

# Evaluation of the Puget Sound Telecommuting Demonstration

Dee Christensen, Michael Farley, Maureen Quaid and Laurel Heifetz  
Washington State Energy Office

## Introduction

The transportation sector accounts for 28 percent of all energy consumption in the United States and is a major contributor to the nation's air pollution problems (U.S. Department of Energy May 1991. *State Energy Data Report*). Recent improvements in automotive fuel efficiency have been overwhelmed by increases in vehicle miles travelled. According to the Federal Highway Administration, between 1960 and 1980 traffic volumes almost doubled, while the population grew by 26 percent. Also, traffic congestion is expected to increase by 400 percent over the next 20 years on the interstate freeway system and over 200 percent on surface roads.

In order to reduce energy consumption and air pollution in the transportation sector, vehicle use and traffic congestion must be decreased. Transportation demand management (TDM) strategies attempt to accomplish this by promoting alternatives to single-occupant vehicles such as transit, high occupancy vehicle lanes, car and van pools, and freeway on-ramp access control. Telecommuting is a promising TDM strategy that is cost effective and reduces vehicle use and emissions. Telecommuting is an approach to commute trip reduction that has broad applications nation wide.

Telecommuting offers potential benefits to the employees and their organizations. Organizational benefits can include improved job performance, retention of valued employees, competitive recruiting, reduced sick leave, and reduced space and parking costs. For the employee, telecommuting can result in better quality work, reduced stress, and improved morale.

The Puget Sound Telecommuting Demonstration is a program administered by WSEO to explore the issues surrounding the use of part-time telecommuting in public and private sector organizations in the Puget Sound region. The Demonstration is designed to provide empirical information on the impacts of telecommuting on transportation systems, environmental conditions, and energy consumption, as well as organizations, employees and their families.

## Program Implementation

Twenty-five organizations and about 250 telecommuters, their co-workers, and supervisors are involved in the Demonstration. WSEO conducted an extensive recruitment of organizations representing a cross section of the Puget Sound economy. Each organization received assistance in developing telecommuting policies and procedures, selecting telecommuters, and training their telecommuters and their supervisors.

### Recruitment

Initial recruitment of potential participating organizations for the Demonstration began with the June 1989 "Governor's Conference on Telecommuting: An Alternate Route To Work." At the conference, organization representatives were surveyed to determine their level of interest in pursuing the telecommuting option within their organization. This initial group of organizations provided the starting point for a concentrated recruitment effort by WSEO to attract between 12 and 15 organizations for inclusion in the Demonstration. The list included representative samples of organizations from the various sectors of the economy, and was targeted at public, private, and non-profit organizations.

Initial contact with the organizations on the list consisted of a letter to the Chief Executive Officer and Human Resources Manager of private sector firms and agency directors of public sector organizations. The letter was signed by the Governor for a select group of organizations; the remainder received a letter from the Director of WSEO. Included with the letter was an application to the Demonstration that described the goals, objectives, and requirements for participation in the Demonstration, as well as contacts for further information and the scheduling of formal presentations to the management of the organizations.

Organizations requesting additional information or presentations contacted WSEO and program staff responded appropriately. To complete recruitment of an organization on average required continuous contact by phone and at

least two presentations to different levels of management within an organization. Each recruited organization required a slightly different approach and level of support prior to committing to the Demonstration. The time from initial contact to recruitment ranged from several weeks to over a year. A total of 24 organizations committed to the Demonstration.

## Policies and Procedures

Each organization in the Demonstration was required to assign a telecommuting coordinator and to develop a set of telecommuting policies and procedures for their pilot project. Program staff provided sample policies and procedures from successful telecommuting programs and advised organizations during the development of their policies and procedures. The policies and procedures were completed by the organization prior to the telecommuting training sessions and presented during the training by the organization's telecommuting coordinator.

## Selection

A selection process that was developed by a consultant to the Demonstration, JALA Associates, was used by organizations to facilitate their selection of telecommuters. Each prospective telecommuter and their supervisor completed a questionnaire that would indicate the possibility of successfully developing a working telecommuting arrangement. The supervisors' and telecommuters' responses were compared and, if an individual was not an appropriate candidate, the pair would not be recommended for participation. The great majority of candidates were recommended for participation and final approval was always the prerogative of the organization. The supervisors and telecommuters were required to attend training after they were selected.

## Training

The training consisted of separate morning sessions for telecommuters and their supervisors, with a joint afternoon session. The morning session for the telecommuters focused on communication, work flow considerations, organization, the home office space, impacts on co-workers, and completing the research material. The morning session for supervisors focused on communication, management by results, work flow considerations, organization, and the research material. In the joint afternoon session the telecommuter and supervisor compared their morning activities and completed a work planning exercise designed to provide scenarios of potential telecommuting arrangements. A series of questions and situations guided the participants to a

workable telecommuting agreement that served as the foundation for their initial telecommuting working arrangement. After completing training, the participants could begin telecommuting.

## Research Design

The research component of the demonstration is being conducted by WSEO with assistance from the University of Washington, Washington State Transportation Research Center, Oak Ridge National Laboratory, and the University of California at Davis. Information was gathered from four groups of people: telecommuters, their co-workers and managers, and non-participants. When feasible, comparison groups (non-participants) within large organizations were used to separate impacts of telecommuting from outside factors operating over the course of the demonstration.

Specific data collection methods included travel logs, surveys, focus groups, personal and telephone interviews, and unobtrusive observation. Types of information collected included changes in travel behavior as a result of telecommuting, and attitudes and perceptions of impacts on job performance, job satisfaction, and family relationships.

One round of surveys and travel logs was administered from October 1990 to April 1991. Comparison surveys were administered one year after the first round. Travel logs were also administered at the mid-point and at the end of the demonstration, and are being analyzed for shifts in travel patterns. The surveys are being analyzed to evaluate changes resulting from telecommuting. Focus groups, interviews, and observations are being used to enrich the statistics and provide a deeper understanding of the effects of changing work and travel patterns in people's lives. Focus groups were conducted with telecommuters, supervisors, and co-workers. Exit interviews were conducted with each telecommuter leaving the project.

As a last step in the research process, policy analysis will consider the regional costs and benefits of telecommuting, as well as regulatory, labor, and legal issues. Based on the findings of all the research conducted, recommendations will be developed for policy makers and organizations planning to implement telecommuting.

## Results

The final results of the Puget Sound Telecommuting Demonstration will be available in September 1992. A paper will be submitted to the 1993 ACEEE Conference.

A guidebook for organizations implementing telecommuting programs, *Telecommuting: An Alternate Route To Work*, will be available in June 1992.

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