

Solution

Interest Rate		Annual	Source (accessed 9/24/2018)
Prime Rate		5.00%	(http://www.forecasts.org/prime.htm)
Increase over Prime		2.00%	
Nominal Interest Rate		7.00%	
Current Inflation Rate		2.70%	(http://www.forecasts.org/inflation.htm)
Real Interest Rate	(i)	4.30%	
Lease			
Economic Life	(N , yr)	7.25	= 754,000/103,945, Avg mi until replace/Avg mi [1]
Investment Cost	(IV , \$)	175,000	[2]
Salvage Percentage		30%	
Salvage Value	(SV , \$)	52,500	
Effective Investment Cost	(IV^{eff} , \$)	136,316	
Cost Cap Recovery	(K , \$/yr)	22,273	
Costing			
Annual Mileage	(mi/yr)	103,945	[1]
Fuel Efficiency	(mi/gal)	5.8	p. 10 in [3]
Fuel Cost per Gallon	(\$/gal)	3.270	(https://www.eia.gov/petroleum/gasdiesel/)
Fuel Cost	(\$/mi)	0.5637931	
Annual Fuel Cost	(\$/yr)	58,603	
Tire, Repair, Insurance	(\$/yr)	77,044	\$0.34/mi in 1988 [3] * 103945 * (2.18/1) [4]
Driver Salary with Benefits	(\$/yr)	64,757	\$45,333 mean wage/(1 - 0.3) [5]
Operating Cost	(\$/yr)	200,405	
Operating Cost per Unit	(\$/mi)	1.93	
Annual Investment Cost	(\$/yr)	22,273	
Cost per Mile	(\$/mi)	0.21	
Total Annual Cost	(\$/yr)	222,678	
Cost per Mile	(\$/mi)	2.14	
Target Costing			
TL Rev per loaded tr-mi	(\$/mi)	2.6991	Based on TL PPI for Jul 2018
Percent Empty Travel		0.15	
Percent Operating Profit		0.05	
TL Cost per mi	(\$/mi)	2.18	= RevPerLdMi * (1 - 0.15) * (1 - 0.05)
[1] http://atri-online.org/wp-content/uploads/2017/10/ATRI-Operational-Costs-of-Trucking-2017-10-2017.pdf			
[2] https://www.fleetowner.com/blog/big-rigs-big-costs			
[3] https://people.engr.ncsu.edu/kay/ise453/idxsrc/TSWwp7.pdf			
[4] (2.18/1) infl. 1988 to 2018 (https://data.bls.gov/cgi-bin/cpicalc.pl)			
[5] https://www.bls.gov/oes/current/oes533032.htm			