

# CONNECTING MARIPOSA COUNTY

Assessing Our Readiness for the Networked World

A Report from the Community

January 2002

## *San Joaquin Valley ACCESS*

A Partnership Program of the Great Valley Center and the California Technology, Trade and Commerce Agency, Division of Science, Technology and Innovation

[www.greatvalley.org/access](http://www.greatvalley.org/access)

## INTRODUCTION

In June 2001, the Mariposa County Board of Supervisors approved Mariposa County's participation in the nine-county ACCESS program being supported by the Great Valley Center. The purpose of this program is to conduct an infrastructure assessment to identify the County's readiness to participate in the Networked World, set goals to improve readiness, and develop action initiatives to achieve those goals. The concept of "connectivity" presents Mariposa County with key opportunities and challenges surrounding issues of telecommunications infrastructure, digital divide, and E-government.

The *Connecting Mariposa Steering Committee* was formed comprised of representatives from local businesses, education, government, community-based organizations, tourism, and telecommunications companies. The *Steering Committee* is charged with planning the assessment and program oversight, with the ultimate goal of the expansion of quality, affordable, high-speed access to the greatest number of people possible.

As a first step towards that goal, the following report offers an assessment of Mariposa County's connectivity infrastructure. More than 80 leaders from agriculture, business, telecommunications, community-based organizations, education, government, healthcare, real estate, and tourism volunteered to help shape the following report during a series of workshops in October 2001. We wish to express our appreciation to the many community representatives and staff who participated in the needs assessment process.

Based on the following information, the *Connecting Mariposa Steering Committee* will be providing a set of recommendations and pilot project suggestions in the near future. We encourage and invite you to consider becoming involved in the future activities of the *Steering Committee* as we move forward in our efforts to increase connectivity opportunities for Mariposa County.

On behalf of the *Connecting Mariposa Steering Committee*, we want to thank the California Technology, Trade, and Commerce Agency, Division of Science, Technology, and Innovation for funding ACCESS and the Great Valley Center for its support. We also want to thank all of those who have participated in the development of this report, and we look forward to working with you as we develop action initiatives and begin implementation.

Robert C. Stewart  
Supervisor District 3

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## Executive Summary

San Joaquin Valley ACCESS (Advanced Communications Connectivity for E-commerce Strategic Success) is a partnership program of the Great Valley Center and the California Technology, Trade, and Commerce Agency, Division of Science, Technology, and Innovation. Its goals are to 1) create and retain jobs using e-commerce and new technology tools, 2) increase the number of rural small businesses participating in e-commerce, and 3) improve their ability to compete. Nine counties have joined the program.<sup>1</sup>

The ACCESS program has three phases. In the first phase, each county conducts an assessment of its connectivity. In the second phase, sector teams identify a set of action initiatives to increase the community's access to and productive use of advanced communications services. In the third phase, each county implements the best action initiative proposals.

Connecting Mariposa County began with the formation of a steering committee to plan the assessment and provide oversight for the program. The committee met on July 31, 2001. With the help of a consultant, the committee developed the strategy for a community readiness assessment workshop and a list of people to invite. The workshop took place on October 4<sup>th</sup> in two sessions, at the Mariposa County Fairgrounds. About 80 people from all over the county participated in the assessment (a list of participants and steering committee members is provided in the Appendix).

Workshop participants were divided into teams by economic sector:

- ✓ Agriculture
- ✓ Business
- ✓ Communications Services
- ✓ Community-Based Organizations
- ✓ Education and Libraries
- ✓ Government
- ✓ Healthcare
- ✓ Real Estate
- ✓ Tourism

The teams used a community self-assessment tool developed by the Computer Systems Policy Project (CSPP), a public policy advocacy group comprised of the Chairmen and Chief Executive Officers from America's leading information technology companies<sup>2</sup>. The CSPP published a visionary report, *Living in the Networked World*, that describes the importance of global connectivity. The companion *Networked World Readiness Guide* is a self-assessment tool designed to help communities determine how far along they are in developing their communications infrastructure and in putting it to productive use.

The Connecting Mariposa County steering committee identified representatives from each major economic sector who have expertise in and knowledge about the quality of connectedness in their sector. The committee also ensured that all communities in the County were represented. Working in sector teams, workshop participants developed visions, one-year goals, and ideas for how to achieve those goals. This report summarizes their work.

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<sup>1</sup> Fresno, Kern, Kings, Madera, Mariposa, Mariposa, San Joaquin, Stanislaus, and Tulare Counties.

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<sup>2</sup> For more information on the *CSPP Readiness Guide* and the *Living in the Networked World* report, see [www.cspp.org](http://www.cspp.org).

**The following are some of the key insights that emerged from the process:**

1. Mariposa County is largely served by dial-up access to the Internet for residences and businesses.
2. Some larger businesses and technology-based businesses have secured high-speed connections to the Internet.
3. Wireless service providers lack the tower infrastructure to provide adequate coverage for customers.
4. The local phone company has recently launched DSL services. The company wholesales the service to local Internet Service Providers who then offer the service to their customers.
5. Because Mariposa County does not have a local Community College in the County, four Year College, or University, it will have to develop innovative strategies for working with these institutions to ensure that essential technology and non-technology related training and educational services are available.
6. The tourism industry has an opportunity to take a leadership role in the development of visitor related online services and programs.
7. There is a need to develop technology training and education programs to enhance workforce capabilities.
8. The School District is well connected, and more than 50% of teachers have received training in how to use the technology available to them.
9. The local hospital is beginning to pursue telemedicine to improve the quality of care it can offer the community.
10. The library system plays an essential role in providing access centers to technology for the community.

## SUMMARY ASSESSMENT

	<b>Current Stage</b>	<b>Comments</b>
The Network	1+	The County has DSL service available, but no cable modem. The DSL service is new, so most organizations, residences, and businesses use dial-up connections for Internet access. Some larger organizations and businesses have advanced services. Wireless services are limited to approximately 30% of the county.
Networked Places	1+	The K-12 School District, library, and the hospital are the most technologically advanced industry sectors in Mariposa. They have invested in technology and are experiencing the benefits. Other sectors are just beginning to understand technology and how to use it in their business processes.
Networked Applications & Services	1+	Yosemite National Park has a state-of-the art Web site allowing visitors to perform a variety of functions and access information on the area. The hospital is using applications to consult with physicians from their homes. Other sectors are beginning to plan for the use of advanced services in their organizations.
Networked Economy	1+	County libraries are an essential place for residents and businesses to access the Internet. Other access points need to be built. More training and education is needed in our community to help create a knowledgeable, adept workforce.
Networked World Enablers	1-	Elected officials and business leaders are beginning to work together to plan for the community's future technology needs. The community needs more training and education on essential privacy and security issues.

**Stage 1:** High-speed services are hard to get or expensive; few take advantage of the resources and services on the Internet.

**Stage 2:** High-speed services are more widely available; local Web sites are limited.

**Stage 3:** General access to high-speed services; Web sites support transactions; organizations beginning to restructure for the New Economy.

**Stage 4:** Universal access to affordable, high-speed services; the Internet has changed the way all organizations operate; the Internet is fully integrated into everyday life.

## MARIPOSA COUNTY AND THE NETWORKED WORLD

Mariposa County is blessed with a beautiful natural environment and high quality of life. Yosemite National Park draws significant numbers of tourists to the area and drives the local economy. Mariposa is striving to protect its rural character but is awakening to the fact that it has to adapt to become more competitive in the New Economy. There is a strong belief that the community can change with the times but retain the qualities that make this a desirable place to live and work. **Advanced communications services must be one component in the County's strategy to capitalize on its opportunities.**

High-speed communications services for residences and small businesses have just become available in the community. Some larger businesses and some technology businesses have purchased or leased dedicated high-speed lines to link their facilities to customers and suppliers. The School District has invested in high-speed networks and connectivity and provides advanced services for students and faculty. The library is in the process of securing a fast connection to the Internet through its participation in the San Joaquin Valley Library System purchasing consortium.

While there are examples of businesses and organizations getting connected and using technology to change their business processes, the majority of businesses and residences are dependent on 56K dial-up access. As one indication of how important broadband can be to a business, one workshop participant reported he has purchased property in a near-by community. He chooses to live in Mariposa County but drives to his second home to conduct business via the fast connection available to the network.

**For Mariposa County to participate in the Networked World, all sectors have to get connected.** But it is not enough to lay fiber optic cables and construct radio towers to improve wireless services. We must also learn how to put this new infrastructure to best use and change the way we work, live, and learn.

**The challenges and opportunities for Mariposa County are the same as for all industrialized communities:**

**Business.** Email and the Internet are becoming mission-critical for companies of all sizes and industries. Electronic commerce is saving time, cutting costs, and increasing sales. Job candidate interviews are being conducted by videoconference to save travel time and money. Electronic networks are giving suppliers access to their customer's production schedules. Organizational structures are flattening as information moves directly to the people who need it, no matter where they are located. And some employees are becoming more productive by working at home one or two days a week.

**Education.** Children must be information literate when they graduate from Middle School, if not sooner. They must know how to communicate by email, how to conduct research on the Web, how to execute secure transactions, and how to protect their privacy. The Internet also supports lifelong learning for workers who want to pursue an advanced degree or learn new skills.

**Community.** Email helps churches, charities, Little Leagues, and soccer teams announce events, call for volunteers, and raise funds without having to spend scarce resources on printing and postage. Web sites help people find out about services they

need and help staff keep informed about grant opportunities and legislative actions.

**Government.** Putting public services on-line can help residents get the information they need, when they need it. Businesses and homeowners can avoid time-consuming trips to government offices to get forms and submit permit applications. Electronic procurement can make the purchasing process more efficient. And email from voters can help elected officials make decisions with more input.

**Healthcare.** As healthcare providers convert from paper to electronic records, doctors offices can make our records more accessible to us. We will be able to review our medications and test results and get reliable information on treatments. We can send questions by email and get automatic reminders for appointments and to update vaccinations. Patients in some remote areas can already use telemedicine to consult with distant specialists from local clinics.

**The Networked World is coming to Mariposa County, and we need to prepare.** The workshop participants generated many ideas for how to improve the community's competitive position. The following ideas stand out:

1. Create a public-private collaboration to develop a cell tower location strategy that will increase wireless phone coverage.
2. Identify one portal Web site that will be supported by the community for local and visitor information.
3. Work with the local telecommunications company to facilitate the launching of its DSL service.
4. Build a community access center with high-speed services that also provides a place for offering training, distance learning, and video conferencing activities. Evaluate options for opening the School District computer labs to the community after-hours.
5. Develop a training program designed for small businesses, community based organizations, and agriculture businesses to demonstrate the uses and value of deploying technology in their organizations. Work with higher education to develop these programs.
6. The County can play a key role in helping to connect the community by developing targeted e-Government applications and services for small businesses, agriculture, and tourism.

## MARIPOSA COUNTY DEMOGRAPHICS

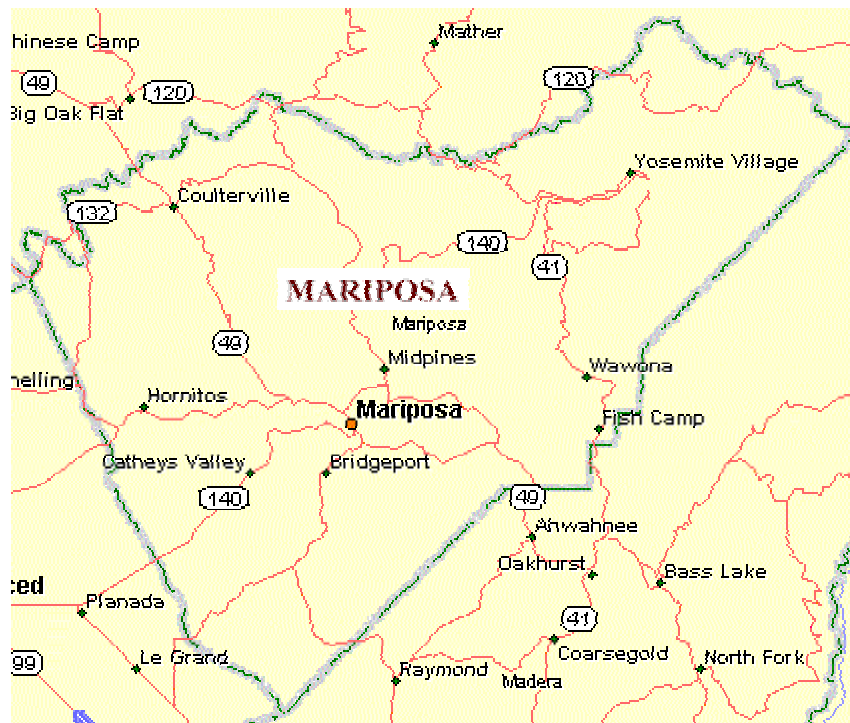
Mariposa County is located in the Central Sierra Nevada foothills. It has a population of 17,130 and 6,613 households according to the April 2000 census. The county is expected to grow to 24,300 by 2020, a 40% increase over 20 years. The county covers 1,451 square miles, yielding a population density of 12 people per square mile, well below the State of California definition of less than 300 people per square mile for rural counties.

Tourism and Agriculture are the most important industry clusters. Yosemite National Park had more than 3 million visitors last year. On an aggregate level, Mariposa ranked 49 out of 58 counties in the state for total agricultural production. Education and income levels in Mariposa County are below California averages. The 7.2% unemployment rate in February 1999 was slightly higher than the statewide average of 5.2%.

The terrain of the county is rolling hills to mountainous which makes it more difficult to serve with wireless technologies and increases construction costs for wireline telecommunications providers.

Sources: U.S. Census Bureau website; *A Statistical Tour of California's Great Central Valley – 1998*, California Research Bureau; Great Valley Center website.

## Mariposa County, CA



## THE NETWORK

### WHY IS THIS IMPORTANT?

In the 1990's, communications companies began deploying three new technologies that offer two major advantages over regular dial-up lines: much higher speeds and always-on convenience. One technology, *Digital Subscriber Line* (DSL) uses regular telephone lines. Another technology, the *cable modem*, uses the co-axial cable installed by cable television companies. The third technology, *wireless broadband*, uses towers that send high-speed signals for more than 30 miles, but it requires a clear line-of-sight. Satellite-based services are also entering the market. Each technology is capable of delivering over one million bits of data per second, a vast improvement over traditional telephone-based modems that communicate at only 56,000 bits per second.

Cable modem and DSL technologies require extensive upgrades to communications networks. Phone and cable systems have to be upgraded with fiber optic cable to offer high-speed services. Central telephone offices and cable head ends need new equipment to handle the high-speed signals. Wireless towers also need to upgrade their equipment. Each technology also has distance and loading limitations.

To compete in the networked world, communities need access to these high-speed services at affordable rates. Each community needs to look into what services are available in which parts of the community. They also need to look into the number of companies competing for their business. Competition helps keep prices low and service high.

### HOW ARE WE DOING?

Sierra Telephone has invested in DSL technology and has recently begun offering

the service. Sierra has approximately 210 route miles of fiber optic cable in the County.

The community reports strong demand for affordable broadband service. Sierra Telephone appears to be the only telecommunications company that can serve the community in the near term with broadband services.

Dial-up access to the Internet is widely available in Mariposa, and the predominate method for the community to access the Internet. Some businesses have high-speed service, purchasing or leasing a T-1 (or faster) connection. Mariposa telecommunications companies report that 40% of businesses Countywide have access to T-1 services. Within Sierra Telephone's service area, 95% of businesses can access T-1 service. But, given the small size of most businesses and organizations in the County, the cost of these connections is prohibitive.

It is universally reported that wireless phone service in the County is not sufficient; there are many areas with no service or poor service. At the workshop, participants estimated that only 30% of the County has adequate wireless service.

The major challenge for communications companies will be to achieve a reasonable return on investment in a community that is very expensive to serve. Population density in Mariposa is low; there are no significant concentrations of population with the exception of the Town of Mariposa. Additionally, the mountainous terrain and Federal parkland make infrastructure investments difficult and costly.

## WHAT NEEDS TO BE DONE?

*Communications companies need to work together to help the community improve its telecommunications services.*

To reach this goal we should support the following action initiatives:

- ✓ Work with local businesses to identify needs for broadband services and work to supply these services.
- ✓ Work with the public to plan where to site wireless towers.
- ✓ Improve electronic access for citizens to government agencies and law enforcement to conduct non-emergency transactions.

## NETWORKED PLACES, APPLICATIONS AND SERVICES

It isn't enough to wire the streets, we also have to wire our offices, schools, libraries, and homes. Enterprises need Intranets – networks for internal communications – that allow employees to get email, share printers, and connect to administrative services. We also need wireless access for mobile workers, for convenience, and as a backup network if there are problems with a wireline system.

Applications and services provide value to users. Applications allow us, for example to administer our benefits plans from home, take advanced classes at home or work, check on the school lunch menu, get building permits without having to drive to the Building Department, and buy goods ranging from electronic components to groceries.

While the Internet allows us to connect with the entire world, most people prefer to deal with local merchants and service providers. Most of our friends, teachers, and associates live within a few miles, and dealing with local government is, by definition, a local matter. Because there are so few local services on the Internet, many people see no reason to get connected. To attract these people onto the Net and help them participate in the New Economy, every community needs to increase the number and range of *local* services available on-line.

*At the workshop, participants assessed how well each of our sectors is wired and using network-based services and applications.*

## ***BUSINESS***

### **WHY IS THIS IMPORTANT?**

A number of factors are forcing businesses to change time-honored models of operation, such as global competition, partnering for all but core functions, demand for more personalized services, and the falling costs of technology. Larger businesses must get connected as their customers and suppliers cut costs and refuse to accept paper orders or invoices. The County's retail businesses cannot be sheltered from competitors on the Web; bookstores are losing sales to Amazon.com, travel agents to Travelocity.com, and car dealers to Autobytel.com. Our businesses have to adapt; they have to learn the tools of the networked world, and innovate to survive.

### **HOW ARE WE DOING?**

Workshop participants reported that nearly 85% of all jobs in the County have a relationship to tourism generated by visitors to Yosemite National Park. The overall influence of tourism on the community is significant and results in many job opportunities in hotels, motels, restaurants, and other support businesses.

The balance of Mariposa's business community is made up of small and home-based businesses that are attracted to the high quality of life the region offers. Of the estimated 346 businesses in Mariposa, the Census reports that 320 have less than 19 employees. These small businesses find a significant advantage in Mariposa; there is minimal business regulation, licensing, and permitting requirements. Small businesses report being able to quickly form a business in Mariposa due to the absence of lengthy permitting and licensing processes.

Larger and technology-related businesses have secured high-speed access to the network, but there are few options for smaller business. CKC Labs reports having a T-1 connection that enables electronic reports and records submittal from its field offices. In the beginning, the T-1 line they purchased was sufficient to meet its needs. They now report needing more bandwidth, as their operation has increased in complexity and the company has developed more applications that require connectivity.

Because most businesses are not connected to the network at speeds higher than 56k, few are using technology to change their business processes such as managing human resources applications and purchasing goods and services over the Internet. Some larger businesses are beginning to integrate technology into their internal processes to improve their overall effectiveness.

Some businesses, like Mariposa County Title and Sierra Telecommunications have been successful in integrating technology into their core operations. Mariposa County Title reported closing a real estate transaction over the Web using email and Adobe Acrobat to send documents back and forth to a client in Chile, South America. Sierra Communications provides major clients like Cisco Systems with technology marketing assistance and strategy using a dial-up connection.

#### **WHAT NEEDS TO BE DONE**

*Mariposa must seek alternative ways to fund its technology infrastructure needs. The business community recommends seeking grants, loans, and other forms of assistance to help build out the required infrastructure.*

To achieve this vision, the workshop participants propose the following ideas for action initiatives:

- ✓ Seek alternative funding sources to improve the County's technology infrastructure.
- ✓ Work to ensure that advanced communications are available and affordable for small business.
- ✓ Coordinate an effort to complete the community portal site, [www.mariposa.org](http://www.mariposa.org).
- ✓ Improve wireless phone services in Mariposa to give businesses a reliable tool for keeping up with business demands.

## **AGRICULTURE**

#### **WHY IS THIS IMPORTANT?**

The agriculture industry, including seed companies, growers, food processors, irrigation equipment manufacturers, fertilizer companies, distributors and retailers, is becoming more dependent on technology. The industry has always depended heavily on access to information, especially weather forecasts and commodity prices.

Advanced communications services are helping the industry become ever more efficient. Electronic trading exchanges are making it easier to check prices and match buyers and sellers. Electronic commerce is connecting the supply chain, reducing time and errors and eliminating a lot of manual paper processing. On-line bidding is emerging. Some growers are using the Internet to reach global niche markets directly. Others are putting weather sensors in their fields. When certain conditions are met, a radio signal is sent to a computer that then sets off a pager to alert the farmer to apply more water or apply pesticides.

#### **HOW ARE WE DOING?**

The agriculture industry in Mariposa is diverse. This sector includes suppliers of products and services, cattle, timber, grapes, and growers. Due to the significance of the agricultural economy in Mariposa County, it is important to promote technology usage

and connectedness. In 1999, the State estimated that the agriculture industry generated \$18.7 million in revenue for Mariposa businesses. Few agriculture businesses are using technology in their business processes.

One group in the agriculture sector that is using technology in an effective way is government agencies that support the agriculture industry. They give their employees access to self-service applications for human resources and finance; they use cell phones and computers. These government agencies see opportunities in promoting connectedness and improving the connectivity in agriculture to access the vast array of information and services available to their industry sector group.

Agriculture businesses report that accessing government services for permitting and licensing is time consuming and requires the applicant to travel to government offices. They see an opportunity in working with governments to develop online applications to speed up these processes by placing them online.

#### **WHAT NEEDS TO BE DONE?**

*Agriculture-based businesses would benefit from the availability of an advanced telecommunications infrastructure that improves capabilities and access to agricultural marketing data, research and applications data, and education outreach services.*

To help us achieve this vision we need to take on the following projects:

- ✓ Develop policies that encourage the deployment of advanced infrastructure. Consider unconventional approaches such as tax incentives.
- ✓ Create an e-Ag task force to expose the businesses in this industry to the benefits of advanced services, the availability of

services in the County, and the availability of distance learning opportunities.

- ✓ Bring government and agriculture together to identify opportunities to develop online applications to streamline routine services including building permitting, grading permits, pesticide use permits, and others.

## ***EDUCATION***

#### **WHY IS THIS IMPORTANT?**

For our children to succeed in the Networked World, the tools of the information age should be as comfortable to use as pencil and paper. Our schools can provide every student, regardless of family income, with the opportunity to understand these tools. Even more important is the use of these tools in the education process itself. The interactive nature of the Web is providing a richer and more timely learning experience that engages and motivates students to explore and learn. Putting computers into classrooms is helping reduce dropout rates in many schools.

Institutions of higher education are helping its workforce learn the tools of the information age and develop the skills that will allow them to be more productive and earn higher wages.

#### **HOW ARE WE DOING?**

The K-12 District in Mariposa is seeing declining enrollment and is struggling to maintain its service levels. However, the District remains committed to continued investment in its technology infrastructure. For example, the Mariposa County High School computer lab has 165 PC's for 770 students. Other schools also have labs.

The District sees technology as an important tool in its attempts to overcome the distance between its facilities. They see the connectedness of students, faculty, and families as an important strategy to unite the community and share information. One

initiative the District discussed is the feasibility of opening its computer labs to the community after hours. This would allow the community to have better access to PC's and the Internet, improve skill levels, and position the District to better communicate with the community on education issues.

Workshop participants report that all K-12 classrooms in the County have always-on connections to the Internet, and about 75% of teachers have access to email. The District also has a wide area network (WAN) that connects its facilities. More than 50% of teachers have taken advantage of technology training programs offered by the State through the Technology Assistance Program. The District has also tapped the same program to build its internal network.

The priority for the District is to work with teachers to more fully integrate digital content into the day-to-day curriculum. The district has a website and most K-12 schools have informational websites. The District does not believe that all students need email, but they are in the process of evaluating the feasibility of all high school students being issued an email address.

One challenge for Mariposa is that there are no institutions of higher learning located in the community. In many communities, higher education provides essential training and learning opportunities. Mariposa will have to work to create relationships with higher education. The good news is that there are nearby Universities, Colleges, and Community Colleges that are dedicated to addressing the community's needs. Higher education representatives reported they will greatly enhance outreach to the community.

#### **WHAT NEEDS TO BE DONE?**

*We need to access high-speed services to enhance learning opportunities for teachers and students. The availability of technology*

*can assist in providing life-long learning opportunities to the community, better prepare our high school students for post secondary education, and enhance parents support for their student's learning.*

The education sector at the workshop proposed the following action initiatives:

- ✓ Open school computer labs to the community after hours.
- ✓ Develop informational Web sites for all schools with interactive features.
- ✓ Integrate the Internet into 70% of curriculum for instruction and student research.
- ✓ Improve outreach to the community to increase the awareness of online training programs already offered including the Digital California Project.
- ✓ Strive to have 10% of high school students and teachers complete one distance-learning course per year.
- ✓ Create local access centers with onsite instruction and support to facilitate the adoption of distance learning in Mariposa County.

## ***LIBRARIES***

#### **WHY IS THIS IMPORTANT?**

Public libraries play a vital role in most communities by providing every resident with the opportunity to receive instruction and use the Internet for free. But, libraries are not open 24 hours a day, and sometimes there are lines of people waiting to use the machines. None-the-less, some people have been able to start businesses in libraries, and many K-12 students depend on library computers to do their homework assignments.

#### **HOW ARE WE DOING?**

The Mariposa County Library System provides a critical technology access point for the community. The Main Library is in the process of upgrading its connection to the Internet to meet the demands of the

community for access and speed of service. Normally, a fast connection in a rural community like Mariposa would be hard to obtain and afford. The Mariposa Library System belongs to the San Joaquin Valley Library System (SJVLS). The SJVLS is helping many county library systems in the Valley access technology they could not access on their own.

The library system rated highly in the assessment process. They are one of the most connected organizations.

#### **WHAT NEEDS TO BE DONE?**

*The Library will play a critical role in meeting the technology access needs of the community.*

To help us realize this vision, we need to take on the following projects:

- ✓ Increase the number of public access computers and provide ports where patrons with laptop computers can connect to high-speed lines.
- ✓ Support County applications for technology grant programs that will also benefit the Library System.

## **GOVERNMENT**

#### **WHY IS THIS IMPORTANT?**

Local governments provide communities with many services and capture a great deal of information about the community. Businesses and residents want to access public services and information with the same convenience and ease of use as ordering a book on-line. The Internet is also a convenient tool for expressing an opinion to an elected official, for distributing meeting agendas, reporting a problem, and getting information on the General Plan. Local governments can be role models for the community, by encouraging public access and showing how valuable services

can be delivered efficiently and conveniently on the Web.

#### **HOW ARE WE DOING?**

The government sector in Mariposa includes the Federal government (Yosemite Park employees), State government (agencies serving agriculture) and the County government. Each level of government has different technological capabilities, access to technology, and applications. In the workshop, the government sector broke themselves up into three groups to better report on how well connected they are.

Federal government employees in Mariposa have fast connections to the Internet, a highly advanced Web site, and good residential access from the Park home sites. The Park offices are in need of a higher speed connection to the Internet and learned that the Mariposa County Library System is in the process of securing a faster connection. They are interested in partnering with the Library to see if they can share in the infrastructure development and deployment costs to meet their telecommunications needs.

State employees have access to advanced systems developed to manage human resources, finance, and other applications. State employees in Mariposa do not have fast access to the network, they rely on dial-up service. Even with dial-up access, State employees reported significant benefit from these internal systems being available online.

Mariposa County government is the principal public service provider in the community. It provides services throughout the County for the towns and rural areas. Mariposa County has physically connected most of its facilities and will have greatly improved connectivity once the Library is connected to its new circuit. The County has a website, mainly with static

information. They post job openings on the site. The County is working on supplying more employees with email addresses and is beginning to identify online applications for the community. The County can improve services throughout the community by moving high volume transactions such as permitting and payments online. Workshop participants report strong support for the County to pursue e-Government applications and services.

#### **WHAT NEEDS TO BE DONE?**

*Integrate all government (Federal, State, and local) services over the Internet and enhance the communications infrastructure of the county to expand opportunities for business development, including downtown Mariposa revitalization.*

Government representatives at the workshop propose the following action initiatives:

- ✓ Develop more thorough employee technology training programs.
- ✓ Seek grant funding to improve the technology infrastructure and IT support functions.
- ✓ Identify telecommunications providers in the County and create service availability maps.

#### ***COMMUNITY-BASED ORGANIZATIONS***

Our not-for-profit agencies provide a wide variety of services to the community, ranging from health services, to religious services, children's sports, and the arts. Like any enterprise, community-based organizations need information technology to manage operations, apply for grants, reduce costs, and improve client service. Their budgets are always tight; they mostly depend on out-dated, cast-off computers and donated services, and rely heavily on volunteers. Community Based Organization's generally don't have the time or money to train staff, create websites, and take advantage of high-speed services.

#### **HOW ARE WE DOING?**

Mariposa County is served by small community based organizations (CBO's). The major distinction workshop participants noted is the vast difference between CBO's that have paid staff and those that do not. Those with paid staff generally have access to computers and the Internet, those that depend on volunteers generally do not have computers and Internet access.

Few CBO's have websites or use technology, usually because they lack the technical expertise and fast connections. CBO's with Web sites typically provide static information which is often not up to date.

#### **WHAT NEEDS TO BE DONE?**

*Develop training programs for CBO's on e-commerce to encourage them to get connected and begin communicating with their members electronically. Help CBO's understand the possibilities of using technology to improve their organization's effectiveness.*

To help us move closer to this vision, workshop participants suggested two action initiatives:

- ✓ Educate CBOs on where to access the Internet now, including the library.
- ✓ Facilitate collaboration and cooperation among CBO's to help them share the costs of technology and expertise.
- ✓ Organize training programs on e-commerce and other technology related programs.

#### ***TOURISM***

##### **WHY IS THIS IMPORTANT?**

More and more people are using online services to research, book, and pay for airline tickets, hotels, rental cars, and to make other logistical arrangements for their vacations and business travel. Hotels, travel agents, restaurants, attractions, and other support businesses in the tourism industry

are taking advantage of high-speed connections, email, and Web sites to promote their communities and services.

Communities that will be successful in this new environment will have information online that is easy to access on the amenities the community offers. Business, government, chambers and visitors and convention bureaus must come together in new ways to collaborate on creating these access points for tourists, often times called portals.

### **HOW ARE WE DOING?**

The tourism industry in Mariposa is essential to the economy. California Tourism estimates that 3.4 million visitors per year see Yosemite National Park and a total of \$244 million is spent by these visitors. Tourism drives the local economy; it is estimated that 85% of all jobs in Mariposa are related to the tourism industry. As one participant put it, "What helps the tourism industry be successful, helps all industries in Mariposa be successful."

The tourism industry in Mariposa is not well connected, and there are few role model users of technology. The notable exception is Yosemite Park. The Park has an exceptional Web page with extensive information for visitors. Some hotels/motels are connected. Tenaya Lodge in Fish Camp takes reservations online and provides virtual tours of its facilities.

A major opportunity for this industry is the development of a tourism-oriented portal that can serve the community and visitors. There are several fledgling portals in Mariposa, but no one of them is dominant. Simple applications such as links pages, community calendar of events, and restaurant and hotel listings could be developed.

One challenge for the Tourism industry will be connecting its members. With dial-up access being the predominate means of accessing the network, businesses need faster and affordably priced communications services.

### **WHAT NEEDS TO BE DONE?**

*Our vision is to make Mariposa County an easily recognized location, interactively accessible from around the world.*

To help us move closer to this vision workshop participants suggested the following action initiatives:

- ✓ Improved/correct local links and identification to reflect the Mariposa County area and not just Yosemite.
- ✓ Establish a Countywide Web portal site to share information, market the community, list attractions, list hotels, and a calendar of events.
- ✓ The tourism industry in Mariposa needs to be better informed of policy issues the County Supervisors are addressing. Work with government to post the meeting agendas and minutes of the Board on the County Web site. <Editors note: the County already posts the agendas and minutes from Supervisors meetings.>

## **REAL ESTATE**

### **WHY IS THIS IMPORTANT?**

As technology becomes more prevalent in our society, the value of being connected increases. Employers want their employees to have inexpensive broadband services from home to access corporate networks and applications. In today's technologically sophisticated marketplace, homes and offices should be built recognizing the importance of being wired and having broadband access.

### **HOW ARE WE DOING?**

The real estate sector operates in a similar manner to the other community sectors.

Most realtors have email and connect to the network via dial-up access. This sector reports that new homes and businesses are not being wired with local area network (LAN) technology that allows for internal networks that can connect to the Internet.

#### **WHAT NEEDS TO BE DONE?**

*Identify ways that advanced services can speed up real estate transactions.*

To help us move closer to this vision, workshop participants suggested the following action initiatives:

- ✓ Educate the real estate industry on how to use digital signatures for online transactions.
- ✓ Create access to updated property tax related information on a monthly basis.
- ✓ Educate builders on how to build pre-wired homes.

### ***HEALTHCARE***

The healthcare industry is an information-intensive business. Doctors have to keep up with the latest research; patient records have to be easily accessible and accurate; and images, test results and prescriptions have to be delivered promptly, without errors, to practitioners, pharmacies and insurance providers. Errors and delays can be costly and dangerous, so many providers are converting to electronic medical records that can be easily updated and shared on secure, internal networks. Network-based technologies such as videoconferencing and digital stethoscopes allow specialists to consult with rural patients, reducing travel time and hazards.

#### **HOW ARE WE DOING?**

Mainly smaller doctors offices serve Mariposa County. The John Fremont Hospital provides critical healthcare services in the community and tends to lead the way for healthcare in the technology arena. The hospital has implemented electronic billing and is working to use technology to improve

services in the County. The hospital was recently awarded a training grant from UC Davis for telemedicine. The emergency room physician staff are driving the hospital into evaluating the opportunities of using telemedicine. They see an opportunity to improve health care services by tapping into expertise and knowledge not readily available in the community. Following the training, the hospital will apply for equipment and implementation grants.

The community's ambulance provider is also using technology to make its ongoing reporting and documentation requirements more efficient. When an ambulance responds to a call, the entire reporting process is captured electronically and stored electronically. This increases the companies ability to provide more accurate reports and quickly and easily meet mandatory reporting requirements.

Participants reported that 25% of health providers have always on connections and 50% have email accounts for external communication. Some health care providers have Web sites, about 25%, but few are using imaging technology to store files and records.

#### **WHAT NEEDS TO BE DONE?**

*Improve communications services to help the healthcare industry improve its services to customers, better educate customers, and improve access to healthcare services.*

To help us move closer to this vision, workshop participants suggested the following action initiatives:

- ✓ Secure T-1 lines to provide high-speed access between all hospital facilities.
- ✓ Seek grants for implementing technological upgrades and training for medical staff.
- ✓ Develop better strategies for retaining technical and professional healthcare staff.

## NETWORKED ECONOMY

### WHY IS THIS IMPORTANT?

The New Economy is driven by innovation. New ideas move quickly from university research to entrepreneur and corporation. New business models are forcing old-line businesses to change time-honored ways of doing business, to cut prices, and to improve services. Jobs are being transformed, and those with the right skills are earning salaries that were unimaginable a few years ago. Information technology has accelerated productivity in the United States, but only in those organizations that are able to use it wisely.

Consumers have been the major beneficiaries of the innovations in business. Those with network connections, and the courage to try the new tools, are getting news and music on-line, shopping globally for the best prices, taking classes on-line, getting a permit to build a new deck at home, researching medical conditions, posting résumés and searching for jobs, planning vacations, and communicating more frequently and easily with elected representatives. Those without the necessary tools and skills, those on the other side of the “Digital Divide,” are in danger of falling behind in the competition for information and better jobs.

### HOW ARE WE DOING?

Mariposa has some local businesses that are using technology in innovative and exciting ways. These companies can serve as role models for the community and can demonstrate the business value of investing in and using technology.

But these examples are few. Most organizations and individuals are just beginning to understand that they must pay attention to technology issues. The assessment process developed awareness in

the participants of the value and need for Mariposa to improve its technology infrastructure and use of technology to improve business operations. Mariposa County overall is rated as a Stage 1 which means organizations, businesses, and individuals are just beginning to use technology to improve internal business processes, training and educational programs on technology are just emerging, and few consumers purchase goods and services on the Internet.

A March 2001 study by the Public Policy Institute (PPI) of California<sup>3</sup> found that 64% of Central Valley residents use computers at work, home, or school, and 50% use the Internet. This is substantially lower than the Sacramento region at 79% for computers and 72% for the Internet. Latinos in the Central Valley are significantly less likely to use computers (47%) or the Internet (35%), and the gap is growing. The Library and K-12 District can play an important role in establishing access centers. The PPI study surveyed residents in the eight county region of the Central Valley which did not include Mariposa County, however, for purposes of this study, this information provides a snapshot of connectivity in the region that can be helpful.

### WHAT NEEDS TO BE DONE?

*Help our businesses compete and public agencies innovate by developing a skilled human infrastructure and a network of public access facilities.*

To achieve this vision, we should consider the following ideas for action initiatives:

- ✓ Build more public access facilities; evaluate the feasibility of opening the School District computer labs to the

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<sup>3</sup> PPIC Statewide Survey: Special Survey of the Central Valley in Collaboration with the Great Valley Center, Mark Baldassare, Director, March 2001

community for training and Internet access.

- ✓ Identify a space in the community for the construction of an advanced access center that would have a high-speed connection for training, distance learning, and video conferencing.

## NETWORKED WORLD ENABLERS

### WHY IS THIS IMPORTANT?

Many of the barriers to connectivity are invisible. Some people avoid the Internet because they are worried about protecting their privacy, about break-ins, and about legal protections if something goes wrong. Policy makers overlook key issues that prevent progress, such as allowing digital signatures and facilitating accelerated construction permits. Or the barrier might be as simple as not realizing that there is a free, high-speed computer in the library across the street and librarians who are only too happy to help a novice get started.

Of the 44% of adult Americans who are not connected,<sup>4</sup> at least half say the Net does not have any value for them. Many of the holdouts are over 60 years old and out of the workforce. But there is a substantial number of Americans of working age who still can be reached. We need to identify and remove the invisible barriers to connectivity – ignorance, privacy and security fears, access and public policies.

### HOW ARE WE DOING?

Workshop participants reported that a visitor cannot find high-speed access to the Internet in the County on a 24 hour a day, 7 day a week basis. The local library serves the community access needs during business hours and reports that many visitors to the community come to the facility to access email.

Mariposa County organizations are generally not familiar with the security procedures that will protect their hardware and software from problems. Larger organizations and those smaller

businesses with a technology focus are taking the necessary steps to protect their systems.

Fewer than 75% of public agencies and businesses post privacy policies on their websites. Workshop participants were unaware of the key issues with Internet privacy and how to protect privacy on the Web.

Our policy makers and business leaders are generally familiar with key connectivity issues, such as privacy, competition in the telecommunications industry, security and on-line criminal activity. Digital signatures are legal in California but deciding how to implement them takes careful planning. Government agencies need to decide how to treat electronic correspondence, what information should be made more easily accessible, and who should pay credit card transaction fees. Our leaders need to develop strategies to encourage deployment of high-speed services in rural and low-income communities.

### WHAT NEEDS TO BE DONE?

*All citizens should be able to find affordable access to the Internet in a secure, convenient location. Everyone should have a working understanding of security and privacy issues, and the skills to protect themselves and their enterprises.*

To address these issues, workshop participants suggested the following initiatives:

- ✓ Encourage local hotels to provide access devices 24 x 7.
- ✓ Create a forum where public agencies can share best practices in privacy, security, and policy.

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<sup>4</sup> Pew Internet American Life survey, 1/2001

- ✓ Meet with policy makers to encourage them to develop strategies for improving access to high-speed services.

## APPENDIX

### Connecting Mariposa County Steering Committee

Dean Bernacchi, Technology Coordinator – Mariposa Schools  
Daniel Sohn - Yosemite National Park – Data Comm.  
Jim Michael - CSU Fresno – ITS Dept.  
Pelk Richards - Mariposa Sheriff/Coroner  
Cheryl Rudd - Pacific Bell  
Chuck Kendall - CKC Labs  
Vince Kehoe - Yosemite Bank  
Dennis Patrick - Mariposa County Data Processing  
Jack Climer - WorldCom Telecommunications  
Jeff Busto - Sierra Telephone  
Neil Stonum - Mariposa County Title  
Kay Mickel - Century 21 Sierra Gold  
Steven Wade - Sierra Telephone  
Stephanie Espinosa - PG&E  
Malcom Holser - Adobe Systems Inc.  
Mike Bird - Iron Mountain Systems  
Robert Stewart - Mariposa County Supervisor, District 3  
Garry Parker - Mariposa County Supervisor, District 4  
Greg Iturria - County Administrative Officer  
Eric Toll - Mariposa Planning Director  
Candy O'Donel-Brown – Mariposa Chamber of Commerce  
Bob Concienne – Yosemite Concession Services  
Roger Mohrbacher – Sierra Telephone  
Mark Rowney – Mariposa Public Utilities District  
Jerry Parker – Northland Cable TV  
Carol Johnson - IBM

## Workshop Attendance List

### Healthcare

Rick Roesch - Mercy Ambulance  
Elnora George - J.C. Fremont Healthcare District  
Carol Williams, RN - J.C. Fremont Healthcare District  
Mary Williams - Mariposa Senior Services  
Brian Brouhard – Mercy Ambulance

### Education

Susan Robinson - Mariposa Elementary  
Patrick Holland - Superintendent of Schools – Mariposa  
James Henson - CSU Fresno, ISDS Dept.  
Stella Pizelo - Woodland Elementary  
Fred Jackson - U.C. Merced – Planning  
Bill McKay - Catheys Valley Elementary  
Nancy McConnell - Board of Education, President  
Dean Bernacchi, Mariposa County School District  
Jim Michael, CSU Fresno - ITS Department

### Community Based Organizations

Gwen Nitta - Mother Lode Job Training  
Don Sawtelle - Mariposa Volunteer Network  
Donna Brownell - Mariposa County Arts Council  
Sue Overstreet - Mariposa Youth Group  
Kathy Delaney - Mariposa Counseling Center

### Government

Bob Stewart, Mariposa County Board of Supervisor  
Garry Parker, Mariposa County Board of Supervisor  
Don Coelho - Yosemite National Park – Law Enforcement  
Greg Iturria, Mariposa County Administrative Officer  
Stan Craig – CADepartment of Forestry & Fire Protection  
Bernice Dommer - Yosemite National Park – Health & Safety  
Kathy Dimont - Yosemite National Park – Education  
Dave Conway - Mariposa County Health  
Cheryle Rutherford-Kelley - Mariposa Human Services  
Jacque Meriam - Mariposa County Librarian  
Dennis Baker - California Youth Authority  
Larry Rochelle - California Youth Authority  
Dennis Patrick, Mariposa County Technical Services Director  
Pelk Richards, Mariposa County Sheriff/Coroner  
Eric Toll, Mariposa County Planning Director

### Telecommunications Companies

J.C. McNally - Sierra Telephone  
Laura Norman - Sierratel Internet  
Chris Boozer - Sierra Telephone Networks  
Cheryl Rudd, Pacific Bell

Jack Climer, WorldCom  
Jeff Busto, Sierra Telephone

### Tourism

Denise Demery - VIA Adventures  
Maureen Quintal - KOA Yosemite-Mariposa  
Ray Quintal - KOA Yosemite-Mariposa  
Ron Morehead - Miners Inn Restaurant/Hotel  
Rosalie Thurston - Yosemite Bug Hostel & Lodging  
Robert Hunt - Tenaya Lodge  
Susan Gonshor - Yosemite National Park – Community Liaison  
Massie Martin - Yosemite National Park – Administration  
Dana Jones - Calif. State Parks – Mining/Mineral Museum  
Rick Smith - Yosemite National Park – Education  
Mike Bermingham - Lake McClure – Merced Irrigation District  
Daniel Sohn, Yosemite National Park

### Agriculture

Donna Wice - Mariposa 4H Coordinator  
David Marks - Country Kitchen Herbs  
Jerry Progner - USDA – Resource Conservation District

### Business

Pat Dorato - County Bank  
Doug Stocking - County Bank  
Roger Biery - Sierra Communications  
Dina Lambert - Tavis Corporation  
Chuck Kendall – CKC Labs  
Chuck Kendall, CKC Labs  
Neil Stonum, Mariposa County Title  
Kay Mickel, Century 21 Sierra Gold  
Stephanie Espinosa, PG&E  
Mike Bird, Iron Mountain Systems  
Malcolm Holser, Adobe Systems Incorporated  
Vince Kehoe, Yosemite Bank  
Steven Wade, Sierra Tel Long Distance

### Facilitators and support

Mike Freeman, Connected Communities  
Sheila Hurst, Great Valley Center  
Richard Rasmussen, Great Valley Center  
Mary Hodson, Mariposa County

## Detail Assessment Results

	Stage 1	Stage 2	Stage 3	Stage 4	1 Yr. Goal
<b>A. THE NETWORK (INFRASTRUCTURE)</b>					
1. Residential	1+				2
2. Commercial		2			2+
3. Fixed Wireless		2			2+
4. Mobile Wireless	1-				1
<b>B. NETWORKED PLACES (ACCESS)</b>					
5. Business	1				2
Agriculture	1+				2
Tourism	1+				2
6. Government					
Federal		2-			2
State		2-			2+
County	1+				2
7. K-12 Schools			3+		4
8. Higher Education	1-				2+
9. Libraries		2			3
10. Healthcare		2			3
11. Community Organizations -					
With employees		2+			4
W/O Employees		1			4
12. Home Yosemite	1				1+
	1+				2+
13. Real Estate	1				2

	Stage 1	Stage 2	Stage 3	Stage 4	1 Yr. Goal
<b>C. NETWORKED APPLICATIONS AND SERVICES</b>					
14. Business	1				1+
Agriculture	1-				1
Tourism		2			3
15. Government					
Federal				4	
State		2+			3
County	1				2-
16. K-12 Schools		2			3-
17. Higher Education	1+				2
18. Libraries			3+		4
19. Healthcare		2+			3+
20. Community Organizations	1-				3
21. Real Estate	1				2
<b>D. NETWORKED ECONOMY</b>					
22. Innovation	1				2
23. Workforce		2			3
24. Consumer	1				2
<b>E. NETWORKED WORLD ENABLERS</b>					
25. Ubiquity	1-				1
26. Security	1-				2
27. Privacy	1-				2
28. Policy		2			2

Multiple groups evaluated rows 23 through 28. The above scores are averages of their rating.

