





# Introduction

Compared to vehicles with single decks, double deck trailers can improve the efficiency of a business by increasing load volume, cutting unnecessary mileage and reducing fleet size. Double decks may increase fuel use in comparison to single decks, but this can be outweighed by the potential savings if the larger trailers are better suited to operational requirements and are properly utilised.

However, even with double deck vehicles, operators may find it difficult to maximise volume and weight utilisation, particularly if they carry a varied mix of loads. A moving deck can overcome this problem by improving the flexibility of the trailer. Hydraulic moving decks can provide greater cubic capacity within a vehicle by lifting the fully loaded deck to the required height.

Benefits of double deck vehicles and moving decks:

- ➔ Increased operational flexibility - levels of vehicle fill can be improved, encouraging multiple store drops
- ➔ Reduced mileage - significantly more goods can be moved on one vehicle, achieving higher payloads and can reduce the number of deliveries required
- ➔ Reduced fleet size - with an increase in vehicle fill and payload, utilisation of assets can be improved and the total number of vehicles and trailers in the fleet can be reduced

## 1.1 Case Study Example

Focus (DIY) Ltd is part of Focus Wickes, the second largest DIY retail group in the UK. A National Distribution Centre (NDC) in Tamworth and a regional centre at Severnside serve its 257 stores. A typical delivery contains an extremely varied mix of products. Most deliveries are in roll cages, some are palletised, while others have to be transported loose due to the products' irregular size or shape.

This variation made it difficult for Focus to achieve high volume and weight utilisation with its fleet of single deck and fixed double deck trailers. As a result, the company decided to conduct a nine-month feasibility study using a prototype 4.8m high moving double deck trailer, shown in Figure 1. This was a 44 tonne box van trailer with a three-quarter length hydraulic moving double deck and a swan neck area containing a fixed double deck.



Using the double deck trailer compared to two single deck trailers gave the following benefits:

- ➔ Mileage reduced by 257 miles (413 km), saving £378 in operating costs (based on an operational cost of £1.17 per mile)
- ➔ Fuel costs reduced by £108 (based on a fuel price of £0.70 per litre) and lower CO2 emissions
- ➔ Halving working time as only one driver is required to deliver the same load
- ➔ Improved average utilisation (only one vehicle required)

	Double deck vehicle (Figure 2)	Two single deck vehicles (Figure 3)	Operational improvement (difference)
Total fuel used (litres)	163.7	318.2	154.5
Total distance travelled (miles)	275	532	257
Total distance travelled (km)	443	856	413
Total CO2 produced (kg)	440	854	414
Total vehicle and driver hours	5 hours 36 min	10 hours 42 min	5 hours 6 min
Total cost per RCE delivered	£0.76	£1.48	£0.72
Average vehicle utilisation per mile (%)	80	73*	7

## Conclusion

The trailers have been well received by drivers and operators. The moving deck ensures quick turn around times as the improved access to the upper deck means that the need to wait for specialised loading docks and specialised equipment is eliminated.

The potential improvements in operational efficiency convinced Focus to introduce new double deck trailers (both moving and fixed) to its operations.

### Would Double Decks Be Suitable for Your Business?

Your business needs should always be taken into account before investing. For example, Focus retained a small number of single deck trailers to serve the five locations that were unsuitable for the new double decks, either because there were low bridges en route, or because their unloading area was on a slope (creating load security issues on the moving deck).

The use of double deck trailers does bring with it other areas for consideration apart from financial matters. The issue of adoption of a safe way of working with these trailers is especially important because of the height factor. The use of guardrails, steps and other devices should be considered when specifying this type of trailer. Your operational requirements should be discussed with the manufacturer to ensure safety measures are built into the design.

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