

CE 4990 - Construction Scheduling

Week 1: Problem

Fall 2011

January 13, 2012

The “get your hands dirty” problem

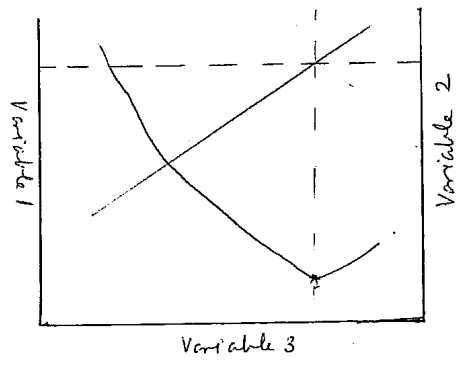
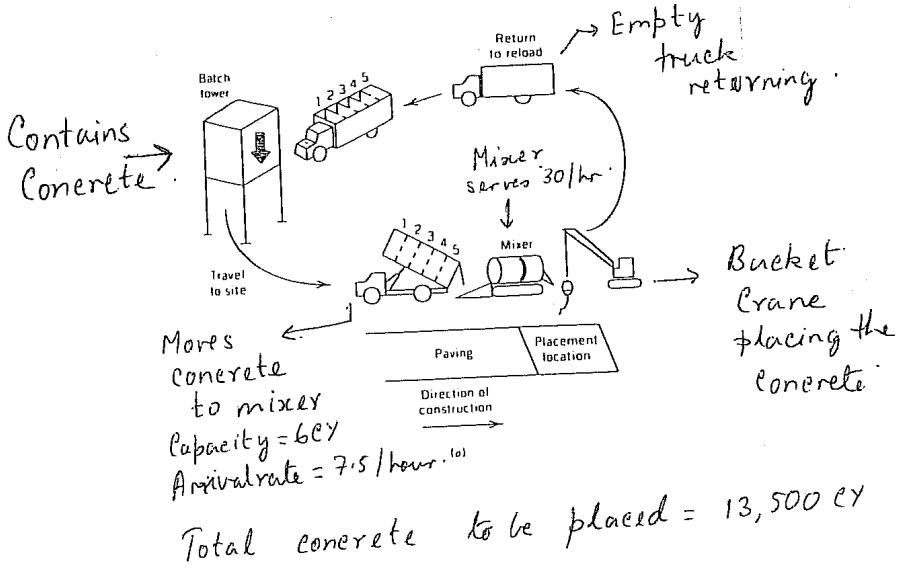
You are given the following information about a dry-batch paving operation. See the attached diagram.

- You are going to use one mixer that has a service rate of 30 services per hour.
- The dry-batch trucks that you use to bring concrete to the paver have an arrival rate of 7.5 arrivals per hour
- Each truck carries 6 CY of concrete
- You have a total amount of 13,500 CY of concrete to pour
- You rent a truck at \$15 per hour and the paver at \$60¹ per hour.
- If the job takes more than 80 hours you pay a penalty of \$140 per hour owing to delays in completion.

Based on the above information answer the following questions.

As a project manager how would you design this operation to deliver most efficient production so that the job gets done in the least time and least cost.

¹A relatively more accurate price is between \$100 - \$200 per hour



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