Upper Great Plains
Transportation Institute

The Costs of Truckload Driver Turnover

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Executive Summary

This study obtained usable data from 15 companies interviewed in an effort to analyze the full cost of truckload driver turnover. Companies ranged from 32 to 9,463 trucks, and included dry van, reefer, and flatbed carriers. Some were company driver fleets and others used owner-operators.

Study Limitations

The study was limited by the number of carriers participating, as well as the quality of the data. Most data items were provided by the companies and therefore subjective and not consistent. Some data items were completely unavailable.

Included Costs

The cost of turnover was based on the costs of:

- Entry and exit administration;
- Fixed asset costs due to idle equipment;
- Profit lost due to idle equipment; and
- Other costs including safety/insurance/legal, maintenance, and productivity loss.

Average Results

The average cost of turnover per driver for all companies in the study was $8,234 and ranged from $2,243 to $20,729. For company driver fleets, the average was $7,923. For dry van, company driver fleets, the average was $8,612. And for reefer, company driver fleets, the average was $6,420. Individual companies varied widely from these averages, usually depending on the quality of the records that they kept.

Recommendations

The importance of this cost to the truckload industry warrants additional companies to be included to boost the confidence in the data. It also suggests that companies look at the type of data they are keeping, and try to capture the full cost of turnover.

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Introduction & Methodology

Background

Driver turnover has been a major issue in the truckload industry for decades. Turnover rates in excess of 100% are common. There are two types of turnover that happen frequently. The first type is when a person exits the industry – they quit driving. The more common type, however, is when drivers change jobs within the industry.

Turnover is so pervasive and persistent that it has become an assumed cost of doing business. When asked how much this turnover is costing their company, trucking managers typically answer anywhere from $50 to $5,000. Often managers have not truly examined this issue, and their number was a complete guess without any real basis in actual costs.

This study seeks to delve into the actual costs of truckload driver turnover. It does so in an attempt to quantify the costs incurred by truckload firms that impact their bottom line. Without an accurate idea of what turnover costs, it is easy to ignore or minimize the problem. By identifying the actual costs, the issue can receive the appropriate attention. There are many elements to the total cost of turnover, some are obvious, others are more subtle.

Participant Firms in the Study

The firms participating in this study included both company driver and owner-operator firms. Van, reefer, and flatbed were the types of companies interviewed, and they ranged in size from a few dozen to thousands of drivers. They included both small and large companies. Some companies leased equipment, some owned equipment; some were self-insured, some were not. They represent a cross-section of the various types of companies in the truckload industry.

All the carriers that participated in this study were nationwide non-union carriers that hauled truckload freight only. There was a mix of owner operators and company drivers. The study includes carriers from eleven states and represents areas from the Midwest, West, and South. Twenty-eight firms were contacted, 19 agreed to participate, and useable data were obtained from 15 companies.

Sampling Method

The survey's purpose is to determine the actual cost of turnover in the truckload industry. The basis for the current study came from a mail study that was done on this topic in October 1998. The initial survey instrument was refined by working with local trucking companies and with an accounting professor, Janice Glatt, here at North Dakota State University.

Participating carriers were identified by first contacting local firms that have participated in UGPTI studies in the past. The majority of the rest were identified from the American Trucking Association's list of 100 top carriers (according to revenue). Lana Batts of the Truckload Carriers Association also assisted in identifying carriers. The companies were first called and then were faxed a form detailing the study. A second contact was made to confirm their willingness to participate. They were then personally interviewed.

The carriers participating in this study obviously were not selected randomly. For the purposes of the study a random sample was not appropriate. The sample that was chosen, however, is meant to be representative of the truckload industry.

Data Elements Collected

The following is a list with the definitions of the information that was collected for the study to determine the costs of turnover:

Entry and Exit Administration

Cost of Advertising

This is the direct cost associated with advertising for new drivers. This includes television, newspaper, magazines, radio, truck stop flyers, and any other advertising method that might be used.

Staff Labor Costs

These are any costs that are incurred from staff members doing work because of a driver quitting. This includes secretaries, trainers, recruiters, teaching staff, and any other people associated with drivers' training or administration.

Testing Fees

Testing fees include any costs that the company incurs for the testing or checking of drivers as they are hired. This includes DAC's, motor vehicle records (MVR's), criminal history, department of transportation (DOT) records, physicals, and any other tests that a company may require.

Recruitment Costs

These are the costs associated with recruiting new drivers into the company. This includes recruiter's pay (if not included in staff labor costs), travel expenses (such as meals, mileage, or lodging), and any bonuses paid for recruiting.

Orientation Costs

These are the costs of orientating a new hire to the company and job. Items such as pay to drivers to attend orientation, lodging and food for drivers, orientation teacher's fee, driver transportation to terminals after completion, and school costs are included.

Training Costs

This includes the costs associated with training a new driver, such as school costs, fixed costs for the vehicles used, and miscellaneous costs. It differs from orientation in that it provides basic truck driving training as opposed to simple company orientation information.

Referral/Sign-On Bonuses

These bonuses include money given out as a sign on bonus to new drivers, or a referral fee that is given to existing drivers who refer new hires. Some of these bonuses have a time delay (e.g., a referral bonus is paid after the new hire has stayed six months). These numbers reflect the costs incurred during the 1998 calendar year, not necessarily the costs incurred for hiring the individual drivers during this time frame.

Fixed Asset Costs Due to Idle Equipment

Total Trucks and Trailers on January 1st and December 31st, 1998

This is the total number of trucks and trailers owned or leased as of the beginning and end of 1998. These numbers are used in the formula to determine the cost of idle equipment. They are also used to see if the company fleet grew from the beginning of the year to the end of the year.

Monthly Cost of Interest on Trucks and Trailers

This cost is what the company pays in interest for its equipment. The yearly amount of interest paid for both trucks and trailers was divided by 12 months. This information is used in the idle equipment cost formula.

Monthly Cost of Depreciation on Trucks and Trailers

The cost of depreciation on both trucks and trailers was calculated by taking the yearly amount and dividing by 12 months. This cost is the amount of depreciation that is incurred on the equipment. This information is also used in the formula for idle equipment.

Monthly Cost of Insurance on Trucks and Trailers

The cost of insurance on both trucks and trailers was calculated by taking the yearly premium amount and dividing by 12 months. This cost is the amount of insurance that is incurred for equipment. Self-insured companies were given as a low cost due to they only pay on moving equipment, so that was taken into consideration in this study. This data is used in the idle equipment formula.

Idle Equipment Formula

The idle equipment formula was used to determine the cost of equipment sitting idle because a driver was not available to drive it due to turnover. It begins by taking monthly interest, depreciation, and insurance for both trucks and trailers and multiplying by the number of trucks or trailers to calculate a total monthly cost. Then this number is multiplied by 12 months to get a total yearly cost. This total is multiplied by the percent idle and we get the costs incurred from idle equipment.

Yearly cost of truck interest = (Monthly cost of truck interest) x 12

Yearly cost of truck depreciation = (Monthly cost of truck depreciation) x 12

Yearly cost of truck insurance = (Monthly cost of truck insurance) x 12

Total truck costs = (Yearly cost of truck interest) + (Yearly cost of truck depreciation) + (Yearly cost of truck insurance)

[Repeated for trailer costs]

Total fleet cost = (Total truck costs) + (Total trailer costs)

Total idle cost = (Total fleet cost) * (Percent idle)

Profit Lost Due to Idle Equipment

Percent of Fleet Idle

This is the number of trucks that are idle in a company because there is not a driver available due to turnover. This does not include new and old trucks waiting to be prepared or sold, and does not include yard trucks.

Revenue Per Tractor

This is the amount of money that is brought in per truck for the year. It is used in the lost profits formula.

Gross Profit Percent

This can be calculated by taking the operating ratio minus a 100 to get profit on the dollar. It is used in the lost profits formula.

Lost Profits Formula

The lost profits formula is used to estimate what the loss of profits is to a company due to idle trucks. This is figured by taking the number of idle trucks and multiplying this times the revenue. This gives total lost revenue per truck. This multiplied by the gross profit percent gives us the total lost profits.

Total Lost Revenue = (# of idle trucks) * (Gross revenue)

Total Lost Profits = (Total Lost Revenue) * (Gross Profit Percent)

Other Costs

Safety / Insurance / Legal

This includes the additional costs associated with newer drivers in increased accidents, higher insurance premiums, and associated legal costs. It also includes the higher workman's' comp premiums for new drivers.

Equipment Maintenance

This cost is the extra expense that is required for maintenance when a new driver uses the equipment. This expense can include some of the minor "fender-bender" type of costs associated with new drivers, if not captured above, and the additional wear and tear on equipment that happens with drivers that are new to the equipment and company.

Production Loss Due to New Drivers

This is the estimated amount of revenues that a company loses due to a newly hired driver being unfamiliar with the job. This is calculated by taking the difference of the amount of miles that a new driver runs compared to a veteran employee, and then taking the revenue that could have been made on those lost miles and calculating a cost per driver.

Total Cost Per New Driver

Total Number of Drivers on January 1st and December 31st, 1998

This is the number of drivers on the payroll as of the beginning and end of the year. These numbers are used to determine if the company experienced growth. If they hired drivers due to growth, those would be taken out of the total drivers hired since they are not related to turnover.

Number of Replacement Drivers Hired in 1998

This is the number of drivers that were hired to replace drivers that had left because of turnover. This includes all drivers whether they are students, company, or owner operators. This does not contain drivers that were hired due to expansion.

Chapter
2

Results and Discussion

Aggregated Results

The following information is the average results for the all the carriers we studied.

Number of Drivers Hired Due to Turnover

The average number of drivers hired was 1,311. This ranged from a low of 44 drivers to a high of 6,393 drivers hired. This large difference is due to the various sizes of the companies.

Advertising

The average cost of advertising was $446,190. This ranged from a low of $3,000 to a high of $1,869,340. The company with the small advertising bill is a company that grows from within and doesn't do much advertising, and the large amount if from a company that hires a lot of student drivers so it advertises heavily.

Staff Labor Costs

The average cost of the staff labor costs was $1,062,568. This ranged from a low of $22,440 to a high of $8,200,000. The low cost is due to a company that only has two people working in the recruiting department. The high number comes from a company that has a very large staff in the recruiting and driver relations department.

Testing Fees

The average cost of testing fees was $193,430. This ranges from a low of $0 to a high of $536,000. The low cost comes from a company that has all new drivers pay the testing themselves. The high is from a company that tests a little more then the rest.

Recruitment Fees

The average cost of recruitment fees was $580,175. This ranges from a low of $0 to a high of $7,850,604. The low costs are from companies that do not recruit heavily outside there own drivers, they mostly grow from within. The large cost is associated with a company that heavily recruits all around the country with paid recruiters.

Orientation Fees

The average cost of orientation was $322,728. This ranges from a low of $0 to a high of $1,150,740. The low costs are from companies that do not hold any orientations so they don't pay the drivers. The high cost is from a company that pays a lot of money for the orientation to occur.

Training Fees

The average cost of training was $543,356. This ranges from a low of $0 to a high of $3,100,000. The low costs are from companies that do not have a training program in place. The high cost is due to a company that has their own truck driving school to teach drivers.

Referral/Sign On Bonus

The average for the referral/sign on bonus was $94,163. This ranges from a low of $0 to a high of $712,500. The low cost is from companies that do not give a referral bonus or sign on bonus. The high number is from a company that has a lot of new drivers that get bonuses.

Costs for Idle Equipment

The average for the costs due to idle equipment was $2,313,060. This ranges from a low of $36,241 to a high of $15,249,600. The low cost is due to a low number of trucks out because of turnover. The high cost is associated with a company that has a large cost for its equipment.

Lost Profits Due to Idle Equipment

The average for lost profits was $704,745. This ranges from a low of $70,980 to a high of $2,860,197. The low cost is due to a small percent of trucks idle due to turnover. The high cost is associated with a company that has a large number of trucks idle due to turnover.

Production Loss Due to Turnover

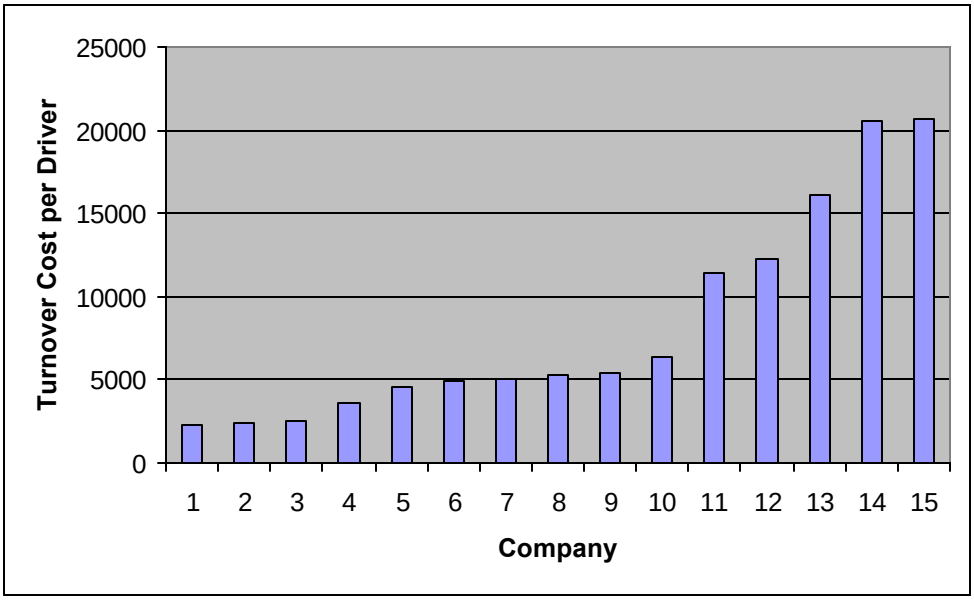
The average for production loss was $848,797. This ranges from a low of $0 to a high of $9,589,500. The low number is from companies that claim they don't experience this cost. The high is from a company that has a lot of new drivers.

Discussion

Turnover costs, as calculated, varied among companies due to many factors:

- Where they were recruiting their drivers,
- The amount of capital they had tied up in equipment, and
- The completeness of the data they kept in regards to new drivers.

The costs of turnover per driver for the companies were calculated to be as follows:



These costs did not necessarily follow with the size of firm, turnover rate, or any other variable. The companies represented on the right were those companies that could provide data that should be included, while companies on the left of the scale were those companies that did not keep records for some of the data elements, and therefore represent an incomplete cost of turnover.

Overall Results Summary

There were 15 carriers in this study. These carriers ranged in size from 32 to 9,463 trucks. The average cost of turnover per driver for these carriers was $8,234; with a range from $2,243 to $20,729.

Company Driver Results Summary

There were 12 carriers with company driver fleets in this study. These carriers ranged in size from 32 to 9,463 trucks. The average cost of turnover for these carriers was $7,923; with a range from $2,243 to $20,729 per driver.

Dry Van Carriers' Results Summary

There were six dry van, company driver carriers in this study. These carriers ranged in size from 65 to 9,463 trucks. The average cost of turnover for these carriers was $8,612; with a range from $2,243 to $20,729 per driver.

Refrigerated Van Carriers' Results Summary

There were four refrigerated van, company driver carriers in this study. These carriers ranged in size from 32 to 1,439 trucks. The average cost of turnover for these carriers was $6,420; with a range from $3,581 to $12,222 per driver.

Flatbed Carriers' Results Summary

There were two flatbed, company driver carriers in this study. Therefore, flatbed carriers cannot be discussed as a group, due to insufficient data.

Chapter

3

Summary and Conclusions

Limits of Findings

This study is an attempt to quantify the costs of turnover in the truckload carrier industry. The calculations that were used are explained throughout this report. The results based on the information on the carriers that participated are valid. However, there are some limitations to this study. They are:

- The small number of carriers that participated,
- The data items were provided by the carriers,
- Some data items were unavailable, and
- The results are not definitive for the industry.

Small Number Of Carriers That Participated

There were a limited number of carriers that participated in this study. The need for a personal interview to verify, understand, and interpret the information limited the number of carriers that could participate. As a result, there were not enough carriers in the various segments (e.g. flatbeds) to publish the results.

Data Items Were Provided By The Carriers

The personal interview process was chosen to validate the data and understand the numbers that were provided. But ultimately the carriers provided the data. The interview process was intended to probe into the source and accuracy of the numbers, but it could not guarantee consistency from one company to the next. We were not granted the level of access to records that would ensure objectivity and consistency between companies.

Some Data Items Were Unavailable

Some of the most critical data elements were not available from many of the carriers. They simply do not keep the numbers that are required for a full calculation of the costs of turnover.

Conclusion

This study shows that the cost of truckload driver turnover can reach as high as $20,729 per driver. This is a substantial cost. Even carriers or segments with smaller turnover costs have significant dollars tied up in turnover. This is a major expense for the truckload industry.

Recommendations

Two actions are recommended as a result of this study:

- More data from additional carriers is needed, and
- Carriers need to keep additional data.

More Data From Additional Carriers Is Needed

It would be a useful effort to collect more information from additional carriers to add to this study. More carriers would allow for a closer look at the various segments of the industry. It would also boost confidence in the average turnover costs for the entire study.

Carriers Need To Keep Additional Data

Many of the critical data elements required for a calculation of the full costs of turnover were unavailable. The carriers simply did not keep, or compile, them. This is something that carriers should look at for themselves to accurately see the impact of turnover on their own firm.

Implications for the Truckload Industry

It appears that the cost of turnover is a significant one. The better the records are kept, the higher the actual cost. Even with the conservative $8,234 estimate, the cost for the truckload industry is serious. With an estimated 340,000 truckload drivers[1] in the US, and an average turnover rate of 100%, turnover costs the industry nearly $2.8 billion each year.

[1] Bearth, Daniel P. 2000. "Group to Examine Successful Carriers." *Transport Topics*, January 24, p. 37.

Appendix

A

Appendix: Cost of Turnover Worksheet

The following worksheet is provided to assist carriers in developing their own costs of turnover. The Input page lists the pieces of information that are necessary to have in order to make the calculation. The Analysis page shows the calculations that are used to figure the average turnover cost per driver.

Cost of Driver Turnover

Input

Description	Symbol	Data Type
No. of drivers Jan. 1 '98	NDrB	#
No. of drivers Dec. 31 '98	NDrE	#
No. of drivers hired '98	NDrH	#
Annual cost of advertising	Ad	$
Annual staff labor costs	Stf	$
Annual cost of testing fees	Tst	$
Annual recruitment costs	Rec	$
Annual orientation costs	Or	$
Annual training costs	Tr	$
Annual cost of referral/sign on bonuses	Ref	$
No. of trucks Dec. 31 '98	NTrkE	#
No. of trailers Dec. 31 '98	NTrlE	#
Annual cost of interest per truck	TrkIn	$
Annual cost of interest per trailer	TrlIn	$
Annual cost of depreciation per truck	TrkDep	$
Annual cost of depreciation per trailer	TrlDep	$
Annual cost of insurance per truck	TrkIns	$
Annual cost of insurance per trailer	TrlIns	$
Average yearly percent of fleet idle due to no driver	Idle	%
Annual revenue per tractor	Rev	$
Annual total gross profit percentage	GPr	%
Annual safety/insurance/legal costs for new drivers	Ins	$
Annual cost of equipment maintenance	Eq	$
Annual production loss due to new drivers	PrLs	$

Cost of Driver Turnover

Annual Turnover Cost Analysis

Entry and Exit Administration		
Advertising		=Ad
Staff labor		=Stf
Testing fees		=Tst
Recruitment		=Rec
Orientation		=Or
Training		=Tr
Referral/sign on bonus		=Ref
	Subtotal	**=SUM(B5:B11)**
Fixed Asset Costs Due to Idle Trucks/Trailers		
Truck Interest		=TrkIn*NTrkE
Trailer Interest		=TrlIn*NTrlE
Truck Depreciation		=TrkDep*NTrkE
Trailer Depreciation		=TrlDep*NTrlE
Truck Insurance		=TrkIns*NTrkE
Trailer Insurance		=TrlIns*NTrlE
Total for whole fleet		=SUM(B15:B20)
	Subtotal	**=B21*Idle**
Profit Lost Due to Idle Equipment		
Total lost gross revenue		=Idle*NTrkE*Rev
	Subtotal	**=B25*GPr**
Other		
Safety/insurance/legal		=Ins
Equipment maintenance		=Eq
Production loss due to new drivers		=PrLs
	Subtotal	**=SUM(B29:B31)**
	Total Costs	**=B12+B22+B26+B32**
Total new drivers (not due to growth)		=NDrH-(NDrE-NDrB)
	Total Costs per New Driver	**=B34/B36**