

CHICAGO BRANCH OF FOSTER BANK (CFB) QUEUEING

Date: May 18, 2001

Subject: PROPOSAL TO REDUCE PATRON QUEUE TIMES

System Description A small branch bank, CFB, has four tellers, two for deposits & withdrawals and two for other transactions such as exchanging currency and applying for a loan. The CFB, as it currently operates, requires patrons to be directed to one of two queues, either the deposit-withdrawal queue or other-transactions queue, depending on the nature of the service required. These queues are distinct and obviate the phenomenon of “jockeying” by means of rope partitions. Data on arrival and service times of patrons under the current system are collected at the CFB on five consecutive days *approximately* from 10 a.m. until 11 a.m.

In order to avoid the situations which arise from time to time when the queue is sizable in front of one type of teller while the other-type of teller is idle, the bank manager is considering cross-train some of the tellers; i.e., changing the setup to allow a teller to handle both deposits/withdrawals and other transactions. Since a cross-trained teller could handle all types of transactions, s/he is offered a higher wage while a teller dealing with deposits and withdrawals receives the least wage. The cost data in addition to the one associated with waiting in queue are presented below.

Wage of a deposit/withdrawal teller	\$15 per hour
Wage of a other-transactions teller	\$22 per hour
Wage of a all-transactions teller	\$26 per hour
Cost of waiting in queue per patron	\$2.8 per minute

As alternative systems of operation, the following two scenarios are under consideration:

1. In the first proposed system, an arriving patron is directed to either the deposit-withdrawal queue, other-transactions queue, or a third queue in which both types of transactions could be done. In the third queue, there are two tellers who are trained to do all kinds of transactions.
2. In the second proposed system, the number of servers is the same as the one in the first proposal, but there is one general queue for all patrons, regardless of the nature of the service to be rendered.

Objective You are expected to model and analyze the current and proposed systems with specific reference to the average amount of queuing time for patrons at the CFB and also with respect to the total cost that would be incurred in the case of their implementations. Based on these analyses, you should recommend whether the current system should be replaced with any of the proposed systems or not.

Data Collection Data collected on arrival and service times of patrons under the current system are available on IE 315 course site under the folder “Case Study”.

Deadline June 4, Monday, 5 p.m.

