

# Alfred Weber's Theory of Industrial Location

Alfred Weber formulated a theory of industrial location in which an industry is located where the transportation costs of raw materials and final product is a minimum. He singled out two special cases. In one the weight of the final product is less than the weight of the raw material going into making the product. This is the weight losing case. In the other the final product is heavier than the raw materials that require transport. Usually this is a case of some ubiquitous (available everywhere) raw material such as water being incorporated into the product. This is called the weight-gaining case.

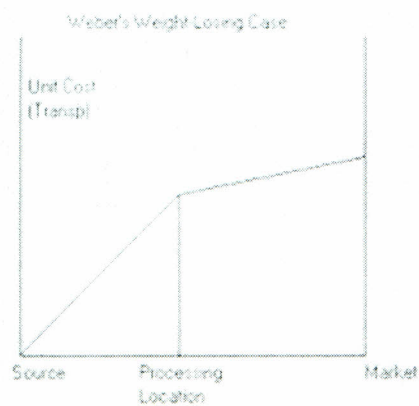


FIGURE 1

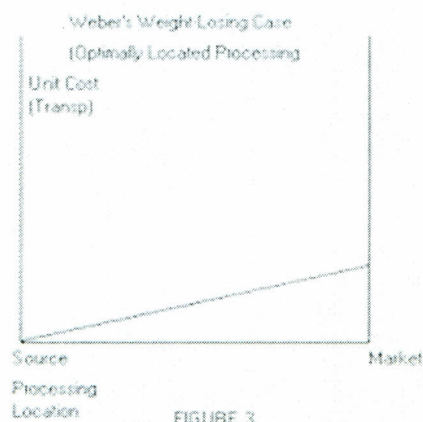


FIGURE 3

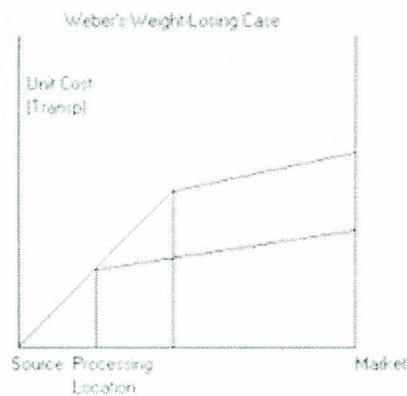


FIGURE 2

Figure 1 shows the situation in which the processing plant is located somewhere between the source and the market. The increase in transport cost to the left of the processing plant is the cost of transporting the raw material from its source. The rise in the transportation cost to the right of the processing plant is the cost of transporting the final product. Note the line on the left of the processing plant has a steeper slope than the one on the right.

Figure 2 shows the situation if the processing plant is moved closer to the source of raw material. Note that the transport cost of the final product delivered to the market is lower than in the previous location. The transportation cost for the product delivered to the market will be lowest of all if the processing plant is located at the source of the raw material, as shown in Figure 3.

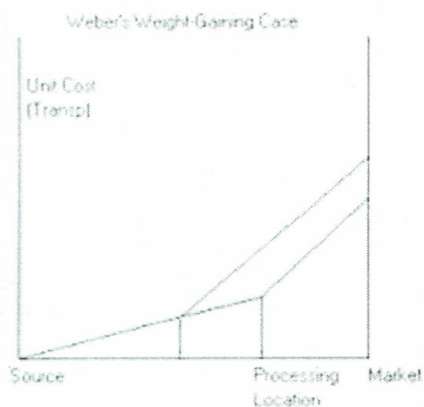


FIGURE 5

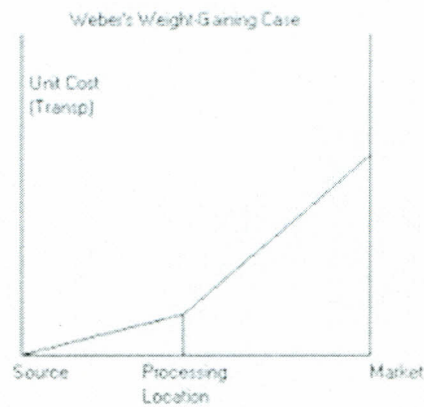


FIGURE 4

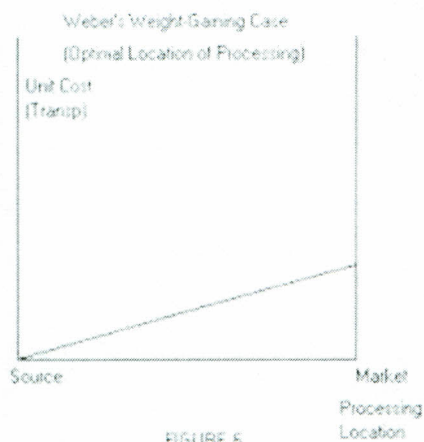


FIGURE 6

The weight gaining case is illustrated in Figures 4, 5 and 6. The optimal location of the processing plant in this case is at the market. Weber established that firms producing goods less bulky than the raw materials used in their production would settle near to the raw-material source. Firms producing heavier goods would settle near their market. The firm minimizes the weight it has to transport and, thus, its transport costs.

## Industrial Location Assignment:

Directions: Read Chapter 24. Answer the following questions. Type or write clearly on a separate sheet of paper.

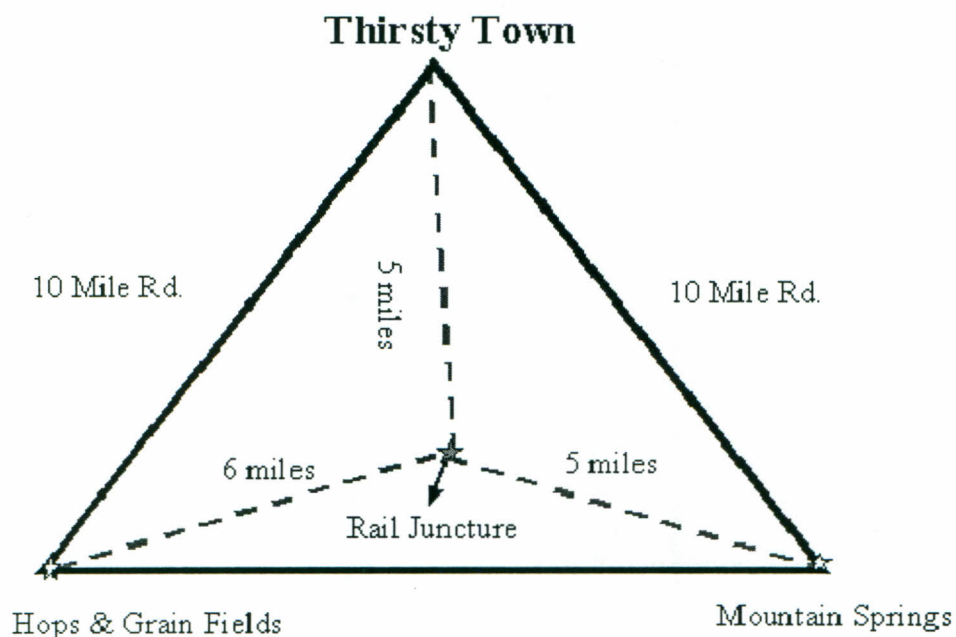
1. List three variable costs that decision makers take into account when calculating efforts to maximize advantages.

2. What does friction of distance refer to? How is the concept of distance decay related?

3. According to Alfred Weber's Least Cost Theory, what accounts for the location of manufacturing plants?

4. Now put Weber's theory to work in deciding where to locate a new brewery. Here's the scenario:

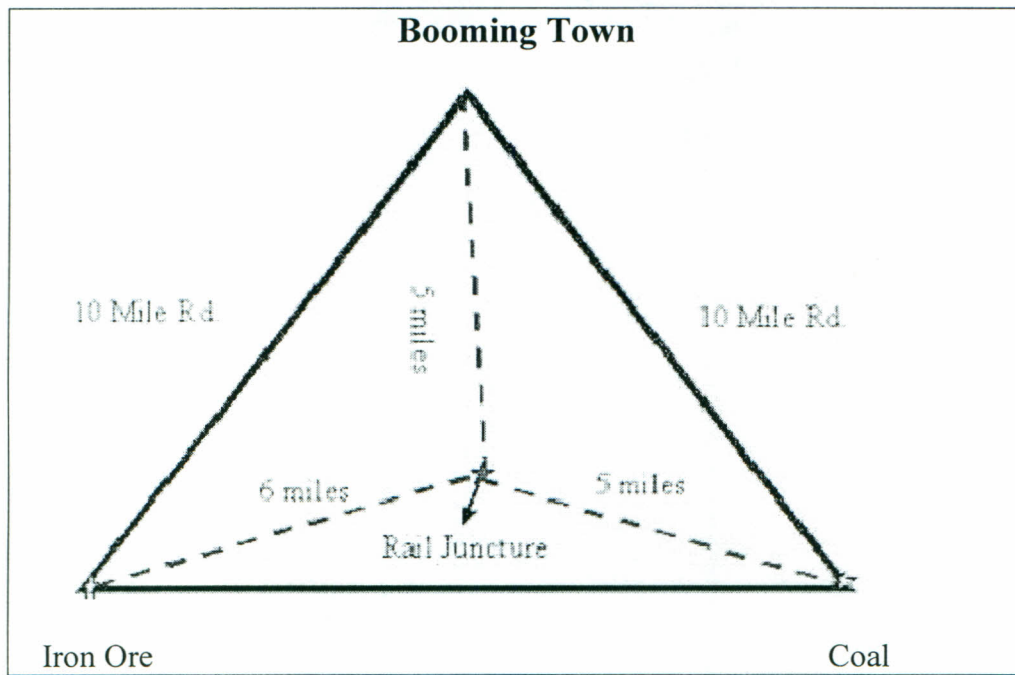
Material (per case)	Rail Transport Cost	Road Transport Cost
Hops & Grain	\$.10/mile	\$.11/mile
Spring Water	\$.05/mile	\$.03/mile
Bottled Beer	\$.25/mile	\$.27/mile



According to Weber, where will you locate the new brewery and why?

5. Now put Weber's theory to work in deciding where to locate a new steel factory for a growing town. Here's the scenario:

Material (per case)	Rail Transport Cost	Road Transport Cost
Iron Ore	\$.40/mile	\$.44/mile
Coal	\$.35/mile	\$.38/mile
Steel	\$.30/mile	\$.33/mile



According to Weber, where will you locate the new steel factory and why?