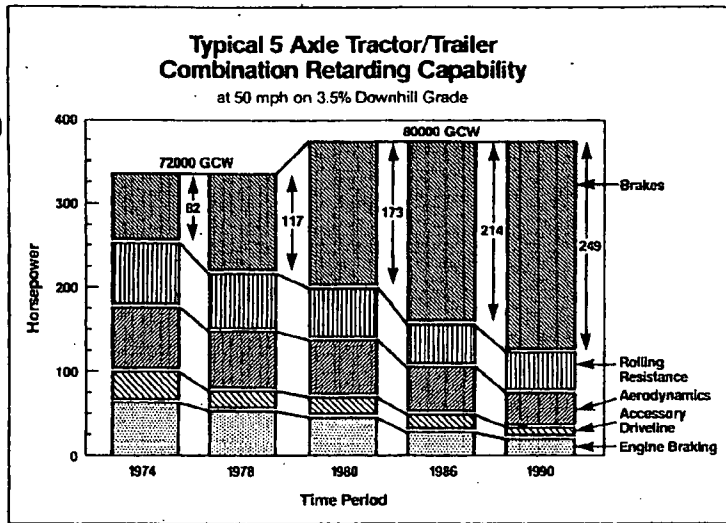




Since 1974, the brakes' share of retarding horsepower has drastically increased. It is estimated that by 1990 brake workload will triple when compared to 1974.

Higher cost of brake maintenance.

The lifetime cost of brake maintenance has risen to third place among all components. Only tires and power train maintenance are more expensive.

Obviously, the trucking industry faces a serious brake maintenance cost problem.

Brakes are now a high-cost maintenance item.

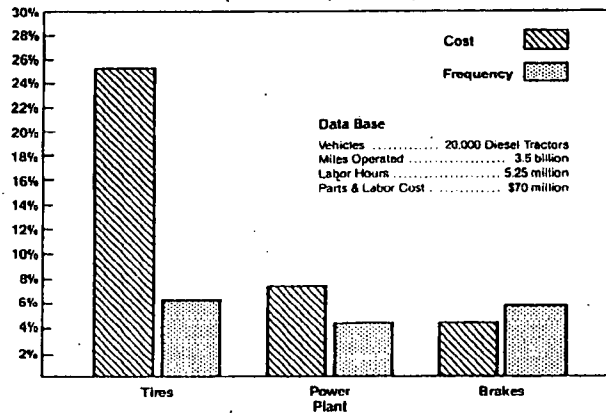
As natural retardation was reduced in the interest of fuel economy, and trucking deregulation started taking effect, operational demands on brakes went beyond what brake systems had been designed to do. Brake linings began to wear out "too soon". Brake drums started showing excessive heat checking and thermal fatigue.

Brake balance a factor.

Where imbalance exists, the brake doing the most work heats up and fades. This puts the workload on the next-hardest-working brake. It, in turn, heats up and fades. This leads to a domino effect causing rapid wear of lining, and overheating and cracking of brakedrums.

Comparative Maintenance Cost & Frequency by Vehicle System

(% of Total Repair Orders)



Adapted from SAE Technical Paper 852330: Maintenance Council (TMC) of American Trucking Association findings from data base of 20,000 diesel tractors running 3.5 billion miles.

Brake Reline Cost

Item	Current Cost
Shoe & Lining (Nab)	45.60
Springs	2.50
Rollers	2.26
Anchor Pin	1.67
Hub Seal	8.50
Lube	3.28
Drum (1 drum per 2 relines)	32.50
Labor (1.33 hrs)	37.33
Reline Cost Per Brake	133.64

From Eaton Corporation, Axle & Brake Division survey of major U.S. fleets.