

by Jack Stout

Contracting for Vehicle Maintenance

When vehicle failure interrupts an emergency mission, the cost of repairs may be last on the list of consequences. In law enforcement, the costs of poor maintenance may include the addition of murder to a burglary-in-progress, or a repeat crime by the one that got away. In EMS, the costs of vehicle failure range from inconvenience and embarrassment to permanent disability, death and, sometimes, a well-deserved lawsuit against the provider.

The higher standards required for maintaining an emergency fleet were outlined in my "Ambulance Maintenance" article in the January 1985 *jems*. Although much has been learned during the two-and-a-half years since I wrote that piece, its basic message remains intact: The primary purpose of an emergency vehicle maintenance program should be the same as that of an aircraft maintenance program—*eliminate vehicle failure*. To achieve that objective, your maintenance program must, at a minimum, incorporate the following essential features:

- Quality equipment;
- Wide margins of safety in technical specifications;
- Qualified and motivated maintenance personnel;
- Constant updating of technical knowledge;
- Thorough analysis and documentation of every malfunction;
- Meticulous record keeping;
- Custom modifications of new equipment to improve reliability;
- Rigid and conservative routine maintenance practices;

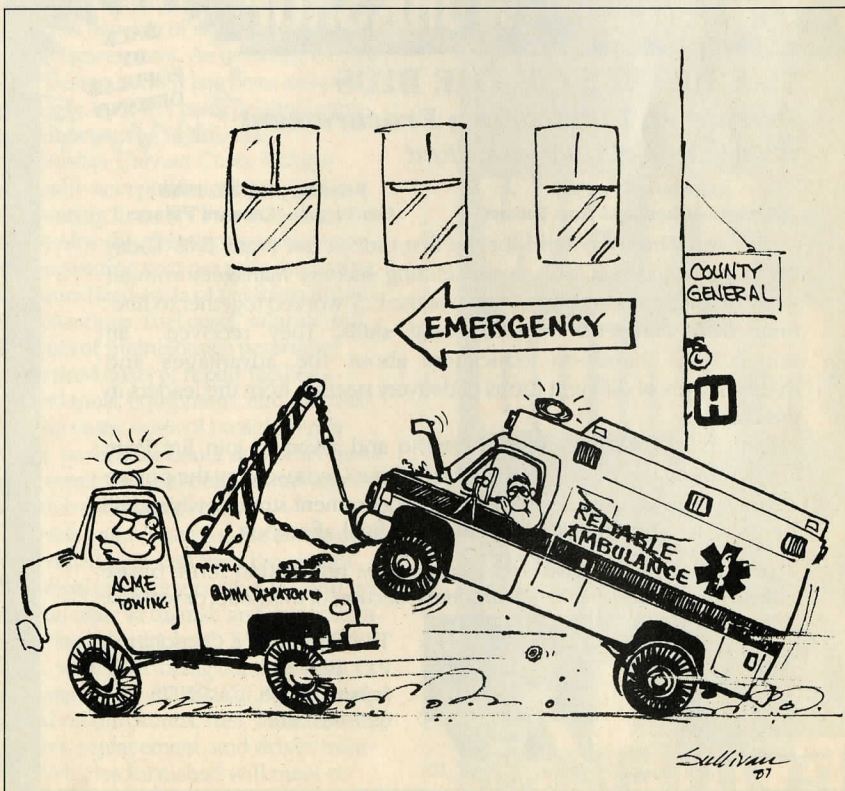
- Replacement of critical parts and entire vehicles *before* end of safe useful life expectancy;
- An adequate supply of quality vehicles in reserve so that only symptom-free vehicles hit the streets;
- A driver training program capable of reducing both wear-inducing driving forces and accident risk.

Of course there are more, but those are the basics. They furnish the core of every good emergency vehicle maintenance program. The day is coming when, without these components, it will be impossible to obtain insurance for emergency operations because the lack of these components will, by our own industry standards, constitute negligent

maintenance practices. And whether you choose to run an in-house program or contract out your fleet maintenance work, your program must be aimed at eliminating vehicle failure, with documented results.

Problems In Contracting For Maintenance

At *JEMS'* highly successful "Emergency Vehicle Maintenance Seminar" held in Kansas City, Missouri last year, I sat in on the session devoted to contracting for maintenance services. As I expected, much of the discussion centered upon the problems created by conventional "time and materials" compensation provisions.



Jack Stout has been at the forefront of innovations in the design and implementation of EMS systems for the past dozen years. If you have a question, a problem, or a solution related to the public/private interface in prehospital care, address your letter to "Interface" *jems*, P.O. Box 1026, Solana Beach, CA 92075.



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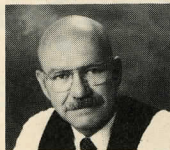
This workshop was held for the first time at last year's EMS Today conference, and met with overwhelming success. Managers from all types of services from every corner of the U.S. worked together to fine-tune their competitive procurement skills. They received an unparalleled hands-on education about the advantages and disadvantages of different forms of delivery systems from the leaders in the field.

Participants will be given a scenario and asked to join Jim Page (representing the public sector) or Jack Stout (representing the private sector). The two groups will devise a procurement strategy which will be presented to a mock city council the final afternoon.

For more information and a conference registration form, please check the EMS Today insert in the center section of this issue, or write to:



Jack Stout



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S P O N S O R E D B Y J E M S

INTERFACE

The problem is this: If I hire you to maintain my equipment and to fix it when it breaks, and if I pay you an hourly rate for your mechanics' time and on a cost-plus basis for parts, your profits will be bigger if my vehicles fail more frequently, and smaller if they don't. Thus, the "time and materials" compensation method not only fails to align my financial interest with yours . . . it actually creates a powerful conflict between the financial interests of the maintenance contractor and those of his customers.

Any sound business relationship must deliberately structure financial incentives to align the interests of both buyer and seller—i.e., when I win, you win; when I lose, you lose. It was clear to the seminar participants that the "time and materials" compensation method is probably the worst possible way to purchase vehicle maintenance services, but no one, including me, could think of a practical alternative.

Aligning Financial Interests

Recently Rodger Hickerson, President of Emergency Vehicle Tech (EVT), retained my firm to develop a contractual solution to this problem. It is Rodger's opinion that contract maintenance of emergency fleets has a tremendous potential that can never be realized without a practical alternative to "time and materials" compensation. I agree.

To tackle the problem, we set out to identify the specific financial effects of good vs. bad maintenance practices. We knew that any compensation method capable of aligning buyer/seller financial interests would have to tie the contractor's compensation directly to the measurable economic results of an effective maintenance program. Therefore, the first step was to identify all possible economic indicators (i.e., the "dependent economic variables," in research terminology) of good vs. bad maintenance practices. The following is a discussion of the most important economic indicators of a quality maintenance program:

1. *Reduced frequency of vehicle failure during emergency missions.* The economic impact of reduced failure rates shows up in several places, and includes more reliable response time performance at the same or lower production cost; reduced personnel overtime costs; reduced towing costs; reduced frequency of liability suits; and a more professional public image. (An absolutely true story: Assistant Attorney of

Pinellas County, Florida, Mr. Joe Saunders, was watching several workers pushing a dysfunctional Washington, D.C. Fire Department ambulance out of the way of the recent Cherry Blossom Parade when he overheard the following observation by a nearby local resident, "This must be a real serious emergency; usually only two guys push the ambulances.")

2. *Reduced cost per mile of insurance deductibles for accident-related repairs.* Well-maintained equipment and safer driving reduces accident frequency. Overtime, both insured and uninsured, costs of repairs should be less.

3. *Reduced cost per mile of collision and liability insurance.* Reduced accident frequency should eventually allow for better control of both collision and liability insurance. Furthermore, reduced frequency of vehicle failure during emergency missions should reduce exposure to liability claims, and thus eventually reduce liability coverage costs. In addition, depending upon the indemnity and insurance provisions built into the maintenance contract, the contractor's insurance coverage may offset liability which would otherwise be covered under the customer's own insurance, thereby shifting a portion of both exposure and cost from the buyer to the contractor.

4. *Reduced fuel cost per mile.* The combination of a superior maintenance program and more "vehicle-friendly" driving has been found to produce dramatic improvements in fuel economy.

5. *Lower amortized capital equipment cost per mile.* Our industry's most efficient providers habitually purchase the most costly vehicles and still turn in the lowest production costs. These firms have learned that, in the context of a sound maintenance program and good driver training, buying cheap equipment is false economy. Quality equipment is more reliable, easier to maintain, displays a superior corporate image, and enjoys a higher residual value upon retirement from the fleet.

6. *Higher residual value of retired equipment.* A sound maintenance program combines the advantages of good equipment, rigid preventive maintenance, vehicle-friendly driver training, and a conservative replacement schedule guaranteeing that emergency vehicles are removed from the fleet long before their useful life has expired. For example, a used ambulance retired from Rodger Hickerson's fleet will probably prove more reliable than a new ambulance of average quality. Even though a vehicle may no longer meet the more stringent requirements of an emergency fleet, that vehicle should still be capable of delivering several years and many miles of reliable service in a

non-emergency setting. Thus, residual value should be substantial, offsetting a portion of the original equipment cost and reducing the net amortized capital equipment cost per mile.

7. *Reduced costs of repairs, including towing costs.* Lower repair costs are often thought of as the major benefit of a superior maintenance program. In fact, while repair costs do go down, the savings in other areas are actually more substantial. That is because the reduced costs of fixing broken equipment are, to some extent, offset by the increased costs of replacing or rebuilding parts before they break. Still, the net savings in costs of repairs can be substantial, e.g., with Failsafe Driver Training, some mechanics report as much as 5-7 times more mileage between front wheel brake jobs.

With a well-designed, well-managed comprehensive maintenance program, it is possible to finance better equipment, improve employee morale and your organization's public image, improve response time reliability, retire equipment earlier, and reduce overall operating costs, all simultaneously. Having identified the areas of financial impact of a better maintenance program, our next task was to design an effective yet practical compensation method capable of tying contractor compensation directly to savings in these identified areas.

An "HMO" for Emergency Fleets

This isn't the place to describe all of the concepts and ideas which were considered in designing a contracting program capable of meeting these complex requirements. As it turned out, our final design (which has been adopted in principle by EVT) is surprisingly simple. Here are the highlights:

- *Establish Current Costs.* Using a mutually acceptable independent accounting firm, EVT and its client will determine the client's recent historical true operating cost per mile, including the amortized costs of vehicles; initial modifications; fuel costs, salaries and benefits of maintenance personnel; amortized costs of repair facilities, related tools, equipment, and utilities; towing costs; costs of outside repair work, parts, lubricants, and other costs of preventive maintenance and repairs; and driver training costs.

- *Pricing and Penalties.* For a cost per mile equal to or less than the client's historical operating costs, EVT will present an offer to furnish and maintain a new fleet of vehicles to EVT specifications, with EVT being contractually responsible for all costs of equipment, initial modifications, fuel, maintenance, repairs, replacement, and driver training. Vehicles furnished will meet or

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exceed the customer's performance requirements, and will be subject to replacement in accordance with a predetermined schedule established in the contract. Should a vehicle fail, EVT will furnish an immediate replacement and assume full responsibility for towing and repairs. If frequency of failure exceeds a predetermined level established in the contract, EVT will be subject to substantial financial penalties.

- **Security.** To protect the customer from possible loss of equipment in the unlikely event of EVT's failure, the program will employ the same "three-way" equipment leasing structure which was developed by our firm for use by the city of Fort Worth, Texas in its contracted ambulance service program. (See "Failsafe Franchise Model," October 1985 *JEMS* for a discussion of the "three-way" lease.)

- **Shared Savings and Incentives.** A shared savings incentive program will also be included, tied to savings resulting from reduced deductible insurance costs and mutually agreed upon extended use of equipment beyond scheduled replacement dates, with savings shared by the customer, the drivers, and EVT.

- **Limited Inflation Adjustments.** Inflation adjustments over the life of the contract will be limited to a percentage of an inflation index specified in the contract. Thus, in order to succeed, EVT must control its costs more successfully than the U.S. economy as a whole. The only other adjustments allowed are based upon unforeseeable increases in the actual costs of fuel and liability insurance, as the costs of these items are highly unpredictable and beyond either party's reasonable control.

- **Custom Transition Arrangements.** Customized transition arrangements must, of course, be tailored to meet each client's unique situation. Arrangement must be made to dispose of or phase out the customer's existing rolling stock. In some cases, residual value of existing vehicles may be credited toward EVT service payments. Existing maintenance personnel may be transferred to the EVT payroll. Existing facilities and maintenance equipment may be sold or leased to EVT. In most cases, such custom transition arrangements will probably be necessary.

- **Consequences of Performance.** This new business arrangement deliberately connects the consequences of performance with responsibility for performance. For example, if EVT

makes a mistake in purchasing new vehicles, EVT will bear the financial impact of that mistake in higher maintenance costs, higher operating costs, or lower residual values. If EVT's service results in excessive breakdown frequencies, EVT will feel the effects in financial penalty assessments, towing costs, overtime costs for its maintenance personnel, and higher than anticipated costs of repairs. On the other hand, if EVT does well in controlling breakdown frequencies, controlling maintenance and operating costs, and helping to control accident rates, EVT and its customer will share the financial rewards.

Prognosis

Given EVT's considerable expertise in emergency vehicle fleet operations, and the contract's airtight linkage between performance and profitability, the program should be seen as extremely desirable, especially by government clients saddled with worn-out fleets and unable to control or even predict future equipment and maintenance cost.

In many local governments, the line service agencies (e.g., police or EMS departments) are already, in effect, "contracting out" their maintenance operations to the "City Garage" or "County Maintenance Department." In many such cases, these internal "contracts" make line agency managers captive customers of marginally qualified, in-house maintenance programs without control over costs or standards of performance. EVT's new program will clearly solve these problems.

EVT cut its corporate teeth in the most demanding of all maintenance operations—emergency ambulance operations. With the possible exception of Coast Guard rescue vessels, no other emergency fleet operations even approach the maintenance requirements of a hard-working fleet of high-technology, advanced life support ambulances serving their time in an urban environment. But even given its head start and a superior contracting approach, EVT should expect serious competition in the years ahead. Performance-based contract maintenance is clearly an idea whose time has come.

For fleet maintenance customers, strong competition can only mean better service, more rapid innovation, and tighter cost control. As for the contractors themselves, the winners will win and, of course, the losers will lose. It's a kind of "economic natural selection" process that is in fact the very purpose of our private enterprise system. So be it. □

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