

ment. This is the lesson of many work-innovation experiments in this country.

Given the value system of U.S. workers and the strength of U.S. unions, I think the voluntary approach to participation in circles will have to be more strictly adhered to in this country than it is in Japan. This may make launching circle programs more difficult, but it is also likely to ensure far greater rewards. Indeed, because of our ingrained tradition of voluntarism, I think U.S. citizens may have an advantage over the Japanese in this regard.

Other adaptations and changes will be needed. But I would like to underscore that the principles behind quality-control circles and similar innovations can make an enormous contribution as U.S. work organizations seek to improve both quality of products and services and the quality of working life for their employees. Both are essential to increase our productivity.

SPECIAL REPORT

State Transportation Agency Use of Non-Traditional Work Schedules

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State DOTs Looking for Ways to Do More with Less Resources

The steady and persistent decline in real income coupled with constantly escalating costs of building and maintaining highways have sent most state departments of transportation (DOTs) to their legislatures seeking improved funding. However, legislatures and governors have insisted that there be clear evidence that the DOTs are being effectively managed and that they have eliminated waste. As a result many states have gone through or are going through management reorganizations and reductions in force ranging up to 25 percent. At the same time that staff is being reduced, the public expects that current levels of service be maintained and even improved.

Pennsylvania is a typical example of a state undergoing major management changes, improving its credibility with the public, and, as a result, obtaining additional funding from the legislature. There has been a reduction in staffing from 15 212 employees to 14 500. Fortunately, much of the reduction came through attrition but some lay-offs have been necessary. In addition there was a management audit and unnecessary supervisors as well as staff were eliminated—120 administrative positions were eliminated. In the construction-oriented units, personnel were reassigned where possible to other functions.

Following good management practices, the Pennsylvania Department of Transportation (PennDOT) has reduced the span of control for top administrators and the number of levels of management. The maintenance crews along the roadway give the public a highly visible image of the department and efforts have been made to increase productive time and eliminate the image that five men stand around while one works. At the same time, efforts to standardize maintenance procedures to improve quality are under way.

Equipment maintenance and management have been improved. Another visible way of improving the public image has been through the elimination of unnecessary state cars, so that the public is no longer given the impression that department employees are using vehicles for frivolous or personal purposes.

There has been a general audit of all policies and practices. Administrative forms have been reduced, application of road salt has been reduced, and information on project status, costs, and schedules are now readily accessible to management.

As a result of such actions, PennDOT is achieving the credibility that it needs to convince the public and the legislature that its house is in order and that additional funding will be efficiently used. The results have been that the legislature has been willing to increase the PennDOT revenues. However, gone are the days when a highway commission could operate with dedicated revenues as a semiautonomous branch of state government. While the legislature is now more willing to provide much needed transportation revenues, it also wants a continuing assurance that the department is well managed.

The PennDOT example is typical of the process under way in most of the states. After a period of declining real income and revenues, the state legislatures and governors have required a reduction in staff and improvement in management as prerequisites for additional funding. Once this is done additional funding has generally been forthcoming. The question is not "Do we want to let the current investment in transportation deteriorate?" It is: "***Based upon an efficient management***, how much is needed to maintain the current transportation infrastructure that we have?"

(Note: The Pennsylvania experiences were reported by Pennsylvania DOT Deputy Secretary James I. Scheiner at the TRB Annual Meeting.)

Because of increasing interest in this country in the use of alternative, or nontraditional, work schedules, the Transportation Research Board's Task Force on Employee-Management Relations and the Quality of Working Life decided to conduct a survey of state departments of highways and transportation on their experience with these nontraditional schedules. The survey also included questions on career growth for paraprofessionals.

A total of 40 states responded to the questionnaire, which was mailed early in October 1980. A brief summary of the answers from these states should be helpful to agencies not yet using alternative work schedules but considering doing so.

Nontraditional Work Patterns

Of the 40 transportation agencies that responded to the questionnaire, 30 were using nontraditional work patterns. About half the states used variations in work patterns for the entire staff, while 17 have applied it to only special work groups such as central office staff. Fourteen states used staggered working hours; 21 others employed some form of flexitime. As might be expected, jobs that required a minimum of interaction with other workers and jobs where work was easily identifiable and measurable were more appropriate for flexitime; work requiring group activities was more appropriate for the staggered-work-hours approach. The majority of states that use alternative work schedules found that it was equally suitable for management, professional staff, and clerical staff; however, about a quarter of the respondents felt it was more appropriate for nonprofessional staff.

Most states had introduced alternative work schedules for reasons other than productivity improvements. Only six states had conducted studies to determine whether flexitime or staggered hours had affected productivity. Of those studies that were done, most were inconclusive. However, all states indicated that alternative work schedule programs were well received by the employees.

Twenty-five states use the four-day work week. Twenty states responded that this was management-directed rather than voluntary, but in most instances there were no significant problems resulting from the change in the traditional five-day week. Those problems that did occur were related to leave, payroll, and employees getting back and forth to work. Fifteen states had followed-up the shift to a four-day work week to determine productivity or program management effects. Most reporting states indicated that there was increased productivity because of reduction in start-up and clean-up times especially in field operations and reduced time lost in travel to job site. There seems to be heavier use of these different schedules during summer months rather than year-round. This pattern is easily understandable with longer daylight hours and more employees desiring to take advantage of the longer days.

Although the general consensus seems a bit vague as to whether or not these new schedules have increased productivity, there does seem to be a universal feeling

that there are distinct advantages to employees, thus improving morale, which is definitely an asset to management.

Most managers seem to be having some difficulties with nontraditional work patterns in that they offer additional challenges to keep crews together and to work efficiently. While the survey indicated that both the employees and management viewed nontraditional work patterns favorably, it is a mixed blessing. There is less home-to-work travel time, less equipment dead-heading, and lower per-diem costs. On the opposite side, some participants report long work days are a drain on their energy, flexitime requires close supervision, and there is the problem of office coverage during working hours as well as supervisor and subordinate differential hours problems.

Very few states have negotiated with their union representatives in setting nontraditional work patterns. Probably this will change as time goes on because these patterns are indeed viewed as a working condition that unions feel is within their prerogative to negotiate.

Working-Life Innovations

Within transportation agencies, there are a number of specialized professional and technical job classifications that have limited opportunities for advancement. Of the states responding, more than half do not have programs to provide incentives for nonprofessional advancement. In contrast, more than half of the responding states have some sort of training program for entry into mid- or top-management positions whether offered through their agency or an outside educational institution.

Likewise, more than half the states responding have done nothing to make routine-type clerical positions more interesting. This seems to be a common problem. However, seven states have developed new paraprofessional classes in an effort to provide a career-growth ladder. Seventeen states reported that they are attempting to transfer more administrative functions from the professionals to the secretarial and clerical staff to enrich those positions.

Conclusion

The majority of state transportation agencies has instituted nontraditional work patterns for their employees. These programs were instituted primarily for reasons other than productivity in order to reduce the employees' travel time to work and to improve the scheduling of work where setup, cleanup, and travel to work sites were major elements. Employees generally like these alternative work patterns, but management has found some difficulties with their use related to the supervision of employees. Few states, however, have conducted studies on effects on productivity. Florida has done a comprehensive study that is available on request. Finally, nontraditional work patterns are used more during the summer than year-round.