

1998

# Maine Project : A Partnership for Telecommunications & Information Technology Demonstration Project, 1995-1997 : Final Report, 1998

Elizabeth Chapman

*Maine Telecommunications Partnership*

Follow this and additional works at: [http://digitalmaine.com/msl\\_docs](http://digitalmaine.com/msl_docs)

---

## Recommended Citation

Chapman, Elizabeth, "Maine Project : A Partnership for Telecommunications & Information Technology Demonstration Project, 1995-1997 : Final Report, 1998" (1998). *Library Documents*. Paper 40.  
[http://digitalmaine.com/msl\\_docs/40](http://digitalmaine.com/msl_docs/40)

This Text is brought to you for free and open access by the Maine State Library at Maine State Documents. It has been accepted for inclusion in Library Documents by an authorized administrator of Maine State Documents. For more information, please contact [statedocs@maine.gov](mailto:statedocs@maine.gov).

**THE MAINE PROJECT**  
*A Partnership for Telecommunications &  
Information Technology*  
*Demonstration Project*  
**1995 - 1997**

**FINAL REPORT**  
**1998**

**The Maine Project has been funded by grants from the  
United States Department of Commerce  
Telecommunications and Information Infrastructure Assistance Program,  
the University of Maine System,  
and numerous Local Supporters**





# THE MAINE TELECOMMUNICATIONS PARTNERSHIP

Don Nicoll, Project Facilitator  
P.O. Box 10548  
Portland, ME 04104  
tel: 207-772-1289  
fax: 207-772-1373  
e-mail: dnicoll@gwi.net

February 25, 1998

Gary Nichols, State Librarian  
Maine State Library  
State House Station # 64  
Augusta, ME 04333-0064

Dear Gary:

The enclosed Maine Telecommunications Partnership Final Report, with the update memorandum and financial adjustment report from Project Manager Liz Chapman, is a real success story. I hope you will share my sense of satisfaction and gratitude for a job well done by a large number of Maine citizens and their organizations.

The Partnership project succeeded on several levels. It expanded access to new information technology services in at least 50 Maine communities. It lifted the vision of what community based telecommunications networks can do to strengthen the education, economic, and civic resources of communities and the state at large. And it demonstrated what collaboration and peer support can do to turn modest investments into powerful tools for good in schools, health care institutions, social service agencies, economic development agencies, businesses, and government agencies. It has been a shining example of what grass roots initiatives and "bottom up" management and direction can do, when there is commitment to clearly defined goals and there is facilitative support from strong institutions.

Thanks go to a host of individuals in the individual partner organizations and in the supporting institutions. I won't try to name the individuals from the partners, because I am sure I would miss some, but I do want to express special thanks to Mark Tibbetts and Liz Chapman, our successive project managers, for their skill, conscientious labor, good humor, and quiet leadership. They made possible a project that kept to its goals, exceeded its expectations, and came in under budget. That's a good model for the country to follow!

Spread the word about the Partnership. I hope you will be able to contribute to further applications of the lessons we have learned.

Best personal regards,

Sincerely,

  
Donald E. Nicoll

*We couldn't have done it without the kind of support you provided from the beginning, Gary.*



Greetings from the Maine Project,

It is with bitter sweet thoughts that I send you my last memo. The final report is complete and has been forwarded to the Department of Commerce. Thank-you for all the effort you each put into your projects. Your diligence and caring made all the difference and it shows through in the final report. Congradulations!

In that mood, I am happy to report:

- The project, as a whole, came in under budget.
- All of the projects met or exceeded their matching funds requirements.
- The central administration costs were substantially less than budgeted.

Upon final review of the finances, the following items were noted:

1. The administration costs were budgeted as 100% federal dollars. These unspent, yet matched, dollars are now freed up and have been transferred to directly fund project expenditures.
2. Another problem with the original accounting method for the project was found and corrected. Now, each project will be reimbursed for up to the November, 1996 budgeted federal percentage. .

As the result of these two items, each non-university funded project will receive an additional check ranging from \$100 to \$13,000. The attached spreadsheet shows the details.. The checks should be mailed out by the University of Maine System by the end of March or the beginning of April.

I wish to remind you that each project is responsible to keep all of their records. I have enjoyed working and getting to know each of you and your projects.

Thank-you,

A handwritten signature in cursive script that reads "Elizabeth Chapman".

Elizabeth Chapman  
Maine Project Manager



## Overview of Total Reimbursement %

	Actual Total Expenditures	Budgeted Federal %	Budgeted Reim. Allowed	Additional 0.5 % Reim.	Total Final Reim Allowed	Total Additional Reim. Allowed	Total Final Reim % Allowed
Administration	118,318.73	100.00%	114,780.73	-----	114,780.73	-----	97.01%
Atlas 5 Plus	179,163.87	46.79%	83,829.75	895.82	84,725.57	1,219.39	47.29%
BairNet	28,175.61	46.22%	13,023.57	140.88	13,164.45	1,214.97	46.72%
Bethel Datification	33,645.39	45.40%	19,850.90	** 168.23	20,019.13	168.23	59.50%
<b>CEI</b>	<b>216,350.38</b>	<b>40.09%</b>	<b>86,350.38</b>	<b>^^ 973.58</b>	<b>86,350.38</b>	<b>2,172.98</b>	<b>39.91%</b>
EdNet Web	134,516.52	39.95%	53,735.49	= 672.58	54,408.08	-	40.45%
Economic Development	140,559.75	46.18%	64,910.20	702.80	65,613.00	7,407.55	46.68%
Franklin Memorial Hospital *****	174,266.53	48.82%	85,081.30	871.33	85,952.64	2,593.87	49.32%
Maine Meeting Place	20,953.83	45.94%	10,142.89	** 104.77	10,247.66	104.77	48.91%
Maine Bureau of Health	89,330.00	46.83%	41,832.59	446.65	42,279.24	807.24	47.33%
Pro Se Legal Assistance	47,980.00	43.01%	20,636.56	239.90	20,876.46	876.46	43.51%
Rangeley Region Coalition	29,515.41	44.66%	13,180.35	147.58	13,327.93	576.49	45.16%
URSUS	139,395.00	46.06%	64,261.00	** 696.98	64,957.98	696.97	46.60%
Waldo's Windows	141,302.49	45.93%	64,895.81	706.51	65,602.33	4,432.33	46.43%
Washington County	<u>137,847.42</u>	41.78%	<u>57,590.28</u>	<u>689.24</u>	<u>58,279.52</u>	<u>13,735.88</u>	42.28%
<b>Total</b>	<b>1,631,320.93</b>		<b>794,101.80</b>	<b>7,456.84</b>	<b>800,585.06</b>	<b>36,007.11</b>	

49.08%

Total Project %

= Allowed the federal reimbursement rate; will change U ME act to reflect allowable reimb.

\*\* Actual % > budget

^^ Limited Reim. to Actual Expenditure less Inkind Match



## ***PREFACE***

The Maine Telecommunications Partnership is a community based collaborative effort to expand access to telecommunications and to improve the effectiveness of using information technology for education, health and social services, community involvement, civic participation, and economic development. This is the final report of the 1996-1997 MTP project, funded by local support and a grant from the U.S. Department of Commerce Telecommunications and Information Infrastructure Administration.

The report includes a summary description of the fourteen separate projects that made up the MTP program, individual reports from the projects, financial summary reports for the individual projects and the overall project, and an independent evaluator's report.

Project reports were written by local leaders, as indicated in the reports. The introduction was written by Project Facilitator Donald Nicoll. Financial summaries were prepared by Project Manager Elizabeth Chapman. The evaluation was prepared by Ellen Wagner of Informania, Inc.





## ***INTRODUCTION***

The Maine Telecommunications Partnership project developed from the conviction that telecommunications and information technology could be applied most effectively to community needs through local initiatives, community based networks, and a combination of peer support and technical assistance. This approach to expanded access and use of telecommunications grew out of the 1994-1995 TIIAP funded Maine Project Partnership for Telecommunications & Information Technology Planning. The Partnership engaged fourteen separate projects from geographic and constituency communities, covering a wide range of needs and technology applications. The projects shared a commitment to open networks, local responsibility for the non-federal share of project costs, and mutual support.

**There were three categories of projects in the Partnership: Education Networks; Community Networks; and Capacity Building Programs.**

***The Educational Networks*** included Atlas Plus, the Education Network of Maine, Waldo's Window, and the Washington County Consortium.

*Atlas Plus* developed a wide area network for five school districts in central and northern Aroostook County, expanding to include hospitals, libraries, the University of Maine at Presque Isle, Cooperative Extension, The Agricultural Experiment Station, Northern Maine Technical College, and the Northern Maine Regional Planning Commission.

The *Education Network of Maine*, principal distance education agent for the University of Maine System, developed instructional programs for Web Page applications, in addition to technical support it provided for other members of the Partnership.

*Waldo's Window* linked six schools in eleven rural communities in a wide area network that spans three telephone companies and serves schools, libraries, and municipal offices.

The *Washington County School Consortium* developed comprehensive Internet access and networking for three school districts in Maine's eastern-most county.



**Community Networks** included BAIRNET; Bethel Datafication; Maine Economic Development Network; and the Rangeley Region Information Coalition.

**BAIRNET** developed the base for a community oriented information exchange and Internet access for 22 municipalities in the Bangor area, evolving from a Bulletin Board Service concept to a more comprehensive system, taking advantage of technological advances in the course of the project.

**Bethel Datafication** built on an education and community Internet access system to incorporate government information and services as part of the community network.

The **Maine Economic Development Network** established a wide area network for the five Maine Economic Development Districts, the Center for Economic and Business Research, and the Small Business Development Center, and provided a foundation for Internet access and community wide sharing of information and support for economic growth programs in the state.

The **Rangeley Region Information Coalition** made possible local access to the Internet in a remote rural section of western Maine, serving public and private uses of the Internet, and created a community access site and center in the town.



The ***Capacity Building*** Programs included Coastal Enterprises, Inc.; Franklin Memorial Hospital Community Health Information Network; the Maine Bureau of Health/Bureau of Information Services Video Conferencing Program; Maine Meeting Place; Maine Pro Se Legal Assistance Program; and the URSUS Library Services Program.

***Coastal Enterprises, Inc.***, used its capital resources to offer loans to small businesses for information technology and telecommunications applications and provided a model training program for those businesses in effective use of the technologies, increasing the capacity of modest enterprises to compete in a global marketplace.

***Franklin Memorial Hospital Community Health Information Network*** was an ambitious project to develop an electronic system of clinical, demographic, and financial information exchange in a rural area, supporting more efficient and high quality health services through physician's offices, rural clinics, emergency medical services, and a hospital's inpatient and outpatient departments.

The ***Maine Bureau of Health/Bureau of Information Services Video Conferencing Program*** linked rural sites with the state capitol for training and conferencing, enhancing education and management for state agencies and community organizations.

***Maine Meeting Place*** expanded the geographic scope of its telecommunications and peer support network for families with children having developmental disabilities, offering outreach and training services in remote areas of the state.

***Maine Pro Se Legal Assistance Program*** developed an Internet based interactive, self-help, family law program for litigants without lawyers, and initiated a pilot project with a community service agency to model use of Internet linked information and support services for individuals in need.

***URSUS Library Services Program*** increased the capacity of the University of Maine System's electronic library catalogue and information system to serve the growing number of "on line" public libraries in the state and added 20 small, rural libraries to the list of Maine libraries with Internet access.



## **PARTNERSHIP RISKS**

The Partnership involved some substantial risks for all of the participants. Each participating organization had full responsibility for raising the matching funds. Central management was minimal, placing substantial responsibility on community organizations to manage their projects and comply with federal requirements. The University of Maine System accepted the responsibility for fiscal management, without imposing central control over day to day operation of the individual projects. Individual projects, in a number of cases, involved a number of constituencies and organizations with limited track records in cooperative ventures. Maine's telecommunications and information technology and infrastructure were undergoing rapid changes during the time the several projects were being implemented. Individual projects discovered that some of their specific program proposals were not relevant as the technology and telecommunications uses changed. Federal funding and detailed project approval were delayed by the government "shut-down" during the crucial early phase of the project. And individual projects were heavily dependent on volunteer commitments.

## **RESULTS**

The evaluation of the project documents the difficulties of the undertaking. It also documents the success of the participants in holding to their original vision and achieving their basic purposes. All the projects demonstrated persistence, ingenuity, and imagination in solving their problems and taking advantage of opportunities as they occurred. They also found invaluable the technical assistance and support provided by the University of Maine System CAPS and ENM personnel, private sector contributors from the telephone and cable television industries, and peer members of the Partnership.

The TIAP grant provided the seed capital and incentive to undertake risky ventures on behalf of very different communities. Virtually all of the projects would have been impossible without that investment. The Partnership rewarded local initiative and statewide collaborative planning and project implementation.

It is significant that project participants, at the end of federal funding, are committed to the further development of their projects and continuation of the collaborative effort of community based networks.

## **CONCLUSION**

The Partnership's fundamental goal was to connect people to information and to each other. Those connections would broaden and heighten their expectations and enhance neighborly relations by facilitating communication, even in rural areas where distance and low population density tend to create isolation. One of the major lessons of the Partnership has been the ways in which the information technology connections have led to expanded collaboration in the community at large, as participants have explored their electronic connections and their potential to improve their communities and their lives.





## **Educational Networks Overview**

Atlas Plus, Education Network of Maine, Waldo's Window, and Washington County Consortium are the projects that directly relate to the education arena. From a review of these individual reports, the following themes reoccur:

### **Community Impact -**

- The secondary school projects (Atlas Plus, Waldo's Window, Washington County Consortium) each acted as an introduction for collaboration between schools that traditionally do not share resources. The project also became a stimulus for some joint ventures between the schools and several community, business and internet service provider organizations.
- Each project organization experienced an indirect benefit of broadening their community support. The school projects generally enhanced their computer adult education programs and provided general community access points to the internet. The Education Network of Maine project enhances their ability to meet their goal to increase access to education through technology.
- All the projects directly and indirectly have begun to spread computer literacy into their communities.
- All four project participants have demonstrated their continued commitment to their projects with the incorporation of both personnel and technology costs into their present budgets.

### **Lessons Learned -**

- A strong partnership with a local internet service provider (ISP) bolsters a project.
- Flexibility to incorporate the most appropriate technology into a project is a key to success.
- A solid knowledge of the needs *and* technology status of all participants is an essential first step.



**ATLAS Plus Project**

**Contributed by Project Leader:**

**Steven Vance**





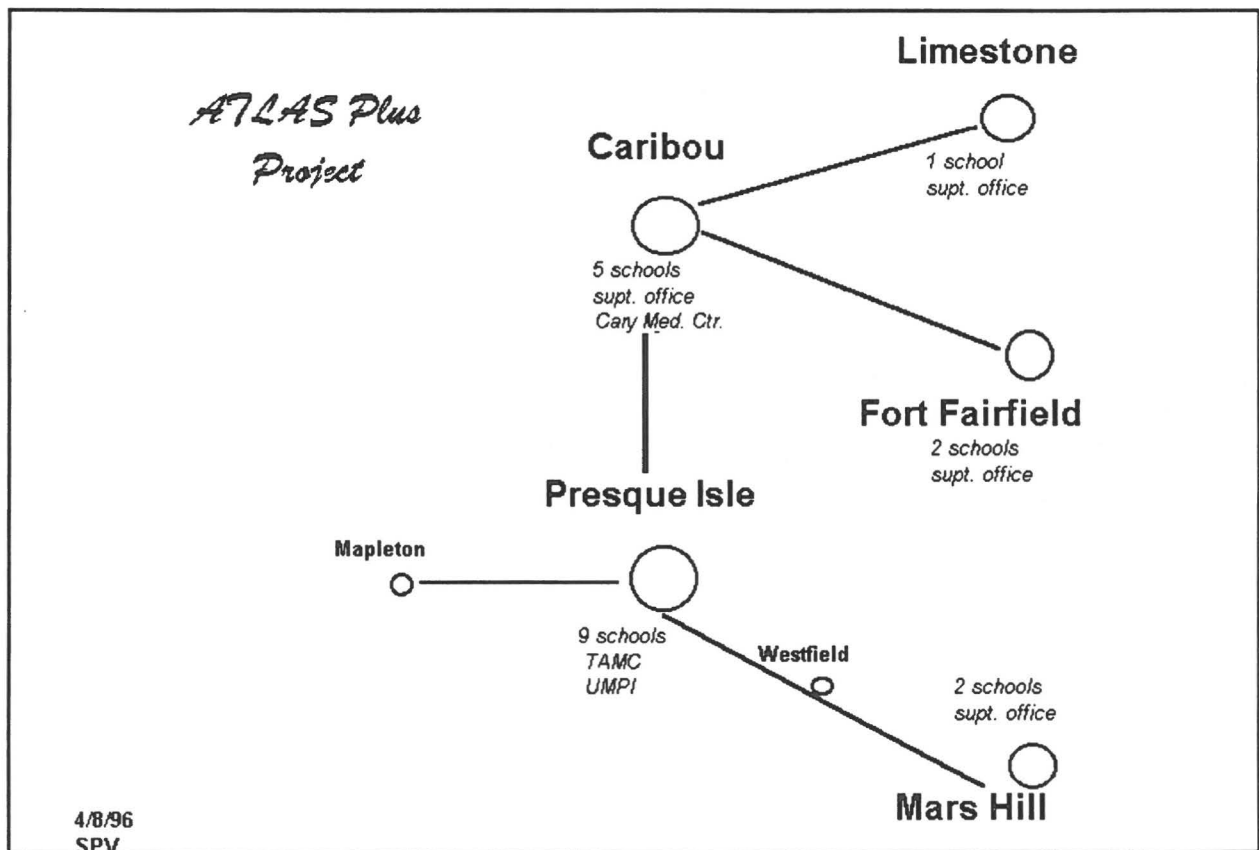
# Final Report of the ATLAS Plus Project

## Introduction:

MSAD#1(Castle Hill, Chapman, Mapleton, Presque Isle, and Westfield), MSAD#20(Fort Fairfield), MSAD#42(Blaine, E. Pltn.,and Mars Hill), Caribou School Dept., Limestone School Dept., Cary Memorial Hospital, and The Aroostook Medical Center are members of the ATLAS Plus Project. This project provided funding and technical personnel to develop a wide-area computer network connecting all of the schools in each district and the two hospitals. Time Warner Cable provides the transmission lines and their technical expertise to the project. The University of Maine System computer operations (CAPS) has assisted in the network design and is the internet service provider.

This project effectively connects the members of the group to a high-speed ethernet network. As a collaborative effort, the ATLAS schools have increased communications within each district, between districts and to the internet. When coupled to the State of Maine ATM backbone, central Aroostook County will have a telecommunications capability second to none.

This is a chance for the economy of Aroostook County to have a broader base. With the attraction of our clean environment, quiet lifestyle and excellent school systems, businesses involved in electronic commerce will be inclined to settle here. Just as we promote tourism, farming and the forests, we can promote the existence of high technology.





## **Implementation:**

November, 1996: The initial loop of the network was established using four sites: the cable system headend, Time Warner Cable's office, Presque Isle High School, and the connection to CAPS at the University of Maine at Presque Isle. This took a week to install and stabilize.

January through June, 1997: As hardware became available, the remaining sites were installed and time allowed for stabilization. One of the things we learned early in the installation phase was that massive deployment of new hardware did not allow for proper analysis of the developing network.

As the system became available, other educational and non-profit agencies asked to attach to the system. The Northern Maine Development Commission in Caribou was the first, followed by Northern Maine Technical College and two sites at the Maine Agricultural Experiment Station in Presque.

September, 1997: A signal to noise problem developed which required advanced training at Bay Networks to solve. Once the solution was determined, it took fifteen minutes to fix. Since this adjustment, the system has been very stable.

The future: By January 1<sup>st</sup>, MSAD#42 in Mars Hill will be connected. This requires running 15 miles of fiber to Mars Hill and connecting to another cable system. The expense is being shared by the project and Time Warner Cable.

MSAD#1 and the Easton school system will be budgeting moneys to attach four more schools to the system. This will complete the K-12 educational side of the project.

## **Accomplishments:**

The original goal of the ATLAS Plus Project was to connect five school districts and two hospitals to a regional network and the internet. Since its implementation, outside interests have recognized its uniqueness to northern Maine and its capability. We have been besieged by requests from other organizations and businesses to join the network.

As a telecommunications project in northern Maine, we had two major hurdles to overcome. The first was to find a carrier to handle regional traffic and the second was to connect this carrier to the rest of the world. Local transmission was a choice between NYNEX and Time Warner Cable. At the time, NYNEX was not interested in providing expanded access to northern Maine. Since regional cable systems had successfully added data to their offerings, we went with our only option. As it turned out, Time Warner nationally was announcing that it would provide free internet access to schools as soon as its systems were in place. We were able to speed up the time frame by providing the needed materials.

The most challenging part of our design was to arrange for access to the Internet. The nearest telecommunications point-of-presence is 160 miles south with no intervening lines. The only high speed access at the time was the University of Maine System. We made arrangements to connect to their system for access and internet services. This turned out to be beneficial to the schools, but placed restrictions on the admission of other parties to the system. The University can support educational institutions and non-profit organizations. As an agreement with the University of Maine System, we added several of their clients to our system: Northern Maine Development Commission, Northern Maine Technical College, the University of Maine Cooperative Extension and the Maine Agricultural Experiment Station. Time Warner is arranging for another connection and internet service provider to cover the addition of businesses in the future.





## **Evaluation:**

The project has created a platform for the expanded use of technology in central Aroostook County. The accessibility and bandwidth are allowing the members to change the way they do business. The school systems are seeing a resurgence in parental interest and involvement in the educational system. The townspeople have increased the portions of the budget allocated to technology and the number of adults participating in classes has increased. Each of the members of the project has added support personnel to implement and maintain systems capable of maximizing the resource.

Now that the State of Maine has signed a contract with a carrier to provide high speed access to all of Maine's high schools at a flat rate, the current network becomes even more valuable. The members of the ATLAS Plus Project lobbied successfully to allow regional networks to attach to this system. This will provide each of the districts with a means to collect the data traffic from all of its schools (the cable network) and connect to the internet. As the volume of traffic increases across the system, there will be no bottleneck getting out of northern Maine.

## **Community Impact:**

Most of the impact has been to improve the data operations of the project's members and educate the public as to its advantages. Northern Maine is in the process of switching from an agrarian economy to a technological economy. In training our people on the benefits of electronic commerce, we hope to recover from the spiral of the last several years. Several new businesses with a high telecommunications requirements have announced that they are opening offices within the range of our network. By showing that people in the region have the foresight and initiative to implement a high capacity system, businesses better understand the regional commitment to change.

## **Lessons Learned:**

We underestimated the following:

1. administration time and expenses
2. network maintenance expenses
3. network training required

Each of the members has seen the need to add technical staff. As the number and complexity of devices and services supported by the network increases, this demand is going to become greater.

One town has seen its service delayed due to the reluctance of the local cable company to allow Time Warner access to poles necessary for transmission lines. During preliminary discussions, this was not deemed a major problem.

During the time frame of the grant, the costs and demand for various items was ever changing. The structure of the grant accounting at times did not seem flexible enough to handle the changes. We relied on outside money to cover expenses which should have been covered in the grant.



## **Future Plans:**

The ATLAS Plus Project has provided a platform for a consortium of schools. These schools are now sharing technological resources and expertise. This would not have been possible without the experience gained by collaborating on the grant.

Currently, the public can access various resources on the network through the internet. As Time Warner adds access to homes, we will be providing dial-in accounts for those in outlying areas. This is the beginning of our digital community.



**Education Network of Maine  
Web Demonstration Project**

**Contributed by Project Leader:**

**John Forker**





# **Education Network of Maine Web Demonstration Project**

## **Final Project Report**

As a project participant, the Education Network of Maine had the primary goal of developing a platform for the creation and delivery of instructional programs on the World Wide Web. This included enabling students to remotely access course syllabi, curriculum materials, faculty and other instructional resources. The system was to provide a vehicle for faculty-student and student-student interaction. To this end, the project was extremely successful. An secondary goal of the project included technical support training for the other project participants. This interaction was not as good as hoped. However, because the project moved the distance education initiative of the University of Maine System to a new level, both technically and pedagogically, we are very pleased with the overall results.

### **Project Accomplishments:**

The project began with the intention of providing hardware, software, and instructional design to support distance learning on the Web. As for the hardware portion, that was straight-forward. The proposed concept was the implementation of a Web server; this was accomplished by purchasing and installing a high powered pentium computer and associated operating system software.

The ENM Web site grew with the efforts of those that were funded through this project. The site now offers complete interface with the courses that are Web-based or offer Web components. Behind the look and feel of the Web pages, the integration of the hardware and software servers have become seamlessly integrated. Faculty and staff are now able to access their pages with the right tools.

A Web-based computer conferencing system would allow for computer interaction among students and faculty. The instructional design efforts began by using the Allaire Forums conferencing system. The original proposal included the expectation to migrate to FirstClass. However, when we evaluated FirstClass it had not yet provided a solid Web-only interface. At that point, we determined that Allaire Forums should be used as the primary computer conferencing system for this project. Forums was chosen because it was strictly web-based (no other client software was needed), we had a familiarity with the system, and we could postpone the decision of a "final" product pending action on a UMS Technology Task Force. The familiarity resulted in a decrease in the learning curve associated with the implementation of a new system, and allowed us to push the project even further. We created a solid Web operating environment which includes associated server interface software and servers to include a Real Audio server preparing us for our next thrust forward.

Instructional design efforts began with Instructional Designers working with faculty in the development of Web-only courses for a Behavioral Sciences External Degree program. The faculty were actually working on a grant by the Davis Foundation, but by integrating the goals of the two grants, we were able to demonstrate a rich learning environment using the expertise of instructional designers and the correct hardware and software tools. Efforts continued to other programs, and by the Fall '97 semester, five courses were offered exclusively on the Web, while eighteen courses offered over Interactive Television were using Web conferencing as a supplement to the instruction. Additionally, these efforts facilitated the use of electronic mail in eight other courses.





## **Lessons Learned:**

Several lessons were learned from this grant. Particularly, three lessons were of the greatest significance and are outlined here.

1. A successful demonstration project brings about change and raises expectations that the institution must be able to meet in the long term. There is a very positive side to this evolution toward using the Web in education. We discovered through this demonstration, that what we had postulated was in fact correct and we shouldn't stop. We also found that we raised expectations and didn't want the capability introduced by this project to go away. During the midst of this project, we made a commitment to continue our efforts in providing Web components to education. This is not without costs. As the soft money of a grant goes away, we now struggle with the costs of supporting our new initiatives in the long term. Providing adequate instructional design/development and technical staff to support the use of the Web as a delivery method is critical to success.
2. It is difficult to delineate what elements are attributed to what projects. For example, we had been working with more than one grant, and we constantly had to perform a check on what we were doing on behalf of each grant so that the efforts were synergistic and not duplicative. Also, as our computer needs grew, we recognized that we would have to perform a large scale upgrade of hardware at distance sites. We had not accounted for this significant growth and funded this internally. However, with this hardware implementation effort we found where some software was needed (an application server) to facilitate the use of the Web systems developed with this grant. We proposed to purchase this software with the grant moneys and this concept was accepted by the TIIAP office. However, we subsequently realized that this application server would enhance other capabilities outside the scope of this grant, and in good faith communicated this with TIIAP officials who rightfully declared that we should apportion expenditures based on usage. With uses of an application server being vast and proposed uses constantly growing, we decided to full fund this internally as we could not make a proper attribution of the future use of this server. We now realize that most of the use of this server is toward efforts of this grant.
3. Supporting a set of diverse projects is difficult. As mentioned in the "Project Evaluation" section, we did a great job internally, but not as well in supporting other projects. Our lack of support to other projects was not without effort. Through the Maine Project overall project officer, we contacted various participants in the grant and found their needs to be widely diverse and not focused on the capabilities that we were developing within our internal project. However, we realized that this may not have been an implementation failure, but a failure in the planning and the preliminary analysis of the needs. Hence another lesson learned is that there is a gap (in time, technology, and knowledge of how to best use technology) from the beginning of the planning cycle to the end of the demonstration project.



## **Future Plans:**

As stated earlier, ENM has made a commitment to providing Web support to education. Rapid growth in the use of the Web is upon us. Projections for Spring '98 semester are already showing nearly 50 courses with a Web component. Future growth is expected. We also know that we must examine other areas to continue to enrich the learning experience. Here are some of our plans:

1. We are working with the faculty and staff at the University of Maine to provide FirstClass support. Although the Web components are not mature, we are using our application server to run the client software.
2. To ensure that Web use is "humanized," Real Audio components are being explored. This will take a major upgrade to site and center computer systems for full delivery throughout the state. Although bandwidth in the networks is still limited, we are beginning to explore streaming video and H.323 Internet conferencing as parts of our Web instruction.
3. Under a different project, we purchased a T.120 server for document sharing. This will allow students and faculty or student groups to view and edit a document together over the Web.



# **Waldo's Window Project**

**Contributed by Project Manager:**

**Faith L. Garrold**





# Waldo's Window Final Report

## Project Accomplishments:

From the time the original grant was written to its ending date, this project has taken on a life and personality of its own. Our initial plan was to network, over the phone lines the six elementary schools, one middle school and the high school. We envisioned being able to do this via fiber optics, with the grant funding providing the money to purchase "time and wires". The second and equally important part of our grant proposal was intended to establish a community Internet site in each of the eleven towns that make up the district linking each town to our system.

With the NYNEX ruling, and through the use of other funds available to us, it soon became apparent that we could leverage the grant into a much larger benefit for our district. Throughout the life of this project, and indeed even before it began, we have been most fortunate to have had a very good partnership with our local telephone company, Unitel. It has been the expertise of the staff at that company that has bolstered our every effort. In addition the monetary contribution of Unitel to our project has been a major boost toward meeting our goals!

Our project, as completed, finds a community access computer in nine of the eleven towns, fully Internet capable, and staffed with trained volunteers. These sites are available to the public on a regular basis. Where the community site is in a school members of the public can assess them at any time schools are open in addition to several evening and weekend hours. During evening and weekend hours a trained volunteer is on hand to offer assistance and minimal training on internet use. In the towns where there is no school, computers are sited in the town office, again with volunteer support on a regular basis.

In each school there are now six to thirty-six computers tied to the internet and to each other through the LAN systems which are the result of this project. Each school site is also served by a network server which houses system software. In each school one staff person has received extensive training and serves as a "lead" teacher. Approximately 75% of the teaching staff, and 100% of the clerical staff district wide have also received internet training. Plans are being made for the administrative staff to receive the same training in the immediate future. When the training is complete it is our goal to handle much of the district paper work via the Internet system.

During the life of this project we have been host to two major media events. In April 1995, our project was part of the Department of Commerce economic development tour. We hosted a luncheon for the group and were able to share our "work in progress" with visitors from several nations interested in rural technology. We were very honored to be able to share our humble beginnings! In January 1997, Governor Angus King and members of the state department of education visited our fully networked computer lab at the high school complex. While here, Governor King communicated with students from across our district as well as with several students across the state, via our connection. In addition to these events, we have also been able to share our project and its progress with groups of local business people and with other citizens through groups such as the Waldo County Chamber of Commerce and the Unity Area Rotary Club.





## **Project Evaluation:**

Our evaluation of this project has been ongoing and intensive. Logs maintained at each community site have given us information useful to revise schedules, extending hours as needed. These logs have also served to help community members network with others who have common needs and interests. Community access points have proven useful for adult students and for business people. Both groups have been able to access information to fit their personal needs, whether it was completing a term paper or project; or seeking new markets for products. With so much information from both state and federal government sources available, having internet access has been very helpful in rural Waldo County.

At the schools our evaluation has been more subjective. Records show that the majority of our students at the 4-12 level have signed parental permission to access the Internet. Observance by library staff and teachers proves daily that the information base now available to our students is being used to great advantage in all content areas. With limited funding for print material that is quickly outdated, our Internet connections from both classrooms and libraries has added a broad new dimension to the education we are able to offer.

## **Community Impact:**

Much of the community impact has been outlined above. The community outreach aspect of this grant project has had an additional welcome effect. In all that we do in public education we continually seek ways to involve our parents and other members of the taxpaying public. The swift move into the field of technology which this grant has fostered for M.S.A.D. #3, has brought the added benefit of increased public involvement in education. Last week our Technology Committee hosted a community dinner/work session. The goal of this event was to get input from the public regarding the future direction of our technology efforts. Thirty-four people attended, only 6 of whom were district staff! The audience made up of community members and students spent a very productive work session outlining specific ways in which our efforts can continue to benefit our eleven town district. We look forward to being able to continue our partnership with Unitel and other community entities to strengthen the start we have made with this project. We suspect that in the coming years we will be able to continue to take advantage of technological advances that are not even on the horizon today! The framework is in place for this to happen, thanks to our part in the Maine Project!



## **Lessons Learned:**

It is not difficult to delineate our biggest lesson! That is that in any project there must be flexibility! From the time that the original grant was written, and we were selected to be a partner in the Maine Project, many rapid changes took place. By remaining flexible, reworking our plans, and using both grant and district funding, we have ended up with a much more useful "final product". We are confident that by creating the LAN systems and getting the connections to the world in place, we have created a solid framework onto which we can add both hardware and software to meet the ever increasing demands of a technologically literate community of learners.

One aspect of our grant that has been disappointing has been our inability to follow through with our proposal to place a community access computer in every town. Two of the towns in our district have refused thus far to provide a space in their town buildings to house the computer and the connection to the Internet. Our temporary solution has been to establish their computers in the school where their students attend. At these sites we provide regular access hours as in the other towns. We did not foresee that any town would not welcome the computers. A lesson learned here has to be that we need better input and more solid commitments when we are working with people outside our own organization. We are still confident that at some point in the near future these towns will have a change of heart, probably brought about by concerned citizens, and at that time we are prepared to move the available equipment to a new location.

## **Future Plans:**

Our plans in M.S.A.D. #3 are to continue to build on the base built by this project and our partnership with Unitel. From the conversations we have around our tables, and from what we know of technology in other educational districts, we feel that we are in a very favorable position to be able to take advantage of what we have learned. From our latest community dinner meeting we are developing plans to survey parents to seek ways in which we can link homes and schools for the exchange of pertinent information. With a school district that covers 400 square miles, we feel that we have not yet begun to scratch the surface of the possibilities for Waldo's Windows!

Through the use of district funds and other grant money we will continue to enhance the capabilities of our students, our staff, and our public in accessing the world of the Internet to enhance curriculum within our schools; and the quality of life in our communities. Within classrooms we expect to see changes in curriculum and the way it is designed to meet the needs of our students as we continue to make changes to meet the Maine Learning Results. We don't look at today as "How you gonna keep'em down on the farm...?" Rather, we look at the current state of technology in M.S.A.D. #3 as a means of helping our students do a better job on the farm, in the small businesses, and in the halls of academia. To that end we have only begun to explore the view from Waldo's Windows!



**Washington County Consortium Project**

**Contributed by Project Director:**

**Gloria J.F. Jenkins**





# Washington County Consortium Final Report

## Project Accomplishments:

The Maine Project provided funds for the schools of Maine's poorest county to access telecommunications. Five servers purchased through the project increase the number of schools which have telecommunications access and the capability of those schools to use that access. Schools used the Maine Project opportunity in a way that best fit their needs. Some gained internal E-mail systems; some gained Internet access; and some prepared for future use of telecommunications. The Project put the schools in the position to take advantage of other funding for technology, professional development opportunities and to build upon the PUC NYNEX initiative.

The Maine Project's other goal was to provide training to Host Site Server Coordinators and Individual School Coordinators for e-mail and Web Administration. Host Site Server Coordinator training included:

- attaching workstations to servers, including configuration of protocol stacks, Web and E-mail clients.
- adding and removing users server access as well as POP3 mail.
- modifying user access, including development of system and user login scripts as necessary.
- networking tutorials.

Individual School Coordinator training included:

- procedures for connecting to the appropriate server in administrative mode to enable maintenance functions to be performed.
- procedures for adding and deleting E-mail user for the local school.
- procedures for performing regular maintenance on the E-mail system.
- procedures for accessing Web server in administrative mode for creating or modifying Web pages.
- three months of telephone and on-site support during start-up was included with the training commitment.

The Project, which occurred parallel to the NYNEX initiative, exceeded the expectations. The timing of the two efforts provided a boost to technology access in Washington County. Schools were in a good place to apply for state technology grants, write technology plans and wisely employ consultants for training.

## Evaluation:

The flexibility within the consortium of schools to design what was best for each was a key factor in the success of this project. This equity, if not equality, provided each school and/or district with the telecommunications which best fit their existing technology levels and priorities.

This project allowed schools to develop collaboration skills while trying to solve common problems. One problem which arose was dealing with transitions in personnel at the superintendents level. As new superintendents were hired and joined the decision making of the Washington County Consortium, and thus the Maine Project, clear communication was needed for a speedy "getting up to speed". Another problem involved how to meet diverse needs within the County's districts. This was resolved as each district learned to plan within the framework of the Maine Project. This adapting and adopting process allowed all to take advantage of the opportunities of the Maine Project while meeting their own needs. A collaborative skill learned during this process was an acceptance that "one size does not fit all". Collaboration does not mean that one's uniqueness is subverted to become part of the collaborative. Developing these skills allowed three districts to put out one bid for technical assistance. Three servers





now cross district lines to provide service at the best price. And, the potential is there for future collaboration at the teacher and student level.

One challenge for the project was the lack of adequate follow-through from the vendors. With small business vendors who are easily over extended, the timing and quality of training and service was a problem. The size of the vendors' businesses did not allow for up front financing for equipment. Coupled with the delay in funding, this obstacle delayed the installation of servers.

## **Community Impact:**

The project allowed schools to be in a position to offer community computer classes which include the use of the Internet. It also had a political impact as schools become a valuable resource for a more diverse community audience. The project brought to life the possibilities, through telecommunications, which enable all communities regardless of geography to participate in the global community.

## **Lessons Learned:**

- Flexibility is necessary when working with a consortium of schools. Each school is unique and has unique needs and priorities.
- Choose vendors carefully. Consider their capacity for service and training after the sale.
- Clear communications, cooperative planning and a common understanding of the project are necessary for all decision makers.

Clear communications necessitates frequent, substantive conversations. These occurred both in writing and face to face among the original planning group, Consortium Director, Superintendents, and vendors. Monthly meetings of the Superintendents and Consortium Director and on-going written communications were necessary. Ground rules involving honesty, listening to all viewpoints and inclusion of all stakeholders in decision making were assumed.

Cooperative planning for Consortium projects involves representatives from each district coming together with information about their district's plans, activities and needs. Each district representative presents his/her information. commonalties are identified. Consideration is given to which commonalties are best addressed as a consortium and which are best addressed by individual districts. Consortium goals or outcomes are set based on the commonalties and "backwards" planning begins on how to accomplish these goals or outcomes.

Although this is not exactly the process used for the Maine Project, a common understanding of a project can be facilitated using a Pyramid structure which proceeds as follows; 1. each individual writes or draws his/her own understanding of the Project. 2. Pairs of people share their writing or drawing with one other person. This pair of people develop a new description of the project based on this common perspective. Included in this common description are commonly held beliefs and beliefs that are acceptable to each. 3. Each pair of people join another pair of people and the process is repeated. Each pair share the common description of the project developed in step 2. The foursome develop a description which includes commonalties and any aspects acceptable to all in the foursome. 4. The foursome join another foursome and the process is repeated. 5. The final step is achieved when the entire group has arrived at a description which includes all commonalties and any descriptors which are acceptable to all.



## **Future Plans:**

Many pieces of the planning puzzle are becoming evident, but a comprehensive, collaborative planning for the future has not occurred. Needs are becoming focused on planning for classroom use i.e. critiquing the resources available, establishing the use of technology as part of the everyday habits in the classroom, using the resources available as part of curriculum development. Explorations of the possibilities available through the use of technology are bubbling up. A partnership between Washington County Consortium and Maine Mathematics and Science Alliance will provide a course for science teachers on using Internet as a resource in science classes. A column in the Consortium newsletter is devoted to sharing of Internet "hot spots" and uses of technology around the County. Financial support is being sought on an individual district level as each district develops a Technology Plan to be used as the basis for Department of Education initiatives. Collaboration on achieving these plans needs to occur.

The next step for Washington County Consortium is to provide facilitation for comprehensive, collaborative planning which will fit these puzzle pieces together. This planning necessitates time which, in turn, necessitates money for substitutes for teachers and meeting expenses. A small amount of planning money needs to be secured. Washington County Consortium has the planning expertise and the schools of the County have the history of collaboration to accomplish this next great challenge of using the great resource which is now available to them.

As the next Department of Commerce RFP is considered, the use of technology in the classrooms of Washington County needs to be part of the plan. As evident from the interview/meeting with Judith Sparrow of the DOC Telecommunications and Information Infrastructure Assistance Program, this need is in line with DOC intent.



## **Community Development Network Overview**

BAIRNet, Bethel Datafication, Maine Economic Development Network, and Rangeley Region Information Coalition are the community development networking portion of the Project. From a review of these individual reports, the following themes reoccur:

### **Community Impact -**

- All of these projects met and continue to meet their goal of facilitating their constituency's exposure to computer technology with all its information and communication potential.
- The community development networking projects all demonstrated that a successful collaboration between towns, people of different disciplines, and different organizations is not only possible, but beneficial. This potential for success is highlighted by the initiation of several new ventures expected to flourish in the future.

### **Lessons Learned -**

- Reliance on volunteers alone makes it very difficult to sustain a project. Paid staff is essential.
- All the projects utilized the University of Maine CAPS resources, other community resources, and each other to solve implementation problems. The flexibility to redirect funds to fit selected technological solutions was essential to the projects success.
- The Bethel and Rangeley projects both accomplished the integration of the internet technology into their rural communities. Bethel benefited from an early tie to the local Community Adult Education Program in its area, an example that Rangeley is presently working into their program.





**Bangor Area Information Resource  
Network / “BAIRNET” Project**

**Contributed by Project Leader:**

**Mary Jo McLaughlin**





# **BANGOR AREA INFORMATION RESOURCE NETWORK FINAL REPORT**

## **Introduction:**

Early in 1994, a small group of concerned librarians, community members, and business persons pulled together a few tables in a school to work together to give birth to the idea of connecting Bangor area citizens electronically. Such a short time ago, and yet so long ago, the concept of a community bulletin board was a forward thinking and exciting concept. Less than four years later, northern and eastern Maine have been flung into technology head first, partly due to the arrival of electronic commerce, and in part due to the schools and libraries initiative. Along with the changing times has evolved a different, yet important, BAIRNET.

Recently, nearly four years later, several members of that same concerned and committed group gathered once again to assess BAIRNET'S accomplishments, lessons and future plans for an evolving organization, striving to develop what it began.

## **Project Accomplishments:**

The sheer energy needed to maintain the interest and enthusiasm of an all volunteer group is heralded by BAIRNET members as an accomplishment. The survival of almost two years of planning, fund raising and a failed grant attempt before finally receiving TIIAP funding, core BAIRNET members, or "BAIRNETTERS" as we fondly call ourselves, continues to be one of the single greatest accomplishments. Though faced with shifts in volunteer commitment, re-location of key core group members, BAIRNET continued its progress toward the implementation of an operational BAIRNET.

### **EXPANDED MEMBERSHIP**

Over the past year the formal membership of BAIRNET has grown. Volunteers, through mailings, personal contacts and participation in various information fairs, has been able to attract new membership, resulting in some additional cash available from membership fees. Some members utilize the information on BAIRNET, some members either have already elected to provide community information on BAIRNET, or provide links to websites maintained by these members.

All towns in the greater Bangor area have been contacted over the past year and asked to participate in BAIRNET by making such things as town council minutes, building code rules, and other important community information available on BAIRNET. Some towns already have information available on BAIRNET. Other towns will be contributing information as soon as remote access to BAIRNET'S database is available. Some towns, who participate as web sites through a school district's participation in the schools and libraries initiative may be choosing to provide a link to BAIRNET.

### **HARDWARE AND SOFTWARE**

Due to changes in technology since the grant application, BAIRNET was able to stretch its funding to include far more than its original bulletin board service hardware and software. We consider this an accomplishment, as we are able to serve a broader group of citizens than previously anticipated.

Currently, three servers have been purchased to be allocated for website, database, and BBS use. The website, [www.bairnet.bpl.lib.me.us](http://www.bairnet.bpl.lib.me.us), is available on the World Wide Web. We are working to improve and expand the information available through the databases. The bulletin board service, utilizing Wildcat, was available until recently, is currently under revision, and will be available again in the future.



We consider the needed shift from our original proposal of BBS to include and focus on more current web technology to be an accomplishment of no small proportion. The board of BAIRNET still takes its commitment to low end users to provide BBS seriously and are looking forward to the day when both web clients and BBS clients will utilize BAIRNET once again.

### **TRAINING**

One of the goals of the BAIRNET project was to facilitate community members' exposure to computer technology to enhance computer skills, particularly among the disabled and disadvantaged. Almost as soon as the project was granted funding, one ambitious volunteer, a retiree, devoted endless hours to developing and delivering training sessions for the elderly at a local senior housing community.

Another core member of BAIRNET, has involved adult learners who are students in the Bangor Adult Education program. These students have improved their computer skills and communication skills through research and entry of information to improve the BAIRNET databases.

Students at the HOME Learning Center, located in Orland, Maine have had the opportunity to improve their computer skills. A member of BAIRNET who is associated with HOME has also had the opportunity to participate in HTML training, which he will be able to pass on to students when HOME's computer equipment allows him to do so.

BAIRNET members were given the opportunity to attend HTML training, delivered by a University of Maine instructor at Orono, thus introducing them to an opportunity to improve computer skills.

### **IMPROVING THE LOCAL ECONOMY**

Improvement in the local economy has not been a tangible outcome of the BAIRNET project. However, the improvement in the computer skills of local citizens will doubtless result in their ability to contribute more productively to the work force.

BAIRNET has offered local businesses the opportunity to provide information about their businesses on BAIRNET. This opportunity is still available. We at BAIRNET believe that links to local websites may serve to fulfill this objective.

Due to the schools and library access project, many under-served communities in Maine now enjoys some form of public access to the Internet. It was BAIRNET'S initial objective to attempt to improve access to information exchange among BAIRNET members, but this is no longer necessary. Therefore, our intent is to improve information content, available services and employment opportunity.

BAIRNET is in the process of including 60 non-profit organizations as part of the BAIRNET website. It has already collaborated over the past year with these organizations that are loosely connected to the Peace and Justice Center of Eastern Maine. This effort will give web and BBS exposure to organizations that could not affordably obtain such access and exposure.

### **OTHER ACCOMPLISHMENTS**

At the beginning of this project, BAIRNET participants joined the organization with computer skills ranging from remedial or non-existent to sophisticated and well versed. Due to the efforts of volunteers from the University of Maine and elsewhere those who were uneducated or remedial soon became conversant. Within a very short period of time, and long before BAIRNET had a viable server, a listserv was established through the University of Maine to facilitate communication among Bairnetters. This effort not only familiarized people with the concept of e-mail, but also migrated Bairnetters from BBS to e-mail. This accomplishment prepared BAIRNET members for the concept of web.



An intangible, yet invaluable and unexpected outcome of the BAIRNET project was the uniting of people from very diverse walks of life, united under one common cause. Unlike some projects included in The Maine Project, the core members of BAIRNET had no uniting thread such as all members of one particular organization or discipline with another primary objective which was supported by technology. BAIRNET core members ran the gamut of for profit and not for profit businesses, social service organizations, libraries, educational organizations and many more. Each of these people brought talents but also diverse perspectives. Still, the group was able to meet, reach consensus and achieve objectives. This is a very important accomplishment indeed.

## **Evaluation:**

Our project, for a variety of reasons, has been slow to reach an implementation stage. We have not had an opportunity to promote its use due to the obstacles in bringing the site to its present state of readiness. Therefore, evaluation data is not yet available. We intend to evaluate the success of this project shortly, as its use becomes more popular.

## **Community Impact:**

We are not yet fully aware of the wider community impact of the BAIRNET project. We know that pockets of our community have been affected. Previously, we have mentioned several groups that have experienced the impact of implementing and using BAIRNET. Now that BAIRNET is operational, and as we continue to promote BAIRNET, we feel that we will continue to impact the community, particularly those that are only minimally connected or exposed to the benefits of technology.

## **Lessons Learned:**

The concept of volunteerism is very important in a project such as this one. Unlike most of the other projects funded under The Maine Project, BAIRNET had no formal structure upon which to draw. Most of the other projects based their staffing upon individuals who were already being compensated to do a particular job and extended that job to include the TIIAP project. BAIRNET, on the other hand, had no such persons to be the anchors of the project. As volunteers moved through the months and years that it took to move from concept to reality, other demands in their lives drew them in and out of the project.

Another lesson learned was that much of the momentum that should have been used to jump start BAIRNET needed to be spent in raising the match which had been guaranteed by the Bangor Public Library. Although the fundraising left some funds to sustain the project, we will need to re-visit our efforts to recruit new BAIRNET members and increase membership now that the grant period is complete.

Somewhat late in the project, we did have an opportunity to receive funding to hire a work study student who will assist us in developing the applications to be offered by BAIRNET. In retrospect, this should have been attempted much earlier in the project.

On a positive note, we have learned how well we are able to work together. We have learned that it is possible to meet the challenges of technology revision in the midst of a project. We have also learned that we need to attract more volunteers to BAIRNET. As the life cycle of the core BAIRNET volunteer group winds down, fresh blood must be infused into the project in order to assure its success.





## **Future Plans:**

We plan to make fully operational not only our web server, but also our bulletin board service, as promised to the greater Bangor community. In addition, we will expand our databases, increase our links to other community web sites, and further develop relationships with community organizations.

BAIRNET will attempt to recruit additional subscribers and benefactors. In addition, municipalities will be encouraged to either use the BAIRNET website as a forum for community information, or to link to the BAIRNET site. Religious organizations and not for profit organizations will be encouraged to provide community information, not easily available in other ways. Health care organizations will be encouraged to provide consumer information either directly or through a web link.





**Bethel Data Corporation  
Town Link/Adult Learner Access Project**

**Contributed by Project Leader:**

**Cathy Newell**





# **Bethel Data Corporation**

## **Town Link/Adult Learner Access Grant Final Report**

### **Introduction:**

The goal of the Town Link Project sponsored by Bethel Data as part of the Maine Project was to provide public electronic access to municipal information for residents of the area and to encourage public participation in local governmental issues and activities. The project set out to establish an electronic network at the Bethel Town Office; to provide a public kiosk with printer at the Town Office; to train Town Office staff in the use of the resource including addition of information to the resource and provision of assistance to the public using it; and to convert town documents for mounting on the webserver.

A later addition to the grant came in the form of Adult Learner Access which proposed to add the Adult Learning Center computer lab and the computers at the Education Network of Maine's Bethel ITV site to the Data project. With the addition of the Bethel Library to the community network, this would bring the number of public access computer sites in the community to four.

These goals were all accomplished during the grant period.

### **Accomplishments:**

The Bethel Town Office, the Adult Learning Center and the Telstar site were all added to the community electronic network through the grant. Town office use of the network is on-going, largely for e-mail. The conversion of documents has been on-going with all town ordinances completed. Minutes of selectmen's meetings are regularly converted.

Training has been provided for Town Office staff. The new Town Manager is now a daily user of E-mail in his work, a skill he did not have upon arrival in Bethel. Adult education students, Learning Center staff and Bethel ITV students have received training. In total, technology training was provided to more than 400 individuals during the grant period, primarily in collaboration with local adult education.

The success of the project has garnered attention both within the community, through news coverage, and around the state, with the community featured on several MPBN programs including E-Maine. Interest in connectivity has raised the number of subscribers for home connection to Bethel Data to more than 150.



## **Project Evaluation:**

There was no formal evaluation component to the project. However the Town Office reports that about 1-3 individuals per day use the kiosk. The Adult Learning Center has only been connected since August; to date more than 50 individuals have used the Internet connections there. The ITV site serves 50 additional adult learners. The single kiosk at the Bethel Library is used by an average of 8-10 individuals each week during library hours. There were more than 400 enrollments in computer classes offered by Adult Education during the grant period; including Introduction to Computers, Internet and E-mail Use, and popular software applications.

## **Community Impact:**

The increase in the number of public access points to 4 has had a significant impact on the community. The Bethel list serv has 60 members who have engaged in dialogue on "hot topics" ranging from the arrival of a Rite Aid store to the application of an Indian tribe to locate a high-stakes bingo hall in the area. More mundane uses include individuals seeking computer help, reports from bird-watchers, and a request from an individual on where to obtain pieces of leather for a project.

The community network and the Board of Bethel Data Corp. were instrumental in assisting the local school district in preparing their Technology Plan submitted to the State of Maine in June, 1997, and in gaining acceptance of an Acceptable Use Policy by the SAD 44 Board of Directors in August, 1997. Members of Bethel Data have been popular presenters on the topic of community networks at various state events.

The Town of Bethel at the annual Town Meeting voted to approve \$20,000 for a major upgrade of the town office computer system. This allowed all member of the Town Office staff to share in the electronic network. The local Library joined the network in 1996. Bethel Data's activities were an important factor in creating the community support for technology reflected in the decisions of the voters and the Library trustees respectively.





## **Lessons Learned:**

The major value in participating in the Maine Project was the networking aspect inherent in such a collaborative project. We were in touch with an exciting and enthusiastic group of innovators around the state and benefited from sharing ideas.

The value of experienced overall project administrators at the Education Network of Maine was very important to our small grant. Mark Tibbetts and Liz Chapman guided us through the requirements and made the local end of things manageable. This type of collaborative works very well in allowing participation by small units in large federal initiatives.

The most important lesson we have learned from Town Link/Adult Learner Access is that we were unrealistic about the amount of time necessary to manage the project and the drain this created on a number of key volunteers. The volunteer commitment went far beyond what was originally envisioned. Training time is especially hard to get from an overworked volunteer crew beyond demonstrating the most fundamental skills in web browsing and e-mail. More complicated skills can only be learned with more commitment to training by paid staff.

## **Future Plans:**

Our community network would be enhanced by the addition of the local fire and police departments. Other ideas include a Community Calendar maintained by the Chamber of Commerce, a "Bethel Common" with webboards for more public conversations, and an experiment in voting by computer. Plans for connection of local health facilities to the network have been discussed and the local library continues to investigate possible expansion of their facility which would include additional technological resources.

The towns in the region are beginning the process of renegotiation with the local cable company and will seek improvements which will stabilize the current system and allow further expansion. Bethel Data Corp. is currently discussing expansion of the modem pool to meet the increasing demands of home-based subscribers.

In conclusion, we have been grateful to be part of the Maine Project grant and for the financial support the grant gave to the further development of our community electronic network.



**Maine Economic Development Network  
Project**

**Contributed by Project Leaders:**

**John R. Heath  
&  
Richard J. Clarey**





# Maine Economic Development Network:- Design and Implementation\*

John R. Heath

Department of Computer Science

University of Southern Maine

96 Falmouth Street

Portland, ME 04104-9300

Email:heath@usm.maine.edu

Richard J. Clarey

Department of Business Administration

University of Southern Maine

96 Falmouth Street

Portland, ME 04104-9300

Email:rclarey@usm.maine.edu

June 13, 1997

---

\*This work was supported in part by The United States Department of Commerce Telecommunications and Information Infrastructure Assistance Program, the Maine Department of Economic and Community Development, and the Economic Development Administration of the U.S. Dept. of Commerce.



# 1 Introduction

Economic development centers located throughout the state of Maine provide economic planning services and development assistance to communities within their districts. The Centers also house Small Business Development Offices that assist small businesses with technical consulting and help clients start new businesses. In 1996 and 1997, using TIAP grant funds, the Maine Economic Development Network (EDDNet) was constructed to network Maine's Economic Development Centers and provide centers with global networking capability. The EDDNet project was managed by the Center for Business Economic Research, an EDA funded University research center that supports Maine's economic development agencies.

In this paper, we describe the development of the Maine Economic Development network, the problems encountered, solutions chosen, and lessons learned. Organizations planning to create a wide area economic development network, similar to EDDNet, can learn from our experiences and, perhaps in some measure, EDDNet can serve as a model for their design. In Section 1, we describe the project proposal and explain our objectives in creating EDDNet. Next, we describe the network design and the technologies used, and explain the rationale for our selections. Network services and their implementations are described in Section 3. Technical support programs developed for the EDDNet users are then described in Section 4, and, in the final section, we provide concluding remarks and discuss the future of EDDNet.





## 2 Purpose

Five Economic Development District Centers (EDDs), spanning the entire state, participated in the EDDNet project. Before the completion of EDDNet, these Centers had no or very limited computer networking capability. Communications between the Centers, their communities, and their business constituents were largely limited to telephone, FAX and postal services. It was believed that linking the EDDs together into a state-wide network would result in substantial benefits to the EDDs and their constituents. The use of electronic mail for communication and ease of sharing documents would increase opportunities for collaboration between Centers and simplify coordination of jointly administered programs. The network would provide them greater visibility and give their constituents faster and easier access to Center services. Centers would have instant on-line access to economic databases, instant access to state and Federal agencies, and with economic development organizations throughout the country.

Also participating in the project were the Small Business Development Centers (SBDC) with regional offices in the Economic Development Centers and a central office located at the University of Southern Maine campus in Portland. The SBDC program is a partnership of state and federal agencies and the University of Maine . Through its outreach programs, the SBDC assists small businesses throughout the state with training, business planning, technical assistance, and library resources. Prior to the EDDNet project, the SBDC central office, as well as the regional offices, had no computer networking capability. Like the Economic Development Centers, the SBDC could greatly benefit from efficiencies in planning and managing operations made possible through networking.



The EDDNet project was conceived and proposed by the Center for Business and Economic Research (CBER), an EDA-designated University Center housed in the School of Business at the University of Southern Maine, Portland. CBER provides technical support, applied research, and economic data to economic development agencies, including the Economic Development Centers and the SBDC. Specific services offered by CBER include state and regional economic forecasting, economic databases, and simulation modeling. CBER also publishes *Maine Businesses Indicators*, a quarterly newsletter devoted to state economic issues, and an annual report, the *Overall Economic Development Program Supplement*, a compilation of data and articles relating to the Maine economy. The network would greatly increase dissemination of CBER research and publications. CBER constituents could download online data for easy access or for use in preparing their own documents and reports. Moreover, the network would allow for rapid response to constituency requests.

The CBER staff, consisting of University faculty and students, would have primary responsibility for managing the EDDNet project, including the design and implementation of the Network. As an added benefit, students assisting in the project would gain valuable practical experience in network design, software development, and equipment installation. Also, there are no other reported computer networks interconnecting the main economic development organizations within a state. Consequently, the project provides an opportunity to develop and demonstrate effective methods of delivering economic development services over computer networks. Finally, the project, through training programs offered to the staffs of the EDDNet sites, would raise their information science and technology literacy.



### 3 Network Design and Implementation

The Maine Economic Development Network proposal was the largest of a collection of several projects that, together, formed *The Maine Project* which received TIAP funding to develop Maine's information infrastructure. The Maine Economic Development Network project called for a local area network (LAN) at each site to interconnect site workstations, a dedicated high-speed digital Internet link to provide each site with global networking capability, and answer modems for sites desiring dial-up access for their constituents and regional offices. The proposal also included a network server dedicated to providing network services to the development centers. In particular, the server would provide electronic mail services, be a repository for online documents, and hold World Wide Web (WWW) pages for the various participants. The proposal also called for staff training in network applications and management. In the remainder of this section, we discuss our design decisions and implementation methods used to create the Economic Development Network.

#### 3.1 Local Area Network Design

The initial EDDNet proposal primarily focused on the development of an internet-work, connecting the economic development centers and providing equipment to support network access to their constituents. An inventory of computer and communications equipment at each site, taken at the time the proposal was prepared, indicated that many sites already had local networking facilities or had begun installation of local networks. Three sites had LANs installed and two others had incomplete LAN installations. Consequently, we placed little emphasis on the LAN development. However, subsequent





to the project's funding, we determined that local networking facilities were less useful than originally believed. Two of the three sites with LANs required substantial upgrades; in fact, one was completely replaced. Internal wiring installed at another site was determined to be below standard and had to be replaced. When additional funding became available, as other projects withdrew or had reduced funding requirements, the EDDNet project applied for, and received, additional TIAP funds to assist the development centers in upgrading or installing LANs.

We chose for the LAN design a 10BaseT Ethernet<sup>1</sup> hub topology. This LAN design is shown in Fig. 1. Ethernet is the most successful LAN standard. The equipment is reasonably priced and readily available from numerous vendors. Its operational behavior and performance are well understood. The response times and throughput performance typical of Ethernet LANs are sufficient for EDDNet sites, all of which have forty or fewer workstations. Hub topology refers to a LAN design where each workstation is attached directly to a central hub by a cable. The hub simply retransmits any messages received to all other attached workstations. Although this design requires an expensive hub and more wiring than other topologies, it is much easier to maintain, an valuable feature for network sites without strong technical support staff. The cable used in this design to connect hub and workstations is twisted pair copper wire, such as is used by telephone companies. This is known as a 10Base-T wiring scheme.

---

<sup>1</sup>Ethernet is used here as a generic term to refer to what is more correctly known as IEEE 802.3 LAN standard.



## 3.2 The Internetwork

To interconnect individual development centers, and thereby create the wide-area network (WAN), we installed at each site a dedicated point-to-point digital link between the site's LAN and the University of Maine (UM) backbone network. Through the UM network, all centers are interconnected and all have a dedicated Internet connection. At different sites, we chose different technologies to realize the link. Of the available options, we selected the technology providing the best performance at reasonable cost. We now describe the link technologies used and discuss reasons for our decisions.

At three of the sites, the only feasible option for the link was a dedicated circuit, leased from the local telephone service provider. To connect a LAN to the UM network, through a leased circuit, requires two devices be installed at each end of the link. One device, through which the link attaches to the LAN, is called a router. In this case, the router simply serves to interconnect the two different network technologies, the LAN and the leased line. The router attaches to the leased line through a device called a modem which modulates the LAN signals into a format appropriate for transmission over the link, and demodulates the received signals into a format suitable for the LAN.

A substantial portion of leased line cost is proportional to the distance spanned by the line. Fortunately, all three of the sites were near a University of Maine campus and, since line distances were not long, link costs were within acceptable amounts. The leased lines support a 56 kilobits per second transmission rate which is considered adequate for current Internet applications and for the sites' planned uses of the EDDNet. If link technologies with better performance become available at a reasonable cost, the installed links are easily replaced.



Other sites offered opportunities to create less costly links and to achieve better link performance. The Portland Economic Development Center is located about a mile from the USM campus on a relatively high elevation, as is the campus. Much of the area between the two sites is ocean. Consequently, there is a clear line-of-sight from the center to the campus, allowing for a radio ground-wave link between the sites. Implementing the wireless link required antennae be installed at the Portland Center and at the USM campus. Each antenna is connected to a LAN through a device called a wireless bridge. Transmissions destined for the wireless link are translated by the bridge into the appropriate format and forwarded to the antenna for transmission. Wireless transmissions received from the wireless link are demodulated by the bridge and forwarded onto the LAN. At the USM campus, transmissions are forwarded to the UM backbone network or to the USM local network if the destination is a USM host. The wireless link uses an unlicensed frequency band which is available to anyone. While there is the potential for performance degradation if there is high utilization of this band, we have encountered no problems due to link congestion. The wireless link, in effect, extends the USM network to include the Portland development center. The high link rate, 2 megabits per second (Mbps), provides the site with a relatively high speed Internet connection, and, because there are no ongoing lease line charges, it is a less expensive link implementation than the leased line solution.

An entirely different technology was used to establish an interconnection link to the SBDC center. The SBDC center is located at the edge of the USM Portland campus, and is only 150 yards, or so, from the USM computer center. Several technologies to link the SBDC center and the USM computer center were considered including wireless. At



the time the SBDC link was being considered, the University was preparing to install fiber optic cable to that part of the campus. We were able to include, in the University installation, a fiber cable link to the SBDC Center and, by making it part of the University's cable installation, the link was installed for much less than would have been possible otherwise. Although the cost of the fiber link installation was slightly greater than the amount budgeted for the link, there are no ongoing line charges, and, furthermore, because the fiber link connects the SBDC hub directly to a USM LAN hub, there is no need for a router. Consequently, the overall cost of networking the SBDC was within the budgeted amount. Included in the University's cable installation was the installation of a fiber optic link from the CBER office to the University's network. This effectively added CBER offices to EDDNet. The fiber optic links to SBDC and CBER support the Ethernet LAN transmission rates of 10 Mbps, a much higher rate than could have been achieved using other technologies.

Establishing a link for the northern-most economic development center, in Caribou, presented a problem in that it was not near a University of Maine campus, and, consequently, the monthly expense of leasing a line from the public telephone service provider was much higher than had been planned. Fortunately, at the time, a community network, using the local cable television provider, was being developed in the area. Because the community network, called ATLAS 5, obtained Internet access through the UM network, the development center's link was realized by connecting its LAN to the cable-based ATLAS 5 network and, via ALTLAS 5, to the UM backbone network. A device known as a cable bridge connects the center LAN to the cable network, and, although the cost of the cable bridge exceeded the amount planned for a router, the lower line charges and





superior link performance of the cable link, make it the preferred solution. Transmission rates for the ATLAS 5 link are variable between 2 and 10 Mbps.

The UM network provides the backbone network through which the development centers are connected to each other and to the Internet. At the time of this writing, the UM network is composed of several leased T1 circuits interconnecting the University campuses; each circuit supports 1.5 Mbps transmission rates. The UM network connects to a regional Internet network at the USM campus. The wide-area internetwork is diagrammed in Fig. 2.

## 4 Network Services

A network server computer system, connected to the EDDNet, provides network workstations with Internet services. The server is shared by all sites and is used exclusively to support EDDNet. Specific services provided include electronic mail, online economic documents, hypertext links to other sources of economic information, listservs to provide efficient dissemination of information, chat rooms to facilitate online meetings, and www pages for the individual sites and EDDNet project. Our discussion begins with a description of the network server machine, and then we describe network applications installed on the server.

### 4.1 Network Server Configuration

Traditionally, UNIX has been the platform of choice for Internet servers. Most server applications have versions that run on UNIX systems and excellent UNIX software is freely available. Consequently, UNIX, specifically Sun Microsystems' Solaris, was chosen



for the server operating system. For the server host, we selected a Pentium-based machine with 64 megabytes of RAM and a 4 gigabyte disk drive. Similarly designed servers, used at USM to support the university's networks, have proven reliable and deliver satisfactory performance. The low cost of Pentium-based computers, as compared to other UNIX platforms, and our positive experience with similarly designed servers were the primary factors in our choosing this server design. The server is housed at the USM computer center. This ensures that technical staff will have quick and easy access to the server should any problems arise, resulting in fast response to server problems and minimal downtime.

To prevent data loss due to storage subsystem failure, we installed an automatic storage backup system on the server. At scheduled times, disk files are automatically written to magnetic tape. The tapes are archived and can be used to restore lost disk files.

## 4.2 Electronic Mail

Electronic mail or email server software runs on the network server. For each EDDNet email user, the server maintains a mail box that receives all mail addressed to the user and holds it until it is fetched by the user; then the mail is sent to the user's workstation where it is stored. The email protocol installed on the server is known as Post Office Protocol-3 (POP3). Client mail software was installed on each EDDNet workstation.

This approach to email offers several advantages over separate installing email servers at each site. First, some sites do not have LAN servers to run the email software. Second, the site network managers lack experience and expertise required to maintain



simulation modeling to list just a few that are proposed. Online access will provide much easier accessibility to this information, and, we believe, greatly increase its dissemination.

To ensure the documents are widely accessible and allow the greatest utilization of the information, documents will be stored in several formats. Because postscript viewers and printers are ubiquitous and, also, support attractive text and graphics, documents will be stored in postscript format. Users of online documents often extract data, graphs or figures for inclusion in reports they are preparing. Also, users are often only interested in information relating to a specific subject. A document format that allows searching and easy extraction of data is Adobe System's *Portable Document Format* (PDF). Consequently, documents will also be stored in PDF format. Converting files to PDF format is achieved using Adobe software installed on the server. To read and execute operations on PDF formatted documents requires that the Adobe Acrobat Reader be used. The Reader can be downloaded from Adobe and is free of charge. Finally, documents will also be available in ASCII text format, which can be read without format specific software; however, ASCII text does not preserve figures and graphs, or format control commands inserted by the text editor, and the text font is rather unattractive.

#### 4.4 WWW pages

World Wide Web (WWW) pages provide the means for Economic Development Centers to advertise and promote their services on the Internet, and are an effective mechanism for delivering documents to constituents. To support Web sites for the Centers, WWW server software is installed on the network server. The server provides Web sites for several of the Centers. For the Web server software, we selected Apache which is





widely used on UNIX platforms, the operating system chosen for the EDDNet server host machine. Apache offers several performance enhancements over other UNIX-based Web servers and is freely available.

We assisted several centers with Web page development and installed their pages on the network server. Other sites hired contractors to develop their Web pages and have stored pages on their own server or with other network service providers. A Web page for EDDNet was also developed and installed on the server. The page, which can be viewed at [www.eddmaine.org](http://www.eddmaine.org), describes the EDDNet project, provides links to the Economic Development Centers' Web sites and links to other economic development resources. The availability of EDDNet and Center Web sites was registered with popular Web indexes such as Alta Vista, Yahoo and also at specific subject sites such as Maine Economic Development Sources.

## 4.5 Other Services

At the request of EDDNet users, listservs and chat rooms have been implemented on the network server. Listserv is generically used to refer to email-based discussion groups. A listserv functions as a distribution center for email messages. Email sent to a listserv is forwarded as email to subscribers of the listserv service. A private listserv established on the network server is used to by EDDNet site managers to obtain answers to networking questions and help with network-related problems. Other listservs for the use of Center constituents are planned. The discussion group server software installed on the host server is Majordomo; Majordomo servers are similar to the original listserv systems which predate the Internet, but Majordomo is more efficient and is designed



specifically to run on UNIX systems.

Also, at the request of EDDNet staff, a chat server was installed to facilitate online meetings. In chat mode, the participants communicate in real time. That is, messages are multi-cast to all users without delay, allowing interactive online discussions. If the chat facilities prove to be an effective method for conducting discussions, some face-to-face meetings of Centers' employees, which for some Centers can require one-way travel times of 6 hours or more, will be eliminated.

## 5 Training and Support

Most economic development centers employees have limited experience with networking, particularly with Internet applications. Consequently, for the network applications to be useful, it was necessary to provide the sites with assistance and support. This was accomplished in several ways. Client networking software, such as email and WWW browsers, was installed on all user workstations. Knowledgeable staff members at each site provided training in the use of these basic network applications.

More comprehensive support and training in network management was provided to the site network managers. Software tools were provided and, in some instances, tools were developed to simplify maintenance tasks. One such tool is a Web browser-based form that allows site managers to easily update host and Internet protocol(IP) address information. Managers fill out the form and, once the form is completed and sent, the information is written to a local file which is periodically forwarded to the EDDNet domain name server. The name server then incorporates address changes into its domain name database. Another browser-based tool was developed to manage email accounts and addresses.



The form document can be used to add, delete or change email accounts. The form with specified changes, is sent to the EDDNet email server which updates the email accounts database. The *file transfer protocol* (ftp) was installed on each manager's workstation and managers were trained in its use. Managers were shown how ftp could be used to download and upload WWW documents. They were shown how to update their WWW pages. To further assist the site managers in the using these tools, online instructions, called *tip sheets*, explain how the tools are used. Also, a listserv server, installed on the EDDNet server, is available for managers to seek assistance with networking questions and problems, or post helpful information. Queries sent to the listserv are automatically forwarded to all other site managers. We expect managers will use the listserv to assist each other with networking problems.

Site network managers attended a day-long training session that addressed many issues relating to network management. Topics covered included Internet IP addressing, Internet directory services, address management tools, setting up client workstations, installing application software, email account management, file transfer protocol, maintaining WWW pages, and network security.

For the purposes of defining overall network maintenance responsibilities, network management was partitioned into three areas: Internet access, LAN maintenance, and global EDDNet issues. Internet access refers to any issues relating to routers and bridges, and circuits linking LANs to the Internet. Responsibility for maintaining the operation of these components of the EDDNet network lies with the University of Maine Network Operations staff. For this support, each site is assessed a monthly charge. Each site is largely 0 for the maintenance of its LAN. Site managers will install application software,



manage network and email addresses, and maintain WWW documents. Sites are also responsible for equipment installation and repair. CBER, which managed the design and installation of EDDNet, will continue to assist Centers with local network planning, expansion, and with solutions to network problems. Issues that are global in nature such as those concerned with shared equipment and shared applications are the responsibility of EDDNet participants. Specifically, global issues include tasks and problems relating to the EDDNet server machine and server applications such as email. Installing new shared equipment and applications, and setting up new EDDNet sites is also a participant responsibility. Economic Development Centers will share responsibility of proposing global changes or enhancements to EDDNet. The EDDNet participants are forming an association to manage the network and to propose new applications, enhancements, and expansion.

## 6 Concluding Remarks

As of this writing, the Maine Economic Development Network has been operational for three months. Following a short period of appraisal and tuning when the network was brought on line, it has operated effectively without difficulties. Problems that have occurred, were primarily related to client workstations, and frequently were caused by incorrectly set configuration parameters. As site managers become more experienced with the network, problems of this type will be less common.

Anecdotal evidence indicates that Center employees are regularly using network 0. Email in particular is widely used. Also, the ability of users to share computer equipment, interconnected through a LAN, is proving to be beneficial. At one site, maps developed





on a workstation were being written to a floppy disk and hand-carried to a plotting device for printing. With the newly installed LAN, maps are electronically transferred to the plotter for printing from any workstation, and, through the Internet links, maps from any site can be printed on the plotter. Via the Internet, users have online access to a database of available commercial real estate maintained by a public utility provider. This information, now easily accessible, is routinely made available to businesses on request. Downloading WWW documents is now common practice. As users become more familiar with networking, we expect users to expand their usage to include even more applications, listservs and chat rooms among them.

Future networking activities, in the near term, will focus on assisting the centers to effectively deliver services over the network, and to assist with the development of new services made possible by the network. In the longer term, we hope to expand the network to include more organizations responsible for economic development. We also plan to extend the EDDNet site networks to include the community governments served by the Development Centers.

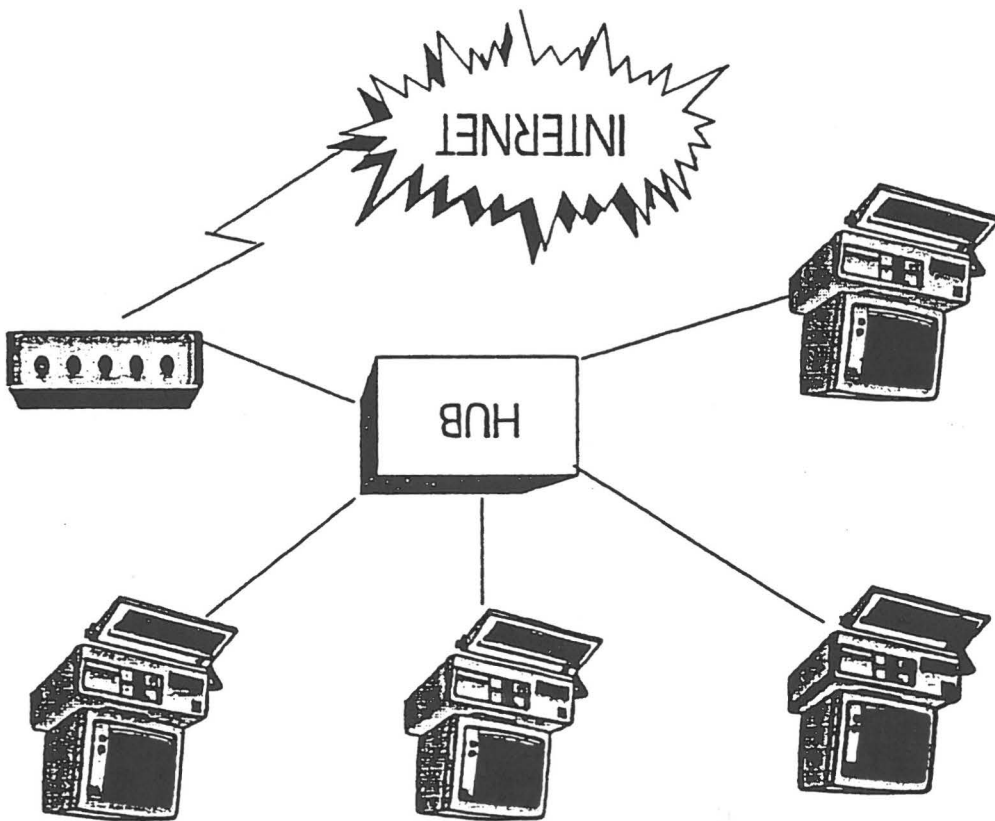
EDDNet provides the networking infrastructure that allows the economic development centers to deliver services over the global network. They now have the means to more easily coordinate their activities and can more effectively promote development within the State. LANs installed at each site allows centers to more efficiently operate their offices. Other states planning to create a similar WAN, can benefit from our experiences and perhaps learn from our design decisions. The development of EDDNet has also had additional benefits of providing educational experiences for the university students, and, through EDDNet training programs, raising the level of information science and



technology literacy among development center employees. Finally, in time, we believe the network will demonstrate the effectiveness using computer networking to deliver and coordinate economic development services.



Figure 1: Local Area Network Topology







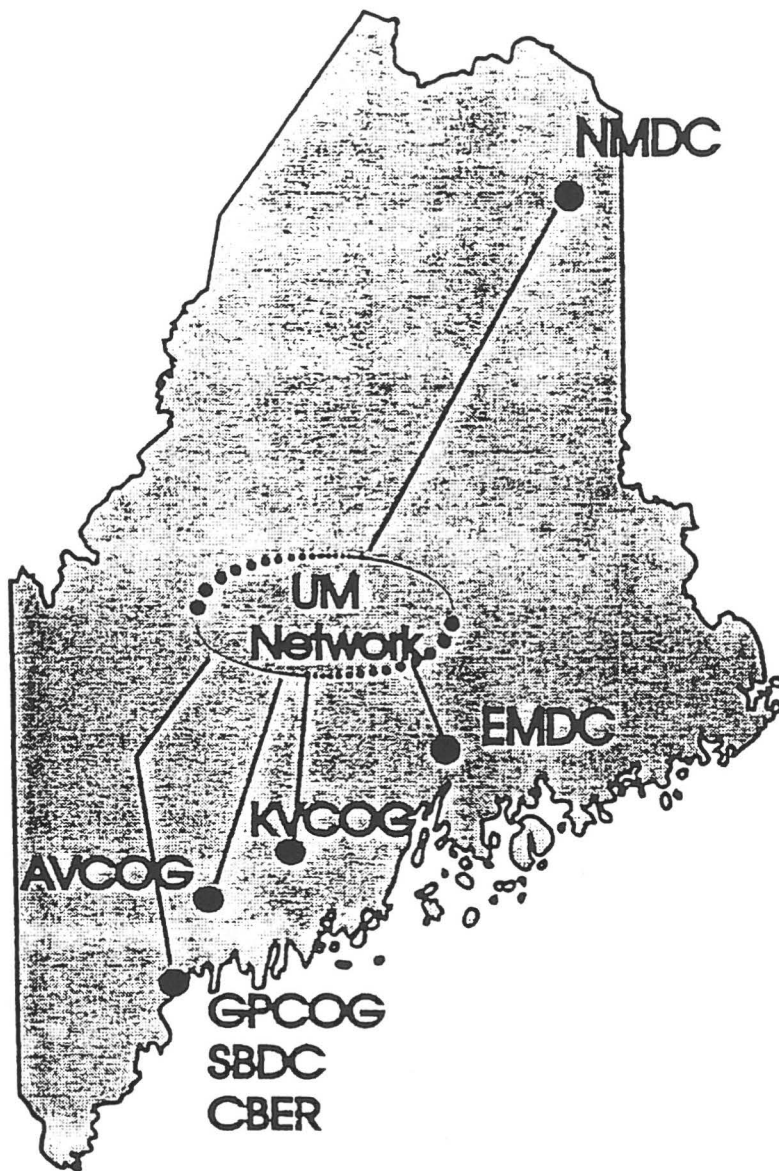


Figure 2: The Maine Economic Development Network



**Rangeley Region Information Coalition  
Project**

**Contributed by Project Leader:**

**Frank X. Sheehan**





# **Rangeley Region Information Coalition Final Report**

We of the Rangeley Region Information Coalition would like to start off this final report by thanking the TIIAP for giving us the chance to participate.

## **Accomplishments:**

Some of our accomplishments differ from our original vision. This was sometimes unavoidable, but always done with our goal in mind of helping the majority of the people in the Rangeley Region.

In October of 1996 there were ten computer stations using the on-line services, in the Rangeley Region, to access the vast amount of knowledge available on the Internet. This number was so low because of the cost of long distance telephone service. Today, because of the efforts of our project, there are now over one hundred and fifty stations on-line for the cost of a local telephone call. This affordable cost has made the Internet available to the majority of the people in our region.

Realizing that there would be many of our residents and visitors who would not have access to computers, we decided to open a Storefront to provide public access. In our Storefront we have three computer stations. Each station has the latest, MS Office programs, financial programs, direct Internet access, E-mail access for locals with a TELNET program available to our visitors, and games for all. We have also installed a professional scanner and printer with the latest software. All of these stations are networked together and have a direct Ethernet Connection to the Internet. All these, with the exception of printing, have no user charges attached.

The above accomplishments have more than met our expectations.

## **Project Evaluation:**

In the beginning we had hoped to locate our Storefront in the same building as the ISP's equipment. This would have kept the cost of transmitting Internet signals to our stations at a low to no cost. When it became time for us to locate, the owners of the building told us, that there was no room in the building.

When we approached the local Telco about the cost to transmit the signal, we found the cost unaffordable. We went looking for some tech help from others in the Maine project, and came up with a very acceptable solution. Namely, Wireless Line Of Sight Antenna Transmission, which we purchased



from the Black Box Corporation, for a total cost of full ownership equal to only one year of the Telco. solution. This not only saved us money, but it had proved that having more than one hand in pot does not always ruin the stew.

### **Community Impact:**

At the time that our project was starting, there was a movement in our Region to fund and oversee community projects, such a ours, on a regional basis. We did this by approaching all four towns in the region for match money and were successful.

Since then there have been other regional operations started, using the same formula.

### **Lessons Learned:**

When we started this project, we did not have anyone involved in our project that had a formal education in this technology. This was eventually overcome with a large expression of humility. We accepted all the help we could find.

Our project was started and staffed completely by volunteers. Our intentions were good but our results were wrong. We now believe that you need a professional to lead and hold it all together. The project took too long to complete. We were always losing volunteers along the way. The list is very small now that the project is done.

### **Future Plans:**

We have been THINKING of merging our project with the local Adult Ed program which has the professionals that we needed in the first place. Maybe that last sentence belongs under the Accomplishment's heading, because we did learn from this project.

We know that we will have to raise funds to keep the Storefront open and for the cost of any future hardware and software upgrades. Please don't forget us. We may come knocking again.





# **Capacity Building Programs Overview**

Bureau of Health/Bureau of Information Services, Coastal Enterprises, Inc., Franklin Memorial Hospital CHIN, Maine Meeting Place, Maine Pro Se Legal, and the URSUS projects all have the common link of capacity building. From a review of these individual reports, the following themes reoccur:

## **Community Impact -**

- All these projects successfully demonstrated that increasing access to information and communication among individuals not only has a community building influence, but it enhances the individual's ability to function - be it at their job or as an individual in society.
- Each project demonstrated in some manner the efficiencies that digitalization of processes can accomplish. Equally important, these projects provide a strong base from which the future streamlining of information can be explored.

## **Lessons Learned -**

- Each of these projects underestimated the cost - both in time and dollars - in implementing the technological portion of their projects.
- Each of these projects included a training piece. Training the trainers appears as the choice method of outreach.
- Hands on training is also declared the most effective method for computer skills training.



**Maine Bureau of Health  
Bureau of Information Services  
Compressed Video Project**

**Contributed by Project Leader:**

**Pat Jones, MPA**





# **Bureau of Health/Bureau of Information Services Compressed Video Program Final Report**

## **Project Accomplishment:**

This project's goal was to establish a compressed video system for the Maine Bureau of Health professionals to do video conferencing between at least two sites in Maine. One of the sites was in the state capitol and the second was in Presque Isle, located in the northern most county in the state. This medium would provide a technology that would allow public health professionals in the state office to hold conferences with local health agencies, to share information, to hold educational programs and to do telemedicine.

The state Department of Administration's Bureau of Information Services (BIS) partnered with the Bureau of Health staff to organize the project and order and hook up the equipment. Originally, the Bureau of Information Services was to provide the state's ground lines (backbone) to be used to transmit the conferences in a cost effective manner. The BIS offered to match the grant funded compressed video unit with a unit that they would purchase.

The project now has four compressed video units and one Socrates instructional podium. The Socrates podium is used to show slides, documents, and video through compressed video equipment. Three additional compressed video units were obtained by the BIS for the project; two more than the original promised single unit. Two units are located in the state capitol complex one on each side of the river dividing the city. One unit is in Presque Isle and the planning group is considering placing one in another remote location.

The program startup took a year and a half due to change in BIS administration. In the spring of 1997 a six month pilot was conducted and during that time there were eight pilot uses of the system. After the pilot there were 11 scheduled uses of the system between June 1997 and November 1997. WIC, Breast and Cervical Health, Cardiovascular Health Program, Substance Abuse, Diabetes, Oral Health, and the Office of Health Data and Research scheduled conferences throughout the state.



## **Evaluation:**

Evaluation conducted to date about the use of the system showed the following:

- Some users found it to be most helpful and to save money and staff time by reducing travel.
- The cardiovascular health program manager reported: "I held a conference with four of my funded cardiovascular Health sites." "There was a blizzard and if we did not have video conferencing we would not have been able to continue with the business of our program." "It was a very convenient tool and allowed us to keep our local people in their communities rather than spending two days traveling."
- The Diabetes program manager reported the following: "I did not find the video conferencing useful because of the high costs for the line charges." "I could pay to have the people travel to the central office for what it cost for the line charges."
- The Bureau of Health, the Department of Environmental Protection, and the Department of Agriculture have been able to provide timely information, training and services to local communities through this medium.
- The Maine potato board meets regularly which allows many members to stay in their communities and not travel.

## **Community Impact:**

A Bureau of Health staff person was identified to coordinate scheduling for three departments. A DEP staff person did a cost/benefit analysis for all departments to use to encourage the use of video conferencing. A number of non-profit and private organizations were identified who were willing to make their equipment available to Bureau of Health staff. Some of the organizations were hospitals, Health Maintenance Organizations, paper companies, technical collages, and the Maine National Guard. A total of 40 additional sites were made available to be used by Bureau of Health staff. As a result of these additional sites with equipment, the three original pieces of equipment can now connect to every corner of our state for the initial cost of the equipment funded by this grant.

An unexpected benefit of the project was that other state departments, Conservation and Agriculture, decided to partner with the project and to help with the costs and management. Several planning meetings were held by all involved state departments over a two year period to form a working partnership for moving ahead with compressed video.





## **Lessons Learned:**

Some obstacles for the project was the change in administrative staff in the BIS. Administrators left and positions were not filled for a few months. There was an adjustment period after the new administrators arrived. The BIS could not provide the use of the state's backbone for transmitting the conferences because there were not the adequate switches to allow for broad bandwidth transmittal. The project had to use a private telco provider and pay for the line charges associated with ISDN. This proved to be costly and limited the use of this technology by Bureau of Health staff.

Training on the use of the equipment was a key component of the project. Bureau of Health program managers were asked to identify a program person to attend a training on how to use the equipment and about 25 staff attended including many others from other state departments and the University. An error was made in not requiring the program managers in the Bureau of Health to attend the initial training because they were the decision makers for use the equipment. These program managers are being training this fall and usage is increasing as a result.

## **Future Plans:**

Future uses for the video conferencing system are to do more with patient assessments particularly working with parents and children affected by developmentally disabilities. Bureau of Health staff plan to use the equipment for regularly scheduled program quarterly conferences.

The BIS is making plans to get funding from various sources to pay for five switches to make the state backbone (T3 lines) usable for the videoconferencing equipment. This would cut the costs of paying for a private provider for the ISDN charges. Plans are being developed to centralize the operations of video conferencing within the BIS. The planning committee is discussing the recommendation that state department administrators adopt a policy that state workers attempt to use videoconferencing for program activities before paying for meetings with travel costs.

A resource manual of all identified conferencing sites will be made available to BOH staff and other state department programs. The planning committee is researching the possible use of a commercial scheduling provider to take responsibilities for scheduling of all departments' video conferences. The use of video conferencing for telemedicine needs to be further developed in order to fully utilize this technology for its full benefits.



**Coastal Enterprises, Inc. Project**

**Contributed by Project Leader:**

**Robert Chiozzi**





# Coastal Enterprises, Inc. Final Project Report

## Project Accomplishments:

All of the counseling and seminar metrics have been met. Accomplishments have exceeded expectations.

- Sixty small businesses or entrepreneurs wanting to start small businesses which would be utilizing telecommunications received one on one counseling and telecommunications training.
- At least six half day seminars were given to a total of 160 individuals (to meet the metric of 160 individuals, more than six seminars were given).
- All of the SBDC counselors in the state received some level of telecommunications training. Seminars offered included telecomm methods to increase sales or reduce costs, integrated marketing using the WWW, and introduction to database applications for telecommunications.
- SBDC counselors received training on electronic mail applications including filing. The purpose of this training was to assist SBDC counselors with communicating with one another as well as communicating and delivering counseling over the Internet. To date, this have been effective in increasing communications and delivery of counseling.
- Over \$180,000 in loan funds have been distributed to at least five companies to incorporate some form of telecommunications technology from internal systems to purchasing equipment for telecom applications to setting up programs to enhance the telecommunications potential of their client companies.

## Project Evaluation:

The definition of telecommunications varies with the individual business. Overall, most small businesses that the telecom trainer worked with were focused on using the World Wide Web to develop a business or to develop new revenues for their businesses. The business skills of the telecom trainer were particularly effective in this client demand. Most clients did not understand that WWW marketing or a web site is a part of the businesses marketing effort and to be integrated into the effort. Several of the start-up companies which the telecommunications trainer worked with, were focused on web page design or electronic malls. Much of the revenue of these new organizations would come from selling their services to small and medium sized businesses. The concept of integrated marketing was presented to these entrepreneurs so it could be discussed with their clients. This is an example of how the demonstration grant reached well beyond the goals and metrics of the original proposal.

The evaluation of this project is somewhat difficult to measure. The metrics have been met, but the outcomes of the counseling or the seminars will always be in process. Initiating processes for integrating marketing using telecommunications methods takes several months of effort with feedback systems for measurement. Once the management commits to setting up the process (which may take several months), the systems of marketing or business development using such methods may take several more months to measure. In several instances, integrated web sites have yielded an enormous number of hits which were converted to sales with the proper follow up. In one example, setting up an internal communications system to accelerate the movement of information in the company reduced penalties for late delivery to contractors. In another example, a simple web page for a bed and breakfast, placed with the appropriate links to area attractions, yielded hundreds of additional room sales. In most cases, however, the tele-trainer was just that; a trainer who assisted the small business owner and entrepreneur in their understanding of what telecommunications is and how it may help increase revenues or reduce costs.



## **Community Impact:**

The applications of telecommunications was brought to the community via training, seminars, and attending and giving seminars at conferences put on by other agencies. For example, the tele-trainer gave seminars at the Department of Agriculture's annual show. As well, the computer banks linked to the Internet was staffed by the teletrainer. The Blaine house conference on small business was attended by the tele-trainer who promoted the advantages of incorporating or expanding these technologies for small business applications.

The administering of loan funds in excess of \$130,000 has the community benefit of creating jobs, making Maine companies more competitive, and increasing the velocity of money in the local economy.

## **Lessons Learned:**

The delivery of training services does not necessarily yield a measurable benefit for all of the companies or entrepreneurs who participate in the training. The term "telecommunications" is confusing to many small business owners. The concept ranges from using the Internet to using switching systems and satellites. The trainer found that when seminars were advertised as "Telecommunications Technology for Small Business" the attendance was poor. When the phraseology "Internet Marketing" was used, attendance was much higher.

Certainly, management must "buy into" the concept and take the risk of implementing or expanding the technologies under consideration. Those organizations which did incorporate telecom technologies and committed to them found a powerful tool which they could integrate into their daily practices. Some found they began to depend on their web pages for information delivery. Others found that implementation reduced costs. The long term benefits of the tele-trainer are well beyond the time scope of this project.

## **Future Plans:**

Coastal Enterprises has already won two additional telecommunications grants, one of which will be used to continue the efforts of training small business owners and entrepreneurs on the applications of the technology for small businesses.





**Franklin Community  
Health Information Network Project**

**Contributed by Project Leader:**

**Vaikko P. Allen, Sr.**





## ***T.I.I.A.P. Final Project Report***

### **Franklin Community Health Information Network**

#### **Franklin Memorial Hospital**

Project Director:	<b>Vaikko P. Allen, Sr.</b>
Title:	<b>Chief Information Officer</b>
Division:	<b>Information Systems</b>
Address:	<b>1 Hospital Drive</b>
City/State/Zip:	<b>Farmington, ME 04938</b>
Phone:	<b>779-2300</b>
Fax:	<b>779-2548</b>
Email:	<b>allen@inetme.com</b>

#### **Project Accomplishments:**

Most of us have experienced being referred from a primary care doctor's office to the hospital for tests or to a specialist for further examination or treatment. We've experienced the annoying necessity of repeating our demographic, insurance, employment, medical and other information for the hospital or specialist receptionist even though we've just done so at our primary care provider. Upon each repetition, the chance for error grows, time and resources are wasted and our healthcare system earns its reputation for inefficiency.

Some of us have been accident victims and have had to utilize hospital emergency rooms. A number of us have had to be transferred from one hospital to another for treatment of serious conditions or injuries. We've realized later that since there was little communication between our regular primary care doctor and the ER or between the hospitals, tests were repeated, medication errors were made, allergies were ignored, existing conditions went undetected, unnecessary procedures were performed all of which caused us further suffering, greater expense and did little to help us regain our health.

Imagine the impact on customer service if the patients described above were able to have their medical information readily available to the many healthcare providers in their service area. What if patient histories, current medications, allergies, demographic and insurance information, all comprising a longitudinal medical record were available universally within that patient's region? What if other tertiary medical centers, specialists and payors could access and contribute to the overall information available for that patient?



Since 1994, Franklin Community Health Network has specifically focused on bringing this vision of linking electronic medical sources of patient information together. While enterprise based systems exist today, few if any community based health information networks operate successfully bringing the resources of separately owned and operated providers together. Two community wide conferences have been held with the input from attendees consistently indicating acceptance of this sharing of medical information.

Data is only as good as its source. When the same data is repeatedly entered into different systems, the chance for error increases proportionately. Having widespread access to this patient data improves the quality of the data by reducing the number of times and locations it needs to be manually entered. Additionally, the confidentiality and security of the data is improved because access to the data is only granted to authorized users. Fewer entry sites means less exposure to casual onlookers and others who have no need to look at patient information but may be in the immediate area where it is gathered.

The CHIN's demonstration project has been to connect Franklin Memorial's Meditech HIS to five HealthReach Health Centers located in Farmington, Livermore Falls, Kingfield, Strong and Rangeley. A Data General Aviiion 9500+ with companion Intel based Microsoft NT server has been installed at the hospital to host the CHIN. An interface engine called T-Link has been purchased from Multimedia Systems Integration, Inc. of Marietta, GA to facilitate the translation of data between disparate systems. After significant effort within the hospital to prepare internal systems to connect to outside data sources, staff have succeeded in forging a link between the Farmington HealthReach office and the hospital HIS for the purpose of receiving lab test requisitions. This first small step stands upon infrastructure which will allow any and all other data transfer needs to be met with not only this location but any other locally or, in fact, any other location which can access telephone service.

### **Project Evaluation:**

Formal project evaluation by an outside vendor was not budgeted for this project.

The simple goals of this demonstration grant have been accomplished by the establishment of the infrastructure necessary to create a Community Health Information Network and by creating the first two-way electronic link between unrelated health agencies. The nurse at HealthReach's health center only needs enter the request for a lab test once into her own practice management system. The information is saved in a file in addition to being printed out in a lab requisition that accompanies either the sample or the patient to Franklin Memorial Hospital, with whom HealthReach has contracted for lab services. The file is uploaded to the hospital system through the interface engine and provides



the information for the hospital patient registration personnel to pre-register the lab test and thereby save time, increase accuracy and provide improved customer service by allowing the patient to pass directly to the lab for services.

**Community Impact:**

Around the table in meetings to design and direct this project for the last three years have been representatives from the following organizations:

- hospitals
- private doctor's offices
- rural health centers
- nursing homes
- public schools
- state university
- mental health
- government
- community action
- interested citizens
- independent data centers
- payors
- public health agencies

This broad community representation has allowed the project to develop in a way that will guarantee comprehensive access to medical data by authorized healthcare organizations and individual providers. Another facet of the project is to make other related health information now residing on many dissimilar systems available to consumers through the CHIN.

The quality of healthcare delivered to patients is also improved since duplicate tests and procedures are eliminated by having full access to previous medical history related to the patient.

The quality of the safety for the patient is improved since allergies, medicines currently used, recent test results, etc. can all guide the practitioner to more accurate and timely assessment of the patients present needs.





### **Lessons Learned:**

The time necessary to establish electronic links between unrelated agencies has as much to do with the politics and vendor relationships that are in existence as it does with the technical competence of either party. We found that while we were earnestly working at setting up the facility to communicate within FMH, our partners were proceeding at a different pace which delayed some of the progress we were hoping to achieve during the grant cycle. In addition, we learned that even though there was initially much interest in CHIN's when we began the planning for this project, due to widespread failure among CHIN's countrywide, continued funding from TIAP and other sources has dried up. Even those statewide efforts which had intended to assist us in our regional project, failed to produce the support we had expected. For these reasons the amount of resource that FMH itself provided to get the project to a successful conclusion exceeded our original expectations. To see the project actually working in a live environment, though, has provided a large measure of satisfaction for all involved.

### **Future Plans:**

The system now in place will continue to be expanded and enhanced as time and resources allow. Additional grant monies will be sought to put the extensive clinical data residing in paper records online as well as multiplying the number of health related agencies participating in the CHIN.

  
\_\_\_\_\_  
Vaikko P. Allen, Sr. Chief Information Officer

10/9/97  
Date



**Maine Meeting Place Project**

**Contributed by Project Leader:**

**Anne Holcomb**





# **Final Report - Maine Meeting Place**

## **Introduction:**

One of the quotes a Maine Project Report that I have personally found most inspiring is: "telecommunications systems are powerful tools that can enhance the personal and social goals of our democracy". I think this is an important statement to remember, as most of the media reports we encounter regarding telecommunications tend to focus on business applications and the market potential of the technology.

I would like to make the observation that Maine Meeting Place provides an example of this philosophy in action. Our approach to integrating the use of telecommunications into daily life does not focus on data connections with the same emphasis that many businesses, schools and communities engender. Rather, MMP focuses on the human perspective, the person to person connections that can be made, using this technology as a vehicle.

Maine Meeting Place was designed to build on a theme identified in national studies that asked individuals with disabilities and their families to identify the most important resource in the health and well-being of their families. Their answer, almost unanimously, was access to information so that they could make informed decisions about services and supports that were in the best interests of their families. And they wanted this access to be available at the community, state, national and international levels.

MMP was designed to respond to that charge by providing children and adults with disabilities, their families and those who serve them (including state and local provider agencies) with access to information and peer support in a low or no cost, readily accessible, fashion. This includes connections to the Internet.

I think it is absolutely critical that we, as a society, guarantee that there are opportunities for access to public and private BBS's and the Internet that are low cost and low tech in nature, so that every citizen, regardless of their location, educational and economic background, familiarity with telecommunications technology, or the presence of a disability, is able to logon. We should NOT be creating a culture of technological "have's" and "have nots".

Much work remains to be done around the development of public policy related to "universal access". We cannot afford to build it now and try to make it accessible later. This creates too large a gap between those who can use it and those who can't. We need to address this issue up front, in the design phase. MMP was pleased to play a leading role in this effort as part of The Maine Project.

## **Accomplishments/Evaluation:**

MMP's accomplishments as a result of this project are significant. My observation is that we were the only project that focused both on the low cost and the low tech access issue. We set out to change the notion that only students (with access to computer labs), businesses and well-educated, middle and upper class business types can use computers. We also challenged the notion that telecommunications is primarily used for the transfer of data.

Training outreach efforts were directed towards underserved, rural and minority populations in a variety of locations throughout the state. A total of 188 individuals received training through the Maine Project as a result of our links with 12 provider organizations. Approximately 1630 more received information about this unique application of the technology through presentations and demonstrations at conferences and other large group meetings.





MMP chose to work through existing contacts and provider organizations to identify individuals who would be interested in receiving training. This facilitated outreach. It also allowed us to work with an existing "community" of people who would be more likely to support each other in their use of the technology once the training had been completed.

Our use of the Infopath to provide toll free access from any point in Maine assured that anyone, regardless of their income, could logon. The fact that equipment as limited as dumb terminals containing only a modem, no hard or floppy drive for storage, could be used to logon was also important in order to demonstrate that no major investment was required in order to participate. And, once on-line, we provided users with access to an on-line "community" that promoted warm, supportive, person-to-person links.

I think that "sense of community" is something that citizens need to pay close attention to in the development of the technology and its application in a state like Maine. Individuals living in the rural parts of the state can feel isolated. Access to service providers may be limited within their geographic area, and may require lengthy and costly travel. If we limit their telecommunications access to the Internet with no access to each other, we will not address the issue of isolation.

The development of community networks, special interest BBS's, and links to state agencies and their staff can help to reduce isolation and promote utilization of the technology in a much more personal and certainly personally useful fashion. They can also help to create on-line communities of "information contributors" rather than "information consumers".

The low cost, low tech link is also critical to our ability to effectively expand educational and vocational opportunities for all citizens. Parents whose social economic status has traditionally kept them from accessing the higher tech jobs, as well as, from playing an active role in their child's education, need access equipment and to the training that allows them to use the technology effectively. Then they, in turn, can become a model for their children.

### **"Train the Trainer" Approach**

The model we feel is most effective for training the average citizen incorporates a "train the trainer" approach. This reinforces the message that "anyone can do it". It also builds links for future technical support. MMP accomplished this in several ways.

A total of 188 people received training through the groups and organizations noted below.

#### **1. Training for on-line forum moderators (now referred to as conference facilitators)**

MMP conducted two training sessions (December 1995 and September 1997) for its on-line conference facilitators. A total of 20 individuals participated. Training participants received training on:

- use of the various technical features of MMP
- how to access additional information and support
- policies guiding the use of telecommunications in general (copyright issues, confidentiality, access, etc.) and MMP in particular (respect/support for other users, accessibility, non-crisis oriented support, etc.)
- facilitating support and information sharing among users (utilizing training from a therapist who trains our support group facilitators)

Conference facilitators are asked to provide technical support to users on-line to facilitate their successful use of the system. They are also asked to act as "gleaners" of information to post in their respective areas.

*Please note that over 5,000 hours of volunteer time are contributed annually by our conference facilitators.*



## 2. Private and Public Community Organizations and Nonprofits

MMP established working relationships with 12 providers who deliver services on a statewide level. Staff of these various organizations can now provide information and training on MMP to recipients of their services.

Training was provided for staff and consumers of the following organizations:

- Autism Society of Maine (Augusta)
- Arthritis Foundation of Maine (Portland)
- Community Living Association (Houlton)
- Community Partners (Biddeford & Portland)
- Creative Work Systems (Saco & Portland)
- Home Away From Home (Portland)
- Support Group (Saco Schools)
- Ken-A-Set (Fairfield)
- Maine Center on Deafness (Portland)
- Northern Aroostook Association for People with Special Needs (Fort Kent)
- Vocational Rehabilitation (administrative staff in Augusta)
- Zero Gravity - diving program for people with disabilities (South Portland)

Many private, non-profit organizations do not have the resources to build their own intra-agency communication networks. MMP offers private on-line conference areas for organizations to link their staff statewide, in a low-cost fashion that utilizes existing equipment.

Organizations currently using MMP to link their staff on a "fee for service" basis include:

- Maine Independent Living Services
- Maine Committee on Transition
- Andrews Group (now defunct consortium of educators, employers, students and families)

Links between providers and the individuals they serve helps promote discussion regarding the nature and scope of services available. Providers need to know what works. They also need to know if the quality of services they are offering is sufficient. Consumers need opportunities to advocate for the types of services critical to their health and well-being. The on-line environment provides a wonderful opportunity to do so in a less intimidating fashion than surveys or face-to-face meetings.

## 3. State Agencies

We plan to expand our training links with state agencies. Currently, we hope to work with employees of Vocational Rehabilitation. We hope to assist them with expanding their clients' vocational skills by providing MMP as a tool for initiating the use of both a computer and an on-line service.

An unanticipated link the Maine Project expanded upon was our connection to individuals with mental illness. The Mental Health Statistical Improvement/Citizen Access Project (MTSIP) is a pilot project seeking to determine the effectiveness of telecommunications in reducing the isolation experienced by a person with a mental illness. This isolation may occur as a result of geographic location or the nature of the individual's mental illness.

This project provides terminals and training for individuals with mental illness. It is sponsored by the Department of Mental Health funded through DMH grant funds. Cooperation between the this project and MMP increased outreach for both on them.

At present, over 200 individuals with a mental illness are active users of the Maine Meeting Place. They have access to a private, confidential area on-line that cannot be accessed by individuals not approved for



the project. This private area provides information specific to services and supports for individuals with mental illness, and opportunities for peer support. CAN users also have access to all other areas on MMP.

Any individual with a mental illness who has received services from the Department of Mental Health is eligible to apply. DMH approves applications and forwards them to MMP staff. Terminals are installed in individual homes, group residences, social clubs and psychiatric hospitals, and consumers receive training and technical support.

#### 4. Presentations/Demonstrations at Conferences and Other Large

##### Gatherings:

Outreach efforts also encompassed presentations and demonstrations at conferences. This provided a wonderful opportunity to reach a large number of people with minimal investment of staff. It also "humanized" the technology by making the first contact "face-to-face". Individuals who were new to the technology had a chance to speak with a real person and witness first-hand the benefits and ease of use of the technology. Please note that number of attendees noted below represents an approximation.

##### Conferences Attended:

- Conference for The Deaf and Hearing Impaired (220)
- University of Maine at Farmington - Rehabilitation Services Conferences (200)
- Learning Disabilities Association of Maine - annual conference, 2 days 1996 and 1997 conferences (total 600 - 300/each)
- American Congress for the Blind (40)
- Southern Maine Information Resource Fair (150+)
- Northern Aroostook Association for People With Special Needs (220)
- Cumberland County Dual Diagnosis Conference (200)

A total of 1630 people had access to information via presentations and demonstrations at the conferences listed above. Note that we cannot easily track how many followed up and became users of MMP, as the environment was not conducive to collecting names, setting up appointments, etc.

#### 5. Provision of Free or Low Cost Equipment to Facilitate Access

Like several of the other Maine Project participants, MMP benefited from a parallel technical project. Thanks to a grant from Maine CITE, Maine's federally-funded assistive technology project, a pilot recycling project grew into an ongoing program based in South Portland and serving individuals statewide. The program targets children and adults with disabilities and their families. Used equipment and parts are solicited from individuals and businesses in the community, rehabbed, outfitted with a modem and telecommunications software, and made available at low or no cost to individuals on our waiting list who have completed the required paperwork for eligibility. Most of the machines received and placed to date are IBM compatible 286 or 386 computers. They cannot run more sophisticated, memory-intensive programs, but do provide on-line access and an opportunity to develop/expand computer skills.

Most importantly, the MMP training becomes immediately more meaningful to the client when the individual can go home and apply the skills learned. Once on-line, the individual has access to additional peer and technical support to help them further refine skills. This in turn enhances educational and vocational opportunities for the individual and his/her family.



## Lessons Learned:

Participation in the Project enhanced our credibility as a small, low tech operation. There were many who tried to dismiss us as a small, grass roots effort that "got in the way" of their high tech, whiz bang plans. It felt good to be part of a statewide initiative supported by the Governor's office, rather than just "lone voice"!

Small organizations that attempt to reach underserved populations are at a disadvantage compared with business. Few of us have the funds to upgrade/purchase equipment and software as needed. This means that when problems arise or the service needs to be expanded, we find it difficult to respond in a timely fashion. Special purchases require fundraising outside budgeted expenses. The transfer of staff time and resources only results in further delays.

The same is true in accessing technical expertise. The demand for trained technicians is very high, and has pushed the cost of service beyond the reach of most small organizations. We can seldom afford to pay more than \$10 to \$15/hour in a market that commands \$30 to \$80/hour. This delays critical programming and troubleshooting activities, and makes us dependent on a local "guru". In our experience, each "guru" has his or her own philosophical perspective on what represents the "best" way to do things. Since he or she often speaks in a language that is very hard for anyone with limited technical knowledge to comprehend evaluating options becomes very difficult.

A concrete example of this reality is the delay we experienced in getting our new server on-line. Our first step was to order new operating software to replace aging, problematic software. The software we purchased, at a cost of almost \$1500 was ADEPTXBBS, which was recommended by our technical advisor at the time. Within a few weeks of purchase, the company no longer offered tech support. They refused to return phone calls or funds. With no additional funds to purchase replacement software, we were delayed several months in changing operating software.

Our next step was to purchase a new server that would run Wild Cat BBS software on a Windows NT platform, which was cited by the industry as the most secure and stable option. Claims regarding what Wild Cat could do exceeded reality for some features. This required additional programming in order to tailor the new system to the needs of our users. It took us three months to find a technical person within our budget to do the work. His time was limited, as were our funds, so further delays were experienced in working out the bugs/completing the programming necessary to get the new server on-line.

Frustration levels were high on the part of both staff and users throughout this process, and we lost some people along the way.

*Competition for dollars impacts all of us. Funding for hardware, software and tech support are a major concern in remaining technically viable. Many policy makers do not understand this and have a limited understanding of the viability of this resource in terms of service delivery.*





Comments from participants and observations from trainers:

- smaller groups work best (4 to 5) to allow an opportunity for hands-on use of the technology.
- supportive materials (i.e. reference information, user guides, etc.) need to be prepared which can be left with each trainee, post training.
- a readily accessible computer - either at home or at another location - is needed to truly encourage ongoing use.
- strategies for post training follow-up need to be identified in order to avoid loss of enthusiasm and skills (staffing, phone costs, tech support, etc.)
- an ongoing, persistent media campaign is needed to make sure that underserved populations understand that the technology is available, affordable and accessible to them.

Training Issues:

Problems we encountered in setting up training include:

- lack of handicap accessible training sites statewide
- lack of access to computer labs with equipment and phone lines during "off" hours for training purposes (most participants need training during evening or weekend hours)
- cost of using facilities for training
- cost of preparing materials in alternative formats, such as large print, etc.
- availability of adaptive equipment to use in training
- uninterrupted phone line access at training sites
- travel costs related to training in a rural state (i.e. mileage and staff time)
- staff resources to provide follow-up support for trainers who have worked with "train the trainer" model, as well as individual users (need to develop local capacity)
- lack of quality phone service and Internet service in many small, rural communities
- cost of providing toll-free access

## **Community Impact:**

Universal Access:

We will not be able to move beyond the issue of technology "haves" and "have nots" unless we can guarantee very low and no cost access for each citizen, regardless of where they live. It is our belief that toll-free access is absolutely essential.

The cheapest way we have found to provide toll-free access to date is through the use of the Infopath packet switching network. Unfortunately, NYNEX/Bell Atlantic would like to phase this service out and there are no plans to replace with a comparable service. The lack of interest in supporting this service has resulted in limited tech support for line problems.



Accessibility of the technology for persons with disabilities is also an issue. It is not acceptable to build it first and worry about accessibility later. Equal access means equal, at the same time. I would note that the State of Maine mishandled this issue in the selection of software for state offices. LOTUS is not accessible, which means many state employees can't use it.

Development of Public Access Sites around the state would help to address issues related to Universal Access, but are certainly not the only answer. Connecting community libraries was a great first step in this direction, but did not take into account the fact that not all libraries opted for the connection to the Internet, or that many library buildings are not accessible. We would like to push for the development of more sites in a variety of settings.

## **Future Plans:**

Some of our long-range goals at the close of the Maine Project include:

1. Establishing connections with other state-run BBS's for the purpose of sharing information and resources. Contacts made to date to establish linkages:

- DOE FirstClass system
- Pine Tree State BBS - which has a link to all state agencies

Once problems with our Internet service have been resolved, we will establish a Telnet connection with these services. Preliminary discussions have already set the process in motion.

2. Approaching the Public Utilities Commission and the Legislature to address the issue of toll-free access for Maine's economically disadvantaged citizens. Since much of our funding comes from state and federal sources, it would behoove us to work together to reduce phone/access costs to avoid creation of a community of technology "haves" and "have nots". We would also like to point out that access to information is critical to the health of a democracy. Public information should be readily available to ALL citizens.

3. Expanding the existing "train the trainer" models already in place to reach more people.

*MMP benefited from the connections that were established with Maine Project participants, and hopes to build on those relationships. It was reassuring to learn that many were experiencing some of the same problems and frustrations that we were. We were also able to access some technical advice and support from other projects at times. Most importantly, we know who the major players are as we explore ways to create links among the various community, school and business projects that utilize the technology.*



# **Maine Pro Se Assistance Project**

**Contributed by Project Leader:**

**Hugh Calkins**







# **Maine Pro Se Assistance Project Final Report**

## **Introduction:**

The Pro Se Assistance Project initially dropped out of the Maine TIIAP grant before it was funded because of funding uncertainty for Pine Tree Legal Assistance, the major grant participant in this project. In December 1996 we rejoined the Maine Telecommunication Partners and a portion of the grant funds were reallocated to this project. This put the Pro Se Assistance Project about a year behind schedule. Because of this fact, not all of the project goals have been completed on schedule, although the project continues to go forward.

## **Project Accomplishments:**

The beta site of the project is now able to produce all of the major pleadings which need to be filed to commence a divorce for a case which does not involve children. The scripting for all of the pleadings necessary to complete an action has been done and delivered to the programming contractor for completion, and should be available on the site soon. Scripting for cases involving children has been completed and has been sent to the programmers. The scripting for cases involving protection from abuse has also been completed and forwarded to the programmers.

One of the major programming difficulties encountered by the project was the requirement of the Courts that the printed forms produced on-line by the Pro Se Assistance Project be exactly the same as the official paper forms adopted by the Courts. That objective has been met. See the attached forms printed from the beta site on the internet.

## **Project Evaluation:**

No evaluation is yet available because the project has not been completed to the point of public use.

## **Community Impact:**

There has not yet been any community impact because the project has not been completed to the point of public use. We anticipate substantial public impact.



## **Lessons Learned:**

We should have stayed with the project from the beginning. Losing a year has kept us from timely completion. The second lesson we have learned is that we should have asked for substantially more money for programming. We made a poorly educated guess at a sufficient amount for programming services. Adequate programming would have cost far more than possible in our budget. Nonetheless, our programming contractor has made substantial contribution to the project and has committed to completing the necessary programming.

## **Future Plans:**

Obviously future plans include completion of the document preparation on line service. Beyond that we hope to develop a much more extensive program of on line assistance that will include not only document preparation, but also step by step interactive assistance with all elements of the complete family law process.



**University of Maine System Libraries  
& Maine State Library  
URSUS Project**

**Contributed by Project Leaders:**  
**Marilyn Lutz**  
**&**  
**Karl Beiser**





# URSUS Project Final Report

## Project Accomplishments:

URSUS is the on-line catalog of the University of Maine System libraries, the Maine State Library, the Bangor Public Library and the Maine State Law and Legislative Reference Library and provides gateway access to other local and remote resource.

The focus of this proposal was to build on existing URSUS information and telecommunications infrastructure to deliver on-line access to Maine resources in public, school and academic libraries. This was accomplished by upgrading the URSUS system/server to meet current and anticipated demand statewide. This demand will only continue to increase as public libraries, secondary schools and other community organizations are connected to the telecommunications network.

This grant also provided public access equipment and training in twenty public libraries with newly acquired telecommunications connections.

## Project Evaluation / Lessons Learned:

1. Public librarians are eager to serve as access points by which the general public may use networked information sources. Beyond providing a convenient location, library staff are individuals who are professionally concerned with helping novice users find what they want on-line.
2. Training in the use of Internet finding tools within a library context is needed and immediately utilized by library staff who provide public access assistance. The mechanics of using an Internet browser and other Internet client software are not enough if someone is to be a helpful guide.
3. Staff at library public access points cannot, for the most part, train themselves. The limited equipment is usually too busy. The staff members themselves are usually too busy. The essential training ingredients are: knowledgeable instructors with current and extensive subject experience, a large block of uninterrupted time, sufficient hardware so that every trainee has his/her own machine, some time to practice what one has learned (perhaps several weeks) then come back for a refresher and/or further instruction.
4. In smaller communities and rural areas, wide area network connections are only part of the process of providing public access to electronic information. Sufficient computer hardware, particularly technologically current hardware, is necessary to live up to public expectations. Just one or two extra machines, exclusively dedicated to public access use, can make a big difference in these environments -- doubling or tripling the number of individuals who may use resources.
5. In this project, funding acted as "connective tissue", linking existing projects and facilities to produce a more powerful and cohesive whole than the funding alone could have created. The library portion of the Maine TIIAP effort built upon the Maine School and Library Network wide area network connections, the pioneering services and activities of the University of Maine System and Maine State Library under the umbrella of the statewide URSUS library information system.
6. Because so many other things were going on, this project got less attention than would otherwise have been the case.
7. The training model in this project could profitably have been appended to the statewide MSLN project, to provide something beyond mechanical training in use of the Internet.





## **Community Impact:**

The provision of additional equipment and customized training for twenty public libraries further expanded on-line access to resources in Maine and beyond. Increasing the number of public access computers in public libraries along with Internet training provided support, which was otherwise unavailable, and helped to broaden awareness of the vital role libraries play in Maine's communities. The role of the public library was realized as essential to developing an information rich society, and guaranteeing educational opportunity and unobstructed access to information for all citizens. Additionally increasing the capacity of the URSUS Information System has broadened access to a pool of statewide resources increasing many more libraries' ability to provide resource sharing, and in so doing helped to strengthen support for education in Maine.

## **Future Directions:**

The ability to provide resource sharing and access across multiple library collections, particularly in rural communities is critical for Maine libraries. The Maine State Library and the University of Maine System Libraries will continue to create a statewide information and resource sharing system under the Maine Info Net initiative. Maine Info Net focuses on providing electronic content and finding tools for all Maine libraries. It seeks to use information technology to provide access to print and electronic resources in multiple formats, available in all Maine libraries, thereby creating a public information resource of value to all Maine citizens.



# **The Maine Partnership Project Financial Summary**

**Prepared by:  
Elizabeth Chapman, Project Manager**



Total

**TIIAP Grant # 23-40-95057**

**Overview of Total Reimbursement %**

	Actual <u>Total Expenditures</u>	Total Final <u>Reim Allowed</u>	Budgeted <u>Federal %</u>	Actual <u>Federal %</u>
Administration	118,318.73	114,780.73	100.00%	97.01%
Atlas 5 Plus	179,163.87	84,725.57	46.79%	47.29%
BairNet	28,175.61	13,164.45	46.22%	46.72%
Bethel Datification	33,645.39	20,019.13	45.40%	** 59.50%
<b>CEI</b>	<b>216,350.38</b>	<b>86,350.38</b>	<b>40.09%</b>	<b>^^ 39.91%</b>
<i>EdNet Web</i>	134,516.52	54,408.08	39.95%	40.45%
Economic Development	140,559.75	65,613.00	46.18%	46.68%
Franklin Memorial Hospital *****	174,266.53	85,952.64	48.82%	49.32%
Maine Meeting Place	20,953.83	10,247.66	45.94%	** 48.91%
Maine Bureau of Health	89,330.00	42,279.24	46.83%	47.33%
Pro Se Legal Assistance	47,980.00	20,876.46	43.01%	43.51%
Rangeley Region Coalition	29,515.41	13,327.93	44.66%	45.16%
URSUS	139,395.00	64,957.98	46.06%	** 46.60%
Waldo's Windows	141,302.49	65,602.33	45.93%	46.43%
Washington County	137,847.42	58,279.52	41.78%	42.28%
<b>Total</b>	<b>1,631,320.93</b>	<b>800,585.06</b>		

Total Federal Budgeted %

Total Federal Reimbursement 850,000

Total Budgeted Expenditures 1,731,706

Federal Budgeted % 49.08%

Total Federal Actual %

Total Federal Reimbursement 800,585.06

Total Actual Expenditures 1,631,320.93

Federal Budgeted % 49.08%

**^^ Limited Reim. to Actual Expenditure less Inkind Match**

**\*\* Actual % > budget**







Account # 9-6-45423

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
AD1	Work Station	0.25	750.00	683.50	66.50	91.13%	
AD2	Personnel Computer	1	2,500.00	2,409.00	91.00	96.36%	
AD3	ITV Time		5,000.00	200.00	4,800.00	4.00%	
AD4	Phone		750.00	185.64	564.36	24.75%	
AD5	Photocopying		1,200.00	1,015.84	184.16	84.65%	
AD6	Postage		1,500.00	905.66	594.34	60.38%	
AD7	Catering		500.00	532.00	(32.00)	106.40%	
AD8	Operating System	0.25	6,250.00	3,609.50	2,640.50	57.75%	
AD9	Travel (in-state)		3,250.00	2,063.97	1,186.03	63.51%	
AD10	Office Supplies		2,000.00	824.95	1,175.05	41.25%	
AD11	Project Manager		35,572.00	47,094.93	(11,522.93)	132.39%	
AD12	Project Director		4,000.00	1,834.30	2,165.70	45.86%	
AD13	Fringe Benefits		9,517.00	9,083.81	433.19	95.45%	
AD14	Project Facilitator		9,300.00	7,000.00	2,300.00	75.27%	
AD15	Clerical		17,419.00	-	17,419.00	0.00%	
AD16	Student Assistants	1125h	6,750.00	-	6,750.00	0.00%	
AD17	Evaluation		17,500.00	14,041.22	3,458.78	80.24%	
AD18	Indirect		<u>36,301.00</u>	<u>26,834.41</u>	<u>9,466.59</u>	<u>73.92%</u>	<u>0</u>
	<b>TOTAL</b>		160,059.00	118,318.73	41,740.27	73.92%	0

Actual Costs

<b>Total Project Expenditure</b>	<b>118,318.73</b>	
<b>Total In-Kind Match</b>	-	
<b>Total Cash Match</b>	<u><b>3,580.00</b></u>	
<b>Total Local Share Expended</b>	<b>3,580.00</b>	<b>3.03% *****</b>
<b>Total Federal Match</b>	<b>117,132.96</b>	<b>99.00%</b>

\*\*\*\*\* Administration Expenses are funded 100% federally.  
 The Franklin Memorial Project transferred a portion of their match in cash (\$3538) into the administrative account instead of funding it directly through their project; therefore, FMH's federal % is higher than the other projects.



Acct. # 9-6-45430 (obj. code 411)

FISCAL AGENT: Fort Fairfield SAD #20

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
AT1	Cable Bridge	21	99,750.00	99,070.34	679.66	99.32%	
AT2	Cable RF Modems	4	4,580.00	4,280.00	300.00	93.45%	
AT3	Headend Equipment		6,220.00	6,989.95	(769.95)	112.38%	
AT4	Answer Modems	5	2,250.00	100.00	2,150.00	4.44%	
AT5	Communications Server	2	6,000.00	5,958.00	42.00	99.30%	
AT6	Project Sever	1	10,000.00	6,471.00	3,529.00	64.71%	
AT7	Ports	3	300.00	-	300.00	0.00%	
AT8	Headend PC system	1	2,000.00	1,293.30	706.70	64.67%	
AT9	Cable Router	1	7,000.00	3,490.00	3,510.00	49.86%	
AT10	LANCity Software		2,005.00	3,925.00	(1,920.00)	195.76%	
AT11	Phone Line Install	5	300.00	300.00	-	100.00%	
AT12	Cable TV Install		9,706.00	3,322.01	6,383.99	34.23%	
AT13	Hospital Internet Charge	12mth.	4,800.00	4,800.00	-	100.00%	
AT14	School Internet Charge	12mth.	12,000.00	12,000.00	-	100.00%	
AT15	Phone Lines	12mth.	2,400.00	2,400.00	-	100.00%	
AT16	Internal Training		10,000.00	17,338.15	(7,338.15)	173.38%	17,338.15
AT17	LANCity Training		5,630.00	5,740.29	(110.29)	101.96%	
AT18	In-State Travel		1,708.00	1,685.83	22.17	98.70%	
	<b>TOTAL</b>		186,649.00	179,163.87	7,485.13		17,338.15

Actual Costs

<b>Total Project Expenditure</b>	<b>179,163.87</b>	
<b>Total In-Kind Match</b>	<b>17,338.15</b>	
<b>Total Cash Match</b>	<b>77,279.31</b>	
<b>Total Local Share Expended</b>	<b>94,617.46</b>	<b>52.81%</b>
<b>Total Federal Match</b>	<b>84,546.41</b>	<b>47.19%</b>



Account # 9-6-45430 (obj. code 401)

Fiscal Agent (Bangor Public Library)

	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
BN1	Server	1	2,500.00	2,563.77	(63.77)	102.55%	
BN2	Satellite 486 PC	1	2,000.00	1,692.58	307.42	84.63%	
BN3	Laptop Computers	2	4,000.00	3,999.98	0.02	100.00%	
BN4	Serial Interface Boards	1	1,000.00	219.99	780.01	22.00%	
BN5	Modems	10	2,000.00	1,594.93	405.07	79.75%	
BN6	10-Base T-hub	1	1,000.00	217.74	782.26	21.77%	
BN7	Dot Matrix Printers	3	750.00	739.97	10.03	98.66%	
BN8	Ethernet Cards	4	500.00	173.29	326.71	34.66%	
BN9	Monitors	7	1,400.00	2,188.95	(788.95)	156.35%	
BN10	Surge Suppresors	8	80.00	19.99	60.01	24.99%	
BN11	600 VA Battery UPS	4	1,400.00	818.96	581.04	58.50%	
BN12	Network Cabling		1,500.00	133.97	1,366.03	8.93%	
BN13	Voice Telephone	1	100.00	99.99	0.01	99.99%	
BN14	Pentium Computer	1	1,500.00	2,012.92	(512.92)	134.19%	
BN15	Mem. Upgrades	1	300.00	270.00	30.00	90.00%	
BN16	Bulletin Board Software		1,500.00	159.00	1,341.00	10.60%	
BN17	Tel. Line Install	8	1,200.00	40.08	1,159.92	3.34%	
BN18	Electric Outlets	3	690.00	-	690.00	0.00%	
BN19	Tel. Data Lines		3,360.00	120.00	3,240.00	3.57%	
BN20	Add. 4 Tel. lines		1,900.00	75.00	1,825.00	3.95%	
BN21	System Operator		4,000.00	4,000.00	-	100.00%	
BN22	Data Collection		4,000.00	6,426.00	(2,426.00)	160.65%	6,426.00
BN23	Office Supplies		<u>2,000.00</u>	<u>608.50</u>	<u>1,391.50</u>	30.43%	
	<b>TOTAL</b>		38,680.00	28,175.61	10,504.39		<u>6,426.00</u>

Actual Costs

Total Project Expenditure	28,175.61	
Total In-Kind Match	6,426.00	
Total Cash Match	<u>8,613.34</u>	
Total Local Share Expended	15,039.34	53.38%
Total Federal Match	13,136.27	46.62%



Account # 9-6-45430 (obj. code 402)

Fiscal Agent: Bethel Data Corporation

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
BD1	Bridge	1	5,450.00	6,644.00	(1,194.00)	121.91%	
BD2	Server	1	1,250.00	1,760.00	(510.00)	140.80%	
BD3	Personnel Computers	2	4,000.00	4,234.00	(234.00)	105.85%	
BD4	Printer	1	800.00	565.00	235.00	70.63%	
BD5	Bridge II	1	3,000.00	1,995.00	1,005.00	66.50%	
BD6	PC Upgrade		4,600.00	-	4,600.00	0.00%	
BD7	Personal Comp.		6,600.00	6,039.89	560.11	91.51%	
BD8	Server II		2,500.00	-	2,500.00	0.00%	
BD9	Internet Connection	24mth	3,000.00	3,000.00	-	100.00%	
BD10	Conversion of doc.		7,500.00	3,737.50	3,762.50	49.83%	3,737.50
BD11	Technical Support		1,695.00	1,242.50	452.50	73.30%	496.85
BD12	Training		2,500.00	1,750.00	750.00	70.00%	1,750.00
BD13	Admin. Support		750.00	915.00	(165.00)	122.00%	915.00
BD14	Technical Sup II		1,500.00	1,762.50	(262.50)	117.50%	1,175.59
	<b>TOTAL</b>		45,145.00	33,645.39	11,499.61		8,074.94

Actual Costs

Total Project Expenditure	33,645.39	
Total In-Kind Match	8,074.94	
Total Cash Match	5,584.97	
Total Local Share Expended	13,659.91	40.60%
Total Federal Match	19,985.48	59.40%





Acct. # 9-6-45430 (obj. code 403)

Fiscal Agent: Coastal Enterprises, Incorporated

REF.	Item	Units	Estimate	Actual	Balance	Percent Spent	Local Inkind Match
CEI1	Projection System	1	4,250.00	4,411.71	(161.71)	103.80%	
CEI2	Personnel Computer	1	2,050.00	2,118.94	(68.94)	103.36%	
CEI3	Laptop	1	3,720.00	3,868.00	(148.00)	103.98%	
CEI4	Server	1	2,500.00	2,500.00	-	100.00%	
CEI5	Printer		425.00	389.98	35.02	91.76%	
CEI6	Internet Install		100.00	80.00	20.00	80.00%	
CEI7	Phone		1,750.00	1,552.41	197.59	88.71%	
CEI8	Copier		400.00	302.87	97.13	75.72%	
CEI9	Postage		250.00	547.18	(297.18)	218.87%	
CEI10	Printing		1,000.00	112.67	887.33	11.27%	
CEI11	Internet Service		300.00	320.00	(20.00)	106.67%	
CEI12	Loan Fund		130,000.00	130,000.00	-	100.00%	130,000.00
CEI13	Supplies		386.00	106.93	279.07	27.70%	
CEI14	In-State Travel		1,500.00	697.21	802.79	46.48%	
CEI15	Curriculum & Case		1,200.00	1,100.00	100.00	91.67%	
CEI16	Audit		1,000.00	1,000.00	-	100.00%	
CEI17	Training		5,100.00	4,836.82	263.18	94.84%	
CEI18	Sm. Business Trainer		50,000.00	48,441.12	1,558.88	96.88%	
CEI19	Secretarial		1,950.00	1,667.36	282.64	85.51%	
CEI20	Fringe Benefits		14,286.00	12,297.18	1,988.82	86.08%	-
	<b>TOTAL</b>		222,167.00	216,350.38	5,816.62		130,000.00

Actual Costs

Total Project Expenditure	216,350.38	
Total In-Kind Match	130,000.00	
Total Cash Match	-	^^
Total Local Share Expended	130,000.00	60.09%
Total Federal Match	86,350.38	39.91%

^^ Limited Reimbursement to Actual Expenditure Less Inkind Match.  
 Since Total Expenditures were less than budgeted and inkind match  
 was fully met, all cash expenditures are federally reimbursed.



## Education Network Web Project

TIIAP Grant # 23-40-95057

Account # 9-6-45429			Fiscal Agent: Education Network of Maine				
REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
EN1	Web Server	1	20,000.00	22,226.08	(2,226.08)	111.13%	
EN2	PC-Doc. Input	1	2,250.00	2,050.50	199.50	91.13%	
EN3	Operating Sys.	0.75	18,750.00	2,922.25	15,827.75	15.59%	
EN4	Office Supplies		500.00	325.78	174.22	65.16%	
EN5	Com Specialist		30,002.00	30,425.00	(423.00)	101.41%	
EN6	Instruc. Designer		46,114.00	49,436.00	(3,322.00)	107.20%	
EN7	Fringe Benefits		23,215.00	24,356.41	(1,141.41)	104.92%	
EN8	Student Assit.		6,750.00	2,424.50	4,325.50	35.92%	
EN9	Consultants		<u>4,500.00</u>	<u>350.00</u>	<u>4,150.00</u>	7.78%	
	<b>TOTAL</b>		152,081.00	134,516.52	17,564.48		<u>0</u>

Actual Costs

Total Project Expenditure	134,516.52	
Total In-Kind Match	-	
Total Cash Match	<u>80,242.96</u>	
Total Local Share Expended	80,242.96	59.65%
Total Federal Match	54,273.56	40.35%



Account # 9-6-45427		Fiscal Agent: Education Network of Maine					
REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
EC1	Lan's Hub	4	12,000.00	5,300.00	6,700.00	44.17%	
EC2	Router DSU	6	24,000.00	12,999.60	11,000.40	54.17%	
EC3	Server	1	10,000.00	6,450.00	3,550.00	64.50%	
EC4	<b>Network Cards</b>	50	5,000.00	2,400.00	2,600.00	48.00%	
EC5	<b>24 Port Hub</b>	2	4,000.00	5,871.02	(1,871.02)	146.78%	
EC6	Ans. Modems	12	5,400.00	1,600.00	3,800.00	29.63%	
EC7	Ports	12	1,200.00	1,730.00	(530.00)	144.17%	
EC8	56 Kbps Links	6	6,000.00	12,406.54	(6,406.54)	206.78%	
EC9	Phone Line Install	12	720.00	6,116.00	(5,396.00)	849.44%	
EC10	Link Lease	12mth	6,768.00	2,800.80	3,967.20	41.38%	
EC11	Phone Lines	12mth	5,760.00	1,120.00	4,640.00	19.44%	
EC12	56 Kbps Service	12mth	14,400.00	12,115.00	2,285.00	84.13%	
EC13	Internal Training		15,000.00	23,949.00	(8,949.00)	159.66%	23,949.00
EC14	Photocopying		300.00	-	300.00	0.00%	
EC15	Phone		300.00	682.50	(382.50)	227.50%	
EC16	Office Supplies		400.00	795.00	(395.00)	198.75%	
EC17	In-State Travel		828.00	905.93	(77.93)	109.41%	
EC18	<b>Lan Wiring</b>		7,800.00	6,665.14	1,134.86	85.45%	
EC19	Project Director		12,570.00	12,894.16	(324.16)	102.58%	
EC20	Tech. Support		6,050.00	6,059.52	(9.52)	100.16%	
EC21	Fringe Benefits		5,680.00	5,940.37	(260.37)	104.58%	
EC22	Indirect		11,758.00	11,759.17	(1.17)	100.01%	11,759.17
	<b>TOTAL</b>		155,934.00	140,559.75	15,374.25		35,708.17

Actual Costs

<b>Total Project Expenditure</b>	<b>140,559.75</b>	
<b>Total In-Kind Match</b>	<b>35,708.17</b>	
<b>Total Cash Match</b>	<b>39,379.14</b>	
<b>Total Local Share Expended</b>	<b>75,087.31</b>	<b>53.42%</b>
<b>Total Federal Match</b>	<b>65,472.44</b>	<b>46.58%</b>





Account # 9=6-45430 (Obj. Code 404)

Fiscal Agent: Franklin Memorial Hospital

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
FM1	Unix Server	1	45,000.00	48,239.00	(3,239.00)	107.20%	
FM2	Personal Computer	1	1,600.00	1,810.00	(210.00)	113.13%	1,810.00
FM3	MSI T-Link Int. Engine		64,000.00	64,000.00	-	100.00%	32,000.00
FM4	System Install		6,000.00	6,000.00	-	100.00%	6,000.00
FM5	Insurance		1,000.00	1,000.00	-	100.00%	1,000.00
FM6	Software		500.00	500.00	-	100.00%	
FM7	Office Supplies		1,000.00	1,000.00	-	100.00%	
FM8	Project Director	1	25,000.00	10,933.06	14,066.94	43.73%	
FM9	System Analyst	2	22,000.00	40,784.47	(18,784.47)	185.38%	
FM10	Clerical	1	8,000.00	-	8,000.00	0.00%	-
	<b>TOTAL</b>		174,100.00	174,266.53	(166.53)		40,810.00

Actual Costs

<b>Total Project Expenditure</b>	<b>174,266.53</b>	
<b>Total In-Kind Match</b>	<b>40,810.00</b>	
<b>Total Cash Match</b>	<b>47,678.16</b>	
<b>Total Local Share Expended</b>	<b>88,488.16</b>	<b>50.78%</b>
<b>Total Federal Match</b>	<b>85,778.37</b>	<b>49.22%</b>



Account # 9-6-45430 (Obj. Code 405)

Fiscal Agent: York County Parent Awareness

REF.	Item	Units	Estimate	Actual	Balance	PercentagS pent	Local Inkind Match
MM1	Laptop Computer		2,730.00	1,120.00	1,610.00	41.03%	1,120.00
MM2	Modem		390.00	160.00	230.00	41.03%	160.00
MM3	Overhead Projector		3,900.00	1,600.00	2,300.00	41.03%	1,600.00
MM4	Infopath Access		3,600.00	3,600.00	-	100.00%	
MM5	Phone		840.00	811.14	28.86	96.56%	
MM6	Printing		375.00	370.00	5.00	98.67%	
MM7	Meeting Location		750.00	851.71	(101.71)	113.56%	
MM8	Photocopying		100.00	148.13	(48.13)	148.13%	
MM9	Postage		200.00	52.73	147.27	26.37%	
MM10	Insurance		120.00	60.00	60.00	50.00%	
MM11	Office Supplies		98.00	45.36	52.64	46.29%	
MM12	In-State Travel		3,591.00	1,005.87	2,585.13	28.01%	
MM13	Executive Director		4,130.00	920.90	3,209.10	22.30%	
MM14	MMP Coordinator		3,068.00	2,985.91	82.09	97.32%	
MM15	System Admin.		3,068.00	3,234.18	(166.18)	105.42%	
MM16	Bookkeeping		682.00	1,177.94	(495.94)	172.72%	
MM17	Fringe Benefits		1,983.00	1,104.55	878.45	55.70%	
MM18	Consultant		450.00	-	450.00	0.00%	
MM19	Trainers		2,400.00	1,125.41	1,274.59	46.89%	
MM20	Program Training		720.00	580.00	140.00	80.56%	-
	<b>TOTAL</b>		33,195.00	20,953.83	12,241.17		2,880.00

Actual Costs

20,953.83

Total Project Expenditure

2,880.00

Total In-Kind Match

7,847.49

Total Cash Match

10,727.49

51.20%

Total Local Share Expended

10,226.34

48.80%

Total Federal Match



Account # 9-6-40430		Account # 9-6-45430 (Obj. Code 406)			Fiscal Agent: State of Maine		
REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
BH1	Picture Tel	1	88,560.00	89,330.00	(770.00)	100.87%	0
	<b>TOTAL</b>		88,560.00	89,330.00	(770.00)		0

Actual Costs

<b>Total Project Expenditure</b>	<b>89,330.00</b>	
<b>Total In-Kind Match</b>	<b>-</b>	
<b>Total Cash Match</b>	<b>47,140.09</b>	
<b>Total Local Share Expended</b>	<b>47,140.09</b>	<b>52.77%</b>
<b>Total Federal Match</b>	<b>42,189.91</b>	<b>47.23%</b>



Account # 9-6-45430 (Obj. Code 408)

Fiscal Agent: TRAINET

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
R1	Server	1	2,702.00	-	2,702.00	0.00%	
R2	Work Stations	1	6,000.00	8,183.54	(2,183.54)	136.39%	
R3	Ethernet Cards		150.00	272.00	(122.00)	181.33%	
R4	Hub and Wiring		250.00	-	250.00	0.00%	
R5	Printer		1,399.00	1,737.89	(338.89)	124.22%	
R6	Training		6,000.00	7,950.00	(1,950.00)	132.50%	7,950.00
R7	ISP Contract		8,600.00	8,618.39	(18.39)	100.21%	
R8	Storefront Connect		2,700.00	2,521.83	178.17	93.40%	
R9	Electrical		<u>4,000.00</u>	<u>231.76</u>	<u>3,768.24</u>	5.79%	<u>-</u>
	<b>TOTAL</b>		31,801.00	29,515.41	2,285.59		7,950.00

Actual Costs

<b>Total Project Expenditure</b>	<b>29,515.41</b>	
<b>Total In-Kind Match</b>	<b>7,950.00</b>	
<b>Total Cash Match</b>	<b><u>8,267.00</u></b>	
<b>Total Local Share Expended</b>	<b>16,217.00</b>	<b>54.94%</b>
<b>Total Federal Match</b>	<b>13,298.41</b>	<b>45.06%</b>





Account # 9-6-45425

Fiscal Agent: Education Network of Maine

REF.	Item	Units	Estimate	Actual	Balance	Perentage Spent	Local Inkind Match
UR1	Alpha DA262P1-A9	1	77,215.00	77,215.00	-	100.00%	
UR2	Disk Array	1	27,400.00	27,400.00	-	100.00%	
UR3	Personal Computers	20	34,000.00	33,780.00	220.00	99.35%	
UR4	External Training		<u>1,000.00</u>	<u>1,000.00</u>	<u>-</u>	100.00%	<u>1,000.00</u>
	<b>TOTAL</b>		139,615.00	139,395.00	220.00		1,000.00

Actual Costs

Total Project Expenditure	139,395.00	
Total In-Kind Match	1,000.00	
Total Cash Match	<u>73,576.42</u>	
Total Local Share Expended	74,576.42	53.50%
Total Federal Match	64,818.58	46.50%



Waldo

Account # 9-6-45430 (Obj. Code 409)

Fiscal Agent: SAD # 3

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
WW1	Project Server	1	10,400.00	10,392.80	7.20	99.93%	
WW2	School Servers	7	35,000.00	17,082.13	17,917.87	48.81%	
WW3	FRADS	8	8,160.00	3,060.00	5,100.00	37.50%	
WW4	Community Access PCs	11	19,250.00	19,371.00	(121.00)	100.63%	
WW5	Lan Wiring	1	26,850.00	56,797.94	(29,947.94)	211.54%	
WW6	Internal Training		10,000.00	10,023.43	(23.43)	100.23%	10,023.43
WW7	Destination Line	12mth	2,880.00	2,574.60	305.40	89.40%	
WW8	Internet Service	12mth	1,750.00	3,922.84	(2,172.84)	224.16%	
WW9	Line Install	12mth	3,900.00	3,905.25	(5.25)	100.13%	
WW10	Tech Support	12mth	15,000.00	14,172.50	827.50	94.48%	-
	<b>TOTAL</b>		133,190.00	141,302.49	(8,112.49)		10,023.43

Actual Costs

Total Project Expenditure	141,302.49	
Total In-Kind Match	10,023.43	
Total Cash Match	65,818.04	
Total Local Share Expended	75,841.47	53.67%
Total Federal Match	65,461.02	46.33%



Account # 9-6-45430 (Obj. Code 412)

Fiscal Agent: Baileyville School Department

REF.	Item	Units	Estimate	Actual	Balance	Percentage Spent	Local Inkind Match
WA1	Server	5	40,000.00	43,886.00	(3,886.00)	109.72%	
WA2	24 port hub	2	1,700.00	6,898.00	(5,198.00)	405.76%	
WA3	12 port hub	14	5,600.00	16,704.80	(11,104.80)	298.30%	
WA4	8 port hub	17	2,550.00	2,162.00	388.00	84.78%	
WA5	Ethernet Cards	270	21,600.00	22,246.50	(646.50)	102.99%	
WA6	cabling	38000	5,700.00	10,126.95	(4,426.95)	177.67%	
WA7	modems	2	600.00	2,072.13	(1,472.13)	345.36%	
WA8	wall/surface jacks	322	3,542.00	2,636.32	905.68	74.43%	
WA9	patch panels	4	720.00	96.00	624.00	13.33%	
WA10	cable duct	1325	2,650.00	1,207.72	1,442.28	45.57%	
WA11	training		9,120.00	9,120.00	-	100.00%	9,120.00
WA12	installation		7,838.00	14,134.00	(6,296.00)	180.33%	-
WA13	<b>Tech. Assistance</b>		<u>5,000.00</u>	<u>6,557.00</u>	<u>(1,557.00)</u>	131.14%	<u>-</u>
	<b>TOTAL</b>		106,620.00	137,847.42	(31,227.42)		9,120.00

Actual Costs

<b>Total Project Expenditure</b>	<b>137,847.42</b>	
<b>Total In-Kind Match</b>	<b>9,120.00</b>	
<b>Total Cash Match</b>	<b>70,585.75</b>	
<b>Total Local Share Expended</b>	<b>79,705.75</b>	<b>57.82%</b>
<b>Total Federal Match</b>	<b>58,141.67</b>	<b>42.18%</b>





# **The Maine Project Evaluation Report, 1995-1997**

*Submitted by:*

**Informania, Inc.  
444 De Haro Street, Suite 128  
San Francisco, CA, 94107  
Error! Reference source not found.  
415.626.7343 (Tel)  
415.626.7345 (FAX)**



# **The Maine Project Evaluation Report, 1995-1997**

Introduction .....	3
Project Background .....	4
The Maine Project's Implementation Overview .....	10
Project Partners .....	12
Evaluation Methodology .....	14
1996 Focus Group Summary.....	16
Forming Effective Partner Relationships .....	21
Barriers to Effective Planning and Implementation.....	22
Tips for Avoiding Planning and Implementation Problems .....	24
Technology Selection .....	25
User Group(s) Themes .....	26
Project Public Awareness .....	28
Sustainability Planning/Implementation .....	29
Unexpected Findings/Unintended Benefits.....	30
1997 Focus Group Summary.....	31
The "Good" .....	32
The "Bad" .....	34
The "Ugly" .....	36
Training Needs .....	37
Technical Support Needs .....	39
Sustaining Projects over Time .....	41
Summary and Conclusions: Lessons Learned .....	43



## **Introduction**

This report revisits the Maine Project's implementation of community-based telecommunications networks, and provides commentary on the evolution of the Project during the two years it received funding from TIIAP. It is a continuation of the statewide planning initiative that was funded in part by a 1994 TIIAP Project Planning grant. Recommendations made as a result of the 1994 Planning project served as the basis for initiating and/or continuing to actively support various community network implementations. During the 1994 TIIAP Maine Project planning grant, project participants established goals, principles, strategies and tactics for improving equitable access to telecommunications resources. The primary driver behind the 1995-1997 Maine Project as described in this report was the Project participants' desire to use telecommunications technologies to improve informational, educational, communications health and economic development resources for citizens of the State of Maine. The 1995-1997 Maine Project, supported by TIIAP funds, tested the validity of the 1994 recommendations as applied in a number of diverse community networking settings. Based on the anecdotal information reported in this evaluation, readers can judge the degree to which project participants achieved the outcomes they set for themselves in the Maine Project's implementation phase.



## **Project Background**

In May 1994, the University of Maine System received a planning grant from the United States Department of Commerce Telecommunications and Information Infrastructure Assistance TIIAP program. The stated purposes of the Maine Project were two-fold:

- The Maine Project planned to examine the State of Maine's current public and private telecommunications infrastructure and information services capabilities.
- The Maine Project was intended to help create a vision for a world-class telecommunications system in Maine that would foster the state's economic development and enhance its citizens' quality of life.

The TIIAP grant was matched by contributions from the University of Maine System and Maine Public Broadcasting Corporation. State agencies also supplemented the grant funds with in-kind contributions. Individuals, businesses and organizations contributed their time and effort to the project, ensuring that a broad range of perspectives was represented in the planning project's final recommendations.

From the beginning, the Maine Project was committed to a "grassroots" approach to the planning process. The primary rationale for taking this approach came from recognizing that, at the time that the TIIAP planning grant was awarded, there were already several public and private telecommunications initiatives that had been or were being implemented in Maine. These included but were not limited to:





- The University of Maine System's Educational Network of Maine, which provides two-way interactive video via a fiber optic ring leased from NYNEX that interactively connects the seven University of Maine System campuses. The network is further augmented by one-way video via microwave and two way audio via telephone.
- The University of Maine's Computing and Data Processing Services (CAPS), which features Saturn, the individual dial-in service that provides Internet access to educators, librarians, government employees and public nonprofit service organizations.
- The University of Maine System's computerized public access library catalog, URSUS. This database contains book holdings, periodicals and state and Federal documents of the University of Maine System. It also contains collections of the Maine State Library, and the Law and Legislative Libraries at the Maine State House.
- A variety of community telecommunications networks (e.g. Maine Free Net, Maine Meeting Place) established to address specific needs and interests of geographic as well as interest-specific "communities".
- Maine Public Broadcasting Corporation, which provides radio and broadcast video programming, including educational and instructional broadcast programming, to the state at large. 99% of Maine's citizens are able to receive MPBC programming.
- Maine's cable television companies, which provide community access to cable television programming via CATV satellite broadcasts and coaxial and fiber optic cable to the "set-top".



- NYNEX's local exchange carrier (LEC) and intra-LATA connectivity via twisted pair and fiber optics providing customers with voice and data services.
- Inter-exchange carrier (IXC) connectivity via twisted pair and fiber optics providing customers with voice and data services.

Further, several Maine organizations and interest groups had already recognized the importance of articulating their vision for telecommunications so that it could be included in a statewide "master plan," should such a plan ever be forthcoming. For example, in April 1995, the Goals Committee of the Maine Economic Growth Council had published their report, *Goals for Growth*, in which the importance of readily available and affordable information technology resource access was underscored. The Maine Goals 2000 Technology Task Force *Final Report*, published in June, 1995, presented the results of work undertaken by the Technology Task Force during the preceding year. In that report, the authors' belief that ubiquitous, reliable technology resources are essential for student to learn how to compete in the future were clearly articulated:

"...Maine schools lack the technology resources necessary to ensure an equitable education opportunity to Maine citizens and prepare students for the 21st century. According to the U.S. Department of Labor's SCANS report, the demand for technologically literate workers will increase threefold by the year 2000. When school systems are able to produce effective knowledge workers through the integration of learning technologies, their communities present a promising climate for economic development."



The Maine Telecommunications Forum generated a series of recommendations to Maine policy makers and regulators in their report, ***Maine's 21st Century Telecommunications Network: A Blueprint for Action*** (May 1995). The lengthy subtitle of this report ("Why We Need to Act Now to Encourage Competition In Telecommunications And To Build An Advanced, Interactive And Affordable Network Connecting Maine To Tomorrow's Global Information Web") clearly reflected the Forum' opinion that telecommunications access and services were a critical component of any vision addressing the state's future economic and social development.

Even as the Maine Project principals and staff began to revisit the goals and purposes of their project as proposed, they realized that technological, economic and national policy changes would rapidly outstrip any attempt to assess or extend the extant physical and structural plan for a telecommunication system in Maine. Given the burgeoning interest in telecommunications access and services found across Maine's educational, business, governmental, medical and community sectors, it became apparent that the development of a partnership among the interested parties would help identify the common concerns dealing with telecommunications access and services. Such a partnership would also provide a "critical mass" of consumers, able to identify concerns of consumer groups and to propose solutions to access and service provision challenges that reflect the needs and interests of consumers.



The following organizing principles for future collaborative telecommunications initiatives emerged from the 1994 Maine Project planning grant:

- *Universal Access:* All Maine municipalities and their citizens will have equal, affordable and, when desirable, public- and privately-supported access to information services that meet their social, business, educational, health, civic and quality-of-life needs.
- *Challenges to the State:* As technologies change and there is more emphasis on robust competition and minimal regulation, the roles and responsibilities of government will change-not disappear, but change. The great responsibility of government will be to foster the use of telecommunications for the benefit of the society as a whole through public investment, leadership, and attention to the needs of those at risk of being barred from the advantages of technology.
- *Building an Open, Supportive Environment:* Principles related to equity and diversity, collaboration and competition, and viewing stakeholders as partners help capture the notions that system planning will incorporate bottom-up participatory planning to ensure the greatest possible degree of participation of all Maine's citizens.
- *Multiple Use Community Networks:* Maine will promote broad citizen participation in the development, use and evolution of its telecommunications system, overcoming barriers of distance and isolation, cost and user inhibition.





- *Making the Connections:* The interrelationship between the development of telecommunications systems and organizational functioning is very strong. Telecommunications cannot be treated as side services unconnected with program decisions, nor can the economic development, education, health services, public safety, transportation or conservation be separated from each other in considering public policies or infrastructure



## The Maine Project's Implementation Overview

In October, 1995, TIIAP funding was awarded to a Maine consortium of public, non-profit and private entities that agreed to collaborate on the implementation of a two year telecommunications network demonstration project. This implementation effort, called the Maine Project, was a natural outgrowth of the previously funded Maine Project planning grant. The implementation effort proposed to test models of private and public cooperation, resource pooling and user services serving multiple uses of telecommunications and information systems that had been identified in the planning grant. The participant organizations involved in the Maine Project consortium, most of whom had participated in the planning grant, wanted to identify factors that encouraged telecommunications infrastructure development, and user services organizational recommendations. They also wanted to call out variables that appeared to have a negative impact on project growth and development.

Consequently, the four areas upon which the Maine Project's telecommunications implementation applications focused included:

- *Community (local and constituency) networking projects*, of both the connectivity/infrastructure variety and the establishment of connections among individuals who share similar interests in leveraging telecommunications to improve the performance of their organizations.
- *Social services provision projects*, where on-line social services, health services, medical record-keeping, legal advocacy and legislative resources would be available to Maine citizens over the Internet.



- *Education and training projects*, where Maine citizens could work toward a college degree, earn a professional certificate, complete courses and workshops in on-line and televised formats, locate print-based resources in state libraries, and find on-line resources from all over the world.
- *Capacity building projects*, where Maine citizens could learn how to be technologically proficient and understand how they can better assist other prospective telecommunications services users increase their proficiency.

The areas of application described in the Maine Project's implementation proposal ranged from:

- Operational concerns (e.g., system connectivity and network interfaces)
- Theoretical concerns related to human learning and performance improvement (e.g., user training)
- Complex socio-political issues dealing with economic and community development (e.g., ISP competition, integrated health record transactional processing services).

The intent of the Project staff was to use information gathered as a result of actually implementing a community-based telecommunications project to guide the evolution of network management practices, user performance support systems, user training, on-line economic development and other related practical matters affecting statewide telecommunications system(s) and services. The information would also help capture the complexity of creating a statewide telecommunications system based on clusters of community-based networks, using a variety of transmission technologies.



## **Project Partners**

As was the case with the TIAAP Maine Project planning grant, The Maine Project's implementation grant was matched by contributions from the University of Maine System. State agencies also supplemented the grant funds with in-kind contributions. Individuals, businesses and organizations contributed their financial match, as well as, time and effort to the project. Project participants included:

- The University of Maine System's Educational Network of Maine
- The University of Maine's Computing and Data Processing Services (CAPS)
- The University of Maine System's computerized public access library catalog, URSUS
- Maine's cable television companies
- NYNEX/Bell Atlantic
- Other local exchange (LEC) carriers.





The community based project partners involved in the implementation phase of The Maine Project included:

- ATLAS PLUS
- Bangor Area Information Resources Network (BAIRNET)
- Bethel Datification Project
- Coastal Enterprises, Inc.
- Education Network of Maine
- Franklin Memorial Hospital
- Maine Bureau of Health/Bureau of Information Services
- Maine Economic Development Districts/Small Business Development Offices/ USM Center for Economic Research (CBER)
- The Maine Meeting Place
- Maine Pro Se Legal Assistance Project
- Rangeley Region Information Coalition (RRIC)
- URSUS
- Waldo's Windows
- Washington County Consortium



## **Evaluation Methodology**

The original evaluation proposal submitted to the Maine Project called for utilizing a combination of quantitative and qualitative data collection methods, including:

- Distributing surveys to all Maine Project partners to systematically establish a baseline for each project to examine project management, training, distribution technology, connectivity characteristics, and attributes of audience(s) to be served.
- Conducting interviews with key staff members of the Maine Project's management team at the beginning and at the end of the project.
- Conducting interviews with project staff for each of the Maine Project's community network groups at the beginning and at the end of the project.
- Conducting Focus Group sessions with representatives of each of the partner projects at the beginning and end of the project.
- Conducting site visits at the partner projects at the beginning and end of the project.

The Maine Project management team was committed to putting project dollars directly into the various community network projects. As a result, the original evaluation plan was modified to ensure a maximum amount of information collection with a minimal amount of funding dedicated to the evaluation effort. As a result of this management decision, the evaluation plan was modified so that it was based primarily on collecting data through group meetings and selected interviews and site visits.



In 1996 the Project evaluator conducted interviews with the Project fiduciary representative from the Educational Network of Maine, the Project Facilitator, the Manager and three representatives of partner organizations. In 1997, the Project Facilitator, the Project Manager and four representatives of partner organizations were interviewed. One site visit was made in 1996, while in 1997, the evaluator visited four sites. Focus group sessions facilitated by the Project evaluator were held in August, 1996 and September 1997, as part of Maine Project administrative meetings.

This report is based in significant part upon the results of the 1996 and 1997 Focus Group sessions held with representatives of the Maine Project's various participating organizations. Site visits provided an opportunity for placing a partner's project in the context of its home community, but typically did not offer any unique operational observations. Similarly, interviews with representatives of Maine Project partners typically emphasized the partner's project rather than the interaction between the Maine Project, the individual project and the other Maine Project participants. Again, interviews provided context, and also greatly assisted the evaluator in understanding the local circumstances that motivated partner organizations to establish their affiliation with the Maine Project. Interviews also helped call out *differences* between and among the participating projects. However, the evaluation plan was not really concerned with documenting the progress of individual projects themselves. Instead, the Maine Project evaluation looked to determine the degree to which the various Maine Project partners could test the principles of working toward a common goal. Therefore, the Focus Groups provided the best opportunities for documenting the collective wisdom, experiences that accumulated during the life of this TILAP-funded initiative. They also provided a collective opportunity to share "lesson's learned" among all of the various Maine Project participants.



## **Focus Groups**

### ***1996 Focus Group Summary***

The Maine Project's external evaluator met with the representatives of the Maine Project's community networking groups in order to find how they viewed the success of their interactions with the Maine Project. It is important to remember that the Maine Project is a consortium. Each partnered project represented a unique set of attributes and characteristics, and tended to serve the needs of a specific market niche. Projects employed a variety of technologies. Each hoped to achieve outcomes that were unique to the needs of their particular project. The unique needs that brought each group to the project also appear to have contributed to a unified sense of purpose among the project participants. As a group, the respective (volunteer and professional) staff members of the Maine Project participants developed a broad range of experience with technology, with community networks, and with collaborative partnerships. While interactions among the project participants tended to be limited during the life of the Maine Project, participants noted that the relationships established by this effort would serve as the basis for ongoing collaborative partnerships.

(NOTE: This Focus Group session was held with project participants at what was the "operational onset" of many of the individual projects. Even though the implementation phase of Maine Project had been underway for several months (the project selection had been announced in October 1995), many of the individual community projects were just getting up to speed. Even though the awards were announced in October, the Maine Project's various contract and subcontract negotiations with project staff and with partners were still underway as late as December 1995. Project delays were





exacerbated when Congress was unable to approve the Federal government's 1996 budget, which resulted in "shutting down the government." These delays were further compounded after the Federal budget situation was resolved when Maine Project staff experienced difficulties in accessing project moneys, and were not able to secure necessary equipment in a timely fashion. By summer, 1996 several projects (particularly those dealing with schools) were effectively suspended when schools were closed for the summer break.)

The Focus Groups session was held as part of a day-long Maine Project meeting held in Augusta, Maine at the University of Maine at Augusta's Learning Resource Center. Participants in the August 1996 Focus Group session included:

- Francis X. Sheehan, Rangeley Region Information Coalition (RRIC)
- Mary Jo MacLaughlin, BAIRNET
- Steven Vance and Bill Lowell, ATLAS PLUS
- Ellen Wagner, TIAP Evaluator
- Mark Tibbetts, Maine Project Manager
- Don Nicoll, Maine Project Facilitator
- Jeanne Pernice, Waldo's Windows
- Faith Garrold, Waldo's Windows
- Bill Clark, Washington County Consortium
- Bob Chiozzi, Coastal Enterprises, Inc.
- Anne Holcomb, The Maine Meeting Place
- Fred Hurst, Educational Network of Maine
- Dick Clarey, Maine Economic Development Network
- Pat Jones, Maine Bureau of Health/Bureau of Information Services
- Marilyn Lutz, URSUS



During the August 9th meeting, the evaluator led a group discussion with members of the project teams. She asked team members to share their perspectives on a number of topics related to community network development. (The topics had already been generated by the TILAP project staff during a Summer, 1996 TILAP project meeting with representatives from TILAP funded projects from around the country.) After displaying a series of 9 transparencies, each one displaying a single topic, the evaluator asked members of the group to offer their opinions per topic. The evaluator then recorded opinions expressed by the group on the appropriate transparency, which was then displayed for group review. The group's responses for each of the topics have been noted in the following pages.

*Advantages and disadvantages of forming project partnerships:*

Participants were asked to offer their opinion about the need/desirability of actively collaborating with other organizations as they each worked toward their individual project goals. The group offered the following observations:

- Resource sharing - each project is able to leverage the economies of scale that come from joining forces.
- Information sharing - Each project can share what it has learned so that the others may benefit from one another's experiences -- if nothing else, the groups can all avoid making the same mistakes, over and over again.
- Private non-profit organizations can demonstrate the value that connectivity offers to others without having any commercial undertones distracting from those demonstrations.



- There was broad recognition that operating as a collective enterprise strengthens each of the individual projects involved in that enterprise.
- "Critical mass" is achieved by joining sixteen small projects to form a single large group. Participants reflected upon the significant political influence and impact accrued by association with the larger collaborative enterprise.
- Collaboration - The lessons learned by individual project partners can be shared to the benefit of all other partners.
- Economies of scale - It may be far less expensive to purchase telecommunications goods and services (e.g., "bandwidth" purchases) when a group of buyers band together and make larger purchases than would be possible if that purchase were to be made by individual projects.
- There was a group perception that the larger group association was going to make it easier to sustain the collective enterprise as well as each of the smaller individual partner projects over time.
- Several project partners noted that it was easier to obtain funding having some funding already in place. The value of being "approved" by some other entity seemed to enhance the overall credibility of the individual and collective efforts represented among the Maine Project participants.



- Being a part of a larger group also helped to sustain the stability of the overall group membership. (Only one of the prospective partners from the Planning grant was not participating in the Implementation grant.)
- When asked to comment on the apparent lack of negative observations offered by the group, they noted that the lack of negatives spoke very well of the Maine Project's staff and the strength of their administrative abilities.
- Along this same administrative line, the observation was offered that this was an implementation grant that had been preceded by a TIIAP planning grant involving many of the same project partners and administration staff. The mechanics of figuring out how to work together had been mastered during the Planning grant.
- Administrative continuity (that is, keeping the same principal players involved in the Implementation grant that was part of the Planning Grant) was cited as a program strength.





### *Forming Effective Partner Relationships*

Project partners were asked to reflect on the types of things they would recommend to others to avoid some of the problems that may be encountered in partnership arrangements like the Maine Project:

- Commitment is key -- For a partnership to be effective, each partner must recognize the importance of his or her participation and be willing to make the commitment to the other partners that they will fulfill their part of the bargain through the life of the project.
- There must be clearly articulated benefits delineated for each member of the partnership, or the willingness on the part of each partner to make the commitment necessary to be successful may be compromised.
- The TILAP Planning grant awarded to the Maine Project during the previous funding cycle was cited as the single-most important reason that the Implementation grant partners were (at least at this point) able to collaborate as well as they are.
- The Maine Project partners were unanimous in their belief that getting agreement to ground rules at the initiation of a project is absolutely essential for overall project success. In this case, each of the partners had agreed on percentages of their funding to be spent of various expenditures. The end result is the sense that everyone was working toward the same goals, playing by the same rules.



- Lack of resources encountered within one project may cause some dissension regarding the equitable distribution of resources across the larger implementation planning grant, unless the funding guidelines (limits/exclusions/exceptions) are noted right up front.
- Articulation -- that is, getting all assumptions of all project partners out on the table and in writing -- is a key to success.

*Barriers to Effective Planning and Implementation:*

Project partners were asked to reflect on the barriers to project success that they had encountered to date.

- Budget Approval - Project participants all talked about their frustrations at the delays in getting started on their individual projects due to the delays encountered on getting the Maine Project funding approved. Some of the specific outcomes of the delay were discussed in greater detail during the subsequent discussion and have been noted in separate bullet points below.
- Project participants noted that there was a wide range of knowledge about telecommunications technologies, community networks, access providers, and so on. They also noted that different projects had varying expectations about what they would need to be able to do to participate effectively. They noted, however, that the willingness on the part of more experienced projects to assist those projects that were less experienced helped to off-set the differences.



- Changes in Project Scope/Direction - In some cases, the projects as originally proposed took on a slightly different look by the time they got to the point of being initiated. While this is not necessarily a problem, it did require additional work to make sure that the Maine Project staff approved changes in project direction, and that the appropriate change orders were in effect.
- Technology development changes made it hard to stay "on course". During the months that the Maine Project was delayed, there were several technological developments that had direct impact upon several of the projects. In some cases the technology developments were advantageous -- RAM costs had dropped considerable during the first six months of 1996, resulting in more computing power for the dollar. However, in other cases (e.g., where manufacturers were unable to keep up with the great increases in demand for cable modems), other projects found themselves continuing being delayed.
- Some project partners noted that they experienced a loss in momentum with the delay of project's kick-off. This was especially true for school groups that had planned on using summer sessions as a preparation time for Fall semester program implementation. Without the spring to prepare, the summer planning sessions didn't happen, and the Fall implementation wouldn't be able to take place.
- All project partners noted the need to communicate more --via technology -- to support each other better.
- The Federal budget schedule does not easily coordinate with the schedules of many of the partner groups. In particular, school personnel noted that the Federal schedule made it difficult to



coordinate activities.

### *Tips for Avoiding Planning and Implementation Problems*

Project participants were asked for suggestions on how to minimize difficulties likely to be encountered when engaged in project planning and implementation.

- Pay careful attention to project schedule when projects are being planned, and make sure one of the first acts upon getting a project off the ground is to align schedule expectations.
- Project partners coming together across a variety of sectors (e.g. schools, government) may have different expectations about what can be accomplished, and when it can be accomplished. Further, some private sector partners may have seasonal demands that will need to be factored into the master plan as well.
- Always keep primary project stakeholders in the "information loop".
- The TIAP project is funded on a two-year schedule. That is something that needs to be built into the overall master activity plan. It is also important to build in several "check-points" so that any corrective changes can be accommodated over time.
- Having the project's governance structure in place earlier would help. It could be most helpful to have all governance in place before the project actually gets started.
- Communication among project partners is absolutely essential.





### *Technology Selection*

Project partners were asked to enumerate technology-related issues that they have encountered in getting projects started:

- Changes in market (e.g., ISP, cable, common carriers). Even though the changes in finding providers has complicated processes a bit, there was consensus that the changes in service provider availability have resulted in better projects.
- Knowledge of applications lags behind knowledge of hardware. In other words, even though getting equipment on site is an important first step, knowing what to do with the applications that can be run on the equipment is an even more important step that is somewhat more difficult to accomplish.
- Sexiness vs. Utility: Project participants noted that it is easier to focus on the "bells and whistles" of technology rather than focusing on less flashy but very reliable devices.
- Projects would look very different without many of the initiatives in the State of Maine that have resulted in greater public awareness about the role of technology and several decisions (including the Maine PUC roll-back) that have increased technology-specific funding for education.
- Changes in regulatory environment have really changed the availability of connectivity options. (e.g., Washington county)



- The 1996 Telecommunications Act is starting to have impact on schools, libraries, healthcare, and on ADA applications.

### *User Group(s) Themes*

Project participants were asked to reflect on the types of user patterns, user reactions, emerging areas of user interest and calls for increased user support as the notion of community networks takes hold among their specific user populations.

- "Technology is a way of life. We have to figure out how to use it well, because it is here to stay."
- "When is the project over? Or is it ever really going to be over? It seems that the more we know about going on-line, the more we will do this as part of our everyday life."
- The issue of technology "haves" and "have-nots" was voiced as a real concern.
- Cooperation is emerging as a very important outcome of interacting on-line. Community networks offer new grounds for working together.
- Leverage the value of community networks to users: What is going to encourage more people to get involved with using community networks? Is this encouragement important? What is in it for the user community?
- Building "on-line communities:" The ability to transcend distance and to focus on affinities as the basis for social/intellectual



connections is a sociological shift that has not been encountered before. What potential social impacts are likely to be encountered in this re-definition of community?

- Where are the boundaries between the public and private sector?  
With the education community driving many of the early initiatives, there are Internet Service Providers (ISPs) that can provide non-profit services. However, they are restricted from providing services to businesses/commercial enterprises. The demands of the business sector are likely to result in greater network growth over time, because there is a (potential) revenue stream available to support network development and deployment. Finding the "middle ground" during this transitional time is going to continue to present challenges to users.
- Several project participants talked about how being fully engaged in offering new information to the on-line community is an important step in integrating community networks into the fabric of everyday life.
- As an aside, there were several comments about figuring out how to teach responsible "net behavior," and to set standards for appropriate and inappropriate behaviors. But the question remains: At what point does establishing "on-line manners" and standards of behavior become an issue of censorship?

#### *Project Public Awareness*

Participants were asked to speculate upon the impact that project publicity may have had upon their project. In general, they were asked to consider what impact (if any) could be derived from increased public



awareness about what the project staff are trying to accomplish in their various communities.

- Increase publicity about the projects was reported to be useful in leveraging additional funding.
- There is a lot of interest in using the technology applications, which makes it easier to get people interested in supporting (or at least in participating in) the various community projects. This, in turn, makes it easier to leverage additional participation in other sectors of the community.
- The fact that this is a state-government-focused project makes it easier to get air/print "time." Rather than purchasing advertising, many of the announcement either fall into categories of public interest news stories or can be accommodated through public service announcements.
- "You can get others to do the work of promoting your project by giving them something to talk about." The caveat here is that one should make sure that they give people good things to say.
- Sometimes it is easier to get started with a project without having to confront a lot of initial publicity. The advice here was to get started slowly and have a success story to talk about rather than setting expectations too high
- Public misinformation about what is on the 'Net is a source of much frustration. One of the things that projects like the Maine Project can do is to help people learn more about what resources are





available on-line, and can demonstrate how on-line resources can be accessed and used.

### *Sustainability Planning/Implementation*

Participants were asked to describe issues they have encountered or expect to encounter when involved in sustaining their projects over time. Suggestions included the following comments.

- Keep accurate, detailed records of projects. This includes all required documentation such as quarterly reports, partnership agreements and other related "formal" documents, as well as personal correspondence and project logs.
- Some projects may find that there is value in "going public", where they become self-sustaining by charging for services.
- It may be useful to find champions with "deep pockets" to help fund these local community efforts.
- It is also beneficial to share responsibility for projects. These should not be a "one-person" show, because as soon as that one person loses interest or runs out of energy the project may fail.
- Establishing sustainability criteria on the front end of a project makes it possible for projects to plan ahead.
- With all of the other telecommunication initiatives and funding opportunities in Maine during the past year, it is somewhat easier to identify a niche for a local community network project than it might have been in the past. It may be useful to leverage individual



projects, and well as the umbrella Maine Project, along with other state initiatives when looking for additional funding.

- The time may be right for establishing innovative, groundbreaking public/private sector partnerships for the good of local communities.
- Articulation of goals, objectives, directions and opportunities is key.

### *Unexpected Findings/Unintended Benefits*

Participants were asked to comment on some of the unexpected findings and results of their projects.

- Some of the project folks were surprised to discover resistance to their project in various quarters. In one community, it actually took a community vote to "overrule" local government resistance. This additional layer of community lobbying took more time than had been anticipated.
- Community access sites in schools have really been great for the schools. Several project staff noted that in some communities getting the public into the schools may have had a lot to do with getting increases to school budgets passed.
- Being part of the picture is a great "community-builder". Communities like to see themselves as leaders, not just as followers. These community network projects give people a chance to experience innovation in environments that may not have necessarily thought of themselves out on the "cutting edge."



### ***1997 Focus Group Summary***

These same topics were used as comparative benchmarks when project participants reflected upon The Maine Project outcomes during the September 1997 Focus Group session held at the University of Maine at Augusta's Learning Resources Center. Discussion topics were positioned by asking project participants to summarize results of The Maine Project from participants' point of view. Typically, project participants were able to reflect upon the success of The Maine Project by relating it to the relative success of their individual community networking initiatives.

Participants in the Focus Group session included:

- Francis X. Sheehan, Rangeley Region Information Coalition (RRIC)
- Mary Jo MacLaughlin, BAIRNET
- Steven Vance, ATLAS PLUS
- Ellen Wagner, TILAP Evaluator
- Elizabeth Chapman, Maine Project Manager
- Don Nicoll, Maine Project Facilitator
- Jeanne Pernice, Waldo's Windows
- Bill Clark, Washington County Consortium
- Gloria Jenkins, Washington County Consortium
- Vaikko Allen, Franklin Memorial Hospital
- Mary Lampson, Educational Network of Maine
- Lisa Naseef, Maine Meeting Place
- Carl Beiser, URSUS
- Cathy Newell, Bethel Datification Project
- Hugh Calkins, Maine Pro Se Interactive Assistance Project
- Kate Arno, Maine Public Television
- Bob Ho, Maine Rural Development Council



- Reginald Palmer, Independent Telephone Company Association

The TIAP evaluator asked project representatives and interested parties to reflect on strengths of the projects (the “Good”), weaknesses of the projects, (the “Bad”) and the challenges that needed to be confronted during the life of the individual projects (the “Ugly”). Characteristics of each “category” have been noted in the following pages.

### *The “Good”*

These are factors that project representatives cited as strengths of the Maine Project at the conclusion of its two-year funding period.

- TIAP funding provided the individual projects with critical mass. The Maine Project served as the “glue” that effectively created a community of networking projects.
- In looking back over the past two years, people recognized the evolution of their technology skills and proficiencies. They also acknowledged that, as individuals and as a group, that they were far more confident about their abilities to take on challenges involving technology, community networking, and “working the system.”
- The Project really helped to connect people from the state of Maine around specific issues of collective interest and concern. Even though the connections in “real time” and over the Internet were not as frequent as they may have originally been planned to be, the awareness that help is just a few keystrokes away greatly contributed to the sense of community membership.





- The Maine Project has helped underscore opportunities for collaboration. The collaboration models in evidence in this project are easily translated into home-based and community-based action.
- The Maine Project demonstrated that participation and a sense of “ownership” offer wonderful substitutes for centralized project management. In many cases, project representatives noted that if someone else had been responsible for taking care of the details of their projects that they would never have engaged as deeply as they did.
- Every project is different, and from these differences one can learn many new things. The Maine Project partners found strength coming from the diversity of approaches to dealing with telecommunications applications, and learned that there is a lot that people can learn from each other in that regard.
- Grassroots projects really reflect community needs.
- One testimonial on the effectiveness of the Maine Project’s decentralized, collaborative management/participation model is that it is currently being adapted for use in other project Maine telecommunications applications.
- Talent is everywhere. Sometimes it takes a project like this for people to recognize their aptitudes and abilities and to motivate them to use project participation as an opportunity for personal and professional growth.



- The Maine Project has also helped people focus on solving real problems using telecommunications services as part of their solution set.

### *The “Bad”*

These are factors that project representatives cited as areas for improvement, based on their experiences at the conclusion of its two-year funding period.

- The long waiting period at the beginning of the project was described as highly problematic. People resented the government for shutting down, and the impact that this had on the Project. People were de-motivated by this delay, reporting that this reduction in motivation ultimately affected the enthusiasm with which they approached implementing their projects over time.
- All of those goodhearted people who thought that their projects could be done with volunteers are tired. They are looking for relief in the form of new volunteers, and acknowledged the need for management and/or administrative assistance and direction.
- Grassroots commitment and participation is the key to project success. However, grassroots facilitators and organizers need technical and administrative assistance to maximize their organizing effectiveness.
- Leaders of grassroots projects should be aware that there is a lot of “cheerleading” involved in grassroots leadership. It gets exhausting.



It is important to connect grassroots telecommunications projects to some entity that can help keep it going over time. Project maintenance is very different from innovation, and needs different energy and different kinds of support.

- Financial matching requirements in specific areas often seemed to be counterproductive. There should be more flexibility on what constitutes an appropriate match. People also noted that budget assistance (for preparation, management and reporting) would have been useful.
- Project participants acknowledged that they would have benefited from maintaining stronger connections between and among partner projects and project participants.
- Help in preparing the initial proposals would have been useful, although most folks did figure out what they needed to do to work through the paperwork associated with the TIIAP grant and learned from that experience.
- Not being notified if funding is going to continue has meant that many of these projects, if they do go forward, are doing so with a “Plan A” and a back-up contingency “Plan B”, in case no additional TIIAP funding is forthcoming. They don’t want to push ahead if the funding is going to go away. Early notification would really be helpful.

### *The “Ugly”*

These are the examples of the challenges that people needed to confront during the life of their collective and individual projects. In the words of



one of the Project partners, “We made things work, but at such a cost!!”

- All the “firefighting” could have been minimized by doing better strategic and tactical planning at the onset and throughout the life of the project. In other words, people really need to pay better attention to setting expectations, planning ahead, and managing processes throughout the life of projects like these.
- Most projects underestimated what it would actually require to implement the project plans that they proposed. In general, it took more time to do just about everything, programming costs were far more expensive than anyone anticipated, and so on. Project participants noted that their experience of living through underestimated projects would serve them well in future projects, because they would now know what to plan for.
- Lots of surprises about new technologies – Don’t let down users, just because technologies change (e.g., the Maine Meeting Place staff found that Win95 was tougher to use than Win3.1, and that their users were not prepared for that increased level of complexity.) Several people wistfully noted that it would have been great to secure the services of a technology forecaster to help them plan ahead.
- A five-year plan seemed to be naively optimistic, given the rate of change affecting the participants’ projects. Most people noted that it was difficult living within the constraints of a two-year plan.
- One of the (eventual) benefits of this project was learning how to focus on real problems. It may also have been a matter of being





able to recognize what the real problems were.

- Raising the matching funds “after the fact” – that is, getting a commitment for funding as the proposal is being prepared and then having to go back and secure that funding several months after the proposal is submitted - can really dissipate energy. It is difficult to get businesses to commit funding to grants until the grant has been awarded.
- The grassroots activists need to look toward the community “power-players” and policy makers to help ensure that these grassroots projects get connected to public policy decisions.

### *Training Needs*

Project participants were asked to comment on the types of training needs that have emerged in their projects and in their communities as a result of the Maine Project activities. Responses to the questions “What do you need? Where do you see future needs?” are noted below.

- “How to deal with political entities” was the first topic requested. Most people acknowledged that working within “the system” is challenging if one doesn’t understand how “the system” works.
- Applications training is an area of great interest. For example, librarians need to learn to be fluent with on-line tools and strategies. Teachers need to better understand how to leverage technology for teaching and learning. Business owners need to understand how to leverage the World Wide Web to generate business leads or to do niche marketing.



- It is important to find/maintain a cadre of teachers/ trainers who can instruct people on how to deal with distance learning issues.
- It is also important to differentiate among needs for training, for hands-on assistance (e.g., trouble-shooting hardware and software problems), and for performance support, where people just need some information or some suggested heuristics to move on the next level of competence.
- Distance learning methods provide a set of solutions for meeting training and professional development needs. It is important to remember that technology can be leveraged to learn how to make better use of technology.
- Collaborating with ENM as a training provider may provide both immediate and long-term relief for Maine telecommunications users.
- It is important to provide people with training that can be applied to completing real tasks. It may be most effective to provide a variety of training options – some that demonstrate potential and motivate people to take further action, some that give people “hand’s on” experience, and others that provides long-term support and advice when new, post-training questions come up.
- Topics that generated interest for training include:
  - Networking basics
  - System administration basics



- Logistics of running a community lab
- Email access
- Relating applications to problem-based learning.
- Search and interpretation skills.

### *Technical Support Needs*

In many cases, people were aware that having access to technical and managerial support could make a world of difference. For many people who are experts in areas such as social services, education and government, the need to also have to be telecommunications experts (or to be willing to develop expertise in telecommunications related areas) was a significant de-motivator for moving toward greater technology integration.

- People noted their strong interest in learning more about remote network support and services. There may be licensing and user fees involved, but it would be worth the price if a remote networking trouble-shooting services could be made available. It may be worth the cost if it mitigates need for developing one's own technical troubleshooting abilities.
- There are a variety of mechanisms for collaboration on improving technology proficiencies in the State of Maine, including the Educational Network of Maine, and the Maine Library community. The Web is a good source of information, as well.
- We need to use our own technologies to troubleshoot our technology problems.

Specific areas where project participants noted that they were interested in obtaining technical assistance included:



- Understanding how the interface between ISPs and telephone service providers works.
- Learning how to assess system efficiency. Even the technical experts need some direction and support.
- How does one learn to leverage technical expertise?
- Technology forecasting assistance would be useful. Most people do need some help keeping an eye on what technology developments are on the horizon.
- A “Frequently Asked Questions” information source would be beneficial.
- People need to find technology mentors that they trust to ask their “stupid questions.” They need someone from whom they can ask advice.
- Policy development is a challenging area for most people – copyright policies, intellectual property policies, fair policies, user policies and the like are becoming a fact of life, yet many people are uncomfortable generating policies without understanding the bigger picture. They are uncomfortable not really understanding the consequences of a badly formulated policy. For example, many people noted that while they do not want to be blocking software, it is also important to have consistent plan in place to guide software use (e.g., keeping kids away from adult-web sites when using school computers)





- A “Mentor network” would be especially useful, since this would help put people together with others for mutual benefit and support. It builds on the “connections” premise underlying this project.

### *Sustaining Projects over Time*

One of the more thought-provoking areas of discussion revolved around the collective interest in developing strategies and tactics for sustaining community networking projects over time. Some of the suggestions offered by the group have been noted below.

- It is important to stay in touch with people from similar projects to help keep levels of enthusiasm high. Without this infusion of energy, even the most enthusiastic telecommunications user gets tired.
- Projects need to be rooted in a stable, already established “organization” that will help provide a stable source of financial and/or resource support.
- One-shot technology purchasing came from the funds provided by the TIILAP grant. Having a project’s ongoing expenses covered as part of the community financial match helps to ensure community participation over time. People will tend to support projects in which they have invested their own time and money.
- Be able to tell others what difference your project has made in your community (And remember that numbers - numbers of users served, number of log-ins, number of donors, and so on – really help make your case.)



- Some projects absolutely must move beyond volunteer administration and management if they plan to be successful over time.
- It is essential to bring “new blood” to keep enthusiasm going as well as to sustain community interest.



## Summary and Conclusions: Lessons Learned

*“Was this project worth doing?”*

This planning and implementation process brought a number of telecommunications providers and users to the table in a way that had not been experienced to date. Great care was taken to involve a maximum number of players - from the composition of the working committees and subcommittees, from the dependence upon group processes such as focus groups and town meetings, the representation of a wide variety of sectors, as well as open participation from citizens in general. By pushing people into the realm of project implementation, project staff were forced to learn how to problem-solve, both by depending on themselves and upon one another. The sense of self-reliance that was fostered through this project is one of the most compelling outcomes of this Project.

*“Did we ask the right questions?”*

For a number of reasons, the management of this project was highly participative. These reasons include, but are not limited to:

- Getting off to a late start due to delays in securing partner agreements and hiring project staff.
- Being further delayed when the Federal government shut down.
- Experiencing delays when securing necessary equipment.
- Experience shifts in expectations about what the individual projects planned to accomplish.
- Not hiring a full-time Project Director.



- Securing a part-time Facilitator committed to a “hands off” management style.
- Losing a number of key project staff during the life of the Project.
- Having a wide variation of technological proficiency among the Project partners

There was a tendency for this Project to take on greater fluidity than had originally been proposed, or perhaps even more than had been anticipated. This appears to have worked to the benefit of the project at large -- since people understood that they needed to take care of their own interests, and also seemed to feel as if their participation was valued.

*“Would we do it again? If so, what would we do differently?”*

The highly open, participative process enables a higher degree of public comment and participation. Since opinions expressed within the group were not binding, people tended to “process” extensively over processes, policies and principles, and then ultimately figured out solutions for dealing with those issues as made the most sense for the individual project. The committee orientation toward process necessitated continually “starting from square one” when new participants needed to be brought up to speed on issues affecting the Maine Project at large that, may, in fact, have already been addressed by individual projects. In general, this was not perceived to be a particularly efficient process. However, the opportunities to work toward consensus around policy-related issues did make the procedural elements of the projects work more efficiently.





*“What did we learn from our efforts?”*

- Grassroots efforts take on a life their own.
- The composition of grassroots groups change over time. No one party or parties own the products of grassroots efforts.
- Without consensus, collaboration is compromised.
- Consensus can't mean universal agreement
- Participative management processes result in products that focus at the lowest common denominator of the group at large.

*“What can others learn from our successes and failures?”*

This question assumes that there have been successes per se and failures per se – Another way of looking at this Project is to focus on what it has captured: the mechanics and processes needed for living with and managing change.





