

IS SLOWING DOWN THE SPEED OF YOUR TRUCK TO INCREASE PROFITABILITY WORTH IT?





Table of Contents

- 4.** Is Slowing Down the Speed of Your Truck to Increase Profitability Worth it?
- 4.** 2017: Example 1
- 8.** 2019: Example 2
- 11.** Conclusion



List of Figures

- 6.** Figure 1: Operating Cost per Mile (ATRI: 2017) and FreightWaves' Adjusted Operating Cost per Mile (accounting for slowing down to save fuel)
- 7.** Figure 2: Operating Cost (ATRI: 2017) and FreightWaves' Adjusted Operating Cost (accounting for slowing down to save fuel) in Dollars
- 9.** Figure 3: Operating Cost per Mile (adjusted for inflation ATRI: 2019) and FreightWaves' Adjusted Operating Cost per Mile (accounting for slowing down to save fuel)
- 10.** Figure 4: Operating Cost per Year (adjusted for inflation ATRI: 2019) and FreightWaves' Adjusted Operating Cost per Year (accounting for slowing down to save fuel)



Is Slowing Down the Speed of Your Truck to Increase Profitability Worth it?

We start this whitepaper with the premise that a driver can save \$10,000 a year by slowing down his or her speed from 75 miles per hour (mph) to 65. We then set out to determine whether this would be worth it and to calculate sound, concrete numbers to back this up.

Slowing down speed when rates are low and depressed is a common practice in transportation generally (e.g. ocean tankers) to pad the bottom line (because trucks and ships are so fuel-intensive) and to effectively reduce industry capacity.

The latest detailed figures we had for operating cost per mile by detailed line item were from the American Transport Research Institute (ATRI) in 2017. In the first example, we used these figures and calculated how many more miles a driver would need to drive to drop the entire \$10,000 in incremental profit to the bottom line.

But we ran into a problem that we wanted to solve for – namely, retail diesel prices averaged only \$2.65 per gallon in 2017 compared to \$3.05 per gallon year-to-date in 2019 (or 15% higher). To adjust for this, we ran a second scenario and solved for the same problem using diesel at \$3.05 a gallon to show relevant figures in today's 2019 dollars.

2017: Example 1

What we found was that to actually drop the \$10,000 in savings to the bottom line, he or she would need to drive approximately an additional 17,544 miles, or 58 miles per day. Therefore, it is possible and quite doable, but the question is whether a carrier or an owner-operator views these sacrifices as worth it.

Our basic calculations and assumptions were as follows (we used 2017 operating costs per mile from ATRI):

We had to complete the following steps to arrive at our conclusion:

1. Convert the fuel cost back into total dollars by assuming the average truck drives 100,000 miles per year. This gave us an annual fuel budget of \$36,800. The \$0.37 per mile of fuel cost figure corresponds closely to the average 2017 DOE Diesel Price per Gallon (SONAR: DOE.USA) of \$2.65 because \$0.37 per mile times 7 miles per gallon equates to \$2.59 (quite close to \$2.65). We acknowledge that current DOE retail price per gallon has since moved up and is \$3.06.



2. Divide the \$10,000 by the annual fuel cost of \$36,800 to arrive at an annual fuel savings of 27%. We then reduce the fuel cost per mile accordingly by 27% to arrive at a new fuel operating cost per mile of \$0.27 (or \$0.10 per mile in incremental savings).
3. Then, because putting more miles on your truck is not free, we assumed that maintenance cost per mile, tire expenditures and tolls increased by the same 27% (we acknowledge this is not a perfect system but believe this exercise to be more art than science). Doing so increased our new maintenance cost per mile to \$0.21 (from \$0.17; an increase of \$0.04 per mile), our new tire expense to \$0.05 (from \$0.04; an increase of \$0.01 per mile) and our tolls expense to \$0.034 per mile (from \$0.03; an increase of \$0.004 per mile).
4. Other assumptions we made: a driver drives 300 days per year (or about 6 days a week for 50 weeks per year); and that a carrier is paid \$2.00 per mile *including fuel*.
5. Assuming nothing else changes (i.e. all else equal), this totals to a new all-in operating cost per mile of \$1.65 compared to \$1.69, or a per mile operating cost savings of \$0.04 per mile.
6. Subtracting the new all-in operating cost per mile of \$1.65 from our rate per mile of \$2.00 (what we are paid) results in \$0.35 per mile in operating profit compared to \$0.31 when the driver was driving 75 miles per hour (mph) instead of 65 mph.
7. Lastly, we show how a driver must increase his or her mileage by 17,544 miles in a year (or about 58 miles per day) to drop the full \$10,000 in fuel savings to his or her bottom line (see incremental \$10,000 in profit highlighted in green). The resulting \$40,900 is equivalent to pretax income and assumes this is an owner-operator that owns 100% of the company and gets paid \$65,472 in wages per year.



Figure 1: Operating Cost per Mile (ATRI: 2017) and FreightWaves' Adjusted Operating Cost per Mile (accounting for slowing down to save fuel)

Save \$10,000 27%

Cost*	2017 Cost/Mile	2017 Adj. Cost/Mile	Notes
Fuel Costs	\$0.37	\$0.27	Reduced by 27% to save fuel
Truck/Trailer Lease or Purchase Payments	\$0.26	\$0.26	
Maintenance	\$0.17	\$0.21	Increased by 27% due to more miles
Insurance	\$0.08	\$0.08	
Permits & Licenses	\$0.02	\$0.02	
Tires	\$0.04	\$0.05	Increased by 27% due to more miles
Tolls	\$0.03	\$0.03	Increased by 27% due to more miles
Total Vehicle-Based Costs/Mile	\$0.96	\$0.92	
Driver Wages	\$0.56	\$0.56	
Driver Benefits	\$0.17	\$0.17	
Total Driver-Based Costs/Mile	\$0.73	\$0.73	
Total Costs/Mile	\$1.69	\$1.65	
Est. Rate per Mile (Incl. Fuel)	\$2.00	\$2.00	
Costs/Mile	\$1.69	\$1.65	
Operating Profit per Mile	\$0.31	\$0.35	
Additional Miles Needed		17,544	
Miles per Day Needed (300 days/year Driving)		58	

* 2017 Cost Data from ATRI

Source: ATRI, Freight Intel Calculations



Figure 2: Operating Cost (ATRI: 2017) and FreightWaves' Adjusted Operating Cost (accounting for slowing down to save fuel) in Dollars

	Miles/Year 100,000	Adj Miles/Year 117,544
Cost	2017 Total Costs/Year	2017 Adj. Costs/Year
Fuel Costs	\$36,800	\$31,502
Truck/Trailer Lease or Purchase Payments	\$26,400	\$30,561
Maintenance	\$16,700	\$24,964
Insurance	\$7,500	\$9,403
Permits & Licenses	\$2,300	\$2,351
Tires	\$3,800	\$5,680
Tolls	\$2,700	\$4,036
Total Vehicle-Based Costs/Year	\$96,200	\$108,498
Driver Wages	\$55,700	\$65,472
Driver Benefits	\$17,200	\$20,217
Total Driver-Based Costs/Year	\$72,900	\$85,689
Total Costs/Year	\$169,100	\$194,187
Est. Rate/Year	\$200,000	\$235,087
Costs/Year	\$169,100	\$194,187
Operating Profit/Year	\$30,900	\$40,900

Source: ATRI, Freight Intel Calculations

In summary, this analysis is fairly generous because a new, all-in operating cost per mile of \$1.65 assumes an operating ratio (OR) for the trucking company in question of 83% (\$1.65/\$2.00), which would place the carrier in the top quartile performance bracket of the truckload market that generally has average ORs in the mid-to-high



80s range (and best-in-class in the high 70s). Nevertheless, we believe it to be generally informative and accurate analysis.

2019: Example 2

We made two sets of material changes in the second example to bring the resulting calculations to present day. First, we brought diesel prices to present day, increasing them by 15% from our prior 2017 example to today's price of \$3.05 a gallon. On a per mile basis, at 7 miles per gallon, this works out to \$0.44. Second, we inflated or deflated each 2017 line item for two years by its 2009-2017 compound annual growth rate. This exercise brings cost per mile line items to 2019 dollars. Lastly, we again decreased our fuel cost per mile by 23% (\$10,000 fuel savings divided by our \$44,000 fuel budget; resulting in a decrease of \$0.10 per mile to \$0.34). We then, again, increased our maintenance, tires and tolls expense by 23% to account for the increased wear and tear and economic expense of driving more miles.

Our second example assumes an OR of 90% (\$1.79 in operating cost per mile/\$2.00 per mile), which is more inline with the truckload average.

The main takeaway is that diesel price per gallon matters when calculating the incremental miles needed to drive to drop the \$10,000 in fuel savings to the bottom line. This can be seen by the fact that a driver now (in 2019) must drive an extra 27,132 miles (or 90 miles per day); this compares to an extra 17,544 miles in a year (or about 58 miles per day) in our 2017 example.



Figure 3: Operating Cost per Mile (adjusted for inflation ATRI: 2019) and FreightWaves' Adjusted Operating Cost per Mile (accounting for slowing down to save fuel)

Save \$10,000 23%

Cost	2017 Cost/Mile*	2019 Cost/Mile	2019 Adj. Cost/Mile	ATRI CAGR (2009 - 2017)	Notes
Fuel Costs	\$0.37	\$0.440	\$0.34		Reduced by 23% to save fuel
Truck/Trailer Lease or Purchase Payments	\$0.26	\$0.266	\$0.27	0.30%	
Maintenance	\$0.17	\$0.179	\$0.22	3.46%	Increased by 23% due to more miles
Insurance	\$0.08	\$0.081	\$0.08	3.72%	
Permits & Licenses	\$0.02	\$0.022	\$0.02	-2.54%	
Tires	\$0.04	\$0.040	\$0.05	3.05%	Increased by 23% due to more miles
Tolls	\$0.03	\$0.028	\$0.034	1.32%	Increased by 23% due to more miles
Total Vehicle-Based Costs/Mile	\$0.96	\$1.05	\$1.01		
Driver Wages	\$0.56	\$0.60	\$0.60	3.66%	
Driver Benefits	\$0.17	\$0.18	\$0.18	3.34%	
Total Driver-Based Costs/Mile	\$0.73	\$0.78	\$0.78		
Total Costs/Mile	\$1.69	\$1.84	\$1.79		
Est. Rate per Mile (Incl. Fuel)		\$2.00	\$2.00		
Costs/Mile		\$1.84	\$1.79		
Operating Profit per Mile		\$0.16	\$0.21		
Additional Miles Needed			27,132		
Miles per Day Needed (300 days/year Driving)			90		

* 2017 Cost Data from ATRI

Source: ATRI, Freight Intel Calculations



Figure 4: Operating Cost per Year (adjusted for inflation ATRI: 2019) and FreightWaves' Adjusted Operating Cost per Year (accounting for slowing down to save fuel)

	Miles/Year 100,000	Adj Miles/Year 127,132
Cost	2019 Total Costs/Year	2019 Adj. Costs/Year
Fuel Costs	\$44,000	\$43,225
Truck/Trailer Lease or Purchase Payments	\$26,559	\$33,764
Maintenance	\$17,876	\$27,890
Insurance	\$8,068	\$10,257
Permits & Licenses	\$2,185	\$2,777
Tires	\$4,035	\$6,296
Tolls	\$2,772	\$4,325
Total Vehicle-Based Costs/Year	\$105,494	\$128,535
Driver Wages	\$59,852	\$76,091
Driver Benefits	\$18,368	\$23,352
Total Driver-Based Costs/Year	\$78,220	\$99,442
Total Costs/Year	\$183,714	\$227,978
Est. Rate/Year	\$200,000	\$254,263
Costs/Year	\$183,714	\$227,978
Operating Profit/Year	\$16,286	\$26,286

Source: ATRI, Freight Intel Calculations



If you would like more detail or want to understand the calculations in more depth, rather than going into any more detail here, we are happy to share our model if you are a FreightWaves SONAR subscriber because the calculations are complex. This will also allow you to make your own adjustments if you wish.

Conclusion

Is it worth it to slow down your speed to 65 mph to save on fuel if you are an owner-operator or to place governors on your fleet if you are a larger carrier? The answer is it depends on your personal preference. For an owner-operator and sole proprietor, saving \$10,000 in fuel means you will be paid \$106,372 in total wages and pretax income in our case study but that will require you to drive 127,132 miles per year (or about 423 miles per day for 300 days).

This is just a theoretical example but it has potentially profound implications that are at least worth considering because \$10,000 in incremental profits (from roughly \$16,000 to \$26,000 in the example above) equates to more than a 60% increase in operating profit per truck. If you are a larger fleet with hundreds or thousands of trucks, this would appear to show that slowing down speed can make a meaningful difference.

Driving an extra approximately 27,000 miles per year (or 90 miles per day) per driver is hard work but definitely achievable assuming you as a driver consistently run under the Hours of Service (HOS) limitations of 11 hours per day. The question is, is it worth it to you?

FreightWaves Freight Intel Contacts

Seth Holm, Senior Research Analyst
(404) 840-2064, sholm@freightwaves.com

Kevin Hill, Director of Research
(646) 731-4735, khill@freightwaves.com

Andrew Cox, Research Analyst
(615) 495-4507, acox@freightwaves.com