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The Future Of Teleworking In Maryland State Government

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The Future of Teleworking in Maryland State Government

Submitted to the
Center for Public Service
Graduate Department of Public and Healthcare Administration
Master of Public Administration Program

By
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A Research Project Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Public Administration

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4-30-02

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4/30/02


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Introduction

Teleworking, also known as telecommuting, is any form of substitution of information technologies (such as telecommunications and computers) for work related travel; moving the work to the workers instead of moving the workers to work (Nilles, 1998). Futurist, Jack Nilles, introduced teleworking to the United States in 1973, during the height of the energy crisis. Nilles envisioned teleworking becoming a substitute for vehicle transportation, thus reducing the need for fuel consumption (US Department of Transportation, 1993). In the two decades following the energy crisis, other issues besides conservation were emerging, making the case for teleworking even stronger.

One of these issues was the rapid development of technology, especially the Personnel Computer and the Internet. Information and work were no longer being confined to the office. These devices allowed employees and their employers almost unlimited connectivity (Nilles, 1998).

During the same period, organizations were faced with growing demands to help their employees balance work and family life. In the 1980's, as more women were entering the workplace, the need for family friendly policies increased (US Department of Labor, 1999). Organizations recognized that the way to retain quality employees was to offer flexible work arrangements. It was a culmination of these issues that brought Nilles's vision to a climax.

In the late 1980's, Nilles home state of California introduced teleworking to its government employees. California envisioned teleworking as a long-term strategy for controlling the cost of office facilities, while improving the delivery of public services (California Department of Personnel Administration, 1996).

In 1992, following California's lead, President Clinton issued two memoranda that directed each agency in the executive branch of the federal government to support the expansion of flexible work arrangements, including greater use of home based telecommuting and telecenters (as cited by the Office of Personnel Management, 1998). These memoranda gave teleworking national legitimacy and helped initiate programs at the state level. As a result, government was championing teleworking and strongly encouraging the private sector to follow suit.

While Nilles originally introduced telworking as a way to help reduce energy consumption, many of these new programs were finding it had some unexpected benefits as well. Some of these include:

For the employer:

- Increased employee productivity - Average employee productivity while teleworking has been found to increase 10-20% (Nilles, 1998).
- Reduced real estate costs - Organizations employing large numbers of home-based teleworkers reported as much as a 33% reduction in office space (Nilles, 1998).
- Reduced absenteeism and sick leave- Employers have reported teleworkers taking on average two days less sick leave per year (Nilles, 1998).
- Increased retention rates - Organizations that offer teleworking have been able to retain valued employees, avoiding turnover costs of over \$7,000 per employee (Nilles, 1998).
- Recruitment tool - In addition to retaining employees, teleworking has been found to be an attractive benefit for employment candidates (US Department of Transportation, 1993).

For the employee:

- Reduced commuting expenses - An employee who travels on average 45 miles round trip to work can expect to save approximately \$920 per year on automobile operating costs and another \$400 per year on clothing and food expenses (Nilles, 1998).
- Increased flexibility of schedules - Teleworking allows employees to balance their work and family responsibilities (US Department of Transportation, 1993).

For the community:

- Reduced air pollution and traffic congestion - Getting commuters out of their cars and off the roads will reduce the noxious gases associated with air pollution. Eliminating about 3,000 automobiles from the everyday commute would also likely have a positive impact on traffic flow and road infrastructure costs (Nilles, 1998).
- Reduced crime rate - As teleworking increases the number of people who are at home during the day; property crime and drug sales could potentially drop (Nilles, 1998).

Despite all these proven benefits, teleworking has still been slow to take off.

According to a Washington Post report, in the nearly 10 years since the federal government's program was introduced, only a few thousand employees are currently teleworking (2000), falling well short of President Clinton's goal of having 60,000 federal government employees teleworking by 1998 (Office of Personal Management, 1996). State government efforts have not fared much better. In California, the first state government to launch teleworking, only 50 of 150 state agencies participate in its program (California Department of Personnel

Administration, 1996). Similarly, in the nearly two years since teleworking was initiated in Maryland State Government, it has drawn less than 1% employee participation (Maryland Department of Budget and Management, 2000).

Despite such positive beginnings, why has government failed to make teleworking work within its own system? Once the role model for teleworking, the government now has been overtaken by the private sector (Florida, 1997). This paper will investigate why these programs have experienced problems. First, it reviews the barriers found in telework literature and other programs. Then, it will report the results of a survey conducted on Maryland State Government's teleworking efforts. Based on the findings of this research, recommendations for policy changes will also be made.

Methodology

This paper examines the failure of teleworking to thrive in the government workplace. This examination includes:

- Analyzing the barriers to teleworking in both the private and public sectors by reviewing telework literature;
- Drawing on the teleworking pilot experiences of Arizona, California, Florida and Washington State to identify issues that have inhibited their telework programs;
- Conducting informal phone interviews with telework coordinators from the US Department of General Services and the Office of Personnel Management to obtain their views about the federal government's teleworking efforts; and
- Surveying the agency coordinators of Maryland State Government's Pilot Teleworking Program to determine if they identified similar program issues to those of their colleagues. The coordinators were selected to participate in the survey because of their knowledge and experience with the State's teleworking program within their own agencies. A total of 30 telework coordinators were surveyed; 20 surveys were returned for a response rate of 67 percent. The survey (see appendix one) is divided into three main sections or target areas:
 1. Coordinators were asked for specific teleworking statistics on their agency including: number of employees, number of teleworkers, and number of teleworkers and supervisors of teleworkers trained.

2. Coordinators were then asked to rate a series of statements about teleworking. These statements are based on the barriers found in the literature review and case studies.

3. Lastly, coordinators were asked to rate the level of support that employees in different age groups in their agency have for teleworking.

Obstacles encountered during this research included limited participation by the state agencies in the teleworking program as well as a restricted time period to collect the survey data. Each of these factors may have contributed to the response rate. The lack of initial participation in the program narrowed the sample size significantly and the time constraints resulted in an inability to follow up with the coordinators who did not initially respond.

Organization of Report

This paper is divided into three sections. Section one, the literature review, provides a discussion of the barriers to teleworking found both in the public and private sector. Section two provides a background of Maryland's teleworking program and discusses the results of survey data collected from this program. Section three concludes with the identification of strategies and activities that could be used by government to minimize the barriers and enhance their chances of maintaining an effective teleworking operation.

Background

During the early stages of teleworking's development one of its biggest supporters was government. Both federal and state government began implementing pilot programs and strongly encouraged employee participation.

Federal Government

In the early 1990's, the federal government brought teleworking to the national scene by supporting and providing funding for it in the Clean Air Act Amendment of 1990, the Intermodal Surface Transportation Efficiency act of 1991 (ISTEA), the President's Management Council, which created the National Telecommuting Initiative Action Plan, the Federal Telework Centers and the President's Global Change Action Plan (US Department of Transportation, 1993). As a result of these efforts, the Federal Government became teleworking's primary supporter and spokesperson.

In 1992, the federal government began a flexi place pilot project, which included 700 employees from 14 different agencies (US Department of Transportation, 1993). The project's evaluation found that the teleworker's supervisors reported that individual and organizational performance was as good as or better than before. Employees reported improved motivation and quality of life as well as reduced commuting time, job related expenses, and sick leave use (US Department of Transportation, 1993). In addition, 80% of the supervisors and nearly all participants agreed that teleworking was a desirable work option requiring minimal refinement (US Department of Transportation, 1993). In 1994, the program was expanded to include all federal government departments and agencies. The full-scale program, however, has failed to match the pilot's success. According to the General Services Administration estimates, only between 25,000 - 30,000 of federal government

employees, or 1-2% of the civilian, non-Postal workforce, are teleworking (Dr. Wendall Joice, personal communication, September 28, 2000). This estimate falls far below President Clinton's 1996 goal.

State Government

State government has had similar growing pains. In 1988, teleworking was introduced in California as an idea to manage an increasing demand for office space. California envisioned teleworking as a long-term strategy for controlling the cost of office facilities while improving the delivery of public services (California Department of Personnel Administration, 1996). The pilot found that teleworking improved quality of life for employees, increased their work effectiveness and reduced office space requirements, traffic congestion and air pollution (California Department of Personnel Administration, Telecommuting Program, 1996). The success of the pilot resulted in the California Legislature enacting the State Employee Telecommuting Program, which called for every state agency to review its work operations to determine where teleworking could be a practical benefit to the agency. Each agency was to then develop and implement a plan in areas where teleworking was identified as being both practical and beneficial to the organization (California Department of Personnel Administration, Telecommuting Program, 1996). However, after its initial success, the State's teleworking numbers have leveled off. Currently, only approximately 1.2% of the 275,000 state government workforce is teleworking (California Department of Personnel Administration, Telecommuting Program, 1996). Why have such promising initiatives failed to take off? Reviewing the literature we find several barriers to teleworking's continued growth and development. In the next section, these are discussed at length.

Teleworking: Opportunities and Challenges

Culture Change and Management Support

The very best telework programs I have seen are the ones that involve a lot of planning to consider these culture changes, and also anticipate what else in the organization must change for telework to succeed in the long run (Gordon, 1999).

In order for telework initiatives to be successful in the long-term, organizational change is required. Joanne Pratt notes the inability to initiate a culture change as the primary reason teleworking programs falter and cites it as the most important aspect to address when creating successful telework initiatives. "Corporate culture continues to be a primary barrier to change," she said (Pratt, 1998). In interviews Pratt conducted with employees from Houston, Texas, corporate culture was mentioned as the number one telecommuting barrier. One respondent observed that getting their company to adopt a teleworking program "would take a miracle.... our culture just hasn't got past having someone stand over employees with a whip" (Pratt, 1998).

Often contributing to this barrier is middle management. They have been cited as one of the main obstacles to overcoming organizational resistance (Pratt, 1998). According to Pratt, the way to address manager resistance is to address the culture of the organization (1998). If the organization has not fully supported a paradigm shift from management by walking around to management by results, its middle managers will reflect this.

The negative effects of managerial resistance have proven to be a real concern. A California study has shown that teleworking programs can highlight both the strengths and weaknesses of existing management practices (Nilles, 1990). Thus, if the current

organizational philosophy is based on management by walking around teleworking will have a difficult time gaining acceptance.

Government has been one of the slowest sectors to make the transition. In a study conducted in 1990, fewer than 10% of federal government managers favored telework, citing the need for interaction of individuals in offices to work effectively (US Department of Transportation, 1993). A Washington State University Cooperative Extension Energy Program study (2000) found that the success of telecommuting largely depended on how well institutionalized the program was. The more established, more control oriented the state agency and its management was, the more difficult it was to establish a telework program. Similarly, Utah State's teleworking program found that its biggest roadblock was that their manager's idea of success was based on the number of people in the office (CNN, 2000).

Measuring Results

A Commuter Challenge survey of organizations in Washington State was conducted to better understand why alternative work arrangements, including teleworking programs that are initially promising within an organization do not grow or may even languish (As cited in WSU, 2000). The survey results suggest that organizations are taking a laissez-faire approach toward teleworking and results are not being measured.

Costs and Technical Support

Another barrier often mentioned by organizations is teleworking's initial start up costs, especially those associated with technology and technical support. A US Department of Transportation study (1993) found that implementing a teleworking program can include costs associated with: (1) equipment, particularly the purchase and installation of phone lines and computers and, (2) manager and employee preparation, such as training. Overall, these implementation costs can total over \$6,000 per teleworker. Another study conducted by

AT&T found that companies that do not provide adequate equipment and infrastructure support are likely to experience reduced teleworker productivity (2000).

In Arizona, security concerns associated with insufficient IT resources forced teleworkers to purchase their own equipment or use computers they already had at home. In a survey the State conducted following their pilot (1994), a majority of agency directors indicated that the lack of financial resources to support automation, presented a significant obstacle to initiating or expanding a teleworking program. Approximately half of these directors stated that they were willing to expand their programs if resources became available.

Training

Some organizations have found that teleworking has not delivered the results, such as reduced real estate costs and higher worker productivity that was originally promised. Mark Wallace, of the Center for Workplace Effectiveness Inc., surveyed 150 companies, 60% of who have cut back on teleworking because it has not lived up to its expectations. "Our research experience has been that teleworking, so far, has been a disappointment for most organizations that have tried it" (as cited in HR Magazine, 1998). One reason, according to Wallace, is that employers may not be adequately training their staff to deal with the teleworking experience. "Without proper training, people are really ill-prepared to [telework] and many get very frustrated" (as cited in HR Magazine, 1998). Steve Schilling, president of Tele Commute Solutions, found that even though some employers do provide training, they often focus on the wrong aspects of teleworking. The most common mistake he sees is that employers "train on technology, but they don't get into the basic experience -type things or the coordination-type things" (as cited in HR Magazine, 1998).

Isolation and Communication

As a result of improperly focused training and support, some teleworkers have had to address feelings of isolation. They [teleworkers] have experienced a real sense of isolation and a loss of workplace visibility and thus viewed teleworking as potential disadvantage to them personally (US Department of Transportation, 1993). Sirkka Heinonen, senior research scientist at VTT Communities in Finland, believes isolation can be a major barrier to teleworking. In an interview with AT&T she stated, "Today the biggest obstaclesare employers who are afraid of lack of control and employees who are afraid of isolation or of being fired" (2000).

Many employees also believe that teleworking can cause them to be out of sight, thus out of the mind of their managers when it comes to professional advancement or promotion. One teleworker emphasized this fear stating, [Telecommuting] has severely damaged my advancement ability within my company, I'm an afterthought to most managers and have to actively fight to receive any project assignments at all. Receiving any type of company services, from HR to IT, is difficult. I'm always on someone's list, but they just don't seem to get around to it (Anderson, 1999).

A study conducted by Ford & Butts, (as cited in US Department of Transportation, 1993) found that teleworkers were also concerned that being away from the office may have hindered their ability to be kept in the loop with their co-workers and the informal communication network in the office. These individuals reported being much more comfortable dealing with others on a face-to-face, informal basis, than in the more impersonal, restrictive media of phone and e-mail.

Overworking

When employees telework they have 24 hour access to work. As a result, some employees have reported that teleworking has caused them to overwork. In fact, according to Jack Nilles, one of the prime dangers to happy teleworkers is workaholism (1998). Office routines generally establish a structure to the workday: there is a routine for arriving at work, going to lunch, and going home. At home, there is no built-in structure, and employees may not know when to take a break or when to stop working (Roseman, 1999).

Summary

For teleworking to be successful it cannot operate in a void. Organizational leadership must be supportive both financial and socially, teleworker goals must be measurable and supervisor expectations well communicated. Additionally, training must be appropriate so that it addresses issues that teleworkers may face while they are away from the office, such as feelings of isolation and overworking.

Telecommuting.... has the potential to be a win-win solution for employers and employees if and only if it is used in the right situations, the right way, and for the right reasons (Gordon, 2001).

Maryland's Experiment in Teleworking

Teleworking in Maryland began in response to the growing demand to find solutions to the continuing problem of traffic congestion and air pollution in the Baltimore-Washington Metropolitan Area. This region currently ranks second in the nation, behind only Los Angeles, in road congestion (Texas Transportation Institute, 2000). According to the Texas Transportation report, this ranking costs the area:

- One week and a half of work missed annually per commuter,
- \$1,025 per capita and over \$4 billion total cost to region, and
- \$1,300 annual congestion cost per driver.

In addition to addressing the State's traffic problem, Maryland policy makers recognized that teleworking could help recruit and retain State employees, a problem facing many government entities throughout the country (Washington Post, 2000). Maryland's Secretary of Budget and Management, Eloise Foster, said, "Teleworking is a powerful tool for recruiting and retaining valuable employees... Maryland has recognized these benefits and has developed this program so that the State, as an employer, can lead the way to a cleaner environment through a more flexible and productive workplace" (T. Eloise Foster, 2000).

In 1999, the Maryland General Assembly passed HB 870, which created a pilot teleworking program and directed the Department of Budget and Management (DBM) to establish program requirements. DBM created the following requirements:

- Each agency in the Executive Branch of State Government must meet a goal of allowing 10% of all "eligible employees" to telework at least four days per

month. DBM identified "eligible employees" as those employees who are in a job identified by the employee's supervisor as being suitable for teleworking.

In addition to these requirements, the legislation specified that DBM establish a steering committee, comprised of agency representatives, which would help promote teleworking. The committee would gain knowledge and expertise in teleworking by assisting DBM in implementing teleworking programs throughout the Executive Branch of State Government.

In December 1999, DBM was instructed to submit a progress report to the General Assembly. During this time, the steering committee had representation from 50 of the approximately 100 Maryland State Departments and Independent Agencies and had identified approximately 5,900 employees who were eligible to telework (Department of Budget and Management, 1999). This was approximately 8.7% of the State Government workforce. To meet the General Assembly's goal, approximately 600 State employees needed to be teleworking by 2001.

Since the initial mandate, progress towards meeting this goal has been slow. Only 475 State employees are currently teleworking and most of these employees represent only a handful of agencies. Why has teleworking failed to take off in Maryland? Do the barriers parallel those found by other government agencies trying to implement teleworking programs? In an effort to determine the reasons behind the lack of participation, a survey was conducted of 20 agency telework coordinators. Participants were chosen because they supervise teleworking within their agency and thus were best able to assess the current status of the program. If the survey finds that there are similarities to the other telework programs, then perhaps the lessons learned from these experiences can be applied to improving Maryland's program as well.

In April 2001, the telework survey (appendix 1) was distributed and the coordinators were asked to assess their agency's teleworking program. For the purposes of confidentiality and anonymity, the coordinators were not asked to specifically identify their agencies. Each survey returned, however, was assigned a number, 1-20, which represents a coordinator's response.

The first section of the survey asked the coordinators to provide their teleworking program's demographics. Responses are grouped and averaged together based on agency size and participation rates.

Table 1: Agency Teleworking Participation Rates

Agency Size (# of employees in agency)	1-99 employees	100-499 employees	500-1,499 employees	1,500+ employees
Telework Eligibility rates % = (# of employees in agency/ # of employees eligible to telework)	46%	34%	14%	8%
Telework participation rates % = (# of employees eligible to telework / # of teleworkers)	52%	17%	19%	10%
Total # of agencies in each category	3	8	5	4

Table 1 indicates that as agency size increases both telework eligibility and telework participation rates decrease. Despite this finding, all categories are still meeting the 10% participation goal. In fact, only three of the 20 agencies that contributed to the survey are not meeting the State mandated goal. Based on this observation alone Maryland's telework pilot program is showing good success. However, it must be noted that other government pilot programs fared equally as well in the beginning only to have them diminish with time. Additionally, if we compare the number of employee's teleworking vs. the number of

employees within the entire state workforce, then the teleworking numbers seem much less impressive. Teleworkers represent approximately 1% of the total State workforce. This is due largely to the fact that teleworker selection is very subjective (Nilles, 1998). Each supervisor makes the decision as to which of his/her employees are eligible. While the Department of Budget and Management does provide some selection guidelines to follow, in the end the decision to allow an employee to telework is still up to the supervisor. As a result, teleworking is largely dependent on the supervisor's opinion of it. If the supervisor is supportive he or she will be more likely to have teleworkers, conversely if the supervisor is unsupportive he or she will have less employees identified. While this is true in any organization that has a teleworking program, it seems even more prevalent in government.

Table 2 Agencies Teleworking Training Demographics

Agency Size (# of employees in agency)	1-99 employees	100-499 employees	500-1,499 employees	1,500 employees+
Telework training participation rates % = (# of eligible employees / # of eligible employees who received telework training)	18%	4%	29%	13%
Supervisors of Teleworkers participation rates % = (# of eligible employees who received telework training / # of Supervisors of teleworkers who have received training)	0%	2%	21%	2%
Total # of agencies in each category	3	8	5	4

As table 2 indicates, only a small percentage of both teleworkers and supervisors of teleworkers have received training. These results show that the agencies have had difficulty in attracting both subordinate and supervisor participation. As mentioned in the literature review, insufficient or inappropriate training has been a barrier to other teleworking

programs. Both eligible employees and their supervisors must be properly trained if teleworking is to be effective.

In fiscal year '01, perhaps realizing the importance of training, the Maryland General Assembly allocated funds to the Department of Budget and Management to provide teleworking training free to all executives, supervisors and teleworkers within each executive agency. This training began in May 2001 and may prove to be the incentive the agencies need to increase participation.

The next section of the survey uses a Likert scale to ask the coordinators to rate their agencies teleworking programs on a scale of 1-7; one= strongly agree and five=strongly disagree, with 6=n/a and 7=not sure/don't know, respectively. The coordinators were asked 13 statements about their programs. The statements were divided into five categories; category A relates to management support of teleworking, category B deals with the benefits of teleworking, category C is concerned with funding and IT support, category D discusses communication issues associated with teleworking, and lastly, category E relates to telework training.

Table 3: Lack of Senior Management & Supervisor Support for Telework

Ratings	% (Senior Management)	% (Supervisors)
Strongly Agree and Agree	60%	75%
Neutral	15%	10%
Strongly Disagree and Disagree	15%	15%

As table 3 indicates, a majority of the telework coordinators do not have much confidence in their management's support of

teleworking. More than half of the coordinator's who responded said that there is a lack of managerial support for teleworking. These results may prove to be problematic if teleworking is to have any sustainability within the agencies. Other telework studies have shown that management support is critical to maintaining effective teleworking programs.

Conversely, 15% of the coordinators responded that both senior management and supervisors within their agency are supportive of teleworking. Perhaps these agencies can be utilized as a model for the state agencies whose teleworking programs have not gotten off the ground because of unsupportive management. Follow up research should be conducted to determine why these managers and supervisors are supportive of the program.

Agency coordinators were also asked if any organizational, community or employee teleworking benefits are being assessed within their agencies. Some of the indices may include increased productivity or decreased turnover for the organization, decreased traffic congestion and air pollution for the community, and increased job satisfaction for the employee.

Table 4 shows that the responses are somewhat mixed. Approximately a third of the coordinators said that benefits are being assessed, while another third said that they are not. Agencies who are not measuring results may find it difficult for them to expand or even justify their existing programs. The agencies that are measuring their results, however, can provide insight into the effectiveness of their teleworking programs. Additionally, follow up research can determine what specific indices these agencies are measuring and if their results parallel the findings of other teleworking programs.

Table 4: Organizational, Employee and Community Benefits of Teleworking are Being Assessed

Ratings	% (Organ. Benefits)	% (Employee benefits)	% (Community benefits)
Strongly Agree and Agree	40%	40%	45%
Neutral	10%	0%	0%
Strongly Disagree and Disagree	30%	35%	35%

Table 5: Lack of Technical Support and Funding for Teleworking

Ratings	% (Tech. Support)	% (Funding)
Strongly Agree and Agree	45%	50%
Neutral	15%	15%
Strong Disagree and Disagree	15%	20%

The data on table 5 shows that 45% of the telework coordinators “strongly agree” or “agree” that their agencies are not providing

enough technical support to handle specific teleworking needs. Similarly, 50% agreed that there is not enough funding being dedicated to the teleworking effort.

Table 6: Agency Values Social and Face-to-Face Communication

Ratings	% (Social Interaction)	% (Face-to-face communication)
Strongly Agree and Agree	30%	45%
Neutral	15%	15%
Strong Disagree and Disagree	35%	30%

As table 6 indicates, results were mixed when asked if the telework coordinators’ agencies

valued social interaction between co-workers. The mixed score implies a need to further assess the differences in the nature of the businesses within the various agencies. For example, some of the agencies participating in the state’s teleworking program, such as the Department of Labor Licensing and Regulation, have several field representatives who are used to conducting business with little interaction between co-workers. However, other agencies, such as Department of Human Resources, who also participate in the program, often require frequent interaction among their co-workers in order to effectively do their jobs and therefore value social interaction more. If it can be determined, through follow up research, that certain types of agencies are teleworking more than others due to the nature of their services, than it may help the program recruit additional participants in the future.

Survey participants were also asked to rate their agencies on how much they value face-to-face communication over electronic communication. As table 7 shows, results are again mixed. While 45% of respondents said that their agency favors face-to-face communication, there was a significant number of respondents, 30%, who disagreed with this statement. This may again be a result of the varying responsibilities and/or services of the participating agencies, but additional research is needed to determine if it is in fact a contributing factor.

Table 7: Lack of On-going Communication Between Supervisors and Subordinates and Senior Management and Line-Employees

Ratings	% (Supervisory/ subordinate communication)	% (Senior manage / line employee communication)
Strongly Agree and Agree	70%	70%
Neutral		0%
Strongly Disagree and Disagree	20%	20%

Table 8: Misconceptions about Teleworking & a Lack of Telework Training

Ratings	% (Misconceptions)	% (Training)
Strongly Agree and Agree	50%	65%
Neutral	10%	5%
Strongly Disagree and Disagree	20%	30%

Table 8 shows that a majority of respondents also

agreed that there are misconceptions about teleworking. Research has shown that other teleworking organizations initially had misconceptions about teleworking including beliefs that teleworking would cause isolation and decrease communication. Once these programs were fully implemented, however, results confirmed that these misconceptions were unfounded. Responses to this survey indicate that some state agencies have misconceptions as well. Perhaps in time, and if teleworking results are measured by the agency, then these misconceptions will fade as well.

Table 8 also shows that 65% of the coordinators agree that there is insufficient teleworking training within their agency. These results closely mirror the training demographics displayed in table 2 as only a few percentage of teleworkers have actually received any training.

Table 9 Most Significant Barriers to Teleworking

Barriers	% Respondents
Management Support/ Organizational Culture Change	40%
Training	20%
Funding/ Technical Support	15%
Communication/ Isolation	15%
Results	0%
Other	0%

Survey respondents were also asked to specify which teleworking barrier (Tables 3-8) is the most significant to their agency's teleworking program. Table 9 summarizes these results. Respondents identified a lack of management support (40%) and a lack of training (20%) as the two greatest barriers to teleworking. These findings indicate that agencies must do a better job at educating and training their managers if they are to reap any of the recognized benefits of teleworking.

Lastly, to establish if age may be a factor in determining support for teleworking, coordinators were asked to rate which age group within their agency has been the most supportive, those under 40 or those over 40. The age groups were divided in this manner in an effort to establish if younger workers demonstrated a different attitude towards teleworking than that of their older co-workers.

Table 10 shows that a majority of the coordinators said that employees under 40 are the most supportive of teleworking. This response may indicate that younger employees may

be willing to utilize teleworking as an alternative work option, both for themselves and their employees, more so than the older ones. Additionally, as employees under 40 continue to move into supervisory and managerial positions, teleworking may have an increasing amount of success. While current studies have shown that teleworking has grown steadily over the last five years (Wells, 2001) further research must be conducted to verify if in fact the younger generation's support for teleworking is at all a factor in these increased numbers.

Table 10: Age Group that has been the Most Supportive of Teleworking

	Frequency	%
40 & under	11	55%
Over 40	2	10%
Both Supportive	2	10%
Neither Supportive	2	10%
Not Sure/Don't Know	3	15%

Conclusions and Recommendations

Teleworking has many benefits to offer government. However, there are significant barriers to overcome if these benefits are to have any real measurable impact. Based on the findings of this research these barriers include:

- Inability to initiate a culture change (e.g. lack of supervisor and senior leadership support)
- Costs
- Inability or inconsistency in measuring results
- Training deficiencies

These barriers exist throughout many different government entities. Problems that have been plaguing older, established telework programs, such as the federal government are not different from the problems found in newer initiatives, such as Maryland's Teleworking Program. While additional barriers have not been uncovered, it is troublesome that these same barriers have not yet been overcome.

What happens next depends on the willingness of government to further develop and expand its teleworking programs. The following recommendations are aimed to help accomplish this goal.

Shift Telework Focus from Implementation to Sustainability

Many government teleworking programs have been in existence for over five years, but they are still being managed like they are new initiatives. These programs can't seem to get past the development stage. If they are serious about furthering their teleworking efforts, then they need to shift their focus from getting teleworking started to supporting the evolution of successful programs in the long-term (Washington State University, 2000).

Some ways to accomplish this are to dedicate funding and technology to teleworking, offer reoccurring telework training seminars, link telework goals to organizational goals, promote teleworking whenever possible, and continuously monitor teleworking results.

Provide Additional Funding and Technological Support

If government entities are serious about teleworking, then additional resources must be allocated to support this effort. Many government teleworking programs were initiated through legislation or executive order. As a result, little or no funding was allocated for this effort, forcing each agency to find money for teleworking within their already tight budgets. Thus, many agencies are doing what they can afford, which in many cases are the minimum requirements under their mandate. Unless money is specifically allocated for teleworking, agencies will not be able to promote and expand teleworking.

Lack of funds has also caused many government employees to purchase or use their own personal computers and equipment in order to telework. Most of the government entities researched for this project are providing only phone cards or reimbursement for their teleworker's business related phone calls. If their employees want to telework, they are expected to have the necessary equipment at home, purchase it themselves or work from a telework center. In Arizona, senior managers noted that they would be willing to expand their programs if the financial resources for technology and equipment became available (Arizona State Telecommuting Zone, 1998). This sentiment may be true of other teleworking programs as well. In addition, a lack of support may make employees question the level of sincerity and commitment their organization has to teleworking. Employees who cannot afford to purchase their own equipment and thus cannot telework, may begin to feel resentment towards their organization, or worse, their coworkers who can.

A growing telework program also needs to take advantage of the continuous improvements in technology. This can provide an organization, and its employees, with cheaper and faster means of communication, thus making teleworking more accessible. The private sector has surpassed the government's teleworking efforts largely because they have acknowledged this and thus have been willing to supply a large portion of the upfront costs associated with the changing technology needed for teleworking. Private industry recognized that these costs are insignificant compared to the potential long-term savings teleworking can provide. This investment also encourages the employees to participate because they see that their organization is supporting the effort both socially and financially and thus making it more appealing to employees. Maryland is attempting to alleviate this problem by providing state agencies grant money to help with the purchasing of teleworking equipment. While this is a step in the right direction, currently the \$50,000 that Maryland has available must be distributed between all 150 agencies that are potentially eligible to apply for the grant. If government is seriously committed to teleworking, then they must be willing to show that support by allocating the resources needed for its growth and development.

Link Teleworking Goals to Overall Organizational Goals

As the survey of Maryland Telework Coordinator's reiterated, an inability to initiate a culture change is still a significant barrier plaguing teleworking's expansion in government. One way to combat this problem is for government agencies to link teleworking goals, such as decreased absenteeism and turnover, to their organizational goals, such as efficiency and effectiveness, thereby sending a message to managers and supervisors that the organization is committed to change and won't tolerate 'business as usual.' Washington State Cooperative Energy Program's telework study reinforces this theory stating, "successful teleworking initiatives make a commitment to creating organizational change through visible upper

management support and linking the initiative to the organization's business strategy" (Washington State Cooperative Energy Program, 2000).

Provide Ongoing Support, Training and Outreach

Training deficiencies are a problem in both the federal and state government programs researched. Maryland's telework survey indicated only approximately 14% of eligible employees and even fewer supervisors of teleworkers have been trained. As mentioned in the data analysis, this presents a problem for telework supporters who are trying to initiate both a culture change and effectively measure results.

The Office of Personnel Management (OPM), the agency in charge of coordinating the Federal Government's Teleworking Program, was not even able to provide statistics on training (Mallie Burrus, personal communication, February 16, 2001). According to Mallie Burrus, head of the interagency telework coordinating effort, OPM is looking to provide telework training for managers. However, in the ten years since the teleworking's introduction into the federal government, this training has yet to materialize. Currently, each federal agency is responsible for its own teleworking programs. Thus some agencies are training and collecting measurable results, while others haven't even identified potential teleworkers. Unfortunately, it's these inconsistencies that may be contributing to teleworking's failure to flourish.

One way to help alleviate these inconsistencies, without making training mandatory, is to promote the training not specifically as "teleworking," but as goal setting and management skills and to offer it on an on-going basis. This approach allows both teleworkers and their supervisors to address, and then follow-up on, problematic issues, such as communication, technology and measurement. Another organization that participated in a teleworking pilot program noted, "The biggest surprise for management was the extent to

which the teleworking efforts must continue to evolve in order to be successful. Ongoing education for teleworkers is essential. They need to be highly proficient with computer technology and troubleshooting” (Mid-West Institute for Telecommuting Education, 2000).

While on-going training and education is needed for the long-term success of a program, if it is even going to make it past the pilot phase senior-level support is critical. In many of the government programs evaluated very little was mentioned about executive support. The fact that many programs had been created through an executive order or legislation had little influence on an agency’s decision to actively participate. In fact, there may be more resistance because it has been mandated, with little or no financial support. This perhaps sends the message that teleworking is just a politically motivated program that will disappear with a new administration. If teleworking is to have any impact, then senior leadership needs to emphasize that teleworking has been implemented because it makes good business sense, not because it is politically popular. The best way for senior leadership to convey this is through on-going agency-wide communications about teleworking’s latest developments and successes. This can be accomplished through meetings, e-mails, brochures and a teleworking Intranet site.

Measure and Demonstrate Success

Successful teleworking programs utilize a variety of measures to obtain results. Unfortunately, government has often relied too heavily on qualitative or anecdotal information to justify their programs. According to the survey, only five of Maryland state agencies measure any organizational results. This presents a problem, because evaluation is critical to obtaining upper management support and the resources needed to ensure program sustainability. Measurement is also an effective way to address and overcome supervisor resistance. Government may rely too much on anecdotal data because collecting certain

quantitative data, such as increased employee productivity may be difficult to obtain.

Compared to private industry, many government agencies have no real financial bottom line and, as a result, they find it difficult to measure financial benefits, such as increased worker productivity and real estate savings.

One way to resolve this dilemma is to train supervisors not only on how to manage teleworkers but also on how to effectively manage by results. This training will benefit both teleworkers and regular workers by addressing the potential questions of fairness as well as establishing good management and accountability practices.

Final Thoughts

During the past five years private industry has largely overtaken government as the main promoter of teleworking. Private industry has been reaping the benefits of teleworking while government efforts have often never expanded past the pilot phase, thus never fully receiving the full benefits of teleworking. In an effort to change this, government entities now seem more willing to further expand teleworking. During the course of this research some governments have begun to reexamine and reprioritize their teleworking efforts.

In February 2001, the acting Director of the Office of Personnel Management (OPM), Steven Cohen, issued a memorandum to all Executive Department and Agency heads stating that they must meet the FY'01 Transportation Department appropriations mandate. This measure requires all executive agencies to establish teleworking policies and to ensure that 25% of the total federal workforce is covered by these policies by June 2001. The purpose of the measure is to encourage each agency to take a fresh look at the barriers that currently inhibit the use of teleworking in order to increase participation of Federal Government employees.

Maryland also seems more committed to expanding teleworking. The Maryland General Assembly allocated nearly \$500,000 to the Department of Budget and Management's FY'02-05 budgets for the purpose of training teleworkers, supervisors and coordinators. In addition, the States' Department of Transportation created the Telework Partnership with Employers Program. This program gives grants to Maryland employers who actively promote teleworking within their agencies. As a result of this program, the

International Telework Association and Council (ITAC) recognized the Maryland Department of Transportation as one of its 2000 Stars of Telework.

During the next decade telework will continue to grow and significantly shape how and where work gets done, with or without government participation. Only through proactive policies and a strong commitment from leadership, will government be able to once again influence the long-term decisions that effect teleworking for future generations.

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Telework Survey

1. How many employees are there in your agency? _____
2. How many of these employees have been identified as being eligible to telework?

3. How many eligible employees are currently teleworking at least four days per month?

4. Approximately how many of the eligible employees have received telework training?

5. Approximately how many supervisors of the eligible employees have received telework training?



6. Please rate the following statements on a scale of 1-7:
1=Strongly Agree; 2= Agree; 3=Neutral; 4=Disagree; 5= Strongly Disagree; 6=N/A;
7= Not Sure.

A.	1	2	3	4	5	6	7
A.1 There is a lack of support for teleworking by senior management within my agency.							
A.2 There is a lack of support for teleworking by supervisors within my agency.							

B.	1	2	3	4	5	6	7
B.1 The organizational benefits of teleworking are being assessed within my agency.							
B.2 The employee benefits of teleworking are being assessed within my agency.							
B.3 The community benefits of teleworking are being assessed within my agency..							

C.	1	2	3	4	5	6	7
C.1 There is a lack of technical support for teleworking within my agency.							
C.2 There is a lack of funding for teleworking within my agency.							

D.	1	2	3	4	5	6	7
D.1 Social interaction between co-workers is valued within my agency .							
D.2 Face-to-face interaction is favored over electronic communication within my agency.							
D.3 There is a lack of on-going communication between supervisors and their subordinates within my agency.							
D.4 There is a lack of on-going communication between senior management and line employees within my agency.							

E.	1	2	3	4	5	6	7
E.1 There are misconceptions about teleworking within my agency.							
E.2 There is a lack of telework training within my agency.							

7. Which one of the categories listed in question 6 is the most significant barrier for your agency to overcome.

A: Culture Change and Management Support

B: Measuring Results

C: Costs and Technical Support

D: Isolation and Communication

E: Training

Other, please identify:

8. Which age group within your agency has been the most supportive of teleworking?

40 and under

Both are equally supportive

Not sure

Over 40

Neither are supportive

9. Please list any recommendations you have for improving and/or expanding teleworking within your agency.

Thank you for your feedback!