

Workforce Scheduling

Case Study:

Comparing Two Scheduling Engines



An existing manufacturing customer recently brought a challenge to Tugboat and our optimization technology. The challenge included several requirements but the bottom line is their need to reduce their current cost of overtime. Although they were running an existing Tugboat scheduling engine, we developed and tested an alternative engine. Why the change? 400 hourly workers are employed at this facility, on three shifts, and they are represented by a union contract. Their union, having used Tugboat's optimization for assigning overtime hour jobs, decided to now apply optimization to regular hour job assignments.

With the new engine, Tugboat generates schedules that provide between \$6,000 to \$48,000 savings per month. This is based on the total number of employees available to fill jobs during a day, and the resulting number of overtime jobs. On top of this, the workers prefer the increased shift stability when compared with how jobs used to be assigned.

If your workforce includes a mix of skills and job preferences, and you use a range of policies when assigning jobs, then testing alternative schedules can be key to evaluating how new policies will actually impact workers, and effect your bottom line. Tugboat's scheduling experts can develop and test alternative scheduling engines for your facility, and results can be easily compared since test schedules are created automatically with Tugboat's "generate schedule" button.

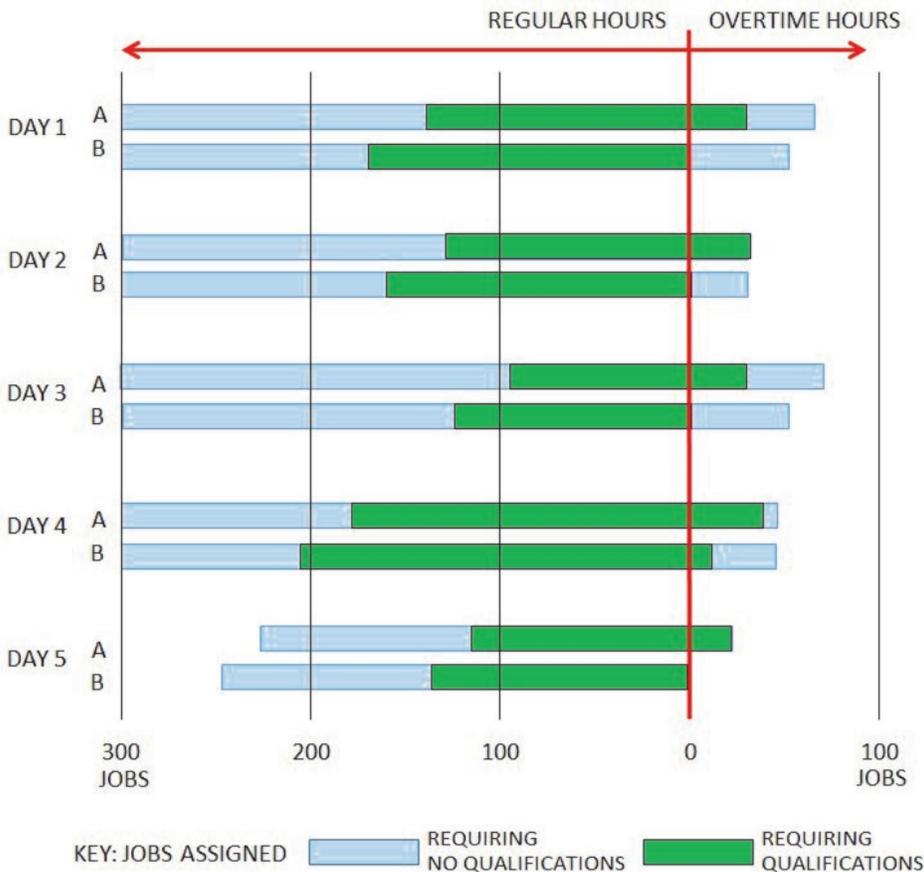
The graph compares results from two different Tugboat scheduling engines, A and B, over five days of the week. Results from this customer's existing engine are shown as A where the engine was designed to follow contract rules for job assignments for only regular hour jobs without overtime. The challenge with optimization and engine B includes:

1. Automatically assigning all jobs while also reducing both the quantity, and the cost of overtime.
2. Filling the maximum number of jobs during regular hours that require specified qualifications.
3. Reducing the need to move workers from one shift to the next to fill these jobs.

It is more difficult to fill jobs when they require qualifications and, the cost of jobs that require skilled workers is higher. So, overtime costs less if overtime jobs do not require qualifications. The red vertical line on the graph is the boundary between regular hour jobs and overtime hour jobs. Notice the advantage with engine B where the number of overtime jobs needing qualifications is less than when using scheduling engine A.

As an additional benefit, moving workers from one shift to the next to fill jobs was often required without Tugboat's new engine. Now this requirement is significantly reduced and the workforce realizes the benefit in their daily lives.

In summary, when using Tugboat's optimization for assigning all jobs, combined with our scheduling expertise, the total labor cost for this customer is reduced significantly.



Based on actual Tugboat Software customer workforce schedules

For more information about our products and services, please visit us on the web: www.labor-scheduling.com



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