

# Chapter 11 – Technology



---

## Introduction

---

The greater Hansville area is geographically removed from urban centers and has therefore been somewhat slower to have technological advances such as DSL and broadband cable as those in larger cities. The situation has changed. This chapter identifies the existing state of telecommunication advancement in the GHA. It also reports on the state of telephone and television. Five maps at the end of this chapter show various fiber optic and wireless routes, and antennae locations.

### KEY FACTS

- All major modes of telecommunication are available to the majority of Hansville Area residents.
- High speed internet connections are now available most of the residents from both telephone and cable television providers.
- Cellular telephone service remains spotty due to the lack of in-situ antennas for the north end of the peninsula.

### KEY TRENDS

- Reliability of the land-based telephone system has improved due to increased use of (buried) fiber optic cable supplying the Hansville sub-station and that of Hood Canal Drive.
- High definition TV service is universally available via one cable provider and two competing satellite providers.

### FOOD FOR THOUGHT

- Until the demand for better cellular coverage in the Hansville area is reconciled with the opposition of those residents who do not want a cell tower located in the north end, coverage will remain spotty and uneven across the community. This also has public safety implications as the same requirements for cellular coverage affect fire and police communications as well.

---

## Where have we been?

---

### Telephone

The GHA has long enjoyed full coverage for land-line telephone service. The earliest efforts to provide such service date back to the founding of the community when a local cooperative was formed. There is currently a single provider, CenturyTel, for the area. Despite winter storms and the large number of trees that overhang the telephone lines,

continuity of service has been better than the corresponding power distribution by PSE.

### Television

Over the air television reception can be difficult in some areas of Hansville due to topography. In 1990, cable was available through a local (Kingston) provider but limited in the number of neighborhoods serviced. Some residents found that reception

of Canadian stations was better than those originating in Seattle.

### **Internet**

Dial-up service at baud rates of less than 56 kBytes/sec was available through a number of service providers within the county as well as nationwide. The local library offered free email accounts to patrons, as well as computers for access to the internet.

Broadband connections were a dream at the time.

### **Telecommuting**

The opportunities for telecommuting were limited in the past due to both the low bandwidth connection available from Hansville and also societal attitudes towards telecommuting workers.

---

## **Where are we now?**

---

### **Telephone**

Land-line telephone service continues to be reliable by and large for the majority of Hansville residents. There is still a single provider, CenturyTel. In the past decade they have made significant investments in the infrastructure for this area and now have fiber optic cable as a main feed into the downtown Hansville area and on out Twin Spits road to a sub-station at the north end of Hood Canal Drive. Since fiber optic is a buried cable, this has improved reliability.

A major paradigm shift has occurred in the past 15 years and there has been a mass movement towards use of cellular telephones. People are using cell phones for convenience and security and even the older portion of our population has adopted their use. In the case of power outages cell phones provide an additional link to the outside world and often remaining usable since the antennas are situated off the Kitsap Peninsula.

Although many residents of the GHA are cellular subscribers, there are many areas within the GHA where the coverage is spotty and intermittent. This is due to the topography and the fact that there is no tower located in the north end of the peninsula to provide for antennas. Due to the difficulty of permitting

and the opposition of local residents to the emplacement of towers within their areas this is not likely to change in the near future. It may well become an issue for the community similar to that of the auxiliary power generator siting that is mentioned in the chapter on utilities. What coverage that is available comes from antennas situated outside the county looking into the GHA; for example, coverage along the north shore of Hansville is from Port Townsend, along the east shore from Edmonds, and areas south of Everett, etc.

### **Television**

There are two competitors for satellite TV reception, Dish Network and DirectTV, and one cable TV provider, Comcast, within the GHA. As before, there remains the option to use an external antenna for direct reception of broadcasts from Seattle and Canada. Fringe reception may be affected by the upcoming conversion of TV broadcasting from analog to Digital TV which will come into effect in 2006, or slightly later if delayed by the FCC. In any case quality reception of television is an option for almost all home owners within the GHA with satellite reception providing coverage in areas where the cable is not available.

## Internet

Options for broadband connections are much improved over the situation ten years ago. For much of the GHA served by Comcast, broadband connection to the internet is available. In addition, for areas within three miles of a CenturyTel switch, DSL is also available. Both companies have made major investments in the infrastructure locally. Rates are generally competitive also and each offers a “package” which discounts the cost of the broadband connection when bundled with additional services offered by the provider.

A map at the end of this chapter shows the projected fiber optic routes in the north end of the county. It is clear that Centurytel has made an effort to provide service along the major roads of the GHA, with the exception of the southern portion of Hood Canal Drive.

## Telecommuting

Work from home has become a more readily available option for many Hansville residents. A serious study of telecommuting (or telework, as the authors named it) was carried out the Center for Internet Studies at the University of Washington for the Kitsap PUD

in 2003. The full document of 42 pages is included in the supplemental data for the profile document and will be referenced here. It has application to many of the other chapters such as Transportation, Housing, and Economics.

The basic conclusions were that telework provided significant savings to both the employer and the employee, not to mention the environment and infrastructure in terms of reduced demands. The savings included more time spent on-task and fewer dollars allocated to housing due to the lower home prices within Kitsap County as compared to King County, transportation fees for ferries or the Tacoma bridge, and other costs associated with required commuting such as fuel, etc.

Even though it is difficult to assess the number of GHA residents engaged in telecommuting, informal surveys indicate it may be a significant fraction. Nationwide, 1 in 5 workers telecommutes at least one day a week (in 2001 – the fraction is likely larger now). This segment of the working population is only likely to increase in the future as the availability of broadband increases and the costs decrease.

---

## Trends

---

**Broadband availability has been increasing.** Up until about 2002, CenturyTel, the local phone company, was slow to provide DSL service to the north tip of the Kitsap Peninsula; then they gradually added more service. In 2003, they stated that while there was DSL along the Hansville Road corridor, the communities along the northern part of Hood Canal would receive service in 2005, when a new phone equipment building would be built.

Comcast, the local cable TV provider bought out AT&T and in late 2003 and early 2004

strung miles of cable throughout the area. This made cable internet access available to anyone with cable TV service.

Although it may have been a coincidence, shortly after Comcast began to string cable, CenturyTel stepped up their DSL service plans and they began to provide service to the Driftwood Key area in early 2004.

There are still a number of areas without DSL, including the Skunk Bay and Foulweather

Bluff areas. Many of these areas are served by Comcast, though.

The latest move to speed up communications is to use fiber networks. They have a tremendous speed advantage over the standard copper wires generally used by phone companies. They are also faster than cable service. The PUD in North Kitsap County has installed fiber as far as the large water tank on Hansville Rd. north of Little Boston Road. The PUD has no plans to extend the cable further north without financial incentive to do so—fiber installation is quite expensive, averaging about \$40,000 per mile.

The Port Gamble S' Klallam Tribe is committed to providing fiber to all of its tribal members who can afford it. To that end, they have become an ISP and buy bandwidth from the PUD. In addition, they will be developing a business park just north of the store (where the trailer park was located) and will provide fiber to all businesses there. Currently they have fiber installed to the tribal headquarters and the casino.

There is no fiber north of Little Boston with the exception of some hung by CenturyTel to manage its own phone system.

**Conventional internet access has been available for quite some time.** Dial-up access is available throughout the entire area (and has been for a number of years), with numerous providers being utilized, including but not limited to AOL, Compuserve, Earthlink, PeoplePC, MSN, NetZero, and local ISPs like Donobi and Telebyte.

Some local residents also make use of satellite internet access, although this requires a land-line connection as well.

#### **Availability of Personal Technology**

**Computers** – Computer use in this rural area has been gradually increasing. With the prevalence of computers in schools and businesses, the general working population has been acquiring personal computers for home use and telecommuting. The part of the population that has chosen this area in retirement has generally been slower to acquire this technology, but that use, too, is increasing. Residents are finding that with additional time available, they can engage in recreational internet use as well as research. Home-based consulting and internet sales businesses are finding high-speed internet access indispensable.

**Cell Phones** – Cell phones have revolutionized communications. They are being used for business, personal communications, and lately, for internet access. Although many people are embracing this technology, there are some drawbacks. The major one is spotty cell service. In north Kitsap County, the terrain often blocks signals and hinders communications. Cellular communications varies by service provider, as different providers use different cell towers.

Coverage will improve as more towers are added by cell companies. Because of the relatively light population density, the north Kitsap area is not a “target” area for cell service providers. This area benefits from towers that are installed to service areas of higher population simply because it is within line-of-sight.

#### **Television and Radio**

Television and radio reception is generally available throughout the area. Residents rely on cable service, satellite service, or old fashioned antennas. The higher definition television sets now on the market make digital TV a possibility, although this requires a connection other than an antenna.

With higher connection speeds, people are beginning to use televisions and computers together—the signal from one being passed to the other, although viewing computer data on a television is not very satisfactory. Computer monitors are capable of much higher resolution than are televisions.

### **Technology Education**

While all the technology advances are usually good for business and for the general population who are trying to use them, one thing has become quite clear: There is a need for user training. Small companies can't afford computer staff and must handle most of their problems themselves. Employees, if new to computing, must spend valuable time learning how to operate the systems. Even if they have some experience, the steady advances in technology make constant training a necessity. Home users are experiencing the same problems.

Some classes in general computer use and specific software use are available to the general public through community education programs (e.g. Poulsbo Parks and Recreation) and through educational institutions like Olympic Community College. There are, in addition, volunteer organizations which provide help to their members, such as Kitsap Computing Seniors.

There are hardly enough classes available at the times people wish to take them. There are reports that many of the classes offered are of little use to the general computer user. Many requests have been received for general computer classes given in the early evening hours. These are not readily available.

### **Plans for Community Connectivity**

The Kitsap PUD has a need to communicate with the equipment at their four water tank locations in the greater Hansville area. They may get help from the Port Gamble S'Klallam tribe when trying to access their Cliffside tank farm. The tribe has indicated a willingness to extend their fiber system to serve that area while serving their own tribal members.

The general public may benefit from Kitsap PUD efforts to access their tanks. Testing is beginning to see if a wireless link can be established between the PUD fiber system at Little Boston and their tanks farther up the peninsula. If they are successful in establishing the service they need for flow control, they will be able to use the links to provide wireless service to at least part of the population in the greater Hansville area. Terrain obstacles, though, will make this a difficult venture.

The PUD is prohibited by law from selling internet services to the general public. They can, however, sell the bandwidth to an ISP who will provide the wireless service. This could come to pass as early as the 2<sup>nd</sup> quarter of 2005. The tribe has indicated that they would be willing to investigate this undertaking, but it may not be politically expedient to do so—they would be seen as competing with private enterprise.

The Port Gamble S'Klallam tribe is also making their facilities available to community organizations for meetings where teleconferencing may be needed. It is possible that the computer lab that the tribe is planning will be available for the community, also.









