Telework Case Studies
“Business and environment are sometimes thought to be in direct opposition to one another…I think that is absolutely wrong. In fact, I believe there is a direct correlation — a direct link between business success and environmental progress.” Lord John Browne, Chief Executive, BP

BP is one of the world's largest petroleum and petrochemicals groups. BP conducts exploration and production of crude oil and natural gas; refining, marketing, supply; transportation; and manufacturing of petrochemicals. BP has operations in Europe, North and South America, Australia and Africa. BP’s internal communications state that “BP believes that it's very important to strike the right balance between work and home…Depending on your location and what your job is, telecommuting and teleconferencing may take the place of travel.”

**Background and Implementation**

Numerous BP business units have allowed employees to telework. This case study is compiled based on the pilot telework program started in the North America exploration and production stream. There are approximately 150 employees that have been informally teleworking in that group for the past two years. An additional pilot program has about 40-50 participants and is being evaluated for ninety days.

Some of the main business drivers in implementing a pilot telework program in the exploration and production business unit are:

- To improve work/life balance for some employees.
- Support BP’s “Green” brand value and commitment to being the environmental steward in the energy industry.
- In response to long commute times created by Houston traffic.
- And in part of their continued effort as being “a great place to work.”

All pilot participants had the approval of their managers for teleworking and had to attend an enrollment session that included Home Office Safety training, discussion of guidelines, overview of remote IT access options, and training on Teletrips software.

**Employee Benefits**

Based on a survey of teleworkers, some of the benefits of teleworking included: reduced stress, improved productivity, reduced commute time and commute-related costs, improved morale, and the ability to focus without office interruptions.

**Challenges and Program Improvement**

Some of the teleworkers reported experiencing connectivity and communication problems. At times the electronic connections were slow, or the VPN was not working.

BP recently implemented the Internet-based Remote Access System program (i-RAS) to make it easier for employees using complex network-based programs, such as geoscientists and engineers, to telework. It is expected that this upgrade will ameliorate some of the connectivity issues.
Results

Demographics
Based on an initial survey, the BP teleworkers are 38 % female and 62 % male. On average they have been working for BP for 19 years and at their current position for 30 months. Most of the teleworkers hold technical positions (62 %) and spend their telework days accomplishing the following tasks:

- Writing/Editing 95%
- Word processing 81%
- Reading 71%
- Talking on the phone/Sales 67%
- Data Management/Computer Programming 57%
- Administrative/Coordination 52%

All of the telemanagers (managers of teleworkers) have teleworked before and 67 percent have supervised teleworkers before.

Productivity
Teleworkers reported an increase in productivity. About 57 % of teleworkers said their productivity improved with teleworking. One teleworker reported as much as a 33 % increase in productivity. On average, teleworkers estimated a 12 % increase in productivity.

Recruitment and Retention
About 66 % of teleworkers reported feeling less likely to look for another job elsewhere due to teleworking.

Morale
All telemanagers and about 86 % of teleworkers thought morale had improved as a result of teleworking. Additionally, all telemanagers and 90 % of teleworkers stated teleworking is good for the company.

Transportation and Air Quality
Before the implementation of the telework program, 86 % of the teleworkers drove alone to work. After teleworking, only 52 % drove to work alone. About 25 % reported working at home.

Employees drive an average of 59 miles round-trip each commuter day. Teleworkers save an average of 106 minutes per day on the days they telework and use the time saved to work more, spend time with their families, and to sleep.

On an annual basis, the 50 BP teleworkers in the pilot program save about 74,100 vehicle miles as a result of teleworking.

After the 90-day pilot period, BP will evaluate the telework program’s impact using surveys and discussions with managers and teleworkers. The results, if positive, will allow BP to explore wider applications of teleworking company-wide.
The Houston-Galveston Area Council (H-GAC) is a voluntary association of local governments and elected officials in the 13-county Gulf Coast Planning Region; an area of 12,500 square miles and inhabiting almost 4.6 million people.

H-GAC was organized in 1966 by local elected officials after authorization by enabling State legislation. H-GAC now has about 150 employees, of which, eight have been teleworking for the various departments of Transportation, Office Services, Public Services, Community and Environmental Services, and Data Services.

**Background and Implementation**

H-GAC implemented a program to study both the impacts of teleworking on the organization, and to offer a more employee-friendly work environment.

**Employee Benefits**

Teleworkers reported reduced stress, greater productivity, and to the ability to “see their kids” when they come from school.

**Challenges and Program Improvement**

Many of the teleworkers expressed that the dial-up internet connection could be improved. For future phases of the program, H-GAC will be improving its virtual capabilities.

**Results**

**Demographics**

Participants in the telework program include eight employees from various departments within the organization. Five of them are female and three are male. On average they have been working for H-GAC for 5–6 years and 4.5 years at their current position. Most of the teleworkers hold technical positions (62.5 %), and the rest are managerial (25%) and clerical (12.5%).

**Productivity**

75 % of teleworkers report improvements in productivity as a result of teleworking. On average, teleworkers reported a 5 % increase in productivity. None report a decline in productivity.

The top three categories of work conducted while teleworking are: writing/editing, reading, and word processing.
Absenteeism

One teleworker worked at home and was productive on a day she was sick and would have otherwise not come into the office.

Morale

Half of the teleworkers and about 80% of the managers thought that morale improved as a result of teleworking. Furthermore, both groups agreed that teleworking is good for the company.

Transportation and Air Quality

Before the implementation of the telework program, 62.5% of the teleworkers drove alone to work. After program implementation 55% drove alone to work.

Employees commute an average of 42 miles round-trip each non-telework day. Teleworkers gain an average of 106 minutes per day on the days they telework and can use this time to work more and/or spend with their families.

On an annual basis the eight H-GAC teleworkers save about 16,800 vehicle miles traveled as a result of teleworking.

Issues and Concerns

• Inability to monitor productivity of teleworker at their home.
• Is the work assignment measurable enough to determine efficiency and productivity?
• Maintaining effective communication between the teleworker and the employees at the office.
• Maintaining a dependable network connection between home and the office.
Houston Postal Credit Union (HPCU) is one of the oldest State Chartered Credit Unions in the state of Texas and Holds Charter No. 6, approved October 1, 1929. The original HPCU was founded with a capital stock of $645. This was over 70 years ago and since then, HPCU has grown to a great financial institution with over $114 million in assets and a total of 65 people in its three offices in the Houston area.

The Dilemma

With success, comes pressure to grow as an organization. Growth often means more employees and more employees can mean more office space. But in 1999, HPCU President, Jim Stark, had a different idea — teleworking.

With the support of top managers, Mr. Stark proposed allowing some employees to work from home either full-or-part time instead of adding office space. This issue had also came up recently when an employee needed to consider this option for health reasons. Mr. Stark wanted to be a good citizen and knew having some employees working from home meant less road congestion and improved air quality for the Houston region.

The Board of Directors met and discussed the idea. Questions came up about the benefits, cost, and how long it might take to implement. Others had issues with what legal liability exists when an employee is allowed to work from home. Although the board generally supported the idea, they needed answers to these and other questions.

To help with these concerns, a representative from the Houston-Galveston Telework Resource Center (TRC), a program of Commute Solutions and the Houston-Galveston Area Council, was contacted and asked to participate in the Board discussion. Through a free exchange of ideas and after reviewing case examples, Board members became more comfortable with the concept. TRC also agreed to help HPCU develop policies, train participants, and track program results.

In the end the Board approved the idea and called for a test program or “Telework Pilot” to see how the concept would work for HPCU.
The Pilot

An informal pilot steering committee, under the direction of Beverly Hughston, was established by managers from a variety of departments including: Marketing, Collections and Human Resources. The committee discussed various issues including child care, equipment needs, security and scheduling meetings. TRC met the committee and through a collaborative effort, policies and procedures were developed for the pilot program.

Next the committee looked at communication and technology issues. How would they link teleworkers' homes with the office? - No small task for any employer. Managers also had concerns about Collection employees using their home telephones for calling clients. Could unwanted telephone calls come back on the family phone? And what about space needs? Would some employees not have the space for a separate office in their home? All of these issues took time to explore.

Over a period of several months, HPCU worked with their telephone contractor and software specialist to come up with options. For example, in some cases, if DSL wasn't available in an employee's home area, they may need to wait to participate in the program. HPCU also looked at office furniture. A self-contained workstation with a desk and storage shelves could be purchased for each teleworker for less than $500. The workstation could be closed up and locked after work hours to help keep the homework station separate from the home. Lastly, it was decided that Collection employees would be provided a separate telephone line, at HPCU expense, to protect against unwanted calls on the home telephone.

The next step for the committee was selecting appropriate teleworkers. Two employees were identified immediately and would work from home four days each week. Neither employee realized all that was involved in breaking in the new concept, but their personal commitment to working through the issues contributed to improving the efficiency of the program for all to follow.

Over time more teleworkers were added and by the time of the six-month evaluation, several employees were either teleworking regularly or getting ready to start.
Case Study

The Results

Overwhelmingly, all teleworkers and their managers are very happy with the program. Some specific benefits identified by participants include:

- Not having to drive into the office each day
- Less interruptions
- Able to work in own environment
- Able to produce better quality work
- Able to spend more time with family
- More convenient
- Less absenteeism

“Teleworking has worked out great for me. I am more productive and less stressed now that I work from home,” reports teleworker Rachel Rodriguez. “It’s a great benefit for a company to offer to its employees.”

Impact on Productivity – All teleworkers felt they produced either the same or more than when they worked in the office. Many felt their quality of work had also improved. One employee said her productivity had increased by as much as 60% since the start of the pilot. The reasons teleworkers gave for their increase in productivity included, fewer distractions, less stress from the commute, and a more desirable work place.

Concerns About the Program – When teleworkers were asked about program concerns most reported few concerns. Items that did offer concern included, challenges with DSL connectivity, feeling isolated at times, and a need to inform office employees about their purpose for teleworking.

Possible Solutions – Teleworkers were asked about what they or others have done to address issues they have faced with the teleworking arrangement. Most said things are more or less fine, primarily because of their personal initiative to figure things out. Any problems really occurred at the start with set up and telephone company issues. Some of the suggested solutions included:

- Have a technical support person to handle the set up.
- Orient people in the office to the program.
- Carefully plot out setting up phone lines, ordering furniture, etc.
- Have someone available, on-call, for problems.

Reduced Travel – All teleworkers at the six-month point of the program reported typically traveling alone when commuting and averaged a round trip travel distance of 44.4 miles. If this is consistent for all teleworkers, and if the average days working from home is four per week, the program could achieve a travel reduction of over 60,000 miles per year. This is a reduction of approximately 48,000 pounds of carbon dioxide, 174,000 grams of VOC/hydrocarbons, and 90,000 grams of nitrogen oxides that would have gone into Houston’s air!

“Being a teleworker for Houston Postal Credit Union has been a wonderful opportunity to help our environment, as well as improve the productivity of my job,” reports HPCU employee, Yolanda Perales.
Advice to Others – Teleworkers had advice to offer to others considering teleworking. Most said that it is a great option; however, it is important to be patient and learn how to fix things on your own. Other advice included:

- Let go as a manager and focus on the product.
- Develop consistency in how things are done.
- Communicate with others in the office – education.
- As an employer, be supportive!

Conclusion
HPCU’s highly successful program has been aided by the strong enthusiasm and support from management. With managerial support and benefits for teleworkers, the program should be a model for other companies across the country.

HPCU has made teleworking a successful part of doing business.

Contact:
Beverly Hughston
Executive Assistant
Houston Postal Credit Union
713-970-6200
Introduction

The City of Pearland implemented a six-month Telework Pilot Program from April to September 2001. Seven employees applied to participate in the program. Of these, five decided to participate and the remaining two decided to leave their positions with the City.

During this time the City made a decision to institute a flexible work week program resulting in difficulties in implementing the Telework program. The flexible work week program combined with the staff shortages and inconsistent workloads, made it difficult for teleworkers to consistently schedule days to work from their home offices.

Purpose for Program Implementation

The City of Pearland implemented a telework pilot program to:

• Evaluate the impacts of teleworking on the organization.
• Help reduce time lost in commuting and related stress.
• Provide an opportunity for staff to effectively balance work and family (personal lives).

Employee Benefits

• Teleworkers reported being able to complete their work more effectively without interruption.
• Several teleworkers indicated they were able to avoid significant commutes.
• Most teleworkers identified positive impacts on overall performance and effectiveness.

Telework Challenges

Several teleworkers reported experiencing technology problems that directly impacted their ability to accomplish tasks. Due to staff retention difficulties, many teleworkers found it necessary to suspend their participation in the program.

Results

Demographics

Seven employees applied and were approved to participate in the pilot program. Of these, five were able to actually participate, and the remaining two no longer work for the City of Pearland.

Teleworker participants came from the following job functions:

• Human Resources Director
• Human Resources Staffing Coordinator
• Community Relations Liaison
• Projects Assistant
• Grants Coordinator
Productivity

The following table identifies participant feedback on several key areas of performance change as a result of teleworking (5 responses):

<table>
<thead>
<tr>
<th>Areas of Performance</th>
<th>Increased Substantially</th>
<th>Increased</th>
<th>No Change</th>
<th>Decreased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Work Quality</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Timeliness of Completion</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Client Support</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Work Team Support</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Overall Performance</td>
<td></td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Most teleworkers felt they were able to complete their tasks more effectively because they were not interrupted. One participant indicated they were able to accomplish small tasks that might have otherwise been left undone.

All participants indicated they were not aware of changes in coworker workloads and productivity.

Communication

The following table identifies teleworker ratings on the lines of communication and their ability to reach critical contacts in completing their tasks and job responsibilities:

<table>
<thead>
<tr>
<th>Areas of Communication and Requirements</th>
<th>Very Good to Excellent</th>
<th>Good</th>
<th>Meets Requirements</th>
<th>Needs Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reach Supervisor</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate with Coworkers</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Initiate New Tasks/Projects</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Follow-through on Projects</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Access Support/Admin. Staff</td>
<td>2</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Access Help Desk</td>
<td>2</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

*One employee did not require access to support staff and one to the help desk.

Technology

Several teleworkers reported experiencing technology problems during the pilot program. The problems were related to remote access and e-mail. In one case the problem was resolved quickly without impact on productivity. In another the teleworker’s problem was not resolved and, therefore, became one of the reasons for suspending telework participation.
General Comments

- Participants experienced little to no additional costs as a result of teleworking.
- Most teleworkers suggested there was no impact on dependent care arrangements.
- One participant identified teleworking as having a positive impact on dependent care arrangements because it provided greater flexibility.
- The 9/80 work week schedule, coupled with teleworking, gave some impression that staff members were out of the office too much.

Transportation and Air Quality

Teleworkers commute a combined 90 round-trip miles each day. Teleworking an average of 2 days per week reduced commuter miles traveled by 180 miles per week. Teleworkers gained an average of 47 minutes per day on the days they teleworked. This additional time allowed them to more effectively balance their work and family or personal life.

Observations and Conclusions

Due to turnover in senior management and staff, in addition being short staffed, the telework program was not able to be fully utilized or expanded to include additional staff members. However, teleworking was generally a positive experience for the City of Pearland and could easily become a work option for the future. The City took a structured and well planned approach to implementing their program which supported much of the basic program success and general effectiveness.
Quick Facts

Location: Houston, Texas  
Start Date: June 2000  
Number of Teleworkers: 25  
Benefits: Improved job satisfaction and reduced turnover  
Costs: $4,414 per teleworker for home office set-up  
Savings: $1,038 per teleworker for reduced lease expense and reduced recruitment and retraining costs for turnover (over $11,705/employee)  
Travel Reductions: Average number of miles reduced for teleworkers is 213

The Texas Department of Protective and Regulatory Services, Region 6, developed a telework pilot program, known internally as DASH (Delivering Accountable Services from Home), in response to continued high turnover, job dissatisfaction and the growing demand for more flexibility to casework staff. The program was designed over a one-year period by an internal workgroup. The program model offered two major components to employees: a customized work week and teleworking combined with a “hoteling” concept.

After sixteen months into the pilot, the program was already a tremendous success. Turnover was down and employees were much happier at the job. Findings included:

• The evaluation shows that the DASH pilot has been successful in improving job satisfaction.

• The pilot units were able to significantly increase their compliance with quality standards.

• During the pilot, turnover for the participating units decreased by 60% to a low of 11% turnover, while the control unit turnover rate decreased by only 37% to a low of 23%.

• The pilot did not result in a breakdown of supervisory or peer support, as some feared may occur when the employees were no longer housed together. In fact, these measures increased during the pilot period.

• The pilot did not improve the productivity and timeliness as calculated by common workload measures; although the participants perceived an increase in these measures.

• The equipment cost used for the pilot was expensive, but can result in cost avoidances in lease space and training over time.
Background

In June 1999, the concept of the customized work schedule and teleworking were introduced to executive staff. The primary purpose for the program was to reduce turnover while increasing both job satisfaction and flexibility.

Telework allows caseworkers and supervisors more flexibility in customizing their work week by enabling them to work from their homes part or most of the week. The system is seamless to clients and co-workers. For example, teleworkers can upload information into the main data system directly from home, and the phone system allows co-workers to dial a four-digit extension to reach staff from home, or in the office. In addition, the teleworkers have access to shared workspace for meetings and consultation should they need to be in the office from time to time.

All staff selected to participate in the pilot were required to sign an agreement that addressed issues related to work location, supplies, equipment, work hours, compensation, safety, liability, employee duties and termination. Continued staff participation in the program was based on productivity, quality and reliability.

Program Results

After the sixteenth month of the pilot program an evaluation was conducted. The information for the evaluation came from a participant survey, focus groups, and a review of all relevant agency data. As part of the evaluation a pre-pilot survey was conducted on both participants and a control group. The evaluation looked at cost effectiveness, job satisfaction, retention, productivity, timeliness, quality of work and the supervisory and peer support network.

The following is a brief overview of the results.

Cost Effectiveness – The evaluation found that home office set-up costs the agency approximately $4,414 per worker each year. These costs include equipment, home circuits and related infrastructure requirements. For reducing costs, leased office space was decreased by 44% resulting in a savings of approximately $1,038 per year for each teleworker. Additionally, employee turnover was reduced. Terminations were only 11% among participants compared to the control group at 23%. The agency spends about $11,705 to train each new employee.

Travel Reduction – At the mid-point of the pilot, participants reported a reduction in vehicle miles traveled (VMT) of approximately 213 miles a month. This equates to over 80,000 VMT reduced annually and over 2,500 pounds of pollutants eliminated from entering the air.

Job Satisfaction – The pilot positively impacted job satisfaction for both workers and supervisors. Teleworkers reported increased job satisfaction and better balance between their professional and personal lives over time (90% of participants). Prior to the pilot a little more than a third of the workers (38%) felt satisfied or very satisfied with their job.

“Telecommuting is the only reason I have stayed with the agency and I feel it is a wonderful idea for work satisfaction,” reports one teleworker.
“I returned to CPS as a case worker because of the telecommuting program. I feel it has allowed me more time with my family,” states another teleworker.

Employee Retention – The Teleworker group experienced a 12% lower turnover rate during the pilot than the control group. The telework option significantly improved job appeal.

One teleworker said, “I wouldn’t have taken this job if not for being able to telework.”

A major factor in retention was fewer reported job frustrations.

Productivity and Timeliness – All of the DASH supervisors felt that the pilot had a “very positive” effect on their productivity. Pre-pilot, none of the supervisors felt their paperwork was current compared to 67% post pilot. Caseworkers believed their productivity increased because of the reduced number of encounters or distractions at home compared to the office. In addition they reported, having access to the agency's automated system outside normal business hours allows them to make better use of their time and in some cases, accomplish more.

“I get 50% more tasks done if I telecommute—lack of interruptions”. Reported one teleworker.

Quality of Work – There was a slight improvement in quality of work between teleworkers and the control group. Teleworkers’ performance was examined against specific standards several times over the course of the pilot. The workers indicated that the program has allowed them to schedule meetings at times that are better suited for the client, and allowed them to spend a more adequate amount of time with clients and other case contacts. Additionally, more than half of the DASH workers felt that the travel time saved by not commuting to the office allowed them to spend time on other core work activities, such as paperwork and contacts.

Supervisor and Peer Support – Pre-pilot only half of the workers said they felt supported by their supervisors, but at the end all expressed they felt supported by both their supervisor and other staff. Some teleworkers said they worked harder at maintaining a sense of unity by having monthly luncheons. Others indicated looking forward to their day in the office to be able to talk and see others.

Conclusion

It is clear that the pilot has had an encouraging impact on job satisfaction. Participants overwhelmingly agree that the flexibility and balance provided by the telework has caused them to feel more, productive, satisfied, and better able to perform their jobs. While the cost of providing equipment is an added expense, the reduction of lease space cost, travel time, and turnover all appear to make the investment a success.

The DASH program has been an overwhelming success for the Texas Department of Protective and Regulatory Services, Region 6.

Contact:
Delphine Baldon
DELPHINE.BALDON@tdprs.state.tx.us
United Space Alliance (USA) is a space operations company based in Houston, Texas. The company was created in 1996 as a joint venture between The Boeing Company and Lockheed Martin Corporation to serve as the prime contractor for NASA's Space Shuttle Program. USA implemented a pilot telework program in January 2000 and has garnered positive reactions from both the management and telecommuting employees.

**Background and Implementation**

USA began to consider telework because of its involvement with NASA's Human Space Flight project which entails special requirements, such as around-the-clock support for the International Space Station operations and on-call employees for the Flight Software and Information Management groups. These operations need to be supported and maintained by highly skilled technical employees who are scarce in the job market. Furthermore, USA chose to implement the telework program in order to retain its highly skilled employees by demonstrating their commitment to meeting employees' needs.

Norman E. Gookins of USA explains, “…the appeal of teleworking enabled us to entice employees whose specialized skills are in high demand - it gave us a competitive edge.”

Teleworkers selected were those whose job required minimal face-to-face interaction or special equipment. Selection criteria also included those jobs that can be easily performed accomplished from the home office, such as, administrative work, analysis, data entry/analysis, research, and writing. Ideal candidates for the telework program were those employees who had demonstrated good performance, had good relationships with their managers, could effectively manage their time, and were considered to be self-motivated, self-disciplined, and well organized.

**Pilot Program Results**

**Demographics**

Participants in the pilot telework program included 23 employees from Houston and 2 from Florida. On average, they had worked for USA for 6-7 years and been at their current position for 4.5 years. Most of the teleworkers held technical positions (92%) and the rest were budget representatives (8%). They spent their teleworking days accomplishing the following tasks:

- Data Management/Computer Programming: 75%
- Writing/Editing: 67%
- Reading: 50%
- Word Processing: 42%
- Administrative/Coordination: 42%
- Talking on the Phone/Sales: 17%
- Develop/Conduct Training: 17%
Productivity

Both teleworkers and managers reported an increase in productivity. About 83% of teleworkers and 73% of managers said that productivity improved with teleworking. None reported that productivity had declined. One teleworker estimated that productivity increase by 20% due to reduction in commute time and at-work interruptions.

On average teleworkers and managers reported a 13% and 7% estimated increase in productivity.

Recruitment and Retention

About 91% of teleworkers reported feeling less interested in looking for a job elsewhere due to teleworking and about 75% of the managers thought their employees were less likely to look for other work.

Absenteism

Two teleworkers reported working partial days when they would have otherwise called in sick.

Morale

All the teleworkers and about 92% of the managers thought that morale improved as a result of teleworking. Furthermore, both groups unanimously agreed that teleworking is good for the company.

Transportation and Air Quality

Before implementation of the telework program, 100% of teleworkers drove alone to work. After teleworking, only 71 drove alone, while 29% worked at home.

Employees drive an average of 36 miles round-trip each day of commute. Teleworkers saved an average of 73 minutes per day on the days they teleworked. They used this time to work more and spend more time with their families.

On an annual basis the 23 USA teleworkers in the Texas pilot program save about 62,100 vehicle miles as a result of teleworking.

Summary

The United Space Alliance elected to implement a Telework Program based on the positive results and responses to the pilot program. This program was successfully implemented in July 2001.
CASE STUDY

BIG BROTHERS BIG SISTERS OF CENTRAL ARIZONA

Location:
Phoenix, Arizona

Company Profile:
- Non-profit social service organization
- 54 employees in several offices and workspaces in Maricopa County
- Launched 18 full-time and 3 part-time tele-workers in March 2002

Business Benefits:
- Reduce lease expenses
- Increase time devoted to client contact
- Improve productivity

Environmental and Travel Benefits:
- BBBS’ teleworkers reduce over 9,000 vehicle trips and 121,000 miles of travel, resulting in a reduction of over 3,200 pounds of pollutants annually

“When faced with the decision to incur real estate costs to make room for our growing staff, or to implement a telework program, the choice was clear. Telework has allowed us to dedicate monies we would have spent on additional office space directly to mentoring programs for Valley youth.”
– Madeleine Stilwell
Executive Vice President of Administration

Challenges:
- The cost of equipment including communication services (e.g., high speed data)
- Coordinating the launch of the reorganization and basing employees at home
- Reducing office lease costs in light of existing lease obligations
- Maintaining seamless communication between headquarters and employee working from home
- Ensuring efficient access to the organization’s database for teleworkers
- An improvement in morale
- Stronger commitment to retaining employment with BBBS due to teleworking
- Over a 50% improvement in productivity
- Strong support from co-workers

Bottom Line Results:
- BBBS expects to save nearly $30,000 in lease expenses as teleworking has reduced the need for office space and over $9,000 annually in communication costs resulting from removal of telephone lines
- BBBS spent approximately $9,700 to set up a Virtual Private Network that allows teleworkers secure access to the organization’s data network

Teleworkers report:
- Saving nearly an hour in commuting as a result of not driving to an office
- Few problems getting work completed on schedule
How the program got its start:

Big Brothers Big Sisters of Central Arizona faced a dual challenge at the beginning of 2002: to put a new organizational structure in place to improve service delivery; and secondly, to reduce operating expenses.

With 20 customer contact employees working from two separate satellite offices and part-time work spaces, BBBS was saddled with unnecessary lease obligations and operating expenses. Moreover, employees spent a considerable amount of time sitting in traffic often at the expense of being with clients.

BBBS’ initial experiences with teleworking had shown that cost savings could be considerable. More importantly, employees who were working directly with youths and adults found they could have more time for one-on-one contact if they were able to work from home. In addition, employees staffing the main office were more productive if allowed to work away from the office on a part-time, but routine basis.

BBBS sought the assistance of the Valley Telework Project to identify organizational and technological considerations of teleworking and to help implement a telework program.

BBBS’ telework steering committee was comprised of representatives from finance, information technology, human resources, and the organization’s executive management team. Over a three-month period, the steering committee identified telework strategies, assessed benefits and costs, and devised implementation techniques and guidelines for teleworkers. Employees that had been teleworking provided advice on how to expand remote working to co-workers. The steering committee made sure that teleworkers would be productive by modifying existing and acquiring new technologies to allow seamless communication and data access.

Lessons Learned:

- Involve representatives from departments affected by teleworking including finance, executive management, facilities, information systems/technology, and human resources in developing telework arrangements.
- Examine technological considerations carefully to make sure that employees working away from the office can function as if working in the ‘main’ office.
- Review communication protocols prior to starting telework arrangements in order to develop common expectations.
- Provide work spaces in a ‘main’ office for teleworkers to make sure that time spent in the office is productive.
- Coordinate schedules of ‘in-office’ meetings to minimize teleworker travel time.
- Have contingency plans for work to be performed if, and when, technological problems occur.
- Designate a contact to provide support for actions that require ‘in-office’ attention.
- Have teleworkers ‘network’ with each other (e.g., instant messaging, schedule lunch meetings) to help resolve problems specific to teleworkers.
- Make arrangements with business service centers to give teleworkers access to specialized services such as copying.
- Have in-house information technology system staff orient teleworkers to equipment and communication services prior to launching telework arrangements.
CASE STUDY
CITY OF MESA

“**We set out to increase productivity and do our part in creating cleaner air, but the surprising outcome of the program was happier employees.**”
– Mike Hutchinson
Mesa City Manager

**Challenges**
- Pressure teleworkers felt to produce more than non-teleworkers
- Lack of equipment
- Slow connectivity
- Staff coverage & meeting coordination

**Transportation & Air Quality Impacts**
- Reduced vehicle miles traveled by 112,500 annually
- 3,037 fewer pounds of pollution annually
- Average teleworker saves 64 minutes each day and spends that time with their family, exercising, and sleeping.

**Why city of Mesa began a telework program:**
- Improve employee productivity & efficiency and quality of work
- Increase employee satisfaction
- Retain quality employees
- Improve air quality

**Selection criteria for teleworkers:**
- Volunteer to participate in pilot
- Manager approval

**City of Mesa departments offering telework:**
- Utilities
- Library
- City Court
- City Clerk
- Employee Benefits
- Arts Center
- Fire
- Auditor

**Elements of the program:**
- Selection criteria
- Employee and manager training
- Internal marketing
- Upper management commitment

**Industry:**
City government

**Location:**
Mesa, Arizona

**Statistics:**
- 75 teleworkers in the pilot program
- 1 day of teleworking per week
- Program began March 2001

**Business benefits:**
- Increased productivity
- Happier employees
- Organization placed on the cutting edge
- Reduced commute trips
How the program got its start:

The City of Mesa, located in Maricopa County, spans 126 square miles and has a population of 405,000 residents. Mesa has nearly 4,000 city employees in various departments including Police, Fire, City Court, Libraries, Utilities, Development Services, Airports, and General Services. In 2001, the city of Mesa, under the guidance of the City Manager's Office and with assistance from the Valley Telework Project, decided to expand an existing small telework program. The objectives of the telework program were to help improve air quality, productivity, quality of work, employee attitudes, and efficiency.

The city of Mesa developed program policies, selection criteria, and program goals in 1999 and implemented a small telework program. In 2000, a focus group meeting was conducted with the existing teleworkers and managers of teleworkers to gain a better understanding of teleworking at the city. Based on the focus groups, the city decided to further promote the program through improved internal marketing and increased computer connectivity capabilities. The City Manager held a meeting with the departmental managers to encourage adoption of the program and to ask for potential candidates to attend training sessions.

The teleworkers would use their own equipment and would be allowed to work at home up to once a week.

The city of Mesa has detailed policies on “remote work” that were widely distributed. They also conducted training with teleworkers and their managers. Because of the large number of participants, three sessions were conducted. Prospective teleworkers developed work objectives, completed several telework exercises, and worked with their managers to troubleshoot potential issues. A short technology training was also conducted.

What effects has the telework program had on...

...productivity: Teleworkers and managers alike reported increases in productivity. Based on attitudinal surveys, both managers and employees estimated a 30 percent increase in productivity. In one department where productivity is measured, productivity of employees on their telework days increased 50 percent.

...teleworkers: City of Mesa telework coordinator Jenny Shepard says the city has seen “happy employees” since they implemented the program. “Our employees are very pleased that the city is offering this alternative work policy.”

...managers: City of Mesa managers believe that telework provides the organization with a competitive edge. As a result of the pilot program, 64 percent of city of Mesa managers plan on offering telework to other employees.

...the workplace: A total of 89 percent of the teleworkers reported increased morale as a result of the program. Eighty-two percent of the managers and 97 percent of the teleworkers thought that teleworking is “good for the organization.”

“Because of the dramatic growth of Mesa, we are committed to programs that support telecommuting and alternative work hours and sites for our employees.”

– Mike Hutchinson
Mesa City Manager
CASE STUDY

INFORMATION NETWORK CORPORATION (INC)

Industry:
Health Management

Location:
Phoenix, Arizona

Statistics:
- 270 employees in the Phoenix office – 1,000 employees nationwide
- Teleworking since 1999
- 13 Teleworkers

Business benefits:
- Retain valued employees
- Provide flexible work schedule
- Meet trip reduction targets

“When we set out to create a more flexible environment for our employees, we had no idea what a valuable tool telework would prove to be.”

– Jim Jacobson

Unique Aspects:
- Five employees based out of INC’s Phoenix office actually live and work on the east coast. They are able to perform their work at a distance due to management’s ability to manage performance remotely
- Teleworkers perform a variety of tasks when working at home including data processing, programming, word processing, and editing

Work/Life Balance and Air Quality Impacts:
- Teleworkers at INC save 90 minutes in commute time and reduce travel by 50 miles each day they work from home

• More than 740 pounds of pollutants are being saved annually
• Time not spent commuting is spent with their families, sleeping later, doing household chores, and doing more work for INC.

Bottom-Line Results:
- Teleworkers report that their morale and productivity have improved
- INC teleworkers report that they are less likely to look for another job because of being able to work away from the office

“Our teleworkers tell us they are less likely to look for other work because of the opportunity INC gives them to work from home.”

– Jim Jacobson
How the program got its start:

INC is responsible for providing computer services and support in the Medicare and Medicaid arena for counties, states, and health plans across the U.S. Additionally, INC serves as the information technology arm for the AmeriChoice Corporation.

INC’s entry into teleworking in 1999 was part of a three-pronged effort to introduce more flexible work schedules. They wanted to retain valued employees and meet local trip reduction mandates by reducing the number of days employees had to travel to its office.

INC’s initial teleworking experience consisted of an eight-month teleworking pilot program during which telework policies, operating practices, an on-line training program, and supervision procedures were developed and tested. Seven employees from work groups representing jobs performed throughout the company were selected to participate in order to determine feasibility. Employees were selected by their supervisors to participate and were required to use their own computer equipment. However, INC provided teleworkers with software and high-speed communication services.

Employees selected to telework were required to participate in a telework training program, which was designed by INC staff and made accessible on the company’s intranet.

What INC has learned about telework:

• Tangible measures of productivity must be used to gauge performance of teleworkers and employees working in the office.
• Employees must have access to high-speed communication lines in order to work as efficiently at home as in the office.
• Address concerns of supervisors for not seeing employees at work by instituting communication practices that encourage phone and e-mail contact. Expect initial problems that demand immediate attention.
• Teleworking is an effective tool to meet trip reduction objectives that contributes to the ‘bottom line’.
• Improvements in employee morale should be promoted, especially the excitement of being able to focus on work without disruptions.
• Ensure that software licenses allow remote access.
• Actively involve staff from information technology departments to develop and implement effective work practices.
• Developing and launching telework arrangements take longer than expected. Delays with setting up remote access to computer networks, procurement of high-speed communication services, and getting supervisors on board with new work arrangements may pose the greatest obstacles.
• Training programs allow for communicating performance expectations, defining operating practices, airing of concerns, and troubleshooting perceived obstacles.

“We have been able to recruit and retain some quality employees because of our team’s remote management capabilities. Without telework, we wouldn’t have access to their talents.”

– Jim Jacobson
AT&T Telework in Atlanta

**Background:** AT&T’s decade-old employee telework program conservatively generates $150 million in annual business efficiency improvements to the company, including:

- $100 million in increased productivity. Employees typically receive an additional productive hour in each workday from the time saved by not commuting and the ability to work without interruptions. Teleworkers are more likely to be rated as promotable by their manager.

- $35 million in reduced real estate. AT&T has over 7000 managers who work full time from home with no dedicated office space.

- $15 million in enhanced employee retention. More than half of our teleworkers who received job offers from other companies said their telework arrangement was a major factor in deciding to decline the opportunity.

**Atlanta:** Even in this telework-rich environment, Atlanta stands out. Almost half – 48% – of the AT&T managers in Atlanta work from home at least once a week, including 21% who do so full time in a virtual office. Both figures are noticeably higher than our national average.

This heightened participation adds up to increased environmental benefit. In 2002, AT&T managers in Atlanta avoided commuting almost 14 million miles, avoiding the consumption of 670,000 gallons of gas and the emission of 6000 tons of CO2 and 70 tons of CO. Atlanta commuters drive about 24 miles to work each way... a round trip commute of about 88 minutes provides a powerful incentive to work from home.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>U.S.</th>
<th>Atlanta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telework at least once per week</td>
<td>33%</td>
<td>48%</td>
</tr>
<tr>
<td>Full time virtual office</td>
<td>17%</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Commute Type</th>
<th>U.S.</th>
<th>Atlanta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drive alone</td>
<td>80%</td>
<td>82%</td>
</tr>
<tr>
<td>Car /Van Pool</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Public Trans.</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
By reducing commute time, employees are able to create more hours in the day. About three-quarters of the time employees save by not commuting is used for work, and Atlanta is no exception. Increased productivity is the most significant but least recognized benefit of telework, but the gains are due as much (or more) to the ability to better manage time and control interruptions as to extra hours in the day.

About 76% of AT&T Atlanta teleworkers are much more satisfied with their personal/family lives since beginning to telework, while 71% are much more satisfied with their job. As shown at right, teleworkers in Atlanta report higher benefits than the average teleworker. The higher participation there creates higher benefits, which in turn creates higher participation -- a self-reinforcing cycle.

Increased flexibility is the top reason for beginning to telework, followed by the maturing of technology (for example, broadband penetration continues to increase). It’s no surprise that about half of new teleworkers cite increased productivity as a factor. Also note that a change in work or family situation is often a “trigger” for beginning to work from home.

To conclude, there are significant business advantages resulting from a shift to a network-based operating structure. The $150 million in annual business advantage AT&T receives from telework is small, however, compared to the benefits that can accrue to society as a whole from these new models of work, education, recreation and community. For example, telework increases business continuity. A decentralized workforce can still operate effectively in the event of a flood or other disaster. When snowstorms shut metro Atlanta down, AT&T employees are still working away, cozily productive in their homes.

Additionally, as our societal reliance on location-based work shrinks, so do the traditional perceptual and physical barriers – and the inefficiencies and disparities –

---

**Use of time saved by not commuting:**

<table>
<thead>
<tr>
<th></th>
<th>U.S.</th>
<th>Atlanta</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Work</td>
<td>77%</td>
<td>77%</td>
</tr>
<tr>
<td>- Personal time</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>- Family time</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>- Other / Don’t Know</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

**Advantages of telework**

<table>
<thead>
<tr>
<th>Advantages of telework</th>
<th>U.S.</th>
<th>Atlanta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased productivity</td>
<td>75%</td>
<td>82%</td>
</tr>
<tr>
<td>Saves money via less commute</td>
<td>63</td>
<td>74</td>
</tr>
<tr>
<td>Better work/Family balance</td>
<td>74</td>
<td>72</td>
</tr>
<tr>
<td>Employees feel trusted</td>
<td>64</td>
<td>71</td>
</tr>
<tr>
<td>Shows firm cares</td>
<td>61</td>
<td>69</td>
</tr>
<tr>
<td>Saves company money</td>
<td>61</td>
<td>68</td>
</tr>
<tr>
<td>Helps environment</td>
<td>59</td>
<td>66</td>
</tr>
</tbody>
</table>

**Why Did You Start Teleworking?**

<table>
<thead>
<tr>
<th>Why Did You Start Teleworking?</th>
<th>U.S.</th>
<th>Atlanta</th>
</tr>
</thead>
<tbody>
<tr>
<td>(In arrangement less than 12 months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More flexibility</td>
<td>68%</td>
<td>79%</td>
</tr>
<tr>
<td>Technology now works</td>
<td>66</td>
<td>74</td>
</tr>
<tr>
<td>More productive</td>
<td>51</td>
<td>53</td>
</tr>
<tr>
<td>Work situation changed</td>
<td>32</td>
<td>38</td>
</tr>
<tr>
<td>Job location changed</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>Family situation changed</td>
<td>11</td>
<td>21</td>
</tr>
</tbody>
</table>
arising from age, disability, physical appearance or worker locale. Telework offers a powerful way for those who have typically been disenfranchised from the economic and social mainstream, such as seniors, or members of the disabled community, or those in rural areas, to become active participants in the knowledge economy.

AT&T has been conducting employee telework research since 1992. The objectives are to:

- Quantify the benefits of this new operating model to society, the enterprise and employees,
- Identify barriers to broader, more effective participation,
- Enhance our products and services, and
- Provide strategic guidance to our customers and clients.

2002-2003 results are based on a representative survey of 1200 AT&T managers. Confidential at-home telephone interviews were conducted by a leading independent market research company, using stratified random sampling techniques. For additional information, see "Measurement of Environmental Impacts of Telework Adoption amidst Change in Complex Organizations: AT&T Methodology and Results," Resources, Conservation and Recycling, Elsevier Science B.V. 2002.
Business Benefits
Improved quality of work and morale of employees

Company Profile
Clayton College and State University is a four-year state university with an enrollment of about 5100 students and about 500 full-time employees. The core mission of Clayton College and State University is to provide superior career-oriented studies that prepare students to succeed in workplace of the 21st Century and to provide services and continuing education that will assist the Southern Crescent and the state in improving the quality of life for residents.

Contact:
Mr. Bruce Holmes
Clayton College and State University
5900 North Lee Street
Morrow, Georgia 30260

770-961-3540
bruceholmes@mail.clayton.edu

Of Clayton’s 500 full-time employees, 40 employees (8 percent) telework at least one day per week. Employees are allowed to telework if their jobs lend themselves to teleworking, if they have their manager’s approval, and if they have attended two and a half hours of telework training.

Teleworking was first implemented at the University in 1998, in response to Governor Zell Miller’s Executive Order that required a reduction in single occupancy vehicle usage by state employees. In addition to the decrease in vehicle trips, University staff has also seen the teleworking program boost employee morale, increase productivity, and improve the quality of the work being done. In some cases, the increased productivity of teleworkers has impacted other departments, in that when teleworkers report to work after a day of working at home, their coworkers have to catch up with the increased workload that was completed by the teleworkers. In 2001, Clayton College and State University conducted a survey of teleworkers, in which 85 percent of employees indicated the ability to accomplish more work in an effective and efficient manner. Other positive impacts noted were better quality of work product and better quality of life from not having to commute.
The telework program at Clayton offers telework training to both managers and teleworkers. The training is conducted separately for managers of teleworkers and for the teleworkers themselves. A total of 168 employees and their 70 managers have attended the training program.

The University requires all participants to sign a formal policy and agreement that defines the program parameters. Although there was initially some management resistance, the program is currently so well institutionalized that it has become part of university culture. For many managers it is “just a normal way of conducting business.” The program is staffed through the Department of Public Safety, which coordinates the training sessions and the signing of telework agreements.

Clayton does not provide teleworkers with any special equipment for working at home, however most of the faculty and a few employees are already equipped with laptops; managers are also encouraged to replace desktops with laptops as they purchase new equipment. In addition all employees have access to web mail programs.

“Teleworking is part of doing business at the Clayton College and State University, managers approve teleworking as long as the job and employee are appropriate. For most of the managers, teleworking has become a conventional way of working.” Bruce Holmes, Director of Public Safety, Clayton College and State University
**Business Benefits**  
Improved morale, recruitment and retention; reduced facilities expenses

**Company Profile**  
MAPICS provides the manufacturing industry with technical, technological, managerial, and administrative solutions that help clients operate at peak efficiency and exceed customer expectations. MAPICS, headquartered in Alpharetta, serves 10,000 customer sites worldwide with a work force of 750 of which almost 240 are based in metro Atlanta.

**Contact:**
Mr. Jim Overdorff  
MAPICS, Inc.  
1000 Windward Concourse Parkway, Suite 100  
Alpharetta, Georgia 30005  
678-319-8232  
jim.overdorff@mapics.com

Seventy of MAPICS’ 240 Atlanta area employees telework. About 50% of MAPICS’ worldwide employees telework.

Teleworking has evolved since the early 1990s as MAPICS management has been convinced of the benefits of teleworking. The organization first used teleworking when management looked to offer employees more flexible work schedules as a means of mitigating the effect of a relocation of its office from the Perimeter to Alpharetta in 1993. A pilot program, consisting of approximately 30 employees and championed by top management, was set up to better understand the costs and benefits of teleworking. A formal set of guidelines, policies, and operating practices was developed to guide the demonstration effort. Several obstacles were encountered during the pilot program including transitioning from conventional supervisory methods to holding employees accountable for the work they do, not where they do it. A second hurdle involved problems with developing reasonably priced network access which has been overcome with technological advancements. The results of the pilot program showed MAPICS management that working away from the office could be very productive and, in the case of full-time teleworkers, save the organization considerable facilities-related expenses. The staging of the Olympics in Atlanta in 1996 motivated MAPICS to extend teleworking to more employees to avoid the expected traffic congestion.

Even with a successful teleworking program in place, it was the March 2002 deployment
of all employees at the MAPICS Woburn Massachusetts facility which pushed out any remaining boundaries for the virtual office. Today, MAPICS has integrated teleworking throughout its operations in Atlanta and across the world. Any employee whose assignment does not require them to be in the office is eligible to telework and then employees work with supervisors to make sure that working at home does not impair communications or productivity, and most importantly, is not visible to clients, either internal or external.

Many employees work at home one to three days per week. Employees that telework are provided with a workspace in the MAPICS office that is shared with another teleworking employee. MAPICS estimates that it would spend “well over $180,000 per year to adequately house all employees without the teleworking program.” This figure compares to “the costs of additional telephone and high speed access to teleworker homes that costs less than $120,000.”

Teleworking has also enabled MAPICS to improve its operational processes. For example, tracking individual monthly phone and high-speed access invoices for employees proved to be inefficient. BellSouth and MAPICS pulled together the first contract of its kind that consolidated billing for high-speed access for home offices and voice phone lines into one monthly invoice sent to MAPICS. The special contract also improved technical support should employees have network issues. A second solution was an implementation of a web based employee expense management system through American Express called Concur. Employees can have charges applied to the company provided credit card which then flows into the financial system at MAPICS and allows for employees to receive direct deposit reimbursements. Finally, MAPICS has implemented many tools to facilitate collaboration among employees and clients including an information portal, Instant Messaging, Netmeeting, (for data sharing of documents and viewing other items being used on a computer) and voice conferencing to ensure complete, continuous, and consistent communication.

MAPICS estimates that its 70 Atlanta area-based teleworkers are saving annually a minimum of 22,000 hours of drive time and over 45,000 gallons of fuel.

“Operating in today’s environment demands that managers not only think ‘outside the box,’ but also be willing to think ‘without a box’ and consider how technology can free the enterprise from the physical boundaries of a building. Executives who are willing to explore teleworking and the virtual office will be rewarded with higher productivity, lower costs, and employees who are better able to achieve a work/life balance.” said Sandy Hofmann, Chief Information Officer and Chief People Officer at MAPICS.
Case study: Active Voice

- Telework
- High-tech, software and hardware development
- Seattle, Washington

“...I would not be surprised if Active Voice realizes a productivity increase of 10-20% from telework.”

–Ed Masters, Vice President, Product Development

Business benefits:

- Recruitment, retention goals attained for software engineers.
- 10-20% productivity gain.
- Increased work quality and opportunity to capture ideas.
- Benefits more than pay for cost.

Statistics:

- Telework began: 1996
- Teleworkers: 35

High-tech firm nails recruitment, retention goals
In a red-hot labor market, Active Voice has exceeded its recruitment and retention goals for software engineers and has boosted their productivity as well. What is the secret of its success?

This Seattle-based developer of voice messaging and integrated telephone and computer products targets code writers who want to have a life outside the world of software engineering. The typical Active Voice engineer is highly motivated but has outside hobbies and interests, and in a number of cases, has children and desires to live outside the metropolitan area. In addition to an attractive benefits package and a comparatively small, supportive work environment, the company believes one of the keys to its winning combination is its telework program.

Telework liability becomes asset
In 1996, Ed Masters, Vice President of Product Development and head of approximately 100 software engineers and support staff, met with Director of Administration Debbie Faulkner. They discussed a couple of software engineers who had been working at home periodically. They were using their own equipment and had figured out how to dial into the company's multi-user computer system. Masters and Faulkner were both nervous about the security issues for a company whose livelihood is based on proprietary software code. Masters proposed a solution: by offering a
formal telework program, Active Voice could turn a potential liability into a valuable retention and recruitment tool.

Retaining one engineer pays for program
Two years later, product development has a $100,000 line item in its department budget labeled “telecommuting.” Approximately 35 engineers participate. “Given the high salaries for these engineers, retaining just one or two senior software developers pays for the whole program, without even calculating the productivity increase,” Masters says. Not only does Active Voice have to spend time and money to recruit a qualified replacement when a software engineer leaves, the training time can be devastating. “If a valued software engineer walks out, we can be nine to 12 months in the hole in a technology area,” he explains.

Productivity increase intangible but invaluable
Software developers are judged by the quality of their ideas. Active Voice's future profits may depend on Master's ability to capture a few very good ideas from his developers. By upgrading employees' home systems or sending laptops home with senior developers, and paying for ISDN connections, Masters increases the chances that his staff will be able to sit down and capture an elusive idea or piece of software code whenever inspiration strikes, not just between 8 a.m. and 5 p.m.

Secondly, extended periods of time to focus without interruption can be hard to come by at the office, especially for senior developers who are responsible for decision making and attend many strategy meetings, but also are expected to produce code. Manager Mark Jancola says, “It's not uncommon to realize that in an entire week, an engineer never has a time slot of more than two hours to sit down and do very complex design and system development. A telework day helps structure their schedule to take advantage of an eight-hour or greater period of time with minimal distractions.” Jancola points out that a software engineer by nature likes to produce code – that is where they get their sense of excitement and accomplishment.

“Telework has a direct and positive impact on our developers' performance. While difficult to quantify the increased productivity and long-term benefits, I would not be surprised if Active Voice realizes a productivity increase of 10-20% from telework,” Masters says. “Besides increasing their effectiveness, telework translates into a more flexible and enjoyable work experience for developers,” he adds.

Teleworker leverages commute time, views it as a perk
Next to the door of Bruce Holmstead's office is posted his telework schedule and preferred methods of communication. Adjacent to the schedule are photographs of his wife and four young children. The schedules and photographs of children are repeated outside other offices – an unconscious but obvious testament to the growing importance of work/life issues to employees.
On days he commutes, Holmstead rides a ferry one hour and 10 minutes twice a day, between his home on the Olympic Peninsula and the downtown Seattle offices. “I have a greater success rate on the code I write at home. I can focus without interruption, and I can leverage the 2.5 hours I would otherwise spend commuting,” he says. According to Jancola, out of a three-person project team, Holmstead has produced half of the code – the result of his opportunity to work longer without interruption and assistance from a manager who relieves him from attending some meetings. Because software development is a team effort, Holmstead feels two days of telework a week is the most effective schedule, since more telework days might hinder his team interaction.

Does the opportunity to work at home on Mondays and Wednesdays make a difference in Holmstead's loyalty to Active Voice? “Yes, it's definitely a perk,” he says. “I'm not a big city person, so it's a compromise that keeps me happy to be able to live where I want, but not have to deal with the commute twice a week.”

Management commitment critical to success
Active Voice did not reposition its informal telework activity as a formal program overnight. As expected there was initial skepticism by executive management, but upon further review they were supportive of the business goals of the program. “I would not underplay the amount of effort and commitment it takes to do this,” Masters emphasizes. “Without Chairman and CEO Robert Richmond's support, our proposal would have died. In other companies, it might be the President or CFO, but one of those top individuals has to believe in it.”

Implementation and evolution of program
Faulkner's information systems staff added a firewall to guard the internal system, and Master's administrative assistant went to work with a representative from human resources to research and develop a telework plan and policy. “The policy work was more painful than implementing the program and sending the engineers home with a pile of hardware to hook up,” Faulkner says. Administrative staff were pleased to find that a guidebook, sample policies and templates were available from Washington State University Energy Program, making it easier to get the program running quickly.

The software engineering group continues to experiment with the technology side of telework. The large amounts of software code and the computer applications the engineers need are slow to download. Active Voice has invested in the bandwidth necessary for its current teleworkers to connect to the company's computer system. With one eye on the changing nature of connectivity, Faulkner expects Active Voice will determine whether to give more employees and departments the ability to connect from home or to make the existing connections better and faster. For now, the software developers have found their own way to telework
efficiently – two gigabyte, transportable computer storage drives, and telephone calls to their office “buddy” to check new code into the system.

A 12-person, six-month trial period proved telework could be successful. When the program expanded, however, fewer people wanted to participate than the 50% Masters had predicted. He believes the employees felt a need to be at work, even though that may be counter-intuitive for software developers. Over time the program's popularity has grown steadily as other engineers hear the positive experiences of those participating. “Policies that evolve over time and allow employee choice tend to be more effective than any we could impose,” observes Faulkner.

**Corporate culture comfortable with change**

Besides the telework program for software developers, a 6-9 a.m. flextime window is offered to most Active Voice employees, and compressed workweeks are available to the technical support department. Other employees also work at home on an as-needed, informal basis. “Change is an integral part of a high-tech business,” Faulkner says. “When staff frequently move from one position, department, or floor to another in response to the rapid pace of business, work options become just another facet of a dynamic corporate culture.”
Case study:  
Davis Wright Tremaine LLP

- Telework
- Law firm
- Seattle, Bellevue, Richland (WA); Anchorage; Boise; Portland; Los Angeles; San Francisco; Charlotte (NC); New York; Washington, D.C.; Honolulu; Shanghai.

Business benefits:
- Increased billable hours.
- Improved access to national and international clients.
- Enhanced effectiveness, quality of work.
- Increased employee satisfaction, control of work/life issues.

Statistics:
- Telework offered: 1990
- Used by:
  - Administrative staff
  - Information systems
  - Lawyers
  - Managers
  - Marketing
  - Paralegals

Investment pays off
In 1990, Davis Wright Tremaine invested $4-5 million in telework. The 350-attorney law firm purchased an integrated system of technology and equipment making it possible to work from home or most anywhere at anytime.

The changing legal environment influenced the firm's decision: Top lawyers were moving to the Pacific Northwest for the quality of life and bringing their accounts with them. The firm needed to provide service as if clients were across town instead of across the country. At the same time, a hot employment market was raising the significance of employee satisfaction in a stressful industry. “There was a capital cost, but we believe it has paid back handsomely in terms of human resources and client service,” says Milt

“It's very seamless. Often neither employees nor clients know where I physically am, and it doesn't matter.”

- Brad Diggs, Managing Partner
Stewart, a Portland transactions attorney and member of the law firm's executive team.

**Law firm finds value in diversity**
Telework fits with Davis Wright Tremaine's reputation as a large firm that does things a little differently. The organization has been a leader among Northwest firms in having multiple offices not only throughout the Northwest, but on the East Coast and in China. One partner has a practice in San Francisco but lives in Seattle. A group of health care lawyers choose to remain in North Carolina, but their practice is all over the United States. Many of the law firm's most productive and well-known partners, including department chairs, are part time, which surprises many people in the legal community. “I think we are ahead of the curve,” Stewart says. “It's not because we have unique generosity toward our people – it is a bottom line issue to keep the best lawyers and be the best service providers to our clients.”

**Retaining the best**
The law firm uses the opportunity to work from home part of the time as a way to give attorneys more control over a demanding workload, more flexibility, and a better balance between work and personal life. Managing Partner Brad Diggs views the ability to offer telework to lawyers and other staff members as a tremendous advantage in retaining the best people. “All we really have are our people,” Diggs says. “Our job is to make really talented people want to stay and build their careers at Davis Wright Tremaine.”

**Telework tools meet business needs**
The tools of telework for an attorney – laptop, pager, cellular phone, and fax modem – not only provide the freedom to work at home for a day or for focused periods, they also provide a higher level of productivity and accessibility to the mobile lawyer or paralegal. In fact, Stewart, who now works many Fridays from his beach vacation house, pioneered the use of a laptop, pager and cellular phone which the firm supplied when he was spending one week a month in New York providing general counsel to a client there, but needing to respond to other clients during that week.

**Maintaining productive links**
“We haven’t tried to take a cookie cutter approach,” Stewart says. “The use of telework varies dramatically, but many of our lawyers and management staff work from home at one time or another – some with great regularity, others occasionally.” For some, telework makes it possible to stay more productive during different phases of life, including having or raising children, taking care of elderly parents, coping with an illness, entering retirement, or writing a book. For others, it makes it possible to spend time at a vacation house. However, for most, it is simply an effective and efficient way of working.

**Managing partner uses telework to manage**
Diggs spends a fair amount of time traveling between 13 offices to oversee the firm's most important financial, legal and human resource decisions. He works a full day at home at least once a month to catch up; and for a small portion of nearly every day, Diggs works from home or a hotel. “It's very seamless. Often neither employees nor clients know where I physically am, and it doesn't matter,” he says.

More work, less sacrifice
From his own experience and observations, Diggs says telework results in more work being accomplished. It can raise productivity levels by allowing staff more control over interruptions, eliminating or decreasing commute time, increasing job satisfaction, and providing the opportunity to focus on in-depth reading, writing and analysis. When more work is accomplished, it translates into more billable hours – a win/win for the firm and its employees. At one time, Stewart estimated he worked about four extra hours a week due to the ease and efficiency of working in his own home – or an additional 200 billable hours a year at $200 an hour. “It's like free inventory without the cost to the employee imposed by staying in the office late at night or all weekend,” he says.

“One thing I love is never ever having to go back to the office at night. I used to get home at 6:30 p.m., eat dinner, then go back to work. Now when I'm busy, I just work at home. My family and I really appreciate that,” Stewart says. “I just realized I went to the office last Saturday for the first time in a year.”

The law firm's culture accepts telework as a useful and positive tool. In fact, many of Davis Wright Tremaine's most successful lawyers are also the ones who use telework the most. “No one here has ever said I'm successful DESPITE the fact I telework,” Stewart says.

The paperless trend
A historic barrier to telework in the legal community is the sheer amount of paper and large law books. Laptops, internet resources and the ability to transfer documents back and forth between remote locations have been the key to making telework feasible. “Our industry is becoming much more paperless. Often documents are in the computer to begin with, and that's how they're transmitted,” Diggs says. Many lawyers find they no longer need more than occasional access to a traditional law library. Major reports of court decisions are available on-line through commercial services and increasingly from the courts themselves.

Beyond lawyers
Not just attorneys work at home. Paralegals, office managers, information systems staff, marketing managers, and accounting personnel use telework to meet project deadlines, to focus with fewer interruptions, and as a solution to work/life issues.
Financial Analyst Tracey Sundquist, a 16-year employee, has been working from home for nine years so she can spend more time with her children. At first she became a part-time employee, and later she returned to full-time. Sundquist works at the office on Wednesdays, giving her a chance to meet with accounting staff and collect reports. The rest of her week consists of odd hours – she works while her children are in school, in the evening and on the weekend.

Sundquist reports she is more efficient and effective at her job due to working at home. “My work is of higher quality, and I'm more productive – when I work, I work,” she explains. With two computers at home she literally is able to do two things at once, such as crunching budget numbers on one computer, while cranking out a monthly report on the other. The firm's budget for the last nine years has often been prepared at Sundquist's home at night while her children slept. During parts of the year, she is able to perform the work normally assigned to a person and a half because of her time flexibility and access to two computers. When her manager asks for a report, he usually gets it the next morning since Sundquist is a night owl. “When they need something quickly, they usually ask me.”

Approach legal issues with common sense

With partners who have expertise in employment law, one might expect Davis Wright Tremaine to have a detailed and formal telework policy. The firm simply says that employees who need or want to be able to work remotely will be provided with the capability if it makes good business sense. Bob Blackstone, an attorney who practices employment law, also consults with companies that are implementing telework programs. It is mostly a matter of determining how employment laws apply to teleworkers. Blackstone recommends policies that are more common sense than complicated. “The legal issues are not significant or daunting,” he says. “Depending on the application, it may be important to think through the selection, monitoring and review processes. Talk to other employers, and focus on telework results and output.”

© 1999 Washington State University Cooperative Extension Energy Program. This publication contains material written and produced for public distribution. You may reprint this written material, provided you do not use it to endorse a commercial product. Please reference by title and credit Washington State University Cooperative Extension Energy Program and Commuter Challenge. Published April 1999.
Case study:
Fred Hutchinson Cancer Research Center

- Telework
- Medical/research organization
- Seattle, Washington

“If the focus of a telework arrangement is on getting work done, the solutions fall into place.”

–Peggy Means, Chief Operating Officer

Business benefits:

- Enhanced job performance; effective work tool.
- Increased retention of key staff.
- Fits organizational ethic to promote health and environmental stewardship.

Statistics:

- 10-15% of staff telework at least once a month.

Mission possible
The internationally acclaimed Fred Hutchinson Cancer Research Center has a crystal clear mission – to fight cancer. The gravity of its mission helps staff from the top down set priorities and keep a laser focus on decisions that support its ultimate goal. While work options are a valuable employee benefit, they primarily address business needs at Fred Hutch.

“Telework helps us be more nimble at certain tasks and staffing,” says Chief Operating Officer Peggy Means. “It is one more tool that can give us an edge in studying, treating, and preventing cancer.” The option of working at home is used both formally and informally to help staff work more effectively and has been instrumental in retaining key staff. Additionally, telework closely fits Fred Hutch's organizational ethic to promote health and environmental responsibility.

10-15% work at home
The 2,300-employee research center, with a $225 million operating budget, houses hundreds of principal investigators and scientific teams. The center is more interested in tasks accomplished and results obtained than hours worked. Management's goal is to make it as easy as possible for scientists
to perform science and to create an environment most conducive for staff to work. Top management and the human resources department have no need to track closely where or when employees are working, delegating this responsibility to managers and direct supervisors. But Vice President of Human Resources Han Nachtrieb estimates 10-15% of staff work from home one day a month or more.

**Statistical research division has highest usage**
Fred Hutch has several scientific divisions, each with a distinct work culture. Public Health Sciences (PHS) is the prevention arm of the center. PHS gathers data from community clinics, prepares statistical models and educates the public. Its reliance on statisticians, computer programmers and staff with highly specialized knowledge, plus an abundance of tasks that emphasize heads-down analytical thinking and computing time result in the highest level of staff working from home among the divisions. Principal Investigator Garnet Anderson directs the Women's Health Initiative within PHS. Anderson estimates 25-30% of PHS staff, like herself, work at home at least once or twice a month.

Anderson values the day or two of quiet, uninterrupted work time she tries to carve out of each month. “For me, it’s a work-driven need to be productive and efficient,” she says. “Telework relieves stress in an otherwise hectic schedule and allows me to be about three times more productive on tasks that require focus such as report writing and reading.”

**Telework, a customized solution to varied needs**
Each PHS work unit determines its need for telework based on the autonomy of the task and the staff involved. Besides serving as a productivity tool, telework has retained a number of Fred Hutch staff that otherwise would have left for other opportunities, to avoid a lengthy commute or resolve work/life issues, or would not have been recruited in the first place. “If the focus of a telework arrangement is getting work done, the solutions fall into place,” Means says.

Lauren Clarke has a masters degree in mathematics and specialized computer modeling skills. Clarke was teaching at Western Washington University when he began working part time for PHS's tumor registry. He was asked to become a full-time statistical research associate in May 1996. Clarke agreed, provided he could work from his home in Lynden, WA – 110 miles away. His wife cares for their three small children during Clarke's work hours, and he is able to serve in the local volunteer fire department. Clarke travels to the office twice a month to attend meetings. Clarke's supervisor Nicole Urban has nothing but praise for the arrangement. “I've experienced the typical issues with employees at the office, but I've never had any reason to question my teleworkers' productivity – they produce high quality work and meet their deadlines.” Urban also supervises Project Manager Sue Peacock who works at home one or two days a week. “Sue has a small child and a long commute, so she sometimes thinks of finding
work closer to her home, but the opportunity to telework helps keep her
here,” Urban says. “She has 10 years of experience and critical knowledge
that is imperative to retain at Fred Hutch.”

Programming Analyst Merci Smith works at home 50% of her work days to
eliminate 2.5 hours a day spent commuting from the city of Snohomish.
Fred Hutch purchased and installed an ISDN modem for Smith and pays
more than half of the monthly charges for ISDN and internet service. Four
other members of her work group work at home once a week and
appreciate the flexibility to combine work and personal needs. “The
opportunity to telework is so much more important than a paycheck alone,”
Smith says.

**Telework for doctors and scientists**
In addition to PHS, Fred Hutch divisions also include Basic Sciences and
Human Biology (laboratory research) and Clinical (patient treatment and
study). While laboratory experiments and bedside visits cannot be
conducted from home, grant applications and report writing can be
accomplished less stressfully and more effectively on a telework day.
Administrative Manager Michele Wurl of the Clinical and Human
Immunogenetics Programs reports that she, several doctors and one staff
scientist in her group work at home from time to time – accessing the
office via telephone and email. Many employees already have computers at
home, some are able to take their laptops home and some have been
supplied with home computers by Fred Hutch. It is a valuable asset to Fred
Hutch for its highly paid scientists and knowledge workers to have
computer access 24 hours a day.

**Planning for success**
Fred Hutch supervisors are provided with a set of telework instructions,
training materials and a cost worksheet to help them decide when and how
employees should work at home. A telework plan is filled out jointly with
the teleworker to determine what hardware, software and support is
needed; what costs, if any, the division will cover; and an appropriate
communications plan. Telework needs are addressed on an individual or
work group basis. The set of instructions and training materials provide
baseline continuity for the resulting customized arrangements.

Included in the requirements for telework is the supervisor's willingness to
invest the necessary time to help the telework arrangement succeed. The
instructions also include a notice that the Center owns all copyrights and
has an interest in all inventions and discoveries that result from work
performed by employees of the Center, irrespective of whether the
inventions were made using Center facilities, supplies or equipment.

Clinical Administrative Manager Agnes O'Connor says, “Both flexible and set
telework schedules can work well. In formal and full-time arrangements,
both employees and the organization benefit from an initial and mutual
effort to set clear expectations.”
Long-distance employees
Besides as-needed telework, the Clinical division has formal telework arrangements with three employees, including its two transcriptionists and one study coordinator. The coordinator interviews former patients from her home in California to gather data on long-term results of treatment. When long-time Transcriptionist Jan Friedle moved to the Olympic Peninsula, Fred Hutch was able to retain her with telework. Friedle was provided with a dedicated second phone line with security measures to protect confidential patient information. She listens to dictation stored on the Center's computer network, and is able to print transcribed reports directly to the patient's floor at Fred Hutch.

The flexible organization
“Flexible” is a word often linked with work options that describes the benefit to employees and increased employee satisfaction. Telework, however, also provides an incredible amount of flexibility for a large organization such as Fred Hutch to address work needs and respond to employee retention issues. Even COO Peggy Means works at home approximately one day a month. “I telework for the sake of sanity and the ability to get a large amount of work done more efficiently when the work does not require meetings.”

© 2000 Washington State University Cooperative Extension Energy Program. This publication contains material written and produced for public distribution. You may reprint this written material, provided you do not use it to endorse a commercial product. Please reference by title and credit Washington State University Cooperative Extension Energy Program and Commuter Challenge. Published February 2000.