

# **Connecting Kern County**

Assessing Our Readiness for the Networked World

A Report to the Community

July 2001



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## **EXECUTIVE SUMMARY<sup>1</sup>**

Kern County began its journey toward becoming a connected community in June 1999 with the adoption of a new Economic Development Strategy for the County. The strategy recommended the formation of a high-tech industry cluster group that would review and make recommendations regarding the attraction and expansion of high-tech industries and of existing and other targeted industries with high-tech applications. The adoption of this strategy raised the community's awareness of the need to make changes in order to be more competitive in attracting/facilitating high-tech businesses.

In early 2000, another key event took place in Kern County. A significant employer in Bakersfield left the community. The economic development community began searching for businesses to fill the vacant building, targeting high-tech firms. These discussions lead to the realization that the County and City needed to be better positioned to attract and retain high-tech businesses.

The Mayor of Bakersfield then formed an eDevelopment Group to determine how the region could position itself to become more competitive for high-tech businesses. The mission statement of the eDevelopment Group was to “create a regional technology council whose purpose is to support the expansion of technology-related jobs in greater Bakersfield and throughout the balance of Kern County — a council that will serve as an information resource, and as an advocate for assisting businesses in making the most of technology to support and expand their businesses, and as a supporter for attracting new technology based companies.” The eDevelopment Group's discussion lead to heightened awareness of the importance of technology as it related to economic development.

In early 2001, County and City staff held a meeting to discuss the concept of performing a community technology assessment. Janette Pell, the Chief Information Officer for the County, informed the group about a community assessment in Stanislaus County and the progress they were making. Stanislaus County is making significant progress in improving its technology infrastructure and the usage of Networked World<sup>2</sup> technologies. The work that Stanislaus County has done led to a Central Valley-wide project to adopt the Computer Systems Policy Project methodology to work to improve the economic competitiveness of the entire region. The Great Valley Center in Modesto, CA is leading the effort to coordinate this Valley-wide approach. Each County in the Central Valley will participate in this 9–12 month effort to assess each County's competitiveness in the Networked World, identify action initiatives to move the County forward toward its goals and finally to implement high-priority action initiatives. Kern County is participating in this Valley-wide initiative.

County and City staff discussed the ways the community assessment would relate to other important events happening in Kern County, the adoption of the County's new economic development strategy, and the community based planning effort known as the Greater Bakersfield Vision 2020 Plan. Both the economic development strategy and the Vision 2020 Action Plan include significant economic development and quality of life initiatives related to high-tech development, the creation of jobs in the technology sector, and how technology can be used to strengthen Kern County's competitiveness.

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<sup>1</sup> Kern County refers to the entire geographic area, including all incorporated and unincorporated areas.

<sup>2</sup> “The Networked World” is a term used by the Computer Systems Policy Project (CSPP) to describe an always-on world where people are connected to technologies through always-on systems.

Kern County and the City of Bakersfield selected the Innovation Groups, of Tampa, FL to conduct the community assessment. The process created the opportunity to bring together related but separate technology planning initiatives into one coordinated process that includes all the major sectors of the community. It is anticipated that this assessment process will show the value of having an ongoing group of community leaders who will come together regularly to talk about, strategize, and work to improve Kern County's technology infrastructure, technology usage, and competitiveness. This effort and the work that will follow will create the foundation for implementation of the high-tech-related goals in both the County's EDS and the Vision 2020 Action Plan.

Kern County used a community assessment guide developed by the Computer Systems Policy Project (CSPP). The CSPP has developed a concept called the "Networked World" where everyone and everything is connected to technology at all times. The Networked World in their view is the future. The assessment guide is used to gauge how well situated and positioned a community is to be a participant in the Networked World economy. The assessment is not based on a scientific methodology for collecting information and data upon which to make decisions; the assessment guide relies on the best information available at the time the assessment is completed.

On April 30 and May 1, 2001, seventy people from the Kern County community came together to conduct an assessment of the County's ability to participate in the networked world economy. Each sector of the community was represented: government, telecommunications, real estate, small business, education, health care, major employers, and community-based organizations. Using the CSPP assessment tool, workshop participants evaluated various dimensions of the community on a scale of 1 to 4, where Stage 1 represents the earliest stages of connectivity and Stage 4 represents pervasive access to high-speed information services. Participants in each sector group went on to develop a simple vision statement of how technology can be beneficial in meeting the goals of the community and action initiatives the County could take to move toward that vision.

Based on the input and ideas from the workshop participants, a snapshot of Kern County was developed that outlined where the County stands today in regards to technology deployment and usage, where the community would like to be, and steps to take to move forward.

Overall, the assessment revealed the County is well positioned in the urban areas to participate in the networked world economy – but outlying areas need access to advanced services. Large businesses and organizations are well equipped with technology – but small business needs assistance. Government agencies are pursuing e-government applications in the urban parts of the County – but smaller governments do not have sufficient access to telecommunications infrastructure. While Kern County is heading in the right direction, some communities, including Mesa, Arizona and Stanislaus County, California, are aggressively improving their communications infrastructure to enhance their economic competitiveness. Kern County cannot afford to sit back and wait for market forces to bring advanced communications services here. The community needs to make it happen here.

The initial workshop results described in this report will be refined and further evaluated for possible implementation. Phase II of this effort will involve a Steering Committee with representatives from all sectors of the community which will select a small number of key, important initiatives to implement over the coming year.

## INTRODUCTION

### THE NEW ECONOMY

The breath-taking rate of change of technology is just one aspect of what is being called the New Economy or Networked World. Other factors include:

- High returns to creativity and innovation instead of buildings and equipment.
- Productivity growth linked to lifelong workforce training and renewal.
- The shift from products designed for mass markets, to personalized products.
- Information technology allowing companies to move from producing many varied products and services to companies that specialize in specific niche markets.
- Faster development processes and short product lives.
- Networks – both electronic and personal – that support highly distributed enterprises and teams.

### About Kern County

Kern County is the southern most county in California's Central Valley, spanning 8,141 square miles. Bakersfield is the County Seat and hub of commercial and business activity. Kern's population is estimated at 661,000; the County grew 21% from 1990 to 2000 (Census). The County is expected to grow to 764,000 by 2004. Median income in 1998 was \$23,878 (Franchise Tax Board) and the median home price in the County is \$78,000.

There are numerous educational institutions in the County, including: Bakersfield College, Cerro Coso College, Taft College, California State University Bakersfield and a recent newcomer, University of California Merced extension.

Kern County is well served by major transportation corridors including I5 and Highway 99, significant north/south interstates. Also important is Highway 58, the major east/west corridor that links the County to points in California and the eastern United States. Due to its location, Kern County is in close proximity to major markets, including Los Angeles, Sacramento, San Francisco, Las Vegas, Reno and Phoenix.

The County is home to both China Lake Naval Warfare Center and Edwards Air Force Base and offers a wide range of recreational and tourism opportunities. Kern is one of the nation's largest producers of food and fiber and is the country's largest producer of petroleum-based energy.

The County's Economic Development Strategy is focused on business attraction, retention and expansion - principally within nine industry sectors. The Strategy also includes an economic incentive program to encourage the location of new business, and the expansion of those already located here, to provide increased employment opportunities. Attracting and retaining information technology based companies is important to the County and an integral part of the overall Economic Development Strategy.

**Kern County needs access to the very best in advanced communications services.** All sectors, not just high-tech manufacturers, have to get connected: retail and service companies, other small business, government agencies, schools, hospitals, non-profits, and homes. It is not enough to lay fiber optic cables and put up radio towers. Kern's public and private sector entities must also learn how to put this new infrastructure to best use.

The question is, at what level and how well will Kern County participate in the new economy? At the assessment workshop, participants reflected on a quote from *USA Today* regarding the future of

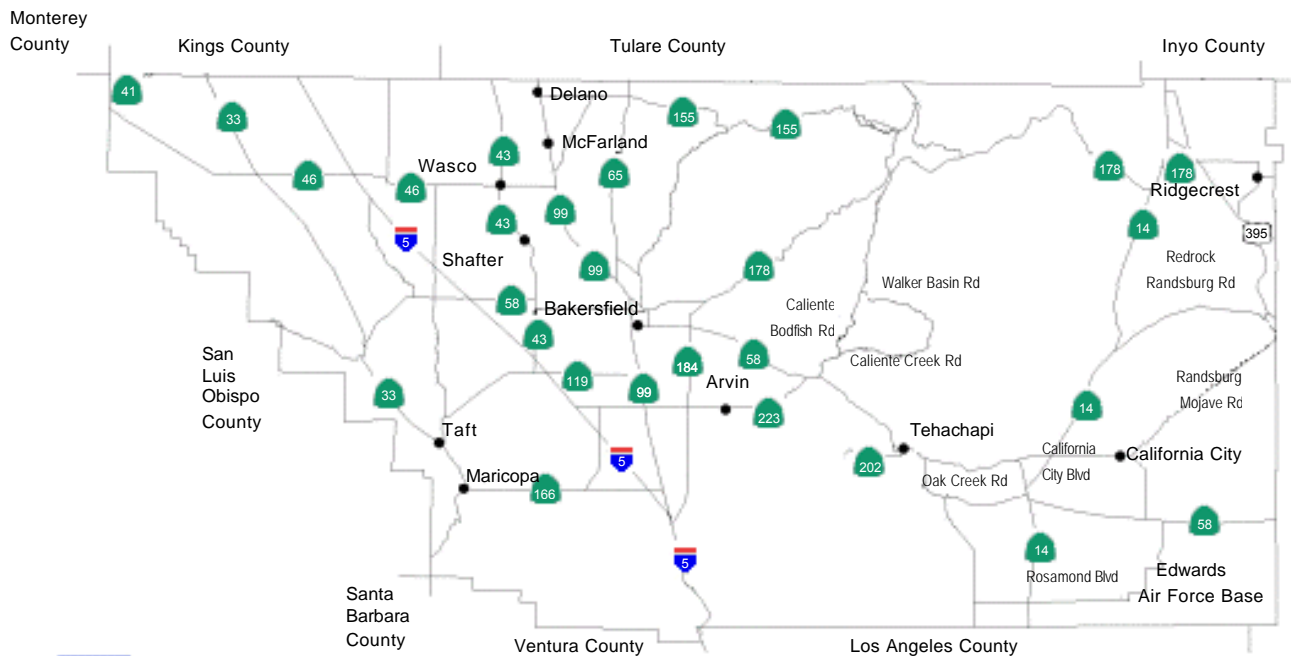
the Central Valley. “If the Central Valley’s economy doesn’t diversify, the region could end up being the cheap housing capital for the rest of the state... it can become successful and learn from the Orange Counties and the L.A.’s of the past, or it can just go down the same road and urbanize the agricultural lands, pollute the air, create crowded freeways and mindless subdivisions from horizon to horizon.” (*USA Today*, 3/30/01). The Central Valley and Kern County have the opportunity to change direction and focus to avoid the dim future depicted in the USA Today article. Kern County has taken the first steps to make those changes by coming together as a community to assess their current readiness and reconnect changes that will make a difference.

**MAPS**  
**California's Central Valley**



\*Source: California's Central Valley Web Site

# Major Kern County Highways



## THE CSPP READINESS GUIDE

At the workshop, Innovation Groups used an assessment matrix developed by the Computer Systems Policy Project,<sup>3</sup> an affiliation of the CEOs of the major computer systems companies in the U.S. The Guide is designed to help communities conduct self-assessments that are based on normative data from across the United States. Assessment questions fall into five categories:

- The physical network
- Networked places
- Networked applications and services
- Networked economy
- Networked world enablers

Each category has between three and six columns that go into greater detail by sector, such as schools, businesses, government, and community based organizations. For each column, workshop participants decided if Kern County was at Stage 1, 2, 3, or 4. In general, the stages correspond with the following descriptions:

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.

Workshop participants were divided into the following teams:

Communications Services  
Business, Small and large  
Community-Based Organizations  
Government  
Education/Libraries  
Health Care  
Real Estate

Each team reviewed the questions that related to its sector and decided on the appropriate ratings. The teams also set one-year goals, and developed ideas for how to achieve those goals. The specific recommendations of the teams can be found in the following sections:

Communications Services – The Network  
Small and Large Businesses – Networked Places, Applications and Services: Business  
Community Based Organizations – Networked Places, Applications and Services: CBO’s  
Government – Networked Places, Applications and Services: Government  
Education – Networked Places, Applications and Services: Education/Libraries  
Health Care – Networked Places, Applications and Services: Health Care  
Real Estate – Networked Places, Applications and Services: Real Estate

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<sup>3</sup> For more information on the CSPP see [www.cspp.org](http://www.cspp.org).

## SUMMARY OF ASSESSMENT RESULTS

Following are some of the key insights that emerged from the assessment workshop:

- Most of Kern County is at Stages 1 and 2. This is a comparable ranking to similar counties.
- Kern County has a lot of potential to use advanced technologies to improve its economic competitiveness. Its proximity to Los Angeles, San Francisco and its military presence are key strategic assets.
- There is a strong commitment in government, business, and real estate to take advantage of high-speed communications to improve services.
- There are significant unmet telecommunications needs outside the metro Bakersfield area. Workshop participants believe that the construction of a County-wide Institutional Network or I-Net can address the telecommunications needs of education, government, and health care outside the Greater Bakersfield area.
- There is a need to develop e-Commerce training programs for the various sectors of the community to ensure that the workforce has the skill levels to compete in the networked world economy.
- Business believes that government can play a key role in helping small businesses come online – by putting services like permitting online and being the catalyst to making online procurement of goods and services a reality in the community.
- The library system is very advanced in its deployment of advanced technologies, and plays an essential role in providing access points to the Internet at its branch libraries.
- There is significant need for the education sector (K-12 and higher education) to coordinate its technology planning activities. There are exciting things happening, but they are isolated, uncoordinated and not everyone knows about them.

The next sections of the report go into greater detail on the results of the assessment. For each category there is an explanation of why it is important, how Kern County is doing, a vision of how advanced communications can enhance the sector, and a list of ideas for advancing to the next stage. Ideas that are listed in each section are the initiatives the sector groups think the community should move forward with first.

## THE NETWORK

### WHY IS THIS IMPORTANT?

The starting point for high-speed communications services is the backbone – the fiber optic lines and wireless transmission towers that carry the region’s communications traffic from Kern County to Los Angeles, San Francisco, and points beyond. These fiber optic lines are capable of carrying thousands of telephone calls, Internet connections, and television channels simultaneously. Until recently, the incumbent telephone company and the cable television company largely owned backbone lines. Today, competitive access companies are installing new lines and building wireless networks. Fiber backbone lines are essential for two popular high-speed services: Digital Subscriber Lines (DSL) and cable modems. Each is capable of delivering multi-megabit speeds at prices that are affordable for small businesses and many homes. Competition helps drive prices down while raising service quality. Communities that do not have a choice of high-speed service providers are at a disadvantage.

### HOW ARE WE DOING?

Most people in Kern County get their local telephone service and DSL service from Pac Bell and their cable modem service from Cox. In metro Bakersfield, there are several choices for broadband access: DSL from Pac Bell; cable modem service from Cox and Time Warner; and broadband business wireless service from HighSpeed Communications. Outside Bakersfield it’s a different story. Access to broadband services is difficult to obtain.

Some workshop participants reported that the quality of some telephone lines is not sufficient to allow 56k modems to operate at full speed. Some participants reported using ISDN services and satellite service for Internet access. Larger businesses are generally well served in the urban area. Large and small businesses outside Bakersfield have a more difficult time getting access to broadband services.

<b>The Network</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Speed &amp; Availability</i>		
Residential – Rural	2	3
Residential – Urban	3	3
Commercial	2	3
<i>Competition</i>		
Wired/Fixed Wireless – Rural	1+	2
Wired/Fixed Wireless - Urban	2	3
Mobile Wireless – Rural	2	3
Mobile Wireless - Urban	3	3

### WHAT NEEDS TO BE DONE?

#### **Vision**

*Develop a technology infrastructure that will allow a minimum of 80% of business and residents, and 100% of schools in greater Bakersfield, high-speed network access to stimulate economic development. Improve upon the rural infrastructure, to accommodate 50% of business and homes and 100% of schools with broadband access, to improve education and facilitate economic development.*

#### **Goals**

- Develop a telecommunications service area map representing all providers..
- Create a task force to help Kern Economic Development Corporation and individual economic development agencies countywide in recruiting high-tech companies to the area.

## **NETWORKED PLACES, APPLICATIONS AND SERVICES**

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

It isn't enough to put wire in the streets. Networks must be available inside our offices, factories, schools, libraries, and homes. Sometimes called Intranets, these networks are for internal communications, for employees to get e-mail, share printers, and connect to the Human Resources department and administrative services. Wireless access for mobile workers is also required, 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 to, for example, administer our benefits plans from home, take advanced classes at home or work, check on the school lunch menu for our kids, get building permits without having to visit the local permitting agency, and buy goods ranging from cell phones to groceries online.

While the Internet allows us to connect with the entire world, most people prefer to deal with local merchants and service providers. Most users live within a few miles of government offices and dealing with local government is, by definition, a local matter. In many communities there are few local services on the Internet, so 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 online.

**NETWORKED PLACES, APPLICATIONS AND SERVICES: BUSINESS**

**WHY IS THIS IMPORTANT?**

A number of factors, such as global competition, out-sourcing all but core functions, demand for more personalized services and the falling costs of technology, are forcing businesses to change time-honored models of operation. Kern County’s businesses cannot be sheltered from these forces; bookstores are losing sales to Amazon.com, travel agents to Expedia, car dealers to Autobytel. Businesses have to adapt. Local businesses – both large and small – have to learn to use the tools of the networked economy, and innovate to survive.

**HOW ARE WE DOING?**

The workshop sector team concluded that large businesses are using Networked World technologies in their businesses. The workshop revealed that around 60% of employees in large Kern County businesses have always-on connections to the Internet at work. At least 75% of employees in large businesses have e-mail accounts, and mobile employees are using wireless devices. Over 25% of local businesses use using e-commerce to order goods and transact business with customers electronically. Small businesses are less likely to use advanced telecommunications services and have the most room to make improvements. Educating small businesses on the benefits of using advanced telecommunications technologies and applications is important.

<b>Business</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Networked Places</i>		
Small Business	1	1+
Large Business	3	3
<i>Applications &amp; Services</i>		
Small Business	1	2
Large Business	2	3

**WHAT NEEDS TO BE DONE**

***Vision***

*Create public/private partnerships to educate business and develop next generation infrastructure for Kern County. Increase the human and physical technology infrastructure to enable more efficient business activities.*

***Goals***

- Educate small businesses on what telecommunications services are available and the benefits of using technology in business.
- Create a high-tech center to show the technology infrastructure, and employee capabilities of Kern County.
- Extend telecommunications infrastructure to the rural areas of the County.
- The City, County, Greater Bakersfield Chamber and Kern Economic Development Corporation should provide information packs to new businesses that discuss technology availability in the community, the benefits of technology usage, and the community’s technology goals.
- Create technologically capable workforce through training and skills development.
- Develop a services directory for local IT related services in the County, including business-to-business opportunities.
- Identify the broadband infrastructure availability in the County, where services are located, and what level of service is available? Include wireless technologies.

**NETWORKED PLACES, APPLICATIONS AND SERVICES: EDUCATION/LIBRARIES**

**WHY IS THIS IMPORTANT?**

For children to succeed in the New Economy, the tools of the information age should be as comfortable to use as pencil and paper. Schools can provide every student, regardless of family income, with the opportunity to understand these tools. Equally important is the use of these tools in the education process itself. The interactive nature of the Web is providing a richer learning experience that engages and motivates students to explore and learn. The US Education Department’s National Center for Educational Statistics estimates that from 1994 to 1999 the percentage of public schools connected to the Internet has increased from 35 to 95 percent and classroom connections increased 3 to 63% - very positive trends.

Across the country, public libraries have become popular public access centers. Business people research new markets, seniors look for healthcare information, and young adults research cars and apartments, while the unemployed search job listings. Many libraries provide free classes on how to use the Internet and assist with on-line research.

**HOW ARE WE DOING?**

The education team believes that in the larger school districts, around 50% of our K-12 classrooms have always-on connections to the Internet. E-mail is available to many students and teachers. Most schools have information web sites and teachers are starting to integrate digital content into their curriculum.

Kern’s colleges and universities have advanced wireline networks in their organizations. On-line class registration is being rolled out at several campuses. Higher education in Kern County has *not* invested and may not invest in wireless networks in the next year or two. These organizations are seeking business and educational justification for moving toward campus wireless networks.

Kern County public libraries serve approximately 250,000 patrons a year, or about 39% of the total population of the County. The libraries offer free access to the Internet, but some have only a few machines. Connection speed is varied, from 128kbps to 1.54 megabits. The library system is planning an upgrade to its Internet connection this year to DS3 or 45 megabits. Library customers can search the library catalog on the Internet, reserve books online, and check their patron account. They have access via their library card to many online reference sources to find the information they require online. Library patrons have a number of significant online research databases making research capability a 24 hour a day service – from home or business. The libraries also have significant CD ROM resources.

<b>Schools &amp; Libraries</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Networked Places</i>		
K-12	2	3
Higher Education	1	2
Libraries	3	3
<i>Applications &amp; Services</i>		
K-8	1	1+
9-12	2	2+
Higher Education	1	2
Libraries	3	3

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

### ***Vision***

*Interactive connectivity available for everyone, anywhere and anytime.*

### ***Goals***

- Train faculty in the use of technology in education.
- Establish a Countywide educational consortium (made up of public, private, adult education) to develop a process for consolidating the various groups working on technology planning in the education sector.
- Build relationships between education and broadband providers.
- Prepare the student population for the transition to high skill, high tech jobs.
- Develop strategies for bridging the digital divide – after school programs, community centers, etc.

**NETWORKED PLACES, APPLICATIONS AND SERVICES: GOVERNMENT**

**WHY IS THIS IMPORTANT?**

Local governments provide communities with a wide variety of essential services and information. Businesses and residents want to access those services and information with the same convenience and ease of use as Amazon.com or Travelocity provide. E-mail and the Web are convenient tools for expressing an opinion to a council member, distributing council agendas, filing complaints, and getting information on the comprehensive plan. Governments across the country are going on-line to provide better and more convenient customer service.

**HOW ARE WE DOING?**

The public services team reported that local government buildings are connected to the Internet, and the vast majority of employees have e-mail. Some mobile employees have wireless devices for communicating with their offices and customers. The City of Bakersfield and Kern County have significant plans for developing online applications (e-government) to better serve the community. In the next year, residents and businesses will be able to complete numerous transactions online with their local government. Bakersfield and Kern County are becoming leading governments by addressing their customers online expectations.

<b>Government</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Networked Places</i>		
Urban	1+	2-
Rural	1+	1+
<i>Applications &amp; Services</i>		
Urban	2+	3
Rural	1+	2

**WHAT NEEDS TO BE DONE?**

**Vision**

*Enhance customer service to citizens and businesses by streamlining and simplifying government processes through the use of technology.*

**Goals**

- Develop telecommunications service area maps for Kern County that represents all service providers.
- Improve the ability to conduct business with government over the Internet, like permitting, purchasing, and payments.
- Increase the number of public access terminals in the County.
- Facilitate the improvement of technology infrastructure in rural parts of the County.

## **NETWORKED PLACES, APPLICATIONS AND SERVICES: COMMUNITY-BASED ORGANIZATIONS**

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

Community-Based Organizations (CBOs) provide a wide range of services to the community. Like other organizations, CBOs can use computers to manage their finances, plan programs, and communicate with donors and clients. But most non-profits are trying to use donated computers with out-of-date software. They rely on volunteers for technical support. Few of their machines have the ability to connect to the Internet at high speed. The most advanced non-profits are using the Internet to raise funds, advertise and deliver services, coordinate volunteers, and get information on best practices in their fields.

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

Community-based organizations in the urban area of Kern County are better situated for technology usage than in the rural areas. In the urban area 50% of CBO's report having paid staff with at least one computer per every three employees, and 25% of all CBO's have email.

<b>Community-Based Organizations</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Networked Places</i>		
Urban	2+	3+
Rural	1	2
Applications & Services	1-	1

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

#### ***Vision***

*Deploy technology to benefit CBOs and those they serve to enhance the overall community experience.*

#### ***Goals***

- Develop a list of potential funding sources for technology acquisition.
- Develop collaborative partnerships with educational institutions and corporate partners to provide web services/design and equipment.
- Develop a CBO networking event to share information, ideas and innovations in technology deployment within CBO's.

**NETWORKED PLACES, APPLICATIONS AND SERVICES: HEALTH CARE**

**WHY IS THIS IMPORTANT?**

Health Care has traditionally lagged behind in investment in information technology. Recently, hospitals and health care providers have begun investing in technology to improve service, cut costs, improve processes, and be more competitive. But becoming connected in the health care arena is a difficult task. The Federal government has developed strict health care privacy standards (Health Insurance Portability Act of 1998 (HIPPA) that have to be adhered to. These standards are hard to meet, but this can't deter health care providers from investments in technology, they just have to make these investments using more care and planning.

**HOW ARE WE DOING?**

Like other areas of the country, the health care sector in Kern County is not well connected. There is significant room for improvement in this area. One of the most important initiatives the group developed is to conduct a basic assessment tool that will collect information on where the health care sector is today, what technologies have been deployed, and what skill level employees have. There are significant information gaps in the health care sector that need to be filled.

<b>Health Care</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Networked Places</i>	2+	3
<i>Applications &amp; Services</i>	1+	2-

**WHAT NEEDS TO BE DONE?**

**Vision**

*Provide immediate access to health information, education regarding preventative care and maintaining healthy lifestyles, and meet the standards of security, confidentiality, and privacy policies.*

**Goals**

- Develop a provider’s survey to gather baseline information on usage of technology in healthcare. Questions should include: email access, Internet access, web pages, electronic records, billing, and telemedicine initiatives.
- Identify funding methods for enhancing educational infrastructure.
- Educate providers on available technologies and the benefits of technology in medicine.

**NETWORKED PLACES, APPLICATIONS AND SERVICES: 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. Homes and offices should be built recognizing the importance of being wired and having broadband access.

**HOW ARE WE DOING?**

Kern’s construction industry is already building homes and offices that are pre-wired and ready for high-speed connections to the network. But, while the homes are wired for broadband, they are not always able to access the network because the infrastructure required for access is not always built in new subdivisions and offices. The inability to connect the “last mile” is a common problem in communities. Most developers, realtors, architects, and other participants in the real estate industry are using technology in their day-to-day business.

<b>Real Estate</b>	Current Stage	1-Year Goal
<i>Networked Places</i>		
<b>Residential:</b>		
Existing Properties	3	3+
New Properties	3	4
Rural Properties	2	3
Urban Properties	3	4
<b>Commercial:</b>		
Existing Properties	2	3
New Properties	3	4
Rural Properties	1	2
Urban Properties	3	4
<i>Applications &amp; Services</i>	3	4

**Definitions:** *Pre-wired* – conduit provided to the structure; *New* – product less than 2 years old; *Rural* – outside of the metropolitan Bakersfield area; *High Speed* – cable modem or DSL; *Connectivity* – Infrastructure in place with access to services.

**WHAT NEEDS TO BE DONE?**

**Vision**

*Provide unrestricted connectivity to high-speed services to all residential and commercial real estate development.*

**Goals**

- Educate builders on how to best build broadband accessibility inside houses and office buildings and within the rights-of-way adjacent to developments.
- Ensure that new developments meet the needs of broadband users.
- Work with the various local groups involved in real estate in the community to better plan for technology deployment in Kern County.
- Agencies that need to be involved in better coordination of the building process related to technology deployment include: the County, Cities, the Building Industry Association, Kern

Economic Development Corporation, Greater Bakersfield Chamber of Commerce, builders, commercial and residential real estate agencies.

- The real estate industry should collaborate more with telecommunications companies.

## NETWORKED ECONOMY

### WHY IS THIS IMPORTANT?

The New Economy is driven by innovation. New ideas move quickly from university research to entrepreneur and venture capitalist. New business models are forcing old-line businesses to change time honored ways of doing business, cut prices and 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 companies that are able to use it wisely.

The consumer has been the big winner in all this. Those with network connections, and the courage to try new tools, are getting discounted airline tickets, great deals on collectibles, free grocery delivery, and access to information that used to be expensive or time consuming to find. Those without these skills, those on the other side of the “Digital Divide,” are in danger of falling behind in the competition for the better jobs.

### HOW ARE WE DOING?

If Kern County is going to fully participate in the New Economy, Kern businesses, workforce, and consumers need to be prepared. The workshop teams believe that few local businesses, 25% or less, have fundamentally changed the way they operate due to technology. About 10% of households purchase goods on-line; local businesses believe that local government should move their purchasing online to spur local business to develop online strategies.

On the other hand, people and businesses are deeply committed to life-long learning. At least 50% of the workforce takes classes to update their skills at least every five years. In some companies the figure is 100%. And many companies are using the Internet to list job openings and find talented workers. There is significant interest in developing more educational and training opportunities for business on how to use the Internet as part of their business.

<b>Economy</b>	Current Stage	1-Year Goal
<i>Innovation</i>	2	3
<i>Workforce</i>	1+	2+

### WHAT NEEDS TO BE DONE?

#### **Vision**

*To participate more fully in the New Economy, our businesses have to re-engineer their processes, and consumers have to become more sophisticated in e-commerce and finding the information they need for their daily lives.*

#### **Goals**

- Educate small business on the benefits of using the Internet.
- Encourage local government to move their purchasing operations online to spur local businesses to move to the Internet.

## NETWORKED WORLD ENABLERS

### WHY IS THIS IMPORTANT?

The Networked World is happening around us enabled by key technologies and increasingly available always on connections to the network. But, there are barriers for people to become connected. Some people refuse to use the Internet because they are worried about protecting their privacy, about break-ins, and about legal protections if something goes wrong. Or the barrier might be as simple as not realizing that there are free, high-speed computers, and people who are happy to help a novice get started, just across the street in the library.

If the barriers to getting people connected are effectively addressed, individuals will become more valuable workers, pay rates will increase and communities will benefit from an expanding workforce of technology literate workers. Key barriers that must be addressed for communities to be successful include the ubiquity or availability of broadband services, understanding security issues, protecting privacy on the Internet and policy issues.

**Ubiquity** – the availability of high-speed services is important for visitors to a community, they should find access points in hotels, conference centers, Kinko's, and other locations.

**Security** – organizations have to understand the need to protect information technology systems from electronic attacks, the use of encryption technologies, and essential virus protection technologies.

**Privacy** – public and private organizations must understand their responsibility to inform web users of privacy policies and organizations in turn have to implement and follow their policies.

**Policy** – community leaders must understand the importance of technology in economic development, privacy and security issues, telecommunication services, and take appropriate action within their capacity.

### HOW ARE WE DOING?

Workshop participants noted that during the business hours, the libraries offer free services to the public and many schools are wired for Internet access. Thanks to services like Kinko's, a visitor can find high-speed access in many areas to the Net within a 20-minute drive, 24 hours a day. To move forward, the community has to develop strategies for creating access centers at community facilities and schools. Getting the rural community facilities and schools connected is a high priority for workshop participants.

In general, large business understands how to secure their networks and databases. Small businesses and residents do not, but need to learn about these technologies. Firewalls are now a consumer technology and important when using a high-speed connection, but few consumers know what they need or how to install them.

Protecting one's privacy is another skill few consumers have. Parents are afraid to register their children on-line for recreation programs because they worry that criminals will capture their children's names. Small business web sites do not always have privacy policies posted to help visitors understand the risks they are taking.

Our public policy makers in the urban areas are aware of technology policy issues, and have begun considering the implications of e-commerce, economic development, and the governments role in

ensuring Kern County can compete. Digital signatures may be officially legal, but deciding how to implement them takes careful planning. Cities need to decide how to treat electronic correspondence, what information should be free to the public, and who should pay the credit card transaction fees.

<b>Enablers</b>	<b>Current Stage</b>	<b>1-Year Goal</b>
<i>Ubiquity</i> Rural Urban	1- 2+	2 3
<i>Security</i> Small Business Large Business	1 2	2 3
Privacy	2	3
<i>Policy</i> Rural Urban	1 1+	1+ 3

**WHAT NEEDS TO BE DONE?**

**Vision**

*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.*

**Goals**

- Provide high-speed access to all County schools and libraries.
- Educate business on the benefits of e-commerce.
- Ensure that policy makers understand the importance of technology and understand the policy issues related to it.

## ASSESSMENT SUMMARY TABLE

		Current Assessment				1 YEAR	CSPP
Summary of Assessment		1	2	3	4	GOAL	COLUMN
<b>Network</b>	<b>Residential</b>		2+			3	1
	<b>Commercial</b>		2			3	2
	<b>Fixed Wireless</b>	1+				2+	3
	<b>Mobile Wireless</b>		2+			3	4
<b>Networked Places</b>	<b>Business</b>		2			2+	5
	<b>Government</b>	1+				2-	6
	<b>K-12</b>		2			3	7
	<b>Higher Education</b>	1				2	8
	<b>Libraries</b>			3		3	8
	<b>Healthcare</b>		2+			3	9
	<b>Community</b>	1+				2+	10
	<b>Home</b>						11
	<b>Real Estate Dev.</b>		2+			3+	12
<b>Applications &amp; Services</b>	<b>Business</b>	1+				2+	13
	<b>Government</b>		2-			2+	14
	<b>K-12</b>	1+				2	15
	<b>Higher Education</b>	1				2	16
	<b>Libraries</b>			3		3	16
	<b>Healthcare</b>	1+				2-	17
	<b>Community</b>	1-				1+	18
	<b>Real Estate Dev.</b>			3		4	19
<b>Economy</b>	<b>Innovation</b>		2			3	20
	<b>Workforce</b>	1+				2+	21
	<b>Consumer</b>						22

<b>Enablers</b>	<b>Ubiquity</b>	<b>1+</b>				<b>2+</b>	<b>23</b>
	<b>Security</b>	<b>1+</b>				<b>2+</b>	<b>24</b>
	<b>Privacy</b>		<b>2</b>			<b>3</b>	<b>25</b>
	<b>Policy</b>	<b>1+</b>				<b>3</b>	<b>26</b>

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

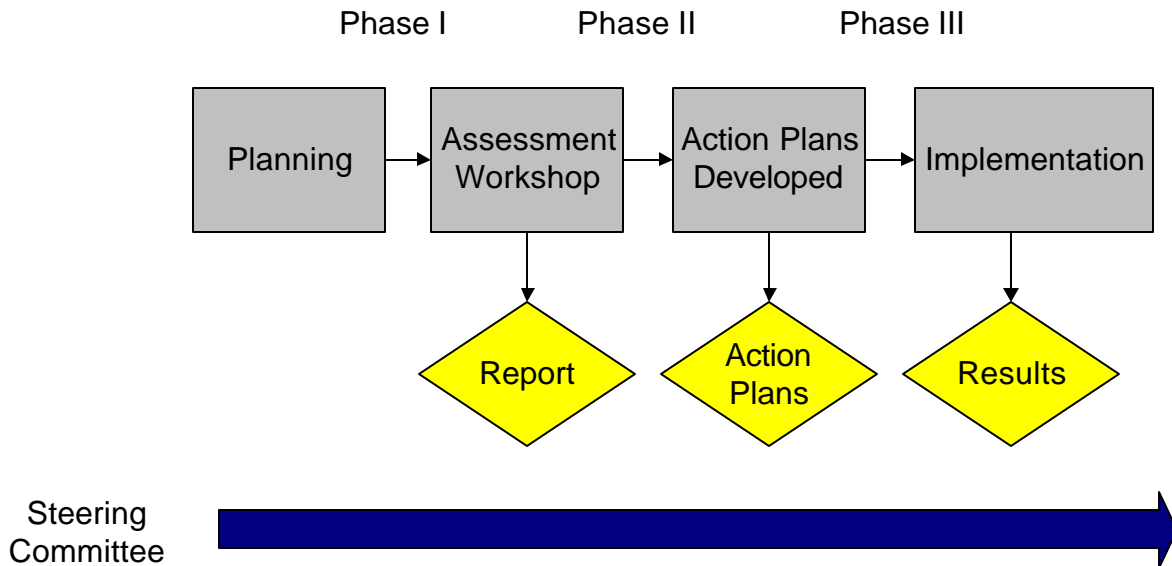
Stage 2: High-speed services are more widely available; local web sites are limited.

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.

## NEXT STEPS

Following the community assessment, or Phase I, the next step will be to re-convene the Steering Committee for Phase II. Phase II includes the review of the assessment report and identifying specific action initiatives that have the most promise. Phase III will focus on implementation of the action initiatives identified in Phase II.



The project Steering Committee met in August 2001 to review the draft workshop report and the list of potential action initiatives. The Steering committee identified four specific sector groups to begin working on *first*:

1. Education
2. Real Estate
3. Business
4. Rural Telecommunications

The Steering Committee will begin working with these sector groups in the fall of 2001. Implementation will begin in the winter of 2001/2002.

## PARTICIPANTS

### \* Steering Committee Members

<b>Connecting Kern County Attendees</b>		
	<b>NAME</b>	<b>COMPANY</b>
<b>1</b>	Abercrombie, Eydie	National Health Services
<b>2</b>	Allen, Carey	Kern County College District
<b>3</b>	Anthony, Gil	Restoration Community
<b>4</b>	Bans, Jan *	Pacific Bell
<b>5</b>	Barbich, Lou *	Barbich, Longcrier, Hooper & King
<b>6</b>	Black, Lori	Univ. of California-Merced
<b>7</b>	Blind, Russ	Emergency Medical Services
<b>8</b>	Brickhouse, Jay	Emergency Medical Services
<b>9</b>	Britt, Lynne	Bakersfield City School District
<b>10</b>	Brummett, Ron *	Kern Council of Governments
<b>11</b>	Bryan, Peter	Kern Medical Center
<b>12</b>	Carter, Ken	Watson Realty
<b>13</b>	Chamberlain, Greg	Bakersfield College
<b>14</b>	Collins, Patrick *	Kern Economic Development Corp.
<b>15</b>	Cox, Greg	Aera Energy
<b>16</b>	Crettol, Jim	Crettol Farms
<b>17</b>	Cushnyr, Joseph	Kaiser Permanente
<b>18</b>	Davisson, Marvin	Kern High School District
<b>19</b>	Deaver, Bill	Mojave Town Council
<b>20</b>	Denison, John	Hall Ambulance
<b>21</b>	Dill, Ron	Barbich, Longcrier, Hooper & King
<b>22</b>	Drew, Fred	Kern County Economic Opportunity Corp.
<b>23</b>	Durand, Ron	Employers Training Resource
<b>24</b>	Galloway, Michael	WebBASIS
<b>25</b>	Garrison, Scott D.	Arrival Communications
<b>26</b>	Greenlee, Guy *	Kern County Administrative Office
<b>27</b>	Guinn, John	City of Shafter
<b>28</b>	Hamm, Polly	Bkfld Assn. Of Realtors

<b>29</b>	Hardisty, Jack *	City of Bakersfield
<b>30</b>	Heinrichs, Joel	Lightspeed Tech
<b>31</b>	Hino, Raymond	Tehachapi Health Care Dist.
<b>32</b>	Hitchcock, Teresa	Airport Department
<b>33</b>	Irvine, Kathy	Department of Human Services
<b>34</b>	Jaffe, Allan	Kern Valley Chamber
<b>35</b>	Johnson, Jeff	Small Business DC
<b>36</b>	Komarek, Allan	Delano Regional Med Ctr.
<b>37</b>	Kooren, Denise	Kern County Supt. Of Schools
<b>38</b>	Krehbiel, Miriam *	United Way of Kern County
<b>39</b>	Kress, Wayne	CB Richard Ellis
<b>40</b>	Kunz, Donna	City of Bakersfield
<b>41</b>	Lyman, David *	City of Bakersfield
<b>42</b>	Lynch, Glenn	State Farm Ins.
<b>43</b>	Marchetti, Roy	Kern County Supt. Of Schools
<b>44</b>	Mascenik, Bill	Innovation Groups
<b>45</b>	McCreery, Clay	Highspeed Communications
<b>46</b>	McGowan, Hugh	Bakersfield City School District
<b>47</b>	McKinney, Danielle *	Kaiser Permanente
<b>48</b>	McPherson, Ron	Integrated Knowledge Group
<b>49</b>	Nilon, John	Employers Training Resource
<b>50</b>	Pell, Janette *	Kern County Information Tech. Svcs.
<b>51</b>	Plumeri, Joanne *	Cox Communications
<b>52</b>	Porter, Vivien	Employers Training Resource
<b>53</b>	Reider, Larry *	Kern County Supt. Of Schools
<b>54</b>	Richberg, Sue *	AFSA Data Corporation
<b>55</b>	Rosengard, Charles	Kern High School District
<b>56</b>	Sanchez, Dr. Angel *	Cal State-Bakersfield ETA
<b>57</b>	Smith, Mark	Grubb & Ellis / ASU
<b>58</b>	Trammell, Bob	City of Bakersfield
<b>59</b>	Tripicchio, Frank *	Frank Tripicchio Realty
<b>60</b>	Valos, Tom	Kern County Supt. Of Schools