

APPENDIX A.iv.

Focus Group Summary

Downstate LinkMichigan Aggregate Data

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Data connectivity

Representatives participating in the focus groups are using a wide range of data connectivity options from dial-up to point-to-point wireless to plant-to-plant/building-to-building fiber optics. Based on the information shared during the focus group sessions, the type of connectivity that organizations are utilizing depends upon two primary factors: availability of funds and technical capability to implement. Those organizations with less money and technical capability tend to utilize the lower-end and less complex connectivity options (dial-up, ISDN, cable, DSL, etc.). Organizations with higher budgets and more advanced technical capabilities are utilizing higher-end and more complex connectivity options as their primary methods of connectivity (T1 lines, dedicated fiber, etc.) and supplement with the lower-end options to provide redundancy and greater flexibility.

Business objectives are enhanced through the use of various connectivity tools by allowing people share information more readily with customers, suppliers, and co-workers, providing a more flexible work environment/work schedule (24/7 access to information from multiple locations), and reducing operating costs (less paper, less space because people are able to work from home, reduced postage, etc.).

What works well?

Dedicated point-to-point connections created within a private infrastructure seem to work the best from a reliability standpoint. However, this type of connectivity is the most costly and least attainable for most business entities.

The low cost of dial-up and cable is a positive aspect of basic-level connectivity. In addition, this connectivity infrastructure is highly available to those who want to utilize it (except in very remote areas of the state).

What does not work well?

The reliability and speed of dial-up connections provides frustration for a number of the focus group participants, but the price is right (just about everyone can afford a dial-up connection to the Internet). In addition, those utilizing wireless connectivity are concerned about security even though encryption technology is available.

Service is an issue for organizations utilizing more complex connectivity platforms. Because multiple vendors may be involved in providing hardware or software for complex connectivity environments, when a problem is encountered, there is finger-pointing between vendors and it requires a significant amount of research to determine the source of the problem so that it can be fixed. In addition, the private connectivity networks typically do not have multiple levels of redundancy built in. If they go down, they're down.

What fails to work at all?

Focus group participants did not identify any connectivity that fails to work at all.

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- In an ideal world (where cost is not an issue), what information would you share with whom?

Each group was able to identify a limited number information-sharing enhancements ranging from live video feeds of the beachfront to customized training programs disseminated on-line. Common information-sharing wish list activities include real-time, 24/7 and remote-site accessibility to whatever information is useful within a given industry (weather information, crop quality, inventory levels, customer inquiries, etc.)

Connectivity based issues

The primary connectivity issues focus group participants are concerned with involve the following:

Costs and competition – How to maintain reasonable costs and competition in an unregulated environment? How to ensure that enough choices are available to keep things competitive?

Parity across locations – How to ensure that the gap between what's available and where shrinks rather than grows? Last mile issues – does value outweigh cost?

Infrastructure utilization– How to utilize infrastructure that is already available rather than duplicating/investing where it is not needed? Will infrastructure be scalable to meet demand?

Technology advancements– How to not always be one (or two) steps behind advancements in technology? How to guard against obsolescence?

Ownership – How to keep track of who owns what and who's responsible when problems arise?

Information – How to keep abreast of what's available, where, and at what cost and service level to know you're getting a good value?

In some geographic areas, participants are frustrated just trying to get straight answers from the local ISP. It took one ISP over 12 months, after saying DSL was available, before they actually were able to deliver the service. These participants believe that one of the biggest issues that need to be addressed in the LinkMichigan plan is clarity. Clarity that will help define what service is available, who are the services available from, and how much do they really cost? Overall, focus group participants would like connectivity to be more reliable, less costly, and be supported by higher levels of customer service.

Impacts of broadband data connectivity

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Most focus group participants are already utilizing broadband connectivity to enhance communication, information sharing, and day-to-day operations. Very few do not have access to or are not utilizing broadband.

Focus group participants agreed that if all residents of the county had access to broadband, it would provide all business entities with better avenues to disseminate information and would provide customers with more reliable 24/7 access information. In addition, increased telecommuting/work from home opportunities that are good for employees and companies would be available. All of this means reduced operating costs (eliminate or significantly reduce need for printed material and mailings, work space, etc.) for businesses and the ability to attract “higher level” talent to the area.

Education is key

In order to reach the objectives of LinkMichigan, the focus group participants agreed that much needs to be done to increase the technology IQ of residents and business owners. If people are not educated on the benefits of utilizing various connectivity methods, they will not utilize them no matter how available they are. The specific recommendations made are the following:

Government: State and local government will have to maintain or enhance its level of involvement. Various suggestions regarding how the government can help include state bonding to support infrastructure, development of state or federal regulations to level the playing field, and the development of an information clearing-house regarding what’s available/where/at what cost.

Community: Focus group participants suggested that the community utilize the libraries, chambers of commerce, and schools/universities to disseminate information and provide basic education and training in technology, the Internet, and connectivity costs and options to residents of the community. In addition, the community could support “incubator” spaces where people could go to familiarize themselves with the tools available.

Business: Focus group participants suggested that businesses provide a number of “perks” to employees to increase their comfort and access to technology and broadband connectivity:

- Offer lunch hour or after work Internet access to employees so that those not familiar with the Internet can increase their knowledge and understanding in a no-cost environment
- Provide low-cost loans for computer equipment and/or donations of old/used equipment
- Provide subsidies for broadband connectivity fees

In addition, large businesses could assist smaller entities in negotiating with connectivity providers and/or sponsor a smaller organization in their utilization of connectivity to leverage economies of scale.

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Affordability

Respondents report rates charged for high-speed Internet access are typically higher in rural areas than in the large metropolitan areas. Participants cite cable modem is not readily available in certain areas outside the metro area. Cost is relative; while price points may be similar in certain metro and rural areas, income levels and the cost of living differ in ways that can be a relative disadvantage to rural areas. Respondents said telecommunications costs in such cases represent a greater percentage of household income in the rural area than in the comparable metro area.

A few respondents believe it will be the small and medium sized business that will benefit most by LinkMichigan success; based on the notion that big businesses have already taken care of their needs on their own. *“Big businesses can afford a T1 and other technology updates, whereas smaller enterprises cannot.”* However, the underlying question of how to pay for a system of such great proportions still remains. It is believed by some that big business may move out of the area if a public infrastructure is built and big business has to pay for it via a tax or surcharge. This could be construed as payment for a public service that the big businesses will not utilize because they have already provided the solution to their problem on their own.

Several ISPs have stated that the cost of transporting Internet traffic from rural areas of the state to a centralized Internet access point was a significant and limiting factor in their ability to operate the service economically.

Near-term technology investments

Most participants did not have any knowledge of or plan to invest in technology in the near-term stating economic reasons. Representatives from larger organizations communicated that they had been making fairly significant technology investments for a number of years and were in the process of enhancing the technology infrastructure that they had available rather than investing in new.

Representatives from smaller organizations did not communicate any specific plans for investing in technology; it seemed that many were taking the wait and see approach and did not want to make significant investments for fear of limiting future options. With a lack of readily available, organized, and consistent information for decision making, many small business entities are conservative with regard to technology investment.

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Types of services

Democracy and civic participation

Focus group participants indicated they would be likely to use the Internet for locating government information, researching legislation and communicating with state and county officials or departments. Participants reported that they would like access to on-line voting.

On-line services

Participants cited numerous governmental services in their comments including; obtaining licenses or registration, paying traffic tickets, and obtaining on-line forms for county services. Some respondents expressed interest in on-line resources such as libraries, information about state colleges and universities, on-line publications (magazines, newspapers, trade journals, etc.), and “other” general research.

Travel and recreation

Several respondents commented that they would like to access lists and maps of lakes, parks and trails. A few people reported interest in more information from the Department of Natural Resources and other agencies relating to better on-line listing of snowmobile, biking, hiking and other type recreational activity trails. Participants report an increase in their use of the Internet when planning and making reservations for recreational and business travel.

In their comments, a number of participants mentioned historical, cultural, and statistical information about areas of the state or region. A number of participants expressed interest in obtaining different types of maps, particularly for small towns and remote areas.

Educational resources

A number of respondents expressed interest that they would like the state or some other entity to provide greater on-line access to a range of educational resources and information. Items under this topic include listing availability of adult and community education around the state; information on scholarships; access to names and phone numbers of local school principals; a list of state colleges and universities along with their phone numbers and a map to their location.

Several educators reported that the biggest impact to the schools would be when more and more of the students and students’ parents have computers and internet access in their homes. They felt that obtaining school records, mid-term grades, homework status, and

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other ways for more seamless involvement of the parents in the education process, as being extremely important. With opening records up, however, security questions increase; Security not only from the standpoint of someone being able to go in and change grades, but from the wrong people accessing other people's information.

High school teachers suggested providing information on educational and scientific resources and events aimed at students, such as astronomy and environmental information clubs.

Educators at both the secondary and collegiate level reported the ever increasing demand for distance learning. It is becoming more and more common for high school students to be dual-enrolled; the student participates in their regular high school curriculum and takes college courses for credit at the same time, getting a jump start on their college education. Distance learning provides dual-enrolled students "a virtual means of being in two places at once."

The highest budgets the schools have are for teachers' salaries. Several participants believe if there was a way to expand video conferencing or distance learning type activities that cost savings may be realized in the longer term. In addition, these types of new generation teaching technologies would provide the ill, home bound, and home schooled children a way to participate in classroom discussions without having to physically be in the school.

Individual records

Several respondents expressed interest in obtaining personal records for specific purposes. The records most frequently mentioned were background checks, credit checks, arrest records, and driving records.

Small business resources

Small business participants said they were interested in accessing on-line state publications related to small businesses. Several respondents said information related to opening a business and information on research grants available to them would be very useful. Some small business owners report that they are currently utilizing on-line banking services. Meanwhile, the banks are looking to provide more on-line banking services, especially to those people who move out of town and go away to college. With on-line services, the banks believe they will be able to achieve a higher retention of college bound students' accounts in the local branches.

Several of the small business owners currently have their own website while others resort to being listed in their local Chamber of Commerce directory due to lack of financial resources or the knowledge of building a site of their own.

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In the smaller retail businesses; the “mom & pop” type shop owners report computers are primarily utilized for printing brochures and gift certificates. Retailers are shying away from using advanced technology. Microsoft applications are being used but advanced data transfer applications are seldom used.

Web-based training

Respondents report an increase in web-enhanced training courses. People from the health care groups said they are experiencing ever increasing certification and recertification standards imposed by the government. Web-based training courses are becoming commonplace for the more basic annual recertification classes such as bloodborne pathogens, first aid, and CPR requirements to maintain employment with most health care facilities. The health care industry is also in the process of complying with recently passed HIPPA standards.

Participants in the manufacturing groups are seeing more and more safety related courses become available via video conferencing and web-based applications. The most commonly reported remote classes include first aid and OSHA trainings.

Remote, real time applications

Focus group participants across all sectors report the need for timely, accurate, up-to-the-minute, information. The following is a small sampling of the types of remote applications being used;

Police. Law enforcement agencies are using video conferencing in lieu of deputies needing to be in court, saving commuting time and taxpayer monies.

Health care. Specialists are communicating, viewing digitized x-rays, patient records, and diagnosing patients from a distant location eliminating the need for each clinic to have a specialist on-site, thus reducing overhead costs.

Business. Large and small businesses alike are becoming more reliant on wireless communication in the sales process. “*There have been many times the home office sends me a detailed drawing or photographs which have essentially sealed the deal.*”