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## Chapter 6 Telecommunications

### 6.1 Purpose

Telecommunications infrastructure and services include basic telephone, wireless telephone, and broadband internet. This chapter addresses telecommunications access, reliability, and capacity.

### 6.2 Relationship to Other Elements

Land Use Element policies govern the siting of telecommunications facilities. Other telecommunications issues are considered in the Economic Development, Circulation, and Community Infrastructure and Services Elements.

### 6.3 Background

#### Telecommunication Infrastructure and Services

Telecommunications infrastructure and services are critical to businesses for economic growth and job creation. Residents rely on telecommunications for quality of life, education, research, and access to health care and government services. As a rural area with a dispersed population base, Humboldt County lags in its access to reliable telecommunications services, as compared to urban centers such as the San Francisco Bay Area. In fact, several communities on the Yurok Reservation, including the Jack Norton Elementary School, are still without basic telephone service.

This Element draws from a series of technical reports, including: *Living in a Networked World* (2004), a comprehensive telecommunication assessment that included a supply and demand analysis and recommended actions to improve telecommunications in Humboldt County. The report identified several key telecommunication issues:

- **Planning.** Residents and businesses want more detailed, proactive telecommunications planning, not just general policies. They want the County and cities to take an active role.
- **Access/Coverage.** This is the single biggest issue. The county is not keeping up with the rest of the world, but there is a digital divide within the county as well. Broadband (high-speed) services are not available to half the county's residents, and cellular phone coverage is less than desirable.
- **Competition/Affordability.** There is little competition within the county, and because of that, services are more costly. Most believe there should be universal access to broadband, with a choice of providers.
- **Reliability.** Reliability has a different meaning in each part of the county. Eastern Humboldt residents seek a reliable means of making phone calls. In the area around the bay, residents would like redundancy to the single SBC fiber path. (If the SBC fiber link goes down, the majority of telecommunications users here would be affected. Redundancy, if correctly implemented, would provide a needed backup.)

- **Applications.** Residents want access to government services, forms, and public meetings (e-government) and better bandwidth to take advantage of advanced applications, such as telemedicine, distance learning, VoIP (Voice over Internet Protocol), transfer of large files, and streaming audio, to name a few.
- **Education/Awareness.** Residents want to be more educated in technology skills and more aware of the potential of telecommunications. This includes training workers in tech skills, training businesses, and increasing awareness among the public and elected officials.
- **Advocacy.** This needs to happen at all levels—locally, statewide, and nationally. Residents want the County to actively advocate for telecommunications with state and national elected officials, the California Public Utilities Commission, and the Federal Communications Commission.

This Element addresses these issues in an effort to improve telecommunications access, reliability, and capacity in Humboldt County.

## Cellular Service

Broadening cellular service to rural areas and eventually providing cellular access to broadband video and data is important to the county. Increasing the quality of coverage within urban areas and along major transportation corridors is also important. To accommodate these needs, this Plan provides a framework for adopting clear and reliable regulations for the siting of wireless telecommunication facilities. This Plan also establishes siting parameters to minimize community impacts, including demonstration of compliance with federal safety standards, low-profile facility designs, co-location whenever feasible, and minimum setbacks from residences.

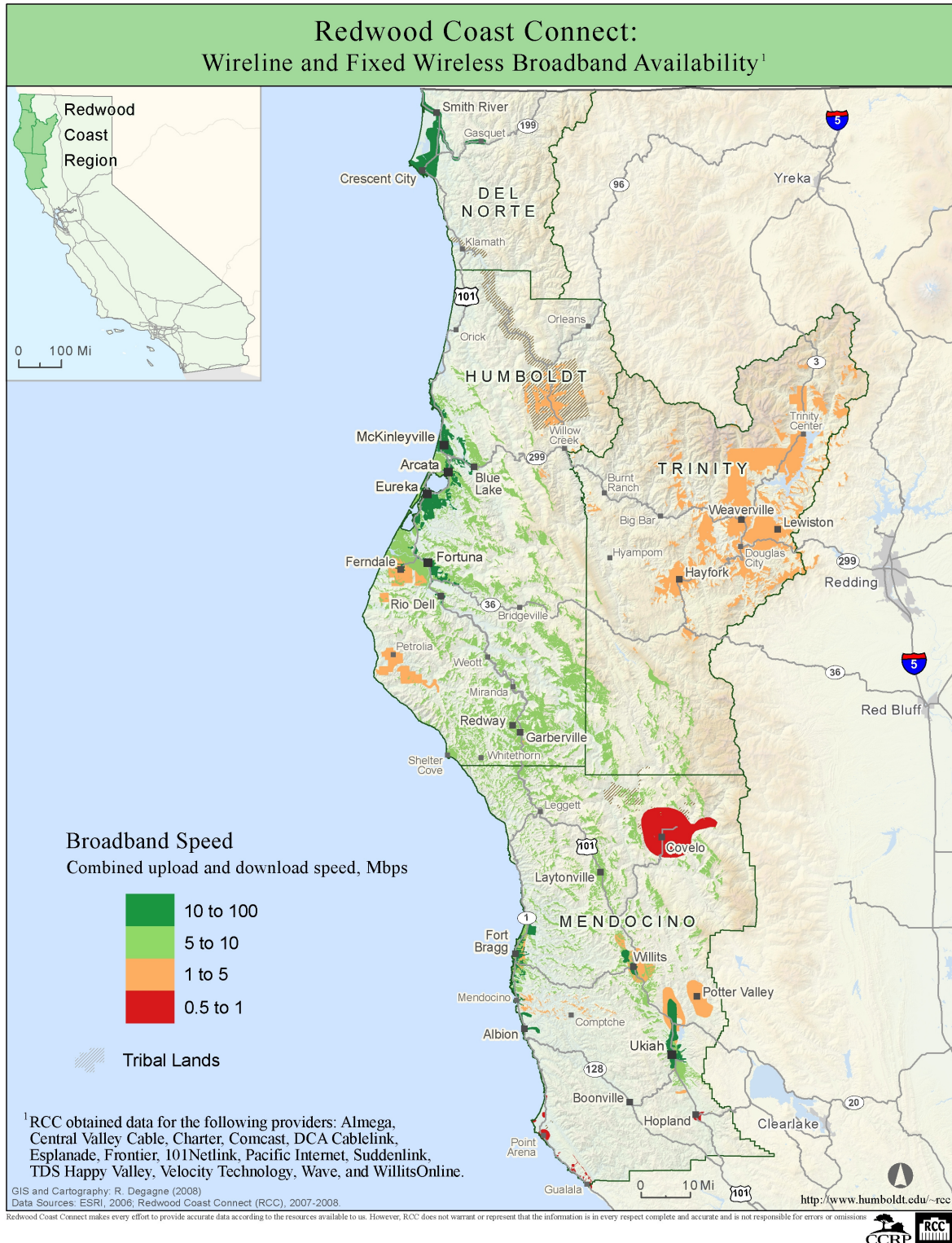
## Broadband Communications Benefits and Availability

High-speed internet access, or broadband, is a fundamental aspect of the infrastructure required to educate our youth, create jobs, promote public safety, improve our standard of living, and deliver essential services like health care. According to the California Public Utilities Commission, reasonable broadband service in 2008 is 1 MB upload and 3 MB download (about 20 to 60 times the capacity of a telephone connection).

While some Humboldt County residents have access to broadband, many residents and businesses are underserved in terms of provider choice and speed. Humboldt County is seriously lagging behind the rest of the state in the quality and availability of broadband.

Figure 6-1, "Wireline and Fixed Wireless Broadband Availability," shows the geographic availability of broadband telecommunications in Humboldt County. The figure shows that broadband services are widely available in the greater Humboldt Bay Area. For many other areas of the county, broadband service is not available. Unserved areas include: Briceland, Bridgeville, Crannell, Fort Seward, Holmes, Korbel, Myers Flat, Orick, Orleans, Phillipsville, Redcrest, Richardson Grove, Weott, and the Yurok Reservation communities of Wautec/Johnsons and Pecwan (which do not have basic telephone service). Underserved areas are defined as having a combination of one or more of the following: slow speeds, less than three providers, backhaul issues (availability and/or cost), no wireline coverage, or small provider coverage. These areas include: Bayside, Carlotta, Fieldbrook, Honeydew, Hoopa, Hydesville, Kneeland, Petrolia, Weitchpec, and Willow Creek.

Figure 6.1, Wireline and Fixed Wireless Broadband Availability<sup>1</sup>



Ubiquitous broadband service availability will help the county accomplish many of its economic development objectives. Broadband will help strengthen and retain existing businesses and organizations. Broadband availability is also essential to create and recruit new jobs within identified targeted industry clusters that need reasonably priced advanced telecommunications services in order to compete from a rural location in a world economy. New residential and commercial development projects should include the infrastructure components necessary to support modern communication technologies, such as conduit space within joint utility trenches for future high-speed data equipment and flexibility in conduit placement to allow for easy retrofit for high speed data systems.

Expanding broadband and wireless services to smaller and remote communities will have several additional benefits. Improved telecommunications infrastructure will support public safety and emergency services by improving communications and access to information. Telemedicine, which is the use of communication technology to provide and support health care when distance separates the participants, could help improve healthcare in Humboldt County. Economic development objectives such as improved tourism, industry diversification, job creation, and promoting local businesses will benefit from a stronger on-line presence. Additionally, broadband technology will enable online education opportunities, telecommuting, and reduce the need for other vehicle trips.

A state law adopted in 2008 (SB 1191), authorizes community service districts to construct, own, improve, maintain, and operate broadband facilities and provide broadband services, if a private person or entity is unable or unwilling to deploy broadband service. This Plan supports this approach for the county's unserved smaller communities.

In 2007, the counties of Del Norte, Humboldt, Mendocino, and Trinity began a broadband demand aggregation study, entitled *Redwood Coast Connect*. The intent was to begin to understand and build a robust broadband market by increasing the supply of services (especially to underserved areas and constituencies) while, at the same time, growing business and home consumer demand in the region. In addition, the project investigated local, regional, and statewide policies that create a favorable environment for building new broadband services and fostering their use.

In 2007, the California Broadband Task Force, composed of industry leaders, public officials, and community representatives, including two representatives from Humboldt County, set three statewide goals:

- California must ensure ubiquitous and affordable broadband infrastructure, made available through a variety of technologies to all Californians.
- California must drive the creation and use of applications that produce the greatest economic, educational, and social benefits for California's economy and communities.
- California must construct next-generation broadband infrastructure, positioning California as the global economic leader in a knowledge-based economy.

This General Plan places a high priority on broadband market development and Humboldt's participation in the statewide diffusion of broadband technology and applications.

## 6.4 Goals and Policies

### Goals

- T-G1. Deployment and Availability.** Communications, including high speed broadband, available to every resident, business, and institution in Humboldt County at a level of service and at a price comparable to urban communities.
- T-G2. **Broadband Access.**** A broadband internet infrastructure that reliably connects Humboldt to national networks and extends throughout urbanized areas to our most rural communities.
- T-G3. **New Construction.**** Broadband service capability integrated into new buildings and developments.
- T-G4. **Communication Facilities.**** Orderly planning and appropriate development of communication facilities within the county to achieve reliable access while protecting public health and safety; minimizing visual blight; preserving the county's rural character including the protection of scenic, natural, and cultural resources.

### Policies

- T-P1. **Development of Communications Infrastructure and Services.**** Support the development of communications infrastructure and services to facilitate the use of the best available technology for business, households, and government.
- T-P2. **Broadband Service Reliability.**** Support efforts to increase reliability and continuity of service by broadband media and communications providers through market development, installation of redundant infrastructure, diversification of providers, and system modernization.
- T-P3. **Communications Facility Siting.**** Design and site all facilities to minimize visibility, visual clutter, and reduce conflicts with surrounding land uses while recognizing that all communities in Humboldt County should have access to communication infrastructure.
- T-P4. **e-Government Infrastructure.**** Continue to expand the County's website and communications to deliver as many public services as possible online to decrease trips and reduce impacts on the environment. The County shall work towards providing all policies, plans, ordinances, and information about the jurisdiction online.
- T-PX1 **PEG Access.**** Encourage the expansion of Public, Education and Government (PEG) access media in all communities in the county.
- T-P5. **Communications Facilities Within County Rights of Way.**** Strongly encourage communications service providers to size underground and overhead facilities to accommodate future expansion, changes in technology, and, where possible, the facilities of other communications providers.

- T-PX2. County Right-Of-Way and Net Neutrality.** In negotiating franchise agreements and the use of county right-of-ways, the County shall strongly encourage providers to serve underserved communities and to adhere to the principal of net neutrality or unfiltered access to internet information.
- T-P6. Telecommuting.** Telecommuting and home-based businesses that use internet shall be considered principally permitted accessories to residential uses when operated in compliance with cottage industry performance standards.
- T-P7. Broadband Internet.** Promote the provision of broadband infrastructure throughout the County.
- T-PX. Local Government Broadband Communications Services.** Encourage and support the efforts of community based organizations or community services districts to construct, own, improve, maintain, and operate broadband facilities and to provide broadband services within communities where communications service providers are unwilling or unable to so do.
- T-P8. Broadband Internet.** The County shall support the expansion and delivery of redundant, open broadband internet service throughout the county, and support the use of public resources to serve community anchors such as court houses, schools, libraries, civic and media access centers, public safety and health care facilities.
- T-P9. Workforce Development.** Continue to work with local businesses and educational and other institutions to identify special communications needs, and to ensure that there are a variety of service providers and training opportunities available to address those needs.
- T-P10. Subdivision Improvement Requirements.** New residential and commercial development projects shall include the infrastructure components necessary to support modern communication technologies, such as conduit space within joint utility trenches, for future high-speed data equipment and flexible telephone conduit to allow for easy retrofit for high-speed data systems.
- T-P11. Joint Telecom Planning.** Work with local governments, utilities, schools, medical facilities, communications and other service providers, neighboring counties, tribes, state and federal entities to unify and coordinate communication infrastructure planning on a local, regional, and global basis.
- T-P12. E-911.** Ensure that the county's broadcast and broadband media using wireless and wireline communications are capable of providing timely emergency information to facilitate rapid and reliable emergency response.
- T-P13. Cable Franchise Ordinance.** Ensure that the county's cable franchise ordinance is kept up-to-date to deal with the changing nature of federal and state law, as well as the changing nature of communications technology so that the best possible services are available to residents, businesses, community based organizations, educational institutions and other public agencies.
- T-P14. Free internet Access.** Encourage the installation and availability of free public-

use broadband services at every County-owned building and other community anchor facilities.

- T-P15. Trip Reduction.** Encourage communications infrastructure improvements and expansion as a means to reduce transportation impacts and improve air quality.
- T-P17. Technology Awareness.** Promote awareness, innovation and utilization of broadband communications technology by businesses and residents especially for least served people and places.
- T-P18. Localism:** Promote development of locally owned networks through deployment and utilization of broadband media and communications services in all communities.

## 6.5 Standards

- T-S1. Communications Siting Standard.** Siting of new communications facilities shall comply with standards contained in a Communications Facilities Ordinance that incorporates the following:
- A. **Tiered Permitting.** Utilize permit processes that vary depending upon the physical characteristics of the facility, its location, and its compliance with specific development and performance standards, and include provisions for expanded noticing.
  - B. **Performance Standards.** Standards for siting design, visibility, construction impacts, noise, on-going operation, and other characteristics that affect the compatibility and environmental and safety impacts of proposed facilities.
  - C. **Site Co-location.** When feasible, communications facilities shall be located adjacent to, on, or incorporated into existing or proposed buildings, towers, or other structures. The County shall require new facilities to accommodate future co-location to the maximum extent feasible.
  - D. **Public Health and Safety.** Applicants shall demonstrate that proposed facilities operate within Federal Communications Commission (FCC) emission regulations and guidelines including initial and ongoing monitoring for compliance with FCC regulations.
  - E. **Location and Siting.**
    - 1) When designing and siting towers, screening should be used, if possible, to minimize visual impacts.
    - 2) Stealth siting methods should be used if possible within views of scenic highways, public parks, cultural facilities and coastal scenic areas.
    - 3) Stealthing and/or setbacks shall be used to ensure community compatibility.
    - 4) An alternatives analysis may be required at the time of application that documents why the proposed project is the best way to

accomplish project alternatives while minimizing project impacts.

F. **Design and Screening.**

- 1) Support structures shall be designed to minimize visibility with a preference towards each of the following in the order so listed: 1) use of existing structures, 2) stealth designs for concealment, and 3) monopoles.
- 2) Component parts, equipment cabinets, buildings, and security fencing shall be designed to achieve a minimum profile through painting, screening, landscaping, and architectural compatibility with surrounding structures.
- 3) Photo simulations or balloon tests with views from various vantage points may be required to show visual impact of the proposed facility.

G. **Removal of Un-used Facilities.** Require the timely removal of communications towers and equipment when they are no longer needed as a condition of approval.

H. **Independent Review.** Applicants may be required to pay the cost of independent review to evaluate siting alternatives, necessity based on adequacy of coverage or evaluation of radio frequency emissions in relation to FCC Maximum Permissible Exposure Limits.

I. **Waiver or Modification of Standards.** Allow for a waiver or modification to standards and requirements based on specific findings showing non-detriment and necessity or that strict compliance would result in noncompliance with applicable federal or state law.

## 6.6 Implementation Measures

**T-IM1. Communications Facilities Ordinance.** Adopt a Communications Facilities Ordinance that ensures compatibility of communications facilities with nearby land uses, is proactive in the design and siting of wireless communications facilities, provides incentives for unobtrusive and compatible wireless antennas, and establishes clear standards for such facilities.

**T-IM2. Broadband Deployment.** Revise subdivision regulations to require the provision, where feasible, of infrastructure facilities for broadband communications network deployment.

**T-IM3. Improvement Specifications within Road Rights-of-Way.** Review the Standard Improvement Specifications for Public Improvements to determine if a location for the placement of conduit for communications use can be designated and to develop safe zones for installing new communications infrastructure.

**T-IM4. Communications Infrastructure Inventory.** Create and maintain an inventory of communications infrastructure located within and outside public rights-of-way and all existing and proposed communications facilities and their locations in the county, including all available tall structures that could be used for communications antennas.



- T-IM5. Public Conduit.** Work with other local, state and tribal jurisdictions to develop a standard for installing publicly owned communications conduit as part of capital construction projects.
- T- IM6. Ongoing Communications Planning.** Prepare and periodically update a communications improvement program based on existing local, countywide, and regional communications planning studies that identifies existing conditions, needed improvements, and funding programs and that establishes criteria for prioritizing projects.
- T- IM7. Pre-Planning Facility Locations.** Establish and utilize wireless and wireline telecommunications siting standards, in coordination with other jurisdictions, to identify areas where future commercial or public communications facilities can be located.
- T- IM8. Communications for Under Served Communities.** Advocate for and seek grant funding to deliver improved communications to outlying rural areas and other under served communities. Provide technical assistance to community service districts, other local government jurisdictions and community based organizations interested in offering broadband communications services for public, education and government purposes.
- T- IM9. Broadband Reliability.** Advocate for and seek grant funding to support broadband service diversity and redundant network capacity to and from the county.
- T- IM10. e-Government.** Continuously improve County government's use of broadband communications and digital technology to educate and provide public services with a focus on internet services, geographic information systems, public safety and emergency communications.
- T-IMX. Remote Deployment Planning.** Seek funding to undertake a study and environmental review to determine appropriate places to deploy wireless communication facilities that would provide reliable coverage to every community within the county. Areas approved in the report should receive expedited and streamlined permitting.
- T-IMX1. Increasing PEG Access.** Work with local, state, tribal and federal government community based organizations and private sector entities to develop, improve, and maintain high quality communications service providing increased community access to affordable, broadband media services for public, education and government purposes.
- T-IMX2. Communication Marketing.** Market the County to the outside world as a tech-aware place to live and work.
- T-IMX3. Live Remote of Public Meetings.** Seek funding and deploy live remote **and interactive** coverage of public meetings to communities without access to public, education, and government channels. **[BOS tentative action 10-1-2012]**
- T-IMX4. Research Possible Monitoring Policy.** **Host Support** community workshops to discuss the issue of monitoring radiation outputs from wireless equipment. **[BOS tentative action 10-1-2012]**