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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:

- o **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.
- o **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.
- o **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.
- o **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.)

- o **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.
- o **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.
- o **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 and stealthy facility designs, co-location whenever feasible, and minimum setbacks from residences.

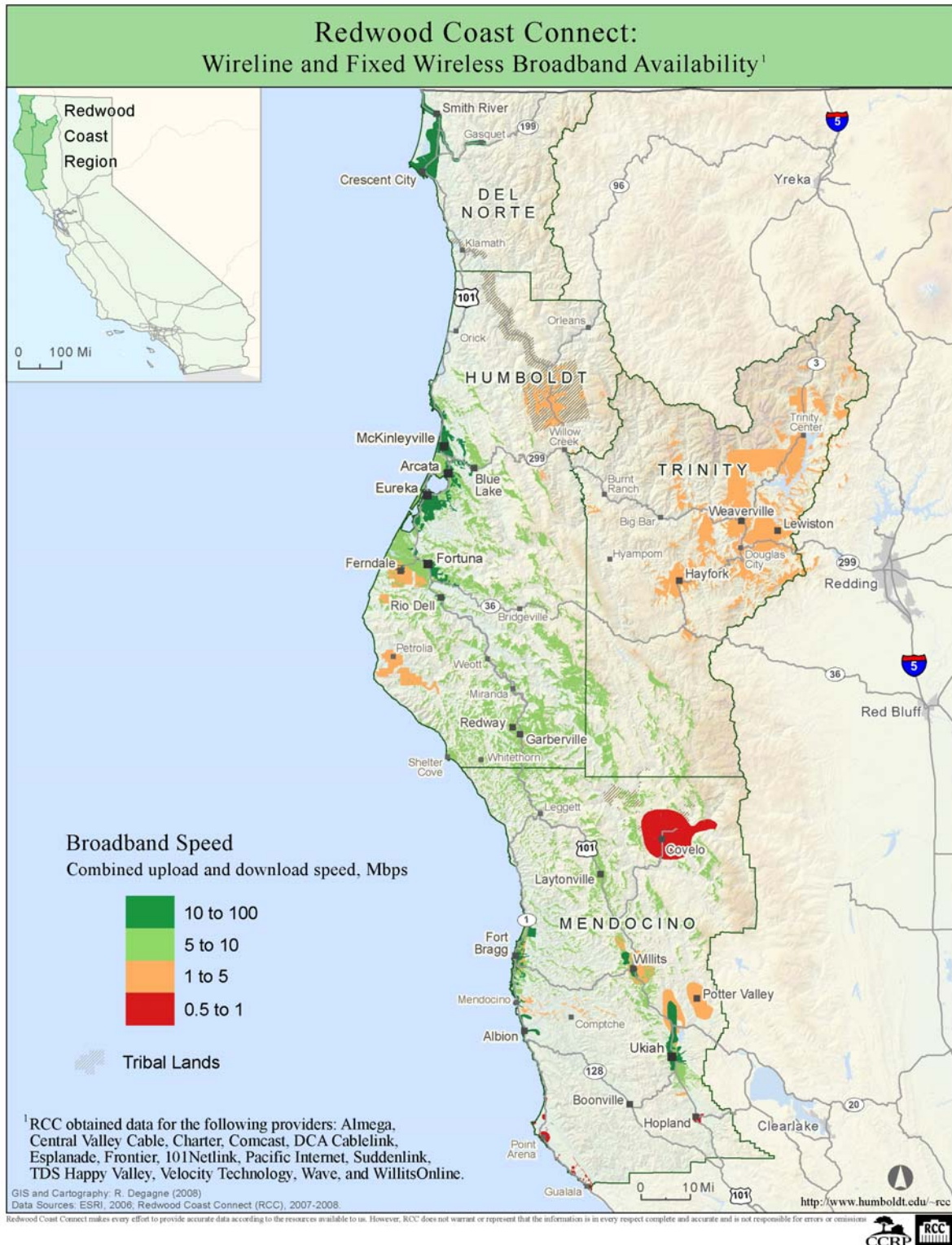
## Broadband Communications Benefits and Availability

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:

- o California must ensure ubiquitous and affordable broadband infrastructure, made available through a variety of technologies to all Californians.
- o California must drive the creation and use of applications that produce the greatest economic, educational, and social benefits for California's economy and communities.
- o 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. Availability.** Telecommunications available to every resident, business, and institution in Humboldt County at a level of service and price comparable to statewide availability and standards.
- 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. Telecommunication Facilities.** Orderly and appropriate development of wireless telecommunication facilities within the county to achieve reliable access in a manner that will protect and promote public health and safety; prevent visual blight; preserve the county's rural character; and protect scenic, natural, and cultural resources.

### Policies

- T-P1. Development of Telecommunications Infrastructure and Services.** Advocate for development of telecommunications 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 telecommunications providers through market development, installation of redundant infrastructure, diversification of providers, and system modernization.
- T-P3. Telecommunications Facility Siting.** Design and site all facilities to minimize their visibility, prevent visual clutter, and reduce conflicts with surrounding land uses.
- T-P4. e-Government Infrastructure.** Continue to expand the County's website and telecommunications capabilities, including the use of geographic information system resources, as a source of public information and as an aid in the delivery of public services.
- T-P5. Telecommunications Facilities Within County Rights of Way.** Encourage telecommunications service providers to size underground and overhead facilities to accommodate future expansion, changes in technology, and, where possible, the facilities of other telecommunications providers.
- 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 in all communities.

- T-P8. **Broadband Internet.** Support the development and management of an alternative fiber optic line that connects to the fiber backbone running along the U.S. 5 corridor. The County shall support the expansion and delivery of broadband internet in the rural or remote communities in the county through all appropriate technologies.
- T-P9. **Workforce Development.** Continue to work with local businesses to identify special telecommunications needs, and to ensure that there are a variety of service providers 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 service providers, and neighboring counties to unify telecommunication infrastructure planning on a regional basis.
- T-P12. **E-911.** Ensure that the county's radio, telecommunications, and internet services are capable of providing timely emergency information and facilitating 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 telecommunications technology so that the best possible services are available to residents.
- T-P14. **Wireless "Hot Spots".** Encourage the installation of public-use wireless broadband antennas at every County-owned building.
- T-P15. **Trip Reduction.** Encourage telecommunications infrastructure improvements as a means to reduce transportation impacts and improve air quality.
- T-P16. **Public Broadband Telecommunications Service Providers.** Support the provision of broadband telecommunications services by public agencies.
- T-P17. **Technology Awareness.** Promote awareness of broadband telecommunications technology by businesses and residents.

## 6.5 Standards

- T-S1. **Telecommunications Siting Standard.** Siting of new telecommunications facilities shall comply with standards contained in a Telecommunications 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.

- B. **Performance Standards.** Standards for siting design, visibility, construction impacts, on-going operation, and other characteristics that affect the compatibility and environmental and safety impacts of proposed facilities.
- C. **Site Co-location.** When feasible, telecommunications 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.
- E. **Location and Siting.**
  - 1) Avoid siting along ridgelines unless screened from public view.
  - 2) Avoid siting within views of scenic highways, public parks, recreation or cultural facilities or other public lands and coastal scenic or view areas.
  - 3) Setbacks shall be required between telecommunication facilities and residential dwelling units, public or private schools, and child daycare facilities.
  - 4) An alternatives analysis shall be provided at the time of application that documents why the project as proposed is the best way to accomplish project alternatives while minimizing project impacts.
- F. **Design and Screening.**
  - 1) Support structures shall be designed and painted 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) Photosimulations or balloon tests with views from various vantage points shall be used to show visual impact of the proposed facility.
- G. **Removal of Un-used Facilities.** Require the timely removal of telecommunications 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. Telecommunications Facilities Ordinance.** Adopt a Telecommunications Facilities Ordinance that: ensures compatibility of telecommunications facilities with nearby land uses, is proactive in the design and siting of wireless telecommunications facilities, provides incentives for unobtrusive and compatible wireless antennas, and establish clear standards for such facilities.
- T-IM2. Broadband Deployment.** Revise subdivision regulations to require the provision, where feasible, of infrastructure for broadband internet.
- 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 telecommunications use can be designated and to develop safe zones for installing new telecommunications infrastructure.
- T-IM4. Telecommunications Infrastructure Inventory.** Create and maintain an inventory of telecommunications infrastructure located within and outside public rights-of-way and all existing and proposed telecommunications facilities and their locations in the county, including all available tall structures that could be used for telecommunications antennas.
- T-IM5. Public Conduit.** Work with other local and state jurisdictions to evaluate the feasibility of installing publicly owned telecommunications conduit as part of capital construction projects such as water, wastewater, power, roads, and sidewalks.
- T- IM6. Ongoing Telecommunications Planning.** Prepare and periodically update a telecommunications improvement program based on existing local, countywide, and regional telecommunications 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 pre-identify areas where future commercial or public telecommunications facilities can be located.
- T- IM8. Telecommunications for Rural Communities.** Advocate for and seek grant funding to deliver improved telecommunications to outlying rural communities. Provide technical assistance to community service districts interested in offering broadband telecommunications.
- T- IM9. Broadband Reliability.** Advocate for and seek grant funding to support broadband service diversity and redundant fiber optic service to the county.
- T- IM10. e-Government.** Continuously improve County government's use of telecommunications and digital technology to educate and provide public services with a focus on internet services, geographic information systems, and public safety and emergency telecommunications.