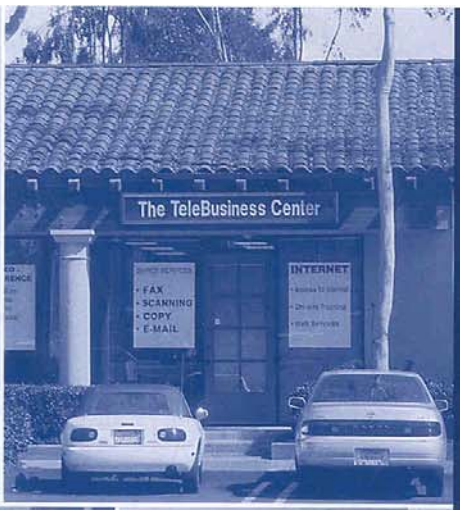

Residential Area-Based Offices Project: Final Report on Telecenter Operations

by
Carol Buckinger
Francisca Mar
Patricia Makhtarian

Research Report
Number UCD-ITS-RR-97-28

Institute of Transportation Studies
University of California
One Shields Avenue
Davis, California 95616

Prepared for
The California State Department of Transportation (Caltrans) and the Federal Highway Administration

December 1997

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DISCLAIMER

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For additional information or to obtain any of these reports in hard-copy form, contact the Institute of Transportation Studies at itspublications@ucdavis.edu, 530-752-4909 (phone) or 530-752-6572 (fax). Many of these reports may be downloaded free of charge from the Web site listed in the Acknowledgements, and/or from www.its.ucdavis.edu.

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Conceived in 1991 and launched in 1992, the Residential Area-Based Offices (RABO) Program was designed to assess the feasibility of remote work offices, or telecenters, as a transportation demand management strategy and as an alternative work option. A total of 17 centers throughout California were established and monitored under the program, although no more than 10 were operational at any one time. This volume presents the operations findings of the program, encompassing site selection, capitalization and operations costs, personnel and staffing, marketing and recruitment activities, and operation of the centers. A companion volume (*Residential Area-Based Offices Project: Final Report on the Evaluation of Impacts*) evaluates the usage of the centers and the impacts of telecommuting on productivity, attitudes toward work, travel, air quality, and other areas. Some key facts and observations with respect to the sites, staffing, and marketing are presented below, followed by a brief discussion of the project's overall findings and their implications.

Site Information

RABO centers ranged from 540 to 6,700 square feet, with an average of about 1,800 square feet. Nearly half the space, on average, was devoted to offices/workstations. Centers contained 4-15 workstations in open-office cubicles or private offices, 8 on average. Most sites had conference rooms seating 10-15 people and having audioconferencing capability; several of these doubled as videoconferencing facilities.

Reported site build-out costs [1] ranged from $549 to $208,563, with the higher number representing the major renovation of a historic landmark building in Anaheim. Aside from this anomalous case, build-out costs averaged $5,900-7,900 per site, which came to $5-7 per square foot or $860-1,150 per workstation. Reported start-up costs other than site preparation varied between $8,000 and $130,200, averaging $50,072. On a per-workstation basis they ranged between $1,100 and $19,200, with an average of $6,500. A major source of variation was

[1] Financial reporting by the sites was incomplete and all figures should be considered tentative. It is likely that most numbers are underestimates.

whether furniture and equipment (mostly computers) were purchased or leased. If purchased they were included under start-up costs; if leased they constituted recurring costs.

Ongoing operating costs varied much less than build-out and start-up costs, especially on a per-unit basis. Recurring costs ranged between $3,600 and $17,800 per month, averaging $8,700. Per square foot, costs ranged between $2.32 and $15.69, averaging $6.24; per workstation, costs fell between $700 and $2,100 a month, averaging $1,100. Monthly funding/revenue ranged between $4,100 and $29,100, averaging $10,940. Forty-three to 100% of this (67% on average) was the funding contributed by the RABO project itself, with the remainder coming from other agencies (26%) and from workstation rentals and other usage fees (7%).

Hence, sites derived little ongoing income beyond the RABO project funding, in-kind support and funding from other agencies. Many centers did not initially charge any rent for the workstations themselves, and when such charges were eventually initiated, negative effects on usage resulted. Small business tenants (who were not, strictly speaking, telecommuters) were more willing to pay workstation fees than were the employers of regular telecommuters. In the latter case, there was often not a mechanism established for paying the fees, and companies were unable to achieve compensating space savings back at the main office when an employee only used the center once a week or less.

The evident difficulties in developing income are a cause for concern about the long-run viability of this type of telecommuting center. It can be noted that a high proportion of the operation costs is fixed, that is, independent of usage levels. This suggests that (1) below a certain number of workstations, it will be nearly impossible for a center to break even, and (2) economies of scale need to be achieved, so that the fixed costs can be spread over a larger number of users. On the other hand, larger centers will be more difficult to fill, and will lose their neighborhood character as they must draw from a much larger commute shed.

Staffing

Most centers typically were staffed with one full-time key person whose responsibilities included all marketing functions, operations oversight and duties, bookkeeping/accounting, purchasing, and equipment maintenance. This person was usually supported by one or more assistants, who were full- or part-time. The key person was either the site developer, an on-site administrator, or an off-site overall coordinator. The site developer was responsible for the development and general oversight of the telecenter including acquiring, planning, designing, operating, and maintaining the telecenter. In all, the total number of personnel associated with operating the telecenters, either as supplemental staff or as direct telecenter employees, ranged from three to seven people, with one to two employees working on-site, and two to six employees spending a portion of their time off-site completing telecenter work.

Inadequate and inexperienced staffing was a problem that plagued most centers. Budget constraints limited the staff time that could be funded, and the diverse skills (administrative coordination, marketing, training, financial, technology support, data collection, reporting, strategic planning) needed to operate the center effectively were seldom found in a single individual or the small staff. Turnover among site administrators was common, with a resulting loss of continuity.

Planning and Marketing

As found to be the case for previously-established telecommuting centers, insufficient planning and development time was a common problem limiting the centers' success, due to the accelerated timelines and funding uncertainties inherent in multi-year publicly-funded demonstration projects. A two-year planning period is not unreasonable for a project of the complexity of establishing and marketing a multi-employer telecommuting center.

Both community outreach and employer-targeted marketing strategies were eventually adopted by the program; too strong and exclusive an early reliance on the former approach was clearly inadequate. The employer-targeted approach focused on actively researching and contacting

specific employers as well as general representatives of industries who appeared to have good potential to implement a telework policy as an established work option. Building and maintaining a presence in the local business community and with local government agencies was important to establishing positive relationships with prospective employer participants. Good prospects for telecommuting might include organizations who are relocating (and hence may want to accommodate employees who do not wish to move); expanding (and hence may be open to considering telecommuting as a way to save space); or engaged in non-territorial office practices (and hence may find telecommuting centers a useful addition to their flexible office space portfolio). Organizations with family-friendly or employee-friendly reputations may also be good prospects. Industries for which finding enough qualified information workers is difficult may be open to the recruitment and retention benefits of telecommuting.

Many telecenter users appeared to first hear about their local telecommuting center through a newspaper story. Media reporting is not only cheaper publicity than broadcast advertisements (which can be costly not only in terms of dollars but in preparation effort), but seems to be more effective as well. Mass mailings and distributions of doorknob hangers and windshield flyers were largely ineffective. The nature of the centers as potentially short-term research projects was one factor that impeded securing employer commitment.

Key Findings and Implications

(1) As the companion evaluation report documents, **telecenters are effective at reducing vehicle-miles traveled and emissions, for those who telecommute, on days that they telecommute, during the period(s) in which they are telecommuting.** The several caveats are important to placing the transportation-related findings in the proper perspective. From the RABO project and other research, we learn that (a) telecommuting is still not possible for the majority of workers, and does not appeal to everyone for whom it is possible; (b) those who do telecommute generally only do so about one day a week on average; and (c) about half of those who start telecommuting quit within 9-18 months. Thus, the very real per-telecommute-occasion reductions in travel and pollution are simply not being realized on a broad scale at this point.

(2) Also as documented in the evaluation report, **among the group of managers and employees who adopt center-based telecommuting, it is generally an effective work alternative.** Again, the caveat is necessary, to make the self-selection bias clear: those who adopt telecommuting (in general, and the center-based form in particular) will tend to be those for whom it has a high probability of success. Thus, it is dangerous to generalize the positive attitudinal and work-effectiveness results found in this and other studies, to the group of all potential telecommuters as a basis for estimating the work-related benefits of telecommuting.

(3) As documented in this report, **a number of barriers still remain to the widespread implementation of telecommuting centers as an alternative workplace**. Most of the barriers relate to the continued difficulty in convincing skeptical management of the value of telecommuting for their employees. This difficulty underlay most problems identified in this study:

- underestimation of the time and cost required to set up, market, and operate the telecenters;
- the challenge of finding effective marketing strategies, and the costs of the labor-intensive strategies that appear to be needed;
- revenues insufficient to maintain the sites on a self-sustaining basis;
- high turnover among telecommuters;
- "one-deep" telecommuting arrangements rather than larger-scale formal programs, so that telecommuter turnover required continually "starting over" with respect to marketing; and
- low utilization of the centers, reducing their public benefit and desirability.

Given that the telecommuting concept has been around for more than 20 years, it is fair to ask why it is still such a hard sell. Is telecommuting in general, and the telecenter in particular, still ahead of its time, or is this about as good a time as it's going to get? Arguments can be made on both sides of the question. The truth probably lies somewhere in between the two extremes, but it remains to be seen to which it will be closer. Precisely because telecommuting is so appealing as a potential solution to a number of problems, it is important to continue to monitor its adoption, improve our understanding of the factors facilitating and inhibiting it, and proactively undertake to remove barriers to its adoption.

The RABO project has been successful in collecting and analyzing the data required to answer the key question of the study: what are the transportation-related impacts of center-based telecommuting? It has enabled the evaluation of patterns of telecommuting, attitudes toward telecommuting, and the effectiveness of telecommuting as a work alternative. No less importantly, the project has also been successful in identifying some barriers to the widespread adoption of center-based telecommuting. The experience documented here will be invaluable to many other parties planning to establish telecommuting centers or related facilities. It simply would not have been possible to collect the same quantity and quality of data from a purely private-sector operation, nor to publicize the results. Hence, public-sector funding was critical to achieving this knowledge.

What should the public-sector role be from this point forward? At a minimum, telecommuting should certainly be encouraged. For a variety of reasons, there is a public-sector stake in making telecommuting available to as many people as can and want to adopt it. Removing any legal or regulatory barriers inhibiting telecommuting would be a wise investment. Beyond that, should the public sector devote substantial financial resources to supporting telecommuting, for example through tax incentives or through continuing to subsidize telecommuting centers? This is a more difficult question, and one that cannot be answered definitively by this study. If the public benefit is considered high enough, an ongoing public subsidy of centers may be justified, just as other public facilities and services are subsidized. An understanding of the public benefits of center-based telecommuting (and an ability to monetize them accurately) is crucial to making this determination. While this study has contributed considerable information regarding the individual-level, micro-scale impacts of telecommuting, the difficulty lies in scaling those impacts up to a systemwide level, in monetizing those impacts, and in comparing the opportunity costs of spending public funds on this strategy as opposed to others. Further research on these issues will be important to resolving the question of the most appropriate and effective role of the public sector in supporting telecommuting.

CHAPTER 1

INTRODUCTION

1. INTRODUCTION

1.1 Objectives

Conceived in 1991 and launched in 1992, the Residential Area-Based Offices (RABO) Program was designed to assess the feasibility of remote work offices, or telecenters, as a transportation demand management strategy and as an alternative work option. The program involved establishing telecenters throughout California and monitoring their usage and operations, as well as monitoring their impact on work and travel-related behavior. This volume presents the operations findings of the program, encompassing site selection, capitalization and operations costs, personnel and staffing, marketing and recruitment activities, and operation of the centers. A companion volume (*Residential Area-Based Offices Project: Final Report on the Evaluation of Impacts*) evaluates the usage of the centers and the impacts of telecommuting on productivity, attitudes toward work, travel, air quality, and other areas. These two volumes constitute the final report on the project.

1.2 Telecommuting

Telecommuting is defined as the use of telecommunications technology to partially or completely replace the commute to the normal workplace. As an alternative to commuting to the regular workplace, telecommuting can reduce vehicle miles traveled and lessen traffic congestion while reducing cold starts and attendant emissions. Moreover, telecommuting can increase the quality of life for an employee by decreasing commute-related stress; and because telecommuting often offers an environment conducive to concentrated work effort with fewer disruptions than the normal workplace, telecommuters frequently report significantly-increased productivity while telecommuting. Benefits to the employer can include increased employee productivity; potential space-cost savings; and the enhanced ability to retain valuable employees.

As a work option, telecommuting can be conducted at any remote location that allows productive, concentrated effort. There are two widely-recognized forms of telecommuting: home-based, and office-, or telecenter-, based. The telecenter form of telecommuting can be further

subdivided into single-employer or multi-employer facilities. All of the centers operated under this program were of the multi-employer form. The telecenters for this program resemble regular offices, equipped with workstations, computers, faxes, copiers, and staffed with site personnel who oversee the operations of the centers; workspace is reserved for individual employee use by each employer. Telecenters differ from conventional offices in that one works there because one lives nearby, not because one's job or one's supervisor is located there.

1.3 Terms and Definitions

This section more fully describes some of the concepts used in this document, and offers definitions of terms specific to the state of California.

"Regular" telecommuters v. teleworkers: For the purposes of this study, a distinction is drawn between the different types of users in the telecenters. For those telecenter users using the center as a regular work location as opposed to casual or drop-in use, the distinction is made between "conventional" telecommuters, and self-employed users or small businesses employing the center as their primary place of business (the latter two groups are referred to in this report as “teleworkers”). Those considered to be conventional telecommuters are employees of an agency or firm who have a main office elsewhere, and who would otherwise be commuting to work. The transportation impact in vehicle miles traveled can thus be measured, since the alternative to telecommuting is known. Self-employed users, on the other hand, do not have an alternative work location which is known to the analyst. The impact on travel generated is therefore unclear. As a trip-reduction measure, telecenters may offer the greatest benefit to conventional telecommuters; but as a natural venue to promote and assist small business development, use by self-employed workers may create a greater revenue stream to centers and enhance their operational stability.

Executive suites are differentiated from telecenters by the segment of the market to which they appeal and the services they provide. Traditionally, executive suites' clientele tend to be composed of self-employed professionals, entrepreneurs, and regional sales staff who use the suites as their primary place of business for an extended period of time. Executive suites provide

services such as secretarial, word-processing and receptionist support; in essence, an executive suite provides all the support services supplied in the main office. Telecenters in this report were mainly developed to mitigate traffic congestion and emissions by alleviating employee commutes, and thus are considered an alternate work location. Because the purpose of the RABO project was to assess the travel impacts of centers established as transportation control measures, executive suites were not included in the study. However, the distinction between the two appears to be becoming more blurred as telecenters in California are now diversifying both clientele and services; and interestingly enough, at least one executive suites company reports experiencing an increase in use by employers and telecommuting employees for commute mitigation.

Certain terms used in this report are specific to the state of California, and often specific to certain regions. For ease of understanding, definitions are provided below for agencies or funding sources common to several centers.

AB 2766 Subvention Funds are state monies from fees levied on motor vehicle registration in designated air quality non-attainment areas. AB refers to Assembly Bill; this bill was signed into law for all areas in the state with the exception of the Sacramento and the San Francisco Bay areas. Similar laws for those areas were effected in 1988 for Sacramento (AB 4355) and in 1991 for the Bay Area (AB 434). These funds were created to ensure that air quality districts had the means necessary to implement their expanded responsibilities for emissions monitoring and controls under the California Clean Air Act of 1988. Some of these monies are made available on a competitive basis to projects (such as telecenters) that seek to reduce emissions.

MetroLink is a regional commuter rail system operating throughout northern San Diego county, Los Angeles, Orange, San Bernardino, Riverside and Ventura counties.

Petroleum Violation Escrow Account (PVEA) is a federal trust fund created to provide compensation to energy users who were overcharged by oil companies that violated federal oil price control regulations. Funds are available to state and local jurisdictions (cities, counties, or regional planning agencies) to finance projects and programs for energy conservation.

Smart Communities is a project developed by the State of California Department of Transportation to design a framework to blend community telecommunications networks and distributed settings throughout such communities for the remote delivery of services, telework, distance learning, telehealth, telecommerce and other applications of telecommunications technologies. Objectives are to provide greater access to public information and services for all sectors of society; to allow greater community participation in public policy issues; and to provide interactivity between government services and the community for items such as license application/renewal, social and health services transactions, and permitting. Communities involved in developing linked networks for smart communities applications include the City of Davis and the City of Chula Vista; organizations and telecenters involved in smart communities efforts include the Grass Valley TeleBusiness Center in conjunction with Nevada County Community Network; the Davis Community Network; Net at Two Rivers; and the Blue Line TeleVillage.

The *Southern California Telecommuting Partnership* (SCTP) was an association composed of public and private organizations, and was active in the region encompassing Los Angeles, Orange, San Bernardino, Riverside, and Ventura counties. The objective of the partnership was to promote the use of telecommuting, both home- and center-based, as an alternate work strategy. The partnership was formed in 1994, headed by the City of Los Angeles, in response to the January 1994 Northridge earthquake. In 1996, after two years, it was dissolved. While active, the SCTP developed marketing and training programs, designed and produced marketing materials, and provided technical assistance and financial support to telecommuting programs in the region.

1.4 Project Organization and Development

The RABO program was funded with Federal Highway Administration Intermodal Surface Transportation Efficiency Act (ISTEA) funds through the California State Department of Transportation (Caltrans). Caltrans entered into an agreement with the University of California, Davis, Institute of Transportation Studies to establish as many as twelve telecenters throughout

California and monitor their operations and impact on travel behavior. This program involves all phases of establishing, opening and operating telecenters in residential areas -- ideally close enough to employees' residences to encourage walking or bicycling to the telecenter.

The scope of work for the program comprised several phases including: project organization and development; site selection and development; site operations; project evaluation and data collection; and project reporting. The preliminary phase, project organization and development, involved establishing the elements basic to the structure of the program. These elements -- background research, evaluation methodology, site selection criteria, and marketing planning -- would serve as the foundation for and dictate the nature and direction of subsequent program activities. The second and third phases -- site selection and development and site operations -- contain the procedures by which the centers were established and the study was implemented. The final two phases collate and present the heart of the project itself, the findings of the study.

Development and operations services were contracted out to various local governmental and private agencies, hereinafter referred to as "site developers". Responsibilities of the site developers included planning, marketing, equipping, opening and operating the telecenters, as well as providing on-going participant recruitment.

Initially scheduled to be completed within two years, the program was extended three times to allow more time for site development and data collection. The original schedule called for the first year to conduct project planning and organization, and to establish and develop centers; the second year was reserved to operate the centers, collect data, and generate the final report. This time-line did not provide a sufficient period for site development, and the work plan was revised in 1993 to augment the existing term of agreement by an additional year, then again in 1995 by another 18 months. A final extension was granted in 1996 for a supplemental nine months to complete project documentation.

At the outset of the project, funding to the sites could include all types of development and operations costs, although cost-sharing with other organizations was expected and achieved. The 1995 revisions to the master agreement, while extending the total period of funding to the sites,

decreased the scope of expenditures covered by the funding. This change was made pursuant to a federal restriction placed on expenditures of ISTEA funds which only allowed reimbursement of coordination expenses. Leasing, equipment and operating costs were all thus excluded; only site administrators' and support staff salaries were covered. By contract, all funding to the sites ended June 1996.

1.5 Participation

The history of the centers' participation is somewhat uneven. Not all centers continued the entire course of the operations funding period. At least one center (Modesto) closed early due to lack of sufficient funding; others were not included in the second half of the operations period due to inadequate reporting and data collection services. As centers dropped from the project, others were added. During the course of the project, seventeen centers participated at different times. Agencies under contract to the university included the City of Anaheim; the City of Chula Vista; the Coronado Transportation Management Association (CTMA); Databases and Algorithms, Inc. (Davis); Mind*Share Tech*Knowledgies Inc. (San Diego region); the City of Modesto; Pacific Neighborhood Telecenters, Inc. (San Juan Capistrano); South Placer County Transportation Management Association; the City of Vacaville; Ventura County Community Colleges District; and Western Nevada County Transportation Management Association.

In the fall of 1993, the first three agencies signed contracts with the university. These were the Coronado Transportation Management Association (CTMA), the Western Nevada County Transportation Management Association (WNCTMA) in the city of Grass Valley, and the South Placer County Transportation Management Association (to establish three centers). These were followed in early 1994 by the City of Chula Vista, which established two centers; Databases and Algorithms, Inc. in the city of Davis; the City of Modesto; and the City of Vacaville, which also established two centers. By August 1994, agreements had been executed with the City of Anaheim and Mind*Share Tech*Knowledgies Inc. (San Diego region). Six months after entering into the agreement with the university, South Placer County TMA elected to terminate its contract. The three centers under the direction of SPTMA were replaced in October 1994 by two centers, Moorpark and Ventura, established by the Ventura County Community Colleges

District subsequent to the Northridge earthquake. In November 1995, the City of Modesto center terminated its contract and closed the Modesto center; by the end of June 1995, the City of Anaheim and Databases and Algorithms, Inc. were no longer participants, and the City of Vacaville had closed one of its centers. Pacific Neighborhood Telecenters, Inc. (San Juan Capistrano) was added as a final participant in October 1995. The final program configuration consisted of the Coronado Telecenter, the Grass Valley TeleBusiness Center, the Vacaville Telecenter, the two centers under the direction of the City of Chula Vista, the two centers under the direction of the Ventura County Community Colleges District, and the Telebusiness Center in San Juan Capistrano.

1.6 Organization of this Report

Following this introductory chapter, Chapter 2 describes the project-wide planning that laid the foundation for the remaining activities. Chapter 3 discusses considerations related to the selection, start-up, and development of the individual sites. Chapter 4 presents the various marketing strategies developed and employed to recruit telecenter users, while Chapter 5 reviews the financial aspects of telecenter start-up and operation. Chapter 6 describes the kinds of facilities housing the telecenters, staffing of the centers, and general operation procedures. Chapter 7 summarizes the key findings of the report. Finally, Chapter 8 presents a brief history and discussion of each individual site. The Appendix contains a number of marketing materials used in the project.

CHAPTER 2

PROJECT-WIDE PLANNING

2. PROJECT-WIDE PLANNING

2.1 Introduction

The planning phase of the project provided the main strategies used in the project, and included background research, identification of key issues, and the development of the marketing and site selection strategies. The marketing and site selection were conceived as integral parts of a larger effort to secure employer participation in the program prior to opening the centers. Thus, preliminary marketing and site selection proceeded concurrently. This entire process was informed by background research, and was designed to address factors identified in the research as influencing the relative success rate of previous telecenters.

2.2 Background Research

Background research for the initial phase of this program was conducted on the overall project concept and on specific activities involved in training employees and managers for remote-site work. The primary document was an analysis of the concept of remote work as it has been developed and applied in different countries, as well as an analysis of the history and operations of telecenters in the United States, both closed and extant. The objective of this research was to gain an understanding of factors that may contribute to the success or failure of a telecenter; that is, to learn from previous experience. As part of the analysis, case studies were conducted of seven telecommuting centers in the United States and a multiple-employer facility in Sweden. The resulting report, *Telecommuting Centers and Related Concepts: A Review of Practice*, was released in March 1994 (see "Reports Available from the RABO Project", p. ii). Findings from this report were used in developing the site selection and marketing components of the project, as indicated below.

2.3 Selection and Training of Telecommuters and Managers

Selecting and training telecommuters and their managers for remote work had been an important aspect of previous telecommuting pilot programs. In particular, the State of California

Telecommuting Pilot Program had created and implemented a comprehensive participant selection and training program to help individual telecommuters and telemanagers achieve the greatest degree of success possible as part of a remote work team[2]. Preliminary research on previous training programs was conducted to assist in the development of the RABO training program and resulted in two documents, *Training: Ensuring a Successful Telecommuting Program* (September 1994) and *Picking the Participants: Ensuring a Successful Telecommuting Program* (October 1994).

Although previous telecommuting demonstration projects had conducted formal selection processes and training sessions, this project posed some difficulties for that approach. In the previous projects, the participants were typically confined to a single metropolitan area, were recruited more or less in a single beginning stage of the project, and started telecommuting essentially all at the same time. Thus, conducting screening surveys within a narrow window of time and holding one or a small number of training sessions at the outset was entirely feasible. The RABO project, by contrast, was characterized by the staggered entry of sites, employers, and telecommuters across the state of California, throughout the life of the project. Aside from the temporal spread of entrants to the program, the mere involvement of multiple sites and multiple employers at each site represented a complication not found in most or all previous projects. Thus, even if there were enough new participants in a given geographical area, at a given point in time, to justify a formal training session, the location of such a session was problematic due to the involvement of multiple employers. The telecenter itself was the logical choice of location, but it was expected to be difficult to get managers to the telecenter for a training session. In addition, the first condition of having a critical mass of new participants within a single geographical area and small window of time was rarely met.

Ultimately then, we concluded that the main role of the RABO program in selection and training should be that of a facilitator rather than an implementer. The guidance materials described above were made available to each site developer and their use was encouraged; also selection

[2] JALA Associates, Inc. (1990) *State of California Telecommuting Pilot Project Final Report*, Stock No. 7540-930-1400-0, State of California Department of General Services, North Highlands, CA.

and training issues were the subject of discussion at several statewide project team meetings (see Section 3.2). Beyond that assistance, site developers were expected to communicate directly with prospective employers, telecommuters, and managers associated with their sites, and provide selection and training guidance to those parties using the materials available through this project and/or other sources. To our knowledge, this approach was reasonably effective.

2.4 Site Selection Criteria/ Marketing Planning

To address the restrictively short time-frame of the original agreement, the site selection and development phase was constructed as a dual-tiered work plan with a "fast track" and a "normal track". The fast track was designed to facilitate early site establishment and development by immediately contracting with agencies identified by Caltrans at the outset of the program who were willing to participate and who had experience in implementing transportation demand management programs. The objective of the fast track was to maximize data collection time for at least a portion of all sites eventually comprising the entire program. Normal-track site development was designed to be conducted at a less-accelerated pace, employing a site selection process based on preliminary market research findings and on conclusions drawn from the background research of pre-existing centers. The objective of this process was to ensure the highest rate of occupancy in the centers by careful choice of site location and by securing the participation of regional employers in recruiting active users from the beginning.

The strategy of the normal-track site selection plan was based on findings of the *Review of Practice*. This research showed that key factors in a center's success were an early and aggressive marketing campaign, sufficient planning and development time, the willingness of employers to accept remote work as a business strategy, and the location of the center close to potential users and amenities such as banks and stores (Bagley, *et al.*, pp. ES-2 – ES-4).

A general planning and development period of sufficient length was considered to be critical. In the background research, nearly all respondents indicated that more time invested in the planning and development stages would have resulted in a greater degree of success for the center, especially in the early stage of operations. It was felt that accelerated start-ups resulted in

hurried and incomplete marketing and lower usage rates (Bagley, *et al.*, p. 5-36). In some cases, short start-up times were a result of funding agency requirements, where money had been provided to establish a center and operate it for a specified time period in exchange for an evaluation report on the operations at the end of the funding term. To ensure adequate time to assess the operations, this would often force hasty planning and implementation, to the detriment of marketing efforts and ultimately the center's usage levels.

Of all factors, a vigorous and continuous marketing campaign was considered perhaps the most crucial; and the earlier the marketing program was started, the better. Ideally, a marketing program would start before the center even opened. This is illustrated in the case of the Antelope Valley Telebusiness Center (a non-RABO site), which had initiated a strong and systematic marketing campaign in the planning stages of the center; this resulted in more than half the center's workspaces being leased prior to its opening in late January 1993. After the catastrophic Northridge Earthquake in January 1994 filled the first center, a second facility nearby was opened in April 1994 to accommodate the increased demand. Conversely, centers which had opened without a strong marketing effort experienced a long lead-time between opening of the center and first usage, and continued to experience depressed usage rates overall. Most site administrators surveyed in the *Review of Practice* felt, in retrospect, that they would have preferred to spend less time on facility build-out and equipage and more time on marketing efforts to ensure higher usage rates and hence greater center success (Bagley, *et al*., p. 5-37).

From the beginning, then, one main goal of the RABO program site selection process was to realize maximal occupancy in the centers once they became operational by obtaining the participation of employers in the selection, design and establishment of the facilities. This process made site selection part of the preliminary marketing plan. The initial step involved identifying employers by surveying populations in potential site areas to determine who the regional employers were. By contacting these organizations and soliciting their support and cooperation in the program, it was planned that participating employers would also recruit their employees to use the centers; and by providing input about their employees' working requirements, could help create a viable work context for their employees at the center. This active partnership would ensure that center design would meet employer needs in terms of

workstation configuration, software requirements and data security. Moreover, because employers would participate in the selection, there would be a greater likelihood of locating the facility in areas close to potential users' residences. In all, it was hoped that early involvement on the part of the employers would foster a sense of ownership in the centers and promote active recruitment of users.

It must be stated that this ideal was not achieved in reality (see Chapter 4, "Marketing"). It presented a "chicken-and-egg" problem: we wanted employers to sign on to the concept and then participate in selecting and developing the site, but employers were reluctant to commit to the nebulous (to them) concept of telecommuting centers, "site" unseen, so to speak. It turned out that having a tangible facility to point to was important (although by no means the only factor) in persuading employers of the reality of the concept and feasibility of the project. Even so, the program experienced the "demonstration factor", in that employers were hesitant to participate in what appeared to be a temporary project.

Nevertheless, in the planning stages of the project, a formal list of factors was developed by which to evaluate potential normal track sites (developer/area/facility "packages"). Factors considered most important were:

1. **The amount of time needed to establish the telecenter**. Despite the realization of the need for ample start-up time expressed by previous site developers, this project faced time constraints similar to those previous ones, due to the short-term nature of the demonstration funding provided. Thus length of start-up time required was an important consideration, and requiring too long a time was considered sufficient reason for rejection of a potential site.

2. **Estimated cost to the project to set up the facility**. Start-up costs were recognized to include land; parking provision; building lease or purchase; any interior or exterior tenant improvements to the facility, including Americans with Disabilities Act (ADA) compliance; and lease or purchase of equipment and furnishings. It was recognized that while costs should be minimized as much as possible, it was desirable to have a range of facility configurations in the project.

3. **Identification of an anchor tenant**. The anchor tenant was envisioned as any employer supportive of telecommuting who could supply a significant number of telecommuters. It was assumed this would probably be a major employer such as the state or local government or a technology corporation such as Pacific Bell or IBM. In the case of the Antelope Valley Telebusiness Center, the anchor tenant was the health maintenance organization Health Net, which occupied fully 88 percent of the workstations in the second facility. The anchor tenant would ensure that the facility would be occupied during a highly-publicized opening, and it was anticipated that the anchor would enhance marketability of the telecenter to other prospective employers by removing the potential discomfort of being the first or only tenant. As a result, the anchor would serve as a magnet to attract employers with fewer potential telecommuters.

4. **Availability of contributing partners and the extent of contributions**. Potential sources and types of contributions were recognized to include private corporations (equipment and service donations), public agencies (state and local government funding or facility usage), Transportation Management Associations (administrative services, funding, and training), site administrator/developer (business acumen and funding), and other sources of local marketing/training expertise.

5. **Political considerations**. It was recognized this may be an important basis for selection of sites.

6. **Demographics and travel characteristics of residents in the immediate vicinity**. This information was to be gathered from 1990 Census data. Of particular interest were data regarding residential density, that is, the number of workers near the proposed telecenter site, occupations of those residents, and the length of their commute. However, other demographic variables were also of interest:

   - *Age:* The hypothesis is that younger workers (age less than 45) have a higher propensity to telecommute (less likely to be managers, likely to be more open to change,

more computer literate). However, younger workers are also more likely to be single, which partly counteracts the household size hypothesis below.

- *Gender:* Interesting information but with no particular hypothesis. Current telecommuters are about equally likely to be of either gender.

- *Household size distribution:* Workers with larger households are perhaps more likely to telecommute because of having young children or other family responsibilities. Single people are less likely to telecommute from home (because of the need for social interaction fulfilled by the workplace), but may be willing to do so from a center.

- *Household composition* (presence of children, number of workers and non-workers): Hypothesis: the greater the need to balance work and family demands, the greater the propensity to telecommute. Therefore, single parents would be more likely to telecommute. In other households, the greater the number of full-time workers, the higher the chance that a worker will telecommute.

- *Number of vehicles per licensed driver:* Hypothesis: the lower the ratio of autos to licensed drivers, the greater the incentive for the worker to telecommute – either because s/he doesn't have a car available, or to make the car available for others in the household. However, vehicle availability is correlated with income, and while the *desire* to telecommute may be greater among workers in lower-income households, the *ability* to telecommute falls disproportionately to higher-income workers.

- *Current mode choice to work:* Current rideshare/transit users may be more likely to rideshare or take transit to the telecenter (possibly with detrimental impacts on existing shared-ride arrangements). However, greater congestion and air quality benefits are achieved if former solo drivers use the telecenter.

Several other factors were identified for subordinate consideration. Among them were regulatory issues, such as the presence of a commute trip reduction ordinance in the region. It

was acknowledged that areas subject to a regulatory incentive may deserve a higher start-up priority, on the assumption that employers in that area would generally be more open to offering telecommuting. Also, institutional issues were identified as having an effect on site selection. For example, aerospace companies had previously not been very supportive of telecommuting for various reasons, including concerns about the security of classified work. Thus, an area with a high level of aerospace employment may not be suitable for a telecenter site. Finally, location-related factors such as the availability of nearby amenities and the accessibility of the site to public transportation were taken into account.

CHAPTER 3

SITE SELECTION, DEVELOPMENT AND GOALS

3. SITE SELECTION, DEVELOPMENT, AND GOALS

3.1 Site Selection

Specific site location proceeded within three major regions targeted for both fast and normal track development. Selected as having a high likelihood of potential participation due to density of population, air quality attainment issues, and high traffic congestion, these major regions were Orange County, the greater San Diego area, and the greater Sacramento area. Los Angeles and the Bay Area were already experimenting with telecommuting centers under separate programs at the time the RABO project began.

Developers in the San Diego and Sacramento regions were quickly identified for the fast-track sites; these were, in San Diego, the Coronado TMA, and in the Sacramento region, the South Placer County TMA and the Western Nevada County TMA. Contracts were concluded in 1993 with those agencies, and facilities selection followed. In September 1993 the Coronado TMA and the South Placer County TMA opened the Coronado Neighborhood Telecenter and the Roseville Telecenter respectively; the Grass Valley Telecenter opened under the direction of Western Nevada County TMA in November of that year, and by March 1994 the South Placer County TMA had opened its Auburn telecenter.

Two additional fast-track sites, in the Los Angeles area, were later included in the project as part of Caltrans' emergency earthquake relief program in response to the 1994 Alta Loma (Northridge) earthquake. These sites were the Ventura and Moorpark Community Colleges Telecenters, which operated under the aegis of the California Community Colleges Chancellor's Office and were administered by the Ventura Community Colleges District. In an amendment to the prime agreement, these sites became participants in the program in the Fall of 1994.

The initial stage of the normal-track site selection plan involved conducting demographic research (through a subcontract to the consulting firm of JALA International) on each of the three major regions to identify sub-areas containing a high density of information workers with long-distance commutes. The planned outcome of the research was to locate centers near the

residences of these workers. Density maps were created from information derived from the 1990 Census Bureau database. Based on this research, seven key areas were identified: El Cajon (San Diego County); Chula Vista (San Diego region), San Clemente (Orange County); San Juan Capistrano (Orange County); El Dorado (Sacramento region); Vacaville (Sacramento region); and Modesto. The Davis area slightly west of Sacramento came under active consideration somewhat later.

Potential site developers in each of the areas were contacted or, having learned of the project through different channels, contacted the University. As part of the selection process, potential site developers provided proposals to the University for consideration. Candidate interests mostly took the form of municipal governments: the Vacaville interest, for example, was represented by the City of Vacaville; the City of Modesto made its application to the University, as did the City of Chula Vista. The private sector was represented by Mind*Share Tech*Knowledgies, who proposed a site in the San Diego (El Cajon) area, and Databases and Algorithms, Inc. of the Davis area.

Site developer selection in many cases was the result of a public agency proposal and petition for funding, although the private sector was also included in the final program configuration. Normal-track contracts were eventually negotiated and concluded with the City of Vacaville; the City of Modesto; the City of Chula Vista; City of Anaheim; Mind*Share Tech*Knowledgies; and Databases and Algorithms.

In some cases applications were the result of a public-private agreement. The City of Anaheim's application for funding was based on a proposed three-party agreement between the Anaheim Downtown Redevelopment Agency, a private enterprise known as URO Inc., and the City of Anaheim, with additional funding from the South Coast Air Quality Management District. Mind*Share Tech*Knowledgies, the developer of the East County San Diego Telecommunity Centre, was a private business concern whose application was supported by the local Caltrans District Transportation Demand Management Office and the San Diego Association of Governments (SANDAG). The private partners of these two centers were developers of

executive suites and office buildings whose interests had expanded into the potential telecommuting market.

For many of the developers, participation in the program was seen as a means to secure additional funding for community economic development, the main hoped-for benefit being increased retention of commercial activity and resulting revenue in the area served by the telecenter. The agreement between the City of Anaheim and the Anaheim Downtown Redevelopment Agency was based upon economic benefit derived from rebuilding the downtown area and attracting businesses and commerce to the area; the telecenter was part of that overall economic reconstitution. The Telework Task Force for the City of Modesto viewed the development of the telecenter as a potential catalyst for entrepreneurial and economic development for the City and the entire region. Others, such as the City of Chula Vista, planned their telecenters as part of a larger community-wide telecommunications infrastructure designed ultimately to encompass international trade, access to government services and activities, business and medicine. One model for this infrastructure was the Davis Community Network (DCN), a centrally-administered interactive community-wide access to the Internet developed as a means to exploit the wealth of information and services accessible through the Internet. The developer of the Davis Telecenter was involved in the inception of the DCN, and proposed to position the Davis center in part as a natural gateway to the DCN by allowing members of the community use of telecenter computer equipment.

Because of the time constraints on the site development and operations periods, facility location and site developer selection often proceeded concomitantly as potential developers researched facilities while negotiating agreements with the University. Others proposed pre-identified facilities as part of their own application. Developers who proposed pre-identified facilities included Databases and Algorithms (Davis), Mind*Share Tech*Knowledgies (La Mesa), the City of Anaheim, and the City of Vacaville. Others, such as the City of Chula Vista and the City of Modesto, developed a systematic methodology for facility selection which they implemented as their contracts with the University were being executed.

Ideal facility attributes included a flexible floor plan with desirable design features, location characteristics consistent with the stated objectives of the project, and a demographic composition in the surrounding residential areas that fit the profile developed in the initial location research. Among the design features expected to be helpful in recruiting telecommuters were lunchroom facilities that would include at a minimum a refrigerator, microwave, and sink; a conference room; and some private offices. Two reasons were identified for the importance of private offices: to alleviate companies' concerns about security for proprietary information, and to help avoid some of the distractions that are inherent with an open-office plan, the latter being a reason some telecommuters prefer the center over their regular workplace. Somewhat less important considerations were the availability of videoconferencing equipment and the size of the telecenter, although a range of sizes across the project was considered most desirable.

The original plan for the facilities' location was to place the centers in residential areas on the premise that this would minimize the need to drive to them. They were to be accessible via non-auto modes of transportation, such as bicycle, walking, neighborhood shuttle, or mass transit; and amenities such as child care, restaurants, and banks/ATMs would ideally be close to minimize the need for automobile trips to conduct personal business during the day. Other location considerations included compliance with local zoning law restrictions and Americans with Disabilities Act (ADA) compliance requirements. An assessment of the demographics and travel characteristics of residents in the immediate vicinity was also considered key, as discussed in Section 2.4.

In practice, for pragmatic reasons of cost and timeliness, many centers were developed in existing available facilities that bordered residential areas and were not always readily accessible by foot or bike. Actually locating them within residential neighborhoods was generally not possible, due to zoning restrictions and/or lack of available space zoned for commercial uses. Most were located in small strip developments which served several adjoining residential neighborhoods: examples include the Chula Vista Eastern Telecenter, the Davis Telecenter, and the Modesto Telecenter. Others were located in the downtown business districts of their cities (generally smaller towns): these include the Chula Vista Downtown Telecenter, the Anaheim Telecenter, and the Grass Valley Telecenter. While Anaheim is not a small town, its downtown,

as part of a major redevelopment initiative, contains a number of potential telecommuters living within walking or biking distance of the center. Another center, the Alamo Telecenter in Vacaville, was within walking distance of a great number of factory-outlet stores.

The benefit of locating these centers in strip developments was that it did provide access to nearby amenities such as child care facilities, banks, restaurants, grocery stores, and dry cleaners. It was recognized that many people would continue to drive to the telecenter; however, it was also recognized that, for most of the telecenter users, the vehicle-miles traveled (VMT) to the center would be considerably reduced over their regular commute. By placing centers in areas offering a number of frequently-demanded services within easy access, it was hypothesized that VMT could be further reduced. An analysis of the transportation impacts of the telecenters is offered in the companion volume of this report.

Both the City of Chula Vista and the City of Modesto developed and applied a methodology for the facility search which addressed the parameters outlined above. The City of Modesto employed a point system applied to a scale of attributes. Site search was initiated by conducting demographic and informal research of the municipal area to determine where the commuters lived. Based on the findings, the search was narrowed to three areas considered suitable. Eventually, six candidate facilities were identified. These facilities were then rated according to such factors as price, space availability, proximity to a commuter neighborhood, proximity to public transportation, building amenities and current condition. This resulted in the selection of office space in the Standiford Industrial Center for the telecenter. The center was located immediately adjacent to a large residential area and close to other residential communities. The industrial park itself is part of a strip development bordering these areas, which are served by two main arterials. Amenities near the center included full service and fast food restaurants, banking, automobile service stations, a grocery and a convenience store, and child care facilities.

The City of Chula Vista based its site selection on a set of criteria organized into three groups by priority. The three categories were those criteria considered mandatory, those considered high priority, and those considered negotiable. Criteria considered mandatory were those necessary to meet legal requirements or contractual obligations. High priority criteria were regarded as

extremely important but secondary to mandatory criteria; however, efforts were to be made to fulfill as many as possible. Finally, negotiable criteria were those attributes deemed desirable but not critical, which could be used to select between facilities that met criteria in the two other categories.

Mandatory criteria included:

1) size - the center needed to be large enough to accommodate 10 or more workstations (the number of workstations was defined in the agreement with the University);

2) accessibility - the facility needed to be built to ADA specifications;

3) timing - the facility had to be available for occupancy by the required date with tenant improvements complete;

4) cost - lease and tenant improvements had to fall within budget; and

5) technical considerations - the facility had to have the capacity to accommodate planned telecommunications equipment.

High priority criteria were as follows:

1) demographics - the facility must be surrounded by a concentration of information workers;

2) trip reduction - it must be close enough to residential areas to enable users to walk or bike to the center;

3) mass transit - the site should be located close to transit stops;

4) retail services - restaurants and other services had to be within walking distance;

5) conference and lunch rooms;

6) flexibility - the layout had to allow for the changing needs of the center; and

7) security - the facility should be located in a safe neighborhood for both daytime and evening use.

The following were considered negotiable attributes:

1) few improvements needed;

2) child care on or near the site;

3) existence of partner tenant to share costs;

4) space to expand as the project grew; and

5) located in a designated redevelopment district.

The two major areas determined to have the highest density of information workers were the residential areas adjacent to downtown Chula Vista, and the eastern part of the city, which contained fairly recent residential development. The first phase of site search in these areas uncovered fourteen possible properties. In March 1993, the process resulted in the selection of space in a downtown building being renovated and wired as a "smart building", that is, for advanced telecommunications and satellite linkage. This center was strategically located within walking distance from retail, restaurants, a fitness center and the downtown library, as well as within walking distance of residential areas with a high concentration of information workers. However, tenant improvements took longer than anticipated for this space, and the City of Chula Vista negotiated a lease agreement in June 1994 for another site in the Otay Lakes part of eastern Chula Vista; this center opened August 1994. The downtown facility build-out was eventually completed in January 1995 and the telecenter opened in February 1995.

It is notable that for the City of Chula Vista timing was given higher priority than demographics; this was due to the sensitivity to time imposed by the restrictive planning and development period of the project. Timing was also a consideration in the planning and selection of the Modesto telecenter. The Modesto site administrator reported that the task force would have liked to have seen the center continue after the study period ended, but that positioning the center for continuation would have required time spent on planning and building the business rather than on immediately acquiring space, equipment and customers.

3.2 Project Teams Structure

As part of the planning stage for site development and marketing, a framework for regional and state-wide participation by diverse organizations was devised to secure support and assistance for the centers. This framework was designed to help assure maximum usage of the centers by soliciting the active cooperation of members of both the public and private sectors in the establishment and operation of the individual centers and in the project as a whole. The framework was structured as multiple committees composed of individual representatives from

business, government agencies, other non-RABO telecenters and similar transportation-demand management projects, as well as representatives from the University and Caltrans. These committees, referred to as "project implementation teams", were planned to encompass ever-larger geographic areas on three levels, starting with teams at the local level for individual centers, and graduating to regional and then state-wide groups. Each level had different purposes, structures, and objectives. Local teams mostly took the form of task force committees or advisory bodies, and were mainly involved in the planning and oversight of the establishment and operations of individual centers; regional teams were planned to include site developers from centers in the same geographic area, plus representatives from other regional transportation programs; and the state-wide body included the developers of the RABO sites, as well as developers of other non-RABO telecenters in California and project management from the University and Caltrans. The regional and state-wide project teams were planned to maximize project exposure on a wider scale, and to provide a forum for coordination and communication with similar projects. However, thorough implementation of these structures did not take place until later in the project. Project implementation teams were developed and became most active at the local level in the early part of the project.

Local teams had compositions and functions that varied from center to center, but generally included members from local businesses, government agencies and community groups such as chambers of commerce. These teams took two main forms: the first, as an oversight and advisory body, to which the developer actively reported on a regular basis; and the second, as a community task force, providing direction, support and advice. The first was a dominant feature in those centers developed by the TMAs, and the local implementation team role was played by the TMA board of directors. The latter form developed principally in the centers under the direction of the municipalities. Some centers never developed a project team. For those that did, the local project teams provided a strong platform for community support, provided such benefits as user referrals and donations, and in at least one case, were instrumental in securing the participation of an anchor tenant.

A case where a local project team effectively established a bridge between the telecenter administration and the community was the City of Modesto's Telebusiness Centre, where the

City organized a task force to facilitate the establishment of the telecenter. This team was composed of representatives from the City Council, City administration offices, Pacific Bell, Lawrence Livermore Laboratories, the local Community Colleges District, and the local rideshare agency, as well as members of local technology, communications and real estate businesses. The task force had the purpose of helping guide the activities and efforts that surrounded the building and operation of the center with a view to providing impetus to Modesto's regional economic and entrepreneurial development. It consisted of a main body, which convened once a month, and four subcommittees: one to develop a business plan and identify long-term financing; one to determine employer needs for the telecenter; one to select the facility; and finally one to ensure the on-going participation of Lawrence Livermore Laboratories in the establishment of the center. The committee met regularly until the center was well-established, at which point it was considered to have fulfilled its function, and was disbanded. During its tenure, the task force accomplished: creating the site administrator position for the center, and hiring the site administrator; designing the facilities search methodology, and overseeing the facility selection; designing the center and ensuring appropriate tenant improvements; soliciting and securing donations for equipment and various promotional activities and materials; and assisting in securing the participation of employers in using the center. Most of these tasks were performed in the first four months of the committee's existence.

Strongly represented on the task force was Lawrence Livermore Laboratories, which had a keen interest in establishing an internal telecommuting program, and was looking to potentially place employees in the center. While the Lab maintained a consistent presence on the task force, it declined to commit to signing an agreement with the City to provide users for the center until a facility had been identified and a lease agreement signed, nor would it provide input into selecting a facility that would serve a potential user population of Lab employees. Once the lease was signed and an agreement with the City executed, however, the Lab secured two private offices with four workstations, specified equipment and telecommunications needs, supplied its own ISDN lines and assumed the role of an anchor tenant, maintaining high usage levels in the center once it became operational.

Project implementation teams for centers under the direction of transportation management associations evolved somewhat differently. The structure for these teams existed in the form of the TMA's board of directors, which, of course, predated the conception of the telecenters. In most other respects, however, the TMA board of directors fulfilled the same functions as those of the municipal task forces. Membership in TMAs encompasses local businesses and commercial associations, local school districts, and local city and county agencies. Board meetings take place monthly; telecenter-related business is presented and discussed at those meetings.

The Grass Valley and Coronado telecenters were RABO centers under the direction of a TMA. Both functioned similarly, with the director of the TMA acting as prime developer and the board of directors providing support, direction, and in some cases, oversight to the larger decisions involving the center. In the case of the Grass Valley center, most active involvement in the center came from the Nevada County Business Association, the Superintendent of Schools, and the Grass Valley-Nevada County Chamber of Commerce. Through this association, the telecenter realized donations in the form of furniture and in-kind management services amounting to a cash value of $24,500; constant exposure for the center also resulted in a great deal of drop-in and fee-for-service usage.

The Coronado center's TMA board was also active in center placements. Because it was a key link to the Coronado business community, the board was able to assist in marketing by providing a bridge for communications: word-of-mouth and referrals through the board became a strong source of contacts by potential users which eventuated in placements. Moreover, the TMA board assisted the marketing effort by donating advertising for the center in its local publication. Again, by supporting the center in terms of in-kind management donations, the TMA board played a key role in helping assure continuing operations of the center.

While the project teams were most active at the local level, activity did occur in the broader team structure, mainly at the state-wide level. The early state-wide project team meetings took the form of videoconferences, marketing coordination meetings and site developer marketing training, and involved the participation of all RABO telecenters, other non-RABO telecenters, and University and Caltrans project management. Most meetings were directed and moderated

by the University's marketing sub-contractor, and helped ensure cooperation among the different sites, and between the RABO project and other transportation demand management projects. Activities at this level became more regular and encompassed a wider range of projects in the later part of the project.

Project teams were specifically responsible for an organized and proactive approach to both center establishment and user recruitment. By providing a link to the larger community, and assisting in soliciting donations and services to the centers, project teams played a key support role in the centers' development. In centers where the project team remained in force, they have continued to provide support and on-going revenue in terms of referrals and promotional exposure.

3.3 Site Goals

Centers can be roughly divided into three major groups: those planned to reduce commute trips and alleviate traffic congestion in the area served by the telecenter; those positioned as a focal point for an integrated access system into the Internet and information technology services; and the centers established as an emergency earthquake relief measure. The centers in the second group often had the additional objective of providing a forum and resources to foster new business growth and stimulate growth for existing businesses. The third group was formed with the addition of the centers operated under the direction of the Ventura Community Colleges District. These centers were established in response to the devastation of parts of the freeway system in the Southern California region consequent to the Northridge earthquake in January 1994. Centers established by the municipalities and the TMAs tended to be established for the purpose of vehicle trip reduction, and often in response to air quality legislation mandates; the centers which emphasized universal access to the Internet and information services were mostly those planned by the developers from the private sector. In certain cases, however, centers were established both as trip reduction strategies and as instruments for economic development, and as enforcement of regional commute reduction regulations proved difficult in practice, some centers which had been originally established as a trip-reduction strategy for air quality attainment programs began to plan for and develop different uses to ensure economic viability over the long

term. The subsections below describe the centers falling into the first two groups, including a discussion of the goals specific to each center and how those goals influenced the facility design.

3.3.1 Trip Reduction Sites

The driving forces behind centers planned for trip-reduction purposes were the Federal Clean Air Act of 1970, its 1977 and 1990 amendments, and the California Clean Air Act (CCAA) of 1988.[3] Collectively, these acts established guidelines for air quality and set legally-enforceable measures to attain them. However, some measures – notably employer-oriented commute trip reduction ordinances enabled by the legislation and enacted by a number of regional air quality management agencies -- were never effectively enforced, and eventually, through successive legislative or regulatory actions, were reduced to voluntary compliance by those organizations and agencies subject to them. Thus, in recent years, mandatory employer-based trip reduction measures have been replaced with voluntary ones and with other programs (such as incentives to scrap or improve "gross polluting vehicles") by which it is hoped to achieve the desired reductions in emissions. RABO centers developed under the umbrella of air quality-motivated

[3] In addition to setting initial vehicle emissions standards, the 1970 federal act set ambient air quality standards for ozone and carbon monoxide, and in the 1977 amendment introduced transportation control measures (TCMs) as part of the means to achieve these standards for non-attainment areas (Deborah Gordon, *Steering a New Course: Transportation, Energy, and the Environment*, Union of Concerned Scientists, Island Press, 1991, p. 161). TCMs are strategies designed to lessen vehicle trips by changing public behavior through public awareness campaigns, mandates and economic means (*ibid*, p. 161). Specific strategies include modified work schedules, telecommuting, high-occupancy vehicle lanes, and bicycle programs. The California Clean Air Act enacts at the state level the federal CAA legislation, requiring those regions not meeting federal or California State air quality standards to design and implement attainment plans using TCMs to reduce VMT. (Randall Guensler, "The Role of Transportation Control Measures in California's Air Pollution Control Strategy", *Transactions, PM_{10} Standards and Nontraditional Particulate Source Controls*, 1992, Air and Waste Management Association, p. 270). Local and regional air quality management districts are responsible for devising these air quality attainment programs using a combination of regulations, "reasonably available" TCMs, and economic inducements to ensure compliance with established standards. In severe and extreme non-attainment areas, the CAA also provides for the implementation of employer-based trip reduction measures (Guensler, 1992, p. 271), which in essence mandate that employers meeting certain criteria institute trip-reduction programs for their employees. In the Los Angeles and Orange County regions, the South Coast Air Quality Management District (SCAQMD) promulgated Regulation XV in an effort to bring the South Coast air basin, which was rated as an extreme ozone non-attainment area, into compliance with the CCAA air quality standards. In the San Diego region, a serious non-attainment area, the San Diego Air Pollution Control District (APCD) had an emergency air quality management plan which called for employers to voluntarily implement specific trip reduction strategies during times when air pollution exceeded certain standards, and had also proposed regulations similar to the SCAQMD Regulation XV.

trip-reduction regulations included the Coronado Telecenter, the City of Vacaville's Ulatis and Alamo Telecenters, the City of Chula Vista's Eastern and Downtown Telecenters, and the Anaheim Telecenter. The Grass Valley center was established with a main goal of trip reduction, with less emphasis on air quality impacts.

The Coronado center was developed as part of the overall establishment of the Coronado TMA, whose office facilities were designed to incorporate the telecenter. The mission of the Coronado TMA was to provide services to help alleviate traffic congestion in the city and to assist employers in complying with the proposed air quality and trip reduction regulations. Initial emphasis was placed on reducing congestion and alleviating over-parking in the greater Coronado area, with the expectation that employer membership in the organization would grow once the air quality regulations were enforced. Then, the primary purpose was to provide a means for member employers to comply with the regulations while reducing the financial and operational burden of implementing transportation management programs. However, formal adoption of proposed air quality regulations never took effect. Instead, a series of regulations was proposed, each successively less rigorous than the previous; and as the existing ordinance was voluntary and therefore difficult to enforce, the inducement for employers to implement trip-reduction programs decreased.

The telecenter was developed as one of a series of proposed services intended as a means of response to the original regulations, and specifically to reduce traffic congestion by decreasing the commute traffic out of Coronado. Center design was simple, with four cubicle workstations equipped with computers and a shared printer, and a common conference room that could be scheduled for use by telecommuters as needed. By locating the center within the CTMA facility, costs were reduced, and users had access to the CTMA staff's expertise in computer hardware and software.

As compliance with regulations became less compulsory, marketing for the center shifted to emphasize partnerships with the city's sizable hotel and convention industries. The center director began planning to diversify center services by providing expanded office services for hotel guests and convention attendees.

The Chula Vista centers were funded by Caltrans through the RABO project and through the San Diego Regional APCD, which provided the major portion of the initial funding. While the goals of the APCD were to examine the effect of telecommuting and other technology-based services on reducing vehicle trips and thus air pollution, the goals of the City of Chula Vista went beyond the purpose of air quality improvement to incorporate economic growth and universal information technology access for the general community. Thus, the mission of the City for the center involved "exploring the potential of utilizing telecenters as an indirect-source-control land-use measure relating to trip reduction and congestion management, ... creating a focal point for the community-at-large to experience state-of-the-art telecommunications technology (i.e., videoconference, fiber optics, teleshopping)", and to generate revenue by offering technology-based services at a rate that would make the center economically self-sustaining in three years or less[4].

The design of the centers reflected the twin mission of developing the centers as indirect source control measures to help alleviate air pollution and as facilities offering universal access to telecommunications technology. The downtown center facility was selected specifically because the owner constructed the building to integrate "smart wiring" for telecommunications into the walls which had the advantage of eliminating the wiring cost to the telecenter in the site preparation phase. The downtown facility also provided a dedicated power supply as well as a VSAT roof-top antenna for future connectivity to other services. This design was intended so the center could be used for a number of different purposes, including telecommuting, leased conference room use, distance learning, and executive suites; prospective users included organizations such as universities and vocational schools which could use the center for technology training classes. Later proposed uses included telemedicine and international business communication. As compliance with air quality regulations decreased in importance, the City of Chula Vista placed greater emphasis on developing the aspect of universal access to

[4] Indirect sources are facilities that attract mobile source activity, and hence are indirectly responsible for the mobile source emissions. Common indirect sources include business parks, schools, residential developments, shopping centers, etc. (Guensler, 1992, p. 281).

telecommunications technology to ensure adequate usage rates and economic viability for the centers; this directly led to the City's later involvement with the “smart communities” concept.

As with the Chula Vista centers, the Anaheim Telebusiness Center in Orange County was launched primarily as a response to air quality regulations, but with a strong economic-development component. With the center occupying more than 6,400 square feet on the first two floors of the Kraemer building, the business plan presented by the site developers optimistically projected saving approximately 80 one-way commute trips per day (40 round trips) or 20,800 per year, and approximately 22,187 gallons of gasoline per year. The hoped-for net result would be reductions of up to 1,280 VMT per day or 332,800 VMT per year (based on an average commute distance of 16 miles one way), with an estimated savings of 1,610 tons per year of reactive organic gases (ROG), carbon monoxide (CO), and oxides of nitrogen (NO_x). In addition to traffic congestion relief and air quality regulation compliance, the center was also planned as a center for small business incubation and as an economic stimulus for the surrounding area which could, in turn, further increase local employment opportunities. By providing affordable office space and services, new small businesses could take advantage of the facility to incubate their growing operations and mature into independent enterprises.

The center was planned to provide 20 secured offices, each large enough to contain two to four individual workstations, allowing the center to accommodate up to 45 workstations with sufficient space allocated in the rest of the building to expand as needed. In keeping with the concept of business incubation, the center was designed to provide varying levels of service to users: users could provide their own office furniture and computer equipment, or if preferred, rent office equipment and/or furniture from the center operator. Other services provided included copying, faxing, conference room use and use of other equipment; levels of service could vary from leasing basic office space and phone service, with furniture and equipment provided by the tenant, to a full service option, including office furniture, equipment, receptionist services and preferred conference room access all provided through the telecenter operator. Other proposed services included video- and audioconferencing, and providing a computer training laboratory for both the general community and business community. Accordingly, a local area network (LAN) was installed, with designs to install an Integrated

Services Digital Network (ISDN). Computer and videoconferencing equipment was donated. Planning resulted in a classroom-style training facility used to conduct employer computer classes and employee transportation coordinator training. Eventually Internet connectivity and classes on the Internet were offered. As part of the computer training component of the center, the site developer began working with local community colleges to determine the potential to make the center a distance learning site. After initial site development, Anaheim expanded the center's existing teleconferencing facilities to allow additional space for equipment and extra seating capacity.

Two other site areas, Grass Valley and Vacaville, established telecenters for trip reduction purposes; air quality issues were secondary. The Grass Valley Telecenter is located in one of the fastest growing regions in Northern California; it is also a largely rural area, and population growth has mainly occurred on large lots and widespread acreage. Residents of this area commute mostly to Yuba, Sacramento, and Placer Counties. Moreover, this region serves as a main interstate trucking route over the Sierras, and is also a high recreational-traffic area. The prohibitively high cost of altering existing roadways and developing others to meet the increased demand has left the area with severe traffic congestion problems both in Nevada City and Grass Valley, as well as in the surrounding region. The two cities have the additional problem of severe parking congestion. The primary mission of the Grass Valley TMA is to improve access to, and mobility within, the area served by the TMA. While the primary emphasis has been on ridesharing as a means to control traffic congestion, the telecenter was established as a further means to alleviate commute congestion in the area.

The Vacaville centers were established as part of the city’s Transportation Systems Management (TSM) Program, one objective of which was to reduce peak-period auto traffic by making more efficient use of existing transportation resources, and emphasizing ride-sharing and non-auto alternatives. The other objective was to reduce VMT to help achieve regional air quality standards. Like Grass Valley, there is a large commuter population; approximately 70 percent of working residents commute out of Vacaville every day. To address these issues, Vacaville's General Plan contained provisions calling for major employers to adopt TSM programs that would reduce peak-period trip generation by 30 percent or more. The Vacaville Telework

program was undertaken in 1992 as part of Vacaville's commitment to attainment of the 30 percent trip reduction goal.

3.3.2 Community Network/Universal Access Sites

Like the Chula Vista centers, both the East County San Diego Telecommunity Centre and the Davis (Birch Lane) telecenter emphasized enhanced mobility through advanced telecommunications technology and universal access for the communities they served. Unlike the Chula Vista centers, however, both the East County center and the Davis center were from the beginning conceived and proposed as access points to the Internet and to telecommunications services. The East County center was designed as a platform to support high technology work and applications based on invisible and instantaneous data transfer with the objective of engineering a long-term economically viable telecenter. The intention was to enhance the center's marketability and achieve its long-term success by offering the same level of communications and services available in the user's central office, thus removing any technical obstacles to remote work. The center would also serve as a technological focal point, providing "technical … leadership to both community residents and to employers" (proposal for the East County San Diego Telecommunity Centre, 1995).

The center was to be equipped with two different types of phone lines: analog lines for telephone and computer modems, and digital lines for high-speed transfer of data such as computer-aided design (CAD) files. A LAN connected to a Wide-Area Network (WAN) was planned to access the Internet and other remote systems. All workstations were to be equipped with two analog lines and two digital phone lines, plus the required hardware and software to connect to the network. The design included two conference rooms which could access remote systems through video- and audioconferencing; one conference room provided access to remote data transfer and computer-based communications through ports wired into the conference room table. These facilities were to be available for both commercial and non-commercial uses.

Another portion of the center was set aside for two meeting areas for computer-assisted training, meetings and education, as well as providing a reference library for materials on

telecommunications- and computer-related topics. The design of these facilities was intended to allow development of other uses such as distance learning and Internet classes, and access to family-oriented training programs using educational multimedia software. The site developer planned to integrate the center fully into the community by offering the conference room facilities for community meetings such as the local PTA.

The Birch Lane center was located in the computer lab of an elementary school. It, too, was planned as a multi-use access point to the Internet as well as a telecenter, and employed some of the same concepts and design in the development. Since the center was located in an elementary school laboratory, the facility was shared between the school and the telecenter. The center was planned to serve the elementary school students during the day, and the University student population and the larger community in the afternoons and evenings (3:00 p.m. to midnight). The target market for the telecommuting portion was the segment of the work force which would ordinarily commute to Sacramento or the Bay Area for after-normal business hours work; an example would be after-hours data processing activities for bank transactions clearing houses. The site developer planned to provide computer hardware, networking, uninterruptible power supply and surge protection, laser printers, color printer, color scanner, and some software. In general, the center was to be used as an educational tool for school children, a computer-skills training center for the general population, and as an access point to sophisticated communications and computer technology for the community on both a regular lease and fee-for-service basis. The business plan was to generate sufficient revenue for the fee-for-service portion of the center to partially subsidize the operational costs of the telecommuting portion of the center, thus lowering costs to the telecommuter's employer. The flexible fee structure could allow the center to meet the needs of small- and medium-sized businesses while still offering the facilities and security expected by larger organizations, and allow smaller businesses to participate who would not otherwise be able to afford the costs.

The initial design of the center called for 10 individual and community work areas. Each work area had a 486 computer which was "privacy-screened" with CD ROM-drive, telephone, voice-mail, private fax, and direct connection to the Internet, providing users with multiple options for

work or research. The center was also planned with shared access to color and duplex laser printers, as well as to high-capacity color scanning with optical character recognition equipment.

Later in the project, the telecommuting portion of the center was moved to another site because the hours made it unusable by many employers/employees. Although the subsequent center on Picasso Street was never completely realized, the developer had planned to provide many of the technological amenities of the Birch Lane facility to the users of the Picasso Street center, in particular emphasizing high-speed Internet connection and data transfer capabilities.

CHAPTER 4

MARKETING

4. MARKETING

4.1 Introduction

The marketing component of the project was considered to be the most critical and the most difficult aspect of operations. The immediate need was to fill the centers as quickly as possible and maintain high occupancy rates. For this, a number of strategies were developed and applied. Usage levels, as a determinant of success, were monitored for the duration of project-supported site operations (and presented in the companion *Evaluation of Impacts Report*). While occupancy rates fluctuated for a number of reasons besides the actual marketing techniques used, an assessment of marketing tactics used in the program suggested that some were more effective than others. The marketing program was modified to attempt to redress deficiencies. This chapter presents a general discussion of the marketing program as it evolved and the premises upon which different strategies were developed. It is followed by a short section on issues that had bearing on the application and outcome of the marketing program, and by sections on specific developments and their results. The chapter concludes with recommendations for future projects of a similar nature.

4.2 Background

Marketing for the RABO program was conducted in several phases both on a project-wide level and by individual sites. Early marketing efforts were accomplished through a contractor to the university, and encompassed all participating sites. Activities mainly concentrated on employee outreach; the objective was to recruit employees while gaining entrée to their employers for further recruitment. This phase was conducted over a period of approximately eight months. During this time and afterwards, site-specific activities were conducted by the individual center directors which followed the employee outreach strategy initiated in the early marketing program. After the centers had been operational for about eighteen months, a final project-wide marketing program was developed which specifically targeted employers.

The main objective of the marketing program was to establish and maintain high usage rates in the centers. This was important if the telecenter concept was to be perceived as viable and timely, and also important to the collection of data from a sufficient number of participants to make the quantitative evaluation of transportation and other impacts meaningful. The restrictive time-frame of the project presented a major obstacle to this effort, with an impact on recruitment resulting from the relatively short assured operations period of the centers. Strategies were developed to address three major needs arising from these circumstances: one, to identify users immediately; two, to address employer reluctance to allow employees to telecommute; and three, to help ensure longevity of the centers through sustained placement. Outreach efforts concentrated on the two target populations: employers and employees. Of the two, employers were considered to be the more difficult to convince, and overall, the initial marketing activities reflected this consideration. It was planned that these activities would identify employers predisposed to accepting remote work rather than attempt to convince unwilling employers of its benefits. At the same time, outreach to employees was conducted through mass distribution of marketing materials and broadcast advertising to residents of the communities surrounding the centers. Subsequent activities more specifically focused on overcoming resistance by the employers of employees interested in using the centers.

While outreach to employees was the main thrust of the early marketing campaign and was continued at the site developer level, similar concerted outreach to employers was not implemented until much later in the project. Early efforts to identify and contact employers through employee response to marketing tactics did not yield significant results, and the majority of the placements in the centers ensued from marketing techniques targeted to employees. The marketing program, as it evolved, concentrated on employee rather than employer recruitment. This led to relatively depressed occupancy rates, with usage rates reflecting involvement of individual employees rather than the participation of the organization in a program of telecommuting for its employees.

As the centers became established and operational, usage levels were continually monitored. Not surprisingly, usage rates varied from center to center and over time for individual centers. However, mean usage for all centers after about a year of operation peaked at about 25 percent,

with an apparent tendency to decline after about 15 months of operation. An analysis of use in conjunction with the marketing tactics revealed that most users were the single participant from their respective organizations; in fact, telecommuting was often a special arrangement between the particular individual and his or her manager. Most organizations did not have a telecommuting policy in place, contributing to the necessity for constant recruitment of new employees to replace users who dropped out (see *Final Report on the Evaluation of Impacts*, Chapter 4).

A marketing strategy was developed in the last year of center operations that targeted employers rather than relying on the community outreach tactics that were widely practiced by the centers. The objectives of the strategy were to actively research and contact employers who appeared to have good potential to implement a telework policy as an established work option, and secure their participation in the project. It was hoped that this strategy would help raise employers' consciousness about telecommuting and assist them in integrating it into their organizational work model. Other objectives included creating a company profile based on such characteristics as size, industry type, main product line, gross annual sales, and number of employees; documenting the approaches used and responses to these approaches; documenting the corporate culture to the greatest degree possible; and documenting the number of placements from this approach.

4.3 Issues

Marketing the concept of telecommuting, and in particular center-based telecommuting, is a lengthy, labor-intensive task. For marketing tactics based on employee outreach, it is estimated that the average length of time needed to recruit a new tenant is about six months from first contact to first use; to persuade an organization to implement telecommuting on a more formal basis can take from one to two years. Management resistance to telework is the primary reason that it is not more universally accepted and practiced. There are other issues, however, that contributed to the difficulties encountered in the RABO program marketing. Among the main issues was a basic lack of understanding or knowledge of the concept of telecommuting on the part of the general public. Another issue closer to hand was a lack of expertise or sufficient staff

to adequately market the centers at the operations level. A third was the nature of the centers as potentially short-term research projects, which impeded securing employer commitment. Finally, compounding all was the lack of adequate funding for the centers themselves, which restricted the operators' ability to thoroughly market their centers.

At the outset of the RABO project, both the term "telecommuting" and the concept it represents were still largely unknown or misunderstood by the general population. Lately, the concept has gained prominence through media reporting, through advancements in telecommunications technology and consequent industry developments in applications, and through exposure in casual popular media, such as cartoons. However, the basic lack of understanding at the outset hampered early marketing efforts, and a large part of the marketing task involved educating the target market and promoting the concept generally while overcoming specific employer resistance. Marketing the concept of telecommuting still requires educating employers to a certain extent, at least to the degree of dispelling management fears of decreased employee productivity and lack of control over the work process; but increased familiarity may eventually lead to increased acceptance of telecommuting as a work option.

While the general lack of understanding about telecommuting inhibited recruitment on a wider scale, the lack of experience in managing a small business exhibited by some site operators was reflected in their marketing processes. Most center operators did not track duration, cost, or number of responses resulting from different marketing tactics, and were consequently unable to report on these. The number of actual placements from the different tactics was tracked in a desultory or haphazard fashion. This led to misconceptions about the effectiveness of specific tactics. One site administrator, for example, when asked how the users in her center had first heard of the center, reported that nearly all had responded to radio advertisements. Interviews with the individual users, however, revealed that the majority had become aware of the center through newspaper articles, not radio advertisements. Lack of tracking also meant that cost/benefit analysis was not, and could not be, conducted on the different tactics. Most centers tried radio advertisements at one time or another with very limited results, and most discontinued them. Some center developers, however, continued to advertise on radio, although it was very

costly relative to its success rate. Newspaper reporting, which is free, appears to be far more productive.

From the outset, there was concern about the centers' continued sustainability after the term of the project and the impact of potentially short-term operations on employer acceptance of the telecenters. Implementing a telecommuting program can require a shift in an organization's existing work flows and staffing arrangements. The resulting up-front investment in time and resources can be a discouragement to remote work for some employers. Asking an employer to commit to such an investment and place a telecommuter in a telecenter with a limited future could be the determining factor in a decision not to participate. In view of this, sustained operation was particularly at issue given the project's nature as a feasibility study with a definite ending date, after which the centers might close for lack of support. It was recognized that this could pose a credibility problem for the centers and adversely impact participation levels. This did, in fact, prove to be the case. As the project continued, centers around the state of California, including some RABO centers, closed for insufficient or lack of sustained funding (see *Telecommuting Centers in California: 1991-1997*). Using publicly-funded telecenters was considered to be more of a risk by the employers for this reason. When, midway through the RABO project, negotiations over continued state funding were delayed, the centers participating in the project were adversely affected. The question of their future became an issue for some employers; for this reason, the three major tenant employers using the Modesto center refused to commit to further use until the funding issue was resolved. Unfortunately, that resolution came too late, and the Modesto center closed as a result.

Thus, insufficient funding has played perhaps the largest role. In addition to the question of an unstable future, limited funds have also limited the centers' abilities to market effectively. Limited funds resulted in diminished capital for marketing activities, as well as in less than adequate staffing levels within the centers. Center administrators were often responsible for the entire operations of the center, including marketing, daily operations, some level of technical support, data collection and reporting services, and fiscal management. It was therefore nearly impossible to track, plan and execute a thorough marketing campaign in addition to all their other duties.

4.4 Implementation

4.4.1 First Phase Marketing

Originally, site selection and marketing were conceived as part of an overall strategy designed to identify and secure the participation of willing employers and employees as well as to establish marketable centers. The marketing component was thus initiated concurrently with the fast track activities and normal track site selection.

The formal marketing plan for the RABO project was initiated with an assessment of marketing needs in late 1992. As a result of this assessment, a request for proposals (RFP) was released in February 1993, with the final contract awarded to JALA International in July 1993. The RFP provided the initial problem statement, defined the target market, and outlined the basic process used to develop the marketing component. It called for marketing services to 1) find employers and management willing to participate; 2) find employees desiring to telecommute; and 3) site telecenters within walking, biking or very short public transit distances from the telecommuters' residences. The principal target market was identified as employers, management and supervisors because without management permission employees are not able to telecommute. The secondary market was identified as the employees themselves. Conceptually, then, the plan emphasized employer recruitment with employees actively assisting the process. However, it was recognized that it is easier to find employees willing to telecommute than to find managers who are willing to let them. Since it was proposed that the centers be located in residential areas having a high proportion of information workers with long-distance commutes, the employers were also likely to be non-local to the individual sites. Thus, in practice the plan was initially focused on identifying suitable employees, and then identifying and marketing the program to the managers of those employees.

The scope of work for the marketing contract included market research to develop and analyze databases on employer and resident characteristics for the areas under consideration for establishing sites as well as for those already selected; development of a detailed marketing plan;

development of promotional materials; and assistance in selecting sites and defining facility infrastructure. The main tool to be used in finding willing employees and employers in the target areas was a brief employee survey soliciting information about attitudes toward telework, identifying employers, and determining acceptance issues regarding telework. Output from the market research was planned to result in a description of the characteristics of the employers and employees in the target areas and an analysis of issues and characteristics specific to each site's marketing area which would then become the basis for a detailed marketing plan. The marketing plan was developed in two stages: the first, outlining the basic procedures to begin the marketing process, was developed in September 1993; and the second version, incorporating findings of the background research with site-specific recommendations to action, was finalized in February 1994.

The overall objective of the marketing plan was to provide project management and site developers with qualified leads to employers of potential telecommuters. The most difficult task, and the one upon which the most weight was placed, was to obtain employer commitment. Targeting employees was considered the second most important task. Finally, to help ensure long-term acceptance and success of the centers, the community of each center was targeted for promotional efforts as well. Planned activities soliciting employer and employee participation took both direct and indirect forms, and included background surveys with follow-up telephone contact, direct mail using promotional materials developed for the project, and advertising in the form of radio spots, press releases, and distribution of flyers and doorhangers. During much of the planning stages of the marketing, site search had been already underway, and most sites had been selected or identified as potential candidates by the time the main marketing activities started. The final component of the marketing plan involved an assessment of each site, selected or proposed, and focused attention on specific activities with recommendations to assist the sites as needed. In the main, these recommendations entailed promotional support in the form of advertising by radio and press release, publicity for grand opening events, and assisting the sites to establish community-based task forces.

Implementation was initiated in the third quarter of 1993 by analysis of the 1990 Census data, which resulted in population density maps of the areas around the proposed and selected sites.

The maps depicted the numbers of information workers with commutes of 30 or more minutes and became the basis for the neighborhood survey that followed.

At the same time that the density maps were being prepared, the marketing contractor designed and produced a neighborhood survey (see Part A of the Appendix) for distribution to the areas shown by the maps to have the desired resident characteristics. The surveys were designed to solicit information from the target population on job category, employer identity, employee and employer contact names and telephone numbers, and willingness to participate. A total of 30,123 surveys were mailed to the communities around twelve sites. The anticipated response rate was estimated at 3%; the actual response rate was approximately 0.3%, or about 100 residents. From the returns, follow-up contacts by telephone calls and mail were made to respondents who indicated interest.

From the neighborhood survey, some state-wide organizations were identified with names of contacts. This data was compiled into a database, supplemented by information derived from a Moody's Business Directory survey of state-wide organizations in fields compatible with remote work. This became the basis for the state-wide recruitment effort directed by the marketing contractor. A direct mail campaign to these organizations, followed by telephone contact, was conducted as part of the sales process. In all, 26 organizations were contacted with 15 indicating some level of interest. The combined efforts of the neighborhood survey and of the state-wide recruiting effort resulted in 19 users placed in 5 centers.

The follow-up contact mailings contained newly-designed brochures targeting employees (see Part B of the Appendix) and employers (Appendix, Part C). The employer brochures informed prospective client organizations about telecommuting, in particular stressing increased employee productivity and economic benefits. The employee brochure was smaller and appealed to the issues of commute stress reduction, commute cost reduction, and increased productivity. The employee brochure also included a tear-off postcard addressed to the University which an interested party could send in for further information. As part of the centralized outreach effort, a toll free number (1-800-TELWORK) was established in September 1993, which interested parties could call to receive more information on the program and on centers closest to them.

This number was published in the employer and employee brochures, in the neighborhood survey, and in media releases.

With most sites selected by January 1994, marketing efforts began to concentrate on support to the sites for their specific plans. Activities included directly funding site-specific marketing activities; assisting developers in coordinating site-specific marketing activities; refining employer lists for contact with follow-up phone calls and information kits containing promotional materials; continuing to provide sales support and contacting inter-regional employers; and conducting marketing workshops for site developers to solicit their views on site-specific marketing needs, to illustrate sales materials and approaches, and to assist developers in soliciting employer and employee participation.

The last major activities undertaken by the University and the marketing contractor included the production and distribution to the sites of 3,500 doorknob hangers (see Part D of the Appendix) and the production of a generic marketing plan. The generic plan was completed in September 1994 and proposed an entire marketing process for establishing and promoting a telecenter. It addressed developing a marketing plan, establishing goals and defining objectives, identifying target markets, selecting a site, and conducting a marketing campaign. It was intended to assist those considering establishing a telecenter as well as those already established. This plan was presented in conjunction with a series of marketing training workshops for the site administrators which formed the basis for the site-specific marketing strategies conducted during this time and afterwards.

In general, this phase of the marketing did not produce the hoped-for results in terms of identifying and securing a large number of telecenter users for the program as a whole. It did, however, provide the planning that was the foundation for future marketing activities. The stated focus was on employer outreach; in practice, outreach to employees was emphasized as an avenue to reach employers. The main course of action taken to realize this, the neighborhood survey, did not generate the expected response rate. Whether this was due to a general lack of familiarity with or interest in the concept of telecommuting, or reflective of a design or implementation problem with the survey, is not known. In the future it is recommended that a

neighborhood survey such as the one described here be accompanied by a general regional promotional effort to raise awareness and increase the response rate.

Other segments of this phase of the marketing - the toll-free number, the doorhangers, and the marketing brochures and materials - were even less successful. All sites participated in distributing doorhangers in their surrounding residential areas; of the several hundreds distributed, one site reported two placements from this tactic; all others reported no response. Calls from the toll-free number were tracked, but again, this service generated few responses; the expense of the service outweighed the benefit. The effectiveness of the collateral materials is more difficult to assess; these materials were, later in the project, revised to update the look and include more site-specific information (see Parts E and F of the Appendix).

As a final note, it was found that securing the *advance* support and involvement of employers, an important design element of the early marketing campaign, was difficult to achieve in practice for two reasons: one was lack of time; the other was a reluctance on the part of employers to commit to a project while it was still in the planning stages.

Ideally, it was planned that employers would cooperate by identifying where their employees lived in the general areas under consideration for sitting a telecenter and assist in the optimal placement of the facility, as well as participating in actual selection and design. The centers, however, were under pressure to set up quickly, and did not have time for the concurrent in-depth marketing required by this plan. Realistically, given the amount of time needed to conduct substantive market research on employers, to contact them, and finally to obtain their participation, this strategy could take one to two years prior to establishing the centers. To incorporate that type of research and sales into the facility planning process would take a commitment of time and funding not available to the telecenters established in this program. Moreover, those centers that were able to interest employers in the planning process found that employers were reluctant to commit to using the center without an idea of what the actual facility and its operations would be like; and also because of the risk that the plans for the center might be abandoned and the center never come to fruition. This was illustrated in a report from the City of Modesto during its search for a suitable facility: "The arduous task of filling the center

has begun but is made more difficult by the current lack of a firm commitment on a location. We have had some inquiries... Two major employers in the Livermore Valley have expressed an interest. The general consensus is: We will not get firm commitments from employers and employees until a location and complete operation plan is in place."

Advance marketing is critical, and initiating the employer contact process while still developing the center is a key element. As shown later in this section, the vast majority of placements came either through employer internal recruitment or through newspaper articles. Continuing to establish centers with as much employer support as possible is a worthwhile strategy; however, it may be unrealistic to assume that employers will wish to commit time and resources apart from their principal business to partner in the entire process of developing a center.

From this point on, the marketing effort continued on the local level until the last few months of project-supported site operations, when the last employer-based outreach was conducted.

4.4.2 Site Marketing

Site-specific marketing strategies were, for the most part, driven by the need to obtain telecommuters as quickly as possible, with perforce little time allotted for conducting long-term planning or background research. Marketing activities thus mostly took the form of community outreach using advertising to raise awareness and promote interest, with an emphasis on targeting residents as potential users who would help sell the concept of telework to their employers. A second strategy, less widely implemented, involved securing the support and participation of an anchor tenant to help fill the centers. The first approach was favored because it was seen as a direct and immediate means of securing telecommuters; and because, in the experience of most site developers, employees were more responsive to the telecenter work option than employers. But this approach was only successful in bringing in a limited number of users, for it mainly concentrated on recruiting individual telecommuters rather than on securing the participation of the entire employer organization. The second approach involved more effort in identifying and securing the support of a key employer, but yielded greater dividends in the ultimate number of placements for particular centers. Overall, while developers tried a number

of different advertising tactics, the greatest percentage of placements in the centers for the program as a whole came from direct employer involvement in recruiting users among its employees. It was, however, an involvement that proved difficult to achieve in practice, and that depended largely upon the existence of key personnel within the organization who actively promoted the concept of telecommuting to managers and potential telecommuters.

Not unexpectedly, an effective direct approach to securing employer participation was difficult to achieve because of a basic reluctance on the part of employers to embrace the concept of telework for their organizations. For those organizations that did act as "anchor tenants" for the Vacaville (Ulatis and Alamo), Modesto, and East County San Diego sites, a specific individual in each case was involved in ensuring that employees within the organization were identified, that some form of a telework policy was more or less officially recognized and implemented, and that employees were able actually to participate in the program. It was not unusual for some organizations to have “adopted” a telework policy only as a response to air quality regulations, but not allow employees to exercise the option. Part of the role of the internal champion was to ensure that employees who wished to telecommute and whose jobs were suitable to telework were appropriately identified and permitted to take advantage of the opportunity to telecommute. In other cases, the internal champion pushed to form and institute a telecommute program, often starting it as a pilot program with the ultimate goal of establishing it as official organizational policy. In the case of Lawrence Livermore Laboratories, which maintained a strong presence in the Modesto center, the internal champion was an analyst who formulated the telework policy for both home- and center-based telecommuting, implemented a pilot program, helped identify participants, ensured the cooperation of management, coordinated placement in the Modesto center, and measured results to ensure organizational acceptance of the telecommuting program. The Vacaville centers profited by the involvement of the Employee Transportation Coordinator of Kaiser Permanente, who ensured the continuous participation of Kaiser employees in the Ulatis and Alamo centers. Kaiser had a telework policy already in place, and the transportation coordinator referred employees not only to the Vacaville centers, but to the Davis telecenter as well. In the East County San Diego center, the local Caltrans district office had been heavily involved in the planning and development of the center. Caltrans has a long-standing telework

policy, which was actively applied in that District and allowed placement of District employees in the telecenter.

The concept of an "internal champion", that is, an employee in the organization who could act to overcome corporate resistance to telecommuting, was common to both the employer and employee-based marketing approaches. Motivated by the obvious benefits of using a telecenter, potential users often would act as internal champion for themselves, at least to the extent that they were able to secure individual permission to telecommute. In this sense the user was more effective as a sales agent than the developer, able to accomplish internally what the developer could not. At least one site developer abandoned a direct employer-based marketing approach because she found that (1) employers were resistant to implementing even a pilot center-based telework program; and (2) employees, when made aware of the existence of the center through promotional outreach, were more likely to be able to persuade their employers to allow them to telecommute, even if their employers had previously rejected the concept when directly approached by the site developer.

Thus, developers planned early marketing campaigns to target suitable workers and to assist them in selling the concept of telework to their employer. Primary efforts were focused on identifying these workers by direct advertising and included distributing brochures; representing the centers at community and trade events; promoting the centers through media relations, such as press releases and public service announcements; making public relations presentations, such as to local clubs and organizations; using print, cable television, radio and billboard advertising; using direct mail to distribute advertising materials to the surrounding communities; and holding special events, such as open houses.

The business plan for the City of Chula Vista Eastern and Downtown telecenters defined the primary target of the marketing campaign as the end-user, the telecommuter, anticipating that the greatest interest would come from individuals in the community who would work with the developer to convince their employers to allow them to telecommute. Those residents for whom the marketing campaign was considered to have the greatest potential for success were profiled as young working parents living within a three-mile radius of the telecenter, whose jobs required

extensive use of the phone or computer. Occupational categories for these users could include management, clerical, or sales; examples of professions included the graphic arts, writing, editing or accounting. Younger workers were considered more flexible, and thus at ease with the computer-based technology likely to be used in telecommuting; and parents usually have the need and the desire to maximize time at home, and hence to minimize commute time. The main advertising message to this market stressed time savings and higher productivity; primary market sources for this audience were defined as the elementary school district, high school district, Parent-Teacher Associations, community clubs and churches, and city government communications services.

After employer recruitment, the most successful marketing tactic used by developers in promoting their centers was newspaper press releases. Newspaper reporting drew the greatest number of responses from within the residential community; 30 percent of users first learned about the telecenters through this medium, compared to 31 percent through employer distributions and recruitment, and 8 percent through radio advertisement. Other, less successful, tactics included billing inserts, telemarketing, cable television advertising, and distribution of marketing materials in the communities.

The disadvantage to the approach of concentrating on individual employees was that telecommuting from the center frequently became a special circumstance for a particular employee rather than a formalized policy expanded to include other members of the organization. With the exception of the companies noted above, most centers had one employee using the center from a particular company. When that employee stopped using the center for whatever reason, the company he or she represented no longer had any other employees using the center; in fact, there was no real telecommuting policy in place to drive an internal recruitment process. The net effect was one of relatively depressed occupancy rates, and the need to continually advertise to the surrounding community in an effort to maintain occupancy rates.

Employer involvement, as seen above, yielded the greatest percentage of users in the program. In general, however, major employers defined the secondary market for most developers. The City of Chula Vista recognized two main advantages to marketing to major employers:

identifying long-distance commuters through employers; and securing the employers' understanding and cooperation to allow potential telecommuters to use the centers. The marketing director for the Chula Vista sites conducted an early campaign to elicit corporate support for the centers, concentrating the marketing efforts on the ten major employers in the region. The message to these employers stressed higher productivity and cost savings, using brochures, direct mail with telephone follow-up, and in-person presentations. As a result of these initial efforts, both AT&T and the County of San Diego conducted an active internal recruitment to place employees in the two Chula Vista centers, and maintained a strong presence in the centers.

4.4.3 Later Phase Marketing

The later phase marketing deployed sales teams to identify and recruit employer organizations which by circumstance or by inclination would be likely to consider implementing a telework policy. Two teams were selected: one for the San Diego region, and one for Orange County and Northern California. The intent of this marketing strategy was to help balance the unequal emphasis placed on employee- and community outreach over employer outreach in the program to that time.

The overall objective was three-fold: one, to increase usage of the telecenters; two, to assess the effectiveness of a marketing strategy focusing intensively on identifying and recruiting employers using a very “hands on” approach; and three, to assess corporate acceptance of telework. The teams were responsible for developing and implementing a sales approach to increase usage rates, for documenting the process and its results, and for collecting and reporting data on specific organizations contacted. It was planned that marketing efforts would be conducted as presentations to and meetings with individual employers to assist them in implementing a telework program, with the main goal to obtain employer commitment to place telecommuters in the centers. The measure of commitment was defined to be the number of employees who used a center a minimum of four times before the end of the contract date. The contracts with the marketing teams were structured to have specific targets for numbers of

contacts and presentations, and with financial incentives based on the number of committed placements.

The teams were to develop an approach to identify client organizations and develop prospect lists both from primary research and through consultation with site developers. Documentation included updated prospect contact logs, sales reports, a summary of activities, updated placement lists, telecenter usage logs and profile reports on the organizations contacted. Organizational profiles consisted of basic information including organization name, address, size, industry type, main product line, year established, and current telework policy.

This phase was planned to encompass six months at a minimum, beginning in the summer months and finishing at the end of the calendar year. Due to contractual constraints, the program started late and could operate only for five months. The actual sales activities took place over a four-month period, most of which coincided with the winter holiday season, typically a less than ideal time to initiate this type of activity.

The San Diego team consisted of two sales people and the firm's director. This team took the tactic of approaching already-established contacts in the business community and convincing them to use the centers, concentrating on a relatively low number of organizations. This produced quick results because the principal of the firm was well-connected in the business community. In all, approximately fifty organizations were contacted, with signed agreements secured from four. During the outreach process, this team expanded its original strategy to include presentations to meetings of human resources associations, a tactic the team reported to be very fruitful, and recommended strongly for future marketing efforts.

The Orange County/Northern California team concentrated on giving presentations to large professional associations, mainly Transportation Management Associations, as a way to identify and reach a large number of employers. Their initial plan included using the California Chamber of Commerce directory to contact the fifty largest statewide employers; using regional and TMA rideshare databases to identify employers of potential users in the target market areas, and contacting them to make presentations; and making presentations to professional associations and

TMAs to elicit interest. They also used already-existing leads provided by site developers to make contacts and assist the sales process. Based on the contact lists provided by the TMAs, the site developers, and contacts of interested parties from the presentations, the team sent letters followed by telephone contacts. By agreement with the site developers, the team offered a pricing incentive of one month's use free of charge for employer trial and initial use. At one point, this team decided to perform community outreach; specifically, they worked with site administrators and developers to hold open houses which they then promoted by distributing flyers at Metrolink and park-and-ride lots. Overall, the community outreach strategy was not successful.

In the promotional letters and group presentations, the consultants emphasized the advantages of center-based telecommuting, specifically the availability of sophisticated computer and peripheral equipment; the availability of on-site technical assistance; and access to office support services. They appealed to small business clients by highlighting the telecenters' professional environment and the availability of conference rooms and meeting facilities. The promotional message included a cost comparison between equipping a home office with the same equipment provided by the telecenters, and the costs charged by the telecenters. The group presentations solicited input from attendees about their organization's telework policy, and advised them on how to overcome management resistance to telework. In cases where potential clients expressed interest, the consultants worked on an individual basis to assist in developing and implementing a telework policy in their respective organizations.

In all, through these various means, the team contacted more than 1300 companies. No placements resulted from this effort. Two issues were highlighted from this strategy: the first is the extremely long lead time needed to work with an organization from a point of initial contact to first use of the center; the second is the continuing impact of management reluctance to adopt teleworking. Input from the presentations revealed that most organizations did not have a formal telework policy, and many did not allow telecommuting on any basis. Those that did, did so on an individual basis as an agreement between a supervisor and a specific employee. Particularly in Orange County, employees reported that after the relaxation of the air quality regulations (see Section 3.3), employers had either discontinued teleworking, or had never truly implemented it. Organizations interested in the prospect of telecommuting still had monumental bureaucratic

processes which inhibited implementing telework with any speed at all. Often, internal issues of greater importance delayed the process. In the case of one large health maintenance organization, a decision had been reached to implement telecommuting. Actual placement was indefinitely delayed, however, pending the outcome of an imminent merger with another corporation.

The difference in approaches and apparent results for the teams is notable. The San Diego team employed a network of existing contacts as its target market sales base, and contacted far fewer organizations than did the Orange County/Northern California team. The Orange County/ Northern California team emphasized group outreach, while the San Diego team selectively identified and worked with individual companies. The San Diego team reported a higher degree of interest in telecommuting from its activities, and was able to secure signed agreements from four organizations. However, the telecenter director for the San Diego centers later reported that usage dramatically diminished for users placed by the San Diego team; only two seemed dedicated to using the center on a regular basis. The others quickly discontinued use. Some of the agreements were only for intermittent use: for example, during phases of a project involving documentation or research. It is thus difficult to assess whether usage is reflective of the cyclical nature of the users' work, or whether it reflects an original lack of intent.

However, for both teams, the timing and brevity of the contract term seriously hampered efforts. In a sense, the brevity of the contract term weighed more heavily against the Orange County/ Northern California team because of the strategy it selected. Ironically, the team initiated this strategy precisely because of the very short time allowed by the contract. The premise was to broadcast promotional efforts to increase the potential for recruiting users: the more organizations the team was able to contact or make presentations to, the greater the odds of success. Making presentations to groups of employers was thus the most logical approach given this premise. However, selling telecommuting is still a labor-intensive and protracted affair for the most part, because the concept is not yet well-accepted. If telecommuting were regarded more favorably, or were a routinely accepted work option, then selling the use of individual telecenters would be a matter of selling a specific brand as opposed to an entire idea. But the cold-calling approach to marketing telecommuting in particular has a very long sales cycle. Even for organizations that have decided to use a telecenter, with potential users identified, actual

placement can take six months or more. To ensure that organizations being contacted may be receptive to the concept, adequate research must be conducted at the outset with an appropriate internal contact selected.

The approach used by the San Diego team appeared to be more suited for the length of the contract term. This may be due in part to the relative prominence of the firm's principal in the local business community, providing contacts and lending credibility to the concept and the program. This tactic also fit the term of the contract more efficiently in that the initial phase of identifying likely candidate organizations and internal contacts had already been accomplished previously. The principal of the San Diego team felt strongly that a longer contract term during a different time of year would have yielded a dramatically higher number of placements.

4.5 Conclusion and Recommendations

The greatest barrier to telecommuting on the organizational level continues to be management resistance. That resistance is engendered by continuing uncertainty about productivity, about unequal treatment of employees, about security and liability, and about additional costs. For this reason, marketing telecommuting is an intensive, time-consuming process requiring individual attention with thorough and constant follow-up. In the main, telecommuting persists in being a special arrangement by agreement between supervisor and employee: most of the users polled in this project reported that they brought the subject to their supervisor's attention and asked permission to telecommute. Telework is thus generally not prompted by an organization's ability to be flexible and responsive to remain competitive in the marketplace, but is rather based on individual trust. That most of the telecenter users in this project were single representatives of their organizations is as much reflective of the marketing strategies pursued by participating centers as of the reality of current corporate culture. Employees are still the ones who have an immediate vested interest in telecommuting. But where organizations endorse and implement center-based telework on a wider level, usage levels in centers rise and are easier to maintain.

In reviewing the entire marketing process throughout the duration of the project, it appears that optimal telecommuting marketing requires a combination of the tactics described above. Ideally,

such a plan would be based on a combination of community outreach and employer outreach, with marketing starting early in the development process and continuing incessantly. Employer outreach should encompass research and cold-calling as well as presentations to professional associations and using a network of pre-existing contacts. Part of the objective of the employer outreach should be to build a network of contacts, and to secure referrals to other organizations from those contacts. By pursuing both cold-calls and existing contacts, such a network can be built. Employee- and community-outreach tactics should continue with open houses, mail-out and flyer distributions. Channels of distribution can include realty and community organizations, such as Chambers of Commerce, churches, and local service organizations such as the Rotary Club. Since by far the majority of users first learned about the program either through their employer or through newspaper reporting, it seems advisable to use the media to gain attention. This is cheaper and more effective than broadcast advertising, which can be burdensome not only in cost but also in preparation time. One site administrator continually contacted the local newspaper requesting that a story be done on her center; this was initially effective. However, after having reported on the center several times, the newspaper refused to do so further unless there was a "newsworthy" story. Planning promotional events in the community, or planning a presentation to a local professional association, and advising the local media may be a solution to this. Building and maintaining a presence in the local business community and with local government agencies is important. It is also critical to research local companies through business journals and newspapers. Good prospects for telecommuting might include organizations who are relocating (and hence may want to accommodate employees who do not wish to move); expanding (and hence may be open to considering telecommuting as a way to save space); or engaged in non-territorial office practices (and hence may find telecommuting centers a useful addition to their flexible office space portfolio). Organizations with family-friendly or employee-friendly reputations may also be good prospects. Another good source for background research is analysis by investment firms, which quarterly publish exhaustive documentation of recent events in firms and analysis of trends for both individual companies and industries. Industries for which finding enough qualified information workers is difficult, for example, may be open to the recruitment and retention benefits of telecommuting.

Marketing telecommuting is difficult, but not insurmountable. The biggest need is for sufficient staff, particularly for initiating and maintaining employer contacts, which grow cold if not followed up regularly. To conduct an effective marketing campaign requires multiple staff to plan and direct, to perform background research and constantly follow trends in the marketplace; to initiate and maintain contacts; to draft and disseminate promotional materials; to conduct presentations to major groups and professional associations; and to track type, duration, depth, cost and outcome of the different tactics. It is at the level of staffing that most centers have the greatest difficulty in effectively promoting their services. It is critical that this be recognized and addressed for sustainable telecenters. Sufficient levels of staffing would allow the centers to distinguish and respond to the needs of the marketplace. Most were not established with adequate capital or staff to maneuver and redefine the role of the telecenter in the context of the current marketplace. As technology evolves and the needs of the marketplace change, telecenters are uniquely positioned to provide a new range of services to their communities.

CHAPTER 5

FINANCIAL DATA

5. FINANCIAL DATA

5.1 Introduction

Financial reporting was an important part of assessing the centers' operating viability. In the RABO program, efforts were made to track the sites' startup and operating costs, as well as their funding and revenue. This section details and analyzes, to the extent possible, this financial data. It encompasses build-out, start-up and operating costs; revenue and funding; and an analysis of these costs by square footage and number of workstations.

The effort to track the centers' financial status was hampered by two circumstances: the first was a failure to adequately specify and collect financial data from the first two years of the project, and the second was a lack of financial accounting knowledge on the part of the site operators. The second circumstance was due largely to the public nature of the agencies which founded and operated the centers. Since many of the site developer agencies were either municipalities or colleges, financial and accounting services were centralized in one department which handled all fiscal matters for multiple units. The telecenters' financial activity was often consolidated under a larger cost center or department, and other source funding and expenditure activities were co-mingled among several projects. This made it difficult to isolate the telecenters' financial activity. Site administration personnel were mostly unfamiliar with accounting mechanisms and reporting, and did not maintain complete financial data separate from the centralized agency accounting unit. Since adequate reporting specifications had not been given to the site developers, much data from the early part of the project was lost.

Because the data are incomplete, it is difficult to determine whether certain costs are missing or were not incurred; and the same is true of income. As an example, some centers did not report any telephone installation costs as part of their start-up expenditures. Although it is reasonable to assume that most centers would have incurred this particular cost as a part of normal site preparation, it is possible too that some did not have a need to install further telephone connections beyond those already existing in their facility. It is more probable, however, that funding for that particular cost was acquired from another source, and that neither the cost nor

the cost abatement was reported to the University; but without adequate reporting, it is impossible to make a real determination. Furthermore, in other instances, it is obvious that costs were severely under-reported, in that they do not correspond with the known scope of activity. Critical discrepancies exist in the documentation of costs that fluctuate with usage, such as utilities and telephone costs. These uncertainties have limited the extent of analysis provided here. In the case of the variable costs mentioned above, the discrepancies precluded a rigorous break-even analysis. In terms of start-up costs, it was not possible to draw a statistically meaningful relationship to predict build-out costs as a function of facility square footage, number of workstations, and/or age of the facility, although again it would be reasonable to assume that such a relationship would demonstrably exist.

It should be kept in mind, therefore, that this section does not represent a complete picture of the sites' financial activities. However, to the greatest extent possible, known data are presented, and where feasible, extrapolated to provide as comprehensive and accurate an analysis as possible. Unreported data are handled in two ways. Treating them as zero values (on the assumption that they were not reported because they did not occur for that site) will tend to underestimate the true study-wide average (since the site's true value will sometimes be greater than zero), and hence provides a lower bound on that average. Treating them as missing will tend to overestimate the true study-wide average (since the site's true value will sometimes be zero, which would have lowered the study-wide average if it had been included), and provides an upper bound (assuming that all elements that *are* present are not underreported). The tables that follow are constructed to show lower- and upper-bound averages as well as minimum and maximum values. For each expenditure and funding category, the number of sites that reported activity for the category is listed in the “sites” column, and for recurring costs or income the total number of applicable months for all sites reporting the cost or funding is listed in the “months” column.

The number of sites reporting different costs varies widely: ten sites reported postage and shipping costs and eight reported copying and printing costs, while six reported insurance costs, and only one reported tax, license and interest expenses. Because the centers operated for different lengths of time, the number of months over which revenue and costs are allocated also

varies. Thus, the total number of months listed for each cost/funding category varies as well. For example, eight centers reported receiving revenue from telecenter user charges; the total number of months centers reported receiving this revenue was 89. Ten reported receiving funding from sources other than the RABO program for a total of 139 months.

In the sections that follow, initial start-up and operating costs are presented, as are the sources and types of funding. In an effort to capture the true extent of the centers' assets and liabilities, donations in the form of personnel services, equipment, or reduced rent, are included both as assets and as part of total costs (liabilities/equity). Specific analyses show the relationship of build-out costs to square footage, unit start-up and recurring costs per workstation, and revenue/funding per workstation.

5.2 Build-out and Start-up Costs

5.2.1 Build-out

Build-out costs supported activities such as carpeting; painting; installing additional wiring and/or repairing existing wiring to accommodate multiple workstations, phone lines, and local area networks; adding partitions or walls to create discrete office spaces or cubicles; constructing reception areas and breakrooms; converting old storage space into office space; replumbing as necessary; adding bars and ramps and remodeling restrooms to bring the facility into ADA compliance; installing security systems; mounting signage; effecting minor landscaping and interior design; and conducting general repairs as needed. Some facilities' refurbishment was more extensive than others, with the time involved ranging from one to 20 months (3-1/2 months on average).

Anaheim expended far greater resources in renovating its telecenter, located on the mezzanine level and first floor of the historic Kraemer Building, than other site developers spent on their facilities. The building, constructed in 1924, comprises seven floors and approximately 40,000 square feet, of which 6,700 were reserved for the telecenter. Renovation for the telecenter was funded by URO Investments, the City of Anaheim Redevelopment Agency, the South Coast Air

Quality Management District, and the RABO program. General buildout in this case involved cleaning, repairing, and refinishing the original woodwork, marble, and fresco work that adorned the interior; painting and recarpeting the mezzanine and first floor; replumbing the restrooms and installing new fixtures; installing a new heating/air conditioning system; and conducting extensive repairs on the elevator. On the exterior, new roofing was installed, the building face was cleaned and painted, and new landscaping was introduced. Construction for the telecenter involved creating and furnishing the main reception area on the first floor, installing walls for private offices and cubicles, and installing wiring for additional phone lines, ISDN, and workstation hardware. The owner (URO Investments) also began renovating the remaining six floors of the interior. In all, more than $208,000 was expended in this effort for the telecenter alone.

The next largest build-out expenses ($18,829) were reported by the East County San Diego Tele*Community Centre. Formerly the headquarters of the San Diego Association of Governments (SANDAG), use of the facility was donated by them in the interim before its planned razing for an expansion of the freeway system. The facility was old, the space unused and in need of repair. Because of its age and condition, the building required extensive retrofitting to comply with the County construction code, in particular, remodeling of the restroom to comply with ADA requirements. Problems such as uneven flooring and below-floor wiring required more work than had the site been established in a newer building. Additional repairs were needed to the structure due to rain damage, and faulty plumbing necessitated extensive refitting of the restroom's pipes as well as drywall repairs to the walls. Completing the site's infrastructure included upgrading electrical wiring and installation of special telephone lines necessary for the local area network, installing halogen lights to illuminate the parking lot, and installation of a sink, refrigerator, and cabinetry to complete the kitchen area. To accommodate the planned videoconferencing and computer-linked conference theatre, moveable curvilinear walls with clear plastic inserts were installed which abated sound transmission, but allowed ambient light to pass through. Curtains were attached to black out light when necessary.

Other site build-out costs are shown in Table 5-1. Three centers, Coronado, Chula Vista Eastern Telecenter, and San Juan Capistrano, did not report build-out costs. It is likely that the build-out

costs reported by Grass Valley I and Modesto are understated, because the scope of build-out activities does not correspond with the amount of reported expenditures. The original Grass Valley facility was located in the unused basement of a century-old hotel which had been purchased by the Pacific Gas and Electric Company and converted to office space. This facility underwent extensive refurbishment with paint, recarpeting, new lighting, rewiring, interior structural remodeling, and conversion of storage space to office and cubicle space. The Modesto center, while not undergoing build-out on the scale of the original Grass Valley center, did engage in reconstruction of the foyer to convert it to a separate reception area. This also entailed interior structural remodeling.

Table 5- 1: Reported Build-out Costs by Site

Site	Square feet of facility space	Square feet allocated to workstation use	Number of worksta-tions	Build-out costs	Build-out costs per sq. foot	Build-out costs per workstation
Anaheim	6,700	2,680	15	$208,563.42	$31.13	$13, 904.23
Chula Vista - Downtown	1,700	795	10	$12,497.11	$7.35	$1,249.71
Chula Vista - Eastern (H Street)	1,500	701	10	n/r	n/r	n/r
Coronado	1,025	194	4	n/r	n/r	n/r
Grass Valley I	1,494	618	6	$5,292.06	$3.54	$882.01
Grass Valley II	3,000	1,410	10	$6,830.43	$2.28	$683.04
Modesto	2,300	1,050	7	$549.33	$0.24	$78.48
Moorpark	900	603	5	$6,055.56	$6.73	$1,211.11
San Diego - East County	1,550	573	6	$18,829.11	$12.15	$3,138.19
San Juan Capistrano	2,100	1,050	11	n/r	n/r	n/r
Vacaville - Alamo	950	665	8	$10,307.70	$10.85	$1,288.46
Vacaville - Ulatis	540	270	7	$4,725.95	$8.75	$675.14
Ventura	682	266	5	$5,636.14	$8.26	$1,127.23

Because the Anaheim facility build-out cost is several times greater than that for the other centers, it is useful to note the extent to which the upper- and lower-bound averages, shown in Table 5-2, change with the exclusion of Anaheim. Including Anaheim, the lower-bound average is $21,484 and the upper bound is $27,929; without Anaheim, those same averages are $5,894

and $7,858, respectively. Build-out costs per square foot varied from $0.24 (Modesto) to $31.13 (Anaheim). The lower-bound average is $7.02; the upper bound, $9.13. Removing Anaheim from the analysis reduces these averages to $5.01 and $6.68, respectively. However, given the bias toward underreported data, it is probable that the true average lies toward the upper bound.

Table 5- 2: Average Build-out Costs

	Sites Reporting	Minimum	Maximum	Lower-Bound Average[1]	Upper-Bound Average[2]
Including Anaheim:					
Build-out costs	10	$549.33	$208,563.42	$21,483.60	$27,928.68
Build-out costs per square foot[3]	10	$0.25	$33.11	$7.02	$9.13
Build-out costs per workstation[3]	10	$78.48	$13,904.23	$1,864.43	$2,423.80
Excluding Anaheim:					
Build-out costs excluding Anaheim	9	$549.33	$18,829.11	$5,893.62	$7,858.15
Build-out costs per square foot[3]	9	$0.25	$12.18	$5.01	$6.68
Build-out costs per workstation[3]	9	$78.48	$3,138.19	$861.11	$1,148.15

[1] Obtained by treating non-reported values as zeros that are included in the average.

[2] Obtained by treating non-reported values as missing, and excluding them from the average. Value will be an upper bound only if all non-missing entries are fully reported.

[3] Obtained by averaging the site-by-site ratios, rather than by dividing total build-out costs by the total of the denominator quantity across sites. The former method is less susceptible to influence by extreme cases.

5.2.2 Start-up Costs

For the purposes of this report, start-up costs are defined as expenses related to establishing the centers but not associated with capital improvements to the facilities themselves (although telecommunications wiring could be interpreted as part of capital improvements). Start-up costs consisted of telecommunications infrastructure installation, installation of security systems, purchase of furniture and equipment, signage, and miscellaneous fees for permitting. As with the build-out costs, it is likely that these costs are underreported; for example, all centers with

the exception of Moorpark had some form of signage mounted at the exterior of the facility; however, only three sites reported those actual costs. In this instance, using the upper-bound average will yield a better understanding of true costs. Table 5-3 presents the reported start-up costs by site, and Table 5-4 presents upper- and lower-bound averages for each category.

Almost all centers reported either leasing, purchasing or accepting donations of furniture and equipment. Videoconferencing equipment was donated to two sites: Anaheim, which received two systems; and the City of Chula Vista, which received two systems. Anaheim also received donated telecommunications equipment and voice-mail services; additionally, one company contributed the exterior signage for the City of Chula Vista's Eastern Telecenter. Lastly, Grass Valley received $12,000 worth of donated furniture for its original facility. Table 5-5 summarizes the reported donations received by the centers, including personnel services and utilities as well as tangible items.

In addition to the standard costs around preparing and equipping their facilities, several centers also hired special consultants whose responsibilities were to conduct the activities relating to center establishment. In general, duties included site and facility selection; early marketing and promotion campaigns; establishing relationships with local public and private agencies for promotional purposes, and acting as liaisons to these agencies; and interacting with the University in contract-related activities. The maximum expenditure in this category was reported by the City of Chula Vista. In this instance, the consultant worked for the City for approximately nine months, conducting demographic research for site selection, identifying the two sites, developing short- and long-range business plans for the centers, and conducting extensive pre-opening marketing activities. The consultant hired by the Ventura County Community Colleges District served in a similar capacity for approximately six months; duties differed in that the sites had been pre-selected, and the consultant worked on a part-time basis.

Table 5- 3: Reported Start-up Costs by Site

	Office Space Deposit	Phone Install	Security System	Signage	Furniture	Equipment (purchase)	Software	Voice Mail, Internet Access/ ISDN	Fees & Permits	Consul-tant	Total Start-up
Anaheim	$0	$5,495	n/r	n/r	n/r	$79,682	n/r	$40,000	$5,011	n/r	$130,187
Chula Vista – Downtown	$1,991	$1,671	n/r	n/r	$25,655	$54,472	$5,012	$216	n/r	$0	$89,017
Chula Vista - Eastern (H Street)	$0	n/r	$220	$3,999	$13,781	$66,782	$4,759	n/r	n/r	$31,314	$120,854
Coronado	$0	n/r	n/r	n/r	$7,959	$7,302	n/r	$0	n/r	$0	$15,261
Grass Valley I	$0	$394	$21	$909	$12,000	$20,311	$140	n/r	n/r	$0	$33,775
Grass Valley II	$0	$1,703	n/r	n/r	$3,673	$9,770	n/r	n/r	n/r	$0	$15,146
Modesto	$0	$1,072	$363	$84	$720	$22,240	$11,593	n/r	$148	$1,400	$37,620
Moorpark	$0	$3,120	$0	$0	$15,036	$69,191	$1,441	$562	$0	$6,515	$95,866
San Diego - East County	$0	n/r	n/r	n/r	$13,425	0	n/r	$1,855	$305	$0	$15,584
San Juan Capistrano	$0	n/r	n/r	n/r	n/r	$14,276	n/r	n/r	n/r	n/r	$14,276
Vacaville – Alamo	$0	$3,064	$37	n/r	$3,164	$576	n/r	n/r	n/r	$3,624	$10,464
Vacaville – Ulatis	$0	$1,586	$9	n/r	$2,729	n/r	n/r	n/r	n/r	$3,624	$7,948
Ventura	$0	$3,335	n/r	n/r	$20,657	$27,648	$1,830	$595	n/r	$10,880	$64,946
Totals	$1,991	$21,438	$650	$4,992	$118,799	$372,250	$24,776	$43,228	$5,463	$57,356	$650,943

Table 5- 4: Average Start-up Costs

	Sites	Minimum	Maximum	Lower-Bound Average[1]	Upper-Bound Average[2]
Office space deposit	1	$1,991.40	$34,000.00	$2,768.57	$17,995.70
Phone installation	9	$393.46	$5,494.69	$1,649.10	$2,382.04
Security system	5	$0.00	$362.98	$50.01	$130.03
Signage[3]	3	$0.00	$3,999.00	$319.54	$1,384.67
Furniture (purchase)[3]	11	$720.00	$25,654.51	$9,267.33	$10,952.30
Equipment (purchase)[3]	11	$0.00	$79,681.91	$28,570.13	$33,764.70
Software	6	$140.05	$11,593.42	$1,905.83	$4,129.30
Voice-mail, Internet access/ ISDN[3]	5	$0.00	$40,000.00	$3,325.24	$8,645.64
Fees & permits	3	$0.00	$5,010.55	$420.22	$1,820.94
Consultant	6	$0.00	$31,313.47	$4,412.01	$9,559.36
Total start-up[4]		$7,948.31	$130,187.14	$50,072.54[5]	$50,072.54[5]
Start-up costs per workstation (furniture, equipment, software, Internet access)[3]	13	$1,135.47	$19,173.13	$6,500.03[5]	$6,500.03[5]

[1] Obtained by treating non-reported values as zeros that are included in the average.

[2] Obtained by treating non-reported values as missing, and excluding them from the average. Value will be an upper bound only if all non-missing entries are fully reported.

[3] Includes reported value of donated items.

[4] The total is not the sum of the numbers in the column. For example, the first two entries represent the sites with the smallest (Vacaville Ulatis) and largest (Anaheim) totals, respectively, as shown in Table 5-3.

[5] Since all sites reported some start-up costs, the denominator is the same for both the lower-bound and upper-bound averages.

Table 5- 5: Reported Donations

	Sites	Total	Average value per site receiving
Furniture	Grass Valley I	$12,000.00	$12,000.00
Equipment	Anaheim, Chula Vista (both sites)	$160,000.00	$53,333.33
Personnel services	Coronado, Grass Valley II, Modesto, Vacaville (both sites)	$65,000.00	$13,000.00 (per year)
Management oversight and accounting	Chula Vista (both sites)	not reported	
Signage	Chula Vista - Eastern	$3,999.00	$3,999.00
Lease	San Diego - East County	$4,800.00	$4,800.00
Utilities (for term of lease)	Grass Valley I	$17,556.00	$17,556.00

Calculated on a per-workstation basis, the minimum to establish a center was $1,135 per workstation (Vacaville Ulatis); the maximum was $19,173 (Moorpark). The lows represented by Ulatis and Alamo ($1,308) are due to the site developer's decision to lease workstation and administrative equipment rather than purchase it. For the other centers, furniture and equipment formed the largest proportion of the total start-up costs, followed by consultant services. The average start-up cost was $6,500 per workstation.

Overall, total start-up costs per telecenter ranged from $7,948 (Ulatis) to $130,187 (Anaheim), with an average of $50,000 (see Table 5-4). These amounts do not include build-out costs, which are treated separately in Section 5.2.1, Tables 5-1 and 5-2. Dollar costs for donated items are included in these amounts. Anaheim received $80,000 in donated equipment, reducing actually incurred expenses to $50,187; the two Chula Vista centers each received $40,000 in donated equipment, and the Eastern (H Street) Telecenter received donated signage worth approximately $4,000. Total start-up costs for the Downtown Center including donated equipment were

calculated to be $89,017; subtracting the dollar value of the donated equipment decreases this amount to $49,017. The Eastern center reported expenditures of $120,854; less the $44,000 of donated equipment and signage, actual incurred expenses were closer to $77,000.

5.3 Recurring Costs

Recurring costs were divided into five main categories: lease costs, administration, general expenses, marketing and advertising, and depreciation. Because nearly all sites reported at least some costs in each of these categories (or, in a few cases, costs were known to be legitimately zero), a straight average is presented in Table 5-6 rather than lower and upper bounds. However, the number of centers reporting expenses for each subcategory within these five categories varied, and hence the category totals shown here are still only rough estimates, probably underestimated.

All but two centers incurred lease costs, the exceptions being the East County San Diego and the Moorpark centers. Moorpark Community College donated a portion of its library to house its center; and the East County San Diego facility was provided free of leasing costs by SANDAG. The estimated lease costs per month ($800) for the East County San Diego facility have been included in the analysis both as a donation and as an expense to help provide a truer average of costs across all centers. The zero for Moorpark is counted only as a true zero rather than as non-reported, and is averaged in to represent cases in which the marginal lease cost is essentially zero. Although the Anaheim center was both owned and operated by URO, Inc., it still incurred grounds lease costs. Of those sites that did incur lease costs, the lowest reported were for the Coronado center ($500 per month), and for Ventura Community College ($812), which had leased a trailer for its center. The maximum of $3,577 per month was reported by the Chula Vista Eastern Telecenter, followed by Vacaville's Ulatis telecenter ($3,000). The Coronado center was part of a shared facility: all utilities, lease, and janitorial costs were equally apportioned among the three organizations located in the building.

Table 5- 6: Average Monthly Costs by Site

Sites	No. of Sq. Ft. in Average	No. of Work-stations in Average	Maxi-mum Mos. in Average	Lease Costs	Adminis-tration	Operating & General Expenses	Marketing and Adver-tising	Depreci-ation (excluding build-out)	Total Monthly Costs	Total Monthly Costs/ Sq. Ft.	Total Monthly Costs/Work-station
Anaheim	6,700	15	12	$1,806.69	$2,621.77	$11,069.50	$2,308.57	$1,328.03	$17,779.55	$2.65	$1,185.30
Chula Vista - Downtown	1,700	10	14	$1,734.44	$3,407.21	$849.01	$232.83	$1,296.81	$7,520.30	$4.42	$752.03
Chula Vista - Eastern	1,500	10	12	$3,576.62	$7,668.22	$1,785.41	$251.54	$1,475.38	$14,757.16	$9.84	$1,475.72
Coronado	1,025	4	12	$500.00	$2,507.10	$315.81	$91.71	$216.45	$3,631.07	$3.54	$907.77
Grass Valley I	1,494	6	22	$899.75	$3,236.24	$1,918.56	$836.96	$483.71	$7,375.22	$4.94	$1,229.20
Grass Valley II	3,000	10	12	$1,241.50	$3,707.12	$735.55	$592.90	$690.27	$6,967.34	$2.32	$696.73
Modesto	2,300	7	15	$1,464.22	$2,620.10	$1,612.38	$20.44	$862.30	$6,579.44	$2.86	$939.92
Moorpark	900	5	15	$0	$1,949.64	$452.36	$0	$1,332.18	$3,734.18	$4.15	$746.84
San Diego - East County	1,550	6	6	$800.00	$6,741.63	$4,498.54	n/r (treated as 0)	$159.82	$12,199.98	$7.87	$2,033.33
San Juan Capistrano	2,100	11	10	$1,782.00	$3,648.40	$2,189.10	$613.30	$237.93	$8,470.73	$4.03	$770.07
Vacaville - Alamo	950	8	12	$1,908.34	$3,015.61	$608.87	$916.05	$47.26	$7,412.19	$7.80	$926.52
Vacaville - Ulatis	540	7	12	$3,000.00	$1,739.25	$1,192.13	$916.05	$32.49	$5,963.87	$11.04	$851.98
Ventura	682	5	21	$811.69	$6,391.20	$2,183.37	$575.71	$737.23	$10,699.20	$15.69	$2,139.84
Minimum	540	4	6	$0	$1,739.25	$315.81	$0	$32.49	$3,631.07[1]	$2.32[1]	$696.73[1]
Maximum	6,700	15	22	$3,576.62	$7,668.22	$11,069.50	$2,308.57	$1,475.38	$17,779.55[1]	$15.69[1]	$2,139.84[1]
No.of months			175	160	175	175	142	175			
Average			13.5	$1,501.94	$3,060.40	$2,167.43	$495.39	$619.51	$8,699.25[2]	$6.24[2]	$1,127.33[2]

[1] The minimum and maximum values in the column above.

[2] The average of the site-specific totals and ratios.

Administration costs included salaries, payroll taxes, and benefits for staff directly employed in the telecenter, and a portion of the salary costs for indirect support staff. Direct labor consisted of the telecenter director or manager; reception and/or assistant site personnel; and consultants or contractors responsible for training, marketing and promotion. Indirect labor generally included accounting and financial administration for centers with centralized accounting and financial units, such as the municipalities and community colleges. Management oversight for those centers is also allocated as part of the total administration costs; thus, the percentage of time a municipal employee (for example, the City of Vacaville's Transportation Systems Manager) spent on executive management and oversight was applied as a dollar amount in this category. Administration was typically the largest single cost category, comprising 46% of total monthly costs on average.

Operating and general expenses included all supplies and general expenses such as office supplies, furniture and equipment lease and maintenance, copying, printing, postage, shipping, telephone charges, and miscellaneous expenses. It also includes lease and maintenance costs for workstation equipment. As with other costs, the number of centers reporting specific category expenditures varies widely. For example, only one center reported tax and license and interest expense, and only one reported workstation furniture lease costs.

Marketing and advertising costs for the centers were, for the most part, underestimated. This was in part because most marketing and promotion costs were directly incurred by the University through its agreements with the program marketing subcontractors. Early in the project, as a result of a shift in public policy, RABO program funds could no longer be allocated directly to the sites for their individual marketing needs. Site developers relied on other sources to fund their marketing efforts, or took advantage of low- or no-cost promotional efforts performed by the administrative staff. Such activities included addressing professional groups, developing, printing and distributing flyers and mailers, or attending local commercial group meetings to provide the center with higher visibility in the business community. In this cost category, the high value ($2,309) is attributed to Anaheim; zero values are attributed to the East County San Diego and Moorpark centers. User recruitment for the East County San Diego center was almost entirely achieved in-house by a Caltrans District 11 employee, and Moorpark was marketed

together with the Ventura site. The next largest value ($916 for each) is associated with the two Vacaville centers.

Depreciation was calculated for furniture, equipment and software only. Depreciation for refurbishment costs such as carpeting and painting was not included because a detailed accounting of those costs was not provided to the University. It was therefore impossible to separate total amounts for those activities from the rest of the build-out costs. Normally, cost recovery for those types of improvements would be allocated over a ten-year period. A straight-line depreciation schedule was used to calculate depreciation expense in this report; furniture is depreciated over a seven-year period, equipment over five years, and software over two.

Monthly costs show much less variability across sites than the build-out or start-up costs, with the total average reported monthly costs and monthly costs per workstation for all sites falling within a factor of two of the averages across all sites. Specifically, monthly costs per workstation ranged between $700 and $2,100, with an average of about $1,100.

Those centers with relatively high per workstation costs -- Anaheim, East County San Diego, Ventura, and the Chula Vista Eastern center -- had, in general, higher administrative and general expenses. For example, Anaheim's general expenses ($11,070) were more than five times greater than the overall average of $2,167, and comprised 62% of its total monthly costs ($17,780); of that category, utilities assumed the greatest proportion, followed by interest expense, janitorial, tax and license, and telephone charges. The East County San Diego center reported general expenses ($4,499) more than double those of the overall average; these reported expenses were entirely composed of workstation and office equipment lease costs.

The East County San Diego center, along with the Ventura center and the Chula Vista Eastern Telecenter, had the highest administration costs of all centers. The East County San Diego center reported $6,742 in administration costs, more than twice the overall mean of $3,060. Ventura incurred $6,391 in administration costs, 68% of which were for consultant fees, and the Chula Vista Eastern Telecenter, $7,668. The Chula Vista Eastern center also had monthly lease costs ($3,577) nearly 2-1/2 times higher than the overall average of $1,501.

5.4 Revenue/Funding

Funding for the centers was acquired through the RABO program, various agency grants and contracts, and toward the later part of the project, through client fees. Table 5-7 shows that, as expected, the majority of funding came from the RABO program.

For RABO funding, the minimum average monthly amount of $1,996 was provided to the Coronado site, and the maximum was provided to the East County San Diego center. Other agency funding included parent agency contributions in terms of site administration support; AQMD contract and grant funding; and additional monies provided to certain centers by the State. Also included are contributions of specific dollar value, such as donated utilities costs and waived facility lease costs. Donated non-current assets, such as furniture and equipment, are not included here (see Table 5-5 above). The minimum in this category was reported by Ventura County Community College District's Moorpark Telecenter, and represents VCCCD's contribution to site administration support. The maximum was reported by San Juan Capistrano. For telecenter rent/revenue, the minimum value was reported by the Coronado center, and the maximum was reported by San Juan Capistrano.

5.5 Conclusion

While the limited availability of financial data precludes a thorough and definitive analysis, some tentative observations may be made. First, the one-time build-out and start-up costs can vary substantially across sites, depending on how much site preparation is needed, and the extent to which costs are absorbed up front versus spread out over time (e.g. buying versus leasing a site, or equipment). Second, ongoing operating costs varied much less across sites, with averages ranging from $700 to $2,100 per workstation per month. Third, sites derived little ongoing income beyond the RABO project funding, in-kind support and funding from other agencies such

Table 5- 7: Reported Average Monthly Funding/Revenue by Site

Site	Number of Work-stations	Months in Average	Income from RABO	Income from Other Agencies	Telecenter Rent/ Revenue	Total Monthly Income	Total Monthly Income per Workstation
Anaheim	15	11	$8,772.73	n/r	n/r	$8,772.73	$584.85
Chula Vista – Downtown	10	7 rent, 14 other	$9,929.44	$1,976.25	$2,174.25	$14,079.94	$1,407.99
Chula Vista - Eastern (H Street)	10	12	$3,689.79	n/r	$390.03	$4,079.82	$407.98
Coronado	4	12	$1,995.71	$666.67	$130.18	$2,792.56	$698.14
Grass Valley I	6	22	$6,318.18	$1,919.14	n/r	$8,237.33	$1,372.89
Grass Valley II	10	12	$3,666.33	$3,234.49	$276.03	$7,176.85	$717.69
Modesto	7	15	$7,574.38	$3,422.36	n/r	$10,996.74	$1,570.96
Moorpark	5	15 RABO, 12 rest	$6,920.00	$32.27	$143.69	$7,095.96	$1,419.19
San Diego - East County	6	6	$16,666.67	$7,133.33	n/r	$23,800.00	$3,966.67
San Juan Capistrano	11	10	$14,569.30	$8,320.40	$6,248.90	$29,138.60	$2,648.96
Vacaville – Alamo	8	12	$2,142.34	$2,523.88	$314.17	$4,980.39	$622.55
Vacaville – Ulatis	7	12	$6,341.67	$4,229.17	n/r	$10,570.83	$1,510.12
Ventura	5	21 RABO, 12 rest	$7,241.24	$3,011.22	$250.37	$10,502.83	$2,100.57
Totals	104	174 RABO, 139 other, 89 rent	$95,827.78	$36,469.18	$9,927.62	$142,224.58	$19,028.55
Minimum	4	6	$1,995.71	$32.27	$130.18	$4,079.82[1]	$407.98[1]
Maximum	15	21	$16,666.67	$8,320.40	$6,248.90	$29,138.60[1]	$3,966.67[1]
Number of months			174	139	89		
Lower-bound average[2]			$7,371.37	$2,805.32	$763.66	$10,940.35[4]	$1,463.74[4]
Upper-bound average[3]			$7,371.37	$3,315.38	$1,240.95	$10,940.35[4]	$1,463.74[4]

[1] The minimum and maximum of the column above.

[2] Obtained by treating non-reported values as zeros that are included in the average.

[3] Obtained by treating non-reported values as missing, and excluding them from the average. Value will be an upper bound only if all non-missing entries are fully reported.

[4] Since all sites reported some income, the denominator is the same for both the lower bound and upper bound averages.

as municipalities and air quality organizations, and corporate donations. Thus, while it is tempting to compare monthly income to monthly costs, such an analysis would be completely artificial as a basis for gauging long-term financial viability. Five of the 13 sites reported no income from rents or user fees; the median income from those sites that did report it was $295 a month. Although an initial period of low or no user-based income should be expected by the nature of the phenomenon we are studying, and in particular due to the character of the RABO program as a demonstration project, the evident difficulties in developing such sources of income are a cause for concern about the long-run viability of this type of telecommuting center.

It can be noted that a high proportion of the costs in operating these centers is fixed, that is, independent of usage levels. These include lease costs, depreciation expense, and administrative overhead. This suggests that (1) below a certain number of workstations, it will be nearly impossible for a center to break even, and (2) economies of scale need to be achieved, so that the fixed costs can be spread over a larger number of users. On the other hand, larger centers will be more difficult to fill, and will lose their neighborhood character as they must draw from a much larger commute shed. Understanding this simple dilemma is key to realistically assessing the market for center-based telecommuting.

On the other hand, it is legitimate to question whether telecommuting centers *should* be expected to pay for themselves. If the public benefit is considered high enough, an ongoing public subsidy of centers may be justified, just as other transportation alternatives such as public transit, and other public services/facilities such as libraries and community centers, are subsidized. An understanding of the public benefits of center-based telecommuting (and an ability to monetize them accurately) is crucial to making this determination. The companion report to this one, the final evaluation report for the RABO project, provides considerable information, especially on the transportation and air-quality impacts of center-based telecommuting. The difficulties lie in scaling the individual-level impacts measured in this micro-scale study up to a systemwide level, in monetizing those impacts, and in comparing the opportunity costs of spending public funds on this transportation strategy as opposed to others.

CHAPTER 6

FACILITIES, STAFFING, AND GENERAL OPERATIONS

6. FACILITIES, STAFFING, AND GENERAL OPERATIONS

6.1 Facilities

The physical telecenter facility may occupy all of a free-standing structure or a portion of space in a shared building. As shown in Table 6-1, the sizes of the centers in the RABO program ranged from 6,700 square feet for the Anaheim Telework Center which occupied the first two floors of a building in downtown Anaheim, to 540 square feet for Vacaville's Ulatis center. The average RABO telecenter was about 1,800 square feet.

All sites included at least four workstations equipped with computer and phone, and a desk for the on-site administrator, which in some centers also served as the reception desk. Most also included common areas with break facilities and common areas containing shared printers, fax and copy machines. Additionally, all but three of the sites (Coronado, Alamo/Three Oaks, and Davis) had at least one conference room on the premises; two that did not (Coronado and Alamo/Three Oaks) offered conference room facilities in an adjacent location. Most workstations were partitioned-off cubicles; others were separate offices, some secured. Additional spaces in the telecenters included reception areas, lounges, kitchens, classrooms, restrooms, supply areas, common hallways, and a separate office for the site administrator.

The selection of the type of physical facility had an impact on both start-up and operations. Telecenters participating in the RABO program were required to be in compliance with the Americans with Disabilities Act (ADA). This necessitated renovation work at some sites: the Three Oaks/Alamo telecenter in Vacaville required construction of ramps from the parking lot for wheelchair passage, a stability bar in the restroom, and an expanded restroom area for wheelchair access. Centers located in older facilities often had need of more intensive and costlier build-out: the opening date of the East County San Diego Tele*Community Centre was considerably delayed when the facility was found to require extensive retrofitting to comply with county construction codes and ADA requirements in addition to the extensive replumbing and drywalling needed to make the restrooms usable.

Table 6- 1: Telecenter Facility Sizes

Telecenter	Approximate Size (square feet)	Number of Workstations
Anaheim Telework Center	6,700	15
Chula Vista Downtown Telecenter	1,700	10
Chula Vista Eastern Telecenter	1,500	10
Coronado Telecenter	1,025	4
Davis Telebusiness Center	932	10
Grass Valley Telework Center (original facility)	1,494	6
Grass Valley TeleBusiness Center	3,000	10
East County San Diego Tele*Community Centre	1,550	6
Modesto Neighborhood Telework Workcentre	2,300	7
Moorpark Community College Telecenter	900	5
San Juan Capistrano TeleBusiness Center	2,100	11
Ulatis Telecenter (Vacaville)	540	7
Vacaville Telecenter (formerly Three Oaks & Alamo)	950	8
Ventura Community College Telecenter	682	5
Average	**1,812**	**8**

Several of the sites were located in self-standing trailers, including the Alamo/Three Oaks Telecenter in Vacaville and the Ventura Community College Telecenter. Since these were prefabricated buildings, they had the advantage of requiring less extensive renovation or cosmetic changes, facilitating start-up of those sites. Ventura, for example, was able to be operational within two months of becoming a participant in the RABO program, as opposed to the program-wide average of six months. On the other hand, the prefabricated buildings were

not as aesthetically appealing as some of the other centers, which may have negatively affected usage and retention for those sites.

The Moorpark telecenter was located on the second floor of the Moorpark College Library. One drawback of this location was lack of access for users after-hours. The main entrances to the library were locked, and there was no way for the site administrator to accommodate after-hour use. According to the site administrator, this factor had a negative impact on usage. Also, some renovation was necessary to make the center more attractive and to divide it more clearly from the library's Media Center used by the students.

Some facilities were selected specifically to minimize large start-up and operating costs. The Coronado Neighborhood Telecenter, for example, was located in a one-story building shared by the administrative office of Coronado Main Street, Ltd. and the Coronado Chamber of Commerce. The Coronado Transportation Management Association (CTMA) located and constructed its facility with a telecenter in mind. The facility was built from the ground up with guidance from Pacific Bell and included natural lighting and an electrical system designed for multiple computer hook-ups in the facility's infrastructure. Build-out and indirect operating costs were shared between the telecenter, the Chamber of Commerce, and Main Street, Ltd. The Chula Vista Downtown Telecenter leased office space in a newly-constructed "smart" building which had advanced communications wiring and satellite communication linkages built into the structure. Utilizing this particular building with services provided by the landlord resulted in substantial savings on tenant improvement costs. However, because the site had been selected while the facility was still under construction, these savings were offset by numerous delays in final construction. The Kraemer Building in Anaheim is an older building that underwent extensive renovation through a public/private partnership venture for the purpose of housing a long-term telecommuting center to serve the needs of the community. The size of the building provided the opportunity to expand as the demand for the center increased, and particularly to integrate other revenue-generating services as part of the overall operation of the center.

Most telecenters were in or near residential areas in a mixed-use zone. This type of location is appealing to users for several reasons, among them: telecommuters living in a nearby residential

neighborhood are close to their worksite; and all users of the telecenters are within a few miles of a variety of services. For example, the centers in Chula Vista, Coronado, Modesto, and on Alamo Drive in Vacaville were within a block of services such as dry-cleaning and public laundry facilities, restaurant/fast food establishments, stores, and banks. The majority of centers were also within a half-mile of a transit stop.

The quality and appropriateness of workstation facilities and telecenter services are important aspects for a telecommuter. However, there is also the aesthetic element of the centers, and developers worked to make workstation surroundings appealing and individualized for telecommuters. Some centers designed their workstations from the beginning with aesthetics in mind. For example, both the Chula Vista Downtown and Eastern centers incorporated an underwater theme to their workstations, using colored wall material, natural lighting, and photographic art. Some centers made modifications to their facilities in response to user comments. One user at the Alamo Drive Telecenter in Vacaville complained of feeling "penned in" in a semi-private office that had no window. The developer responded by installing a window with mini-blinds to give the office a more open appearance. The site developer of the TeleBusiness Center in San Juan Capistrano altered workspace configuration to provide a greater number of private offices when he discovered potential telecommuters preferred them over cubicles in an open area.

The largest site, Anaheim, had a capacity of 25 workers. The center had 12 open-area workstation cubicles and four additional rooms: one with five workstations, two rooms with three workstations; and one room with two workstations. Among the other sites, the number of workstations varied from four (Coronado) to thirteen (San Juan Capistrano), with eight workstations the average overall. Workstations varied from cubicles with modular, divisible panel walls to private offices, some of which were secured. Some of the private offices provided enough space for more than one user. For example, the Anaheim site had predominantly smaller, closed, shared work spaces. Like the developer of the San Juan Capistrano center, the operators of the Anaheim center determined that by far the preference among its clientele was for smaller private offices rather than large open workspaces containing individual cubicle workstations. The workstation cubicles in the Anaheim center ranged from 49 square feet to 200 square feet.

The City of Modesto's telecenter also catered to its company clientele by providing private offices as requested. Thus, Lawrence Livermore Laboratories leased two larger private offices with multiple workstations for dedicated use by their employees, and was considering leasing a third when the center was closed.

Workstations were generally equipped with a table/desk, chair, PC with modem, telephone, stapler and tape dispenser. Some stations also contained filing cabinets or bookshelves. All but four of the sites offered a common area for users to congregate or for visitor seating. A common area usually contained a table and several chairs. Two of the sites provided a lounge for users. Five of the sites had a lunchroom/break room equipped with refrigerator, microwave, coffee station, table and chairs that was used as a common area.

Conference rooms seated from ten to fourteen people on average. The Anaheim site had two conference rooms, one 200 square feet and the other 220 square feet. The remaining sites had one conference room. The largest conference room was in the Modesto telecenter. It was about 350 square feet and had a seating capacity of 30. The East County San Diego Tele*Community Centre had the smallest conference room, which seated six. In addition, the East County San Diego Tele*Community Centre had a videoconference room which was constructed with curvilinear walls designed to move to widen the room. It also was constructed with clear plastic inserts which abated sound transmission but allowed ambient light to pass through. Curtains were installed which could black out light when necessary. Many of the conference rooms doubled as videoconference rooms, including the rooms at Ventura, Moorpark, and the Chula Vista Downtown Telecenter. Most of the sites had audio-conferencing capability. Conference rooms and videoconference facilities were also used as revenue-generating services by renting them out to the general public.

The following table shows the average percentages of telecenter space dedicated to several different uses. It also lists the number of sites included in the average and the range of percentages for those sites. All sites, with the exception of Coronado, dedicate at least 35% of telecenter space to offices and workstations, with an average of 47% of space designated for

drop-by and regular users across all centers. The breakdowns of center space by individual sites are listed in the site-by-site overview in Chapter 8.

Table 6- 2: Percent of Telecenter Space Devoted to Various Uses

Telecenter Use	Average Percentage of Telecenter Space[5]	Range of Percentages	Number of Sites
Offices/Workstations	46%	19% - 70%	12
Site administrator	8%	2%-12%	7
Conference room	16%	5%-33%	9
Executive director	8%	4%-11%	2
Lobby/Waiting area	14%	6%-26%	7
Classroom	18%	18%	1
Copy/Supply area	5%	3% - 8%	4
Break area	6%	2% - 13%	4
Hallways/Stairs/Elevator	17%	5% - 28%	6
Restrooms	5%	3%-15%	8
Secured computer/Server room	3%	3%	1

For all sites, parking was provided free of charge to the telecenter users. Many of the sites shared parking lots with nearby businesses. If the parking lot was a shared lot, as for the Moorpark center located on a college campus, the site administrator provided the user with a free parking permit. The original Grass Valley site had limited parking at the telecenter (only one

[5] Each number represents percent of space devoted to the indicated use, *for centers reporting information for that type of space.* Thus, the sum of the percentages exceeds 100 and the individual percentages should not be interpreted as representing an average partition of space across *all* centers.

spot was reserved for the site administrator), but free on-street parking was available nearby. The Chula Vista Downtown Telecenter had a shared lot behind the center providing limited parking of approximately 30 spaces, with unlimited metered public parking across the street. The telecenter in Anaheim had garage parking available at no charge. Bicycle facilities were unlimited at Ventura and Grass Valley. Most of the remaining sites provided adequate bicycle facilities, except for the Chula Vista Downtown site, which only had one bicycle space.

The sites predominantly used IBM compatible PCs with internal modems; some also provided Macintosh computers. The equipment was state-of-the-art at the time the telecenters were opened, and most computers and their software were sufficient to meet the needs of telecommuters. However, the useful life of computer and advanced telecommunications equipment is very brief (18 months to two years), and most sites were facing the problem of upgrading equipment and software by the end of the RABO project. The sites provided basic office software packages; for most, special software for users had to be provided by the user/employer. The site administrator at the Moorpark College Telecenter reported he would order any software package at the request of a user and at the expense of the telecenter. Generally, the software provided at the telecenters included Microsoft Office, Word, DOS, Excel, Access, Power Point, Word Perfect 5.1 and 6.0, and WordPerfect for Windows. Additional software included Pro Comm Plus, Lotus, Corel Draw, Proshare, CD-ROM Libraries, Law and Federal Tax Information, Internet access software, MySoftware, and Harvard Graphics.

All of the telecenters had a bus stop either at the front door or close by, although few telecommuters reported using public transportation to reach the telecenter (see Chapter 4 of the companion evaluation report). The bus stop at Moorpark was within 25 yards of the front door, and the center was about five miles from a MetroLink commuter rail station. Coronado had a bus stop within one block of the telecenter. The bus stop for the Chula Vista Downtown site was about one block from the telecenter, and the Chula Vista light rail system was approximately three miles away. The East County San Diego Tele*Community Centre was served with nearby public transportation; the bus ride to the center from the nearest stop on the San Diego Trolley was ten minutes. The Chula Vista Eastern telecenter was served by a bus line, as well. The Anaheim site had a bus stop within two blocks of the site, as well as a shuttle to the train station

five miles away. The bus stop at the Modesto site was about one block from the telecenter, and the City of Modesto provided users with a free bus pass. The Alamo/Three Oaks site had a bus stop about 150 feet from the telecenter.

6.2 Staffing

Adequate staffing was in some ways the most critical aspect of all telecenter operations. Since the telecenters operated as small businesses, they consequently required full-time administration for multiple functions. These functions included: administrative coordination; financial administration and reporting, billing and bookkeeping; technical/software support including maintenance of computers, data lines and videoconferencing equipment; training; and marketing. Additionally, centers which participated in the RABO project also provided data collection and report writing services to the university.

The nature and amount of work involved in operating the centers required a sufficient number of personnel with knowledge of business management. Very frequently, however, staffing levels were dictated by a center's overall budget. Since most centers experienced some deficit in operations funding, individual staffing levels were depressed relative to need as well. Most centers were staffed either by too few employees to adequately address all necessary functions, or were staffed by employees who were too inexperienced in business management to effectively perform those functions. In centers developed by public agencies, for example, the key staff person responsible for general oversight of the telecenter was experienced in civil service rather than business administration, and often had other (usually full-time) duties unrelated to telecenter administration.

The impact of the staffing situation on the centers was manifested in incomplete or absent reporting: many developers and site administrators did not fully track marketing efforts or financial data, and many did not understand the need for such tracking. Occupancy rates were closely monitored at the insistence of the University; financial and marketing information was provided only after University payment of site invoices was made contractually contingent upon regular reporting of this information by the sites. Crucial information upon which to make

business management decisions was thus not available to developers or administrators. Cost/benefit analysis, for example, could not be, and was not, conducted on the different marketing tactics used by center developers and administrators. Without adequate financial data, site developers and administrators could not assess the current financial standing of the center nor project its future standing for planning purposes. In instances where the developer or site administrator was grossly deficient in performance of operations, usage rates were drastically affected and at least one center closed as a result. Interestingly, the public sector agencies who participated in the program exhibited an operations performance better than that of the private entrepreneurs.

Staffing was also found to be critical to continuity in center operations. Seven of the thirteen RABO centers (Anaheim, Coronado, East County San Diego Tele*Community Centre, Modesto, Moorpark, San Juan Capistrano, and Vacaville) experienced at least one major turnover in key personnel; three (Anaheim, Coronado, and Vacaville) had multiple staffing changes. Turnover of key staff had a disruptive effect on daily operations; often critical information regarding operating procedures or data collection procedures was not transferred to the new personnel. In response, the university instituted on-going training to assist new administrators in telecommuter and telemanager training, in marketing, and in basic business and data collection procedures.

Most centers typically were staffed with one full-time key person whose responsibilities included all marketing functions, operations oversight and duties, bookkeeping/accounting, purchasing, and equipment maintenance. This person was usually supported by one or more assistants, who were full- or part-time. The key person was either the site developer, an on-site administrator, or an off-site overall coordinator. The site developer was responsible for the development and general oversight of the telecenter including acquiring, planning, designing, operating, and maintaining the telecenter. Public agencies, such as the municipalities and the community colleges, tended to incorporate oversight and operations of their respective center into already-existing full-time employee positions, supplemented by other donated employee time to perform functions such as bookkeeping, billing, and purchasing. Most sites did not offer secretarial services to telecommuters but did provide on-site staff during operating hours to coordinate workstation and conference room assignments and to maintain equipment and supplies. Several

of the sites that were contracted through a public agency or community college employed city or college staff to complete the needed functions of the telecenters. Other public site developers, such as the City of Anaheim and the Western Nevada County TMA, subcontracted the work to private management groups. In all, the total number of personnel associated with operating the telecenters, either as supplemental staff or as direct telecenter employees, ranged from three to seven people, with one to two employees working on-site, and two to six employees spending a portion of their time off-site completing telecenter work.

Although site administration and site marketing could each constitute full-time occupations, most site administrators were required to balance the tasks of a coordinator as well as of a marketer. Limited staff was in part necessary due to budget constraints. However, a small staff can result in a heavy workload for each employee. For example, the part-time site administrator for the Modesto Neighborhood Telecenter was in charge of all the duties required for on-site coordination and off-site promotion, including pursuing income and clients, marketing, negotiating contracts and leases, maintaining the computer systems, purchasing equipment and supplies, and report writing. As marketers, administrators were required to spend some time off-site attending trade shows or other meetings, making presentations to employers and conducting other promotional activities. Most sites needed at least one additional part-time employee to remain on-site to coordinate users and maintain the center.

Most of the personnel, including most site developers, did not work on-site. Private developers tended to maintain more of an on-site presence than did the municipalities and TMAs[6], combining general oversight with all other operational activities, and supported by on-site assistants. For the public entities, accounting and outside marketing work was accomplished through the use of contracted private businesses or by city/college employees who incorporated telecenter duties into their normal duties. In general, center staff working at the telecenters was limited to the site administrator and full- or part-time assistant staff. Support staff to the site administrator performed various duties consisting of administrative, software, accounting, and marketing support. The site administrators for Modesto and Coronado worked for the center on

[6] With the exception of Coronado, where the TMA office was co-located with the telecenter.

a part-time basis but were expected to perform all of the normal duties associated with site coordination. The site administrator for the Moorpark College telecenter also only worked part-time, but was relieved of marketing duties by the Ventura College telecenter site administrator. In the case of the Chula Vista telecenters, the Telecenter Director coordinated most of the promotion for both telecenters, while the Telecenter Technology Director spent more time researching and coordinating distance learning and videoconferencing technology. In 1995, the Chula Vista Technology Director enlisted unpaid college interns to work on bookkeeping and operations for both telecenters. The interns developed budget reports for both centers, assisted with database entry and management, performed computer and software inventory, and assisted with the telecenters' quarterly billing. Telecenters in Vacaville, Grass Valley and Ventura hired part-time workers to cover the necessary on-site tasks of administration such as answering phones, scheduling and assisting telecommuters, maintaining attendance logs, and coordinating equipment maintenance.

Throughout the project, site administrators had to conduct an ongoing marketing campaign to secure users. Most site administrators reported spending the largest percentage of their time marketing their centers. For most site administrators, this involved the time and resources required to create and distribute promotional materials, followed by more specific contact with potential employers to market telecenter space, negotiating memoranda of understanding, and scheduling new users (including accommodating any software needs). This process was followed by orientation and training of new telecommuters on the procedures of the telecenter, and training managers to supervise a telecommuter. Most sites produced center-made flyers for distribution in a general target area such as a local park-and-ride lot or transit station or at more specialized locations such as business or technology fairs. Additional follow-up time was spent by contacting potential users and their managers or by making presentations to personnel managers in an organization. Site administrators and developers were also continuously seeking additional funding for the telecenters by pursuing business partnerships and applying for state and federal grants. The following table lists the average percentages of site administrator time spent on several duties, based on reporting by three sites. Most site administrators spent the largest single portion of their time in marketing the telecenters, including attending business and public meetings and delivering presentations to potential employers.

Table 6- 3: Site Administrator Duties: Average Percentages

Task	Approximate Average Percentage of Time Spent on Task
Marketing & meetings	43%
Administrative duties	34%
Report preparation	14%
Accounting	10%

During initial implementation of the RABO project, sites received assistance in marketing the telecenters through independent contractors to the University. The University entered into an agreement with a marketing firm/advertising agency partnership in July 1993 to promote the centers and to secure users. The goal of the contract was to assist in conducting market research and site selection, develop a marketing plan, and produce and distribute marketing materials. Throughout the project, the telecenters also received support from the University through extensive videoconferences and training workshops for site administrators, through University-produced promotional brochures, and through additional marketing support targeting major employers.

Adequate staffing along with adequate funding are arguably the most critical aspects of telecenter operations. Without a sufficient number of personnel experienced in business management, telecenters cannot set strong objectives, and lack the means to achieve both short- and long-term goals. Because telecenters in the RABO program were developed and operated by both public agencies and private entrepreneurs, center staffing configurations varied. However, the scope of work involved in successfully operating a telecenter requires the same fundamental commitment of personnel resources. Such personnel must be versatile, having knowledge of marketing, financial, technical, and general operations procedures. Telecenters must have enough funding to attract and compensate such individuals.

6.3 General Operations

Since there were few preexistent standards of telecenter operations to guide new site administrators, operating procedures tended to change within a center and between sites over time as site administrators learned what did and did not work. For example, some centers offered a full range of workstation supplies from tape dispensers to staplers, including offering to obtain any software requested by the user, as in the case of the Moorpark College Telecenter. Other centers, such as the Coronado Neighborhood Telecenter, required users to provide their own desk supplies.

The hours of operation during which site administrators were available were generally Monday through Friday, from 8:00 a.m. to 5:00 p.m. The two Vacaville telecenters were open from 7:00 a.m. to 5:00 p.m., and the Moorpark College telecenter was open from 9:00 a.m. to 7:00 p.m. Most site administrators would make arrangements to accommodate after-hours users. For example, the site administrator at the Chula Vista Downtown Telecenter would, on a case-by-case basis, accommodate after-hours use of the conference room, depending on its availability. The most flexible alternative was to offer 24-hour telecenter availability to contracted users via key or card access.

The telecenters provided workstations that were either a private office or a cubicle work space. Most workstations included a table/desk, chair, computer with modem, telephone, stapler, and tape dispenser. Some workstations were reserved for particular users, allowing them to store personal work on computers and in desks. Other workstations were maintained for drop-in or intermittent users or, as in the case of the Modesto Neighborhood Telecenter, were based on a first-come, first-served reservation system. Workstation and conference room schedules were coordinated by the on-site administrator.

At a minimum, workstation computers had word processing and spreadsheet applications, either as individually-installed software packages or by way of a center-wide networked server. Additional features included networked access to a scanner or CD-ROM drive, as in the case of the East County San Diego Tele*Community Centre in La Mesa. Most workstations provided

computer modems, giving users a connection to the internet to communicate with clients and co-workers and to utilize on-line data sources. The 486 and Apple computers at the East County San Diego Tele*Community Centre included Ethernet or Nubus cards for network connection.

Most workstation computers were networked to shared laser printers. The Modesto Telecenter's network operating system provided access to three on-line system printers, including an HP Color InkJet, a laser printer, and a 24-pin dot matrix printer. The telecenters also provided a photocopy machine for light use by telecommuters. There is normally one copy machine on site, although some site administrators recommended that users take large copy jobs to a professional printing service. Several sites required the telecommuter to record the beginning and end copier audition numbers on a copy log, as copy charges were tallied and billed to the employer/user on a monthly basis. In the early stages of most centers, all services, including workstation and conference room use, were free of charge as an incentive for telecommuters to reserve space. For example, the Ventura College Telecenter included normal photocopy charges in the monthly usage fee, excluding heavy copy jobs.

All telecenters participating in the program had established price lists and were in the process of fully incorporating them into operations plans toward the end of the project. Some sites offered one rental rate for workstations which included fax, copy machine, printing and conference room use. However, the process of switching from a no-charge to a charge basis for usage could, and sometimes did, have a negative effect on usage rates. After initiating a fee schedule in January 1996, the site administrator of the Vacaville telecenter reported that because the employers of the regular telecommuters did not have a mechanism in place to pay the fees, they did not renew their contracts; to induce these users to continue working at the center, the site administrator decreased or suspended the monthly fee. The small business or single employer tenants (i.e., non-telecommuting clients), however, were willing to pay fees.

Communication services for users included voice mail, electronic mail or paging services for individual daily usage. Several of the sites provided a voice mail system which received and routed incoming calls and/or provided for a direct dial system to reach specific telecommuters. The sites varied in telephone policies for the telecommuters: the majority of the sites charged

users individually on a monthly basis for their long distance calls, faxes sent and received, and voice mail services. Many site administrators initially spent an inordinate amount of time tracking phone logs of individuals at a telecenter, and at least one center (Coronado) was forced to expense to bad debts a relatively large amount in uncollectible phone fees from an individual user. To address this type of situation, the East County San Diego Tele*Community Centre in La Mesa planned a computer-based tracking system requiring each participant to use a personal identification number to access the phone lines. The system tracked both outgoing and incoming calls as well as call duration and generated summary reports on a monthly basis. Other centers required the telecommuter to use an employer-issued or personal telephone credit card.

Security concerns arose over personal property, data access, and software proprietorship. The desks at the Coronado Neighborhood Telecenter had locked drawers for users to secure personal property. The Modesto site administrator reported that many clients brought in software to customize the desktop workstations for their own use, resulting in concerns from clients that their proprietary software was not secured. For telecenters such as Modesto, where the workstations are separate offices, one solution that was utilized was to install bolt locks on the office doors. Other solutions were to password-access one's section of the system drive, have locks on individual offices, or to bring in personal laptops. The password option was the most preferable. Finding new space with individual offices with locking doors is difficult and more expensive then open space modular offices, and having clients bring in their own laptops limits participation. In the Policies and Procedures for the center, the Grass Valley site administrator required all hardware/software modifications to be arranged through site staff unless the equipment was privately owned.

Most telecenters had an alarm system on the building or suite which was activated during the centers' off-hours. Secured centers were able to provide 24-hour access to meet the needs of telecommuters. A card-access system was found to be preferable because it reduced the possibility of key duplication while recording the time and identity of all after-hours users. The two centers located on the Ventura Community College and Moorpark Community College campuses had the advantage of active police-patrolled security. The Ventura College campus

required all telecommuters who worked outside the regular Monday through Friday business hours to check in with the campus police officer on duty.

CHAPTER 7

SUMMARY AND DISCUSSION

7. SUMMARY AND DISCUSSION

7.1 Summary of Findings

The RABO project has generated a wealth of knowledge and experience with respect to the operation and effects of the center-based form of telecommuting. The companion volume to this one, *Final Report on the Evaluation of Impacts*, analyzes the centers with respect to their usage, their effectiveness as a work alternative, and their transportation-related impacts. In this chapter we briefly summarize some key observations in the present report, related to telecenter development and operation. For further discussion of these issues, with respect to all telecommuting centers in California (RABO as well as non-RABO), the interested reader is urged to consult the RABO project report titled, *Telecommuting Centers in California: 1991-1997*.

The observations below are organized according to the chapter structure of this report.

7.1.1 Project-Wide Planning

- Background research of previously-established telecommuting centers documented that insufficient planning and development time was a common problem limiting the centers' success. Despite this knowledge, it was difficult to avoid the same problem in the RABO project, due to the accelerated timelines and funding uncertainties inherent in multi-year publicly-funded demonstration projects. Most sites would have benefited from longer periods devoted to preliminary planning before the center opened. A two-year planning period is not unreasonable for a project of the complexity of establishing and marketing a multi-employer telecommuting center.
- We had initially hoped to involve prospective employer participants in the site selection, design, and development process, so that sites would be maximally tailored to their needs. This approach was essentially not successful, with most prospective employers needing to see a tangible manifestation of the nebulous telecenter concept before agreeing to participate.

- A number of criteria were established by which to evaluate prospective telecenter locations. These included:
  - the amount of time needed to establish the telecenter;
  - estimated cost to the project to set up the facility;
  - identification of an anchor tenant;
  - availability of contributing partners and the extent of contributions;
  - political considerations;
  - demographic and travel characteristics of residents in the immediate vicinity;
  - location-related factors (e.g. the availability of nearby amenities, accessibility to public transportation); and
  - regulatory (e.g. the presence of a commute trip reduction ordinance) and institutional (e.g. the presence of sizable employment in organizations, such as aerospace, historically reluctant to adopt telecommuting) issues.
- Conducting the formal telecommuting/manager selection process and training sessions initially envisioned turned out to be impractical. In contrast to the previous telecommuting programs utilizing those formal approaches, the RABO program was characterized by an enormous geographical scope (northern to southern California) and by staggered entry times into the program. Thus, there were not enough prospective telecommuters at any one location at any one time to support formal sessions. Instead, site developers (telecenter operators) were provided with screening and training materials that could be used locally, even on a self-administered basis. To our knowledge, there were no problems with this alternate approach.

7.1.2 Site Selection, Development, and Goals

- The original plan for the facilities' location was to place the centers in residential areas on the premise that this would reduce the need to drive to them. In practice, it was generally not possible to locate centers within residential neighborhoods, due to zoning restrictions. Most were located in small strip developments adjoining several residential neighborhoods. Others were located in the downtown business districts of their cities (generally small towns). In either case, there generally were a number of nearby amenities such as banks/ATMs,

restaurants, child care facilities, and dry cleaners. And while most people did continue to drive to the telecenter (see the companion evaluation report for details), their distance traveled was greatly reduced over their regular commute.

- Desirable facility design features common to most sites included a lunchroom (with refrigerator, microwave, and sink); a conference room; and some private offices. The latter were considered important for two reasons: to provide a way of maintaining confidentiality of proprietary information in the multi-employer center environment, and to reduce the distractions of an open-office floor plan that may have constituted an important motivation for some people to telecommute in the first place. Many sites also included videoconferencing facilities, which offered an additional source of revenue.
- The goals established by the site developers for the RABO telecenters can be classified into three main categories, with each center often focusing primarily on one of the three: travel and congestion reduction, provision of community Internet and information technology services (often coupled with business development goals), and emergency earthquake relief. The last refers to two RABO centers established in response to the Southern California Northridge earthquake of January 1994. Centers established by municipalities and Transportation Management Agencies tended to be established for the purpose of vehicle trip reduction, and often in response to air quality legislation mandates; the centers which emphasized universal access to the Internet and information services were mostly those planned by the developers from the private sector. In certain cases, however, centers were established both as trip reduction strategies and as instruments for economic development, and as enforcement of regional commute reduction regulations proved difficult in practice, some centers that had been originally established as a trip-reduction strategy for air quality attainment programs began to develop different uses to ensure economic viability over the long term.

7.1.3 Marketing

- Although employer recruitment was seen as vital from the beginning, in practice early marketing efforts focused on community outreach activities intended to identify employees

in the telecenter area who were interested in telecommuting, on the assumption that the employee would provide the entrée to the employer.

- As a result, many telecenter users were the single participant from their respective organizations; in fact, telecommuting was often a special arrangement between the particular individual and his or her manager, rather than part of a formally-established program. Thus, there was not an automatic supply of replacements for participants who stopped telecommuting, which made intensive marketing an ongoing necessity.
- Many telecenter users appeared to first hear about their local telecommuting center through a newspaper story. Media reporting is not only cheaper publicity than broadcast advertisements (which can be costly not only in terms of dollars but in preparation effort), but seems to be more effective as well. However, site administrators must be aware of news media's need for a story "hook" (such as a promotional event of some kind), and cannot expect repeated publicity from the same outlet.
- Both community outreach and employer-targeted strategies were eventually adopted by the program; too strong and exclusive an early reliance on the former approach was clearly inadequate. Mass mailings and distributions of doorknob hangers and windshield flyers were largely ineffective. The employer-targeted approach focused on actively researching (through business journals, newspapers, and analysis by investment firms) and contacting specific employers as well as general representatives of industries who appeared to have good potential to implement a telework policy as an established work option. Building and maintaining a presence in the local business community and with local government agencies was important to establishing positive relationships with prospective employer participants. Good prospects for telecommuting might include organizations who are relocating (and hence may want to accommodate employees who do not wish to move); expanding (and hence may be open to considering telecommuting as a way to save space); or engaged in non-territorial office practices (and hence may find telecommuting centers a useful addition to their flexible office space portfolio). Organizations with family-friendly or employee-friendly reputations may also be good prospects. Industries for which finding enough qualified information workers is difficult may be open to the recruitment and retention benefits of telecommuting.

- The greatest percentage of placements in the centers for the program as a whole came from direct employer involvement in recruiting users among its employees. This depended largely upon the existence of key personnel within the organization who actively promoted the concept of telecommuting to managers and potential telecommuters.
- The greatest barrier to telecommuting on the organizational level continues to be management resistance. That resistance is engendered by continuing uncertainty about productivity, about unequal treatment of employees, about security and liability, and about additional costs. For this reason, marketing telecommuting is an intensive, time-consuming process requiring individual attention with thorough and constant follow-up. If telecommuting were regarded more favorably, or were a routinely accepted work option, then selling the use of individual telecenters would be a matter of selling a specific brand as opposed to an entire idea. But the cold-calling approach to marketing telecommuting in particular has a very long sales cycle. Even for organizations that have decided to use a telecenter, with potential users identified, actual placement can take six months or more.
- Other issues also contributed to marketing difficulties. These include:
  - a basic lack of understanding of the concept of telecommuting on the part of the general public;
  - a lack of expertise or sufficient staff to adequately market the centers at the local level;
  - the nature of the centers as potentially short-term research projects, which impeded securing employer commitment; and
  - the lack of adequate funding for the centers themselves, which restricted the operators' ability to thoroughly market their centers.

7.1.4 Financial Data

- Financial information specific to the telecenter was often difficult for site developers to isolate, when telecenters' financial activity was consolidated under a larger cost center and co-mingled with several other projects. In general, reporting by the sites was incomplete and all figures should be considered tentative. It is likely that most numbers are underestimates.
- Reported site build-out costs ranged from $549 to $208,563, with the higher number representing the major renovation of a historic landmark building in Anaheim. Aside from

this anomalous case, build-out costs averaged $5,900-7,900 per site, which came to $5-7 per square foot or $860-1,150 per workstation.

- Reported start-up costs other than site preparation varied between $8,000 and $130,200, averaging $50,072. On a per-workstation basis they ranged between $1,100 and $19,200, with an average of $6,500. A major source of variation was whether furniture and equipment (mostly computers) were purchased or leased. If purchased they were included under start-up costs; if leased they constituted recurring costs.
- Many sites obtained donations of equipment, furniture, leasing/utility costs, or staff services from a variety of private- and public-sector sources.
- Ongoing operating costs varied much less than build-out and start-up costs, especially on a per-unit basis. Recurring costs ranged between $3,600 and $17,800 per month, averaging $8,700. Per square foot, costs ranged between $2.32 and $15.69, averaging $6.24; per workstation, costs fell between $700 and $2,100 a month, averaging $1,100.
- Monthly funding/revenue ranged between $4,100 and $29,100, averaging $10,940. Forty-three to 100% of this (67% on average) was the funding contributed by the RABO project itself, with the remainder coming from other agencies (26%) and from workstation rentals and other usage fees (7%).
- Hence, sites derived little ongoing income beyond the RABO project funding, in-kind support and funding from other agencies. Thus, while it is tempting to compare monthly income to monthly costs, such an analysis would be completely artificial as a basis for gauging long-term financial viability. Five of the 13 sites reported no income from rents or user fees; the median income from those sites that did report it was $295 a month. Although an initial period of low or no user-based income should be expected by the nature of the phenomenon we are studying, and in particular due to the character of the RABO program as a demonstration project, the evident difficulties in developing such sources of income are a cause for concern about the long-run viability of this type of telecommuting center.
- A high proportion of the costs in operating these centers is fixed, that is, independent of usage levels. These include lease costs, depreciation expense, and administrative overhead. This suggests that (1) below a certain number of workstations, it will be nearly impossible for a center to break even, and (2) economies of scale need to be achieved, so that the fixed

costs can be spread over a larger number of users. On the other hand, larger centers will be more difficult to fill, and will lose their neighborhood character as they must draw from a much larger commute shed.

7.1.5 Facilities, Staffing, and Operations

- RABO centers ranged from 540 to 6,700 square feet, with an average of about 1,800 square feet. Nearly half the space, on average, was devoted to offices/workstations. Centers contained 4-15 workstations in open-office cubicles or private offices, 8 on average. Most sites had conference rooms seating 10-15 people and having audioconferencing capability; several of these doubled as videoconferencing facilities.
- Site administrators report that the largest proportion of their time – 43% on average – was spent on marketing-related activities. The next largest proportion, 34%, was spent on administrative duties.
- Most centers typically were staffed with one full-time key person whose responsibilities included all marketing functions, operations oversight and duties, bookkeeping/accounting, purchasing, and equipment maintenance. This person was usually supported by one or more assistants, who were full- or part-time. The key person was either the site developer, an on-site administrator, or an off-site overall coordinator. The site developer was responsible for the development and general oversight of the telecenter including acquiring, planning, designing, operating, and maintaining the telecenter. In all, the total number of personnel associated with operating the telecenters, either as supplemental staff or as direct telecenter employees, ranged from three to seven people, with one to two employees working on-site, and two to six employees spending a portion of their time off-site completing telecenter work.
- Inadequate and inexperienced staffing was a problem that plagued most centers. Budget constraints limited the staff time that could be funded, and the diverse skills (administrative coordination, marketing, training, financial, technology support, data collection, reporting, strategic planning) needed to operate the center effectively were seldom found in a single individual or the small staff. Even if all the needed skills were present, the staff often did not have the time necessary to devote to the myriad of tasks involved in operating the center. Oversight at many telecenters was provided by an individual with other (often full-time)

duties unrelated to the center. Turnover among site administrators was common, with a resulting loss of continuity. In addition to the obvious deleterious effect on center operations, one important consequence for the project was the difficulty in obtaining all the needed evaluation information (marketing effectiveness, financial, site usage, and survey instruments) from the site staff.

- Most centers were open to the public during normal business hours, with after-hours access to registered users through keys or security cards. The latter was found to be preferable, because it reduced the possibility of key duplication while recording the time and identity of all after-hours users.
- Many centers charged for photocopies and long-distance phone calls from the beginning. Many, however, did not initially charge any rent for the workstations themselves. Some centers initiated such charges during the project, generally with negative effects on usage. Small business tenants (who were not, strictly speaking, telecommuters) were more willing to pay workstation fees than were the employers of regular telecommuters. In the latter case, there was often not a mechanism established for paying the fees, and companies were unable to achieve compensating space savings back at the main office when an employee only used the center once a week or less.

7.2 Conclusions

Through the RABO demonstration project, what has been learned about the telecommuting center concept? The major conclusions appear to be as follows:

(1) As the companion evaluation report documents, **telecenters are effective at reducing vehicle-miles traveled and emissions, for those who telecommute, on days that they telecommute, during the period(s) in which they are telecommuting.** The several caveats are important to placing the transportation-related findings in the proper perspective. From the RABO project and other research, we learn that (a) telecommuting is still not possible for the majority of workers, and does not appeal to everyone for whom it is possible; (b) those who do telecommute generally only do so about one day a week on average; and (c) about half of those

who start telecommuting quit within 9-18 months. Thus, the very real per-telecommute-occasion reductions in travel and pollution are simply not being realized on a broad scale at this point.

(2) Also as documented in the evaluation report, **among the group of managers and employees who adopt center-based telecommuting, it is generally an effective work alternative.** Again, the caveat is necessary, to make the self-selection bias clear: those who adopt telecommuting (in general, and the center-based form in particular) will tend to be those for whom it has a high probability of success. Thus, it is dangerous to generalize the positive attitudinal and work-effectiveness results found in this and other studies, to the group of all potential telecommuters as a basis for estimating the work-related benefits of telecommuting.

(3) As documented in this report, **a number of barriers still remain to the widespread implementation of telecommuting centers as an alternative workplace**. Most of the barriers relate to the continued difficulty in convincing skeptical management of the value of telecommuting for their employees. This difficulty underlay most problems identified in this study:

- underestimation of the time and cost required to set up, market, and operate the telecenters;
- the challenge of finding effective marketing strategies, and the costs of the labor-intensive strategies that appear to be needed;
- revenues insufficient to maintain the sites on a self-sustaining basis;
- high turnover among telecommuters;
- "one-deep" telecommuting arrangements rather than larger-scale formal programs, so that turnover among telecommuters required continually "starting over" with respect to marketing; and
- low utilization of the centers, reducing their public benefit and desirability.

Given that the telecommuting concept has been around for more than 20 years, it is fair to ask why it is still such a hard sell. Is telecommuting in general, and the telecenter in particular, still ahead of its time, or is this about as good a time as it's going to get? Arguments can be made on both sides of the question. Proponents point out that technology improvements continue to make

telecommuting more effective, available, and low-cost to more people than ever, and that the institutional changes required to support telecommuting take time but are happening. They also argue that increasing congestion and rising costs of commuting (especially if policies such as congestion pricing or high fuel taxes are ever enacted on a wide scale) will motivate more people to telecommute in the future. Further, the telecenter concept in particular is still relatively new, and poses some challenges to acceptance (higher out-of-pocket costs on the part of employers, concerns about security of proprietary information) that home-based telecommuting does not. Nevertheless, it also offers some advantages (an option for those who prefer not to work at home, a more business-like environment, the opportunity to use advanced equipment or services on a cost-effective shared basis) that home-based telecommuting does not, and hence (the argument goes), it will eventually find its niche.

Skeptics, on the other hand, point to the sizable proportion of people who currently can telecommute but choose not to (54%, in one study conducted by the lead author), suggesting that it is not the universally-desired alternative it is sometimes portrayed to be. They comment that telecommuting is far more than a simple technological improvement that is clearly superior to what it is replacing. Rather, it is a complex solution with potentially both positive and negative ramifications for the individual, the household, the employer, and society at large. Thus, the slow adoption of telecommuting and the significant turnover among telecommuters may reflect a typical state of affairs – the natural outcome of weighing advantages and disadvantages – rather than transient start-up difficulties.

The truth probably lies somewhere in between the two extremes, but it remains to be seen to which it will be closer. Precisely because telecommuting is so appealing as a potential solution to a number of problems, it is important to continue to monitor its adoption, improve our understanding of the factors facilitating and inhibiting it, and proactively undertake to remove barriers to its adoption.

The RABO project has been successful in collecting and analyzing the data required to answer the key question of the study: what are the transportation-related impacts of center-based telecommuting? It has enabled the evaluation of patterns of telecommuting, attitudes toward

telecommuting, and the effectiveness of telecommuting as a work alternative. No less importantly, the project has also been successful in identifying some barriers to the widespread adoption of center-based telecommuting. The experience documented here will be invaluable to many other parties planning to establish telecommuting centers or related facilities. It simply would not have been possible to collect the same quantity and quality of data from a purely private-sector operation, nor to publicize the results. Hence, public-sector funding was critical to achieving this knowledge.

Now that this knowledge has been gained, what should the public-sector role be from this point forward? At a minimum, telecommuting should certainly be encouraged. Although its transportation impacts are currently negligible from a systemwide perspective, (a) they are at least positive, as far as we can tell; (b) they are far from negligible for those who are telecommuting; (c) there are other personal and social benefits to telecommuting beyond transportation; and (d) there is almost certainly still a substantial pent-up demand for telecommuting among those who are currently unable to do it but who may be able to do so in the future. For all of these reasons, there is a public-sector stake in making telecommuting available to as many people as can and want to adopt it. Removing any legal or regulatory barriers inhibiting telecommuting would be a wise investment.

Beyond that, should the public sector devote substantial financial resources to supporting telecommuting, for example through tax incentives or through continuing to subsidize telecommuting centers? This is a more difficult question, and one that cannot be answered definitively by this study. We would argue that if the public benefit is considered high enough, an ongoing public subsidy of centers may be justified, just as other transportation alternatives such as public transit, and other public services/facilities such as libraries and community centers, are subsidized. An understanding of the public benefits of center-based telecommuting (and an ability to monetize them accurately) is crucial to making this determination. While this study has contributed considerable information regarding the individual-level, micro-scale impacts of telecommuting, the difficulty lies in scaling those impacts up to a systemwide level, in monetizing those impacts, and in comparing the opportunity costs of spending public funds on this strategy as opposed to others. Further research on these issues will be important to resolving

the question of the most appropriate and effective role of the public sector in supporting telecommuting.

CHAPTER 8

INDIVIDUAL SITE HISTORIES

8. INDIVIDUAL SITE HISTORIES

8.1 Introduction

The information presented in this overview was obtained from monthly reports provided by each site from the time of its entry into the RABO Program to the end of the data collection process in June 1996. Required reporting to the RABO project included user sign-in logs, revenue/ expenses reports, potential employer contacts, and a narrative report of monthly center operations. The content and submission of these reports were more comprehensive toward the end of the program, assisted by the 1995 performance-based contract amendments. Prior to that, some information was underreported by the sites. Hence, as noted earlier in this document, certain financial/budget information is incomplete, particularly for start-up and development costs. The most comprehensive reports were received during the last year of data collection from the sites active at that time: the Chula Vista Downtown and Eastern Telecenters, the Coronado Telecenter, the Grass Valley TeleBusiness Center, the Telebusiness Center at San Juan Capistrano, the Vacaville (Alamo/Three Oaks) Telecenter, and the Ventura and Moorpark Community Colleges Telecenters. In the rest of this chapter, each site is discussed in turn.

8.2 Anaheim -- Landmark TeleBusiness Center

The Landmark TeleBusiness Center in Orange County was developed as a joint effort between the City of Anaheim, the Anaheim Redevelopment Agency, the Orange County Telecommuting Advisory Council, Pacific Bell, and a private executive suites firm, URO Investments, Inc., which owned and maintained the building where the center was located. Funding support was received through the AB 2766 Mobile Source Air Pollution Reduction Review Committee, the Orange County Transportation Authority Transportation Control Measure Funding Program, and the County of Orange/Overall Economic Development Program. The City of Anaheim and the Redevelopment Agency provided general oversight through a three-party contract with URO, which was responsible for the center's operations.

Discussions on establishing the Anaheim center first began in December 1992 when URO Investments, Inc. acquired the historic Kraemer Building, and applied to both the City of

Anaheim and the Redevelopment Agency for funding to assist in extensive renovation and refurbishment of the building. The center was conceived primarily as a response to air quality regulations, but with a strong economic-development component. In addition to providing traffic congestion relief and air quality regulation compliance, the facility was also planned as a center for small business incubation and as an economic stimulus for the surrounding area which could, in turn, further increase local employment opportunities.

Demographic analysis of the area near the proposed site supported selection based on the type and density of information workers in the Anaheim area, such as administrative support and managerial workers: density maps showed a relatively heavy concentration of administrative support workers with commutes in excess of 30 minutes residing within one mile of the proposed center.

The telecenter occupied the mezzanine level and first floor of the Kraemer building, an historic seven-story downtown office building built in the early part of the century and owned and renovated by URO Investments, Inc. Build-out began with extensive renovation of the interior and exterior; refurbishment of the interior included restoring the original fresco ceiling, marble flooring and dark wood detailing, in addition to recarpeting, replumbing, and rewiring for telecommunications access. Exterior restoration included cleaning, painting, and general landscaping. Renovation began in 1993, and the center became operational in May 1994, with the official ribbon-cutting ceremony taking place in June 1994 followed by the first open house in August.

The Orange County Telecommuting Advisory Council provided administrative, marketing and facility development/leasing services as matching funds for the project. The City of Anaheim contributed a portion of the staff time and marketing materials needed to establish the center. The Redevelopment Agency provided site identification and preparation assistance, facility leasing arrangements, and acted as a liaison with the private operator. The South Coast Air Quality Management District (SCAQMD) provided funds to assist in report completion. As owner of the building, URO provided a major portion of build-out costs. It also provided LAN installation, management services, and some administration time. Videoconferencing equipment

was donated by Office Telephone Management; PictureTel donated the use of its equipment; and the telephone system and voice mail were donated through JPW Telecon and Active Voice, respectively. The Orange County Telecommuting Advisory Council also provided project guidance, including the application of the findings from their study that was commissioned to identify employers' perceptions, interests, and needs regarding telework centers. Pacific Bell provided promotional presentations, tenant recruitment meetings, and telecommuting training sessions. A grant was awarded from Caltrans to enable more thorough market analysis and tenant recruitment efforts.

Initial recruitment efforts included distribution of door hangers to residents and direct postcard mailings to corporations and residents, radio broadcasts, newspaper advertising, a video production shown over the local cable channel, presentations to the Chamber of Commerce and other civic groups, advertisements in the phone directory, and cold calling. The site administrator reported that direct mailings and radio broadcasts generated very little response; cold-calling was more productive in producing potential leads. The site administrator used a list of employers with commute transportation programs and a directory of large businesses in the Los Angeles region to identity potential employers to contact. Media coverage in the form of newspaper articles and press releases leading up to the grand opening were characterized by the site administrator as strong and positive. Print advertisements and invitations were developed in conjunction with the center's open house for its grand opening. Continuous tours were also conducted for interested individuals and company representatives. On-going marketing efforts included advertisements in local newspapers and on radio, development of a tri-fold promotional brochure, employer distributions, and distribution of flyers in parking lots and at private residences. Some success was reported through client organizations' internal distributions to employees.

The telecenter had access control security and was accessible outside of the regular 8:00 am to 5:00 pm hours of operations. It was located within five blocks of child care services, banks, a grocery store, cleaners, a public school, auto service station and convenience stores. A major bus line ran within a block of the center, and other nearby transportation services included

commuter van and bus pools, and Amtrak and MetroLink rail lines with express shuttle service. The center offered carpool matching assistance, free covered parking and bicycle lockers.

The center itself contained 15 workstations with phones with voice mail service and computers with modems and printing capabilities. There were four key-secured offices containing private workstations that could be customized to meet individual computer equipment and furnishing needs, along with an area containing workstation cubicles. Private offices consisted of either one room or a two-room suite. The center also included two conference rooms and a separate videoconference room capable of seating twelve people. Audioconference capabilities and electronic networking and support were available to users, who also had access to a CD-ROM library, copy machine, and fax machine. Unlike most other centers, the Anaheim center offered receptionist services as well as an on-site administrator. In addition to the telecenter, URO Development, Inc. also maintained private suites for its executive suite clients on the same floor as the center.

The center had a receptionist/lobby area with access to complimentary refreshments as well as access to vending machines, a coffee maker, water cooler, and microwave oven. Center space was utilized as shown in Table 8-1. The initial price list for services is shown in Table 8-2.

On-site staff consisted of a receptionist/secretary and the project coordinator. The receptionist served as an assistant to telecenter users while the coordinator served as site administrator and was in charge of overseeing the operations of the center. The coordinator was also responsible for data collection services to the University. In addition, the Anaheim telecenter had an executive director who provided general oversight. Other subcontractors associated with operations of the center included a marketing consultant/graphic designer who was selected on a project basis to produce marketing materials for the telecenter.

Table 8- 1: Space Allocation at the Landmark TeleBusiness Center

Telecenter Use	Percentage of Telecenter Space
Offices/Workstations	40% (2,680 sq. feet)
Site administrator	2% (134 sq. feet)
Conference rooms	5% (335 sq. feet)
Lobbies/Waiting areas	16% (1,072 sq. feet)
Copy area	3% (201 sq. feet)
Break area	2% (134 sq. feet)
Elevator/Stairways/Hallways	28% (1,876 sq. feet)
Restrooms	4% (268 sq. feet)
Total	**6,700 square feet**

Table 8- 2: User Charges at the Landmark TeleBusiness Center

Workstation	Phone Charges	Fax Charges	Printing Charges	Conference Room
$295+ Private Office $240-295 Workstation $95 Phone/Mail services	$ 50 monthly service charge with unlimited calls/messages $110 one-time installation charge	$2.00 /page outgoing (US) $3.50 /page international $1.00 /page incoming	$.10 ea. for 1-500 copies/month $.07 ea. for 501-1000 copies/month $.05 ea. for 1001+ copies/mo. $1.00 /page laser printer	$10 /hour computer lab $10 /hour conference room/videoconference $15 /hour CD-ROM library

Sign-in logs were collected at the Landmark TeleBusiness Center from June 1994 to March 1995 and showed consistently low and declining usage rates (see Chapter 4 of the companion evaluation report). Records were not kept after March 1995.

Due to the indirect nature of the three-party relationship between the University, the City and the subcontractor, URO Development Inc., data collection was difficult, resulting in incomplete reporting. Moreover, the subcontractor did not appear to understand or support the study effort, which further hampered data collection, since it was difficult to elicit cooperation from the subcontractor. Additionally, staffing levels did not seem to be adequate for the data collection and marketing needs of the center itself: telecenter staff was also responsible for administering the executive suites portion of the center, which was the more lucrative aspect of the total operation. Hence, emphasis appeared to be directed toward the executive suites portion at the expense of the telecommuting center. High turnover rates in the receptionist/administrator position contributed to a lack of continuity in understanding telecommuting issues and reporting requirements to the University. These issues were reflected in a steady decrease in occupancy over the course of the University's involvement with the center. Low occupancy and incomplete reporting culminated in a decision to terminate Landmark's participation in the study.

The owner of the building sold it around March 1997, and the City of Anaheim is no longer involved in telecenter operations. Little is known about the new ownership, but the telecenter is expected to continue operating.

8.3 City of Chula Vista Downtown and Eastern Telecenters

Two facilities were established in and operated by the City of Chula Vista: the Downtown Telecenter and the Eastern Telecenter. Development plans for a telecenter in Chula Vista originally called for one site in the downtown area, but it was decided that two centers were needed to meet scheduled opening dates and to accommodate two distinct markets in the community, based on demographic research. The Downtown Telecenter site on F Street was approved by Caltrans in May 1994. The site was under construction at the time it was selected, but delays in the facility's construction led to a proposal to open a second site on H Street. The city learned that more than half of the interested telecommuters lived within walking distance of a new community within the city, and that another sector lived close to the downtown area.

Establishing two telecenters in the downtown area could provide access to more people by serving two very different markets. It was planned that the Downtown site would serve as a main telecenter hub, and the Eastern Telecenter on H Street was proposed as a satellite location to serve eastern Chula Vista. Development of the F Street center took approximately eleven months following contract negotiations, site selection approval, setup, and opening procedures. The H Street center opened first with a grand opening date in September 1994.

The Downtown and Eastern Telecenter site selections were supported by demographic research showing the sites as being within walking distance of residential census tracts having high concentrations of information workers – among the highest concentrations in the region. The location for the Eastern Telecenter was in the heart of four dense neighborhoods and next to restaurants and retail services.

Original co-sponsors of the telecenters included the San Diego County Air Pollution Control District (APCD), the California Energy Commission via the San Diego Association of Governments, the United States Department of Energy, Caltrans, the RABO Program, and Cox Cable and Tele-Images. Panasonic donated a videoconferencing system, and Cox Communications contributed $50,000 to provide the telecenters with computers and other high-tech equipment.

Promotion of both Chula Vista centers was conducted simultaneously. The development of the centers was supported by local press coverage in February 1994. Having received funds from the APCD to use for marketing and promotion, the site administrator used several marketing tactics from March to May, including a city newsletter article, letters to city employees, direct mail to local residents, print advertisements in the local paper directed at employers, an open house, press releases, and direct employer mailings. Follow-up consisted of direct contact by the site administrator, with employer presentations when possible.

The Chula Vista Downtown Telecenter on F Street was located in an office building and offered eight workstations for public use and reservation. The center was equipped with a security alarm system, giving users card access to the center after-hours. This system allowed telecommuters

the flexibility to work non-business hours, while providing security access control and tracking for the telecenter.

Workstations at the Downtown Telecenter were rented and reserved on a monthly basis. They could also be used on a drop-in basis, subject to availability. The Downtown Telecenter had a private office, a small classroom, eight cubicle workstations equipped with PCs and a Power Macintosh (all with software and fax/modem), laser printers, fax machine, copy machine, scanner, ISDN lines and Internet access, and an on-site manager. The center also offered a kitchen/break room with a refrigerator and a microwave as well as two restrooms near the entrance to the building. The center itself was within walking distance of businesses, including restaurants and other retail services, and to Chula Vista Transit bus stops.

Approximately 47 percent of the space in the Downtown Telecenter was dedicated to workstation and private office use. The remaining 53 percent was listed by the site administrator as being common areas, including the site administrator's desk, the classroom/conference room, the printer and copier area, and a kitchen/storage area.

The Chula Vista Eastern Telecenter was installed in existing office space that was part of a "smart" building that incorporated high-tech wiring and satellite communication linkages provided by the building owner, allowing a substantial savings on the tenant improvement budget. The center also had a high-tech security and access control system for after-hours use.

The Eastern Telecenter provided ten computer workstations, fax machine, copy machine, Internet access, multiple phone lines, an on-site administrator and a conference room that could accommodate up to six people. Computer workstations included a desk and computer with software, modem, supplies, and laser printing capabilities. The space in the Chula Vista Eastern Telecenter was split primarily between office and workstation use (47%) and common areas (53%). Amenities associated with the center include kitchen facilities in the center, nearby businesses, schools, child-care, grocery stores, banking, and dry-cleaning services. The telecenter was within walking distance of a Chula Vista Transit bus stop.

Both telecenters were designed with attention to environmental concerns, using as many recycled design/building materials as possible. The centers' features included recycled carpeting, office partitions with recycled fabric covering material, highly energy efficient lighting and specialized ceiling tiles. Both centers were compliant with the Americans with Disabilities Act (ADA). Both centers provided workstations that included laser printer capabilities, phone lines equipped with digital messaging systems and Internet access.

The hours of regular operation for both centers were from 8:00 am to 5:00 pm on weekdays. The Downtown Telecenter was available by prior arrangement for the extended hours of 7:30 am to 5:30 pm. The Eastern Telecenter offered 24-hour secured access by regular users.

Similar to other sites, the Chula Vista telecenters did not initially charge for use of the centers' workstations and services, as costs were offset by grants from several sources. Telecommuters were charged for their individual phone use with the intention that they would only pay the direct expenses of phone, copies, and faxes in the first year. The site administrators reported at the end of the first year that diversification of services reduced the telecenters' dependence on telecommuters as the sole source of income and provided "unique funding opportunities for long-term success as a community asset." Table 8-3 lists the eventual user fee schedule for the Chula Vista telecenters.

The Chula Vista sites were administered by the City of Chula Vista which provided developer and accounting personnel. The city's Environmental Resource Manager was responsible for oversight of the centers. Financial accounting and invoice preparation were completed by the City's accounting staff. Operation of the Chula Vista telecenters required policy and budget approval before implementation as yearly budgets and contracts have to be approved by the City Council of Chula Vista, creating potential delays in operations decisions. However, one advantage of public management by the City of Chula Vista was that the telecenters administrators could draw from City funds until they received reimbursement from outside funding sources.

Table 8- 3: User Charges at the Chula Vista Downtown and Eastern Telecenters

Workstation	Phone Charges	Fax Charges	Printing Charges	Eastern Conference	Downtown Conference
$24 /half-day $40 /day $200 /3 half-days /week $400 /month (full time)	Local and long distance cost per user	$2.00/page outgoing $1.00/page incoming	Photocopy and printing included in monthly user fee	$10 /hour $30 /half-day (4 hours)	$25 /hour $75 /half-day (videoconference use is extra)

The centers were staffed with an assistant telecenter coordinator whose duties included business plan development, development of other uses for the telecenter, sales and recruitment, equipment procurement, data management, training, and presentation development for businesses and City staff. The site administrator worked primarily on-site in program evaluation, management, monitoring, and reporting. The site administrator was also in charge of marketing, operations, and coordination of the telecenter.

Table 8-4 shows the reported breakdown of monthly duties of the Chula Vista site administrators. The site administrators' time was almost evenly split between the operations/coordination portion of the work and the marketing portion. The site administrator from the Eastern Telecenter concentrated more on site promotion and marketing, while the Downtown Telecenter administrator was in charge of maintenance, and coordinated and maintained the videoconference equipment.

The Chula Vista site administrators coordinated marketing efforts with other centers in the region including the East County San Diego Tele*Community Centre and the San Diego HQ Suite. They also worked with the developer of the San Juan Capistrano telecenter after that center was included in the RABO program. In addition, the Chula Vista Eastern Telecenter Director coordinated a comprehensive tracking system of different marketing tactics and their results. She actively sought funding grants throughout the year and documented the effectiveness of marketing efforts by ascertaining how new users learned of the center. These efforts helped the centers to utilize effective marketing techniques, proving to be an asset both to the Chula Vista telecenters and the RABO program as a whole in its efforts to research effective

marketing strategies. The efforts of the site administrator were also reflected in the Eastern and Downtown Telecenters' usage levels which were consistently above those of most other RABO centers.

Table 8- 4: Site Administrator Duties at the Chula Vista Downtown and Eastern Telecenters

Task	Percentage of Time Spent on Task
Administrative duties	20%
Report preparation	15%
Accounting	17%
Marketing & meetings	48%

The Downtown center closed in April 1997 due to funding constraints. At the time of this writing, the city continues to operate the Eastern Telecenter and plans to merge it with the city library as part of the state-sponsored Smart Communities effort, which is intended to establish city-wide, on-line community service networks to residents. The center would thereby provide public access to computers and the Internet to enhance delivery of services in government, leisure, business, education and health care.

8.4 Coronado Neighborhood Telecenter

Coronado is located on a peninsula to the west of San Diego. The Coronado Neighborhood Telecenter was managed and operated by the Coronado Transportation Management Association (CTMA). It was the first RABO-sponsored center to open and was open from October 1993 to the end of June 1996. Development of the telecenter continued for eleven months after initial contact was made in November of 1992 with the Coronado City Manager's office. In pursuit of opening a telecenter, the CTMA submitted a proposal and budget to the University in March of 1993, working with the Metropolitan Transit Development Board, San Diego Association of Governments (SANDAG), the air pollution control district (APCD), San Diego's TMAs, the

City of Coronado, and Caltrans. At that time, the CTMA was expecting additional money from participation fees, vehicle registration fees (AB 2766) and bridge toll funds (SB122).

The building was wheelchair accessible and in a small shopping center off the main street in Coronado with a residential area in the vicinity. The shopping center was served by public transit and a shuttle service, and its location allowed telecommuters easy access to Coronado's merchants, restaurants, and child-care facilities.

Initial market research for Coronado included maps showing the density of information workers near the proposed site and a map to show the density of drive-alone commuters and range of commute times by nearby workers. The site was less than one-half mile southeast of a neighborhood containing more than 600 managerial workers per square mile and from 426 to 790 administrative support personnel per square mile. The telecenter was supported by the Mayor, the City Council, and the Office of the City Manager which cited the appropriateness of Coronado for a telework center based on the city's geographic isolation, pedestrian- and bicycle-friendly neighborhoods, and growing population of commuting professionals. Coronado's local papers supported the telecommuting program by including articles about the progress of the telecenter in their weekly editions. The CTMA had the support of other TMAs to help find telecommuters for the center, as well as support from the San Diego Telecommute Association.

Prior to establishing a contract with the University, a potential telecenter site was selected by the City of Coronado in cooperation with the CTMA. The CTMA staff was invited to share approximately 1640 square feet of office space with Coronado MainStreet Ltd. and the Coronado Chamber of Commerce. The CTMA was able to provide a site lease at less than the market rate, workstation furniture, and communications equipment. Site administration, workstation equipment, and site remodeling costs were provided by the RABO Program. The CTMA and City were responsible for securing and retaining telecommuters.

The CTMA began ordering materials and equipment in September 1993 in preparation for the grand opening in October. Also in October, a San Diego Telecenters Task Force was established.

The marketing resources available from the CTMA were TMA brochures advocating teleworking, employer members as contacts, and assistance from Pacific Bell. Marketing resources available from the RABO Program included demographic and marketing research. Recruitment efforts during 1994 were targeted to the City and County of San Diego, the Navy, the Federal government, and nearby hotels hosting business workers. Recruitment was conducted primarily via cold calling and word of mouth through the CTMA Board of Directors, as well as invitational open house tours of the facility. Referrals were reported by the site administrator to be a strong recruitment source. New marketing ideas in 1995 included the production of a newsletter that disseminated information about all of the CTMA's projects, including the telecenter. The CTMA also formed a partnership with Coronado High School students and the local cable television company to produce and broadcast four public service announcements about various TMA projects, including one announcement that focused on the telecenter and was aired on the local cable station for several weeks.

The Coronado Neighborhood Telecenter resided in a one-story building housing the administrative offices of the CTMA, Coronado Main Street, Ltd. and the Coronado Chamber of Commerce. Coronado MainStreet Ltd. was the signatory on the lease and sublet space to the CTMA and the Chamber of Commerce. The lease was scheduled to extend for three years, with monthly rent at $300 initially, up to $500 after six months. Utilities and janitorial service were shared equally by the three occupants, and phone service was handled individually.

Exclusive space for the telecenter consisted of four cubicle workstations. Shared space included a conference room, reception area, and a common area providing a refrigerator, microwave, table and chairs. The center was equipped with a fax machine and copy machine for use by telecommuters. The telecenter benefited from utilizing a facility planned for the CTMA that included natural lighting in the building and an electrical system designed for multiple computer hook-ups in the facility's infrastructure, making it well suited for information work. However, sharing a facility with several other public entities resulted in a small amount of space exclusively designated for the telecenter. Although the workstations were arranged with assistance from a Pacific Bell space planner, the cubicles were small and closely set. The telecenter facility was divided into areas of the approximate sizes shown in Table 8-5. The total

area for the Coronado Telecenter, including the conference room shared between the TMA, the Main Street Ltd., and the telecenter is 1,025 square feet.

Table 8- 5: Space Allocation at the Coronado Telecenter

Telecenter Use	**Percentage of Telecenter Space**
Workstations	19% (194 sq. ft.)
Site administrator	12% (123 sq. ft.)
Conference room (shared)	29% (300 sq. ft.)
Executive director	11% (113 sq. ft.)
Lobby	10% (102 sq. ft.)
Kitchen/Break area	7% (71 sq. ft.)
Hallway	5% (51 sq. ft.)
Restrooms	7% (71 sq. ft.)
Total Telecenter Area	**1,025 Square Feet**

Telecenter personnel on the premises included the site administrator and the director of the CTMA who was in charge of oversight and direction of the telecenter. Additional staff support from the CTMA included the Transportation Demand Management Projects Manager who was responsible for telecenter marketing support, and the administrative analyst from the Office of the City Manager who assisted the telecenter in oversight and support. There were also support staffs from independent marketing and accounting service providers. The location of the telecenter within the CTMA facility gave telecommuters the added services and training of available CTMA staff who had expertise in computer hardware and software and could provide assistance to the participants on a variety of software packages.

The site administrator was responsible for maintenance and operation of the center. However, the site administrator's time was split between telecenter duties (approximately 75 percent) and

performing other duties for the CTMA (approximately 25 percent), limiting her availability to complete telecenter tasks. The site administrator was responsible for marketing, administration, internal and external public relations, budgeting, bookkeeping, grant securing, and telecenter maintenance. Approximately 84 percent of her time was spent on-site, with the remaining time spent primarily in off-site meetings. The site administrator's duties for the Coronado Neighborhood Telecenter were subdivided as shown in Table 8-6.

The hours of operation for the Coronado Neighborhood Telecenter were 8:00 am to 5:00 pm Monday through Friday. The center also provided 24-hour access to contracted users who were permitted to bypass the security system to use the center, as scheduled, via key and security code access.

Table 8- 6: Site Administrator's Duties at the Coronado Telecenter

Task	Percentage of Time Spent on Task
Administrative duties	19%
Report preparation	20%
Accounting	7%
Marketing	33%
Meetings	21% (16% off-site, 5% on-site)

Workstations included a computer, phone and desk storage of one or two locked drawers. During the startup of the center, users were not charged for renting a workstation, and costs were underwritten by grants that covered workstation equipment costs, lease costs, utilities and administrative costs. Computer, printing and copy services were bundled with the use of a workstation, and users were charged for individual phone use. Later, the site administrator developed a fee schedule to include charges for workstation rental and services. Table 8-7 shows the initial fee schedule for services at the telecenter. Once a fee schedule was established, revenue was generated by users who paid to reserve a workstation and continue to have full use of the center's facilities. Contracted users were invoiced monthly for costs such as long distance telephone, faxes and a voice business access line.

Table 8- 7: Initial User Charges at the Coronado Telecenter

Workstation	Phone Charges	Fax Charges	Printing Charges
No charge	Monthly service & local calls: divided by # of users Long distance: per individual	Local: $.10/page Long distance: $.30/page Internet.: $.30/page & $2.50/min. Incoming: $.10/page	Photocopies: $.04/page Laser Printer: $.05/page

There was ample parking near the telecenter with a nearby parking lot to accommodate up to 30 autos. The center was half a block away from a bus line, and services within two blocks of the center included a drug store, service station, fast food establishment, post office, public school, health club, and a bank. Additionally, there were banks, restaurants, and a supermarket within four blocks of the telecenter.

The site administrator reported occasional problems with equipment maintenance at the center. For example, the site administrator reported a need to set up a computer network for the center. At that time, the center did not have a functioning networking capability for the one shared printer. This proved to be an inconvenience to the center users, who had to transfer data onto a diskette to be printed by the computer cabled to the printer. Another challenge facing the site administrator and developer was securing users for the center. Despite widespread nominal support of the center and its low number of workstations, the center missed two contractual deadlines in 1994 for a 50 percent occupancy rate. Contributing reasons for depressed occupancy rates included delay in hiring a site administrator, delay in receiving marketing support, and the extra efforts of the Coronado staff to assist with the development of a new neighborhood telecenter in Chula Vista.

Being in close proximity to the two Chula Vista telecenters, the Coronado site administrator was able to coordinate marketing efforts. In 1995, representatives from Chula Vista and Coronado participated in the San Diego Computer Expo and Telecommute America. The San Diego area telecenter administrators designed a booth for the Computer Expo that displayed information about all of the telecenters and about Telecommute America activities. The Coronado

Telecenter also held an open house to coincide with Telecommute America's Telecenter Day on October 27, 1995.

Additional marketing assistance was provided via independent contractors with the RABO Program to market all of the neighborhood telecenters in the Program. Unable to raise enough user revenue to maintain the telecenter and uncertain about the future disposition of the RABO-purchased computer equipment needed for the workstations, the telecenter closed in June 1996 with tentative plans to reopen the center as part of the library at some point in the future.

8.5 Birch Lane Telecenter and Davis Telebusiness Center

The neighborhood telecenter in Davis was initially proposed as a combined computer lab/telecenter. The site developer for the Davis telecenter, a private entrepreneur, eventually opened two centers. The first site, Birch Lane, was developed as a joint venture with the local school district. In November 1993, the University opened discussions of a Davis telecenter with Caltrans and several small businesses in Davis. The owner of Databases & Algorithms submitted a proposal in January 1994 for a site on Birch Lane. The Birch Lane Telecenter's development was a joint effort between the Birch Lane Elementary School and Databases & Algorithms. The center opened for telecommuting use in March 1994.

However, because of its role as the school computer lab, the center was not available for telecommuting use during normal working hours. Therefore, in October 1994 the site developer began discussions about opening a second site to provide a telecommuting facility in Davis with regular operating hours. A second telecenter was opened in November 1994 with funding from the Yolo/Solano Air Quality Management District and Caltrans.

The Davis Telebusiness Center was located in a small office complex and occupied 932 square feet. It offered ten workstations and comprised one large room with a reception area, three cubicle workstations, and three offices with multiple workstations. It was equipped with 486 personal computers, dial-out modems, two laser printers, a fax/copier, and a Centrex phone

system with voice-mail capability. The center also offered a break room with a water cooler, coffee maker, and other amenities.

Both Davis telecenters closed with no reporting from the site developer.

8.6 Grass Valley TeleBusiness Center

Establishment of a telecenter in Grass Valley took approximately 17 months, from the submission of a proposal in December 1992, to the grand opening in June 1994. The development process consisted of discussions with the potential site developer, a site visit from the Telecenters Program Manager, followed by a recommendation to and approval from Caltrans. Support for site approval included the donation of space by the landlord, and what appeared to be a high level of employer interest for the setup. It was noted by the site developer that the valuable contributions of site co-sponsors would "help to extend project resources and encourage strong commitment to project success from local individuals and entities."

After agency approval to proceed with contract preparation and consultation to develop and implement a telecenter, contracts were negotiated and finalized while the site developer worked to prepare the chosen site. Once the facility was secured, the center was set up as initial participants were sought, leading to the opening of the Grass Valley Telework Center. The 1,500 square-foot center was available for users in February 1994, and the official grand opening took place in June. The telecenter site was in the Central Business District of Grass Valley in a neighborhood containing mixed industrial, commercial, and residential uses.

In addition to Caltrans and the RABO Program, original co-sponsors for the telecenter were PG&E, Northern Sierra Air Quality Management District, Pacific Bell, and members of the Western Nevada County Transportation Management Association (WNCTMA) (including Owens and Associates). PG&E provided a lease for the site at a below-market rate and covered all utility costs. Pacific Bell furnished seven workstations, and Owens and Associates agreed to provide 30 hours per week of on-site staff coverage. An additional sponsor/donator of equipment was TekTronix after the telecenter moved to a site with a conference room.

Pacific Gas and Electric (PG&E) served as the landlord for the first center location, leasing the property to the TMA. In May and June of 1995, the telecenter site moved approximately one mile away to a facility that was twice as large. The second center was renamed the TeleBusiness Center and had the same setup with six workstations; however, the facilities now included a conference room for regular conferencing and videoconferencing, as well as 24-hour access to the telecenter since the facility was no longer shared with any other business or agency. The second center location was also in downtown Grass Valley and was leased by Waste Management of Grass Valley.

The first telecommuters at the Grass Valley telecenter were recruited through radio advertisements during the first quarter of 1994. Developers at the WNCTMA made a concerted effort to maximize the publicity and interest surrounding the telecenter's grand opening in June, 1994. Developers subsequently reported that the publicity increased public interest and directly resulted in one additional telecommuter. In February 1995, the site administrator estimated an average time to recruit telecommuters at 4.7 months, ranging from one to 12 months.

During the ensuing seventeen months after the grand opening, marketing was primarily directed at recruiting employees through community outreach. Specific efforts included direct mailing; radio and cable television promotion; and working with realtors, who used the telecenter as a selling point for potential home buyers. In addition, the site administrator initiated direct contact with key persons at potential employers to promote telecommuting. The site administrator reported that word of mouth was an effective source of recruitment. Although door hangers were widely distributed, only one telecommuter was reported to have been recruited as a result.

The original Grass Valley Telework Center contained five cubicle workstations and one private office. Each workstation included a computer with modem and printer capabilities. The workstations also provided desk and storage space, and a data/voice phone line with voice mail. There were no room-size videoconference facilities; however, the center did offer a PC-based videoconference link. There was no conference room, but the telecenter offered a separate lunch room with tables and a community photocopy and supply center. Common areas at both

sites included a break room with refrigerator, coffee maker, and microwave. The first site also provided a stove top. Space utilization for the Telework Center (the original facility) and the TeleBusiness Center (the second facility) is presented in Tables 8-8 and 8-9 respectively.

Table 8- 8: Space Allocation for the Grass Valley Telework Center

Telecenter Use	**Percentage of Telecenter Space**
Workstations	42% (618 sq. ft.)
Site administrator	10% (150 sq. ft.)
Common areas (break room, copy machine and supplies)	18% (269 sq. ft.)
Storage area	4% (62 sq. ft.)
Hallways	24% (336 sq. ft.)
Restrooms	2% (32 sq. ft.)
Total Telecenter Area	**1,494 sq. ft.**

The original site did not have adequate parking for all users, but there was adequate room for bicycle parking. There was one automobile parking space available on the street adjacent to the center, and the center was within one mile of many services including child care, banks, a grocery store, restaurants (including fast food), health club, cleaners, school, post office, convenience store, and auto service station. The center was also within 50 feet of a major bus line.

Workstation reservation and scheduling was handled by a site attendant who was on the premises from 8:00 AM to 5:00 PM to assist users. During non-staffed hours, the center was available to contracted users, based on workstation availability and as coordinated by site staff. The new telecenter was adjacent to a parking lot to provide sufficient parking for six telecenter users and visitors.

The Grass Valley telecenter did not provide desk supplies, and there was one fax and one photocopy machine that could be utilized by telecommuters for a fee. The copy machine worked on a key system whereby users were required to request a key and copy log to record the beginning and end copier numbers and were charged for all copies made. Also, a fax user-

identification number was assigned to each user for completing a log for each fax sent. There were ten cubicle workstations, each containing a desk, a computer with modem and basic software, and a telephone with voice mail. Computers and workstations were hooked up to a printer.

Table 8- 9: Space Allocation for the Grass Valley TeleBusiness Center

Telecenter Use	**Percentage of Telecenter Space**
Workstations	47% (1,410 sq. ft.)
Site administrator/Reception/Common area	46% (1,380 sq. ft.)
Conference room	7% (210 sq. ft.)
Total Area	**3,000 sq. ft.**

The management of the Grass Valley Telebusiness Center was contracted out to a private management group. Personnel included an executive director, associate director and two staff secretaries. The Center Project Coordinator was under the direction of the WNCTMA Executive Director. The site developer planned, organized and oversaw implementation and operation of the neighborhood telecenter. Oversight duties included ensuring completion of study reporting requirements, supervising center staff, meeting monthly with employers and TMAs, continuing implementation of a media campaign, preparing reports, participating in any training programs for telecommuters and managers, and participating in marketing and outreach activities that occurred within the WNCTMA's recognized sphere of influence.

The Grass Valley telecenter also employed a support staff member who served as site administrator. The on-site administrator's coordination duties included answering and transferring calls, receiving office visitors, providing information, and assisting with functions and related work as required. Additional duties of the support staff were to maintain daily activity logs, type and mail reports as necessary, coordinate equipment maintenance, coordinate workstation assignments and perform other activities consistent with achieving the goals and objectives of the center.

The reported time spent on duties for the telecenter was allocated approximately as shown in Table 8-10.

Table 8- 10: Site Administrator's Duties at the Grass Valley TeleBusiness Center

Task	Percentage of Time Spent on Task
Monthly reports/Grant administration/ Invoicing users/Paying bills	11% (20 hours per month)
Site tours/Daily operations/Answering phones/ Registering sign-in users/Assisting users	56% (100 hours per month)
Recruitment/Marketing	22% (40 hours per month)
Provide information to other centers or to potential site developers	6 % (10 hours per month)
Off-site business (meeting with businesses, giving presentations and attending business roundtables)	6% (10 hours per month)

During the first year of operation, users were not charged for space or site administrator costs, as the majority of costs related to workstation reservation and use, including space costs, were underwritten by the program funding until December 1994. Participants were billed monthly for the cost of long distance phone calls, faxes, and copying. Table 8-11 shows the fee schedule to be implemented for services at the center.

There was on-site storage for supplies and inside bicycle storage. The site administrator did not provide secretarial services to the users, but would direct phone calls to workstations and take messages for absent telecommuters. Voice mailboxes were available at an extra charge.

Table 8- 11: User Charges at the Grass Valley TeleBusiness Center

Workstation	Phone Charges	Fax Charges	Printing Charges	Conference Room
$12-$25/day $200 /month	Local and long distance calls	Out-going calls	$.04/page photocopies	$10 /hour conference room $50 /hour videoconferencing

Site developers worked to ensure security for both user data and the telecenter itself. The center was staffed during normal working hours and closed and secured during off-hours. The center's policies and procedures required that all hardware and software modifications on telecenter equipment be arranged through site staff and that only legal software be installed on the computers in the center. Users assigned to a workstation were not permitted to use another vacant workstation for any reason without checking with site staff.

The site administrator worked during March 1995 to form partnerships and obtain additional funding. Through these efforts, $6,200 was secured from the Northern Sierra Air Quality Management District for a funding gap period between July 1 and October 1, 1995. In addition, the developer actively coordinated efforts with the Nevada County Community Network (NCCN). The site developer worked to position the center as an adjunct facility for regional economic development. One idea included the telecenter serving as a community service resource center by conducting on-site job training for the unemployed with support from the private sector. Another idea was to serve as a means to attract investment into the region through the center's affiliation with the NCCN. The NCCN would serve as a local Internet provider and act in cooperation with regional businesses and local government agencies to bring government and business services on-line. The telecenter would become a point of access for these on-line services.

8.7 Modesto Neighborhood Telework Workcentre

The telecenter in Modesto was managed by the City of Modesto and resided in a suite on the second floor of a three-story corporate office building. It contained a reception area, conference room, and workstation offices for users. The site was in a mixed residential/commercial area and could accommodate up to ten users. The telecenter was available to regular users on a 24-hour basis with locks on the front door of the suite to accommodate after-hour entries.

Support work was done on the city level by the Economic Development office. The city sought support from local employers as well as workers. A task force was formed in December 1993 with representatives from Lawrence Livermore Labs, Caltrans, local businesses, the University,

and the City of Modesto. As did the city of Vacaville, the City of Modesto hosted a one-day conference to raise awareness of telecommuting in November 1993. The conference was open to the public and publicized with announcements in the local paper and invitations to the major employers in the area.

Development of the center took approximately 19 months, from March 1993 to the grand opening in October 1994. The center was open to users in August 1994, and the first tenants occupied the center in October.

Initial co-sponsors of the telecenter included Caltrans, the RABO Program, Commute Connection, the City of Modesto as supplier of the site administrator and other management support services, Pacific Bell as equipment provider, and the Northern San Joaquin Air Quality District which provided the City of Modesto with a $40,000 grant to examine the potential of using telecommunications to reduce vehicle emissions in an area of the city undergoing new development. Eighteen thousand dollars of that grant was to go toward the neighborhood telecenter project. The center also received support from the local media who followed the story of the center's development from May 1993 to the grand opening.

Establishment of the center was accompanied through activities of the task force organized by the City. The task force met regularly; its activities encompassed site selection, appointment of a site administrator/manager, build-out, oversight and initial user recruitment. Once a site was located and agreed to, site preparation began and continued, with the new site coordinator hired in March 1994.

As co-sponsor of the center, the City of Modesto pledged to contribute management support services valued at $20,000 for the 1995 fiscal year. City staff handled all accounts payable and receivable, center payroll, furniture repair, lease negotiations and contract management.

The telecenter was in a mixed residential/commercial area within a block of a bus line for which the city offered a free pass to telecenter users. A number of services were located within one mile of the center, including banks, a grocery store, restaurants, cleaners, an elementary school,

convenience stores, and an auto service station. Additionally, there were child care facilities, a health club, and a post office within two miles of the center.

Initial recruitment efforts before the opening of the center included direct contact with two major employers, Lawrence Livermore National Labs (LLNL) and Triad, and mass mailing to 672 area commuters who were identified from the Commute Connection database. Later marketing activities included the donated use of a billboard to advertise the center. The billboard was located at Altamont Pass, an area of heavy commute traffic. Little response resulted, most of which came from job seekers. Greater response resulted from an article placed in the utility bill newsletter, mostly from LLNL employees. Some local support was provided by media coverage in newspapers and radio targeting commuters to the Bay Area. The site administrator also received a number of responses after a column was written in a local paper, a promotional activity that was more productive than paid advertisements.

The site administrator reported that public relations work and press release activities were too tenuous and haphazard to meet the mainstream marketing need of the center, and that employer direct advertising was expensive and of little value to the center's immediate need of contracting users. She recommended direct selling to employees and employers with production of a more detailed program presentation. It was felt that keeping customers was more cost effective than recruiting new ones. Customer service and client relations programs were recommended to be put in place to support the potential participating company.

The site's promotional efforts during 1995 were led by the broadcasting of human interest stories about the telecenter on three Sacramento television stations. Coverage was very positive but had less effect than newspaper articles written about the center. The site administrator also publicized telecommuting and the Modesto telecenter by addressing various business and community groups in the region who were interested in learning more about telecommuting. Ongoing marketing strategies included utilizing TV and news media, brochure distribution, direct mailings to employers and employees, billboard advertising and public speaking to business groups.

The Modesto telecenter space on Standiford Avenue was approximately 2,300 square feet and was rented from the City of Modesto. The center contained seven individual offices that averaged approximately 150 square feet each. The center had a reception area and a large conference room that could seat up to thirty people. The space in the center was divided into the approximate proportions shown in Table 8-12.

The building was open from 7:30 am to 6:30 pm with key entry for contracted users after those hours. All workstations were in private offices equipped with one telephone with data communications access and computer. The computers were on a network operating system. Through this system users were provided access to three on-line system printers, an HP color InkJet, an HP Laserjet, and a 24-pin dot matrix printer. Users of the workstations had the ability to run client-owned software locally or the network program via the center's fileserver.

The Modesto telecenter had no audio- or videoconferencing capabilities but did offer fax and photocopy services for telecommuters. The center also had two filing cabinets, two bookcases, two sets of shelves and one table available for common use. Telephones and local phone service were provided free of charge. Long distance calls were charged directly to the employer and required an account code that was assigned to the user. There was no designated common or break area, but common building amenities included a snack bar, and a coffee machine providing free coffee. The established fee schedule for the services at the Modesto telecenter is listed in Table 8-13.

Table 8- 12: Space Allocation at the Modesto Neighborhood Telework Workcentre

Telecenter Use	**Percentage of Telecenter Space**
Workstations/Offices	46% (1,050 sq. ft.)
Conference room	19% (445 sq. ft.)
Lobby/Reception area	13% (299 sq. ft.)
Hallways/Common area	18% (414 sq. ft.)
Restrooms	4% (92 sq. ft.)
Total	**2,300 square feet**

Table 8- 13: User Charges at the Modesto Neighborhood Telework Workcentre

Workstation	Phone Charges	Fax Charges	Printing Charges
No charge initially Future charges planned to be at or below market	Local and long distance per user	$1.00 /page outgoing $ .50 /page incoming $3.00 /page international	$ .10 /page photocopy $ .75 /page laser printer $ .75 /page scanning

The Modesto Neighborhood Telework Center supported one half-time site administrator and a site developer. The site administrator was responsible for all the duties required for on-site coordination and off-site promotion, including pursuing income and clients, marketing, negotiating contracts and leases, maintaining the computer systems, purchasing equipment and supplies, report writing, and client presentations. The duties of the site developer included: undertaking and directing sales calls and making personal presentations to prospective users; soliciting sponsors and financial resources for the center; working with various businesses and employers (including corporate representatives) to obtain commitments to designate site users for participation; actively promoting and increasing the public's awareness of the center by working with public entities, the private sector, non-profit organizations and community groups; scheduling meetings as needed with the City, subcontractors, Caltrans and other interested parties; preparing evaluation reports as well as quarterly and final status reports for submittal to Caltrans and the RABO Program; and developing, coordinating and managing publicity for the center. The Economic Development Manager for the City of Modesto provided general oversight to the center. Additional staff support from the City of Modesto included a city attorney who finalized telecenter lease agreements and client contracts. City staff also handled purchasing paperwork, accounts payable and receivable, center payroll, furniture repair, lease negotiations, and contract management.

One of the difficulties that arose in the operations of the Modesto telecenter was that of securing users. The site administrator reported that the process of signing on clients was slow because of clients' organizational decision-making structure. She reported the necessity of many meetings and phone calls to get to a decision maker, and of independent presentations to each level of

management, many times covering different ground and topics. This required a customized presentation for each branch of the managerial tree. The Modesto telecenter's usage rates increased when the site administrator was able to concentrate efforts on marketing the telecenter and securing users. Toward the end, however, the center lost users due to the uncertainty over its future.

The center came into jeopardy when in June 1995 the fiscal year 1995-1996 contract extension amendment with the University was delayed. Uncertain about the center's operating future, client organizations declined to renew their agreements with the center until continued RABO funding had been secured. Moreover, the center was declined for continued funding from the AQMD for that fiscal year. In 1995, the San Joaquin Valley AQMD implemented a new rating system using quantity of emissions reduced as a measure of merit in awarding funding to projects competing for grant money. Because the center could not yet demonstrate significant annual emission reductions, it placed low on the list of programs requesting funds. Funding went instead to used vehicle buy-back programs. As a result, client organizations declined to commit to continue using the center until it could demonstrate greater stability. The center closed in November 1995.

*8.8 La Mesa/El Cajon -- East County San Diego Tele*Community Centre*

The East County San Diego Tele*Community Centre was developed and operated by a private entrepreneur conducting business as Mind*Share Tech*Knowledgies who contacted the University in November 1993 with two confirmed participants for a proposed telecenter. He planned to position the telecenter as a community resource for information access and technology and a focal point for community events and services as well as a telecommuting center. The developer also initially proposed that his company be considered an experienced developer of telecenters to offer services to future participants in the RABO Program.

The proposed telecenter location was in a densely populated bedroom community on a well-traveled access road. The San Diego Association of Governments, which owned the facility, waived the rent (approximately $800 a month) for one year. The site was leased to Caltrans

District 11 who then subleased the premises to the site developer. The site developer obtained funding for staffing, outreach and basic operations of the telecenter for one year, including utilities, phone, office supplies, insurance, and marketing.

Facilities preparation required the renovation of approximately 1,550 square feet of space. Renovation was necessary to make the space suitable for a comfortable and convenient telecenter and to comply with county construction codes and the ADA. It was necessary to upgrade the electrical wiring and to install special telephone lines for certain types of computer links. This required extensive and detailed problem-solving which continued through the month of February. Improvements included repair of the lights in the building, attachment of two bright halogen lights in the parking lot, mounting of two spotlights on the windows, and installation of a sink, refrigerator and cabinetry to complete the kitchen area. The telecenter was to be set up in six months, but structural problems such as uneven flooring, old and faulty plumbing, and below-floor wiring required more work than would have been required if the site had been established in a newer building. There was also rain damage to the building following several January storms.

Marketing strategies in November 1994 included direct marketing to targeted business clients and local potential customers (residents); and the development and maintenance of close networking relationships with other telecenters, the TMA, Commuter Computer, the Caltrans Pilot Program, San Diego Telecommuting Association, and other related groups. Marketing tactics included the distribution of brochures produced by the University, media exposure from the opening ceremony, a cable television campaign, print advertising in local free publications and local newspapers, flyers at local businesses, and radio advertisements as sponsors of traffic reports.

The East County San Diego Tele*Community Centre was equipped with seven workstations, each containing a computer with modem and phone. One workstation was used as the site administrator's station. The six workstations for public use were divided by partitions that were wired with electricity, phone and data lines. Work surfaces were attached to the panels and seating was supplied for the telecommuter and a guest. Two individual lockable filing cabinets

were available for storage in each workstation. The Centre also offered software suites, multimedia services (e-mail, fax, and voice service), online programs, access to a CD-ROM library and training and support services. Other services included fax, photocopying, printing, and scanning.

The Centre offered network services for communications and information management, output and retrieval, software sublicensing, telephone system services and administration, and local area network accessibility and utilization. There was a designated computer/telephone room that housed the centralized computer technology components and distributed the information through network cabling throughout the facility.

The telecenter had a conference room that could accommodate eight people for audio-conferencing and/or business meetings. The conference table was wired for electricity, data ports and phone jacks. An additional theater type learning lab room/classroom contained displays and podiums for presentations, education, showcasing, demonstration, and multimedia presentations. Common areas included a break room with a refrigerator, microwave and sink. Additional services at the center included up to one hour per day of technical support from staff members. The Centre also offered information technology programs, consulting, and training. The space at the Centre was divided into areas of the approximate sizes shown in Table 8-14.

The hours of operation for the East County telecenter were 7:30 am to 5:30 pm Monday through Friday. There was bicycle storage capacity at the telecenter as well as ample free parking in the large parking lot next to the center. The initial pricing schedule is listed in Table 8-15.

The site administrator conducted and managed on-site coordination, provided technical assistance to users, provided training, and promoted outreach. The site developer coordinated promotional activities with the site administrators of the two Chula Vista telecenters and the Coronado telecenter. Representatives from the four centers would meet on a regular basis and organize participation in local trade shows and technology conventions.

Table 8- 14: Space Allocation for the East County San Diego Tele*Community Centre

Telecenter Use	Percentage of Telecenter Space
Workstations	37% (573 sq. ft.)
Site administrator	6% (93 sq. ft.)
Conference room	14% (217 sq. ft.)
Lobby/Waiting area	6% (93 sq. ft.)
Classroom	18% (279 sq. ft.)
Break area (including kitchen facility)	13% (201 sq. ft.)
Restrooms	3% (47 sq. ft.)
Secured computer room	3% (47 sq. ft.)
Total	**1,550 sq. ft.**

Table 8- 15: User Charges at the East County San Diego Tele*Community Centre

Workstation	Phone	Fax	Printing	Conference Room
$12.50 /hour $65 /day (credit to participants in program in return for research)	Local and long distance per user	$1.00 /page outgoing $ .50 /page incoming $3.00 /page inter-national	$ .10 /page photocopy-ing $ .75 /page laser printer $ .75 /page scanning	$15 /hour up to 3 people $10 /hour for 3-8 people $65 /day for facilitator

The center seemed to be operating smoothly until June 1995, after which all reporting to the University ceased. In November 1995, tenants reported that the developer/operator had abruptly closed the center without notification.

8.9 San Juan Capistrano -- The TeleBusiness Center

The TeleBusiness Center in San Juan Capistrano was under development before becoming a part of the RABO Telecenters Program. The center was managed by a private entrepreneur using private and public funds. The center opened in March 1995 and became a participant in the

RABO Program in September 1995. The first telecommuting agreements were signed in February 1996, with the first telecommuters working in the center in March 1996.

When completed, the center offered ten workstations. The site developer leased office space in the Ortega Business Center. The center is located off the Interstate 5 Freeway and the Ortega Highway. San Juan Capistrano is situated in the tri-city region of Dana Point, San Clemente and San Juan Capistrano. According to market research, San Juan Capistrano is an area having a high density of information workers who commute out of the area.

Initial funds for the TeleBusiness Center came from the Orange County Transit Authority, Caltrans, and the RABO Program. Contributions were also made by InTel, PictureTel, and the Southern California Telecommuting Partnership.

In April 1995 the site developer planned a three-level marketing plan aimed at employers, employees and the Orange County Business Council (OCBC). The primary target markets identified for the telecenter were employers in the Irvine Spectrum, Irvine Business Complex, South Coast Metro area, Anaheim Industrial/Civic Areas, Santa Ana Civic Center/Main Street, Newport Center, the Industrial Complex in the Oceanside/Carlsbad area, and Los Angeles County. The planned marketing strategies included the following: print advertisements in newspapers and industry newsletters; attendance at Chamber of Commerce events; presentations at local speakers' bureaus; radio interviews; presentations at trade shows and seminars; mailers to Orange County-based public companies; telemarketing; membership in the Orange County Business Council; mailer inserts to Orange County TMAs to distribute to their members; and MetroLink seat/windshield drop.

Ongoing marketing activities reported by the site developer included: advertising in the local newspaper; advertising in Chamber of Commerce fliers and the student newspaper at the local college; mailers to the local TMAs; follow-up calls to public companies in the area; and advertisements in two local publications. Some of the publicity for the telecenter was free, including local radio interviews with the site developer and inserts in the water bills that were donated by the City of San Juan Capistrano. A marketing consultant worked through the

Southern California Telecommuting Partnership (SCTP) to provide telemarketing services in an attempt to recruit participants, but with little success. Advertisements in the local paper were suspended in February 1996 due to lack of funds. Marketing in February 1996 included a mailing to potential employers.

The TeleBusiness Center site developer was very active in local and regional activities in an effort to promote the telecenter and to integrate the center into the local business community for recognition and possible recruitment through referral. As a member of the San Juan Capistrano Chamber of Commerce, the TeleBusiness Center was the host in November 1995 to the Chamber of Commerce's "Legislative Mixer".

The telecenter occupied 2,100 square feet in a business complex. At the time of entry into the RABO Program the building and office space were intact and ADA compliant. Several months were taken to prepare the telecenter, including installation of carpeting, painting, and partition and wall setup.

The TeleBusiness Center provided private offices; cubicle workstations; ISDN and modem access to the Internet; a private conference room with sound-deadened walls and both audio and videoconferencing equipment; and a coffee break area with microwave oven, sink, and coffee pot. The approximate breakdown of telecenter space is listed in Table 8-16.

Normal hours for the TeleBusiness Center were 8:00 am to 5:00 pm, with schedule adjustments outside of the normal hours made on an individual basis. The center was secured with normal locks, and use of phone lines was regulated through a security code system. There was ample free parking for users on the premises of the Ortega Business Center. Bicycle lockers were available in the business complex. Services in the complex included food vendors; laundry and dry cleaners; a florist; computer sales and service; caterer and bakery; child-care center; professional center with insurance, attorney, real estate, dental, and medical offices; a convenience store; Federal Express pickup office; restaurants; and a fitness center. Also near the telecenter was a bus stop across the street, a city bikeway path, an Amtrak/Metrolink station, and a Caltrans Park-n-Ride location.

Table 8- 16: Space Allocation at the TeleBusiness Centre, San Juan Capistrano

Telecenter Use	Percentage of Telecenter Space
Offices/Workstations	50% (1,050 sq. ft.)
Conference room	10% (210 sq. ft.)
Executive director	4% (84 sq. ft.)
Lobby/Reception area	7% (147 sq. ft.)
Phone & supply area	4% (84 sq. ft.)
Break area	3% (63 sq. ft.)
Hallways	17% (357 sq. ft.)
Restrooms	5% (105 sq. ft.)
Total	**2,100 square feet**

The telecenter offered private and modular office space, each fully equipped and operational with two phone lines and a computer with Microsoft Office and Windows 3.0 or 5.0. The center also had desktop videoconferencing available and ISDN lines established for each workstation. Internet services were also available. Telecenter users had access to laser and InkJet (including color) printing, a reception area with on-site administrator, fax machine, commercial-sized copy machine, computer training, and other office services. Additional services include document scanning, videoconferencing and Internet "surfing by the hour."

The telecenter offered computer classes in the training room to help supplement center income and to attract local students. At the end of 1995, the site developer reported that the center started generating revenue from workstation rentals and reimbursements for copies and faxes.

Initial charges for the San Juan Capistrano TeleBusiness Center are shown in Table 8-17.

Table 8- 17: User Charges at the TeleBusiness Center, San Juan Capistrano

Workstation	Private Office	Phone Charges	Fax Charges	Computer Rentals	Videoconference Room	Conference Room
$8-$10/hour $20-$30/day $80-$120/week	$40-$25/hour $50/day $200/week	cost of calls	Outgoing: $1-$3 Incoming: $.10-$3	First Hour: $9-$15 2nd Hour: $7-$10 Over 2 hours: $5-$8	First Hour: $90-$185 2nd Hour: $60-$120 Over 2 hours: $25-$75	Free-$20/hour Free-$100/day

Telecenter personnel consisted mainly of the site developer and site administrator. The site developer was responsible for obtaining financial support and for financial reporting, and the site administrator largely acted as receptionist, as well as compiling reports for various funding agencies which supported the center. Both were engaged in promotion of the telecenter, and both provided on-site services to tenants. Telecommunications system repairs were provided by Integrated Building Services on an as-needed basis. Both the site developer and site administrator acted as the site trainers to new telecommuters, as needed. Ongoing general maintenance of the telecenter included computer upkeep and reconfiguration of the phone system in April 1996 to be more user-friendly.

Problems that arose for the telecenter site developer included securing users and obtaining marketing support for the center. The site developer reported loss of management time in February 1996 because of computer hardware repair and network/server problems. Ongoing general maintenance of the telecenter included computer upkeep and reconfiguration of the phone system in April 1996 to be more user-friendly. The turnover of site administrators and other demands on their time created a lapse in the ongoing marketing activities for the center. While other site administrators worked to balance time spent on- and off-site in order to maintain ongoing client recruitment, the original site administrator of the TeleBusiness Center was required to stay on site at all times to accommodate potential users. Her experience as a marketer was apparently underutilized, and no consistent outreach effort was made. The next site administrator began his tenure by preparing overdue deliverables to the RABO Program, per the contract between the University and the site developer.

The site developer received a letter of intent to use the center from the U.S. General Services Administration, but by December 1995 there were no federal workers in place. An agreement was reached between the TeleBusiness Center and the Crescent City prison system to use the center's videoconferencing equipment to conduct remote psychiatric therapy sessions for the prison system, but it was delayed in December 1995 because the Crescent City prison did not have its videoconference equipment in place.

The TeleBusiness Center site developer worked in cooperation with RABO telecenters in the San Diego area. The site developer, sometimes accompanied by the site administrator, met several times with the site administrators of the Chula Vista and Coronado telecenters. The TeleBusiness Center site developer reported that he found it beneficial to work in a support group environment.

8.10 Vacaville -- Ulatis and Vacaville (formerly Three Oaks or Alamo) Telecenters

Vacaville lies between Sacramento and the Bay Area on Interstate 80, and has a significant number of commuters to both regions. Originally, two sites in Vacaville were selected as telecenters: one on Alamo Drive, which had eight workstations, and one located in the Community Center on Ulatis Avenue, which had seven workstations. The telecenters were managed by the Transportation Systems Manager who was a full-time employee of the City of Vacaville Public Works Department. Daily telecenter operations were conducted by separate employees of the city. Accounting functions were performed by the City's accounting and financial department. The process of establishing and operating two telecenters in Vacaville continued for approximately two years. Initial planning extended for 13 months, and an additional nine months were needed for site preparation and marketing leading to the grand openings.

Initial planning meetings for the telecenters in December of 1992 included representatives from the City of Vacaville, Solano County, Caltrans and the RABO Program. At this time, the City proposed the two sites, both of which were located in mixed commercial/residential neighborhoods. The site on Alamo Drive consisted of one of several trailers outside the Civic

Center, and the site on Ulatis Avenue was in the new cultural center the city was in the process of building. The site selection on Alamo Drive was supported by demographic research conducted by the University's marketing subcontractor. The density maps produced by this research showed high nearby densities of managerial and administrative workers and one-way commute times greater than 30 minutes. The Ulatis site lacked substantive census data to support selection but was considered feasible because of the accessibility to local public transit and its potential as a combination regional and neighborhood telecenter.

Local support for the telecenters came from the Transportation Systems Management Advisory Committee which was formed in May 1993 and consisted of upper-level management personnel from the major employers in Vacaville. The initial co-sponsors of the telecenters were the City of Vacaville, Caltrans, the RABO Program, the Yolo/Solano Air Quality Management District, Solano Commuter Information, Science Applications International Corporation, and Kaiser Permanente.

The city tried to supplement agency and corporate support and input with public support by holding an informational public meeting in March 1994 for people interested in learning more about telecommuting. They offered a forum for developers to hear from prospective telecommuters and their employers to ensure that the telecenters met their office space and technological requirements.

The city was able to provide the buildings for the telecenters. Additional financial support was required for telecenter operations and staffing, marketing, and training of employers and prospective telecommuters.

The centers were operational in July, and the first tenants used the centers in July and August. The grand opening ceremonies for both were held in October 1994. The March-June (1994) issue of the City of Vacaville *Events* publication advertised the grand opening, appealing to employees to "Beat the Commute", find out more about the two telework centers, and encourage their employers to do the same. The site developer attempted to maximize publicity for the

grand openings and continued to seek other events that the local media considered newsworthy, such as visits to the telecenters by elected officials or other public figures.

Initial marketing efforts concentrated on media exposure, including press releases, radio advertisements and advertising on cable television. Other marketing strategies were door hangers in the neighborhood (producing few responses and no placements); and advertisements and inserts in a local newspaper, *The Reporter*. Marketing strategies suggested by the city were placement of flyers on cars at park-and-ride lots, press releases to local newspapers, public service announcements and an appearance on the local cable television station. Developers discovered early in their efforts that their most effective recruitment method was to identify and work closely with key people within companies who could help promote the concept of telecommuting to managers and potential telecommuters. Kaiser Permanente came on board via this method. In particular, some employers had transportation coordinators whose sole responsibility was ensuring that their companies comply with air quality regulations. These regulations included requirements to reduce the number of work trips made by employees.

A source of local community outreach was Solano Commuter Information, a ride-share agency that helped promote the telecenter. The site developer had working relationships with both Vacaville's and Fairfield's local cable television providers and with KUIC-FM, the local radio station. Due to the local radio station's desire to support the community telecenters project while realizing the tax deductibility of contributions to the center, the city and radio station had an agreement that provided three free radio spots for each one the city purchased. Other groups and organizations who helped publicize the facilities included local realtors, the community Welcome Wagon, the Solano County Library, and the Chamber of Commerce.

The Vacaville Telecenter on Alamo Drive was located in a free-standing trailer leased from the City of Vacaville Community Services Department. The name of the telecenter changed three times during the course of the project. Originally named the Three Oaks Telecenter, the name changed to the Alamo Telecenter and finally became known as the Vacaville Telecenter after the closure of the Ulatis facility. The Vacaville Telecenter required some refurbishing, furniture, equipment, and minor rewiring to accommodate additional computer and phone lines. The

center had one restroom and became ADA compliant after some renovation, including the construction of ramps from the parking lot for wheelchair access, a stability bar in the restroom, and an expanded restroom area for wheelchair access. The telecenter portion of the building was originally 512 square feet which expanded to approximately 950 square feet when the Ulatis center closed and its operations were absorbed by the Alamo center. It included a site administrator's office, conference room, private office, and three open rooms containing several cubicle workstations. There was a coffee area available for all users with a refrigerator, coffee maker, microwave, and water cooler. The space in the telecenter was divided into the approximate percentages shown in Table 8-18.

The Ulatis telecenter was approximately 540 square feet and contained seven cubicle workstations, each with computer and phone service. There were no designated conference rooms or private office space. The space in the telecenter was divided into the approximate percentages shown in Table 8-19.

The hours of operation for the Vacaville Telecenter were 7:00 am to 5:00 pm; however, the site administrator coordinated with users to make the center available when it was normally closed. The center was locked during off-hours and secured with an electronic alarm system and a motion detector.

Table 8- 18: Space Allocation at the Alamo Telecenter

Telecenter Use	**Percentage of Telecenter Space**
Offices/Workstations	70% (665 sq. ft.)
Site administrator	7% (66.5 sq. ft.)
Conference room	14% (133 sq. ft.)
Copy/Storage rooms & Bathrooms	9% (85.5 sq. ft.)
Total Area	**950 sq. ft.**

Table 8- 19: Space Allocation at the Ulatis Telecenter

Telecenter Use	Percentage of Telecenter Space
Workstations	50% (270 sq. ft.)
Site administrator	9% (49 sq. ft.)
Lobby/Public area	26% (140 sq. ft.)
Restroom	15% (81 sq. ft.)
Total Area	**540 sq. ft.**

Workstation equipment at the Vacaville Telecenter included nine telephones, five computers with modems (4 IBMs and 1 Mac), one fax machine, and one shared printer for the workstations. The Vacaville Telecenter also had a copy machine that was available for use, although users were advised to take big copy jobs to an outside printer. The center also provided stationery supplies, fax and printer paper, printer cartridges and computer software. The Ulatis center was equipped with a printer for the computers, a fax machine, and a copy machine.

At the beginning of operations, users were charged the costs of individual long distance data transmissions and telephone voice toll charges only. Tracking of fax use was available through a fax user identification number assigned to each user. Costs for both centers were originally largely covered through grants. Once a fee schedule was in place, users were responsible for recording their copier use to be charged to the employer or user. When workstation rental fees went into effect in January 1996, usage declined. Charges for the center are listed in Table 8-20.

Table 8- 20: User Charges at the Alamo and Ulatis Telecenters

Workstation	Conference Room	Phone Charges	Fax Charges	Printing Charges
$100.00/month $65.00/day $10.00/hour	$10.00/hour or free with a monthly workstation rental	Long distance phone charge (billed to employer)	Cost of call	No charge for photocopies or printing

Both centers were adjacent to large parking lots that could accommodate several dozen users if necessary. The Alamo center was within 200 feet of a major bus line, and the adjacent parking lot also served as an unofficial park-and-ride lot for commuters. Services within two blocks of the center included banks, a grocery store, restaurants, cleaners, public schools, auto station, and a drug store. There were also a post office and a child care facility within four miles of the center. The Ulatis telecenter was approximately four miles from a major bus line. Most services were within three miles of the telecenter, including child care, banks, a grocery store, restaurants, a health club, cleaners, schools, post office, service station, and drug stores.

The City of Vacaville employed seven people who spent all or a portion of their time working on telecenter business. Staff from the City of Vacaville included the Transportation Systems Manager and a management assistant. The Transportation Systems Manager was a full-time employee of the City and was responsible for telecenter grant coordination, budgeting, and marketing plans, as well as non-telecenter duties related to his position in the City. The management assistant for the telecenter was from the Community Services Department of the City of Vacaville and was responsible for facility management and served as the supervisor for the telecenter coordinator (site administrator). In addition, the accountant from the City of Vacaville's financial department provided monthly financial statements for the telecenter. These positions were held by city personnel off-site. On-site personnel included the telecenter coordinator and the facility attendants.

The telecenter coordinator served as site administrator and was responsible for preparing and receiving grants, budgeting, marketing, staff hiring, report compiling, and employer outreach. The site administrator also supervised and scheduled the support staff of facility attendants, prepared reports for the RABO Program, participated in training programs for telecommuters and managers, participated in marketing activities, coordinated equipment maintenance, and helped coordinate telecenter workstation assignments. The site administrator attended department staff meetings and answered informational inquiries. The facility attendants worked primarily on location at the telecenters. The lead facility attendant was responsible for staff scheduling and on-site services. Two or more facility attendants were employed to provide on-site service for center users. The facility attendants' specific duties included answering

telephones, receiving office visitors, providing information, maintaining daily activity logs, preparing reports on telecenter operations, typing and mailing status reports, and reporting equipment maintenance problems. In January 1995, the telecenter obtained the services of a subcontractor to assist the city in its contract performance. Duties included establishment and operation of the centers as well as data collection and participant recruitment.

There was not a great deal of inter-program coordination between the Vacaville telecenters and other RABO telecenters, due mostly to Vacaville's relative geographic isolation from the others. The site administrator would occasionally coordinate marketing activities with the Grass Valley telecenter which shared part of the marketing area of the Sacramento region. The site administrator stated in the January 1996 monthly report that by "teaming up with our fellow Sacramento target area Grass Valley, we may be able to get more accomplished."

In July 1995, the two centers in Vacaville were consolidated, and the equipment from the Ulatis telecenter was relocated to the Three Oaks/Alamo facility. It was determined that the Ulatis center would have soon been shut due to facility maintenance requirements. However, after considering facility costs, client usage and other resource variables, the decision to consolidate the two telecenters into one was agreed as the best course of action. Although the closure was not, at that time, intended to be a permanent closure, the Ulatis telecenter was not reopened.

8.11 Moorpark Community College and Ventura Community College Telecenters

Initial discussions to establish a distance learning and telecommuting center in Ventura County began in September 1992 to meet the objectives of both Caltrans and the Ventura County Community Colleges District (VCCCD). Caltrans discussed the idea of distance learning with the goal of using videoconferencing technology to achieve Caltrans transportation demand management goals. The colleges were primarily interested in expanding their distance learning capabilities while reducing staff travel among the 107 community college campuses. Both centers were planned to be part of a larger program sponsored by Caltrans and developed by the Chancellor's office to establish telecenters on community college campuses statewide.

In the case of the Moorpark center, strong support for the center at the administrative level never developed as it did at Ventura College, and the statewide community colleges program was terminated in the planning stages. Consequently, the Moorpark center was closed due to an administrative decision of the college when funding from the RABO program terminated, and no other funding was made readily available. As with other telecenters, the continuance of the Moorpark and Ventura centers was in part dependent on the approval or disapproval of local administrators. The distance learning concept was initially unpopular with a large portion of the faculty who perceived in it an increased burden of time and organization to prepare and conduct the classes. Moreover, many of the top administrators were not in favor of it for similar reasons. In the case of the VCCCD, the person who championed the telework (tele-meetings/distance learning) aspect of the program was the Chancellor of the District who unfortunately died a few weeks after the contracts were signed between the VCCCD and the University. Contract activities were carried out somewhat reluctantly, with the attitude that VCCCD was discharging duties previously obligated and no longer internally supported. This was particularly true of Moorpark College more than of Ventura College, whose administration was a strong proponent of the program and who proceeded with enthusiasm. For these reasons, and because Moorpark College was reluctant to commit any campus financial resources to the project, Moorpark closed at the end of the contract with the University while the Ventura College telecenter continued to operate.

Selection of telecenters on the Moorpark and Ventura College campuses was supported by demographic analysis by the RABO Project and by Caltrans' assessment. A Caltrans representative surveyed each of the Ventura campuses and three additional campuses in the San Fernando Valley to conduct a rough analysis of the appropriateness of the surrounding residential neighborhoods, per the goals of the RABO Program, and concluded that the Moorpark and Ventura campuses were both appropriate sites. The project proposed to reduce the number of multiple trips for participants by having them travel to campus, work on campus, and then attend their enrolled classes. The Ventura College campus is located near the Pacific coast north of Los Angeles while Moorpark is a bedroom community located in the hills separating Ventura County from Los Angeles.

Following the Northridge earthquake in 1995, VCCCD submitted a preliminary proposal to the RABO Program to establish two earthquake-related neighborhood telecommuting centers to be developed jointly by the VCCCD and the Chancellor's office of the California Community Colleges. The VCCCD proposed to conduct activities in three areas: telecommuting, tele-education (distance education), and administrative tele-meetings, with the belief that distance education is an important strategy in the delivery of educational services to the citizens of California and that, regardless of its delivery mode, distance education offers significant benefits as a transportation reduction strategy.

The Northridge earthquake prompted fast action to establish a telecenter and setup of the college centers took approximately two months following contract execution with the University, nine months after initial meetings in June 1994. Both centers were operational in February 1995, and were officially opened in June 1995. Initial co-sponsors of the centers included the Southern California Telecommuting Partnership, the RABO Program, Ventura College, the County of Ventura and the Point Mugu Naval Air Base.

Before the centers were open, time was spent designing basic marketing pieces and building the staff team. Establishment of the Ventura College telecenter was facilitated by the use of a prefabricated trailer. No renovation or cosmetic changes were required, and the Educational Telecommuting Center was immediately up and running. The Moorpark College telecenter occupied two rooms on the second floor of the campus library, and the site required modifications to refurbish the space and separate it distinctly from the library. Renovation on the Moorpark facility was undertaken to achieve a more corporate look in the Moorpark College library. It was also necessary to install phone lines to accommodate the needs of five workstations and additional offices at each site. A videoconference system was installed in the Moorpark telecenter in July 1995. Also in July, ISDN lines were installed free of charge under Pacific Bell's Education First Program, which donated use of the lines with no fees for a one-year period.

Setup procedures for the telecenters in October 1994 included the installation of furniture; selection of a voice mail messaging system for each campus; selection of computer, fax and

modem equipment; research on the most appropriate teleconferencing equipment; development of telecenter personnel team; and development of an inter-campus faculty planning group for the distance learning component.

Initial promotional efforts in October 1994 consisted of designing an initial marketing survey targeted to part-time and evening students. Other promotional activities included news releases, development of brochures for each campus, and development of a linkage with the Ventura County Transportation Planners Association. The brochures were distributed in December 1994 to Chambers of Commerce, Rotary Clubs, and other professional associations. In addition, articles appeared in local newspapers, including a feature story in the *Ventura Star Free Press*, a county-wide publication, and the Ventura County edition of the *Los Angeles Times*.

Initial efforts by the Moorpark and Ventura Community Colleges included hiring a subcontractor to act as coordinator and consultant to the project. She coordinated the operations of the centers and worked to market both centers. Promotional activities in March and April 1995 by the subcontractor included radio advertisements, advertisements and articles in local newspapers, a presentation at the Chamber of Commerce trade show, presentations at non-profit organizations and other business organizations, and a direct-mail campaign to 400 Santa Barbara area employers with more than 20 employees. The consultant made presentations in January to department heads and county managers. She also developed corporate relationships and continued brochure distribution. She established a database of 783 individuals and company CEO's, Employee Transportation Coordinators (ETCs), and Human Resources personnel. The database included data from the Santa Barbara area, Ventura and Los Angeles Counties, and the San Fernando Valley area. The consultant worked to develop corporate partnerships and telemarketed to corporations identified by the local ride-share agency as interested in telecommuting.

There was a press release and local TV and radio coverage of the open house at the Ventura College telecenter in February 1995. Radio advertising in March consisted of advertisements during peak commute times. An advertisement in the Los Angeles Times in April 1995 asked readers "Why commute when you can telecommute?" Orientation material developed for the

centers outlined the benefits of telecommuting as a response to traffic congestion, air quality problems, and the potential to increase the quality of life for residents.

The telecenter on the Ventura College campus was in an approximately 682 square foot free-standing trailer with five workstations. The trailer was rented on a month-to-month basis for about $800/month, with rent including security, utilities, and parking. The workstations consisted of four cubicle areas and one private office. The center also housed a 12-person capacity conference room furnished with videoconference equipment. A small reception area in the front was furnished, including desks for a site administrator and assistant. Common area amenities included a refrigerator, coffee maker, and water cooler. Telecenter users could also use a nearby campus cafeteria. The space in the Ventura College telecenter was divided approximately as shown in Table 8-21.

Table 8- 21: Space Allocation at the Ventura Community College Telecenter

Telecenter Use	**Percentage of Telecenter Space**
Workstations (cubicle/office)	39% (266 sq. ft.)
Site administrator	8% (55 sq. ft.)
Conference room	14%(95 sq. ft.)
Lobby/Common area	20% (136 sq. ft.)
Copy/Supply area	8% (55 sq. ft.)
Hallways	11% (75 sq. ft.)
Total	**682 sq. ft.**

The Moorpark College telecenter occupied two rooms on the second floor of the campus library and contained areas for a site administrator, five cubicle workstations and a conference room. Other facilities, such as restrooms and copy rooms, were accessible in the library. The space in the Moorpark College telecenter was approximately allocated as shown in Table 8-22.

Table 8- 22: Space Allocation at the Moorpark Community College Telecenter

Telecenter Use	Percentage of Telecenter Space
Offices/Workstations	67% (603 sq. ft.)
Conference room	33% (297 sq. ft.)
Total Area	**900 sq. ft.**

The Ventura College center workstations each consisted of a desk and chair with a telephone and personal computer. There was also one shared photocopier and stand-alone fax machine. A VCR was available for use from the college. Common area furnishings included two tables and four chairs, two credenzas and two bookshelves. Using the college's facilities, telecommuters had access to bathrooms and showers.

There was a stop on a major bus line outside the front entrance of the Ventura College telecenter. Facilities nearby on campus included child care and bank (ATM) access. Services within a mile of the telecenter included a grocery store, restaurants, a gym, cleaners, public school, post office, convenience store, auto service station and drug store. There was unlimited bicycle parking and free automobile parking for telecommuters, as well as storage facilities.

On-campus amenities for the Moorpark College telecenter included food service facilities, a bookstore, library resources, postal and Federal Express services, and UPS service upon request.

The Ventura College telecenter provided minimal supplies for emergency use, such as pens, pencils, paper, envelopes, markers, white-out, and paper clips. Each workstation had a stapler, staple remover, tape dispenser, scissors, and a few pens and pencils. Participants were expected to provide their own supplies, including paper for the copy machine. Participants were issued a key to the center upon request.

The price schedule for the two Ventura County Community College Telecenters is shown in Table 8-23.

Table 8- 23: User Charges for Ventura Community College and Moorpark Community College Telecenters

Workstation	Phone Charges	Fax Charges	Printing Charges
$100-$200 /month Fee waived to first telecommuters	Local and long distance per user	No charge	No charge included in monthly fee

Operating hours for the telecenters were from 8:00 am to 5:00 pm. During this time, the center was open and a site administrator on duty to assist users. There was no after-hours access to the Moorpark College telecenter because it was located inside the college library which was secured and guarded after-hours. The Ventura College telecenter was available 24 hours by giving renters key access to the facility and notifying campus security of after-hours use. The telecenter site was patrolled regularly by campus security guards. If necessary, telecommuters were issued parking passes to allow parking in staff and student lots.

The Ventura College Telecenter utilized the time of six people for the operation and maintenance of the telecenter. The Dean of Economic and Community Development for the college was responsible for the overall planning, operating, and maintenance of the center. She supervised the center staff and researched funding sources and other uses for the telecenter. Accounting personnel for the Community Colleges District were responsible for the accounting and financial processes of both the Moorpark and Ventura centers. These positions were held off-site.

The primary on-site employee was the site administrator who was responsible for the day-to-day operation of the center. She maintained the budget, provided software and technical support, maintained equipment, purchased supplies, and served as receptionist, scheduler, record keeper, recruiter, and trainer for the center. She was also responsible for the marketing and promotion of the center. A volunteer assistant was responsible for general clerical duties and also acted as a receptionist, assisted with the promotion of the center, and assisted with scheduling of videoconferencing and workstations. Additional support personnel for the Ventura College Telecenter included two part-time positions consisting of a software support assistant and a computer/communications technician. Duties for these positions included providing technical

support on videoconferencing, computer equipment, and telephone and computer network systems.

The Moorpark College Educational /Telecommuting Center's staff consisted of four people including the site developer and VCCCD accountant. The site administrator was responsible for the day-to-day operation of the center; this position was supported by a bookkeeper and a technical assistant. All worked on a part-time basis for the center. The site administrator duties included technical support, telecenter maintenance, answering phone calls, preparing reports, hosting meetings, and educational promotion of the telecenter. This person was also available to assist with any problems at the center, coordinate workstation use, issue keys and telephone account/access numbers, schedule conference room use, conduct tours of the center, and provide orientation to new users of the center. Recruiting and marketing were performed by the Ventura College site administrator.

APPENDIX A

NEIGHBORHOOD SURVEY (FIRST-PHASE MARKETING)

APPENDIX A: NEIGHBORHOOD SURVEY (FIRST-PHASE MARKETING)

A NEIGHBORHOOD TELECENTER COULD SOON BE OPEN NEAR YOU

We are recruiting residents in your community to participate in this program.

HOW WOULD YOU LIKE TO:

- Walk or bicycle to work?
- Reduce your commuting?
- Decrease your stress levels?
- Increase your productivity?

WHAT IS A TELECENTER?

- A Telecenter is similar to a traditional office-except that you can walk to it from your home.
- You'll find everything that you need to work effectively.
  Telephones
  Computers and modems
  Photocopy machine
  Fax machine
  ...even a coffee maker
- Telecenters are designed to have telecommuters from several different organizations. Most telecommuters will work one day to a few days per week at the Telecenter; the rest of their work will be at their "regular" office.

Teleworking

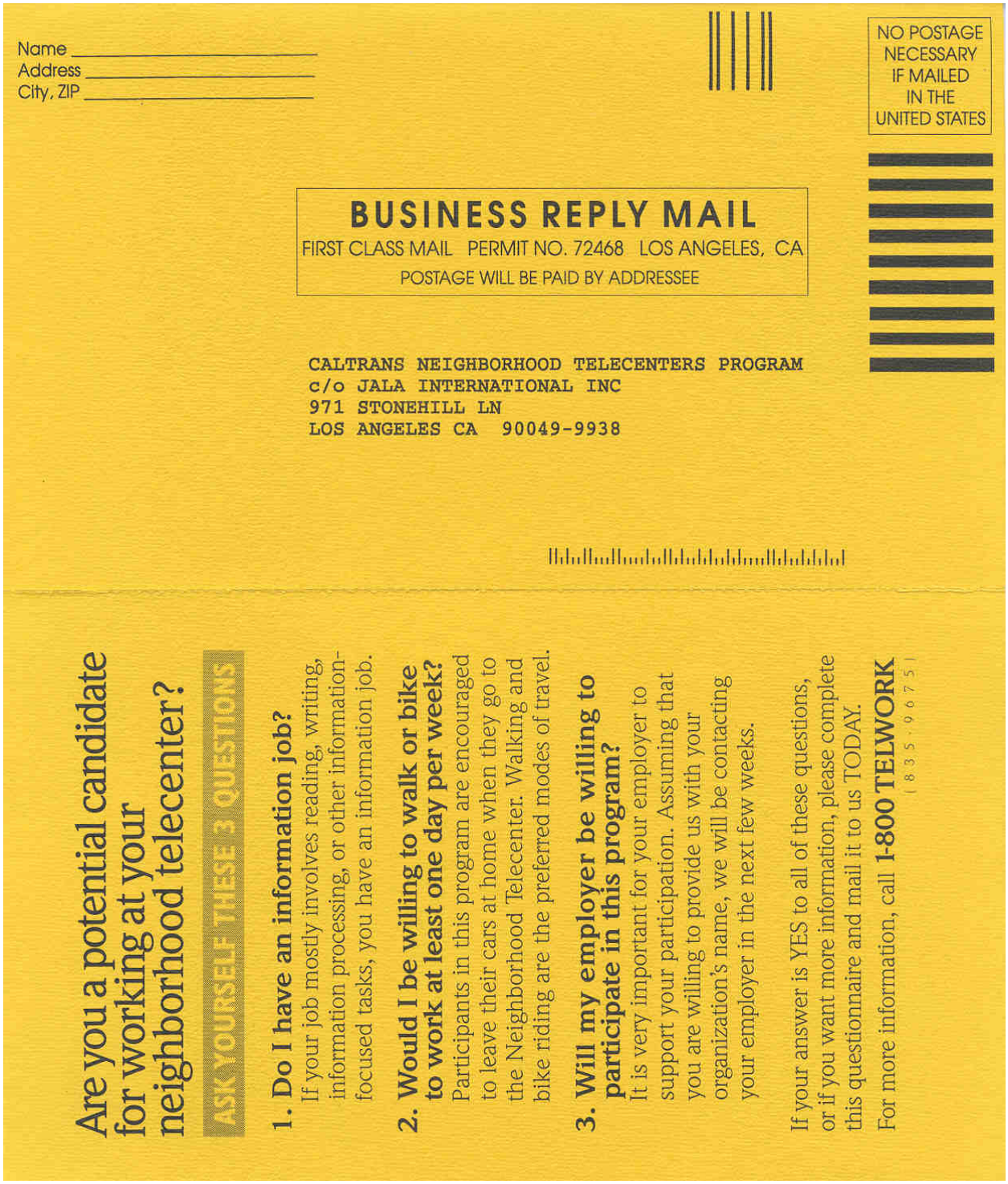
NEIGHBORHOOD TELECENTERS PROGRAM

The Neighborhood Telecenters Program is a demonstration program sponsored by the California Department of Transportation and the Federal Highway Administration. The University of California at Davis is managing the program. The Telecenters Program will be opening up to 12 new neighborhood telework facilities in communities throughout California, including yours, in the next few months.

The goal of the program is to reduce traffic congestion, energy consumption and air pollution by allowing Californians to work effectively near home. Some of the centers have already been established and we are in the process of deciding where the remaining centers should be located. Your area may be one where there are enough potential telecommuters to support a neighborhood center.

The key to making the Telecenters work effectively is finding both employees and their employers who are willing to operate in what may be a new work mode for them. Therefore, our next step is to contact the employers of those who live in the selected areas to enlist their support in the program. That will occur in the next few weeks for those employers who are identified by the respondents to this survey.

If you choose to answer this survey, we will not identify you to your employer without your permission. We will supply you with more information if you request it.



Name _____
Address _____
City, ZIP _____

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 72468 LOS ANGELES, CA
POSTAGE WILL BE PAID BY ADDRESSEE

CALTRANS NEIGHBORHOOD TELECENTERS PROGRAM
c/o JALA INTERNATIONAL INC
971 STONEHILL LN
LOS ANGELES CA 90049-9938

Are you a potential candidate for working at your neighborhood telecenter?

ASK YOURSELF THESE 3 QUESTIONS

1. **Do I have an information job?**
   If your job mostly involves reading, writing, information processing, or other information-focused tasks, you have an information job.

2. **Would I be willing to walk or bike to work at least one day per week?**
   Participants in this program are encouraged to leave their cars at home when they go to the Neighborhood Telecenter. Walking and bike riding are the preferred modes of travel.

3. **Will my employer be willing to participate in this program?**
   It is very important for your employer to support your participation. Assuming that you are willing to provide us with your organization's name, we will be contacting your employer in the next few weeks.

If your answer is YES to all of these questions, or if you want more information, please complete this questionnaire and mail it to us TODAY.

For more information, call **1-800 TELWORK**
(835-9675)

Yes! I would like to be considered as a telecenter telecommuter.

Please complete and return the following information. All information you provide is confidential and will be used solely for establishing operational telecenters.

NAME

DAYTIME PHONE

JOB TITLE

How would you categorize your job? (Check one)

☐ Manager ☐ Professional ☐ Sales

☐ Secretarial ☐ Clerical ☐ Other _____

As our next step, we plan to contact the employers of the prospective telecenter workers in this area, including yours.

EMPLOYER

WORK ADDRESS

CITY, ZIP

How long have you worked for this employer?

☐☐ Years

Does your employer have the following?

☐ Rideshare program

☐ Modified work week (4-40, 9-80, etc.)

☐ Telecommuting program

May we use your name in contacting your employer?

☐ Yes, you may. ☐ No, you may not.

Please fold this page over to cover your address, tape the edge and mail it TODAY!

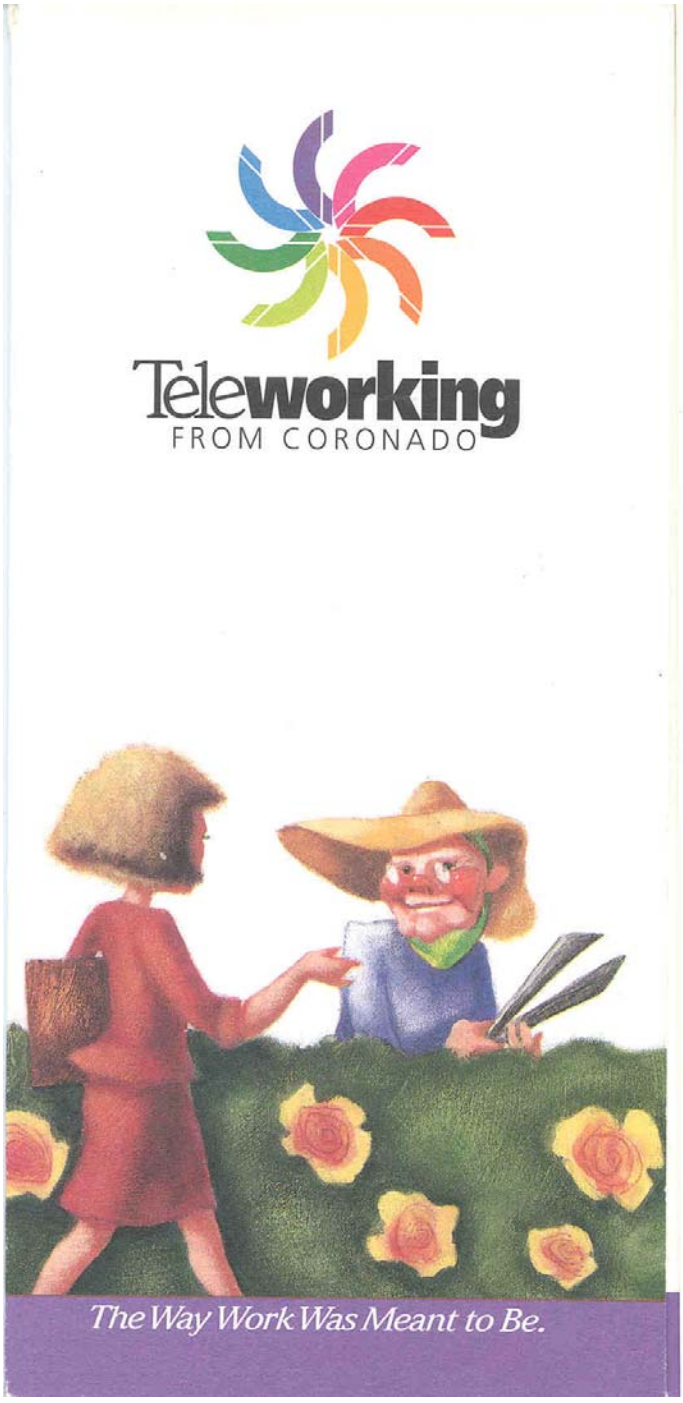
NEIGHBORHOOD TELECENTERS PROGRAM
971 Stonehill Lane
Los Angeles, CA 90049-1412

Non-Profit Org.
U.S. Postage
PAID
U.C. DAVIS

APPENDIX B

SAMPLE SMALL (TRI-FOLD), EMPLOYEE-ORIENTED, BROCHURE (FIRST-PHASE MARKETING)

APPENDIX B: SAMPLE SMALL (TRI-FOLD), EMPLOYEE-ORIENTED, BROCHURE (FIRST-PHASE MARKETING)



Coronado Neighborhood TeleCentre

Your Coronado Neighborhood TeleCentre is a fully-equipped neighborhood office within the "Information Hub of Coronado" with the Chamber of Commerce, Coronado MainStreet and the Coronado Transportation Management Association. The telecenter is conveniently close to services, including dry cleaning, restaurants, a photography lab, video rentals, and more. The office is complete with four workstations and a conference room.

Facilities include:

- Multiple phone lines, with voice, fax and computer data communications access
- Fax and photocopy facilities
- On-site administrator
- Physical security
- Training available

RESERVE YOUR SPACE NOW

The Coronado TeleCentre has a limited number of workstations available, and they will be reserved on a first-come, first-served basis.

For more details, call the Neighborhood Telecenters Program toll-free: **1-800-TELWORK.**
Or call the Coronado Transportation Management Association: **(619) 522-6575.**

The Neighborhood Telecenters Program

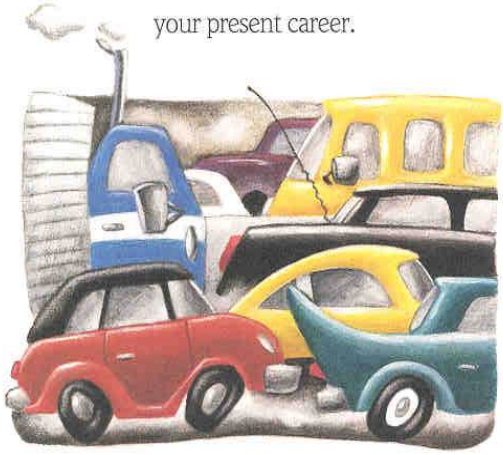
The Coronado TeleCentre is part of the Neighborhood Telecenters Program, a program sponsored by the California Department of Transportation and the Federal Highway Administration. The Telecenters Program is opening new telework facilities in selected California communities.

For more details on how your company can start a telework program from a Neighborhood Telecenter call toll-free: **1-800-TELWORK.**
Or call the Coronado Transportation Management Association at: **(619) 522-6575.**

Your local Telecenter is part of the Neighborhood Telecenters Program, a program sponsored by the California Department of Transportation and the Federal Highway Administration. The Telecenters Program is opening new telework facilities in selected California communities.

Leave your car at home

Your new Neighborhood Telecenter is a real opportunity to avoid the stress of time-consuming daily commutes, while maintaining your present career.



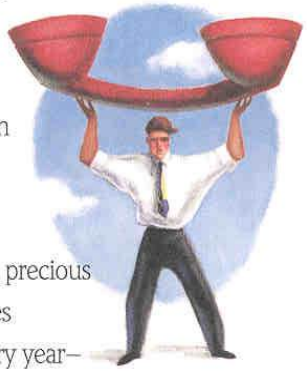
What is teleworking? Teleworking is working from home or from an office very near your home instead of commuting to a distant workplace.

Your Neighborhood Telecenter is a fully equipped office environment within walking or bicycling distance of your home.

Neighborhood Teleworking

THE WAY WORK WAS MEANT TO BE

Why work at your Neighborhood Telecenter? The reasons are many.



- You can set yourself free from the frustration and hassles of daily commuting.
- Your time is your most precious asset. Teleworking saves hundreds of hours every year– so you can get more work done and have more time for yourself and your family.
- You will realize significant savings in gas and parking, not to mention wear and tear on your car.

Above all, your Neighborhood Telecenter is your opportunity to work close to where you live– and that is the way work was meant to be.

The new way to work

FOR A BETTER ENVIRONMENT

Teleworking from your Neighborhood Telecenter is good for you—and good for our environment too.

By reducing the number of commuter trips, teleworking is one of the most effective ways to protect air quality, while saving energy and reducing traffic congestion.

Teleworking Time is Quality Time. Over six million Americans have already discovered the benefits of teleworking. They are enjoying the benefits of fewer interruptions, more flexible scheduling, and vastly increased job satisfaction.

What's good for employees is good for employers, too. Thousands of companies, from FORTUNE 500 corporations to small businesses, are teleworking to cut overhead and stimulate productivity.

Teleworking works—for a better environment, and for your career.

Get the facts you need now. Complete and mail the attached reply card today.

YES! I am interested in learning more about telecommuting or visiting my Neighborhood Telecenter.

NAME

DAYTIME PHONE

JOB TITLE

How would you categorize your job? (Check one)

☐ Manager ☐ Professional ☐ Sales
☐ Secretarial ☐ Clerical ☐ Other _____

EMPLOYER

WORK ADDRESS

CITY, ZIP

How long have you worked for this employer?

☐☐ Years

Does your employer have the following?

☐ Rideshare program
☐ Modified work week (4-40, 9-80, etc.)
☐ Telecommuting program

APPENDIX C

SAMPLE LARGE, EMPLOYER-ORIENTED, BROCHURE (FIRST-PHASE MARKETING)

APPENDIX C: SAMPLE LARGE, EMPLOYER-ORIENTED, BROCHURE (FIRST-PHASE MARKETING)

Teleworking
FROM ANAHEIM

The New Way to Work

Neighborhood Teleworking

The Anaheim Telecenter is part of the Neighborhood Telecenters Program, a program sponsored by the California Department of Transportation and the Federal Highway Administration. The Telecenters Program is opening new telework facilities in selected California communities.

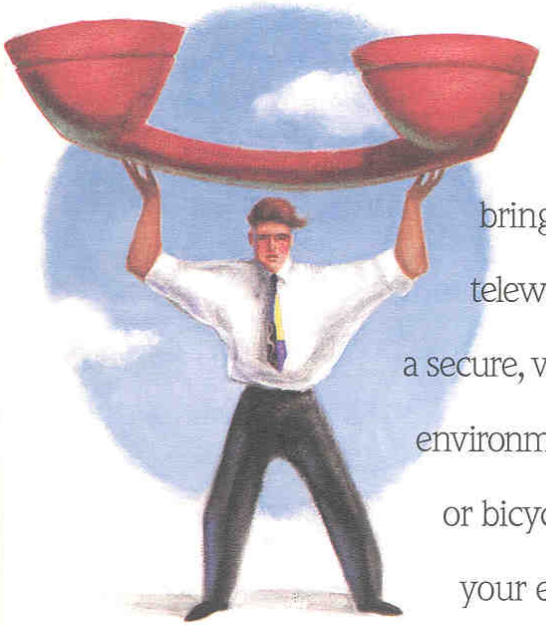
The Anaheim Telecenter is an opportunity for your organization to reduce operating costs while sharing the proven productivity benefits of teleworking.

TELEWORKING, WHAT IS IT?

Teleworking is working from home or from an office very near your home instead of commuting to a distant workplace.

The Competitive Edge

Any job that does not depend on the location of the worker is teleworkable, allowing participating employers to enjoy the competitive advantages of multi-employer telework centers located close to where their employees live. These employers can reduce office-related overhead while helping their employees achieve superior job satisfaction and increased productivity.



The Neighborhood Telecenters Program brings the benefits of telework to you–providing a secure, well-equipped work environment within walking or bicycling distance of your employee's home.

Bottom-Line Benefits

REDUCE YOUR OVERHEAD

"I cannot think of a better way to launch any organization into the '90s–including my own–than by exploring the new frontier... called telecommuting."
–Tom Peters

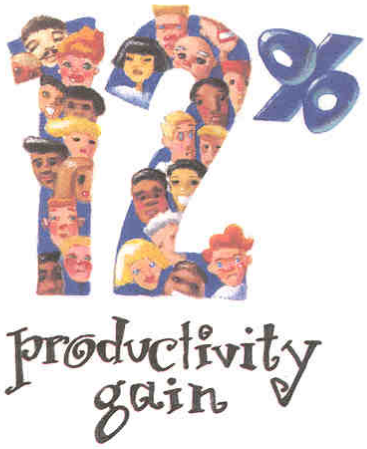
- A Neighborhood Telecenter is an incentive you can use to reduce absenteeism, promote employee retention and lower personnel costs associated with recruitment, hiring and training of new employees. Workers are happier when they can enjoy stress-free commuting, including the option of walking or bicycling to work.

- With a sufficient number of teleworkers, a teleworking plan can facilitate the sharing of neighborhood office space among several employees.

- Parking costs money, whether an employer provides employee parking or workers pay for it themselves. For those employers that provide parking, teleworking in Neighborhood Telecenters may save money by more efficiently allocating the valuable parking spaces at the central facility.

ENHANCE EMPLOYEE PRODUCTIVITY

- Teleworking reduces employee stress by eliminating long commutes. Employees arrive at their desks on time and ready for work. At the end of the day they don't worry about beating the rush.
- Without the stress of commuting, employees have more energy and enthusiasm for their jobs. Overall productivity gains in excess of **12%** are typical.
- The flexibility of teleworking reduces employee absenteeism– an average of two fewer lost days per employee per year has been observed.
- Agreed-upon productivity goals are vital to the successful management of any teleworking program.
- Employers can make teleworking a time-shared program, allowing each of several employees to work in the Neighborhood Telecenter an average of 1 to 2 days per week.

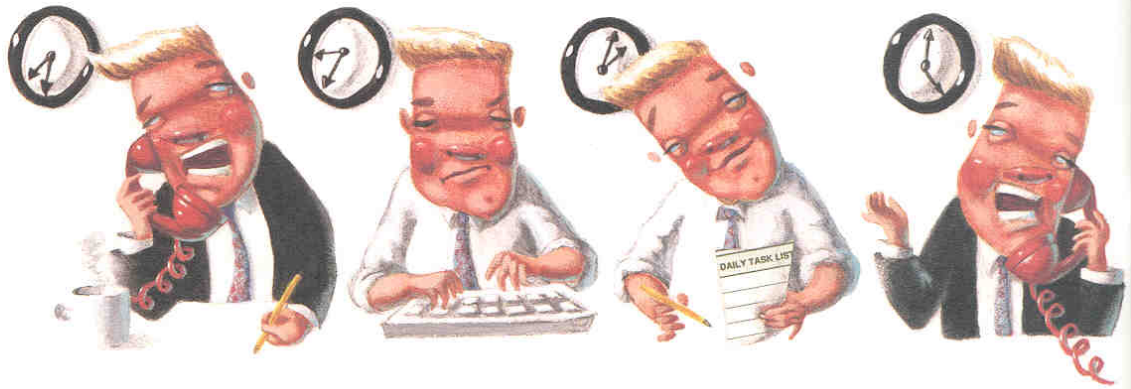


Optimizing Your Operations

"Commuting to office work is obsolete. It is now infinitely easier, cheaper and faster... to move information... to where the people are."

–Peter Drucker

- The Neighborhood Telecenter is a quieter work environment that promotes efficiency.
- The availability of a neighborhood teleworking program can be a tremendous advantage in recruiting talent from the local area.
- The Neighborhood Telecenter is a complete office environment, featuring a site manager and telephone, fax and data communications facilities.
- Because efficient electronic communications and scheduling are emphasized, teleworking promotes fast turnaround of information– as well as the on-time completion of work assignments.



MANAGING TELEWORKERS

- By emphasizing goal setting, monitoring and clear communication, teleworking helps organizations meet management goals.
- Managers and supervisors get results, because they focus on attainment of specific objectives.

THE ENVIRONMENTAL EDGE

- Reducing vehicle trips has become a means for many employers to meet regional air quality and traffic regulations. Eliminating some commuter trips can help attain that objective.
- The average telecommuter saves more than 4,000 kilowatt-hours of energy and reduces carbon monoxide air pollution by 100 pounds every year.
- Teleworking is a socially and environmentally responsible way to improve the bottom line.

See How Cost-Effective

SAMPLE COST/BENEFIT ANALYSIS

Direct Costs Per Teleworker	ONE-TIME	ANNUAL
Training	$ 150	
Telecommunications		
Install phone lines/modems	250	
Services (will vary)		480
Moving costs		
Renovation/installation	50	
Facilities leasing (will vary)		1,440
Furniture*		
Insurance*		
Equipment purchase/rental*		
TOTAL DIRECT COSTS	**$ 450**	**$ 1,920**

* Included in lease costs. Teleworker uses on-site computer or company laptop.

Direct Benefits Per Teleworker	
Increased employee effectiveness	$ 3,360
Average 12% at 1.5 days/week	
Savings on sick leave	243
Average 2 days/year reduction	
Reduced parking requirements*	360
Office space savings	3,240
TOTAL DIRECT BENEFIT	**$ 7,203**
NET ANNUAL BENEFIT	**5,283**

* This applies to those employers which can benefit from reduced parking costs.

Based on surveys of several hundred telecommuters and their supervisors (1990-1993)
Basis: $28,000 average annual salary teleworking 1.5 days/week

Teleworking Can Be

COST/BENEFIT ANALYSIS WORKSHEET

Productivity increase	$ _____	1
Absenteeism	_____	2
Office space	_____	3
Parking	_____	4
Total Annual Savings Per Teleworker	_____	5

ASSUMPTIONS:

Figures are based on an annual teleworker salary of $ _____ , productivity increase of 12%, parking at $ _____ per year reduced by 30% and use of 150 square feet of office space at $ _____ per square foot rent reduced by 30%.

INSTRUCTIONS:

1. Productivity increase: Determine the average annual salary of prospective teleworkers at your company. Multiply it by 12% (overall average productivity increase) and write the answer on Line 1.
2. Absenteeism savings: Divide average annual salary by 230 (number of workdays per year) and multiply by 2 (average number of sick days not taken by teleworker). Write the answer on Line 2.
3. Office space: (provided you have sufficient telecommuters) Determine the cost per square foot for office space (include rent, utilities, furnishings, etc.). Multiply by 30% (potential reduction in office space needed). Write the answer on Line 3.
4. Parking: Determine the cost per employee parking space (if applicable). Multiply by 30% (average reduction in parking spaces needed). Write the answer on Line 4.
5. Add Lines 1 through 4 and write the answer on Line 5.

QUESTIONS ABOUT TELEWORKING?

Q: What about supervision?
A: Workers and their managers should agree to a set of performance goals. The success of your telework program must be measured by results.

Q: How do you address security issues?
A: The Neighborhood Telecenter operates under the supervision of a site manager, responsible for maintaining security of the facility.

Q: What jobs are best suited for teleworking?
A: Teleworking is ideal for many kinds of "information work" including jobs that require a computer terminal, project-oriented activities, and jobs that do not require extensive access to paper files or specialized equipment.

Q: Is teleworking only for large companies?
A: It's for companies of all sizes. In fact, more than 75% of all teleworking is now conducted by employees of small businesses.

Q: Aren't teleworkers more difficult to manage?
A: Not really. Managers report that less time and effort are needed to supervise telecommuters. The management of off-site employees is already routine in any organization with service reps or an outside sales force. Rather than directly observing employees, success is a matter of monitoring results.

Q: How does teleworking in a Neighborhood Telecenter differ from teleworking at home?
A: The Neighborhood Telecenter provides employees with a businesslike working environment with fewer distractions, as well as access to equipment and facilities that the worker might not have at home.

Introducing the Anaheim Telecenter

Your Anaheim Neighborhood Telecenter is a fully-equipped premier office facility, located in the revitalized Downtown Anaheim Civic Center Area of Central Orange County, conveniently close to child care, restaurants and retail/business-support services.

Amenities include:

- Multiple phone lines, with voice, fax, and computer data communications access
- Fax and photocopy facilities
- On-site administrator and receptionist services available
- Access control security
- Conference rooms with Teleconferencing and Video-conferencing capabilities
- Twenty private workstations which can be customized to meet your individual computer equipment and furnishing needs
- Laser and line printers
- Training available
- Other amenities include bicycle lockers and convenient rail/transit service connections

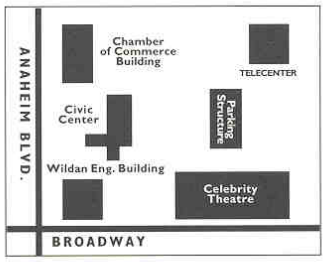
For more details, call the Neighborhood Telecenters Program toll-free: **1-800-TELWORK** or the City of Anaheim at **(714) 254-5277**.

Teleworking
FROM ANAHEIM

Downtown Anaheim Telecenter

201 Center Street

Anaheim, CA 92805



For more information on the Anaheim Telecenter
and how it can benefit your business,
call the City of Anaheim at:

(714) 254-5277

APPENDIX D

SAMPLE DOORHANGER (FIRST-PHASE MARKETING)

APPENDIX D: SAMPLE DOORHANGER (FIRST-PHASE MARKETING)

Neighborhood Teleworking is here!

RESERVE YOUR SPACE NOW

Is your job mostly desk work?

If so, you can keep your job but cut your commute

Do your commuting with a phone, fax, or modem

Work near home a day or more a week and cut those commute hours

Nine million Americans and thousands of companies have discovered the benefits

Teleworking can work for you AND your employer

Teleworking

MODESTO TELECENTER:
1700 Standiford
577-5473

Your local Telecenter is part of the Neighborhood Telecenters Program, a program sponsored by the California Department of Transportation and the Federal Highway Administration. The Telecenters Program is opening new telework facilities in selected California communities.

What is teleworking?

Teleworking is working from home or from an office very near your home instead of commuting to a distant workplace.

Your Neighborhood Telecenter is a fully equipped office environment within walking or bicycling distance of your home.

Why work at your Neighborhood Telecenter?

- You can set yourself free from the frustration and hassles of daily commuting
- Your time is your most precious asset. Teleworking saves hundreds of hours every year—so you can get more work done and have more time for yourself and your family.
- You will realize significant savings in gas and parking, not to mention wear and tear on your car.

Above all, your Neighborhood Telecenter is your opportunity to work close to where you live—and that is the way work was meant to be.

MODESTO TELECENTER:
1700 Standiford
577-5473

Your local Telecenter is part of the Neighborhood Telecenters Program, a program sponsored by the California Department of Transportation and the Federal Highway Administration. The Telecenters Program is opening new telework facilities in selected California communities.

APPENDIX E

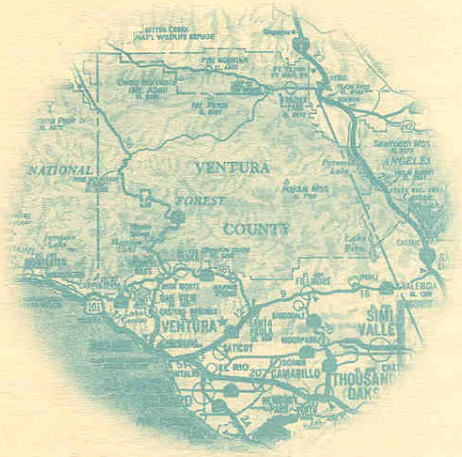
VENTURA COUNTY TELECOMMUTER CENTERS BROCHURE

APPENDIX E: VENTURA COUNTY TELECOMMUTER CENTERS BROCHURE

INTRODUCING

VENTURA COUNTY TELECOMMUTER CENTERS

AT VENTURA COLLEGE AND MOORPARK COLLEGE



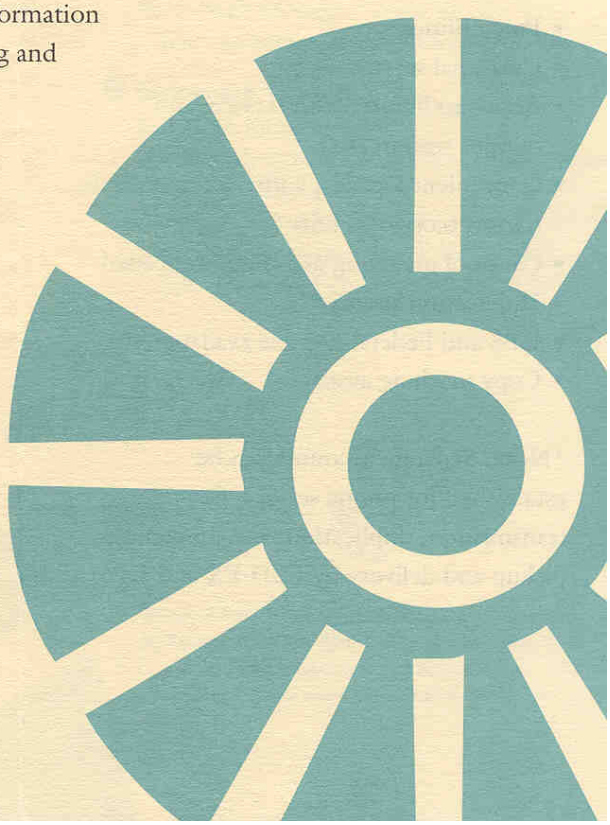
The Ventura County Telecommuter Centers provide state-of-the-art telecommuting technology to employees in Ventura County who currently commute to work. Ventura County Community College District students working off-campus are also invited to participate in this groundbreaking pilot project.

Moorpark College
Educational/Telecommuter Center
7075 S. Campus Rd.
Moorpark, CA 93021-1695

NON-PROFIT
U.S. POSTAGE
PAID
PERMIT #26
MOORPARK, CA.

WHAT IS TELECOMMUTING?

Telecommuting allows an employee to work at an alternative site one or more days each week instead of at the corporate or agency work site. This innovative approach uses the information superhighway—i.e., high-technology computer and telephone systems—to connect the employee with supervisors and clients. For "knowledge workers" and "information movers," technical writers, word processing and fiscal personnel, and government workers, telecommuting increases productivity by providing a quiet work station away from office interruptions.



THE TELECOMMUTER CENTER PROVIDES:

- Complete, affordable office space
- Fully-equipped workstations
- Telephone and fax machines
- UPS and FED-EX service
- Electronic highway networking and support
- New facilities
- Privacy and security as needed

TELECOMMUTING AND THE ELECTRONIC SUPERHIGHWAY:

Telecommuter Centers in Ventura County provide a practical and economical way to create an identity for your business and benefit employees by decreasing commuter time. Equipment and amenities include:

- Computer workstation with modem and CD ROM
- Major brands of software
- Technical support for computer related questions and problems
- Private Voice Mail message center
- Free use of conference room for telecommuters
- Fax machine*
- Free utilities
- Custodial service
- Access to library, food service, and campus resources
- Convenient location with access to public transit; bicycle security
- Car pool matching assistance as needed
- Duplication service*
- UPS and Federal Express availability*
- Copy machine available*

***Note:** Separate accounts can be established for phone service, facsimile transmission, duplication, and on-campus pickup and delivery by FED-EX and UPS.

WHY TELECOMMUTING ON A COLLEGE CAMPUS?

By 1995, an estimated 6.6 percent of the work force will be using telecommunications technology to work in a field office or at home. The Ventura County Community College District is working closely with statewide networks and research teams to ensure that local employers and employees have this option.

Increasing numbers of community college students are adults who attend day or evening classes on a part- or full-time basis; we know that most adult students are also workers who commute to their job sites once or twice a day from their campuses. Other students who commute between Ventura and Moorpark College campuses for classes will benefit from teleconferencing facilities that allow for intercampus Distance Learning.

Teleconferencing can also provide cost-effective educational and training programs to local employers. The College District is itself a major employer; telemeetings would allow district and college administrators, faculty, staff, and students to limit their travel between campuses and to the district office.

WHAT ARE THE BENEFITS OF TELECOMMUTING FOR EMPLOYEE PRODUCTIVITY?

Research indicates that morale is improved as employees—especially parents—appreciate the chance to work closer to home and save transportation expenses. Reduced travel time improves job performance as employees' energy is immediately directed towards job tasks, not the commute. Customer relations improve as employees can be closer to the customer, especially those in the Ventura area. Teleconference rooms are available for "telemeetings" with one or more clients to avoid spending time on the road.

WHAT ARE THE COST BENEFITS?

The office is furnished with computer technology at costs that are below market value. Additional services, such as technical support personnel and parking, are provided at no charge. Campus resources, including library and food services, are available.

By decreasing the time spent driving long distances to work and/or to meet with clients, telecommuting is an answer to California's air quality control and traffic problems. Employers can use this as an example of compliance with Air Pollution Control District Rule 210 which requires a plan for decreasing the amount of commuting on California highways, thus reducing air pollution, energy consumption, and traffic congestion.

FEES AND ONE-TIME COSTS:

Fees to employers range from $100.00 to $250.00 per month, depending on size of agency/company and any additional services as identified. There may also be additional setup costs. FAX service costs are $2.00 per outgoing page within the USA, and $1.00 per incoming page.

FOR MORE INFORMATION

Make an appointment to visit the Educational/Telecommuter Centers at:

- **Ventura College**
  (near Guthrie Hall, off Central Campus Way)
  4667 Telegraph Road
  Ventura, CA 93003
  Voice Mail Message Center for The VC Telecommuter Center: (805) 650-5750

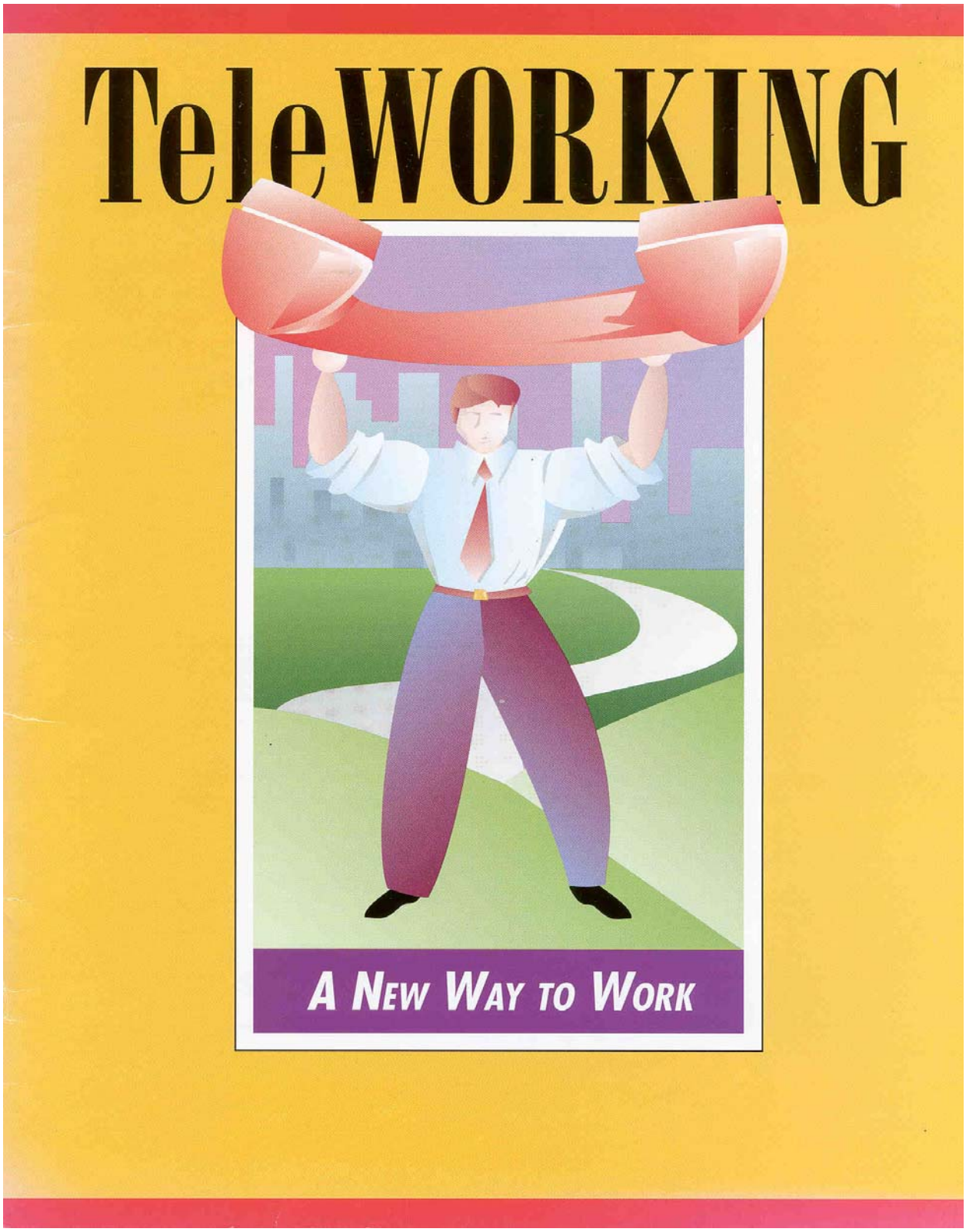
- **Moorpark College**
  2nd Floor Library
  7075 South Campus Road, Administration and Visitors' Parking Lot
  Moorpark, CA 93021-1695
  Voice Mail Message Center for The MC Telecommuter Center: (805) 378-5300

Funded by Cal Trans and UC Davis Institute of Transportation Studies in cooperation with The Chancellor's Office of The California Community Colleges

APPENDIX F

UPDATED LARGE BROCHURE, WITH SITE-SPECIFIC INSERTS FOR BACK POCKET (LATER-PHASE MARKETING)

APPENDIX F: UPDATED LARGE BROCHURE, WITH SITE-SPECIFIC INSERTS FOR BACK POCKET (LATER-PHASE MARKETING)



TeleWORKING, What Is It?

Teleworking is working from home or from an office very near your home instead of commuting to a distant workplace.

Any job that does not depend on the location of the worker is teleworkable, allowing participating employers to enjoy the competitive advantages of multi-employer telework centers located close to where their employees live. These employers can reduce office-related overhead while helping their employees achieve superior job satisfaction and increased productivity.

A neighborhood telecenter brings the benefits of telework to you — providing a secure, well-equipped work environment within walking or bicycling distance of your employee's home.

BOTTOM-LINE

Benefits

Reduce Your Overhead

A neighborhood telecenter is an incentive you can use to reduce absenteeism, promote employee retention and lower personnel costs associated with recruitment, hiring and training of new employees. Workers are happier when they can enjoy stress-free commuting, including the option of walking or bicycling to work.

With a sufficient number of teleworkers, a teleworking plan can facilitate the sharing of neighborhood office space among several employees.

Parking costs money, whether an employer provides employee parking or workers pay for it themselves. For those employers that provide parking, teleworking may save money by more efficiently allocating the valuable parking spaces at the central facility.

Enhance Employee Productivity

Teleworking reduces employee stress by eliminating long commutes. Employees arrive at their desks on time and ready for work. At the end of the day they don't worry about beating the rush.

Without the stress of commuting, employees have more energy and enthusiasm for their jobs. Overall productivity gains in excess of 12% are typical.

The flexibility of teleworking reduces employee absenteeism — an average of two fewer lost days per employee per year has been observed.

Agreed-upon productivity goals are vital to the successful management of any teleworking program.

Employers can make teleworking a time-shared program, allowing each of several employees to work in the telecenter an average of 1 to 2 days per week.

OPTIMIZING

Your Operations

The telecenter is a quieter work environment that promotes efficiency.

The availability of a neighborhood teleworking program can be a tremendous advantage in recruiting talent from the local area.

The telecenter is a complete office environment, featuring a site manager and telephone, fax and data communications facilities.

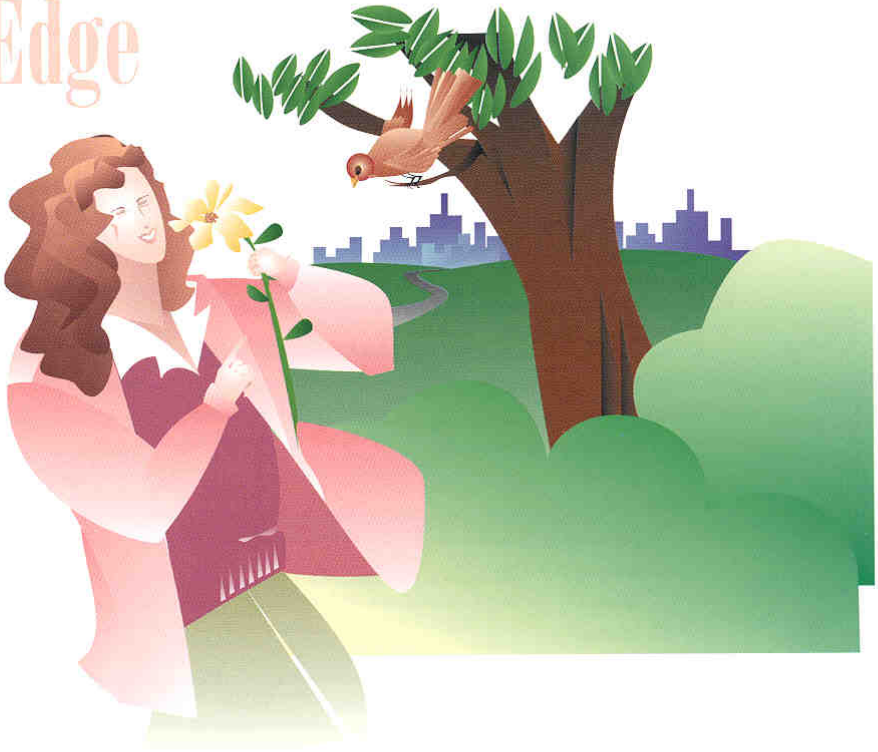
Because efficient electronic communications and scheduling are emphasized, teleworking promotes fast turnaround of information — as well as the on-time completion of work assignments.

Managing Teleworkers

By emphasizing goal setting, monitoring and clear communication, teleworking helps organizations meet management goals.

Managers and supervisors get results, because they focus on attainment of specific objectives.

The Environmental Edge



Replacing all or part of the commute with telecommunications can improve regional air quality and reduce traffic congestion.

The average telecommuter saves more than 4,000 kilowatt-hours of energy and reduces carbon monoxide air pollution by 100 pounds every year.

Teleworking is a socially and environmentally responsible way to improve the bottom line.

SAMPLE COST/BENEFIT

Analysis

See How Cost-Effective Teleworking Can Be

Direct Costs Per Teleworker:

	ONE-TIME	ANNUAL
Training	$150	
Telecommunications		
Install phone lines/modems	250	
Services		480
Moving costs		
Renovation/installation	50	
Facilities leasing (will vary)		
Furniture*		
Insurance*		
Equipment purchase/rental*		1,400
TOTAL DIRECT COSTS	**$450**	**$1,920**

*Included in lease costs. Teleworker uses on-site computer or company laptop.

Direct Benefits Per Teleworker:

Increased employee effectiveness	
Average 12% at 1.5 days/week	$3,360
Savings on sick leave	
Average 2 days/year reduction	243
Reduced parking requirements*	360
Office space savings	3,240
TOTAL DIRECT BENEFIT	**$7,203**
NET ANNUAL BENEFIT	**5,283**

*This applies to those employers which can benefit from reduced parking costs.

Based on surveys of several hundred telecommuters and their supervisors (1990-1993)

Basis: $28,000 average annual salary teleworking 1.5 days/week.

COST/BENEFIT

Analysis Worksheet

Productivity increase	$_____1
Absenteeism	_____2
Office space	_____3
Parking	_____4
Total Annual Savings Per Teleworker	_____5

Assumptions:

Figures are based on an annual teleworker salary of $_____, productivity increase of 12%, parking at $_____ per year reduced by 30% and use of 150 square feet of office space at $_____ per square foot rent reduced by 30%.

Instructions:

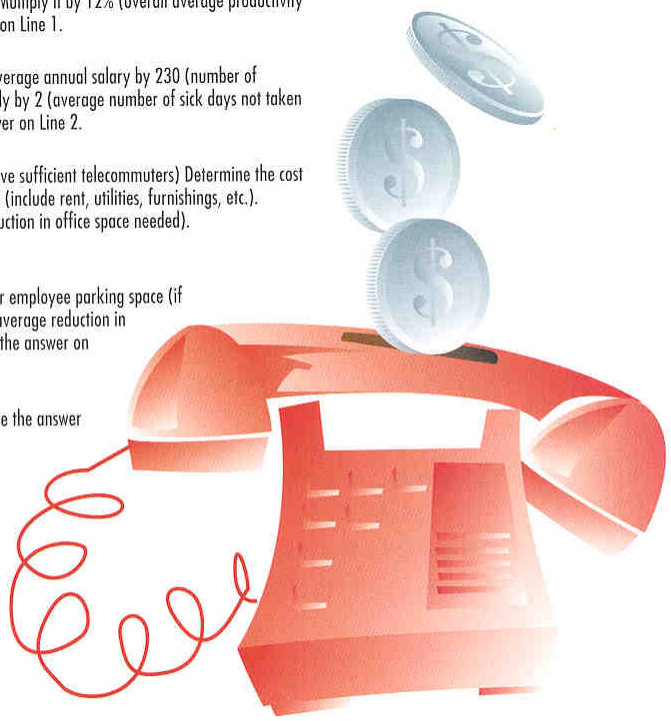
1. Productivity increase: Determine the average annual salary of prospective teleworkers at your company. Multiply it by 12% (overall average productivity increase) and write the answer on Line 1.

2. Absenteeism savings: Divide average annual salary by 230 (number of workdays per year) and multiply by 2 (average number of sick days not taken by teleworker). Write the answer on Line 2.

3. Office space: (provided you have sufficient telecommuters) Determine the cost per square foot for office space (include rent, utilities, furnishings, etc.). Multiply by 30% (potential reduction in office space needed). Write the answer on Line 3.

4. Parking: Determine the cost per employee parking space (if applicable). Multiply by 30% (average reduction in parking spaces needed). Write the answer on Line 4.

5. Add Lines 1 through 4 and write the answer on Line 5.



QUESTIONS

About Teleworking

Q: What about supervision?

A: Workers and their managers should agree to a set of performance goals. The success of your telework program must be measured by results.

Q: How do you address security issues?

A: The telecenter operates under the supervision of a site manager, responsible for maintaining security of the facility.

Q: What jobs are best suited for teleworking?

A: Teleworking is ideal for many kinds of "information work" including jobs that require a computer terminal, project-oriented activities, and jobs that do not require extensive access to paper files or specialized equipment.

Q: Is teleworking only for large companies?

A: It's for companies of all sizes. In fact, more than 75% of all teleworking is now conducted by employees of small businesses.

Q: Aren't teleworkers more difficult to manage?

A: Not really. Managers report that less time and effort are needed to supervise telecommuters. The management of off-site employees is already routine in any organization with service reps or an outside sales force. Rather than directly observing employees, success is a matter of monitoring results.

Q: How does teleworking in a neighborhood telecenter differ from teleworking at home?

A: The neighborhood telecenter provides employees with a businesslike working environment with fewer distractions, as well as access to equipment and facilities that the worker might not have at home.

Development of this brochure was sponsored by the
California Department of Transportation and the Federal Highway Administration.

SPEND LESS TIME
at the office. Spend more time being productive.

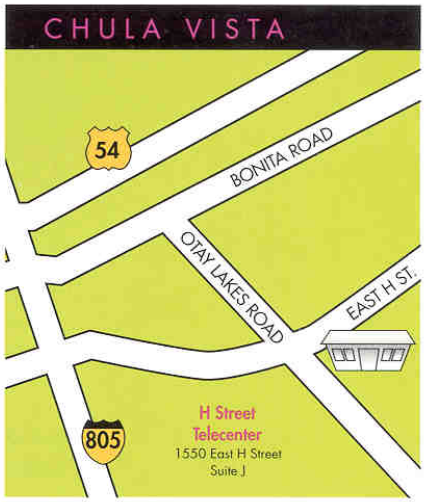
Big ideas can happen anywhere. And we can prove it—if you try telecommuting instead of toil-a-commuting. Just think. You'll shorten your drive. Buy less $2-a-gallon-gas. Spare the air. Arrive bright-eyed and bushy-tailed. Besides, you'll be doing business in one of Southern California's truly cutting-edge branch offices: The City of Chula Vista's Eastern Telecenter. In fact, it has everything you need to succeed in business without really driving:

- 10 spacious workstations
- Roomy conference room
- PCs with business software and modems
- Laser printer, fax, copier
- Multiple phone lines
- Internet access
- Kitchen facilities
- An on-site manager who can answer any questions about the center

Like to hear more?

Call Angie Jarchow,
Telecenter Director
City of Chula Vista Eastern Telecenter
1550 East H Street, Suite J
Chula Vista, CA 91913
(619) 585-5666 Fax (619) 656-3087
E-mail: ajarchow@ucsd.edu
WWW: http://www.ci.chula-vista.ca.us/

CHULA VISTA "H STREET"



CHULA VISTA "H STREET"

Schedule of Fees

Workstation

1 Half-Day (4 Hours)	$24
1 Day (8 Hours)	$40
3 Half-Days Per Week (12 Half-Days Per Month)	$200
1 Month (Full Time)	$400

Downtown Conference Room

Seats 10+

1 Hour	$25
1 Half-Day (4 Hours)	* $75

***Use of the videoconference system is extra. Please call for rates.**

Eastern Conference Room

Seats 6

1 Hour	$10
1 Half-Day (4 hours)	$30

HOW TO GET TO WORK
without going to the office.

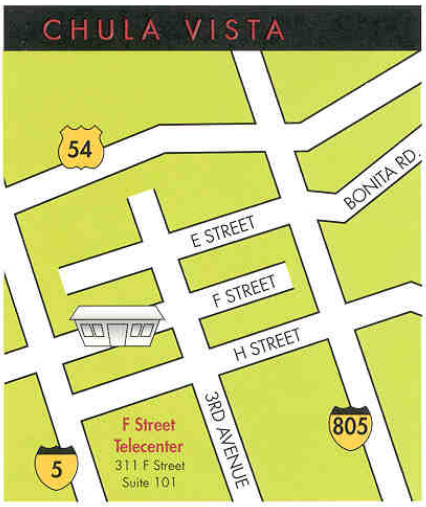
It's easy. Try telecommuting for a change. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, you'll be doing business in one of Southern California's truly cutting-edge branch offices: The City of Chula Vista Telecenter. In fact, The City of Chula Vista Downtown Telecenter has everything you need to succeed in business without really driving:

- Conference room with video-conferencing equipment
- A private office
- A small classroom
- 8 cubicle workstations equipped with PCs and a Power Macintosh 7100/66AV computer—all with software and fax/modems
- Laser printer, fax, copier and scanner
- ISDN lines and Internet access
- Kitchen facilities
- An on-site manager who can answer any questions about the center

Like to hear more?

Call Heather Evergates,
Telecenter Technology Director
City of Chula Vista Downtown Telecenter
311 F Street, Suite 101
Chula Vista, California 91910
(619) 498-4909 Fax (619) 498-4919
E-mail: hevergates@ucsd.edu
WWW: http://www.ci.chula.vista.ca.us/

CHULA VISTA "F STREET"



CHULA VISTA "F STREET"
Schedule of Fees

Workstation

1 Half-Day (4 Hours)	$24
1 Day (8 Hours)	$40
3 Half-Days Per Week (12 Half-Days Per Month)	$200
1 Month (Full Time)	$400

Downtown Conference Room

Seats 10+

1 Hour	$25
1 Half-Day (4 Hours)	* $75

***Use of the videoconference system is extra. Please call for rates.**

Eastern Conference Room

Seats 6

1 Hour	$10
1 Half-Day (4 hours)	$30

TELECOMMUTING.

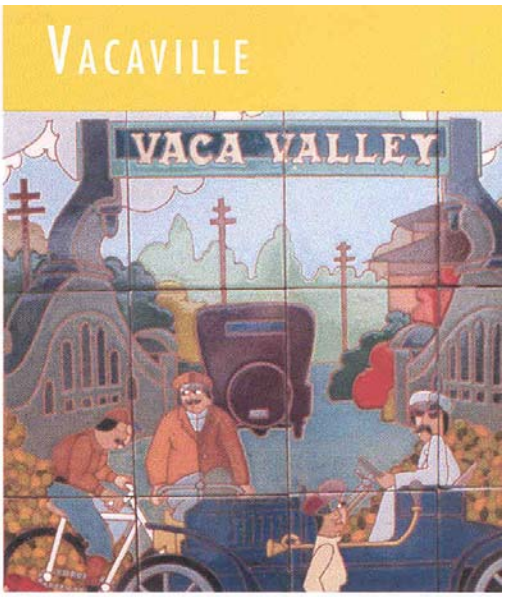
It's the next best thing to beaming there.

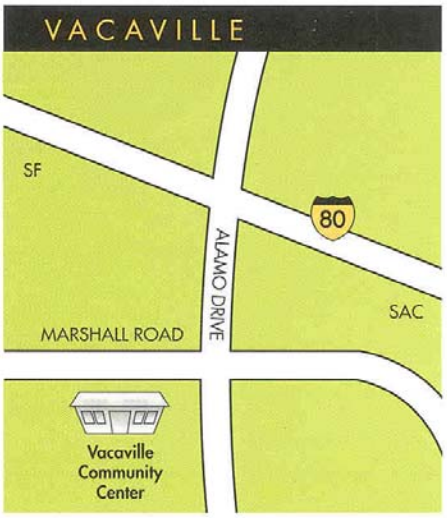
Getting your work done can't get any easier. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, you'll be doing business in a great branch office just off Interstate 80 in the heart of Vacaville with a view of the surrounding hills. In fact, the Vacaville Telecenter has banking, restaurants, shopping, nearby bike lanes. And everything you need to succeed in business without really driving:

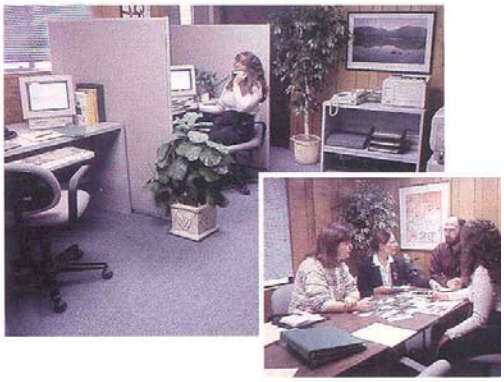
- Conference room
- 8 workstations
- 6 IBM 486 Computers
- Fax
- 9600 band modems
- Copier
- Internet access
- Free coffee

Like to hear more?

Call Ed Huestis,
Telecenter Director
Vacaville Telecenter
1102 Alamo Drive
Vacaville, California 95687
(707) 449-5678 Fax (707) 449-5649







VACAVILLE
Schedule of Fees

Workstation	
Monthly	$100
Daily	$65
Hourly	$10

Office Equipment	
Fax Machine	Free
Photocopier	Free

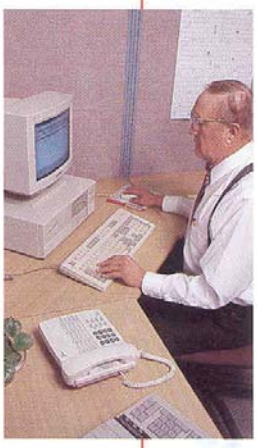
Conference Room	
Hourly	$10

Or free with a monthly workstation rental

THE SWALLOWS ONLY

commute twice a year. But, this deal is almost as sweet.

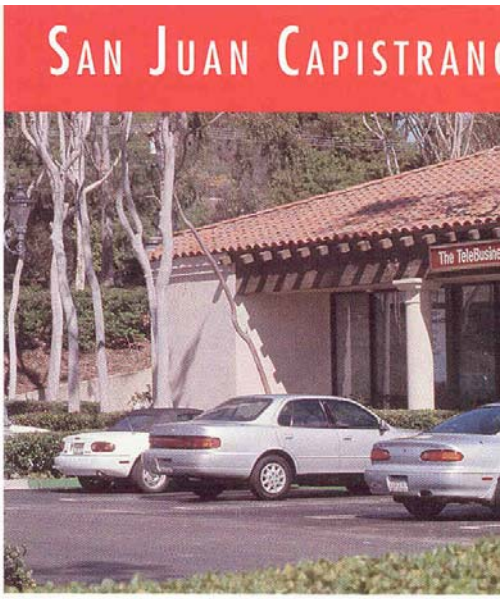
Why go to the office when you can spend the day in San Juan Capistrano? Try telecommuting for a change. It's easy. It's fun. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, you'll be doing business in what might just be the best branch office in Southern California: The San Juan Capistrano TeleBusiness Center. Located on the 5/405 Freeway midway between San Diego and Los Angeles, the San Juan Capistrano TeleBusiness Center has everything you need to succeed in business without really driving:



- Private offices
- Workstations with computers and modems
- Printers, faxes, copiers and scanners
- Conference room with video-conference equipment and camcorder
- Server with major software packages
- Internet access and available computer classes
- PacBell Centrex System, ISDN lines and Voice Mail
- Microwave, fridge and coffee machine
- An on-site manager who can help answer questions about the center

Like to hear more?

Call Chuck Hauswirth
The TeleBusiness Center
31648 Rancho Viejo Road, Suite B
San Juan Capistrano, California 92675
(714) 443-3444 Fax (714) 488-3989
E-mail: commute@asyst.net
WWW: http://www.telebusiness.com



SAN JUAN CAPISTRANO
Schedule of Fees

Private Offices (ISDN available)

	PER HR	PER DAY	PER WEEK
"W" – 9' x 11' (space available)	$20	$50	$200
"X" – computer, fax, WIN '95 and Internet	$25	Var.	Var.

Modular Cubicles

"A" – 6' x 6' partitioned	$10	$30	$120
"B" thru "G" – 8' x 8' partitioned	$8	$20	$80

Conference/Meeting Room

Tenant	Free	Free	N/A
General Public	$20	$100	N/A
Camcorder (VCR) rental	$5	$25	N/A

Video Conferencing

	1ST HR	2ND HR	OVER 2 HRS
Room General Public (space avail.)	$185	$120	$75
Room Tenant rate (plus cost of call)	$90	$60	$25
Desktop	$35	$25	$15

Fax Services

	1 PAGE	ADD PAGE
Outgoing Tenant	$1	Free
Outging General Public	$3	$1
Incoming Tenant	$.10	$.10
Incoming General Public	$3	$1

Computer Rentals

	1ST HR	2ND HR	OVER 2 HRS
Regular PC computers	$9	$7	$5
Internet and E-Mail access	$15	$10	$8

Web Site Activities

1 Page	1 Graphic	2 Links	$300
2 Pages	2 Graphics	6 Links	$450
3 Pages	3 Graphics	9 Links	$700
5 Pages	5 Graphics	15 Links	$950
Other Web Services (per hour)			$50 to $150

Copy Services/Document Scanning

Prices are 50% less than the general public rates

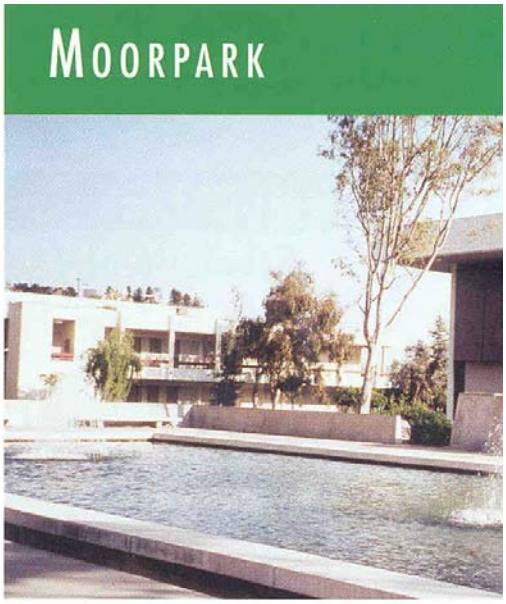
WHY GO TO WORK
when you can go back to school?

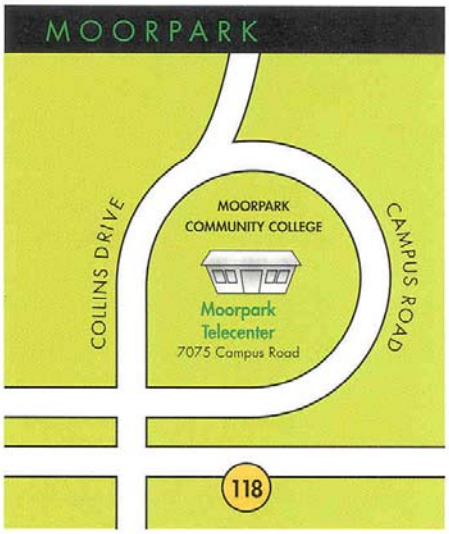
Remember how relaxed things were on campus? Why not turn in your work from there again? Try telecommuting from Moorpark Community College Telecenter for a change. It's easy. It's fun. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, your campus office is perfect. Located on the second floor of the campus library, it's a light, bright, serene place to work. So, you can be as relaxed as you are productive. And you'll have everything you need to get the job done. Library, bookstore, postal and FEDEX service and UPS on request. What else could you ask for?

- Conference room with video-conference equipment
- 4 cubicle workstations with PCs with CD-ROM drives, software and fax/modems
- Laser printers, fax machines, copiers
- ISDN lines, Voice Mail and Internet access
- An on-site administrator who can help answer any questions about the center

Like to hear more?

Call Candice Robinson
Moorpark Community College Telecenter
7075 Campus Road
Moorpark, California 93021
(805) 378-1590 Fax (805) 532-2882
E-mail: veeto01@west.net
WWW: http://www.vcccd.ccs.ca.us





MOORPARK

Schedule of Fees

Reserved Workstation

DAYS PER WEEK	COST PER MONTH
1	$50
2	$100
3	$150
4	$200
5	$250

Monthly rental includes full use of assigned workstation, fax machine, copy machine, and conference room in accordance with a signed Memorandum of Understanding. Telephone charges will be billed at the end of each month

Drop By*

Daily Rate (minimum of 6 hours)	$20 per day
Conference Room only	$10 per hour
Workstation	$7.50 per hour
Fax (Receiving)	$.50 per page
Fax (Sending)	Free
Copy Machine	$.04 per page

Telephone restricted to local calls only. Long distance calls must be made collect or billed to calling card.

Vouchers for drop-by use may be purchased in advance. Please call the Telecommuting Center for details at (805) 639-2170.

***Must call ahead to insure an open workstation**

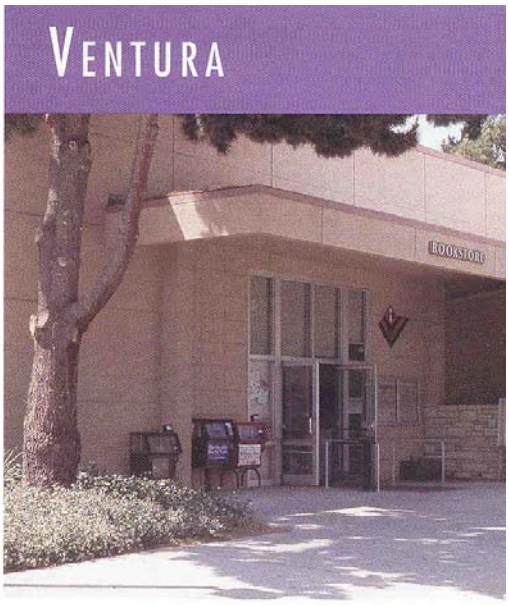
WHY GO TO WORK
when you can go back to school?

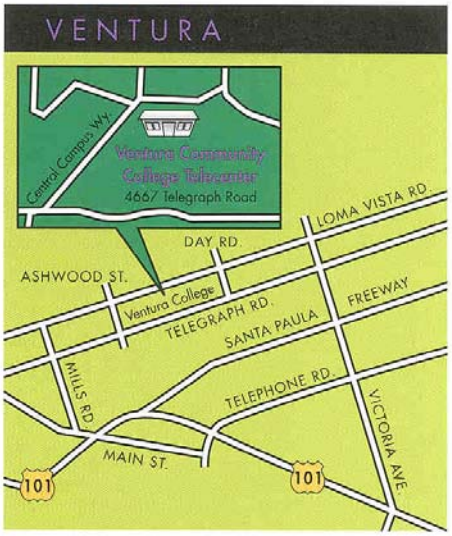
Remember how relaxed things were on campus? Why not turn in your work from there again? Try telecommuting from the Ventura Community College Telecenter for a change. It's easy. It's fun. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, your campus office is perfect. With floor-to-ceiling windows overlooking campus you'll enjoy a serene place to work. So, you'll be as relaxed as you are productive. And you'll have everything you need to get the job done. Library, bookstore, postal and FEDEX service and UPS on request. What else could you ask for?

- A private office
- Conference room with video-conference equipment
- 4 cubicle workstations with PCs with CD-ROM drives, software and fax/modems
- Laser printers, fax machines, copiers
- ISDN lines, Voice Mail and Internet access
- An on-site administrator who can help answer any questions about the center

Like to hear more?

Call Candice Robinson
Ventura Community College Telecenter
4667 Telegraph Road, Ventura, CA 93003
(805) 639-2170 Fax (805) 639-2172
E-mail: veeto01@west.net
WWW: http://www.vcccd.cc.ca.us





VENTURA

Schedule of Fees

Reserved Workstation

DAYS PER WEEK	COST PER MONTH
1	$50
2	$100
3	$150
4	$200
5	$250

Monthly rental includes full use of assigned workstation, fax machine, copy machine, and conference room in accordance with a signed Memorandum of Understanding. Telephone charges will be billed at the end of each month

Drop By*

Daily Rate (minimum of 6 hours)	$20 per day
Conference Room only	$10 per hour
Workstation	$7.50 per hour
Fax (Receiving)	$.50 per page
Fax (Sending)	Free
Copy Machine	$.04 per page

Telephone restricted to local calls only. Long distance calls must be made collect or billed to calling card.

Vouchers for drop-by use may be purchased in advance. Please call the Telecommuting Center for details at (805) 639-2170.

***Must call ahead to insure an open workstation**

TELECOMMUTING.

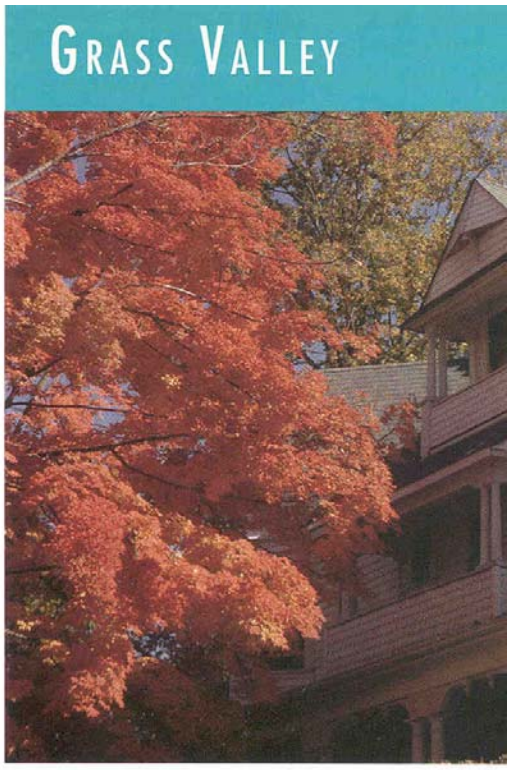
It's how to hot wire the 1800s into the 1990s.

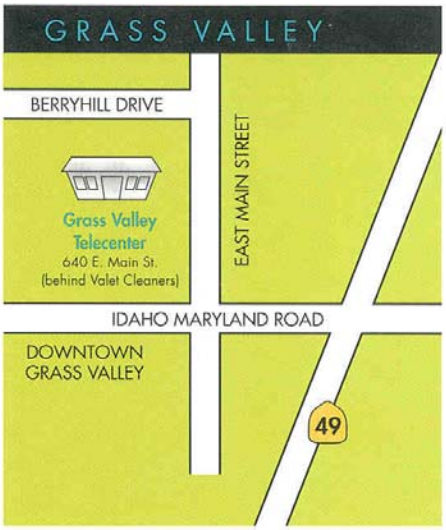
Why go to the office when you can spend the day in a high tech telecenter in the heart of historic Grass Valley. It's easy. It's fun. You'll cut down on your drive. Save gas. Save the air. Save wear and tear on your psyche. Besides, you'll be doing business in what might just be the best branch office in California: The Grass Valley Telework Center. It has everything you need to succeed in business without really driving:

- 10 expandable cubicle workstations
- 6 IBM 486 PCs, each with fax/modem and dot matrix printer
- Laser jet printer, Fax and Copier
- AT&T Vistium desktop videoconference unit
- Internet access

Like to hear more?

Call Leslie Olson, Nevada County TMA
640 East Main Street
Grass Valley, California 95959
(916) 265-2667 Fax (916) 274-6469
E-mail: lolson@nccn.net
WWW: http://www.nccn.net/lolson/





GRASS VALLEY
Schedule of Fees

Workstation

×

×

×

Office Equipment

×

×

Conference Room

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