Profile of Employee Transportation Coordinators

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Employee transportation coordinators (ETCs) represent a new level of governance mandated by government regulation and maintained by public and private corporations and businesses. They represent the shared burden that employment sites are being asked to support to improve air quality and reduce traffic congestion by reducing the average passenger occupancy (APO) to the target level at the site. The success of a site's meeting its target APO depends on ETCs' interpersonal skills within the site and their ability to recognize the opportunities and barriers around them. The results of the survey indicate the difficulty that firms have in meeting their mandatory APO target. While it is still early in the program, only 44 percent of the sampled ETCs and an estimated 9 percent of the population believe that their sites will meet their targets within the appropriate time frame. More ETCs than their supervisors feel complying with the employee trip reduction program as an essential task to clean air and reduce congestion. More than half of the supervisors are perceived by ETCs as supporting only the paperwork requirements in the process of compliance and implementation. As for attitudes toward performing necessary tasks within the site, ETCs rate each task uniformly more important than their supervisors. ETCs have negative attitudes toward proposing parking charges and rideshare benefit strategies to meet the targets. Furthermore, ETCs believe that proposing tough policies will harm their careers. Without strengthening the ETC's position with respect to top management and their supervisors, attainment of the commuting mandates will occur in few cases; whereas stress and high job turnover will epitomize the ETC's position.

The Clean Air Act Amendments of 1990 require employers in areas of severe ozone nonattainment to implement transportation control measures or employee commute options (ECO). New Jersey's Employee Trip Reduction Program (ETRP) requires that an employee transportation coordinator (ETC) be assigned to work sites of over 100 employees by every affected employer. This has been done to ensure that affected employers make a good-faith effort to move the site's current average passenger occupancy (APO) level to its target APO by November 15, 1996.

The compliance plan submitted by the affected employers 2 years before its target deadline describes a set of ECO that, according to Section 108f of the Act, will demonstrate compliance with the target APO. The resulting plan will require the consumption of resources at the site; therefore, the site's top management team (TMT) must approve the plan. In addition, implementing an ECO compliance plan requires employees' cooperation in that it encourages a change in their daily travel behavior. Communication with employees requires that ETCs work with departments as well as union bargaining units.

What constraints and opportunities do ETCs face when they seek support from the TMT and department heads? The human side of the ECO implementation process is examined as it forms a benchmark from which changes in corporate responsiveness to ECO can be proposed and measured. The study begins with an examination of the study methods and is followed by an exploration of the conditions surrounding the ETC position, the source of organizational support, and the barriers to ECO implementation.

Real resources will be needed to address the problem. However, mobilizing the resources for use in the ECO implementation process requires firms to reallocate existing budgets. ETCs and their departments must negotiate with other departments and motivate the TMT to accept the program. To acquire resources and perform organizational tasks, ETCs must be motivated to act in the best interest of the program. The support of the top management team, the ETC's supervisor, and other departmental heads is essential (1). This research is designed to explore the organizational support mechanism underlying current ECO activity.

THEORETICAL MODELS

The theory of reasoned action underlies the analysis of opportunities and constraints ETCs face in firms. Attitudes of the ETC toward performing each task are matched with the ETCs' perceptions of their immediate supervisor's attitudes as the critical precursors to meeting the compliance plan's target APO. According to the theory, both classes of attitudes determine the degree of intention for ETCs to perform the activities needed to implement the ECO plan (2).

To work successfully within an organization, ETCs must obtain support from their supervisors and cooperation from employees. The tasks ETCs must perform include: (a) notifying and educating management, (b) motivating and training employees, (c) designing workable programs, (d) holding informational sessions with employees, and (e) assigning specific targets for different departments, etc. Each of these tasks requires that the ETC act creatively and efficiently to achieve their objective. The theory of reasoned action also suggests that ETCs who believe that the outcome of performing essential tasks will support their career will be more likely to perform these tasks. Similarly, where the ETC's supervisor is viewed by the ETC as supportive of the efforts to implement the ECO program, the incentive to act creatively and efficiently on the program will be stronger than in the case where the supervisor is viewed as an obstacle.

The second theoretical model used to guide the research is the Theory of Intraorganizational Power (3,4). The theory suggests that the ETC's department will have more power than other departments, as the ETC's department shares important beliefs with the TMT and as the department reduces uncertainty faced by the organization from external or internal contingencies such as penalties from state and federal ETRP law (5,6). A range of values or beliefs

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has been identified by Enz (4) as contributing to an index of departmental power; these include professionalism, ethics, aggressiveness in the market, profits, employee morale, and reaction to employee failure.

ETRP regulations and penalties are external contingencies faced by firms. In a command and control regulatory climate, program effectiveness hinges on the level of certainty perceived by the affected community for the program's enforcement. Specifically, control of the external and internal contingencies depends on the way ETRP is defined by the TMT, by the level of support given to the ETC's department, and by the level of resources mobilized to deal with ETRP.

In summary, ETCs' attitudes and their perceptions of supervisors' attitudes can be either barriers or motivations for actions in meeting a target APO. As motivational factors, they are necessary conditions for a successful program. However, they are not sufficient. For a target APO to be achieved, the ETC must use intraorganizational power or influence to change commuting behavior or work schedules across all departments. Thus, an examination of the ETC as a decision-maker as well as the examination of intraorganizational power is needed to forecast ETC's success.

RESEARCH DESIGN

The study is exploratory, describing the conditions in which ETCs operate and develops indicators that predict the effectiveness of various ETC behaviors in meeting their site's target APO. The data gathered to meet these objectives have been from ongoing survey research being performed in New Jersey. The draft instruments were pilot-tested on ETCs and staff members of a Transportation Management Association (TMA). These early tests indicated that successful administration requires that the survey be administered anonymously. The final questionnaire is 18 pages, printed on a laser printer requiring 25 min on average to complete. A copy of the questionnaire can be obtained from the authors.

Questionnaires

The questionnaires are divided into three parts. The first part is descriptive. Information is requested on the length of time ETCs have been on duty, the activities they perform, characteristics of their departments and firms, and confidence level they feel their firms will meet target APO by November 15, 1996.

The second part is an attitudinal study motivated by the work of Ajzen and Fishbein (2). The study examines the attitudes held by the ETCs toward implementing the ECO plan and performing actions needed to achieve the site's APO goal. In addition, the same set of questions is asked to examine the perceptions held by ETCs regarding their supervisors' attitudes toward the ETC performing APO target-related tasks.

Questions in the third part of the survey explore the relation between perceived values and power assigned to the ETC's department. Here, power is viewed as the ability of the ETC's department to influence other departments' implementation of ECO strategies. Organizational theory suggests that power assigned to he ETC's department will be positively related to the degree of similarity shared by the ETC's department and TMT in terms of general values in running the organization and specific values about the compliance plan.

Sample

The target population for the study consists of ETCs working at employment sites within New Jersey. The actual sampling frame consists of ETCs employed in New Jersey who have attended networking and training sessions held by TMAs or whose names are listed with TMAs. The TMAs estimated that 20 percent of the affected employers within their regions participated in the training programs. The sampling frame permitted a high response rate for the survey; omitted from the frame are sites and ETC whose firms have not registered with the state Bureau of Employee Trip Reduction. We recognize that the individuals attending the training and networking sessions will represent firms actively involved in the ECO implementation process. As a consequence, there will probably be an upward bias in the estimates of overall success of ECO programs.

EMPIRICAL FINDINGS

The ETC is not yet a fully defined job classification (7). In all cases surveyed, employee transportation coordination is a set of duties added onto the existing duties of a current employee located at the work site. The ETC has been placed in a wide range of subunits. The subunits can be roughly categorized into six categories: (a) human resources, (b) external affairs, (c) facility management, (d) security, (e) administration, and (f) other. Table 1 displays the percent distribution of the respondents by departmental category.

TABLE 1 Percentage Distribution of ETCs by Departmental Category

Departmental Category	Percent Distribution®
Human Resources	44.0
External Affairs	15.0
Facility Management	15.0
Security	11.0
Administration	8.0
Other**	7.0
Total	100.0

^{*}Column values are subject to rounded errors.

[°]The Other category includes finance and teaching. Sample size: 107 ETCs.

Most ETCs belong to human resources departments. This department is responsible for all matters related to employees such as recruiting employees and employee relations. The second most common placements for the ETC are departments of external affairs and facility management. The external affairs category brings together a disparate set of departments such as those that deal with new governmental regulations and community affairs. ETCs whose previously reported jobs were project coordinator, engineer, and shipping manager are categorized into the facility management department. Third in ranking for ETC placement are the departments of security and administration. The security deals with safety, fire protection, emergency cases, and parking management. The administration department consists of staff functions supporting the TMT. Finally, the "other" category combines ETCs from functions such as teaching and finance.

The ETCs surveyed come from a wide variety of situations and firms. Table 2 shows that the employment sites represented ranges in size from 103 employees to 4,100 employees. Thirty-four percent of the sites have unions. Thirty-six percent of the ETCs are the heads of their departments and 17 percent also supervise other ETCs outside their sites. The period since ETCs have been on duty ranges from 1 day to 8 years, with a median value of 7.4 months. The average work time devoted to the ETC duties is about 25 per-

cent. Eighty-five percent of the ETCs indicated that their previous job required much interaction with other departments. Therefore, previous experience in the art of interaction and negotiation appears to be an important precondition for the ETC assignment.

Organizational Structure

Formal organizational structure can influence the process that ETCs must follow to get ECO strategies approved. Table 3 organizes the departments in which the ETC are located into one of two categories: flat and hierarchical. The hierarchical category is further partitioned into high, middle, and low, depending on the ETC responses to questions asking if there are other departments in their organization that are lower or higher in the structure of the organization than their department. The table shows that 33.6 percent of ETCs reside in firms with flat organizational structures. The hierarchically organized firms placed the ETC high in 34.6 percent of the cases. About 6.5 percent of ETCs' departments are located lowest in the hierarchically organized firms.

It is unclear what precise role organizational structure will play in the ultimate success of the ECO program. However, ETCs responding to a question evaluating their site's chances of success-

TABLE 2 Descriptive Statistics for ETC and ETC's site

Size range of site	Low: 103 employees
	High: 4100 employees
ETC is a Department Head	36 %
ETC Supervises other ETCs	17 %
Median time serving as ETC	7.4 Months
Percent work time serving as ETC	25 %
Experienced interacting	
with other departments	85 %
Sites with unions	34 %

^{*}Column values are subject to rounded errors.

TABLE 3 Organizational Structure and Location of ETCs Department by Hierarchical Type and Percentage Expecting to Meet Target APO Date

Organizational Type	Percent ETCs	Percent ETCs who forecast meeting the Target APO °
All Sites	100.0	44
Flat	33.6	36
Hierarchical	66.4	49
High	34.6	62
Middle	21.5	39
Low	6.5	14

^{*}ETCs were asked to indicate the likelihood of meeting their site's target APO by November 15, 1996. Those who indicated a greater than even chance to meet the goal were counted as forecasting its achievement. The percentages are based upon organizational type.

fully making their target APO in 1996 indicate that formal structure may make a difference. Table 3 shows that ETCs located in departments that are high in a hierarchically organized firm are most likely to feel confident regarding their meeting the target than other ETCs. ETCs whose placements are lowest in a hierarchical structure report the lowest level of predicted APO goal achievement. This is reasonable in that placement in a high-ranking department places the ETC at an advantage when attempting to negotiate and convince other department heads and their employees of the importance of the ETRP program (8).

Attitudes and Constraints

This section examines both ETCs' attitudes toward performing the organizational tasks that lead to ECO implementation and the assessment of their department's influence among departments at the employment site. It also examines the role of the ETCs' supervisor in supporting compliance efforts. In the latter case, the attitudes of the supervisors are those reported by the ETCs (2). This is appropriate in that the ETCs' actions are determined by their perception of the rewards and penalties to be derived from actions taken in support of the ECO plan.

Attitudes Toward Performing Organizational Tasks

By November 15, 1994, ETCs must have performed a set of procedural tasks or activities that will have provided their site with a certified ECO Compliance Plan. For the plan to be successful, the ETC should have the organizational motivation and support to implement it. The ETCs are not required to demonstrate substantive changes in APO until 1996. The activities undertaken in the interim period will determine the plan's success. Based upon interviews held with directors of TMAs and ETCs who have been active for the past year, a series of activities linked to the acquisition of organizational support were identified and included in the ETC survey. Activities necessary for ETCs to perform include: (a) informing the top management team of critical contingencies faced by the site and asking their help in motivating department heads and employees, (b) contacting department heads and requesting their cooperation, (c) promoting the ECO program at the site, and (d) preparing incentives to encourage employees' participation in the ECO program. ETCs were asked to check the activities they have already performed as well as indicate their perceived degree of importance related to these activities on a scale of 1 "extremely unimportant" to 7 "extremely important" with 4 being neutral. In addition, the ETCs were asked to rate their supervisor's view of the importance of performing each activity. Table 4 displays the survey's results.

Table 4 ranks the 12 activities by the percent of ETCs who have already or are currently performing the activity. Most ETCs have or are performing tasks related to contacting the site's TMT and department heads. Seventy-seven percent of the sampled ETCs say that they have informed the TMT of the site's target APO, and 62 percent have briefed them on the set of strategies they feel necessary to meet the target APO. Slightly over half of the sampled ETCs have met with departmental heads while 28 percent have begun the effort to meet with employee groups.

The last task of the list, assigning each department a voluntary target APO to meet the site's target, was added into the survey after most of the sample had been collected. About 60 ETCs responded to

the question. Where successfully implemented, this task spreads the burden for both implementing the ECOs and achieving the target APO from the ETC to supervisors in all departments. It also can form the basis for a management plan supporting the implementation of the ECO. As a derivative benefit, it can reduce employees' role ambiguity in the implementation process because the employees' immediate supervisor is brought into the goal achievement process (8).

When evaluating the importance of each activity shown in Table 4, ETCs rate the tasks other than setting departmental targets with importance greater than neutral. The highest ratings involve activities that inform or request support from the top management team or departmental heads. Table 4 indicates ETCs report that their supervisors rate each activity as less important than the ETCs. Since the supervisor acts as a gatekeeper who controls the outreach efforts and creativity of the ETC, Table 4 indicates the existence of potential barriers to the successful implementation of ECO plans.

Beliefs Toward ETRP

Beliefs or values about the importance of the actions taken are viewed as the basis for many of the attitudes decision-makers hold regarding their activities. ECO programs are required by government to advance clean air and reduce congestion. To the extent that this belief is held by ETCs and their supervisors, the more likely that strong ETRP programs will be submitted to top management and sold enthusiastically to other department heads and employees. Table 5 displays the responses ETCs made to statements of four beliefs that can determine their intention to perform necessary ECO-related activities.

Table 5 shows that ETCs' beliefs toward complying with ETRP are more strongly associated with the social goals of the Clean Air Act Amendments than are their supervisors'. Thirty-six percent of the ETCs see clean air and congestion relief as the basis for their activities; on the other hand, only 11 percent of their supervisors are perceived by ETCs as accepting these same values. By far, the broadest belief held by ETCs' supervisors underlying ETRP activities is the inherent need to meet the state's regulatory requirements. Therefore, the activities that most supervisors will urge ETCs to perform will be those that meet the formal or paperwork requirements of the law. The popularity of such an attitude held by supervisors is also shown in our interviews with ETCs. One ETC stated his supervisor's attitude toward complying with ETRP program as, "We will consider all options including doing nothing in order to minimize the influence of compliance on our business." Ten percent of ETCs perceived that their supervisors believe the ETRP program will disappear before November 15, 1996, while 4 percent of ETCs hold the same beliefs. If both the ETC and the supervisor hold the lowest level of belief, the Theory of Reasoned Action tells us that ETCs will have little intention to perform meaningful tasks in the ECO implementation process.

Issue-Specific Attitudes Toward ECO Strategies

The importance of ETCs' attitudes and their perception of the attitudes of supervisors and top management team members is seen at the level of specific ECO activities. ETCs feel stressed when proposing trip-reduction strategies to both the top management team and their supervisors. Two strategies were asked in the survey: \$1.00 daily parking charge for drive alone and \$3.00 daily rideshare ben-

TABLE 4 Percentage of Activities Completed and Rating of Activities According to Their Importance in Successful ETRP

Task Description	Percent of ETCs Completing the Activity**	ETC Rating°	Supervisor Rating	
a. Meet with site's top management team to inform them of the site's target APO	77.5	6.15	5.64	
b. Meet with site's top management team to brief them on the potential strategies that may be needed to meet the site's 1996 target APO.	62.6	6.28	5.69	
c. Meet with department heads and request their cooperation.	53.3	6.10	5.40	
d. Prepare fliers to promote the ETRP program	40.2	5.60	4.67	
e. Prepare newsletters to promote the ETRP program	35.5	5.39	4.56	
f. Held focus group meetings to promote ETRP program.	28	5.53	4.60	
g. Have member of site's top management team address all employe and request their cooperation and encouragement in the ETRP program	27 ees	5.64	5.22	
h. Have member of site's top management team address all department heads and request their cooperation and encouragement in the ETRP program	22.4	5.70	5.22	
i. Construct a rideshare matching list	20.6	5.59	4.83	
j. Prepare the initial program plan that will offer commuter prizes to promote ETRP	17.7	4.84	4.02	
k. Have received a written approval by a member of the site's top management team for that person to address at a future date all department heads and request their cooperation and encouragement in the ETRP program		5.14	4.61	
l. Assign each department a voluntary and suggestive target APO to contribute to the sites' overall target APO. *Bating scores range from 1 "extremely	•••	3.78	3.55	

^{*}Rating scores range from 1 "extremely unimportant", to 7 "extremely important".

*Survey was held during the month of June, 1994.

*ETCs were not asked this part of the question.

TABLE 5 Percentage Distribution of ETC Responses to Four Statements Regarding Beliefs in Complying with ETRP

Belief Statement	Percent ETCs Choosing Belief Statement°	Percent Supervisors Perceived by ETC to accept Belief Statement
ETRP is essential because rapidly increasing numbers of SOV drivers will damage the air we breathe and increase traffic congestion	36	11
2. We will do what the state requires us to meet the target APO within two years	24	23
3. We will do what the state requires us to meet the regulatory requirements of the state's ETRP program	32	50
4. We do not care much about the ETRI program because we believe it will disappear before the date we are require to meet the target APO.		10

[°] Columns subject to rounding error.

efit for ridesharers. ETCs were asked to check appropriate values where 1 equals "extremely bad" and 7 corresponds to "extremely good", with 4 being neutral in correspondence with their attitudes. Table 6 shows that ETCs' attitudes toward proposing both of the two strategies are below neutral, ETCs feel slightly better toward proposing rideshare benefits than parking charge. ETCs probably sense that proposing a parking charge would more severely influence employees' morale than proposing a rideshare benefit.

ETCs perceive their supervisors as less supportive of the strategies than ETCs themselves. Finally, Table 6 indicates that ETCs feel stressed in informing the top management team that their site will fail to meet its November 15, 1996 target APO. This suggests that ETCs are in an awkward position in which they receive little support from either their supervisors or the TMT, while simultaneously being required by law to bring their sites into compliance by November 15, 1996.

ETCs were also asked how likely they feel it will help their career advancement to propose parking charges or rideshare benefit programs. Table 7 shows that proposing a parking charge is viewed as

unlikely to enhance the ETC's career, while proposing the rideshare benefit is slightly more likely to enhance their career in contrast to the parking charge proposal. However, the difference between attitudes toward proposing these two strategies is not significant. Clearly, both views are negative in terms of the personal cost of acting in the best interests of the ETRP program.

Perceptions of Departmental Power

If ETCs' own attitudes and their supervisors' attitudes act as a motivation for ETCs to perform ETRP activities, ETCs must use influence or power as a tool to achieve what they believe. Five questions were asked of ETCs to determine their perceived level of power. Each question is structured as a seven-level Likert scale. Figure 1 displays the average ranking for each indicator of power.

On average, all five indicators of power or influence are found within the upper range of the influence scale. Power theory (4) suggests that the higher level the power they perceive they have, the

TABLE 6 ETCs' Attitudes Toward Performing Actions in the Face of TMT

Actions	To TMT°	To Supervisors°
Proposing \$1.00 Parking charge	2.46	2.61
Proposing \$3.00 rideshare benefit	3.61	3.83
Informing The TMT of failure	3.60	• •
to meet the target APO		

^{*} Rating 1 "extremely bad" with 4 being neutral, and 7 "extremely good".

^{**} No question is available for supervisors' attitudes toward ETC's informing failure of the sites' meeting the target APO.

TABLE 7 ETCs' Beliefs Toward How Likely It Will Help Their Career to Propose ECO Strategies

Actions	Rating score*
Proposing \$1.00 daily parking charge	5.89
Proposing \$3.00 daily rideshare benefit	5.74

more actively ETCs will perform at the site. ETCs feel most influential in promoting a guaranteed ride home and they believe that they have above average influence in affecting the outcomes of the ECO program. However, ETCs feel least confident about their department's general power in their company. The relatively modest_value for general power suggests that, on average, ETCs_will_not_be motivated to work at their creative peak in the performance of critical organizational tasks needed to meet the target APO. Recognizing the low level of perceived support ETCs receive from the TMT in proposing tough strategies (Table 6), the higher values obtained for indicators of issue-specific power suggest that strategies with little TMT support will be pursued.

Perceived Achievement Rates

How well will be state progress toward achieving the mandated reduction in dependence on the private automobile? Overall, 44 percent of the sampled ETCs feel positive toward their sites' meeting the-APO-target-by-November-15,-1996. However, the self-selected nature of the sampling frame suggests that for the ETC population as a whole, the perceived success rate will be far smaller. If it is assumed that the 80 percent of employers who did not send ETCs to training sessions are disinterested and unsupportive of the program, the 44 percent perceived success rate should be discounted to approximately 9 percent.

1. In general, how much influence do you feel your department has in your company?

No influence				4.98			A great deal of	
								influence
	1	2	3	4	↑ 5	6	7	

2. Specifically, how much influence do you feel your department has in affecting the outcomes of the ECO program?

3. Specifically, how much influence do you feel your department has in promoting the acceptance of a Guaranteed Ride Home Program?

4. What is the degree of influence your department has in its ability to convince top management that the target APO is for real?

No influence					5.41		A great deal of
							influence
	1	2	3	4	5 ↑ 6	7	

5. What is the degree of influence your department has in its ability to convince top management that poor public transportation resources around the site will require them to approve a strong ECO plan?

No influence					5.00		A great deal of influenc	е
	1	2	3	4	1	6	7	

FIGURE 1 Measures of general and specific intraorganizational influence or power perceived by ETCs to exist within their departments.

CONCLUSIONS

Achieving the target APO by the required date will be a daunting task. The job facing ETCs will draw on all of their interpersonal relations skills. Caught between top management and their supervisors on one hand, and other department heads and employees on the other, ETCs are in a stressful situation. While 44 percent of the sample currently feel their site will meet the commuting mandates, 50 percent of the ETCs indicate that their supervisors will provide only the support necessary to meet the paperwork mandates of the law; another 10 percent will not even do that. According to TMA estimates, the sample is over-represented with ETCs from large firms and from firms that are motivated to support the ETRP program. The percent of firms or employment sites that currently feel that they will meet the APO target is estimated to be under 10 percent. The ETC's career is perceived to be most threatened by pursuit of ECO programs that are most likely to change commuting behavior and bring the site into compliance with the law. Given the American penchant for the single-occupant vehicle, ETCs must find ways to work creatively and efficiently in meeting the site's target APO. Supporters of the ETRP provisions within the Clean Air Act must motivate and support the efforts of ETCs. Top management must be convinced of the value of the program; ETCs must spend more of their time educating the TMT regarding the underlying economic and health benefits that will accrue to firms and the region derived from the program's success. Supervisors and department heads must be convinced that the efforts of their ETCs are valuable and that changes in the employees' commuting or work schedules can have beneficial results for the firm. In summary, the responses suggest that the use of employer mandates is a questionable policy. Alternatively, public education, motivation, and voluntary compliance with meaningful clean air and congestion-relief programs should be considered by federal and state government.

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