# Predictably Unpredictable:

# Managing Workflow on the Shop Floor

*Effectively managing workflow that includes a significant percentage of unscheduled repairs is part art, part science — and absolutely essential to the efficiency of the whole organization.*

*By Chip Cassano*

It's a cold November morning on the East Coast, and freezing rain has turned roads into skating rinks and brought down power lines across three counties. Your crews have been working all night, your shop bays are full of bucket trucks in for emergency repairs, you've got a yard-long list of light-duty vehicles waiting for preventive maintenance and a malfunctioning spreader assembly on the pickup that you normally use to put melting agent on the company parking lot. You've also got five technicians out with the flu.

There's no reason to panic — if you're adept at managing workflow on the shop floor. UFM asked the experts for tips on mastering what is, at best, an inexact science.

### Cultivate good leaders

The first order of business for any fleet manager interested in optimizing workflow is to identify and cultivate good front-line leadership, said Sal Bibona, president of Chatham Consulting Inc., of Chatham, N.J.

"If you're trying to improve your workflow, a good foreman will know where the problems are," said Bibona. "That foreman, in turn, needs solid training and guidance in how to manage people. Developing good front-line supervisors is a key component of good workflow management."

A foreman who maintains good relationships and communication with his technicians will typically be able to identify those tasks that are particularly time-consuming or difficult to carry out efficiently. By combining that firsthand perspective with broader analysis — as a consultant, Bibona uses maintenance and repair unit (MRU) analysis to help his clients gauge the efficiency of different facets of fleet operations — a fleet manager can identify and address snags in his shop's workflow.

### Develop fallback plans

Because shops are so often called on to perform unscheduled and emergency repairs, establishing workable contingency plans becomes almost as important as managing a fleet's day-to-day affairs. Avista Utilities, headquartered in Spokane, Wash., uses a fleet of about 1,000 vehicles to serve a customer base that spans five western states, but only employs 15 technicians in its main shop. Ted Horobiowski, manager of Fleet Services for Avista, said that outsourcing helps keep workflow constant, and also offers insurance in case of emergencies.

"We've always been at least 50 percent outsourced," said Horobiowski, "so we have a number of dealers and repair shops that are ready and waiting. They give us priority treatment, and we rely on them pretty heavily."

Horobiowski estimates that his technicians spend about one-third of their time on preventive maintenance, with most of the balance of their hours divided between unscheduled repairs — what Horobiowski refers to as "the flat-tire-and-dead-battery routine" — and hydraulic work.

"Because of our limited staff," said Horobiowski, "we end up doing primarily the short turnaround type of work." Larger jobs get outsourced.

### Keep careful and consolidated records

For any detailed analysis of workflow to be valid, of course, a fleet manager must have access to accurate data — the work that was done, who did it, how long it took, what parts it required, how much those parts cost, and so on.

Often, that information is already available, but it might be distributed among different departments — technician hours might be available from Personnel, while parts purchase orders might be filed with Finance. That makes analysis a

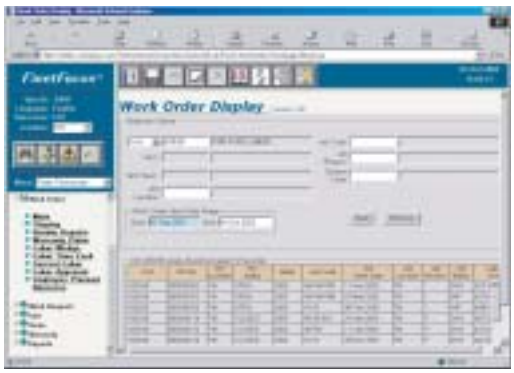
*Michael J. Varhola for UFM*

challenge, to say the least.

"In every benchmarking survey I've done," said Bibona, "what inevitably comes up is the need for a new fleet information system. That was true 15 or 20 years ago, and it is true today. Everyone wants better information."

In fact, Bibona said, one of the first warning signs of an inefficient shop is a dysfunctional system of communication.

"Users will be complaining that they have no idea what's going on with their vehicles, and management will be saying, 'Gee, we don't know what's going on in that shop; maybe they're productive, but we don't know,'" said Bibona.




MAXIMUS Inc.


MAXIMUS Inc.

**As these screen shots from the FleetFocus management program show, the software can be used for a wide range of tasks, to include generating work orders (above) to assessing labor requirements.**

## Computerize

Fortunately, collecting that necessary information — and having the tools to interpret it once you have it in hand — has become simpler with the advent of smaller, faster computers, improved data-entry technologies, increased storage capacity, and evolving software applications.

"Once your fleet gets larger than 100 vehicles, you really need some kind of software package to keep track of things," said Bibona. "Beyond that point, it just doesn't pay to try to do it manually. The good news is that a lot of products have now come down in price, and there are a lot of very simple programs out there that offer respectable functionality for a nominal amount — as little as $500. Some companies have even used Microsoft Access or Microsoft Excel to make a very basic work order record system. It may not have all the bells and whistles or security features of an off-the-shelf product, but I've seen it work."

In companies that can afford a more comprehensive system — Avista Utilities, for example, uses MAXIMUS Inc.'s FleetFocus application — fleet managers are often pleasantly surprised at the capabilities the software offers.

"Our system really spans the entire scope of fleet management, including replacement modeling and projection, acquisition and disposal of equipment, licensing and permit tracking, internal billing, driver tracking, asset tracking, and more," said Barry Johnson, national account executive in the Asset Solutions Division of MAXIMUS Inc. "One of the components focuses on shop floor activities — managing your workflow, planning your work, managing parts inventories, scheduling preventive maintenance, and so on."

That capacity, in a system with the flexibility and scope of FleetFocus, if put to optimal use, can dramatically influence a shop's workflow. Work requests, for instance, are generated either automatically (based on preventive maintenance schedules, for example, or manufacturer recalls) or manually, and a scheduling module can then evaluate the backlog of work requests and provide a shop foreman with a bar graph that he can easily match against the schedules of his available technicians. The system can even be configured to automatically allow for a certain percentage of unscheduled work.

The work requests can themselves include a wealth of information. A computerized, system-generated request — for scheduled, preventive maintenance, for instance — might include an online checklist, a scanned page from a relevant technical manual, the URL for the vehicle manufacturer's Website, and notes from the last technician who serviced the vehicle. Rather than wandering the shop in search of information, a technician can access most information and documentation he needs from his own workstation on the shop floor.

"Let's say that a technician needs instruction on how to disassemble an Allison transmission," said Johnson. "I can actually link a movie to that job for that model of vehicle, and that technician can go to a workstation and view it. Or perhaps I'm doing a brake job on a Ford pickup truck (the system knows, by the vehicle number, the year, make, model, and configuration of the vehicle). I enter the VMRS code — or whatever repair code structure the client chooses to use — and the system automatically goes out and grabs a list of the required parts, estimates the labor requirements, and finds any attached files that need to go along with the job. The system can even get parts estimates, check if the parts are in stock, and let me know if there are special procedures that I should follow: 'When performing a brake job on a Ford F250, please apply anti-seize to the backing plate.'"

Most clients, Johnson said, use barcode readers for data entry, which can also play multiple roles. When a technician goes to retrieve information for a work request, he scans a barcode at the top of the printed request. The system automatically begins tracking the time the technician spends on that particular job, while also tracking maintenance downtime and operational downtime for the vehicle.

"We have three goals for our system," Johnson said. "First, it must be easy to use; second, it must provide meaningful, comprehensive management data; and third, it must be flexible."

The potential for savings — in terms of both time and money — can be enormous. The system can send out e-mail automatically, reminding users when licensing or mandatory inspections are required. It can track manufacturer and third-party warranties, notify a technician if a particular repair is covered by warranty, and even generate the appropriate claim form. It can track repair times, and make a recommendation if stocking a certain part — or hiring a new technician — would reduce downtime. It can provide detailed cost comparisons of various vehicles, tracking them from "cradle to grave" and taking into account fuel efficiency, cost of parts, frequency of maintenance, lost productivity due to downtime, and resale value at auction. It can provide for internal billing, and help a manager decide whether to repair or replace a vehicle.

In short, a system like this can offer a fleet manager access to the very foundation of effective workflow management — a detailed, fact-based understanding of the operations, needs, and priorities, not just of a shop, but of an entire organization. ■

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