

## Need to Actively Pursue the Extension of E-Commerce Services:

When considering the impacts of technology on the economic development of a community, our thinking must extend well beyond the "Internet Presence" issues of e-commerce. In order to prosper, Kitsap County needs to actively pursue the means to extend service to commercial and non-commercial projects, both existing and planned. Community planners must include e-commerce infrastructure in their plans so both the business parks and our residential areas can enjoy the technology services our high-tech society now demands.

## Installation of High Bandwidth Communications:

The semi-rural nature of Kitsap County is an enticement to live here. This semi-rural nature has also hampered the installation of high bandwidth communications throughout the area. Currently, one carrier has the only high bandwidth connection (fiber optic cable) between Seattle and Kitsap County. This carrier transports the majority of all communication to and from the area. Other Kitsap County telecommunication providers lease services from that sole carrier to connect to Seattle and beyond. There are local telecommunications companies who control other available connections including older microwave links normally used for voice circuit connections to Seattle.

## Problems Distinct to Kitsap County:

Communications within the county are further complicated by the existence of four distinct service areas served by three telephone companies (US West, Sprint and CenturyTel). Establishing voice or data routes between these service areas inserts additional costs ranging as high as 40-60%, as well as creating management and maintenance problems that would otherwise not occur.

The transportation choke points at the Tacoma Narrows and Kitsap County ferry terminals parallel the problems of inadequate telecomm/data infrastructure. The inability to transport people and goods efficiently to and from the peninsula mandates that a method of relief be found. To fix the transportation issue without spending hundreds of millions of dollars is not possible. One alternative, widely recognized as effective and immediately useful, is upgrading the telecommunications and data delivery infrastructure.

Fiber cable infrastructure has, until now, not been built by large communication companies due to lower financial reward when compared to large business areas such as Seattle and Bellevue. There are additional regulatory restraints on the Incumbent Local Exchange Carrier (ILEC) (the telephone company) that has hampered infrastructure buildout. Other independent providers have reviewed the market area and have chosen not to enter the Kitsap County/West Sound area at this time.

## Options Being Considered and Projects Underway:

There are several Projects in planning process or underway to improve Kitsap County's telecommunication services. AT&T acquired local cable companies and upgraded and extended the cable infrastructure. US West continues to extend fiber through the county and onto the Olympic Peninsula. US West and Sprint have upgraded their interconnect in the county. Smaller companies are extending wireless and DSL services in several areas of the county.

### Public Utility Districts In Process of Putting In Fiber Optic Backbone:

A recently passed Washington State bill permits Public Utility Districts to provide facilities in rural underserved areas that would not otherwise have options for high-speed telecommunications services.

This situation is in a state of flux, with the start of the build-out of a new fiber optic backbone by Kitsap Public Utility District #1. Kitsap PUD #1 is working in conjunction with Mason County PUD #3 to bring fiber optic infrastructure through Belfair, along highway 303 to the Port of Bremerton, and then through Bremerton to the north end of the county. The first connection will be for a demonstration project at the Port of Bremerton in mid April 2001.

### Private Network Linking Bremerton, Port Orchard and Silverdale:

In addition, smaller projects are underway including the beginning of a fiber-optic infrastructure "build" in downtown Bremerton by Convergence Technologies/NW Commnet that will quickly expand to cover locations in East Bremerton and Mannette. This network will be connected via wireless, wired and fiber-optic systems to provide networking for Medical Facilities, Doctors offices, and multi-location businesses and agencies. This construction is in conjunction with projects in Silverdale and Port Orchard that will create a private network between Silverdale, Bremerton, and Port Orchard.

### Many Smaller ISPs Are Merging or Closing:

There is an ongoing shakeout in the high-tech telecommunications industry that is seeing small ISPs merge or close. Competitive local exchange carriers, especially those concentrating on DSL, are dropping service or closing entirely. Covad and Northpoint are two companies that are dropping service or have gone out of business and others are having financial difficulties. Despite this retrenchment, several companies continue to thrive and competitive options are becoming more available.

### Competition Effects Pricing:

Once high bandwidth communications infrastructure is built in Kitsap County, the area can experience similar service pricing as areas on the east side of Puget Sound. Seattle, Bellevue and Redmond markets have communication competition. This has helped to drive the end use costs lower. The existing TELCO pricing model used in the West Sound areas imposes the addition of expenses to be added when extending service from Seattle to Kitsap County.

When additional high bandwidth connections cross the sound and fiber cable is constructed throughout Kitsap County, service will be more widely available, the cost will be lower and the new connections will provide the same access to band width as the East Sound. The improvement in cost and availability will make Kitsap County as much a player in attracting business as any east side area. Other demographics will help boost the economic potential in Kitsap County once this project is in place.

**What Is High Bandwidth?:**

What is this “high bandwidth” we are so concerned about? It is simply “the size of the pipe”. The following chart gives you a reference for what it means to have at T-1 or a DS-3 or an OC-3 connection into a neighborhood, a business park, or a community. It is not trivial information.

BANDWIDTH CHART		
Connection	Bandwidth	Payload
DS-0 (POTS)*	64Kbps	1 DS-0
DS-1 (T-1)	1.544 Mbps	24 DS-0's
DS-3 (T-3)	44.7 Mbps	28 DS-1's (672 DS-0's)
STS-1/OC-1	51.84 Mbps	1 DS-3 (672 DS-0's)
STS-3/OC-3	155.520 Mbps	3 DS-3's (2016 DS-0's)
STS-12/OC12	622.08 Mbps	12 DS-3's (8064 DS-0's)
STS-48/OC48	2488.32 Mbps	48 DS-3's (32,256 DS-0's)
STS-96/OC96	4976.64 Mbps	96 DS-3's (64,512 DS-0's)
OC-192	9953.28 Mbps	192 DS-3's (129,024 DS-0's)
OC = Optical Carrier (fiber)	*POTS = Plain Old Telephone Service	STS = Electrical Radio

**The “Last Mile Link”:**

The key link to all the wonderful high speed “pipe” that makes it all work is what is known as the “last mile link”. This is the link that reaches the end user. With advances in technology, that last mile link will be delivered several ways, including wireless, fiber optic cable, and legacy copper. Wireless technologies have matured remarkably during the past two to three years and now offer a very competitive means to deliver volume voice circuits as well as data.

**Kitsap County Needs to Be On the Communications Super-Highway:**

With the extending of fiber optic networks, super high speed connections are potentially available. With the accelerating evolution of data technologies, existing copper is being used for higher and higher speed connections. Many of these elements are in place, in construction or in planning. Key will be the old mantra, “location, location, location”. Just as communities died when they were bypassed by the railroad, by highways and by the interstate, the health of communities will increasingly depend on not being bypassed by the “communications super-highway”. We need to make sure Kitsap County thrives in the continuing telecommunications revolution.

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