LESSON THREE: The cost of transport

Objective: To explain how to calculate the costs of owning and running a vehicle and how the amount of use affects the cost per kilometre.

Manager George in Alpha Co-operative had to go to town to settle some business. "Forty kilometres, about four litres of petrol - that is only two dollars, cheaper than the bus ticket," he thought. And so he took the society's pick-up truck to town.

People often act as if fuel were the only cost of transport. In a way, of course, they may be right; fuel may be the only additional cost. In this case, George thought that the truck was already available, that the driver had nothing else to do, and that he was actually saving money by not taking the more expensive bus.

However, George's trip cost a lot more than the price of the fuel. Fuel is only a small part of the total cost of transport. Just to have a vehicle means that you have to pay certain costs, regardless of how much you use it. Such standing costs include the vehicle licence and the driver's wages.

When the vehicle is operated, you have to pay additional costs for fuel, oil, and so on. These are called running costs.

Yet another high cost is depreciation. Suppose you pay T$10,000 for a vehicle. You plan to use it for five years. It is not reasonable, therefore, to account for the total cost of T$10,000 in the first year. You spread the cost over the five years of use, accounting for T$2,000 each year. This is called the depreciation cost.

The main costs of a vehicle are listed in the table below, with the example of a truck owned by Alpha Co-operative. If you know them, why not fill in the figures for a vehicle owned by your cooperative?

Annual Costs for a Vehicle		
Item	**Alpha Cooperative (T$)**	**Your Cooperative**
Fuel (40,000 km)	2,000	
Driver's wages	1,000	
Maintenance	1,200	
Tyres	600	
Insurance	500	
Licence	200	
Depreciation	2,000	
Administration	500	
TOTAL	**8,000**	

The total annual cost for the truck in George's co-operative is T$8,000. The fuel cost is T$2,000. That means that the total cost for this transport is four times the fuel cost!

George said his trip to town would cost two dollars. The fact is that the cost was four times higher, or eight dollars. The bus ticket would have been cheaper!

The truck in Alpha Co-operative was driven 40,000 km that year. It is easy to calculate the cost for each kilometre driven:

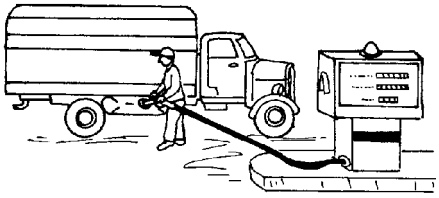
$$\frac{\text{T\$8,000}}{\text{40,000}} = \text{T\$0.20 per km}$$

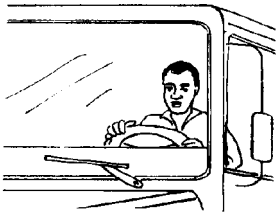
We can check the cost of George's trip again. It was 40 km.

40 x T$0.20 = T$8.00

What would happen to the costs if the truck were driven only 20,000 km? Would all the figures remain the same, would all change or would each behave differently?

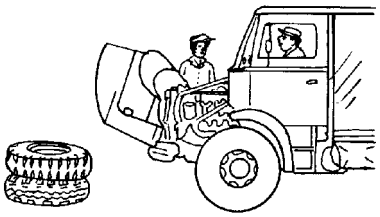
It is fairly clear that fuel costs would be halved if the distance driven were halved.

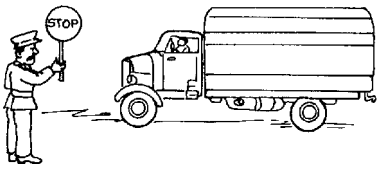




If we keep the driver employed full-time, the cost of wages would remain the same.

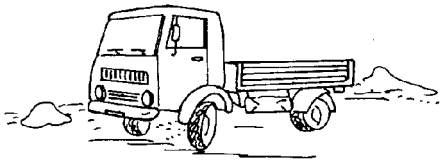
The cost of maintenance and the cost of tyres would be reduced if the vehicle were driven a shorter distance.

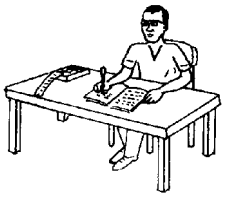




Insurance and licence fees would remain the same.

The depreciation cost might change because the life of the vehicle depends on the distance it is driven.





The cost of administration would drop because less time would be spent on planning and scheduling.

It is important to note that the various costs behave in different ways when vehicle use is reduced or increased.

Look at the table below. Costs are estimated for distances of 10,000 km, 20,000 km and 40,000 km.

Annual Costs (T$)			
Item	**10,000 km driven**	**20,000 km driven**	**40,000 km driven**
Fuel (40,000 km)	500	1,000	2,000
Driver's wages	1,000	1,000	1,000
Maintenance	500	700	1,200
Tyres	200	300	600
Insurance	500	500	500
Licence	200	200	200
Depreciation	1,000	1,500	2,000
Administration	200	300	500
TOTAL	**4,100**	**5,500**	**8,000**

What would be the cost per kilometre in each case? (*Answers are at the end*)

For 10,000 km: T$ $\frac{4,100}{10,000}$ =

For 20,000 km: T$ $\frac{5,500}{20,000}$ =

For 40,000 km: T$ $\frac{8,000}{40,000}$ =

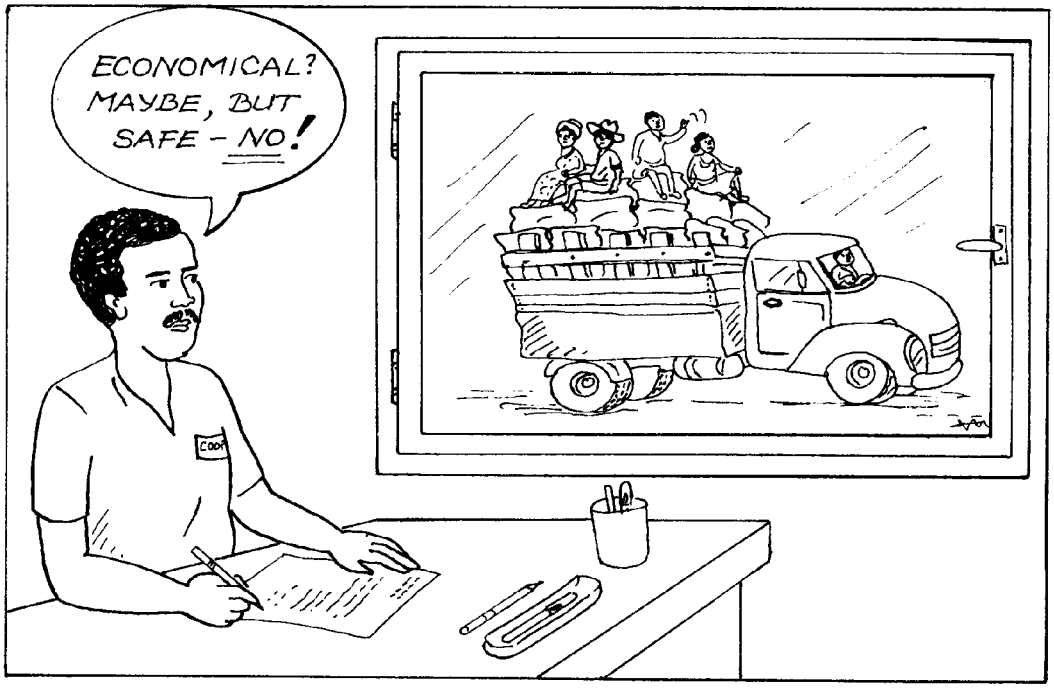
You may have noticed that some vehicles operate only a few hundred kilometres a year (perhaps because of lack of fuel or spare parts) while others run night and day (often without proper maintenance). Clearly, both extremes are bad.

- Very low annual mileage (distance driven) keeps costs per kilometre very high.
- Very high annual mileage may result in lower costs per kilometre but shorter vehicle life unless proper maintenance is performed.

No sensible manager would keep his trucks running constantly simply to achieve a low kilometre-cost. He would take the time for routine maintenance and repairs. Kilometre-cost is only one of the factors he must consider. Cost-effectiveness is another. Many trips are obviously uneconomic, for instance using a ten-ton truck to take the manager to a meeting or to transport only a few bags of something. Such trips, like borrowing a co-operative vehicle for private business, are a form of misuse.

When you manage a transport service, you must look at the whole picture. You must estimate the individual costs of running each vehicle, then check the actual total costs and kilometre costs at the end of each year (more frequently if possible).

For your system to be economic, you must make sensible use of vehicles, seeing to it that they carry as full loads as possible and travel only on relevant co-operative business.



Answers

Cost per kilometre:

For 10,000 km: 41 cents per km
For 20,000km: 27.5 cents per km
For 40,000km: 20 cents per km