

The Dynamics of Vehicle Operator Absenteeism

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ABSTRACT

The industry-wide problem known as vehicle operator absenteeism is examined in an attempt to encourage clearer research definition and operational changes that are likely to increase productivity and improve service reliability. Absenteeism is defined as absence from work for which management has not received advance notice. The focus here is on sporadic, unanticipated absence that arises from incentives and disincentives in the structure of transit operations. Although high absence rates may be the result, they reflect other issues related to maintaining service reliability, maximizing productivity, the nature of the work, and seniority systems, all of which have tended to be insufficiently associated with the problem of absenteeism. The analysis examines management's perspectives on sizing the extraboard and assigning overtime to regular operators on their days off and employees' perspectives on trading time for money, on work perceived to be unsafe or hazardous, on stressful work schedules, and on the quality of supervision. A number of propositions are discussed that organizational theorists might use to structure comparative research and transit managers might use to conduct diagnostic analyses of transit records.

The industry-wide problem known as vehicle operator absenteeism is examined in an attempt to encourage clearer research definition and operational changes that are likely to increase productivity and improve service reliability.

Absenteeism is defined as absence from work for which management has not received advance notice. In irresponsible absence, the term "absenteeism" correctly connotes malingering and excessive absence by abusing sick leave rights and other workrules. A second form of unscheduled absence is involuntary (due to illness, injury on duty, family responsibilities ranging from bereavement to child care). This paper focuses on sporadic, unanticipated absence that arises from incentives and disincentives in the structure of transit operations. Although high absence rates may be the result, they reflect other issues related to maintaining service reliability, maximizing productivity, the nature of the work, and seniority systems--all of which have tended to be insufficiently associated with absenteeism analytically.

This perspective is also correlational and contextual; it represents a grounded point of view that may better serve the concerns of transit managers and organizational theorists hoping to introduce changes to a system of human resources and machines that is complexly layered and context-dependent. Absence rates vary widely--in a random group of 21 transit agencies, they ranged from a self-reported average annual rate of 7.6 to 68.8 days (1,p.35). At one transit agency, in another study, 45 percent of

all operators used no paid sick leave in a given year, 3.7 percent used their 12 days earned, and 11.7 percent used in excess of 12 days per year (2,p.25). Such findings should be read as a sign that organizational and operational case studies are more appropriate to these problems, but conventions in the conduct of research have led instead to a preponderance of studies (few as they are) that rely on survey methods (some with poor response rates) rather than on case studies that also include the statistical analysis of transit agency records [for an annotated literature review of absenteeism, workers' compensation, and occupational stress studies in transit up to 1983, see Perry (2,pp.7-80)].

In this contextual perspective, furthermore, priority is given to the influence of working conditions on absence patterns; individual motivations are of secondary analytic importance. The rationale for this structural emphasis is in part simply pragmatic: Managers can do more to influence working conditions than they can do to redirect the personalities of their employees or to find selection criteria that guarantee unproblematic employees. These are also subjects that management and labor can discuss and cooperate on outside of the collective bargaining context.

A small proportion of operators appears to account for a high proportion of total absence, but whether these tend to be the same operators is an unanswered question (2,pp.33-34). In any case, problem-employees are peripheral to this discussion; rather, the concern is with high rates of absence as a general, fixed feature of a transit agency's operations. Problem-operators are properly left to personnel and human resources directors who have the contractual authority to issue appropriate warnings and offer appropriate counseling before dismissal. Transit agencies are using many practicable approaches to progressive discipline along with effective programs of social support and recognition designed to maintain good morale. That transit managers are reluctant to fire employees whose work attendance and attitude are persistently problematic is one factor beyond the scope of this discussion. Past absenteeism is the strongest predictor of future absenteeism (3).

Incentive and other motivational programs are unlikely to address the underlying structural features common to transit operations that give rise to high absence rates. Such programs may, in fact, introduce formalizations that run counter to what can be productive aspects of the organization's culture--its informal system of rewards and sanctions (e.g., dispatchers' decisions about assigning overtime; management's requests to operators to take a day off without pay when the extraboard is overstaffed).

A few general facts about blue-collar absence are important background to this discussion: Higher absence rates are found among blue-collar workers than among workers in other occupations--rates are about 70 percent higher among blue-collar workers than among white-collar workers, and of the blue-collar group, the rates are about 25 percent higher among union members. Furthermore, absenteeism "is significantly higher among workers who are young, receive low wages, report unhealthy or dangerous working conditions, work the same hours each day and claim to be in poor health" (4,p.82). Safety was the most

salient issue for bus operators, rating higher than wages and work schedules, in a recent study of 1,039 California bus operators (2). This corroborates a general finding that workers in unionized jobs experience more health and safety hazards than those in nonunion jobs (5). Those structural factors deserve special attention in transit industry analyses.

Transit absence rates hide more complexity and are more systematic than most research has explored to date. These complexities are discussed first from management's perspective, and then from an operator's perspective. A number of propositions are suggested, largely drawn from the discussion, that could organize diagnoses of the specific issues on which change is needed if operational goals of reducing levels of absence, lowering operating costs, and increasing service reliability are to be served.

MANAGEMENT'S STAFFING PLANS AND COST-EFFECTIVENESS

Unscheduled absences appear to be clearly related to management's fundamental problem of estimating adequate staffing levels and minimizing labor costs. High rates of operator absence are a consequence of the witting and unwitting cooperation of labor and management. Each realizes certain benefits, and to managers, these benefits appear to outweigh their costs. Such benefits may be the essential ingredient of a successful, albeit ad hoc, optimizing strategy managers have adopted, lacking both the data and more sophisticated techniques for making staffing decisions. Interestingly, the costs of absenteeism, according to an economic analysis of manufacturing industries, are relatively small (6, pp.387,392).

In the ordinary course of transit operations, to maintain reliable service, all scheduled runs must be filled with available operators--every transit agency assigns some of its regular operators to an extraboard that covers runs when their assigned operators are on vacation, jury duty, recovering from an injury on duty, or when they do not, at the last minute, show up. When a run is missed because there is no operator to fill it, the operators following the run on the street take on additional service burdens, and this may increase operator stress and lower morale, perhaps resulting in illness or "sick leave".

The number of operators that should be assigned to cover for those not present is a strategic question for transit managers. In the long run, the reserve factor transit managers use (e.g., 1.32) may efficiently serve their needs at lowest cost, but perhaps not in the short run, when attendance levels remain high for a period of time and these operators, having no runs to fill, can be counted unproductive. Furthermore, it is common practice for managers to ask these surplus operators to take a day off without pay, which increases their incentive to work overtime whenever possible to make up the day without pay.

Extraboard operators are regular employees who receive fringe benefits. To avoid adding to that fixed labor cost, managers will rely instead on regular operators to work overtime, most usually on their regular day off and at premium pay that does not, however, cost as much as maintaining an additional extraboard operator. This practice follows a pattern prevalent in both manufacturing and nonmanufacturing industries (7). Circularly, extraboard size is often determined by historic absence rates, and knowing that their unscheduled absences will be covered, operators are thought thereby to have an incentive to stay away from work (2, pp.107-8;

8, p.26). To the best of this author's knowledge, however, operators have not been asked directly about their attendance decision making.

Transit managers state their problem (9, pp.61-62):

Determining the appropriate complement of drivers to operate a given service level is...a critical function of manpower management. Too few drivers will result in reduced service reliability (i.e., missed trips) and/or increased overtime wages. Conversely, an overabundance of driver labor will produce major diseconomies due to union contract provisions that stipulate straight-time guarantees and spread-time penalties for operators. Significantly, despite the appreciable impact of employment levels in our labor-intensive industry, transit has had few sophisticated tools for effective manpower planning.

A survey questionnaire returned by 19 California transit agencies reveals "a lack of uniformity...in policies for determining the size of the extraboard. It is primarily a judgmental process" (2, p.107).

These judgments are put to the test under conditions of unusual uncertainty--equipment problems and weather as well as human vagaries. But little is known now about how transit managers originally arrive at these judgments, whether and on what grounds they analyze their options or track the full range of costs and benefits of the methods they do use. One study expected to find, but did not, that absenteeism is higher at agencies where labor-management relations are strained or in conflict. Instead, it found that where the climate of labor-management relationships could be characterized as cooperative (contrasted with containment-aggression and accommodation) the rate of absenteeism was high--no explanation is offered, concluding only that "sweeping generalizations about the relationship of work rules to transit performance do not appear to be warranted....[I]ntuitive assessments of the impacts of specific work rules on performance are not always borne out by empirical analysis" (10, p.148).

Having worked overtime on their regular day off, operators are then also likely eventually to take that day off by using sick leave, once they are assured of pay equivalent, on the average, to a 40-hour week--for these "sick days" are, furthermore, likely to be unpaid. Those who work to maximize their wages and do not take such compensatory sick leave may then burn out or become ill and take legitimate sick leave (8, p.9). Despite managers' understanding that a direct relationship may exist between overtime availability and absenteeism, it appears to be rare for a transit agency to hold overtime out as incentive or reward for good attendance, evidence perhaps that this reciprocity is expected.

Scattered evidence supports this proposition that day-to-day labor-management cooperation, believed by managers to be their minimum-cost solution, means higher levels of service reliability, higher levels of overtime, and higher levels of absence:

1. Survey forms returned by 57 transit agencies out of 200 solicited (having about 50 percent of the nation's transit work force, but excluding New York City) reveal that "reducing available overtime was effective in reducing absence." One system documented an experiment with increasing the extra list, which showed a resulting drop in overtime premium, in total pay hours per platform hour, and in missed trips. The survey data do not indicate a statistically significant relationship between the respon-

dent's statement that overtime was available and high absence rates. However, the data do indicate a high correlation between unpaid sick leave and the total weekly wages of the employee. A possible explanation would be the use of overtime to compensate for unpaid sick leave (11,p.III.20). That is, operators trade one for the other. Only one of these 57 agencies assigned overtime work as a reward based on the operator's attendance record (11,p.III.4). This study also revealed that for many transit agencies "the availability of overtime pay was a major factor in making it economically tolerable for the operator to be absent on regular work days" (11,p.III.4).

2. Among the 4,400 bus drivers at the Southern California Regional Transit District (SCRTD), short-term absence is strongly associated with manpower shortages ($r=0.74$), with operator work on regular days off ($r=0.45$), and with unscheduled overtime ($r=0.88$). More than 30 percent had more than 7 absences in the previous 12 months; the system average was more than 5 absences per year over and above holidays and paid vacation (12,p.30). Drivers having the highest absence rates (e.g., 14 or more days annually) earn an average of 40 hours of pay per week, most likely the result of management's scheduling long work runs together with overtime made available to regular drivers on their days off (12,p.32). Those are some of the findings of a self-study initiated by management in 1979.

The strong correlation between increased short-term absenteeism and operator shortages ($r=0.74$) suggests (12,p.35)

that an operator shortage may induce a vicious cycle of working operators on their days off, resulting in more absenteeism, resulting in an apparent increase in the operator shortage, causing more work on weekends, resulting in an increase in absenteeism, and so on....The opportunities for (or demands upon) operators to perform work on their days off seem to induce increased absenteeism for both economic and social reasons. Economically, the employee can afford to go sick and, socially, the availability of leisure time...has been reduced [thus creating the incentive to take a day off].

SCRTD management found that (13,p.7)

the lowest labor costs per assignment were achieved when the system had a modest excess of operators...[T]he least expensive operating costs occurred when the actual operator ratio was between 1.31 and 1.32. With a system of approximately 3,350 work runs or assignments, a "surplus" of about 70 operators or 1.5% was the most cost efficient....When the operator ratio fell below 1.30 or climbed above 1.32, there was an increase in the cost per assignment....This result is consistent with the thought that lower operator levels contribute to higher overtime costs.

3. At the Twin Cities Metropolitan Transit Commission (St. Paul), the driver-to-work ratio had been increased to 1.5 (9,p.62),

yet the process was clearly not producing adequate manpower levels. This situation, in turn, played a major part in accelerating the vicious circle of increasing missed trips, overtime costs, and absenteeism. In

effect, the inadequate number of drivers not only undermined service reliability, but so increased the opportunities for overtime work as to ensure that drivers absent from their scheduled shifts could readily make up lost pay. The abundance of available overtime work is believed to have fostered an increased level of absenteeism and, inevitably, contributed to a rising incidence of missed trips.

4. The San Francisco Municipal Railway increased the size of its extraboard by about 300 operators, to 91 percent of its optimum size, and over a 1-year period saved \$0.5 million in overtime, a cost that was expected to be ultimately lower than the cost of the additional employees. In the first year, unanticipated absence declined "from almost 9 percent of the platform per day to only 7.3 percent" (8,p.26).

5. Gaps in management's absence records are further evidence that absenteeism may not be an issue in its own right. These gaps also prevent discovery of a reliable set of norms from which transit agencies can ascertain whether their absence rates are excessive, on the basis of both historical (internal) and external comparisons. A study of 28 transit agencies found that it almost appeared as if there was a tacit plan to obscure unauthorized absences by categorizing all absence as "sick leave". "In essence, the reliability of the archival absenteeism data is doubtful" (10,p.33). "The most surprising discovery was the extent to which information that would presumably be needed for ongoing management was not readily available (e.g., absenteeism rates, which would appear to be necessary for establishing employee schedules)" (10,p.11). Although "record-keeping at several of the better managed transit properties was thorough and up-to-date, there seemed to be little emphasis on the acquisition and monitoring of management information at an alarming number of others" (10,p.157). The study of 57 transit systems also found that they "do not summarize absence data for management purposes...No system was found where managers were budgetarily accountable for the absence in their departments" (11,p.V.3).

"High" rates of absence may be the norm for vehicle operators. Comparisons with other occupational groups, both in the United States and abroad, tend to show that vehicle operators experience a wide variety of physical and emotional stress symptoms [see Perry (2,pp.49-72) for a review of these studies and a summary of a current study underway at San Francisco MUNI of "Bus Operator Stress and Hypertension," funded by UMTA]. A study sponsored by the Transportation Research Board's National Cooperative Transit Research and Development Program is examining the possibility of developing a screening method for susceptibility to stress and developing training in self-reduction of stress reactions (14). There appears to be good reason for believing that operating a large vehicle in urban areas is an occupation with hazards to well-being, perhaps independently of personality attributes.

A British study comparing the absence rates of 16 different industries charts their weekly absence trends for a 1-year period--each one (including public transport) reveals a unique profile that is a function of the character of the work itself and of the employing organization (15). Moreover, in allowing for some expected level of unscheduled absence, management in effect introduces a norm or a standard by which additional absences will be judged excessive and will be judged a problem. "In general, the apparent reluctance of managements to study [absence

records], and to do anything about [the problem] supports the idea of an implicit collusion with existing rates of absenteeism...If this hypothetical argument is sound, given rates of absences become, in effect, part of existing (informal) contracts between employers and employees" (15,p.126).

The real issue becomes, then, whether transit operations relying on this kind of an optimization strategy are thereby productive, efficient, reliable, and cost-effective. Preliminary analyses of a random group of transit agencies using a formula based on a minimum cost approach suggest that extra-boards are likely to be overstaffed by about 7 percent (1). But no analyses have weighed that cost against the benefit gained from maintaining service reliability at a high standard and the peace of mind of dispatchers and transportation managers. Transit managers have a lot to worry about, but they may also take precautions that are more costly than necessary: One transit agency reviewed its operations carefully for several weeks and discovered that dispatchers were keeping extra-board operators on double reserve--instead of using them to fill in for missing operators, they called in regular operators to work on their day off, holding the extra-board for other, more worrisome, emergencies such as equipment failures on the street (16,p.7). In terms of retaining patronage and keeping revenues up, that may not be an entirely wasteful strategy.

A widespread perception of costly labor practices in transit--featherbedding, out-of-line fringe benefits, union-protected incompetence--has led to laying "absenteeism" strictly at labor's feet, perhaps because historically transit labor-management bargaining relationships tend to be highly adversarial and their day-to-day interdependence tends to be unacknowledged. For example, an improving type of relationship between labor and management had a solid influence on higher absence rates: "This relationship is possibly confounded by organizational reward and punishment policies regarding work attendance and this, in itself, may be related to management's willingness to agree to 'soft' work rules" (10,p.120). The benefits that management gains by taking a relaxed approach are not specified, but it is unlikely that there are none.

EMPLOYEES' TRADE-OFFS: TIME AND MONEY, SAFETY AND SUPERVISION

One analysis of the relationships in transit between the peak wage rate, relative wages, and absence rates suggests "that as wage levels improve with respect to an absolute or relative standard of living, employees are less inclined to work the full amount of their scheduled time" (10,p.134). In transit, relatively high wage levels, partly derived from overtime and the premium pay associated with long working days framed by the two peak periods, may account for the fact that although vehicle operators take sick leave, they often do not take sick pay: An analysis of 174 problem operators found that one-half claim none or almost none of their sick pay, suggesting that the other one-half value the time over the money that they are saving for authentic illness. Reimbursing operators for unused sick time might reduce this practice, the study suggests, as would paying sick pay automatically for the first day of an absence. Whenever there are "more operators available per assignment," fewer operators will be on the sick list, and conversely "when more overtime work is available, then more operators will be on the sick list" (12,p.34). Taking or not taking "sick leave" responds directly to management's choice of staffing levels, in other words.

Many labor agreements deny sick pay for both the first and second day of absence. "The effect of granting sick pay for all absenteeism could be to reduce absenteeism for those employees who go sick in order to get their 'rightful' sick pay. Also, it could reduce absenteeism by those who want to miss work, and can now do so by going sick without claiming sick pay, saving their sick pay for when they are really sick" (12,p.36). A "proof of illness" requirement was found to have had no effect on the absence rate in one study of 28 transit agencies (17).

A study of data based on a model for the substitution of leisure and income suggests that if "the average worker misses 10 days a year, it would take a 21 to 28 percent net wage increase to reduce his annual absences by one day. The gross wage would have to increase by a slightly larger proportion to obtain this same objective because such a large increase will place the worker in a higher tax bracket. These results suggest that employers interested in reducing absenteeism must resort to tactics other than wage increases to achieve their aim. It is also quite possible that the absence of indexation in the personal income tax and continuing increases in the tax rates and earnings ceilings for the payroll tax have produced higher absence rates in recent years" (4,p.82). Proposing a 4-day, 40-hour work week, managers at one transit agency suggest that because unpaid absence would cost an employee more, problem-operators might change their behavior (12,p.37).

The trade-offs operators may make between leisure and income are, then, also influenced by their working conditions--job safety, work schedule, and wage rates. As mentioned earlier, safety was of more concern to 1,039 California bus operators than were wages and work schedules. But just which aspects of safety were of concern was not explored--fear of criminal assault, accidents, or equipment failure, for example.

Workers "who feel they are exposed to dangerous or unhealthy working conditions have a daily absence rate which is about two percentage points higher than other workers, i.e., about 50% higher...Cost-benefit analyses of safety investments which do not consider the effects on absenteeism and turnover will underestimate the benefits" (4,pp.83-84). In transit, these unhealthy and dangerous conditions are, as operators perceive them, overly tight running times, inflexible schedules, unsafe working conditions, and poorly maintained equipment (2,p.25). Such quality of work life and productivity subjects--job content, redesign, enlargement, enrichment, rotation--are only now beginning to be taken seriously outside of the context of collective bargaining (18,19).

Weekend work is especially "unhealthy," of course, and most of the predictably unanticipated absences cluster around weekend work. Safety issues are not discussed in depth in one major study claiming to examine workers' compensation trends in transit (11). The single study of workers' compensation practices in transit revealed that those California transit agencies that evaluated the safety and maintenance specifications of vehicles before buying them experienced lower levels of claims and a lower percentage of their fleets out of service (2,p.166).

Patterns of sick leave abuse appear to become entrenched partly because supervision is lax. Of 57 transit agencies, 51 have either an informal or a formal performance (discipline) code but the strictness of enforcement varies. Five of 30 systems (17 percent) indicated that they had administered no suspensions for absence in 1978. Ten of 57 (18 per-

cent) did not discharge anyone for absence. Of 3,917 suspensions reported, 1,745 (45 percent) were for absence (11,p.III.5). Even so, systems that reported using a formal discipline code had greater absence than those without. This may indicate that only systems with severe problems have implemented a formal code. However, it also suggests that the performance code has not been successful in reducing the problem. In combination with progressive discipline, however, the results appeared to be better (11,p.III.21).

Supervisors appear to have a low level of legitimate authority: Management tends to recruit them from the pool of operators and their wages may remain the same (without overtime, they may earn less than drivers do; they may also remain members of the operators' union). They may not be trained for their new responsibilities; they may also be responsible for an unmanageably large number of operators. The quality of supervision is a frequent irritant--supervisors tend "to cut themselves off from informal communication with drivers (a situation frequently aggravated by physical barriers such as glass partitions)" and they may see "their role as that of a disciplinarian rather than a helper" (20,p.24). Operators appear universally to believe that their knowledge of the street goes unrecognized and that their input on operational issues is rarely requested (2).

As a general rule, studies continue to reveal that job satisfaction and absence do not correlate strongly (15,p.130). Transit vehicle operators' profile of job satisfaction appears to be unique, even as they are not especially satisfied with their jobs. Although transit workers are relatively well satisfied with wages and benefits, they are least satisfied with supervision, company policies and practices, working conditions, and promotion practices. Compared to other blue-collar occupations, transit operators were most satisfied with the independence afforded by their jobs (20,pp.24-25).

Angle and Perry (20) investigated the degree of organizational commitment and patterns of job satisfaction in a sample of 1,244 lower-level employees in 24 public mass transit organizations. The analysis compared transit workers to other occupational groups along similar dimensions. Levels of commitment among transit operators were found to be comparable to employees in other occupations, but their level of satisfaction with their jobs is lower, and operators are less satisfied than other nonsupervisory transit employees. Yet transit operators, in their assessment of job factors that provide them "strong sources" of satisfaction, included independence, variety, security, social service, ability utilization, co-workers, and achievement. This is a pattern of "specific job-facet satisfaction and dissatisfaction [that] is not duplicated in any other blue-collar occupation of which we are aware" (20,pp.24-25). In comparison to (20,p.24)

the routinized, oversupervised nature of lower-level organizational work [of other blue-collar occupations]...the transit operator performs, within general limits, as a relatively autonomous agent of the organization....To the individual passenger, the operator is the transit organization, and the operator seems aware of this. The specific job-factor satisfaction pattern...indicates that such job aspects as independence, variety, authority, and responsibility are relatively well satisfied among transit operators.

The same independence and willingness to accept responsibility characteristic of the personalities

of those choosing this occupation may play a part in the absence rate. Deciding how much they want to earn relative to the leisure they accrue is one manifestation. In short, high rates of absenteeism may be partly a function of certain of the same qualities that make drivers both reliable and satisfied with their jobs. They may be introducing flexibility (in the form of absence) into predetermined schedules and onerous routes. They may decide to be absent by calling in sick in order to reduce the job stresses beyond their control. In choosing a blue-collar job that has an uncharacteristic amount of autonomy and authority (over passengers and a large vehicle), operators' personality characteristics can be expected to be revealed in other ways as well.

The long hours and split shifts prevalent in transit appear to promote absences. Across occupations, absence rates are, as a general rule, highest among both younger workers and those unable to schedule other activities, such as medical or dental appointments, during their normal working hours. Absence rates are "about 50% higher among employees who work the same hours each day, 20% higher among those who work the standard 35 to 40 hour week, and 25% to 30% lower among those who receive some paid time off" (4,p.82). Organizational theorists suggest that taking sick leave may be one tactic in a stress-reduction strategy, and that programs to reduce absence may end up promoting it (21,p.403):

In fact, rigid efforts to ensure perfect attendance (such as through behavioral modification) may lead to unintended and detrimental consequences on the job, such as reduced product quality, increased accidents, and so forth. Hence, it would be useful if future studies could examine the extent to which changes in absence rates do or do not have adverse consequences for other aspects of organizational effectiveness. If reduced absenteeism is accomplished at the expense of product quality, accident rate, strike activity, or employee mental health, serious questions must be raised concerning the desirability of improving such attendance.

Although transit operators bid three to five times yearly for their runs according to seniority--exercising an unusual amount of control over their job schedules--the younger and newer workers inevitably find themselves with both the least desirable routes and the least desirable schedules. This, in itself, may account for some absenteeism. Low seniority may also correlate with higher job stress--as the higher absence rates of younger operators would appear to suggest. It has been documented that stress can be reduced simply by having control over the unwelcome stimulus or condition.

The seniority system affects even the quality of research: interviewing 1,244 lower-level employees in 24 transit agencies, the investigators explain that seniority has skewed the composition of their sample (20,p.21):

While blacks represent approximately 31% of the driver population, only 14% of the sample is black. Also while 54% of the population is white, 74% of the sample indicated they were white. One reason for the discrepancy may have been that whites, who tended to have greater seniority, might have been present in higher proportions than blacks during the weekday site visits. The sample also underrepresents employees in the 20-29 year age group, and overrepresents employees over 50.

Drivers with low seniority are assigned weekend work and these drivers are likely to be black and young.

CONCLUSION

A wholly systematic analysis of vehicle operator absenteeism has yet to be undertaken empirically. This preliminary list of propositions may provide organizational theorists and transit managers a means of organizing data and keeping the many dimensions together in analysis in order to choose strategies most likely to effect needed changes.

1. Younger operators and those with low seniority have the highest rates of unscheduled absence.

2. Undesirable runs are more likely to be operated by younger drivers.

3. Difficult runs (heavy traffic, tight schedules, high frequency of criminal assault, etc.) will be associated with higher unscheduled absence rates for operators of all ages than runs not regarded as difficult.

4. Operators having a high frequency of overtime work on their regular days off have higher rates of unscheduled absence.

5. When weekly earnings reach a certain level through a combination of overtime and regular pay, unscheduled absence increases.

6. Operators with higher seniority are likely to have a higher proportion of overtime earnings on an annual basis, and they are likely to take longer, but less frequent, unscheduled absences than operators with lower seniority.

7. The size of the extraboard bears a regular relationship to the amount of paid overtime (the smaller the extraboard, the more overtime paid).

8. Female operators have higher rates of unscheduled absence than male operators; married female operators with young children have higher rates of unscheduled absence than married male operators with young children.

9. The higher the number of dependents, the lower the amount of unscheduled absence.

10. Past absence patterns predict future absence patterns.

11. Where work rules specify that the first day of absence is unpaid, absences will tend to last 2 days.

12. Unscheduled absences will follow a pattern related to seasons and external events (e.g., sports events, major holiday weekends).

13. Unscheduled absences will be concentrated on weekends.

14. Where work rules do not allow for personal days off, unscheduled absences will be higher.

15. Where supervisors maintain face-to-face communication with drivers, absence rates are lower than when contact is infrequent and impersonal.

16. Operators with a short time until retirement will tend to maximize their earnings by picking assignments having highest pay rates, and they will take unscheduled absences more often than those farther from retirement.

17. The higher the rate at which sick leave accumulates, the higher the level of unscheduled absence.

18. Service reliability is directly related to the method used for staffing the extraboard.

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Washington State Department of Transportation Organizational Review-How and Why

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ABSTRACT

In 1981 the Washington State Department of Transportation undertook a review of the agency to identify productivity improvements. The program yielded savings in nearly all functional areas without reducing service. The method for study relied on a three-person internal core team for management, with special sub-teams for technical subjects. One division was treated separately by a consultant. The Washington experience indicates the validity of using internal resources to bring about savings and changed attitudes toward productivity. The study, which took less than 2 years, evolved into a formal permanent productivity program in the department based on the foundation laid by the review. The program, demonstrating agency policies of cost-consciousness and visible savings, is believed to have contributed to the success of efforts to increase state gasoline taxes by increasing agency political credibility. The authors do not offer their methods as a panacea to all state departments of transportation and highways, but believe that the internal approach to productivity improvements is worth considering.

The Washington State Department of Transportation (WSDOT) made a critical self-examination of its operation and made changes that will save nearly \$2 million per year without reducing service to the public. A few of the organizational and manpower adjustments resulting from the in-depth examination are as follows:

- Elimination of 21 supervisory and management positions.
- Overhead manpower expenditures 9 percent less than the previous fiscal year.

- All annual major program expenditures completed well below budget in both dollars and manpower.
- Numerous department authorities delegated to lower levels.
- Reduced vehicle fleet by 130 units.
- Reduced telephone lines by 9 percent.
- Established program to revitalize employees' safety program.

These examples indicate the broad range of activities reviewed. A brief review of how this program was established, how it was carried out, and the projections for the future should be of interest to other state departments of transportation and highways.

IMPROVEMENTS FROM WITHIN--WSDOT APPROACH

There are many approaches an agency can take to identify productivity improvements. The simplest approach may be to hire a consulting firm to do the job. The consultant can offer anyone from an individual project manager to a fully staffed team of management experts. You can then sit back and wait for them to present you with a solution, right? Wrong! You and your people know your organization and your jobs better than anyone else. A consultant must either draw on your knowledge (and time) or the product you get will be of little value.

This is not meant to imply that consultants should not be used. Without question, there are times when a team external to the agency is the best approach. This may provide maximum credibility to those outside the agency, minimize friction among agency managers, and provide experience and expertise unavailable internally.

Another approach, the approach taken by the Washington State DOT, is to do it yourself, if you can. In 1981 the Secretary of Transportation, Duane Berentson, decided to use an in-house team to review all divisions in the Washington DOT, with one exception; an external consultant would be used to review the Marine Division.