

Cascade Trucking and Freight: Relevant Costs for Decision Making

Background

Cascade Trucking and Freight has a long-established and mutually beneficial business relationship with a major international automotive parts company, FHP Technologies. Management at FHP has approached Cascade with a request to provide additional routes that are important to the efficiency of its supply chain. Cascade's management wishes to nurture the business relationship with FHP but is concerned about the available capacity to service the new routes, potential risks, and profitability associated with FHP's request.

Introduction

Alan Frank founded Cascade Trucking and Freight in 1968 and has grown the business into a sizeable operation with 90 trucks and 180 trailers. His largest customer, FHP Technologies, has submitted a proposal to him to add delivery routes that would improve the efficiency of FHP's supply chain. Alan was not certain that Cascade could handle the additional routes since the company currently was operating at (or near) full capacity.

FHP offered a total of \$2.15 per mile (including fuel service charge and miscellaneous fees) for the new route. But Alan knew that to accept the offer he would have to add more trucks and perhaps incur additional debt. The question was whether the rates offered by FHP were high enough to offset the associated risks of growing the fleet. Although the business had been grown organically through the years by reinvesting profits, it incurred debt from time to time to replace older equipment (usually in blocks of five trucks). Alan knew the slim profit margins associated with trucking, coupled with a downturn in the economy, could spell disaster if saddled with too much debt. See Exhibits 1 and 2 for the company's most recent statement of income from operations and the balance sheet, respectively.

Roger Simmons, Cascade's operations manager for the past 16 years, had been reviewing the FHP proposal and approached Alan. "Alan, we need to discuss this offer from FHP. I think it is a great opportunity for our company, and we need to find a way to make it work." Within 10 minutes Alan and Roger were in a closed-door meeting discussing the pros and cons of FHP's offer. Roger began by stating the obvious: "Alan, this is a huge opportunity for us to grow the business. Not to mention, as FHP becomes more dependent on our services, we will be in a stronger position to negotiate future rate increases. I know you are opposed to debt, and I understand the risks of carrying more debt, but there is more than one way to grow our fleet. If you would consider using independent contract drivers, we could grow the fleet enough to accept FHP's offer without incurring more debt."

Alan cringed at the thought of using independent contract drivers. Although independent contractors owned their own trucks, Alan viewed them as difficult to deal with and not worth the headache. "Roger, I hear you, but this new route will not last a week if we cannot give FHP great service. Independent contractors call the shots, not us. They own the rig and will sit at home if they want to. I would rather deal with our own company's rigs and drivers. The rewards just do not justify the risks of damaging our relationship with FHP.

"But I am not sure we should take on any more debt at this point to purchase additional rigs. The economy is in the tank, and it is a bad time for us to leverage the balance sheet any further. Roger, my success in this business was not built by jumping on every offer that came along. Sometimes you have to say no, even to your biggest customer. Unless you can find a way to squeeze out more capacity within our current fleet, I just do not think we can accept FHP's offer at this time," Alan concluded.

As the two men left the room, Roger was convinced that Alan was wrong. Roger knew that Alan was leaving money on the table. He just needed to prepare a financial analysis that would prove it. Was it

possible to squeeze out more capacity from an already fully utilized fleet? Perhaps they could shift trucks from another account. Was taking on more debt truly “risky” given the profit potential of this new route? Roger knew he had to make a convincing argument before FHP took its offer to another truck line.

Industry Terms

- A tractor-trailer rig is a truck that consists of a tractor attached to a trailer. The tractor typically is powered by a diesel engine.
- A flatbed trailer is long flat platform with no sides.
- A dry van trailer is a boxed cargo compartment designed for nonrefrigerated freight.
- Trucking companies often have a revenue-generating load in one direction but need a revenue-generating contract for the return trip. The return trip is known as a backhaul. Often trucking companies contract with freight brokers to acquire backhauls.

Industry Background and Cost Structure

Trucking firms generate a variety of revenue types from hauling goods for their clients. Presented next is a brief overview of key types of revenues included in the 2013 income from operations of Cascade Trucking and Freight.

Line haul revenue is earned from hauling freight.

Fuel prices in recent years have been volatile. Because trucking companies are exposed to fuel price volatility when they sign a long-term contract with their customers, they may charge an additional fee associated with fuel costs when prices exceed predetermined levels. Thus, the primary purpose of the **fuel surcharge (FSC) revenue** is to protect the truck line from fuel price increases during the contract term.

Included in miscellaneous revenue are the following:

Storage fees are collected when Cascade stores a loaded trailer on its lot for a customer.

Lumper revenue is collected if a driver assists with unloading a trailer.

Certain flatbed loads, such as drywall, unpainted steel, and some types of wood products, that would be damaged by rain must be covered. Trucking companies typically charge a **tarping fee** for such loads.

Additional insurance is required when transporting **high-value cargo**. Practices vary throughout the industry. If a load is above a company’s standard cargo insurance limits, many companies simply will not haul it. Trucking companies that are willing to bind additional cargo coverage normally do so for a fee that covers only the extra cost of insurance. (Alternatively, this revenue line item could have been booked as a reduction to the “Insurance” expense account.)

Loads transported on flatbed trailers must be secured by straps or chains. These types of loads often are associated with higher worker’s comp claims. Thus, an extra **strapping and chaining fee** is charged only for a flatbed load.

If a truck sits idle at the dock for more than two hours, customers can be charged a fee that is classified as detention revenue. Placing a **detention revenue** clause in the contract encourages customers to load trailers efficiently in order to avoid further constraints on Cascade’s tractor capacity.

Types of Business Arrangements with Drivers

Cascade has potentially two arrangements with drivers. They are classified as employees or as independent operators. Employees receive traditional employee benefits and a Form W2 for tax purposes. These persons are typically engaged in work for the company that is considered “permanent.”

Alternatively, independent operators are not considered employees and receive a Form 1099 (rather than a Form W2) for tax purposes. These operators typically provide the tractor but generally do not provide the trailer. In addition to driver salaries and depreciation on trucks, expenses incurred by independent contractors include:

- Tags (known as International Registration Plan (IRP)) – The independent contractor buys the IRP tag for the tractor, while the shipping company buys the tags for the trailer.
- IRS Form 2290 – Heavy Road Use Tax.
- Diesel fuel, engine fluids, and all maintenance-related parts and items.
- Physical damage insurance.
- Non-trucking “bobtail” Liability Insurance (needed for when the truck is not transporting a trailer).
- Tolls and scale fees.

Independent contractors generally control their own working hours, unlike an employee. Further, independent contractors’ work generally is considered temporary, rather than permanent (unlike for an employee). In the trucking industry, an independent contractor often signs a one-year contract for a temporary job. But an employee is hired permanently under the assumption that he or she will make deliveries until further notice. This arrangement constitutes a permanent job.

Capacity Issues and Industry Practices

Cascade Trucking typically assigns one driver to one tractor. But this practice can constrain the available hours the tractor can operate. For example, laws require a driver to take a 10-hour break after 11 hours of driving. Further, a driver cannot work more than 70 hours in an eight-day period without taking a 34-hour break. To improve tractor utilization by avoiding constraints based on legal driving time requirements, some trucking companies use “slip seating.” This is a practice that permits greater tractor utilization by placing a fresh driver behind the wheel at the end of the former driver’s shift. Slip seating is similar in practice to an airline company that keeps its planes flying longer by inserting fresh flight crews as the previous crew goes off duty. It also is efficient to utilize “team drivers” that are commonly husband-wife teams. One person drives while the other sleeps. Relative to a single driver, this arrangement basically doubles the amount of miles driven in a given week. Typically, teams are paid more, but additional line haul revenues offset the extra labor costs.

Another strategy to improve tractor utilization is to use trailer pools, commonly referred to as “drop and hook” systems. For example, trucking companies will leave an empty trailer with customers, who will load it with products as units are produced. When the trailer is filled, a tractor arrives, drops an empty trailer to replace the trailer just filled, then immediately hooks onto the loaded trailer and departs. Tractor utilization improves because tractors are not sitting idle while a customer loads a trailer. This approach is economically feasible because trailers are far less expensive to purchase and operate than tractors.

Most trucking companies keep some tractors “on the fence” as spares, in case one breaks down. There is considerable disagreement, however, over what constitutes too many spares. Some owners believe a truck line should put all available equipment on the road and rent a tractor if a spare is needed. Others disagree

and maintain a small number of tractors in reserve. Currently, Cascade Trucking and Freight keeps a small number of tractors and trailers out of service but prepared for duty in case a rig breaks down. Some managers believe this policy is an expensive luxury and that some of these idle rigs could be used to add the new routes requested by FHP. When estimating a tractor's practical capacity, management at Cascade uses 85% of total potential miles driven in a period. Theoretical (or 100%) capacity utilization is virtually impossible in the industry because of factors such as traffic and loading delays.

The Proposal and Related Issues

Management at FHP has asked Cascade to consider adding two dry van loads per week; each load would require 1,500 round-trip miles. Because FHP is a long-term client with a strong financial position, the company's management has asked for a very favorable rate of \$2.15 per mile including FSC and all miscellaneous fees. Roger believes the potential volume of freight from FHP can be used to grow Cascade's business and profitability. There is also risk associated with not taking the new routes. If Cascade does not accept the new routes, another trucking line will, thus building loyalty with FHP.

FHP is a stable, solvent company that presents no question of collection, thus ensuring a reliable cash flow. If FHP decides to restructure its supply chain in the future, Cascade could find itself in the undesirable position of holding dedicated assets (trucks and trailers) for routes that no longer exist. The owner's aversion to increased debt levels further exacerbates concerns about acquiring additional fixed assets. Perhaps Cascade could service the initial demand with existing equipment. But, as additional routes are added in the future, Cascade must acquire more tractor-trailer rigs or consider outsourcing the miles by using independent contractors.

Exhibit 1 presents Cascade Trucking and Freight's income from operations for the year ending December 31, 2013. This statement is not prepared in accordance with Generally Accepted Accounting Principles (GAAP) but presents costs by behavior. Exhibit 2 presents Cascade Trucking and Freight's balance sheet for the year ending December 31, 2013.

Required:

Cascade's management is considering the proposal from FHP. There are many issues involving strategy, cost, risk, and capacity. Prepare a recommendation to management. Use the following questions to guide your analysis.

1. Assume Cascade could service the contract with existing equipment. Use Exhibit 1 to identify the relevant costs concerning the acceptance of FHP's request to add two additional loads per week. Which costs are not relevant? Why?
2. Calculate the contribution per mile and total annual contribution associated with accepting FHP's proposal. What do you recommend? (Use 52 weeks per year in your calculations.)
3. Consider the strategic implications (including risks) associated with expanding (or choosing not to expand) operations to meet the demands of FHP. Analyze this question from a conceptual point of view. Calculations are not necessary.
4. After a closer examination of capacity, management believes an additional rig is required to service the FHP account. Assume Cascade's management chooses to invest in one additional truck and trailer that can serve the needs of FHP (at least initially). Assume the annual incremental fixed costs associated with acquiring the additional equipment is \$50,000. Further, FHP would agree to pay \$2.20 per mile (total including FSC and miscellaneous) if Cascade would sign a five-year contract. What is the annual number of miles required for Cascade to break even, assuming the company adds one truck and trailer?

What is the expected annual increase in profitability from the FHP contract? (Use 52 weeks per year in your calculations.)

5. Cascade has business relationships with independent contractors, though Alan is reluctant to use them. Another possibility for expanding capacity is to outsource the miles requested by FHP. One of Overland's most reliable independent contractors has quoted a rate of \$1.65 per mile. As with question 4, assume FHP would agree to pay \$2.20 per mile if Cascade would sign a five-year contract. Further, assume Cascade would incur incremental fixed costs of \$20,000 annually. These costs would include insurance, rental trailers, certain permits, salaries and benefits of garage maintenance, and office salaries such as billing. How many annual miles are required for Overland to break even if the miles are outsourced? What is the expected annual increase in profitability from the FHP contract? What are your conclusions?
- 6 a. Why might Cascade use an independent operator if the variable cost per mile is higher than if the company had purchased a rig and hired a driver?
- b. At what point would management be indifferent between the scenarios illustrated in questions 4 and 5? Based on your analysis, would you recommend adding capacity by purchasing an additional rig or by utilizing the services of an independent contractor? Why?

Exhibit 1**Income from Operations**

(All financial information in the case has been scaled and disguised for educational purposes.)

Cascade Trucking and Freight**Income from Operations****For the year ending December 31, 2013**

Revenue	FYE 12/31/2013	Per Mile
Line Haul	\$20,925,280	\$1.86
Fuel Surcharge	4,950,160	0.44
Miscellaneous	<u>450,120</u>	<u>0.04</u>
Total Revenue	\$26,325,570	\$2.34
Variable Expenses		
Insurance	675,120	0.06
Fuel	8,775,190	0.78
Oil Lubricants	112,700	0.01
Tolls	112,550	0.01
Parts and Small Tools	787,630	0.07
Hourly Wages: Drivers	4,950,160	0.44
Trailer Pool Expense	<u>255,120</u>	<u>0.02</u>
Total Variable	15,638,480	1.39
Fixed Expenses		
Insurance		
General Liability	112,620	0.01
Physical Damage	225,010	0.02
Workers Compensation	226,000	0.02
Health Insurance	224,500	0.02
Security	111,750	0.01
Depreciation	2,137,500	0.19
Salaries, Benefits (Garage)	675,000	0.06
Salaries, Benefits (Office)	1,012,520	0.09
Bad Debt Expense	113,500	0.01
Permits	111,520	0.01
Rental Equipment	1,013,000	0.09
Payroll Taxes	562,500	0.05
Accounting Fees, Supplies, Computer Maintenance	112,350	0.01
Miscellaneous	<u>337,510</u>	<u>0.03</u>
Total Variable	6,975,280	0.62
Income from Operations	\$3,681,810	\$0.33

Note: Per-mile values are based on 11,250,000 miles and have been rounded to two decimal places.

Exhibit 2

Cascade Trucking and Freight

Balance Sheet

For the year ending December 31, 2013

Assets

Current Assets

Cash	\$200,000	
Accounts Receivable	<u>300,000</u>	
Total		\$500,000

Property Plant and Equipment

Land	1,000,000	
Buildings	3,000,000	
Accumulated Depreciation Buildings	(1,250,000)	
Tractors, Trailers, and Equipment	18,650,000	
Accumulated Depreciation	<u>(4,750,000)</u>	
Total		<u>\$16,650,000</u>
Total Assets		<u>\$17,150,000</u>

Liabilities and Equity

Current Liabilities

Accounts Payable	150,000	
Taxes Payable	65,000	
Current Portion of Long-Term Debt	<u>35,000</u>	
Total Current Liabilities		\$250,000

Long-Term Liabilities

Notes Payable	1,865,000	
Total Long-Term Liabilities		<u>\$1,865,000</u>

Total Liabilities \$2,115,000

Owner's Equity

Contributed Capital	3,550,000	
Retained Earnings	<u>11,485,000</u>	
Total Owner's Equity		\$15,035,000

Total Liabilities and Owner's Equity \$17,150,000