New Internet/Communications Technology Empowers Economic Development, Enhances Business Community

California’s technology sector earned its reputation as a powerful economic engine in 2015. California’s 1.1 million employee-strong technology sector leads the nation, creating more jobs than the next two largest states by technology sector employment—Texas (581,200) and New York (346,500)—combined. In addition to being the nation’s largest technology sector, California also had the fastest growing, adding nearly 33,000 jobs in 2015, and the best paying, with an average annual wage of $139,500.

With Californians continuing to embrace cutting-edge technologies, including Internet of Things (IoT), wearables, sharing-economy platforms, and mobile applications, it’s clear that California’s economic growth and technology adoption go hand in hand. Today, as the Internet increasingly becomes a part of everyday life for Californians, promoting broadband everywhere—and for more people—is essential to supporting continued economic growth and technology leadership.

Technology Growth/Adoption

Growth in the technology sector has all kinds of benefits throughout the economy. A recent study showed that for every job created in the technology sector, approximately 4.3 jobs are created in other sectors throughout the local economy, positively benefiting all income groups. In addition to the economic benefits, there’s also the consumer benefit of enjoying the new goods and services produced by the technology sector.

Consumers are increasingly using broadband, thanks to significant investment and the large-scale build-out of high-speed Internet infrastructure. U.S. consumers are streaming movies and downloading content more than ever, fundamentally changing the communications, entertainment and technology landscape. According to Pew Research, 87% of Americans use the Internet. In the coming years, the Internet will become even more inextricably linked to Americans’ lives as the Internet of Things—smart appliances and connected cars for instance—quickly comes online. According to McKinsey & Company, there are projected to be 20 billion to 30 billion “things” connecting wirelessly with the Internet around the world by 2020.

With some 92% of Californians using a cellphone or smartphone, and more than 18 million Californians using their mobile device to access the Internet, it’s clear that mobile devices are an important portal to the 21st century information economy. And for many communities, low-income Californians in particular, mobile devices are the preferred source of Internet access.

Consumers are actively choosing new and innovative products, services and devices that require faster, more robust and more advanced technology—whether wired or wireless. Every month, 450,000 U.S. consumers switch to phone services that run on wireless and Internet-based networks. In fact, across the United States, more than two in every five adults lived in homes that were wireless-only and 40.2% of homes utilize Voice over Internet Protocol (VoIP) technology. Perhaps it’s no surprise that the United States ranks second globally in average mobile subscriber data consumption.

Individuals and households are not the only ones going wireless. Businesses increasingly depend on strong wireless service to carry their employees through the work day. In fact, 94% of small businesses surveyed use smartphones to conduct business, and mobile technologies are saving U.S. small businesses more than $65 billion a year.

The transition from antiquated to modern communications technology is largely complete. Today, only 7% of Californians rely only on landlines for phone service, and that population continues to shrink year over year. Consumers are making this shift because of the inherent benefits of mobile and broadband technologies—just as they once shifted from typewriters to computers. With consumers increasingly going wireless, using
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*Community Reinvestment Act government data, 2002 – 2014
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wearables and embracing newer IoT services rapidly coming online, mobile data capacity and coverage is more important than ever.

**Significant Investment/Innovation**

Venture capital has played a large role in the growing technology sector in recent years—both in California and the nation more broadly. In 2014, nearly 2,000 companies in California received a total of more than $28 billion in venture funding, 57% of the $50 billion venture capital invested nationwide.

Investment and innovation have been extraordinarily strong in the mobile wireless ecosystem. Annual investment in U.S. wireless networks grew more than 50% between 2009 and 2013, from $21 billion to a record $33 billion. In 2014, capital investments made nationally by telecom, cable and technology companies totaled $78 billion. Several markets around California and the country have seen this investment manifested in 100% fiber-optic networks, delivering unprecedented Internet capabilities to consumers.

Investing to expand broadband access to all Californians also brings economic growth and new jobs. Private investment in mobile wireless infrastructure over the next five years will generate $1.2 trillion in economic growth and create 1.2 million jobs, according to a recent study. The Progressive Policy Institute reports that four of the top 25 markets for technology sector jobs can be found in California, including each of the top three. Furthermore, all four California markets in the top 25 saw significant growth in nontechnology sector jobs in addition to the rapid growth rates in the technology sector.

The explosion in innovative broadband services and applications, or apps, is driven by consumers but realized by the enormous infrastructure investments by wired and wireless providers.

These providers must increase the value of their networks to recover those investments. Accordingly, the value of the networks depends on how many end users subscribe to them and how much data those users consume. Thus, mobile providers have an incentive to continue to ensure that customers can access the applications, services, and content of their choosing, regardless of whether those services compete with services mobile providers also offer.

**Advanced Technology Benefits Consumers**

*Providing Information*

The Internet and mobile devices have enabled Americans to become better informed about products and services available for sale, national and international news, and popular culture. Average Americans and American students are better informed: overall, Internet users believe that both the average American and the average student today are better informed thanks to the Internet.

- 76% of online adults say access to the Internet has made average Americans better informed.
- 77% of adult Internet users say the Internet has made today’s students better informed.

**Advancing Health Care**

According to the Federal Communications Commission, mobile health (mHealth) reduces the number of face-to-face consultations necessary and can reduce medical costs by 25% for seniors.

In the near future, mHealth is expected to save patients $21.1 billion per year. Telehealth reduces days spent hospitalized by 25% and reduces the number of hospitalizations by 19%.

Between 2005 and 2030, broadband-based health resources will save approximately $927 billion in health care costs for seniors and people with disabilities. The growth of IP-powered telehealth and telemedicine makes life easier for patients requiring specialty care. Consumers seem to sense the value of mHealth devices, with 33% of broadband households in a recent survey reporting use of digital health and wellness devices in 2015, a jump from 26% in 2014.

The number of patients using telehealth services will rise to 7 million in 2018, up from fewer than 350,000 in 2013. In 2013, more than 78% of office-based physicians were using an electronic health records (EHRs) system, compared with only 48% in 2009. As of September 2013, 51% of doctors were using a tablet device for professional purposes. As of February
2014, some 42% of U.S. hospitals already have adopted telehealth platforms to assist in treating their patients.

According to the American Telemedicine Association, patients with congestive heart failure who used telemedicine reduced their hospital admissions by 60%, reduced emergency visits by 66% and reduced utilization of pharmacies by 59%. In contrast, patients who did not use telemedicine experienced increases in these three areas. Patients with congestive heart failure who used telemonitoring saw a 44% reduction in re-admission rate.

In order make it possible for everyone to benefit from these technological advances in the health care industry, public policies should reflect the choices that consumers are making today and encourage the investment and innovation needed to meet consumer demand.

**Increasing Education Access, Quality**

Investment in high-speed broadband Internet and next generation IP-based networks helps bring communities across the nation the faster, more reliable service they demand. The benefits of IP-enabled products, offerings and services are far reaching and can positively affect every area of our lives.

High-speed broadband Internet and next-generation IP networks help educators meet students’ specific needs and customize their education. Products and devices like smartphones, netbooks and tablets help students and teachers access distance-learning applications anywhere and anytime, allowing them to learn and explore beyond their classrooms and the local library.

Video conferencing via wireless and broadband-enabled technology offers face-to-face communication. With a few clicks, teachers can quickly access lectures and colleagues from near and far. IP technology also allows students and teachers to access a multitude of services, applications and capabilities that exist in “the cloud.”

**Helping Communities Bridge Educational Divides**

Online classes made more widely available through IP networks can help address the shortage of advanced and expanded course offerings in rural schools, only 69% of which are able to provide Advanced Placement classes, compared to 93% of city schools.

Mobile learning platforms, digital content, and adaptive software allow students to utilize the technologies and devices with which they are already familiar to help them learn and access educational information, anywhere and at any time. This can especially benefit African-American and Hispanic-American students, who are leading adopters of smartphones and mobile technology.

At the higher education level, more students than ever are taking advantage of distance education opportunities. According to the U.S. Department of Education, nearly 27% of all undergraduate students enrolled in at least one online course in the 2013–14 school year, with more than 11% enrolled exclusively in distance education. At the postbaccalaureate level, the numbers jump even higher, as 31% participated in some form of distance education and 23% enrolled exclusively online, underscoring the value of high-quality bandwidth access for all levels of education throughout the country.

Investing in, expanding access to and encouraging the nation’s transition to IP-based networks will increase the quality and accessibility of education for the benefit of parents, students, educators and employers.

**Modernizing Regulations, Promoting Competitive Marketplace**

More and more everyday activities are migrating online. Recent studies show that more than half of Americans apply for jobs online. We get our entertainment online, with Netflix streaming more than 6.5 billion hours of video per quarter, mostly in the United States. And we certainly shop online, with Amazon selling $85 billion in merchandise, digital content and cloud services in the past year.

The United States, with 4% of the world’s population, has 10% of its Internet users, 25% of its broadband investment and 32% of its consumer Internet traffic. Clearly, the U.S. policy of Internet freedom has worked.

While most agree in principle that state and local regulations should not impose rules that can stifle innovation and growth, the details are important. As California policymakers look toward the future, modernizing policies now will set up a sensible path forward that expands broadband opportunity and supports consumers.

**Policy Initiatives Benefitting Consumers**

**AB 57**

In 2015, the California Legislature passed and Governor Edmund G. Brown Jr. signed into law California Chamber of Commerce-supported AB 57 (Quirk; D-Hayward; Chapter 685). The bill provides important time certainty in the process for installing the infrastructure needed to improve wireless service for all Californians.

Despite the growing demand for improved wireless coverage across California, the prevailing local jurisdiction approval process often was unworkable. The result was a permitting process that could stop needed infrastructure investment in its tracks. AB 57 works within rules enacted by the Federal Communications Commission to keep the local permitting process moving without limiting or restricting the authority of local governments in the process.

AB 57 provides for important guidelines and the appropriate balance for parties to work together to keep the permitting process moving and promote needed wireless service improvements for consumers, business, government and public safety.

**SB 1161**

In 2012, with support from California’s business community, the California Legislature passed and Governor Brown signed into law SB 1161 (Padilla; D-Pacoima; Chapter
SB 1161, identified by the CalChamber as a job creator bill, protects against the Public Utilities Commission and any other department agency or commission regulating VoIP- and IP-enabled service without specific legislative authority.

SB 1161 establishes regulatory certainty for California Internet companies so they can invest, innovate and grow their Internet businesses without unnecessary rules and protracted state regulatory proceedings that create delay and expense, and impact their ability to meet the growing demand of consumers.

**DIVCA**

Consumers and the California economy won another significant victory when California passed CalChamber-supported AB 2987 (Núñez; D-Los Angeles; Chapter 700), “The Digital Infrastructure and Video Competition Act of 2006” (DIVCA), which reduced regulations on television services, shifted video franchising from a local to a statewide process, and opened up the state’s sizable market to competition. DIVCA increased industry investment in broadband infrastructure and improved the California economy by creating jobs and benefiting consumers (particularly low-income consumers).

**The View Ahead**

California has long been a leader in advanced infrastructure and technological innovation. California’s success as a leader in the tech economy is due in large part to the substantial investment California businesses have made in the infrastructure and technological innovation that have propelled California’s economy forward. This investment is largely due to California economic policies that incentivize competition and bolster investment by businesses in the state.

This investment is not only providing all Californians with the high-quality broadband access they deserve, but also laying the groundwork for the next great wave of innovation and growth driven by IP technologies: the Internet of Things. With California’s enhanced digital infrastructure leading the way, IoT technologies are expected to be as revolutionary for the everyday life of Californians tomorrow as mobile technologies are today.

**CalChamber Position**

A combination of rapid technological innovation, consumer choice and disruptive changes in the communications market has altered forever the traditional competitive landscape. These profound structural and technological changes point to the need for economic policy that leaves free from government regulation those market processes that continue to propel further innovation and competition for new services.

Consumers are increasingly choosing advanced technologies such as mobile because they see the inherent benefits, and policymakers need to keep up. As IoT technologies and other innovations become a part of everyday life for Californians, policies that support broadband deployment, access and adoption will become vitally important.

In light of the technological dynamism and multiplatform competition that exists in the broadband marketplace—with cable, telephone, fiber, satellite and various wireless companies all offering consumers alternative choices for Internet service—California businesses should be free to invest in the advanced infrastructure and technological innovation that have enhanced the California economy and empowered California consumers without being hindered by outdated and unnecessary regulations.

In order for California to remain a leader in broadband deployment, speed and quality, California lawmakers should continue to support innovation and growth by encouraging greater investment in modern infrastructure and supporting policies that modernize regulations and promote competition going forward. Preserving this commitment to the streamlined regulations that have encouraged businesses to enhance the California economy and empower California consumers is necessary to ensure that the Internet remains a vibrant driver of jobs, growth and innovation.

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