

eReadiness Maryland

Assessing Our Digital Opportunities

eReadiness Maryland is the first-ever, comprehensive statewide study to assess Internet usage, access and infrastructure among Maryland's businesses and households. Phase I of the study includes telephone survey results of 1,422 households and 1,126 businesses, real-time dial-up connection speeds from 24 locations, and previously unavailable maps depicting fiber optic infrastructure and DSL and cable modem service availability in the State. The study's goal is to provide a detailed benchmark of the ability of Maryland's businesses and households to participate in the information technology economy of the 21st Century. The study was funded in part by the U.S. Department of Commerce, the Economic Development Administration (EDA) and the State of Maryland. Phase II of the study will be a series of regional public briefings to review findings and discuss policy recommendations. Maryland Lt. Governor Kathleen Kennedy Townsend is the Honorary Chair of eReadiness Maryland.

Phase I Highlights

Household Usage:

RESI – an independent research institute at Towson University – conducted confidential telephone interviews with 1,422 heads of households in September, October and November of 2001, asking 40 questions about the use of computers and the Internet in their homes. Following the guidance of the advisory committees, the State was divided into five regions as depicted on the attached map. (**See attached chart depicting “Geographic Regions Used for Study.”**) Their data is statistically significant for the entire State and for each region. They found that:

- Maryland remains a leader among states – 64% of Maryland's households have personal computers in comparison to 57% in the nation
- Computer usage rises with income – of households with income above \$50,000, 87% have computers and 77% use the internet, while for households under \$20,000, 31% have computers and 17% use the Internet
- Computer usage rises with education – of household heads with college degrees, 84% have computers at home and 75% use the Internet; for household heads with high school degrees, 47% have personal computers at home and 32% use the Internet
- Education is a particularly powerful influence on computer usage – even when income is taken into account, computer and Internet usage rises with educational attainment (i.e., for households under \$50,000, 73% of college graduates have computers at home, while only 31% of those with a high school education or less have computers at home). (**See attached charts depicting Household Computer ownership and Internet Access**)
- Household computer and Internet usage varies among the regions, but it is correlated to the same variation in income among the regions
- Across the State, the primary mode of accessing the Internet is through dial-up service, 84% of households use that technology; only small percentages of households use cable modem, DSL or other methods; type of access does not significantly vary by income (i.e., wealthier households do not access the Internet via broadband services at significantly higher rates than the overall population)

Business Usage:

The University of Maryland's Survey Research Center conducted a total of 1,126 telephone interviews with businesses in October, November and December of 2001. Of the respondents contacted, 70% agreed to be interviewed, an extraordinarily high number, suggesting the interest of businesses in this issue. A letter from the Lt. Governor was sent to businesses and was helpful in ensuring high response rates.

- The findings reveal a very high level of computer and Internet usage
 - 76% of the companies have internal computer networks;
 - 89% are connected to the Internet through at least one computer;
 - 42% do some level of "B2B" online
 - Of the companies connected to the Internet:
 - ✓ 41% use dial-up modems
 - ✓ 32% use dedicated T-1 lines or faster service
 - ✓ 11% use DSL
 - ✓ 3% use cable modem

 - ✓ 55% report that use of the Internet increased business productivity
 - ✓ 22% report sales over the Internet
- Overall, there appears to be little variation across regions among businesses in their use of the Internet; further analysis is required to distinguish usage by size and type of company
- Maryland businesses remain more IT savvy than their counterparts across the nation*
 - Only 11% of businesses nationwide have a T1 (or faster) internet connection compared to 32% in Maryland
 - Only 19% of businesses nationwide maintain a website compared to 44% in Maryland
 - Only 32% of businesses nationwide use the Internet compared to 89% in Maryland

* Source: All national business data comes from the Technology Policy Group of the Ohio Supercomputer Center

Network Access and Infrastructure:

A. Dial Up Performance

TEDCO partnered with the Technology Policy Group (www.ecom-ohio.org) of the Ohio Supercomputer Center to complete Maryland's infrastructure analysis.

To test the speed and reliability of telephone dial-up service, TEDCO and the Technology Policy Group connected laptop computers with specially designed software to telephone lines at 24 locations around the State. (See **attached chart on the "Results of Dial-Up Network Performance" that shows the average dial-up speed in each location.**) Local and national ISPs were dialed and tested over a two-week period, 24-hours-a-day. All testing occurred between June and September 2001.

- The speed of dial-up access and its reliability varies considerably across the State and even within regions
- Within northern Maryland speed varies from 52 kilobytes per second (kbps) in Northeast Baltimore City to 25 kilobytes per second in Canton and 23 kbps in Aberdeen
- Dial up speed is not related to the type of ISP used; it is related to the performance of the copper telephone wires in service

B. DSL and Cable Modem Availability

- Faster Internet service is available through DSL and cable modem, but only for selected parts of the State
- The map of current DSL service – with data derived by the Technology Policy Group from publicly available information – shows that current DSL service is available only in parts of northern, central and southern Maryland. There is no county in the State in which DSL is fully available, and such service is scarcely available on the Eastern Shore and not available in Western Maryland. (See attached map depicting “Current DSL Service” available)
- Cable modem service is more widely available across the State, particularly in northern, central, and southern Maryland, but less available in parts of Western Maryland and the Eastern Shore. Information was gathered directly from providers through the Cable Telecommunications Association of MD, DE and DC. (See attached map depicting “Current Cable Modem Service” available)

C. Primary Network Infrastructure

Using publicly available data from over 40 industry sources the Technology Policy Group prepared a map of the lit fiber infrastructure in the mid-Atlantic region (See attached map depicting “Primary Network Backbone of DE-MD-DC-VA-WV”):

- There is a huge concentration of network connectivity in the Washington D.C. area (See attached map depicting “Primary Network Backbone of Metro DC”)
- Baltimore’s level of connectivity is competitive with cities of similar size
- Through Washington and Baltimore there is excellent nationwide connectivity with direct links to every part of the county, and direct international connectivity to Britain, Germany, and Canada
- There are major hubs in Hagerstown, Silver Spring, Largo, and Columbia, and one hub in Salisbury

Phase II

The next phase of this effort will consist of a series of regional meetings in which this detailed information will be analyzed by local organizations, citizens and businesses, and used by them to identify regional needs and suggest strategies to address those needs in our various communities. The meetings are as follows:

- Friday, April 19, from Noon to 2 p.m., at the Technology Opportunities Conference in Garrett County.
- Tuesday, April 23, from Noon to 2 p.m., at the second annual Netcentricity Conference at the University of Maryland, College Park.
- Friday, April 26, from 8 a.m. to 4 p.m., at a meeting in Southern Maryland sponsored by the Tri-County Council.
- In addition, meetings will be held on the Eastern Shore on May 8 and May 13 with the Lower and Mid Shore Regional Councils, respectively.