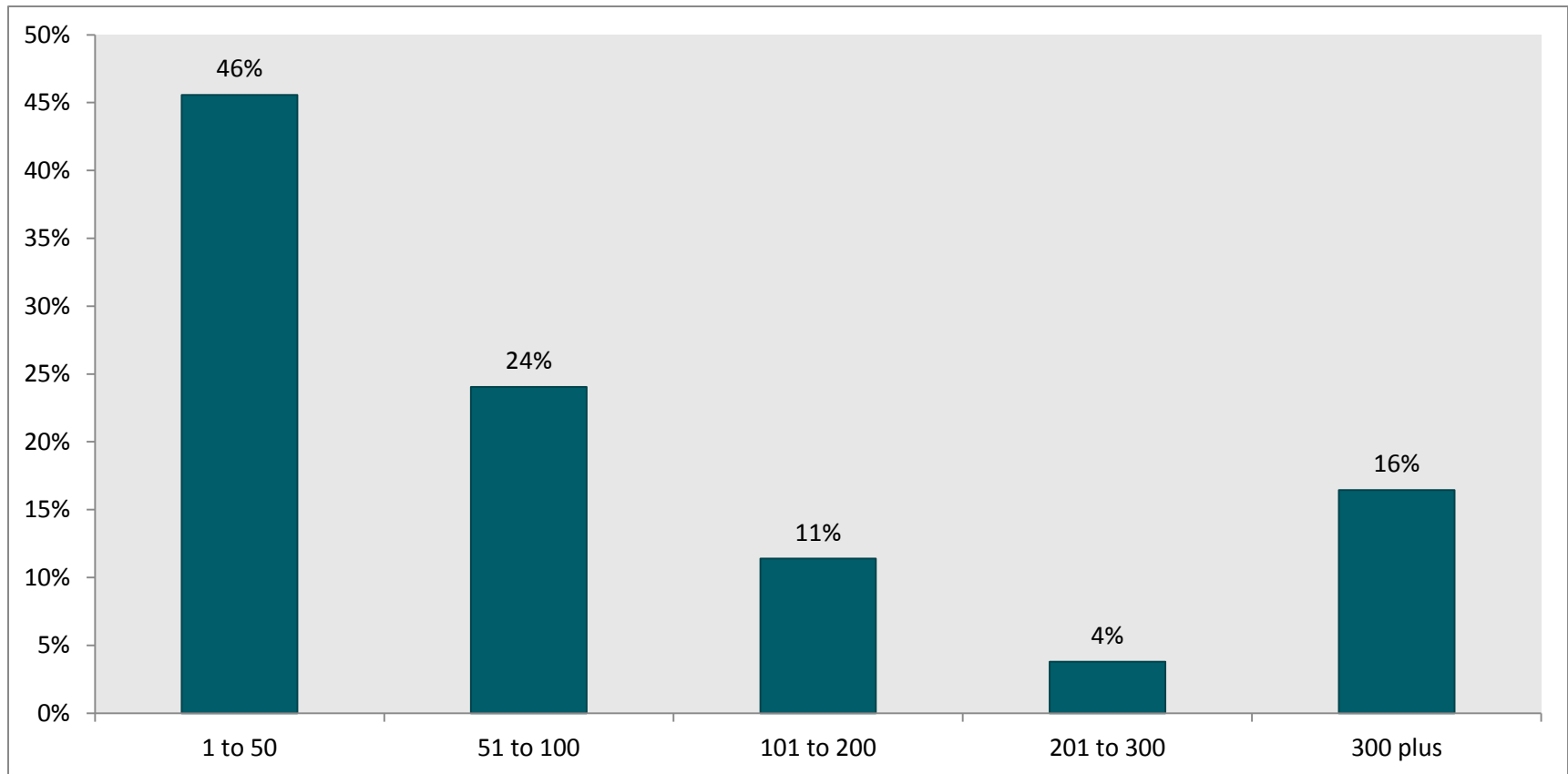


n=71
Mean: 2,145.4
Median: 0.0
St. deviation: 9,443.5
Range: 0 to 68,000

Respondent Characteristics

Truck Inventory

Q: How many trucks do you operate in your fleet?

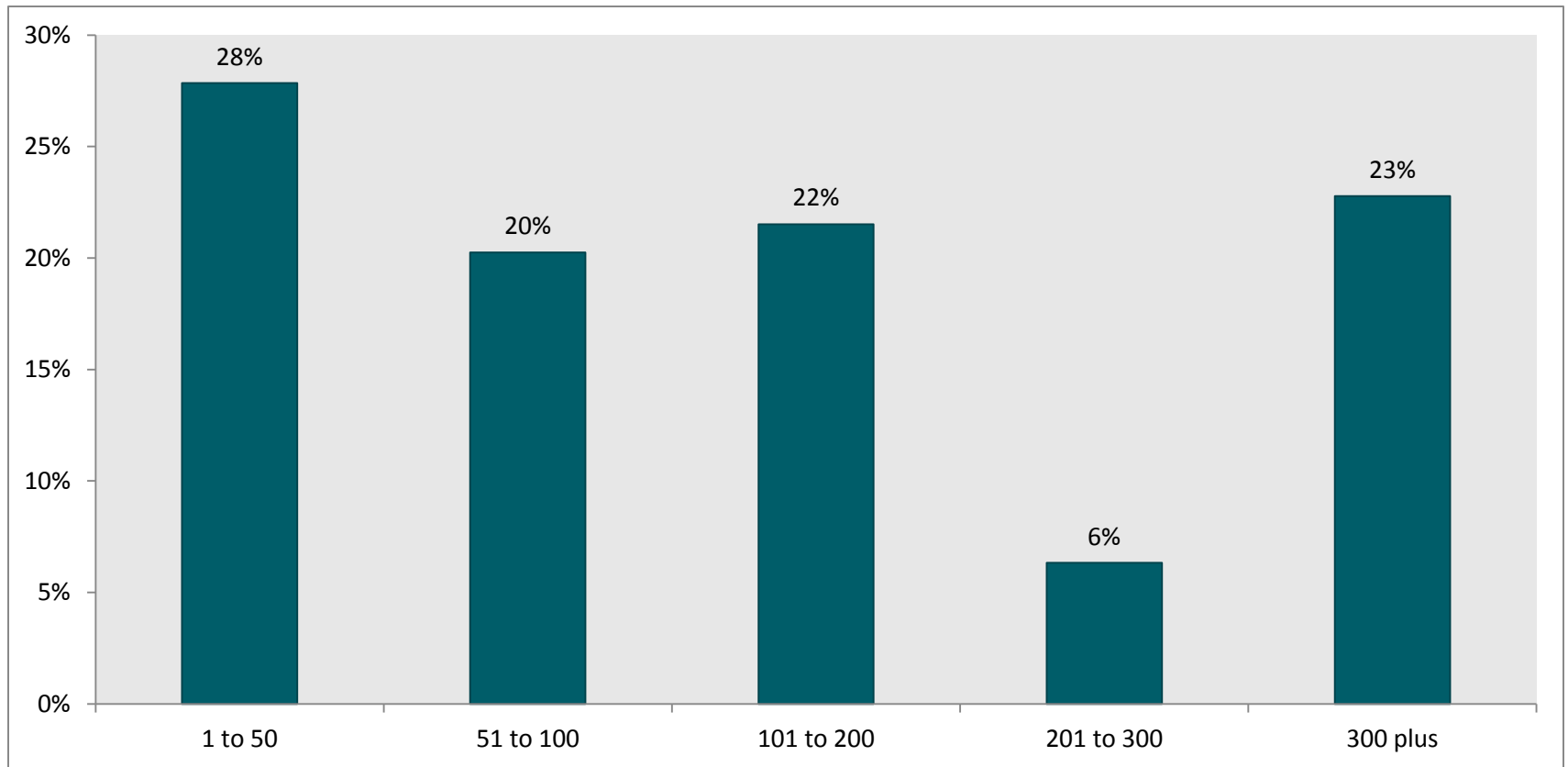


n=79
Mean: 244.6
Median: 60.0
St. deviation: 673.45
Range: 1 to 5200

Respondent Characteristics

Trailer and Container Inventory

Q: How many trailers and/or containers do you operate in your fleet?



n=79

Mean: 521.2

Median: 110.0

St. deviation: 1298.2

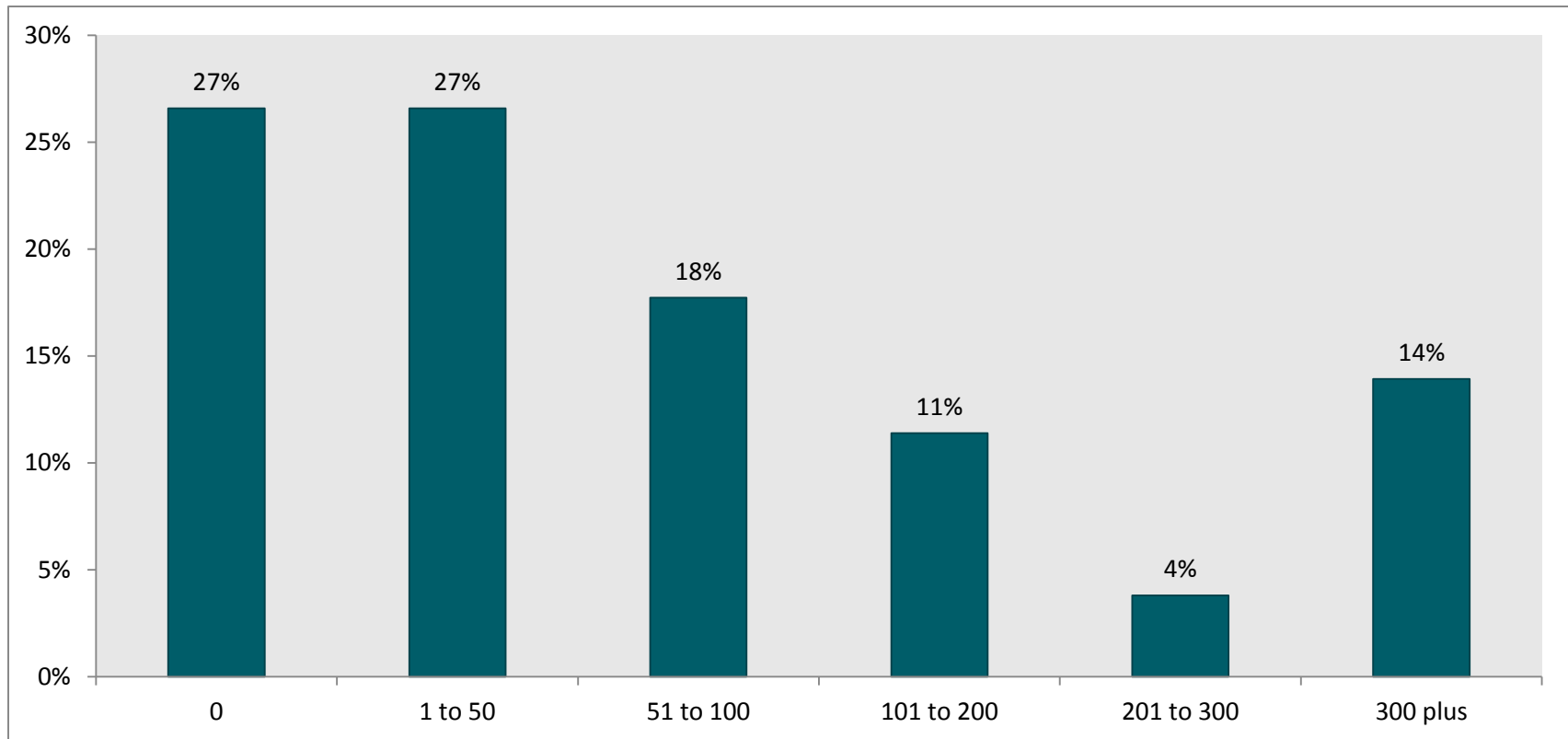
Range: 1 to 7500

37

Respondent Characteristics

Refrigerated trailers and containers

Q: How many trailers and/or containers are refrigerated?

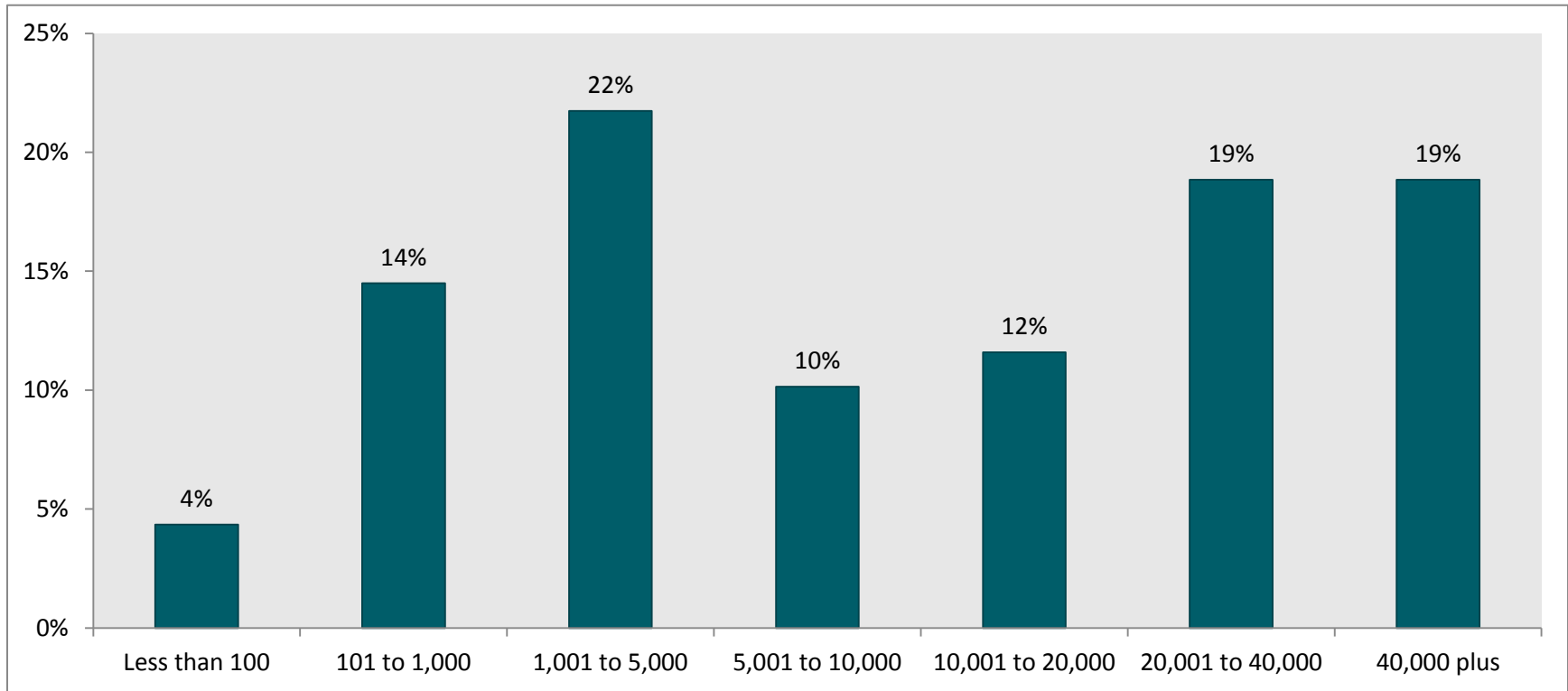


n=79
Mean: 259.6
Median: 40.0
St. Deviation: 908.9
Range: 0 to 7500

Respondent Characteristics

Shipment Size

Q: What is the annual number of shipments by truck for your company?

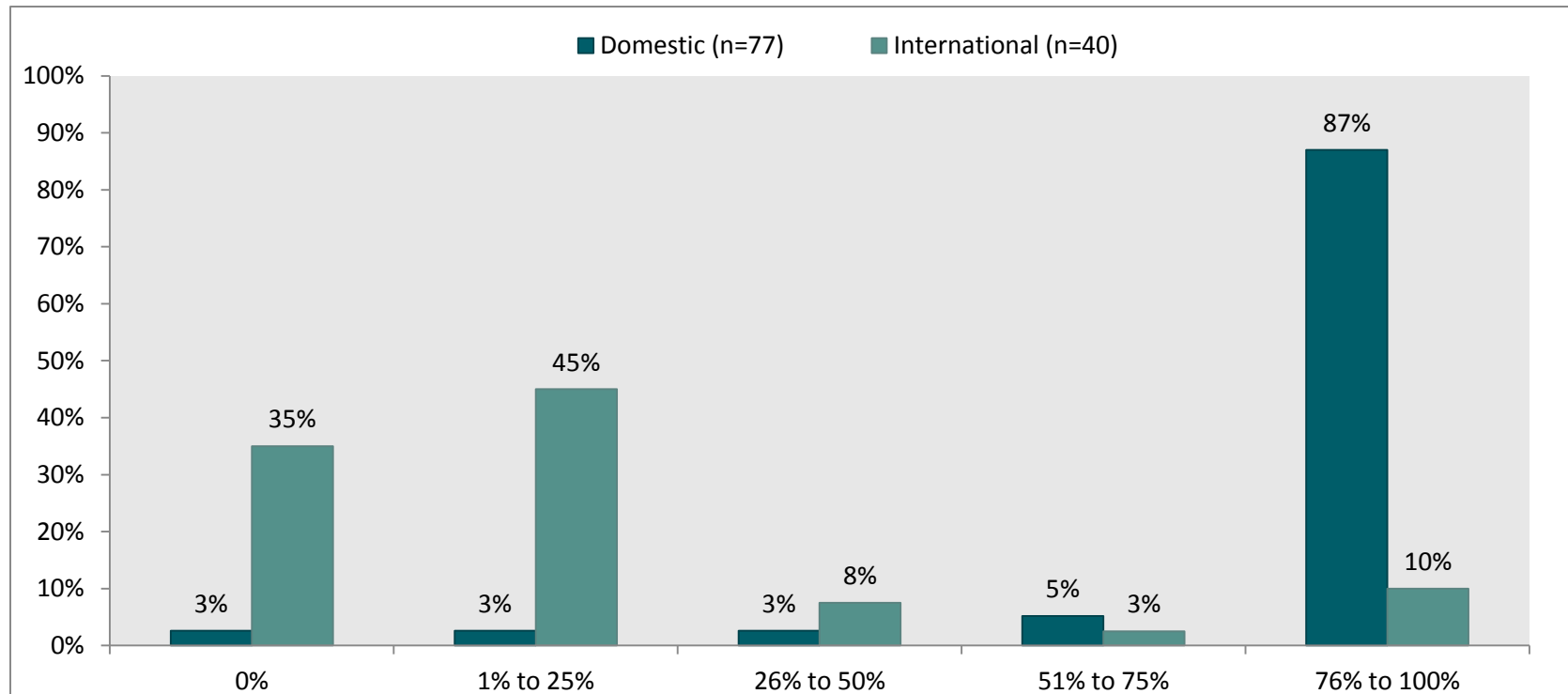


n=69
Mean:40,395.2
Median: 8,600.0
St. deviation: 90,374
Range: 2 to 554,000

Respondent Characteristics

Domestic versus International Shipments

Q: What percentage of your shipment is domestic vs. international?



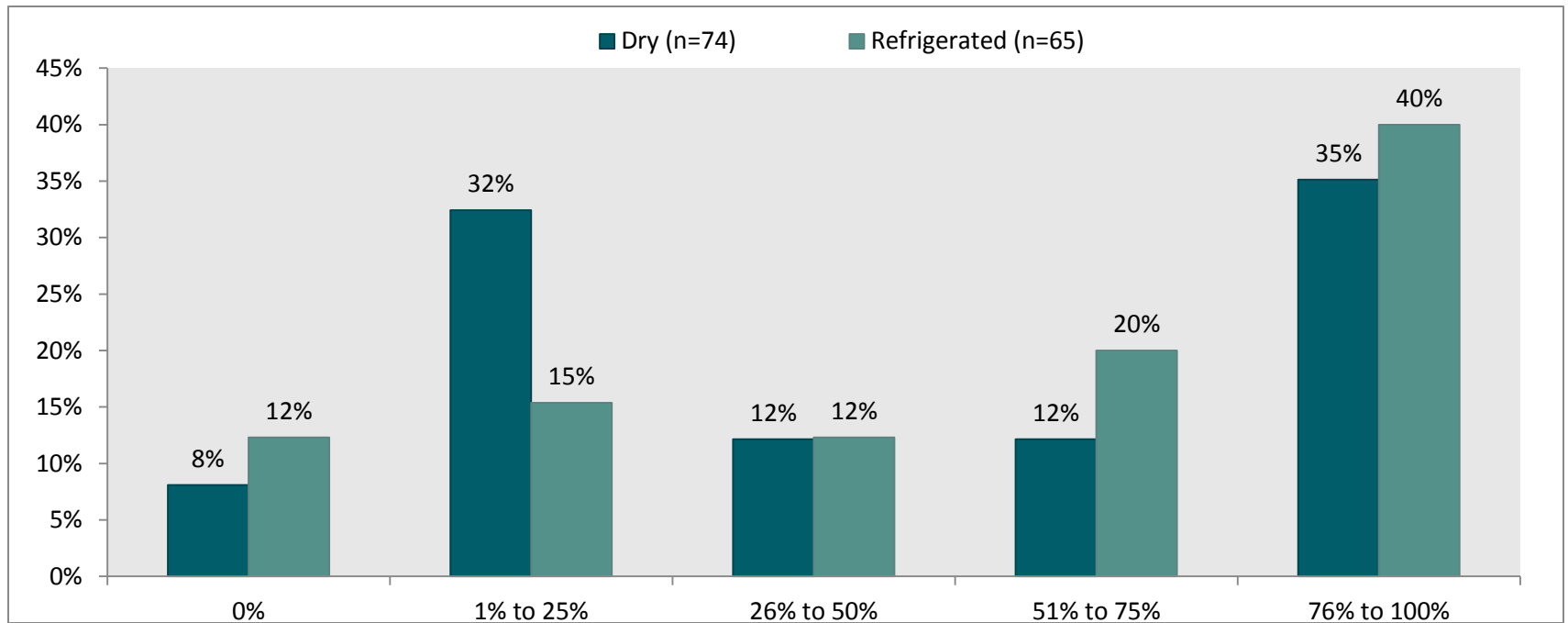
Domestic (n=77)
Mean: 91%
Median: 100%
St. deviation: 23%

International (n=40)
Mean: 17%
Median: 5%
St. deviation: 30%

Dry versus refrigerated

Breakdown of shipment types

Q: What percentage of your shipment is dry vs. refrigerated?



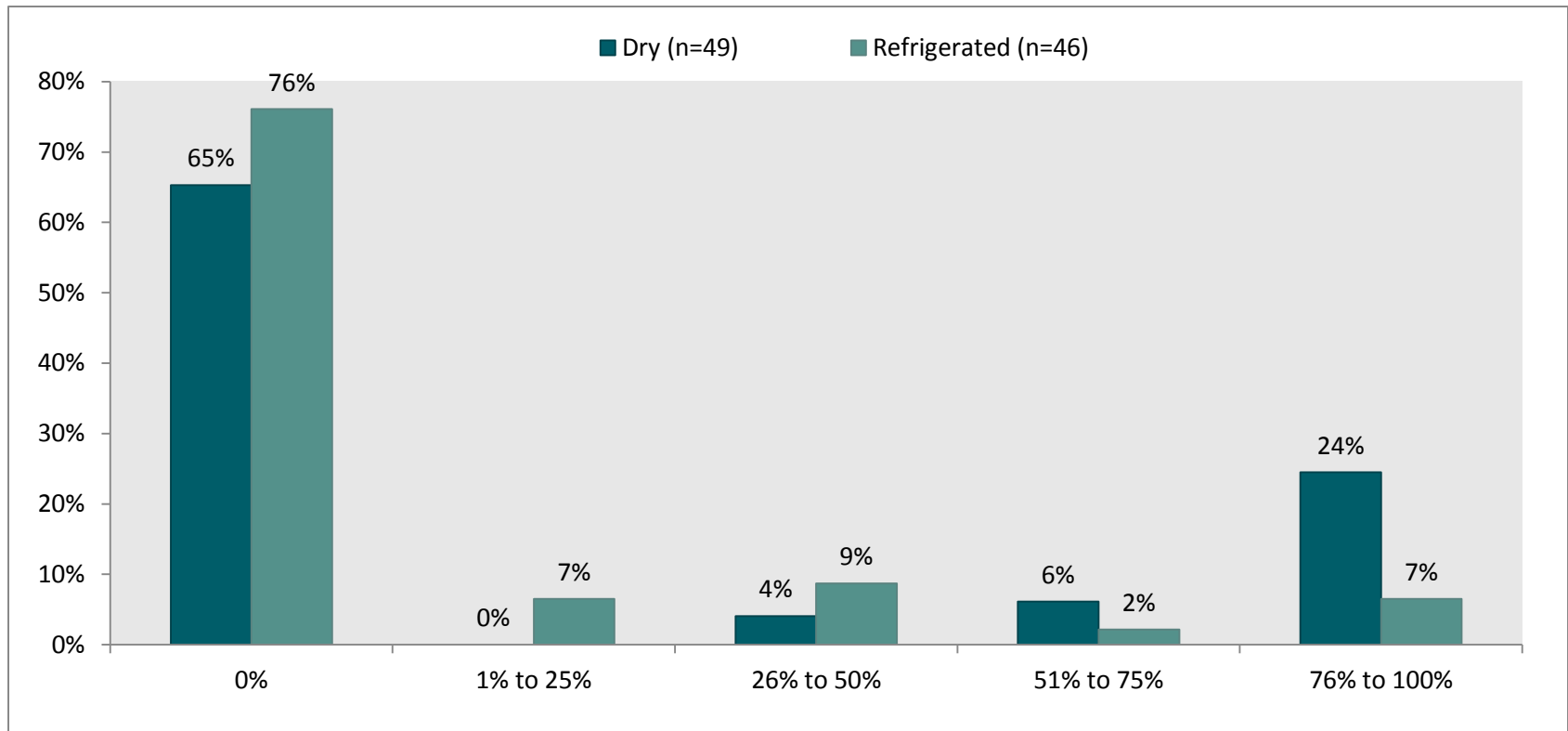
Dry (n=74)
Mean: 51%
Median: 40%
St. deviation: 40%

Refrigerated (n=65)
Mean: 57%
Median: 70%
St. deviation: 37%

Dry versus refrigerated

Breakdown of shipment types for Intermodal Shipments

Q: What percentage of your intermodal shipment is dry vs. refrigerated?



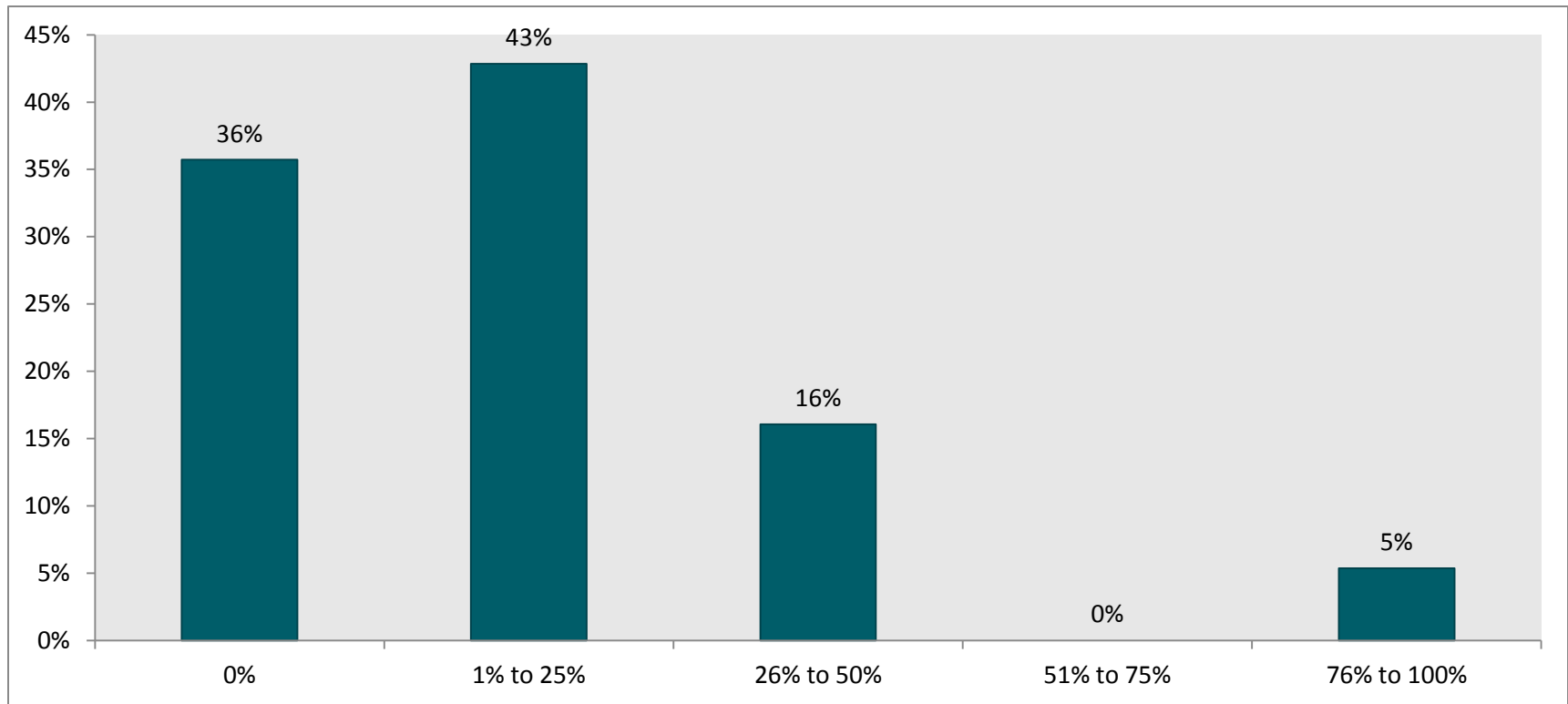
Dry (n=49)
Mean: 30%
Median: 0%
St. deviation: 44%

Refrigerated (n=46)
Mean: 13%
Median: 0%
St. deviation: 28%

Dry versus refrigerated

Mixing refrigerated and Dry Cargo

Q: What percentage of the time do your suppliers mix refrigerated perishable food(s), dry cargo and/or non-food items in the same load?



n=56
Mean: 16%
Median: 9%
St. deviation: 23%

CONTACT

Johan Mohd Sani

Content Director

202.499-4375

jmohdsani@hanoverresearch.com

www.hanoverresearch.com