

# Road haulage companies are interested in making their fleet more fuel efficient.

Yorky Trucks Limited  
Yorky House  
Yorkshire YO7 9IE

Dear Department of Transport,

Please can you advise how our freight distribution company can save money by making our trucks aerodynamic.

Our fleet is made up of 10 rigid trucks, 6 articulated lorries and 7 draw-bar trucks.

Last year, each rigid truck travelled approximately 90,000 miles, each articulated lorry travelled approximately 100,000 miles and each draw-bar truck approximately 80,000 miles.

We have estimated our fuel efficiency to be 10mpg for the rigid trucks and 7mpg for all other trucks.

Please provide a summary of money saving options available and advise where we can make the biggest savings.

We are also interested in knowing how long it will take to payback the initial investment of modifying the cabs based on the current cost of fuel.

Yours sincerely,

Yorky Trucks Limited

You need to work out how much is saved by each **modification**.

There will be a **different calculation** for each **type of truck**.

Agree an **order** for the savings calculations. *Is there more than one possible order that will work?*

Use a **calculator** to find the **savings**.

- Work out the total cost of running the truck for a year without the modification.
- Convert the amount to a price per gallon.
- Work out the total cost of running the truck for a year with the modification.
- Work out the amount saved in a year.
- Work out how many gallons of fuel the truck uses in a year without the modification.
- Find the cost of a litre of fuel.

	Cost	Estimated fuel saving %		
		Rigid	Articulated	Draw-bar
<b>Cab Roof Deflector</b> Minimises the air flowing between cab and container.	£300	2.4	2.4	1.2
<b>Cab Roof Fairing</b> Ensures a smooth airflow between the front roof of the cab and container.	£400	4.8	3.7	2.3
<b>Cab Collar and Roof Fairing</b> Roof fairing provides a smooth airflow over the container and the collar reduces the effect of crosswinds.	£650	6.5	*****	3.2
<b>Cab Side-edge Turning Vanes</b> Reduce drag if they cover sharp edges and also help to reduce the build-up of dirt.	£100	0.5	0.3	0.3
<b>Air Dam</b> Reduce drag by diverting air around the sides and roof of the truck.	£250	0.7	0.3	0.3
<b>Cab Side-edge Fairings</b> Block the flow through the gap between tractor and trailer, thereby reducing the effect of crosswind on vehicle drag.	£350	*****	0.6	*****

Enter all your **savings** in the *Calculating costings* spreadsheet.

Use the **spreadsheet** to calculate the **fastest payback time**.

Write a **letter** to Yorky Trucks setting out your **recommendations**.

## Can you help?

getting there