While this report addresses various means available to help shippers secure the lowest transportation costs, it is important to be aware that efficient goods distribution requires more than obtaining the lowest freight rate. It includes determining the lowest total cost consistent with service requirements to distribute goods from the factory to the customer's dock.

The concept of viewing distribution as a total system is most often referred to as "physical distribution or logistics management". Tradeoffs are at the heart of the concept. Reduced transportation costs can often translate to increased costs tied up in inventory. Slower modes such as rail also often result in higher loss and damage charges and higher obsolescence costs, although rates may be cheaper.

A simplified example shows how physical distribution analysis can help shippers evaluate the tradeoffs involved in selecting the best distribution channels. Consider the hypothetical case of a medium-sized Calgary manufacturer of industrial machinery parts shipping an annual volume of 500,000 lb. to customers in Phoenix and other cities in Arizona. Every day he produces 2,000 lb. of goods for export to Arizona worth approximately $20,000. The alternatives he has identified are to ship 10,000 lb. by air approximately once a week, 40,000 lb. by truck approximately once a month, or 100,000 lb. by rail, (without his own siding) every ten weeks. On the basis of these shipping sizes and frequencies, the company's total distribution costs would be as follows:

TRADE-OFFS IN DISTRIBUTION

	AIR	MOTOR CARRIER	RAILWAY
1. Basic Cost of Transportation	$322,000	$ 65,300	$ 59,800
2. Pick up and Delivery Charges	22,500	-	6,300
3. Warehousing (prior to shipping)	2,000	20,000	30,000
4. Interest on Preshipment Inventory and Goods in Transit	200	5,200	12,600
5. Product Loss and Damage	2,500	5,000	7,500
TOTAL	$349,200	$ 95,500	$116,200
Distribution cost (cents) per pound	69.8	19.1	23.2