

Availability of Advanced Telecommunications Capability in Public Entities - 2005

Among the amendments enacted in 2003 to HB 2577, is the requirement for the OPUC to develop information on "The number of public bodies, as defined by ORS 174.109, providing basic telecommunications infrastructure so that private entities may use that infrastructure to provide advanced information and communications services."

According to ORS 285B.486, "advanced telecommunications facilities" means high-speed, dedicated, or switched broadband telecommunications infrastructure or equipment that enables users to send or receive high quality voice, data, or video telecommunications using any technology.

During fall 2005, the OPUC staff identified and surveyed public bodies in Oregon to gather information on the existence and use of advanced telecommunications facilities.

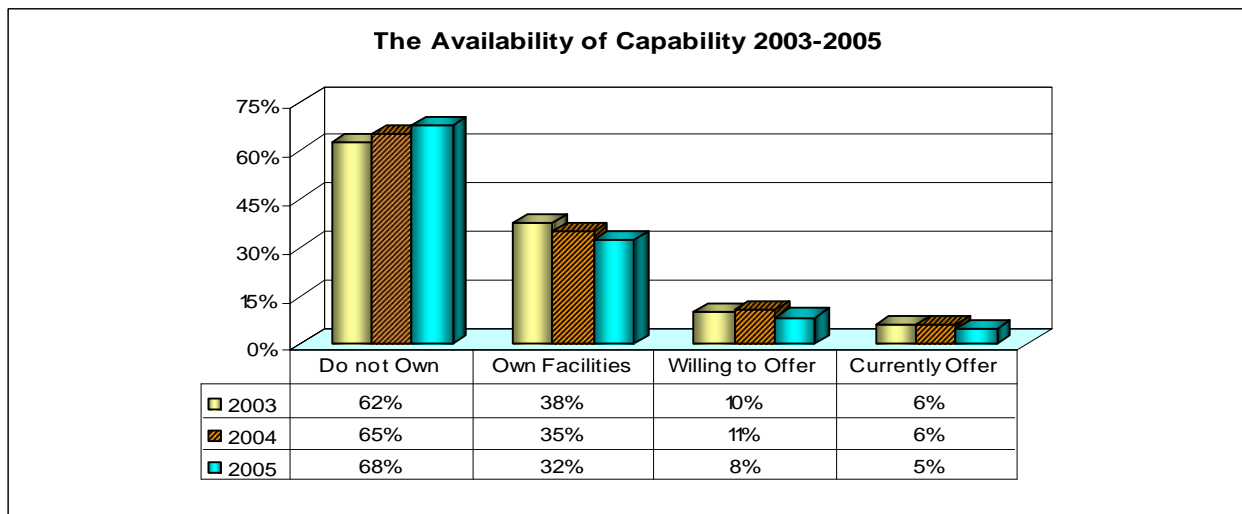
Survey Results:

I. Market in General - Statewide

This is the third annual survey of public entities on the availability of advanced telecommunications capability. The survey was sent to 535 public entities in Oregon of which 370 were completed and returned for a response rate of 69 percent.

There were no significant changes in the 2005 availability of high-speed and advanced telecommunications capability by public bodies compared to prior years' survey results. Of the 370 respondents, 68% (250) do not own advanced telecommunications facilities, while 32% (120) of the respondents own some types of facilities, decreasing by 3 percentage points from a year earlier. Eight percent (31) of respondents are willing to offer some type of high-speed telecommunications services (3 percentage points down). Five percent (17) of respondents currently offer high-speed telecommunications services (1 percentage point down) (see Figure 1).

**Figure 1. The Availability of High-Speed and
 Advanced Telecommunications Capability in Public Bodies**



The survey included three questions.

1. Do you own the following telecommunications facilities?

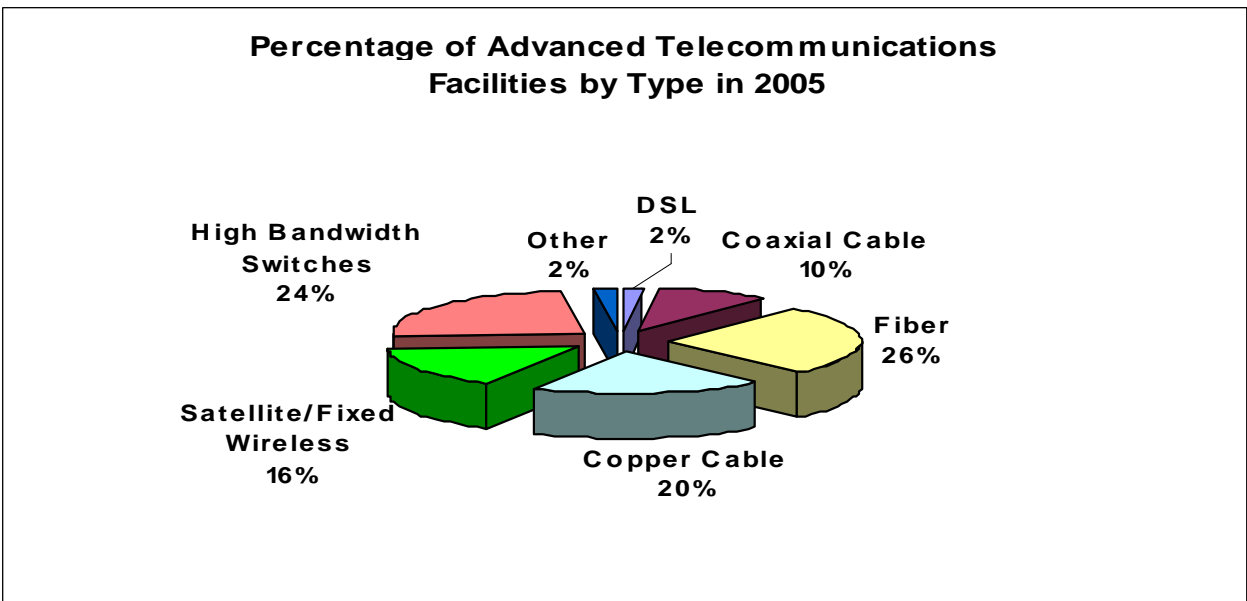
- a. DSL (digital subscriber line)
- b. Coaxial Cable
- c. Fiber (DS-1, DS-3, OCn, SONET, includes Dark Fiber)
- d. Copper Cable (T-1, DS-1)
- e. Satellite or Fixed Wireless
- f. High Bandwidth Switches
- g. Other

Following are descriptions of the various types of advanced telecommunication facilities:

- a. **DSL:** Digital Subscriber Line - is a communication technology that uses existing twisted-pair telephone lines to transport high-bandwidth data, such as Internet, multimedia, and video.
- b. **Coaxial cable:** Typically used to connect a television to cable TV services, coaxial cable consists of a small copper tube or wire surrounded by an insulating material and another conductor with a larger diameter, usually in the form of a tube or copper braid.
- c. **Fiber Optics:** High-speed transmission using light to send images (in telecommunications: voice or data) through a bundle of glass fibers.
- d. **Copper Cable:** Copper cable is a pair of traditional copper telephone lines using electric current to carry signals.
- e. **Satellite or Fixed Wireless:** A satellite that is used to relay telecommunications information. Fixed wireless means the use of radio or microwaves to connect any two stationary points.
- f. **High Bandwidth Switches:** Bandwidth, in digital systems, refers to data speed usually measured in bits per second (bps). High bandwidth is often equated with high-speed. ATM (Asynchronous Transfer Mode) is a high bandwidth, low -delay, connection-oriented, packet-like switching and multiplexing technique.
- g. **Other:** Item "other" includes video telecommunications equipment.

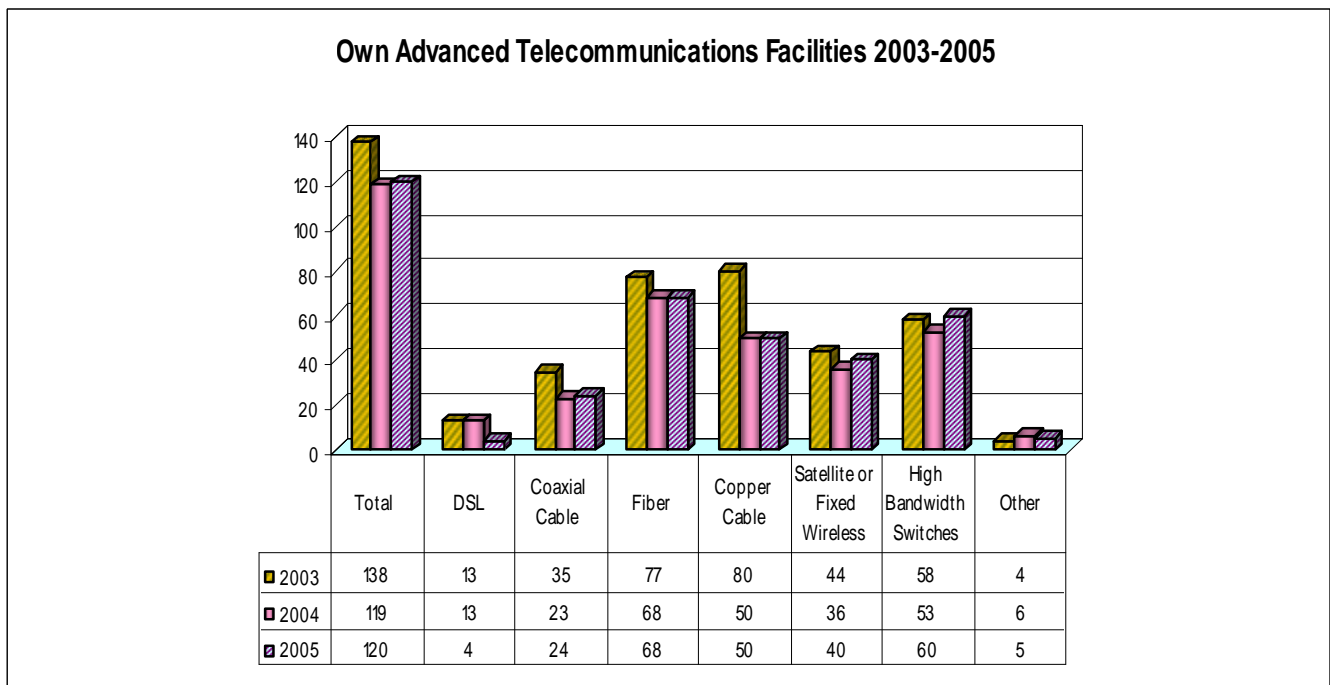
Currently, of 535 public entities in Oregon, 120 own some type(s) of advanced telecommunications facilities. Sixty-eight respondents own fiber optics, 60 own high bandwidth switches, 50 own copper cable, 40 own satellite or fixed wireless connections, 24 own Coaxial Cable, 4 own DSL, and 5 own other telecommunications facilities (see Figure 2).

Figure 2. Percentage of Advanced Telecom Facilities by Type in 2005



High Bandwidth Switches owned by public bodies increased from 53 to 60 during 2005. DSL decreased from 13 to 4. There was no change in the number of public bodies that own Fiber Optics, Copper Cable and Coaxial Cable. Satellite or Fixed Wireless connections increased from 36 to 40. The bar chart below displays the data (see Figure 3). The total of the numbers in each row in Figure 3 will exceed the number of responding public bodies because public bodies may own more than one type of advanced telecommunications facilities.

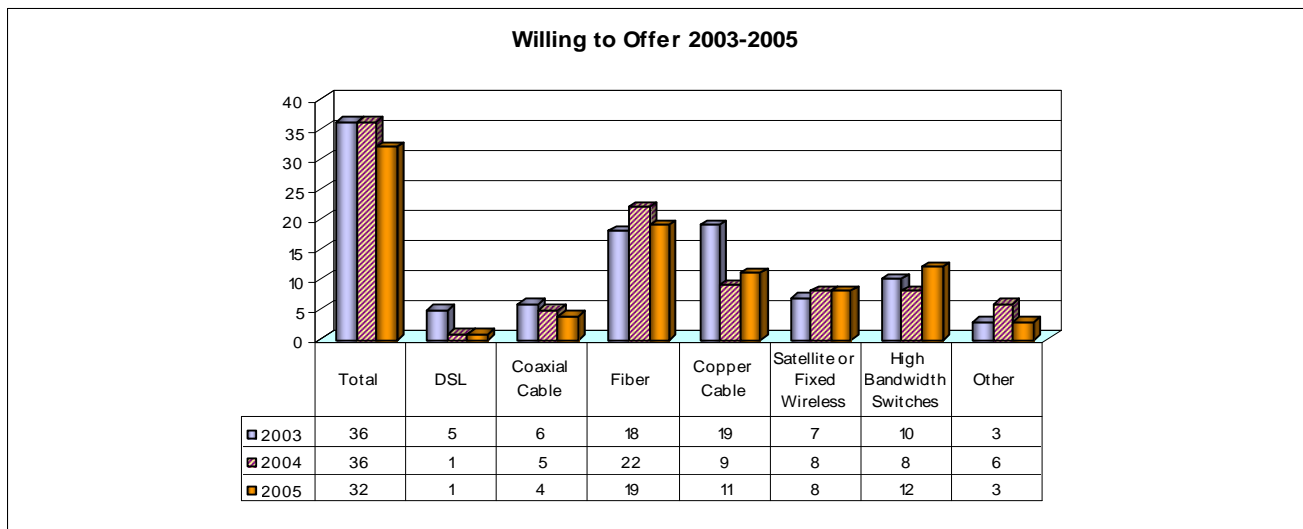
Figure 3. Numbers of Public Entities Owning Advanced Telecommunications Facilities by Type 2003-2005



2. If you own telecommunications facilities above, are you willing to offer telecommunications facilities to private entities for their use for advanced telecommunication services? If yes, indicate which facilities from the above list?

Of the respondents who own facilities 27% (32 down from 36 last year) said they are willing to offer their facilities for use by private entities. Nineteen (19) respondents are willing to offer fiber optics, while eleven (11) are willing to offer copper cable. (See Figure 4).

Figure 4. Number of Public Bodies Owning Facilities Willing to Offer Use to Others

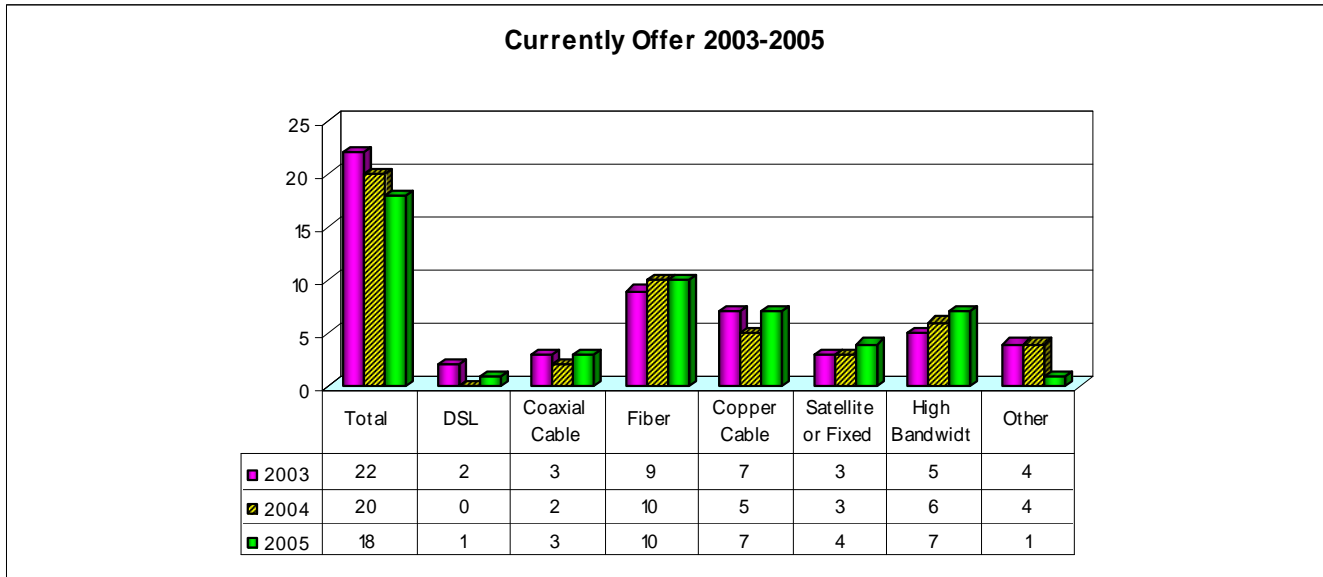


Twenty-eight percent of Fiber Optics owners (19/68) are willing to offer such facilities to outside of parties, followed by 22% for Copper Cable, 20% for Satellite/Fixed Wireless, and 20% for High Bandwidth Switches.

3. If you own telecommunications facilities above, do you currently offer telecommunications facilities to private entities for their use for advanced telecommunications services? If yes, indicate which facilities from the above list?

Five percent (18) of the respondents said they currently offer telecommunications facilities to private entities for their use for advanced telecommunications services. Ten respondents currently offer Fiber Optics, 7 offer Copper Cable, and 7 offer High Bandwidth Switches facilities to others. As Figure 5 indicates, there has been little change in the number of public bodies that offer telecommunications facilities to other private entities to use.

Figure 5. Number of Respondents Owning Facilities Currently Offering Service to Others

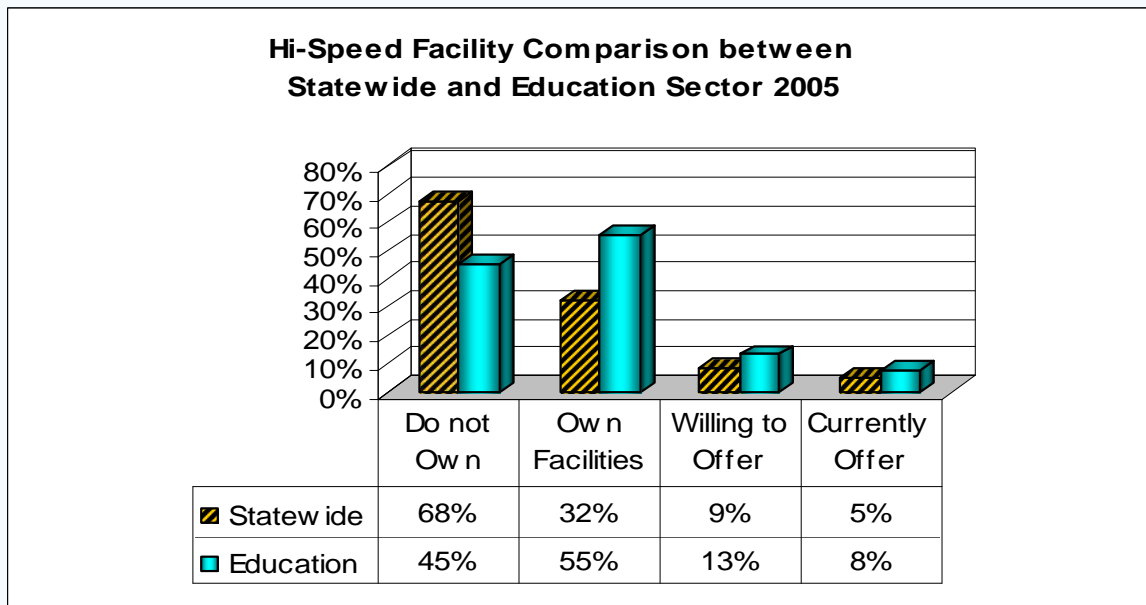


II. Market Segment – Education Sector

Quality education is driving demand for high-speed connections and faster computers. Advanced high-speed telecommunications infrastructure is crucial in order to achieve the expected growth for the public education sectors targeted by the state. The greater bandwidth access and higher speed data transmission will clearly provide a competitive advantage to the quality education, and information solutions in Oregon.

The survey showed that among 370 respondents, 154 (42%) are school districts, colleges, and universities. Findings show that of the 154 respondents in the education sector, 55% (84 schools) own some form of advanced telecommunications facilities, compared to 32% of public bodies statewide. Thirteen percent (20 schools) of respondents are willing to offer some type of high-speed telecommunications services, compared to 9% of public bodies statewide. Eight percent (12 schools) of respondents currently offer high-speed telecommunications services, compared to 5% of public bodies' statewide (see Figure 6).

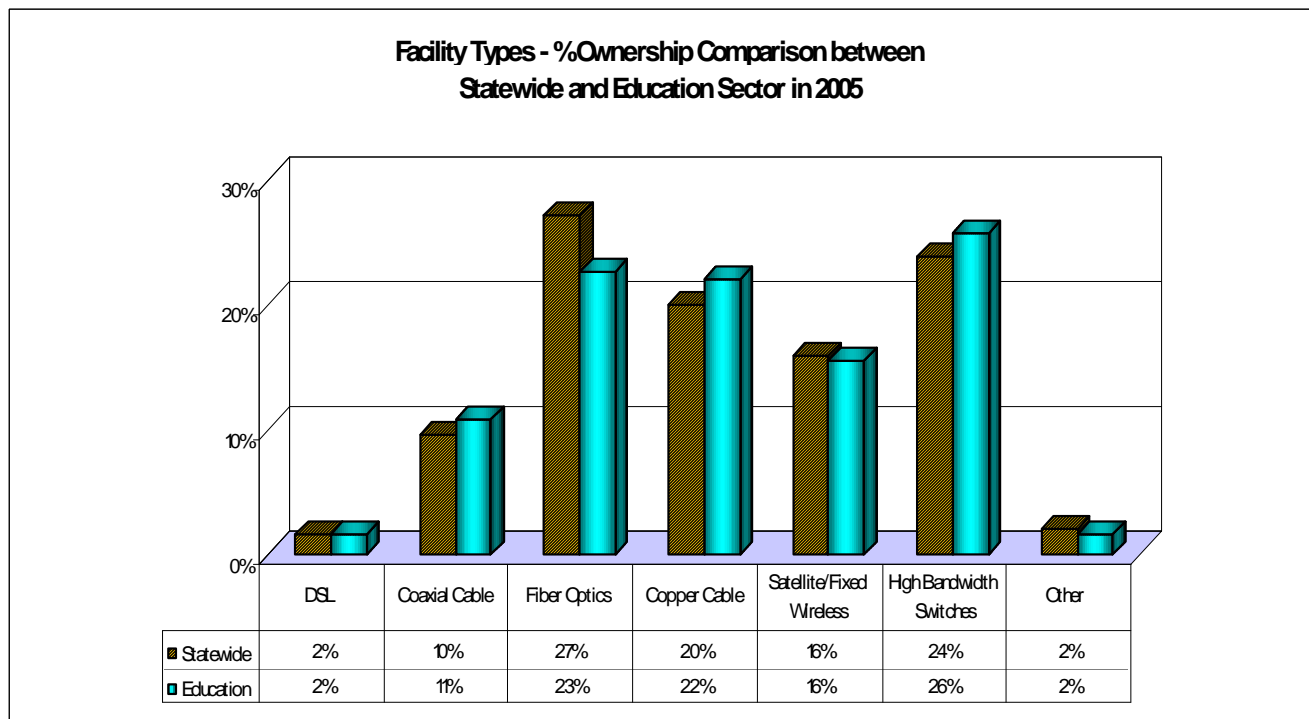
Figure 6. High-Speed Facility Comparison between Statewide and Education Sector 2005



1. Schools Ownership of Telecommunications Facilities

Among Oregon Schools, 42 of the survey respondents own fiber optics, 41 own copper cable, 48 own high bandwidth switches, while 29 own Satellite/Fixed Wireless.

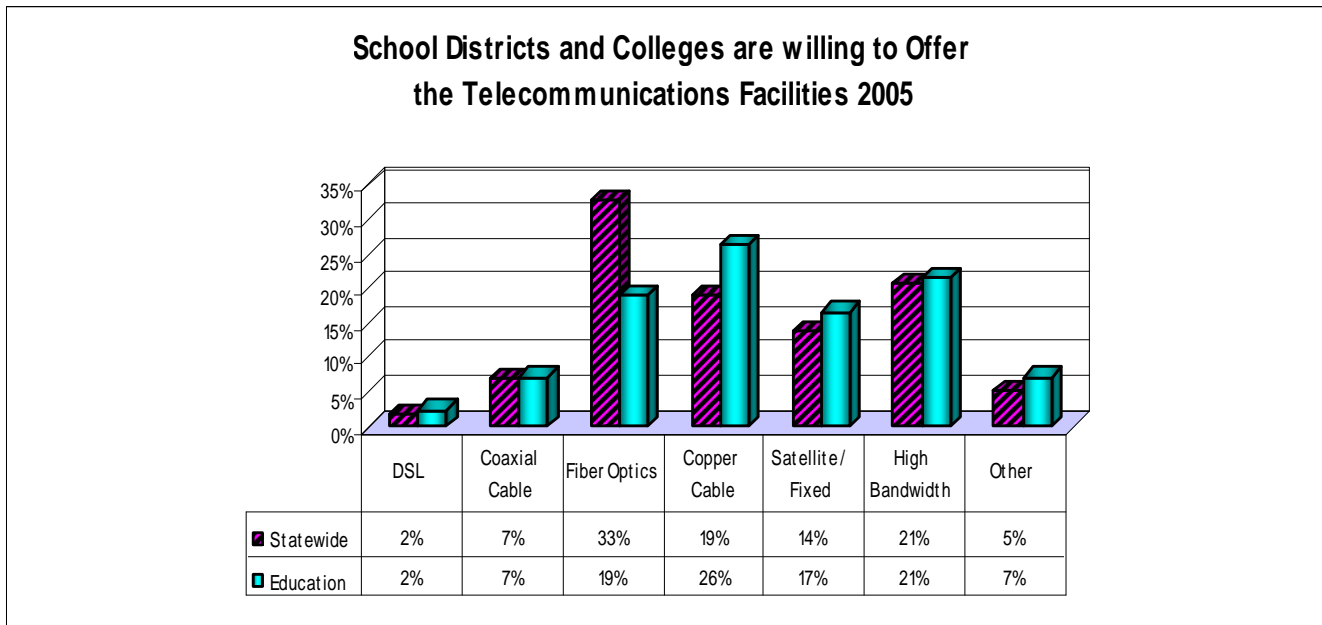
Figure 7. Distribution of Advanced Telecommunications Facilities Types - Comparison between Statewide and Education Sector in 2005



2. Schools Willingness to Offer the Telecommunications Facilities

Twenty-three percent (19) of the School respondents said they are willing to offer their owned telecommunications facilities to others. This compares to 27% (32) of all statewide respondents are willing to offer their owned telecommunications facilities to others.

Figure 8. Distributions of Telecom-Facility Types Owners are willing to Offer to Others - Comparison between Statewide and Education Sector in 2005



3. Percentage of All Responding Schools That Currently Offer the Telecommunications Facilities to Other to use

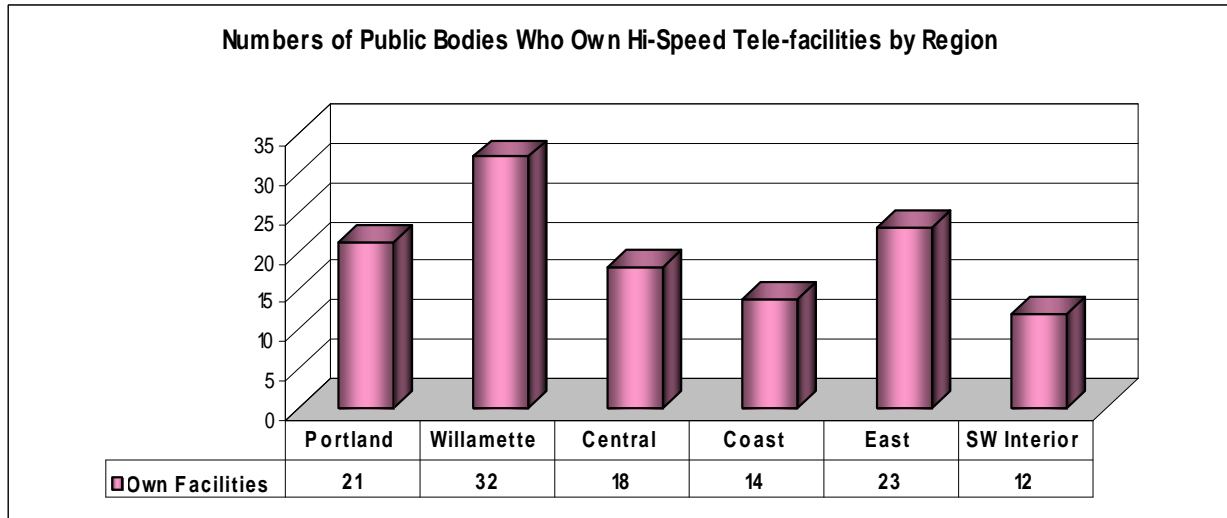
8% (12 Schools) of all school respondents currently offer advanced telecommunications facilities compared to 5% (18 public entities) statewide. 10% offer fiber optics compared to 15% statewide, 17% offers Copper Cable compared 14% statewide, and 14% offers Satellite / Fixed Wireless compared to 10% statewide.

III. Market Distribution – by Region

The 535 public entities were grouped into six regions based on geographic locations. The six regions are: Portland Metropolitan, Willamette Valley, Coast, Central, East, and Southwest Interior.

Distribution across the state of the 120 public entities that own some type of advanced telecommunications facilities is as follows: Willamette 32, East 23, Portland 21, Central 18, Coast 14, and Southwest 12 (see Figure 9).

Figure 9. Numbers of Public Bodies Who Own High-Speed Tele-facilities by Region



The survey identified advanced facilities currently owned, those public entities willing to offer use of their advanced facilities to others, and those who currently do offer use of their facilities to others by geographic area. Statewide, of the 120 public entities that own high-speed facilities, 32 (27%) are willing to offer their facilities to others to use, and 18 currently offer their facilities to others.

Of those public entities that own high-speed facilities, 27% (32) are in the Willamette Valley; followed by the East (19%), Portland (18%), Central (15%), Coast (12%), and Southwest Areas (10%).

Of those public entities that are willing to offer their hi-speed facilities for others to use, 28% (9) are in Willamette Valley and East, respectively, followed by the Central (16%), Coast (13%), Portland (9%), and Southwest Areas (6%).

Of those public entities that currently offer high-speed facilities to others to use, 33% (6) are in the Willamette area, followed by the East (28%), Central (17%), Portland (11%), Coast (6%), and Southwest Areas (6%).