

## Chase: Manhattan Bank

The workload in many areas of bank operations has the characteristics of a non-uniform distribution with respect to time of day. For example, at Chase Manhattan Bank, the number of domestic money transfer requests received from customers, if plotted against time of day, would appear to have the shape of an inverted-U curve with the peak reached around 1 P.M. For efficient use of the resources, the manpower available should, therefore, also vary correspondingly.

A variable capacity can effectively be achieved by employing part-time personnel. Since part-timers are not entitled to all fringe benefits, they are often more economical than full-time employees. However, other considerations may limit the extent to which part-time people can be hired in a given operating department. The problem is to find an optimum workforce schedule that would meet manpower requirements at any given time and also be economical.

Some of the factors affecting personnel assignments can be listed

1. By corporate policy, part-time personnel hours are limited to a maximum of 40 percent of the day's total requirement.
2. Full-time employees work for eight hours (one hour for lunch included) per day. Thus, a full-timer's productive time is 35 hours per week.
3. Part-timers work for at least four hours but less than eight hours and are not allowed any lunch break.
4. Of the full-timers, 50 percent go out to lunch between 11 A.M. and 12 noon and the remaining 50 percent between 12 noon and 1 P.M.
5. The shift starts at 9 A.M. and ends at 7 P.M. (that is, overtime is limited to two hours). Any work left over at 7 P.M. should be considered as holdover for the next day.
6. A full-time employee is not allowed to work more than five hours overtime per week. He or she is paid at the normal rate for overtime hours and not at one-and-a-half times the normal rate applicable to hours in excess of 40 per week. The fringe benefits are not applied to the overtime hours.

In addition, the following costs are pertinent.

The average cost per full-time personnel hour (fringe benefits included) is \$ 10.11.  
The average cost per overtime personnel hour for full-timers (straight rate excluding fringe benefits) is \$8.08.  
The average cost per part-time personnel hour is \$7.82.

The personnel hours required, by hour of day, are given in Table 1. The bank's goal is to achieve the minimum possible personnel cost subject to meeting or exceeding the hourly workforce requirements, as well as the constraints on the workers listed earlier.

**TABLE 1**  
**Workforce requirements**

Time Period	Number of Persons Required
9 - 10 A.M.	14
10 - 11	25
11 - 12	26
12 - 1 P.M.	38
1 - 2	55
2 - 3	60
3 - 4	51
4 - 5	29
5 - 6	14
6 - 7	9

**Discussion Questions**

1. What is the minimum-cost schedule for the bank?
2. What are the limitations of the model used to answer the above question?
3. Costs might be reduced by relaxing the constraint that no more than 40 percent of the day's requirement be met by part-timers. Would changing the 40 percent to a higher value significantly reduce costs?