

**A Study of State-Funded Community Networks in Indiana:
Final Report
October 1998**

**Submitted to the Indiana Department of Education
Center for School Improvement and Performance**

**Howard Rosenbaum
<hrosenba@indiana.edu>**

**Kim Gregson
<kgregson@indiana.edu>**

**School of Library and Information Science
Indiana University
Bloomington, Indiana**

**A Study of State-Funded Community Networks in Indiana:
Final Report: September 1998**

Table of Contents

Executive Summary	3
1. Introduction	4
1.1 Background	5
1.2 Need for research	6
2. Findings	7
2.1 CN Boards and Management	9
2.2 Achievements and Challenges	10
2.3 Analysis of CN Web Sites	14
2.3.1 Structure	15
2.3.2 Content	16
3. Recommendations and Best Practices	23
4. Methodology	28
5. Background of the researchers	29
6. Budget	31
7. Bibliography	32
Appendix A: Web Site Coding Scheme	33
Appendix B: Interview and Survey Instrument	40
Appendix C: State-funded Community Networks in Indiana	47

A Study of State-Funded Community Networks in Indiana: Final Report

Executive Summary

This document reports the findings of a study of state-funded community networks (CNs) in Indiana, funded by the Indiana Department of Education. Beginning with a brief background of state-funded community networking in Indiana, it describes the research, presents the findings, and concludes with recommendations that provide a framework for a set of best practices for successful CN development. The methodology, researchers' backgrounds, and the budget are described and the instruments used in data collection are attached as appendices.

Using a survey of CN Board members, site visits, and a content analysis of CN web sites, the study found that state-funded CNs are at a critical point in their histories as their Access Indiana (AI) funding runs out. Almost all have used their AI grants to create technical infrastructures that can support useful web-based community information systems; this has led to two tiers of CNs - those that have become Internet Service Providers (ISP) in their regions and those that have had to purchase their connectivity. Successful CNs have established themselves as competitive ISPs in their regions or have worked out good cooperative relationships with their service providers. They have also begun to "sink roots" in their communities, a time consuming, tremendously important, and often thankless effort. Other CNs, however, find themselves in a difficult period as they struggle to transform themselves from dependency on state funding to a new status as independent, revenue generating, community information providers. An important and related goal for these CNs is to become institutionalized into their communities.

Although the degree to which they have accomplished this institutionalization varies, the general impression is that, with a few notable exceptions, CNs are not yet well integrated into their communities. Interviews and site visits showed that some CNs are working hard to overcome this challenge. For example, analysis of the survey data, the content analysis of the web sites, and site visits show that there are not many instances where CNs have established relationships and partnerships with schools and public libraries beyond listing location information, although some CNs are thinking of ways to create these relationships. In addition, it is not clear, either to the researchers or to many CN board members, who is using these networks. Only a few CN Boards have been able to gather good data about their users, allowing them to understand what their users are doing when they log in.

The design and layout of the CN websites are well done. They are, for the most part, very usable and have reasonable navigation strategies in place. For the most part, the content of CN web sites follows the requirements set out in Section 7.0 of the ICNA Board Policy Manual (1.17.97), although, as will be explained below, compliance appears superficial. The general design and structure of these web sites are created by Board members, paid designers, or, sometimes, community volunteers. Maintenance and updating are handled largely by the first two groups. One interesting exception is in those sites with interactive community calendars; here CN members can submit updates and calendar items.

With technical development proceeding apace, CNs now have to concentrate on economic and social

development. To take the next step in their development, they also have to begin the transition to sustainability, or self-sufficiency. Board members recognize that they must develop viable strategies for attaining self-sufficiency through the generation of ongoing revenue streams. A troubling trend is that there does not seem to be much movement among the CNs to develop strategies for pursuing sustainability although many Board members describe this issue as the most significant challenge they face. There are some discussions about pursuing grants from state government and foundations, seeking revenue from advertising and sponsorships, and providing fee-based design work and page hosting. These, however, seem to be local initiatives and there is little evidence of information sharing among the CNs. Concurrently, they have to create the kinds of social and cultural content and services that will enable them to integrate their systems into the routine lives of their communities. This will involve the development of deep and meaningful local content, another significant challenge mentioned by many Board members. There was, however, less mention of the equally important interactive services that could be used to encourage ongoing and regular social interaction among CN members. CNs have to learn more about their communities and user populations to accomplish this.

The authors wish to acknowledge and thank the Indiana Department of Education for their financial support of this research. We also thank the Indiana Community Network Association (ICNA) for its support, and all the CN Board members and volunteers who graciously donated their time and provided the rich information needed to conduct this research. Finally, we would like to thank Mark Whitman and Mike Ney for their careful reading and constructive criticisms of early drafts of the report. Of course, text herein remains the sole responsibility of the authors.

1. Introduction

This report describes the findings of a research project that assessed the current state of state-funded community networking and telecomputing in Indiana between August and November 1997. Using multiple data collection methods, including a content analysis of community network (CN) web sites, site visits to a sample of eight CNs, and a survey of CN Board members, information was collected about 24 of the 28 state funded CNs in Indiana (four sites were not online at the time of data collection in fall 1997).

One main objective of this research was to provide Access Indiana (AI) and the Indiana Department of Education with a detailed description of the current state of state-funded CNs. A second objective was to aid ICNA's planning process for the future. This research supports ICNA's mission, which is to "facilitate the establishment, enhancement and cooperation of community telecomputing networks across Indiana" (ICNA, 1997a). It critically examined the range of uses of resources and support provided by AI to state-funded CNs, the structure and content of their web sites, and the public education and public library components of community networking. This research also explored some core design principles and services that have been most useful in the development of these CNs. The authors hope that the findings of this research will encourage an efficiency of effort so that network developers will not have to reinvent the wheel.

The report is divided into six sections. Following this introduction, section 2 presents the findings of the research in great detail. Section 3 contains recommendations and a set of best practices for CNs and section 4 describes the methodology used in the research. Section 5 describes the background of the researchers and section 6 contains a budget report. There are three appendices that contain the instruments used in data collection and a list of participating CNs.

1.1 Background

What is a community network? According to ICNA (1997b), a CN is a web site that is:

1. A common gateway to information about the community served.
2. Representative of the entire community served.
3. Supported and administered by a board, panel, or committee of recognized community leaders (e.g. officials of local public schools, public libraries, government, higher education, business and/or service organizations).
4. Economically self-supporting, with good prospects for its long-term maintenance and upkeep.
5. Accessible via local dial-in to all residents of the community served.
6. In compliance with ICNA standards.

A CN has four main foci. There is a local geographic connection and an emphasis on intra-community communication. In addition, there are goals of providing access and voice to previously underserved members of the community, and becoming a catalyst for positive social change in the community. A CN is based in a geographically bounded community and is owned, operated, staffed, and used by members of the community -- a county or counties, a city, a neighborhood, or a town. CNs emphasize providing tools and forums for community members to communicate with each other (Beamish, 1995; Schuler, 1996; Jones, 1995, Odasz, 1996, Graham, ND).

According to Beamish (1995) if, "by definition, a community network is a reflection of the community, then all members of the community must be able to participate in the technology and the system." This concern with equitable access distinguishes the CN from commercial ISPs, which do not have as their main concern providing free space or opportunities for public communication and interaction. Access to the CN may be limited by the cost of connectivity, language barriers, and physical disabilities among community members. There may also be a lack of training in the basic use of computers, and a lack of understanding about how networked computers can be used effectively to motivate community action. CNs can be the agents for positive social change in the community. This is evident in the mission statements of many CNs, which set goals such as positive social change, an improved sense of community, increased political participation, enhanced local economic development, improved educational achievement, increased computer knowledge, and equitable access for underserved portions of the community (Schuler, 1996a).

What then, is the current state of community networking in Indiana?

In a 1997 press release, Indiana Rural Development Council (IRDC) Director John Reimke announced that the

IRCD, through its Telecommunications Task Force, had additional funding available for the establishment of CNs in Indiana and said that “this funding support is one of Indiana’s best kept secrets and we need to wake up rural Indiana to the possibilities...We are talking about a whole new level of infrastructure that is going to be essential for future community growth and development...” (IRDC, 1997a). This announcement marked the latest stage in the State’s involvement in community networking, which had begun several years ago.

The AI program has as one of its goals the development of “electronic community networks that build and enrich community life” (Access Indiana, 1997a). In 1995, AI put out an RFP for “Community Network Start Up Grants” (Access Indiana, 1995). In all, AI has distributed more than \$1.4 million to 28 Indiana CNs and ICNA. Approximately \$900,000 was initially granted in 1996 to the first 19 CNs, with the awards ranging from \$30,000 to \$150,000. The remainder was committed to ICNA and nine additional CNs in 1997 (IRDC, 1997b). As a condition of receiving these grants, CNs had to be members of ICNA <<http://www.icna.net/>>, which held its first meeting in February 1996, taking as its main charge the task of assisting in the development of CNs. One strong emphasis of the AI program has been for CNs to become self-sustaining over time. According to the ICNA (1997a),

The mission of ICNA is to facilitate the establishment, enhancement and cooperation of community telecomputing networks across Indiana. Goals established to accomplish this mission include:

- Provide resources and support to emerging networks
- Develop cooperative strategies for existing community networks
- Educate potential users and content providers to the value of community networking

1.2 Need for research

Now that most of these CNs have had time to establish themselves in their regions, there is a need to gather data about their operations. These data are important for at least two reasons. First, there is a need to set benchmarks for performance, so that CNs, ICNA, and AI can have a common understanding of how the networks are progressing; second, these data can provide the basis for the development of a model that can be used by new networks.

The research was motivated by four questions:

1. How have the AI community networking grants been used in the development of CNs?
2. How are these CNs organized and managed? What types of management structures and processes are in place?
 - 2a. What types of challenges have network organizers faced and how have they been resolved?
 - 2b. What are these networks doing to move toward economic self-sufficiency?
3. What is the range of content, organizational schemes, and navigational strategies used in these web sites?
 - 3a. Who is creating and maintaining this content?
4. In what ways are these networks integrated into their communities?
 - 4a. What types of interactions and relationships have developed between CNs and K-12 schools and public libraries
 - 4b. How are these relationships affecting public education and public libraries?
 - 4c. Who is using these networks? How often and for what purposes?

By answering these questions, the research provides:

- A “snapshot” of the current state of state-funded CNs in Indiana, focusing on the evaluation of the utility of the existing content;
- A model for the design, organization, management, and marketing of CNs that new CNs can use;
- An understanding of the public education and public library components of community networking;
- A set of “best practices” that could be used by CNs to improve their abilities to achieve their goals and objectives and provide better service to their publics; and
- A portable methodology for the evaluation of CNs that can be used in other settings.

2. Findings

This study gathered empirical evidence using a variety of data collection techniques to answer the research questions mentioned above (summary answers are provided):

1. How have the AI CN grants been used in the development of CNs?

AI grants have been used to fund connectivity and purchase hardware and software. CNs have acquired their own servers and peripheral equipment (becoming regional ISPs) or have purchased connectivity from a commercial ISP. Grant money has been used to purchase design services for the development of their web sites, and pay for the development of content. A small number of CNs have used some grant money for marketing and promotions.

2. How are these networks organized and managed? What types of management structures and processes are in place?

Almost all of the CN Boards of Directors are composed of volunteers with good representation from their communities, including local schools and public libraries. Some Board members have very sophisticated technical skills, which is a tremendous advantage for their CNs. Decisions about the CN are voted upon by the Boards, often with much online discussion between meetings. Board members reported that they are pressed for time and typically divide the labor of maintaining their CNs among themselves; a few were experimenting with paid staff (as of November 1997, one CN had hired a paid Director and two others had hired part time staff), and a few are delegating some content development and maintenance tasks to volunteers from the community.

2a What types of challenges have network organizers faced and how have they been resolved?

The two main challenges are economic and social. The overwhelming challenge faced by these CNs is the development of viable strategies for attaining self-sufficiency through the generation of revenue streams. A second challenge is for CNs to better integrate themselves into their communities; several have begun to make some progress in this direction. To take this next step in their development, CNs have to create the kinds of social and cultural content and services that will enable them to integrate their systems into the routine lives of their communities. This will involve the development of deep and meaningful local content; there was, however, less mention of the equally important interactive services that will encourage

ongoing and regular social interaction among CN members. This initiative may also involve innovative strategies such as the creation of closer ties to local government, libraries, schools, and social service agencies. CNs have to learn more about their communities and user populations to accomplish this. At the time of data collection, some CN Board members reported that they were having difficulties competing as ISPs and others were having problems with the ISPs that were providing them with connectivity.

2b. What are these networks doing to move toward economic self-sufficiency?

For the purposes of this research the terms “sustainability” and “self-sufficiency” are considered synonymous. Since the state funded CNs operate as not-for-profit organizations, “sustainability” was operationalized as the ability of the CN to generate a sufficient revenue stream to meet its fixed and variable overhead costs, including the costs of operation and maintenance. Revenue generation could come from activities such as the collection of membership dues, the sale of advertising and/or sponsorship, web site design work, site hosting for businesses and the successful pursuit of additional grants.

A troubling trend is that there does not seem to be much movement among the CNs to develop strategies for sustainability although many Board members recognize this issue as the most significant challenge they face. There are some discussions about pursuing grants from state government and foundations, seeking revenue from advertising and sponsorships, and providing design work and page hosting for a fee. Some CNs are experimenting with fee-based services including advertising, personalized email services, and web-page design. However, these are local initiatives and there is little evidence of regular information sharing among the CNs about strategies for sustainability.

3. What is the range of content, organizational scheme, and navigational strategies used in CN web sites?

For the most part, CN web sites follow the requirements set out in Section 7.0 of the ICNA Board Policy Manual (1.17.97), although, as is explained below, compliance seems to be superficial for the majority of CNs.

3a. Who is creating and maintaining this content?

The overall design and structure of these web sites is either created by Board members or by paid designers. Maintenance and updating is handled largely by these two groups. One interesting exception is those few sites with interactive community calendars; here CN members can submit updates and calendar items.

4. In what ways are these networks integrated into their communities?

Although the degree of integration varies among these CNs, the general impression is that, with a few notable exceptions, they are not yet well integrated into their communities. Interviews and site visits indicated that some CNs are working hard to overcome this challenge.

4a. What types of interactions and relationships have developed between CNs and K-12 schools and public libraries?

Analysis of the survey data, the content analysis of the web sites, and site visits show that there are not many instances where CNs have established relationships and partnerships with schools and public libraries beyond a relatively superficial provision of location information. The significance of this finding is

mitigated by two important intervening factors, neither of which was apparent when the AI program was getting underway and both of which combined to make the establishment of good working relationships between CNs and public schools and libraries more difficult. First, there has been the rapid and pervasive rise of the ISP industry and second is the appearance of state and federal initiatives to provide direct connectivity to public schools and libraries. CNs had been expected to be the main point of physical access to the internet in their communities, offering dial up access to individuals, schools, libraries, and businesses. As ISPs moved into regions across the state, many CNs could not compete and lost the opportunity to establish relationships with public schools and libraries based on the provision of connectivity. As public schools and libraries seek state and federal monies for connectivity, the conditions of the funding programs provide them with incentives to bypass CNs as points of connection.

4b. How are these relationships affecting public education and public libraries?

The lack of significant relationships seems to show that these CNs are not having much effect on schools and libraries. As explained above, there is little incentive for public schools and libraries to use their local CNs as physical points of connection, and therefore as gateways, to the internet. This situation forces CNs to search for new ways to establish relationships with schools and libraries in order to have an effect on public education and libraries. These relations will be more likely to take the form of social interactions, perhaps based around collaborative projects, such as resource and content development, or training opportunities.

4c. Who is using these networks? How often and for what purposes?

Based on this research, these questions could not be answered. Only a few CN Boards have good data about their users and some understanding of what these people are doing when they log on. Copies of access, transaction, and other server logs were not collected for this study, in part because many CNs did not have access to this information. One of the information gaps uncovered in this research has to do with the demographics and online behaviors of individual and corporate CN members.

These findings are discussed in much greater detail below, followed by a set of recommendations.

2.1 The CN Boards and management

At the time the research was conducted, CN Boards ranged in size from seven to 21 with representatives from the local school districts, public libraries, local universities, local governments, local businesses, the Chamber of Commerce, and members of the community. The most common types of Board members are the two required by ICNA and AI regulations: representatives from the school districts and local public libraries.

Board members responding to the survey considered themselves intermediate to expert in computer skills and equally skilled in using the internet. There was more variety among Board members interviewed in person. Some had very little computer experience before becoming involved with their Boards. Others reported not having had a computer at home. Many agreed that their involvement in the development and maintenance of their CN provided

them with the impetus they needed to become much more proficient in their digital skills and aware of the range of issues surrounding the presence of the internet in their communities. Some Boards are fortunate enough to have members (or members' children) with sufficient technical skills to maintain and troubleshoot their CNs. Some members reported that their Boards lacked some necessary skills, including marketing and non-profit management and, sometimes, technical skills.

Most CN Boards have worked to have their members represent a broad spectrum of the community and this seems to be a strength. Board members have been recruited through a variety of means. At the CNs visited by the researchers, recruitment through personal contact with a current Board member was a most common pattern. In one county, members saw an ad in the paper about an organizing meeting, volunteered to help at the meeting, and later joined the Board. One motivation for many people was having the opportunity to bring the internet to their towns; they saw the provision of net connectivity and access to the wealth of networked information as ways to give their children an advantage in an increasingly digital world. In another step in their transition to self-sufficiency, many Boards plan to have elections in the future to bring in new members.

Volunteerism is both a strength and weakness for these Boards. Many original Board members were either early adopters of internet technologies or willing to learn about them. They had the enthusiasm and the will go through the grant process to obtain the start-up funding and the early and difficult stage of building the technical infrastructure for their CNs. Working on their own time, they have carried their networks through the start up period and have successfully met many challenges. However, volunteerism has also led to difficulties in management particularly in resolving thorny issues and in reaching rapid decisions. Board members reported that they attempt to reach consensus on issues before voting. They have discussions at Board meetings and exchange email between meetings. If the Board does not have a quorum, decisions are put off until future meetings. This sometimes results in important decisions not being made in a timely fashion. For example, several Board members from different CNs reported that decisions about membership levels and dues collection were put off for four or five months. Several Boards have set up committees but they are not always effective because of time constraints. No one reported any dissension about important issues or votes that were not unanimous when they were finally taken.

2.2 Achievements and Challenges

Many respondents reported that they were proudest of their technical achievements. Examples included selecting and/or partnering with an ISP, getting their server up and running, and establishing good working relations with their ISPs. Some believed that they had achieved a moral victory just to have gotten started at all; competing for and receiving the AI grant was seen as an achievement.

Social achievements included building a strong diverse board, having annual meetings or open houses with large attendance, and attracting many new members. One CN has had "WebFests," gatherings intended to show off the CN to local businesses and "Get to Know the Web" sessions where interested novices could talk with more experienced users. This CN has been able to charge for these well-attended workshops. Many respondents

commented that placing community content in their webs was a goal that they were successfully meeting (although the content analysis described below revealed that most CNs had not yet overcome this challenge). At least three have hired coordinators or directors.

Respondents said that they were not satisfied with the state of the relationship between the CN and the community. Many believed that people in their communities did not know about them yet or did not understand what the CN was doing and found that they had to make an effort to explain the benefits of community networking to their communities. In several cases, Board members reported that the public perception of the CN associated it with internet access and it was seen as another ISP; overcoming this perception was an important goal for several CNs. Some CN Boards have begun to explore strategies for marketing themselves, developing brochures promoting the CN and describing the range of services they offer. One brochure even had a touch of humor with a Top 10 list of reasons to join the network. Board members offered two ways for CNs to strengthen their links to the community - they could provide more information about the community to the community and include more groups in the network. Some respondents said that their communities have shown some support, indicated by the number of individual memberships and by local nonprofits seeking them out to host their pages. Others said that there was a general disinterest in the CN among non-members in their communities.

An important step in the integration of the CN into the community is the establishment of an ongoing working relationship between the CN and local public libraries and schools. Board members did not describe any large scale projects with either community institution; this finding was supported by the analysis of CN web sites. This is understandable, given the significance of two important intervening factors, neither of which had manifested itself when the AI program was getting underway. Both factors have combined to make the establishment of good working relationships between CNs and public schools and libraries less likely to happen. First, there has been a rapid and pervasive growth of the ISP industry throughout Indiana. Second, there have been several state and federal initiatives the goals of which have been to provide direct connectivity to public schools and libraries. CNs had been expected to be the main point of physical access to the internet in their communities, offering dial up access to individuals, schools, libraries, and businesses. As ISPs moved into regions across the state, many CNs could not compete and lost the opportunity to establish relationships with public schools and libraries based on the provision of connectivity. As public schools and libraries seek state and federal monies for connectivity, the conditions of the funding programs provide them with incentives to bypass CNs as points of connection.

In most of the counties, public libraries did have computers and internet connections, some paid for with grant money obtained by the library and some by the CN. This was a basis for some Board members to claim that their CN had a good relationship with the library. One member said that the public library was aware of the CN's existence and hoped that librarians would educate library patrons about using it. Board members of several CNs did report that they were planning some training sessions in the future that would involve working with public librarians; one reported having volunteers conduct internet workshops at the library twice a month and another CN co-sponsored word processing and introductory internet classes with the public library. These instances were the exception rather than the rule.

A good relationship with the schools often meant that the school district let the CN have Board meetings in a school building or someone from the school district was on the board; in response to questions about how they would rate their relationship with the schools, a commonly expressed sentiment was that relations were excellent because the schools “donate space for CN operations.” One Board member reported that the CN and the school had a superficial relationship because the schools had representation on the Board but there was little communication with school administration about the workings of the CN. Another respondent reported that the school representative had been trying to get off the CN Board for approximately four months and could not find a replacement from the school district. In some communities CNs are attempting to work with students, who are helping to create web pages for the CN. In one case they are paid a monthly wage by the CN; another pays students a flat rate for their web work. Few teachers have been trained in the use of the CN or have been approached by Board members for partnerships or collaborative projects, although several respondents reported that they were planning training workshops for educators and were seeking closer ties with the students. Some CNs have made efforts to put school related content online. However, the analysis shows that many times this amounts to location information.

Other successes mentioned included incorporating, having set of by-laws, speaking to organizations in the community about the CN, and gathering content and placing it online. Goals for the coming year, in many cases, arose from having met the challenges from the past year. Many Board members plan to do more marketing of the CN locally and intend to search for other revenue sources. However, the goal that was mentioned most often was the development of more content; when asked what their three goals for next year are, one respondent responded “content, content, content.”

The following is a list of challenges that Board members believed would be important in 1998:

- Achieving self sufficiency and generating a revenue stream
- Improving relations with their ISPs
- Developing or gaining access to more technical expertise
- Using volunteers more effectively
- Developing procedures for self evaluation
- Becoming more deeply integrated into their communities
- Developing deeper and more extensive community content
- Learning who their users are and what they and the community want
- Defining the CN as a community information center and not an ISP or gateway to the internet
- Developing better working relationships with public schools and libraries
- Developing better relationships with local businesses
- Developing public relations and advertising strategies

Many respondents saw achieving self-sufficiency, specifically generating a steady stream of revenue, as the main challenge for the upcoming year. It was a major topic of discussion on the ICNA mailing list over the summer of 1997 with many complaints but few workable suggestions. There has also been little information sharing by the few CNs that have been successful in generating revenues; these CNs have tended to be ISPs or have been collecting rebates from their ISPs. One CN did offer to host a workshop on self-sufficiency, but it has not occurred nor have

details been discussed on the list. Many Board members described their long-term financial future as “somewhat” to “very unstable.” Several Board members blamed AI’s and the Intelenet commission’s “changing of the rules” for their plight. One indicated that all revenue streams except individual memberships seemed to have been eliminated as possibilities by the terms of their AI grant. Board members from several different CNs reported that they had received different information when they inquired about their abilities to charge for different services and were left with uncertainties about whether, for example, they could sell advertisements or work with the for-profit businesses in their community while receiving funds from AI.

Board members of CNs that were not ISPs reported that they did not have any regular revenue flows established. Several said that they were faced with very bad contracts with the ISPs in their communities. One Board member reported that his/her CN had a contract where they paid their ISP over \$40,000 a year for access and support, including the cost of a systems administrator. In exchange, the ISP would let people pay \$5 per month to the CN if they so desired. This meant, according to one Board member, that the CN would need over 900 paying members a month to break even. One talked about disbanding because of the problems the Board had with their ISP and their inability to attract another ISP for many months. Another Board member reported having serious problems collecting the rebates due from their ISP. To generate revenues, some CNs were starting to set up membership plans with different levels for profit and non-profit organizations, individuals, and families.

Many respondents indicated that they were worried about the financial stability of the CN and recognized the need to become self-sustaining, but reported that their Boards had not really begun to develop any plans or take any actions to move in that direction. Board members said that they would like more information about marketing, pricing, grant availability and grant writing, but claimed not to know where to obtain it. Many mentioned that they would like to know what types of revenue-generating initiatives other CN Boards were pursuing. Possible sources of revenues mentioned by respondents included sponsorships from both local businesses and nonprofit organizations, the sale of advertisements, and charging for training seminars, digital services, and web design. CNs that are their own ISPs were able to offer a wider variety of benefits for membership including virtual site hosting and vanity email. Only one Board member reported that her/his CN had successfully competed for another grant.

Board members discussed other challenges they have to meet. Many believed that they had been slow to gather content, a sentiment supported by the content analysis of their web sites. They realized that they were not making effective use of volunteers. Some members reported that their Boards were not working together as effectively as they would have liked. Not all of the members were working as hard as they could have been and some respondents thought these members should be putting more effort into the development of the CN. Some problems that the respondents experienced came about, they believed, because they did not have the technical, business or legal experience that they needed and did not have easy access to advice and assistance.

One interesting challenge mentioned by several Board members had to do with a scenario they thought was waiting to happen to CNs hosting member web pages - the posting of controversial material on their web sites by CN members. Many CNs did not have a policy in place to handle this scenario although one had faced and resolved the problem by asking the owner of the page to remove the material found offensive by other members. Fortunately,

the situation was resolved without incident. Some respondents stated flatly that they had serious reservations about interactivity, particularly chat areas and mailing lists, because of the potential problems raised by the posting of offensive material. They wanted to be very clear about the CN's liability in the event that this scenario arose.

None of the CNs seemed to have plans in place for evaluating their progress. Many had not thought about the value of setting performance benchmarks and collecting data about their operations. Respondents thought that they could use participation rates for evaluation - membership, page and hit counts, and the number of nonprofits with content available online. Some reported that they wanted to make use of server log statistics, although these were difficult to obtain. Several respondents indicated that their CNs had feedback forms online for users to give suggestions, although they also said that the forms were not being heavily used. Many stated that it was too early to think about conducting any evaluations.

The respondents seemed to have a limited idea of who their typical users were and what these people were doing online; most respondents did not have a sense of what their users wanted from the CN. Some Board members saw themselves as typical users and believed that other people did the same kinds of things online that they did, such as searching for information and web pages about their hobbies or travel information. One respondent thought the people were using the system to search for information about the community when it was convenient for them. Several respondents mentioned that people use the system for email, which is a service provided by their ISP rather than the CN.

Boards communicate with their users through messages on the CN home page, newsletters, and announcements in the local media. One CN used inserts in membership bills. Several mentioned emailing announcements to their users. One Board member said that the CN's users called or emailed the webmaster when they had problems with the system. This network has volunteers who periodically dial in to the modem bank as a way of checking that the CN is providing reliable service.

In the CNs that are not ISPs, there is much less of a direct connection to users because the CNs do not have membership programs; there is no easy way for community members to develop a sense of ownership of or participation in the CN since the interface appears to be that of the ISP. These Boards have few mechanisms to contact their users except for posting announcements on the CN home page. Consequently, these CNs do not have a clear idea of how many people use their system from month to month, how many new users they have, or why people stop using the network. These Boards seem to be operating in a vacuum, putting up the content that they think is important. Since they have no evaluation or feedback system in place, they do not know if the content they are providing is what the people really want to see online.

2.3 Analysis of CN web sites

This analysis reflects the state of 24 of the 28 AI-funded CN web sites as of November, 1997 (see Appendix C for the list of sites used in this analysis). At the time of the initial drafting of this report (February, 1998), some of these sites had been redesigned and had improved their offerings, both in their breadth and depth. These changes,

however, were not sufficient to cause a change in the findings and recommendations in this report.

Content on many sites is developed and maintained by members of the Board. Some respondents indicated that they do use their AI grant money to help fund content development. One CN has obtained grant money from a local foundation that they disburse for small local content development grants. On at least two CNs there are active webmasters who have “crews” of volunteers who help develop content. Having Board members volunteer to develop and mount web pages has been one way to keep any controversial materials from being posted. However, since many CNs have as a main goal for the next year the development of more content, having Board members do it all may become a bottle neck.

There is a mix in the types of services that CNs offer through their web sites. Some host personal web pages; others do not, either because they believe that they would be responsible for regulating the content of these pages or because they choose not to compete with local ISPs, which offer that service. Most CNs hosting member pages offer server space to local non-profit organizations. A few host business pages, but this typically occurs on the CNs that are the community’s ISP so there is no competition. Because of direction from AI and ICNA to focus on content, most respondents reported that they have devoted most of their attention and time to this task. A Board member of a second round CN reported that his/her Board was told on several occasions by an AI representative that “the development of local content (local information) is necessary to drive a successful community network. (i.e. minutes of the school board meeting).” The Board member said that the CN decided that “our role as the community network partner is to help develop current and news worthy information about the communities serviced by the network.” This is a theme that cut across many Boards, which are thinking about how to increase community involvement in their CNs. One feature that is becoming more popular is the community calendar set up so that community groups can enter their own events. One CN found good calendar software and customized it; now other CNs are beginning to use it as well. A few CNs are beginning to develop community focused listservs and discussion forums. Because they do not have easy ways to communicate with their users and do not do any evaluations, they were not able to say how satisfied their customers were with these features.

2.3.1 Structure

Almost all of the CNs have developed their web sites to the point at which they can serve as the infrastructure for digital community information systems. Since the analysis reported in this section was completed in November, 1997, many CNs have incorporated new design and operational features, adding new layers off interactivity onto their sites. Some CNs are experimenting with CGI and Perl scripting, Javascript, frames, and multimedia. As a consequence, the analysis, which examined 24 CN web sites, is three to five months behind the curve; this means that there will have been some advances in structural and design features not reported below. However, a reexamination of these sites in February, 1998, reveals that the findings about the development of content still hold.

On their **home pages**, all 24 CN web sites displayed the AI logo and linked the image to <www.ai.org>; three CNs buried the logo on the second or third level of their sites. The ICNA logo was displayed on 15 sites and

linked to <www.icna.ai.org>. Fifteen sites had a graphic logo identifying their web sites. Textual identifiers were used on all sites with nine using images to represent their communities. Links to the AIN map appeared on four sites and three linked to the ICNA list of CNs. Only two sites linked to the ICNA guidelines for web site accessibility by people with disabilities. There were links to the CN sites' designers on 21 sites that led either to the designers' sites or email links. All provided a table of contents on the home page, with ten using an imagemap. Four sites also had a link to a site map. Frames were used on seven sites, although four employed them at levels below the home page; the four sites using frames at the top level provided a link to textual alternative.

The web sites make use of second generation design features including tables, frames, imagemaps and some basic interactivity, including scripting (javascript) and forms-based submission of information. They range from three to nine levels in depth with seven using frames and, in November, 1997, contained between 20 and ~75 pages; the average site had five levels, no frames, and ~40 pages. All incorporate color and graphic elements, but have limited interactivity. Background colors were used on 20 sites, 15 used background image, and all used .jpg and .gif images on their pages. Various forms of multimedia were used in nine sites, but this typically meant animated .gifs, although two sites included sound files. All of the sites used a <mailto> link to allow viewers to send email, but only six were explicitly designated as means by which comments, questions, and suggestions could be submitted.

Forms were used on eight sites, the content of which ranged from the provision of demographic information for a 911 database, a registration form for the CN, a library feedback form, and a form through which members could submit items for an online community calendar. Links to web search engines were found on eight sites and seven had local search engines. Links to locally sponsored discussion groups and listservs were found on seven sites; six included instructions for subscribing to these services and three provided links to other discussion forums sponsored by other CNs, AIN, or ICNA. Counters were used on five sites, four were running CGI or Perl scripting with their forms and two site used Javascript, one to animate a banner and the other for an interactive table of contents. Five sites had other interactive links including a resume database, a job bank, an email directory, and a site index. One CN had a password protected area for members, and none were experimenting with chat rooms or other web-based conferencing. See [Table 1: Structure on the CN home pages and websites](#) (for all tables, n=24).

2.3.2 Content

The content analysis of the CN web sites indicates that there is a range among the web sites from a small number that have breadth and depth of content, far surpassing the requirements specified in the [ICNA Community Network Website Standards](#) (1997), a small number of sites that barely meet the most general of these requirements, and a larger number that have at least superficial coverage of these standards with pockets of content development on their sites that display depth and complexity. For example, [Table 2: Required CN links and information about the CN](#) lists the requirements listed in [7.03](#) and shows the extent of compliance.

Table 1: Structure on the CN home pages and websites

Display <i>Access Indiana</i> logo	24	Levels of the site (5 average)	3 - 9
Display ICNA logo	15	Number of pages (~40 average)	20 - ~75
Display graphic logos for CN	12	Background colors	20
Image representing community	9	Background images	15
Link to map of state-funded CNs	4	Multimedia	9
Link to ICNA's list of Cns	3	Forms	8
Link to ICNA's accessibility guidelines	2	Links to web search engines	8
Link to the CN sites' designers	21	Local search engines	7
Table of contents	24	Counters	5
Imagemap TOC	4	CGI Perl Javascript	6
Frames	7	Link to a site map	4

Table 2: Required CN links and information about the CN

Display AI logo	24	Information about Board	17
Display ICNA logo	15	Acceptable Use Policy	13
Links to disability guidelines	2	Schedule of upcoming meetings	11
Access to bylaws	13	Minutes/notes	12

A pattern was found among the CNs with superficially developed or underdeveloped sites that is illustrated by the treatment of links to local schools and school districts, a suggested guideline for the development of these web sites. There is a top-level link that satisfies the guidelines for local content and then the content development tails off dramatically. In many pages that appear at lower levels of these web sites, content is typically lists of location information categorized by subject (e.g.: businesses; places of worship; government offices), some of which is linked to pages not hosted on the server. Often, there is little information added to these entries, leaving the list looking like pages from a telephone book. This pattern can be seen in [Table 3: CN links to Schools and School Districts](#).

All sites had links to or pages about **local K-12 schools and school districts**, with address or other locator information on 12 sites and some information about School Boards on seven. Four had local Board meeting dates and two archived meeting minutes. Only one site had a School Board policy manual. Links to or pages about individual schools were found on nine sites, with calendars and locator information. One or two sites had archived copies of school newspapers, student handbooks and teachers' web pages. There were links to information

Table 3: CN links to Schools and School Districts

Links to K12/school corps.	24	Links to local schools	9
Street addresses for corps	12	School calendars	9
School Board information	7	Teachers' web pages	2
School Board meeting dates	4	Current lunch menus	2
Agendas for upcoming mtgs.	0	Link to IDEANet/ISTEP	2

about educational alternatives (home schooling, trade schools, correspondence courses) found on six sites, links to IDEANET/ISTEP on two sites, and links to school cancellation numbers, scholarship information, local SAT scores, and school enrollment figures were found on one or two sites.

This pattern was repeated for many major components of the guidelines. For example, it can be seen in the treatments of **links to local public libraries**, which were found on 20 sites. After the initial listing, the content about the library dropped off quickly. A list of hours of operation was provided on nine sites and a calendar of events on eight. Links to local libraries' OPACs were found in six sites and six provided location information for their libraries. Local library board meeting dates appeared on two sites and none had meeting agendas or minutes of past meetings. On four sites a variety of links could be found to off site genealogy, children's services, reference service, inter-library loan, census information, and Friends of the Library pages. Two sites provided schedules for their libraries' meeting rooms. See [Table 4: CN links to local Public Libraries](#).

Table 4: CN links to local Public Libraries

Links to local public libraries	20	Archives of Board minutes	0
Street addresses for libraries	6	Library calendars	8
Library Board information	2	Copy of policy manuals	0
Links to library's OPAC	6	Copy of budget	0
Agendas for upcoming mtgs.	0	Link to State Library page	1

Almost all of the CNs had the required links to **local content about the CN**, although they varied in the depth of coverage. Eighteen had information about themselves and 17 had a mission statement online, but only 13 included their bylaws. The Boards of Directors were identified on 17 sites and 16 had pages detailing their histories. Acceptable Use Policies appeared on 12 sites. Current financial statements were provided on 10 sites and six had past statements. Meeting schedules and minutes of past meetings were posted on 11 sites. A "What's New" link to a page of announcements was used by nine sites. Each of the following was found on two sites: articles of incorporation, business plans, FAQ pages about the CN, and information for parents about keeping the net

safe for their kids. Individual membership information was provided on 15 sites and 12 had information about corporate membership. Information about the costs of individual membership was posted on 11 sites; Nine described the benefits of becoming a member while 10 did the same for corporate membership. Three sites had information about hosting web pages and about their ISPs. A range of other services were offered on eight sites, ranging from computer and internet/ web training, to web page design, to locations of local public access terminals. See [Table 5: Links to content about the CN](#).

Table 5: Links to content about the CN

Info about the CN	18	Past financial statements	6
Mission statement	17	Costs of individual membership	15
Current Bylaws	13	Benefits of individual membership	9
Board of Directors info	17	Costs of corporate membership	11
History of the CN	16	Benefits of corp. membership	10
Acceptable Use Policies	12	Business plan	2
Current financial statement	10	FAQ about the CN	2
“What’s New”	9	Info for parents	2
Meeting schedules and minutes	11	Articles of incorporation	2

Links to **local community information** appeared on 20 sites. Seventeen sites had a community map, 16 had pages about local history, ten provided demographic information, and nine had photographic images of community landmarks. Links to pages with sightseeing information, announcements of festivals and events, and business information were found on three sites. At least one link to pages about **local government** was found on 19 sites. Directories of elected officials were found on 15 sites with varying degrees of completeness, for example, nine sites had a calendar of government events, eight had announcements of upcoming meetings of government bodies and seven had at least some address information for some local elected officials. Pages about local election information appeared on five sites, voter registration information on three, the location of polling places on three, and background information about local political issues was found on two sites. On five sites, a range of pages were found with the tax code, a link to a sex offender repository, a most wanted list, and a listing of fire districts. Only three sites had links to **local military** pages, but this is probably an artifact of geography. See [Table 6: Local community and government information](#).

Most sites had extensive top level links to local cultural, service, religious, and health care organizations. All sites had links to or information about **local cultural and recreational organizations**; five sites had information for organizations without web sites. Information about or links to the local parks and recreation office was found on five sites. Pages describing special projects and events appeared on ten sites, eight sites listed the hours of operation of

local facilities, seven had schedules, and five had reservation information. Among the other links found on six sites were links to local clubs, museums, and historical societies, and information for seniors, pet owners, and gardeners. All sites provided some links to **local service organizations**; five sites provided location and contact information for organizations without a web site and on five sites, the links were not accompanied by any explanatory information. There were links and information about local volunteer opportunities on seven sites, four had information about special projects and how members could contribute to them, and three provided local events calendars. Linked to **local extension services** were found on nine sites, although little further information about these services was provided. See [Table 7: Links to local cultural and recreational organizations](#).

Table 6: Local community and government information

Links to local community info.	20	Calendar of government events	9
Community map	17	Announcements of meetings	8
Local community history	17	Addresses for some local elected officials	7
Demographic information	10	Local election information	5
Photographs of local landmarks	9	Voter registration information	3
Links to sightseeing info.	1	Location of polling places	3
Announcements of festivals and events	1	Background about local political issues	2
Link to local government info	19	Links to local military pages	3
Directories of elected officials	15	Community calendar	19

Table 7: Links to local cultural and recreational organizations

Links to local cult./ rec. organizations.	24	Schedules	7
Links to local service organizations.	24	Reservation information	5
Info. for organizations without web sites	5	Info. about local volunteer opportunities	7
Links to local parks/rec offices	5	Info. about special projects	4
Info about special projects/ events	10	Local events calendars	3
Hours of local facilities	8	Links to local extension services	9
Links to local places of worship	21	Links to/info. about local health care facilities/providers	19
Lists of times/dates of services	10	Info. about local medical specialties	4
Images of these places	3		

Links to or information about **local places of worship** appeared on 21 sites, with ten listing times and dates of

services. Three sites had images of these places and among the other types of links found on eight sites were listings of revivals, descriptions of church social programs, links to religion sites elsewhere, and a directory of the local clergy. Links to or information about **local health care facilities and providers** were found on 19 sites, with local hosting of pages on two sites and off-site links on five sites, however, some off-site links were dead. Four sites had pages containing information about local providers' medical specialties. Among the links found on five sites were lists of medical staff at different facilities, hospital menus, flu vaccination information, psychiatric services, and a directory of local physicians.

There were links to or information about **local businesses** on 21 sites, with 13 linking to their local chambers of commerce, eight linking to the local Economic Development Council, and three linking to local Rural Development Councils.; six hosted pages for these chambers on their sites and five listed the members. Location information about the chambers that had no web presence was provided on three sites. There were links to local businesses' pages or banner ads and logos for these businesses on five sites. Links to **local realtors** were found on nine sites with three linking to local Boards of Realtors. Links to **local media** were found on 22 sites. There were links to or pages about newspapers on five sites, eleven had links to radio stations, and eight to television stations; typically there was no further information about media outlets that did not have web pages. Links to local and/or regional weather were found on 14 sites. See [Table 8: Links to local business](#).

Table 8: Links to local business

Links to or pages about local business	24	Links to local media	22
Links to local Chamber of Commerce	13	Links to local newspapers	5
Banner ads for local business	5	Links to local radio stations	11
Links to Rural Development Councils	3	Links to local television stations	8
Links to local realtors	9	Links to local weather	14
Links to local Boards of Realtors	3	Links to local television stations	8

Two common community services that appeared on many sites were a **community calendar** and a page with links to or information about **local employment opportunities**. Community calendars were found on 18 sites; five included direct, password-protected entry options for members. Searchable calendars were found on four sites, four had older calendars archived, and three contained links to other relevant calendars. Links to or pages listing local employment opportunities were found on ten sites, however only one site had a page of current employment listings.

There were a range of links to **regional, state, and national** web sites. There were links to federal government web pages on 17 sites; ten linked to federal agencies and departments, eight had linked to the homepages of national politicians, and six linked to national military web sites. There were links to **state government** website on 16 sites, with 11 having links to the homepages of elected officials. Links to other prominent and relevant state

information available through AIIN appeared on eight sites with six linking to regional and state Workforce Development pages and five linking to the Indiana Department of Education, or IDEANet. Links to **state library and education** pages were found on 12 sites; nine had links to some university and college homepages in Indiana, eight linked to some university libraries in Indiana, seven had links to the Indiana State Library homepage, and four linked to the Indiana Higher Education Commission.

There were links to **state and national media** web pages on 12 sites. Links to other CNs were found on 12 sites; five had the AI list of CNs in Indiana, and two sites had links to CNs in other states. Links to pages about **state recreation facilities** were found on eight sites and three linked to **national parks and facilities** pages. Links to **businesses** outside the CN's region were found on five sites; on four sites, there were links to national business organizations and on three, there were links to regional and state boards of Realtors. Other types of links found on four sites included stock, relocation, and statistical information, business article abstracts, and links to FedEx, UPS, the Post Office, and auto companies. See [Table 9: Regional and national links](#).

Table 9: Regional and national links

Links to Federal government pages	17	Links to State Department of Education	5
Links to federal agencies and departments.	10	Links to State library and education pages	12
Links to national politicians' pages	8	Links to State universities and colleges	9
Links to national military sites	6	Links to university/college libraries	8
Links to State government pages.	16	Links to Higher Education Commission	4
Links to state politicians' pages	11	Links to state and national media	12
Links to other CNs	12	Links to state recreation facilities	8
Link to the Access Indiana list of CNs	5	Links to national parks and facilities	3
Links to state and national businesses	5	Links to state/national Boards of Realtors	4

3. Recommendations and best practices

The analysis of state-funded CNs indicates that they have reached a stage in their development where their technical infrastructures (for those running their own servers) or web sites are sufficiently well-developed to support useful network-based community information systems. There are two critical challenges that must be faced to make this transition - one is social and cultural and the second is economic. To remain successful once the state-funding runs out, CNs have to create the kinds of social and cultural content and services that will enable them to integrate their systems into the routine lives of their communities. This will involve the development of deep and meaningful local content and interactive services that will encourage ongoing and regular social interaction among CN members. CN Boards have to learn more about their communities and user populations in order to accomplish

this. They also have to begin the transition to self-sustainability. Board members recognize that they must develop viable strategies for attaining self-sufficiency through the generation of ongoing revenue streams.

These challenges have been anticipated by AI; according to Whitman (1997):

The ACCESS INDIANA community network model has been based on achieving self-sufficiency within the first two years of operation. Content has been the cornerstone of [AI]-supported community networks...

There are five basic recommendations that have come from this research. The first is technical and the remaining four are social and economic.

1. There have emerged two tiers of CNs, ones that are acting as ISPs in their regions, providing dial-in access to members and hosting pages on their own servers and ones that have worked out relationships with ISPs that free them from the day to day technical concerns of running a network. Some CNs have become the major sellers of internet connectivity in their regions and, if they have developed a technical support staff among the Board or have the capital to hire technical staff, they should be applauded. They have carved out a viable niche for themselves that should allow them to generate revenues to cover their costs.

However those CNs that have been not successful at being ISPs or who see the arrival of local or regional competition should get out of the server business. They should transform themselves into a digital community information center and not an ISP. CNs should concentrate on developing a good relationship with an ISP, pursuing, for example, the possibility of “finder’s fees” from the ISP when individual and organizational CN members are encouraged to have their pages hosted on the ISP’s server. This also allows Board members to take advantage of developments in networking; they should be able to request, for example, that their ISP assist in the development of CGI or Perl scripting or Javascript to add interactivity to their pages without them having to learn a new programming language themselves (unless they want to). In addition, not having to maintain the technical infrastructure should free up both time and money for CNs to concentrate on developing content and increasing membership through marketing and promotion.

2. CN Boards have to learn from each other. Development in isolation greatly increases the risk of failure and duplicated effort. Information sharing can save time and effort, both of which, according to many Board members, are scarce. Board members throughout the state have to develop efficient channels for information exchange, perhaps through ICNA, perhaps through private mailing lists. A good example of the way in which information sharing can assist development efforts is the development and spread of the interactive community calendar.

What are the best practices that have been successful in the ICNA CNs?

What are some features that appear in various CNs that are worth the attention of Board members? A short and selective list might include (note - many CNs also have similar features and including a feature attributed to one CN is in no way intended to slight another) :

Access Laporte County: **Business and Technology Plans**

<http://www.lc-link.org/orgs/alco/bizplan.html>

<http://www.lc-link.org/orgs/alco/techplan.html>

Access Perry County: **Annual Report**

<http://www.perrycounty.org/APC/information.html>

Boone County Community Network: **Information about BCCN**

http://www.bccn.boone.in.us/admin/About_BCCN.html

Communinet: **Acceptable Uses Policy**

http://www.communinet.org/About/acceptable_use.htm

Crawford County Community Network: **Help Pages for New Users**

<http://www.ccn.net/help.htm>

Dekalb County Community Network: **Child Safety Tips**

<http://www.dekalbnet.org/childsafety.htm>

East Central Indiana Community Net: **Resume Database and Job Bank**

<http://www.ecicnet.org/workdb/index.html>

<http://www.ecicnet.org/jobbank/>

Falls Cities Community Network: **Tiered Annual Sponsorship levels**

<http://fccn.venus.net/fccnhtbm.htm>

Fort Wayne Infonet: **How to Submit Pages**

http://www.ft-wayne.in.us/infonet/content/fwai_submission.html

Greene:t **Public Opinion Poll**

<http://www.greenet.net/opinion.htm>

HoosierNet: **Local Community Calendar (interactive)**

<http://www.bloomington.in.us/calendar/index.msql>

Huntington County Community Network: **Key services of our network**

<http://www.huntington.in.us/services.html>

Indianapolis Online: **FAQ and Comment Center**

<http://www.indianapolis.in.us/home/faqs-net.htm>

<http://www.bit-wise.com/indyforum/forum.htm>

Michiana FreeNet: **User Home Pages and FAQ**

<http://users.michiana.org/userpages.shtml>

<http://michiana.org/MFNetAdm/MFNetInfo.html>

Midwest PrairieNet: **Community calendar and How to get your business a page**

<http://www.prairienet.ai.org/cgi-bin/calendar.cgi>

<http://www.prairienet.ai.org/special.html#bus>

NobleCan: **Community Calendar Festivals and Events**

<http://www.noblecan.org/calendar/calendar.cgi>

<http://www.noblecan.org/~super/events/>

South Central Indiana Community Access Network: **Tax Center and Troubleshooting page and Community Information Development Grant Application**

<http://scican.net/taxes/taxes.htm>

<http://scican.net/scican/trouble.html>

<http://www.scican.net/scican/grant.html>

WCICnet: **Virtual Community Mailing List**

<http://www.wcic.org/maillist.html>

3. CNs must develop strategies for integrating themselves into their communities. By demonstrating the value of the CN to current and potential individual and organizational members, Board members can begin the process of institutionalizing the CN. Community members have to learn to view the CN as a routine and useful component of their daily information behaviors, much like listening to the radio, watching television, or reading the newspaper. The digital environment that now seems to be commonplace for Board members is still foreign territory for many members of their communities. These people may have computers, modems, and connectivity, but they do not have a good understanding of what this technology would let them access and use. CN Boards must develop strategies to educate their communities about the functionalities of the CN for different user populations. This is where the development of deep and meaningful content and the provision of a range of interactive services is critically important. The problem is to get the community into the CN web and keep them there. Remember that digital interactivity is a new type of social interaction and people have to be taught how to “live” in this world. Some important activities include:
 - Promoting and advertising the CN: there is a need to evangelize about the CN in the community. Board members should consider spending some money to target advertising to specific groups of individuals, not-for-profit organizations, and businesses. They should also look for all of the free and low cost opportunities to advertise the CN (press releases to the media).
 - Having clear explanations of the benefits of CN membership for individuals, families, businesses, and non-profits available both on and offline. Many CNs have included membership information on their sites, but this typically includes the costs and simple descriptions of services. There should be much more detailed information explaining why people and organizations should join and/or sponsor their CN.
 - Conducting or sponsoring more training and public appearances: there is a need to raise the levels or technical expertise and, sometimes, the level of comfort with networking technologies in many communities. People have to be taught that it is not difficult to use computer and communications technologies to go online and that being able to interact in the CN environment is not beyond their capabilities.
 - Getting more people involved in the CN: Boards should think about ways to draw people in by encouraging them to participate in such activities as creating content and suggesting services (such as subject specific discussions that run on the CN for a specific amount of time), assisting in training, and helping out in public appearances. The CN has to become viewed as “valuable community property” instead of technology that belongs to the Board.

- Getting the CN more involved in the routines of major community institutions. An important step in the institutionalization of a CN is the recognition of its importance by other community institutions such as local government, schools, public libraries, and the not-for-profit and private sectors. If, for example, the CN hosted, managed, and provided access to local governmental and social service information for the community, it could become a digital community information center and “quasi-governmental agency.” Community members might then view the CN as a gateway to vital local information, and local governments, schools, and libraries might be more interested in having representatives on CN Boards and underwriting some operational costs.
4. CNs should make a concerted effort to find out what their members and communities want in their CN and begin developing appropriate local content and services. CNs should be looking to do more than provide pages and pages of lists of links; CNs must redefine themselves as digital community information centers, online places where community members can regularly and routinely interact with each other. Networks are composed of people: content draws them in - communication makes them stay. A CN that resembles an online yellow pages is not useful to community members.

To learn more about their communities, CNs should consider:

- Conducting community needs assessments through mail, phone, media based surveys (perhaps in the local newspaper) or meetings. The point of this exercise is to give community members a chance to tell the Boards what they want.
- Developing an ongoing evaluation strategy as a way of setting benchmarks and measuring progress. This would allow CNs to monitor their progress on an ongoing basis. Some of these data can be gathered easily with server transaction logs, others can be gathered by periodic focus groups (perhaps at membership meetings) and informal conversations
- Continually improving the design, layout, and usability of their web sites. An interesting exercise is to have different types of people try to navigate through the web site, perhaps in response to questions (what are the hours of the library?). Is the site easily handled by children? Senior citizens?
- **Developing more extensive reciprocal partnerships with schools and libraries** (and, where possible, local colleges and universities). There are many interactive projects that can be initiated between schools, libraries, and the CN. For example, the library could sponsor a young adult book review page where high school students post reviews on the CN that they have written in school classes while the CN provides a chat area where students can discuss the books and the reviews. There are many collaborative projects that are being conducted in primary schools around the world (such as environmental studies of water and pollution) that could be hosted by the CN.
- Developing relationships with local businesses and non-profit organizations. There are collaborative possibilities that could involve the creation of an electronic commerce incubator, where the CN could assist local businesses interested in establishing a web storefront. Real estate, tourism, and digital product (software, reservations etc.) companies are good candidates for such activities. However, this would require

the CN working out arrangements with their ISPs to offer secure transaction processing.

- Developing community-based interactive forums and databases that can be regional, neighborhood, or village specific. CNs should have job banks and resume databases for their members. Local clubs and organizations should have discussion areas or lists that they can use to communicate. There is a range of political information that can be made available to the community; there should be a wealth of local and regional government information that can be made available to members. The CN could sponsor electronic town meetings, chats with candidates, or discussions of relevant issues.

5. Finally, there must be a state-wide and concerted effort to develop viable strategies for self sufficiency and generating a revenue stream. All of the Board members who either responded to the survey or were interviewed mentioned that their CNs had to begin generating enough revenue to at least break even. Some suggestions and possibilities that emerged from the research include:

- The suggestion that ICNA and/or AI host a conference on sustainability and self sufficiency for member CNs. Such a conference could bring in people from CNs who have implemented activities and services that have led to revenue generation or who have successfully pursued grants and other funding opportunities.
- Hosting ecommerce. Many businesses are beginning to think about the potential of the web as a business opportunity. At the very least, the advertising value is clear for certain types of businesses; CNs should explore the possibility of acting as a “virtual incubator” for transaction-based storefronts.
- Collecting linkage fees paid by organizational members to subsidize the cost of connection to ISPs
- Soliciting business for design and build projects, although this depends on the Board having the necessary expertise in-house, unless they work a “finder’s fee” deal with a local web design firm. Taking on special web development projects for government, nonprofits, and local clubs and organizations.
- Hosting of and provision of access to government and real estate information for a fee.
- Seeking grants from local governments, foundations, large employers, not-for-profits in the service area. Developing and carrying out successful projects with these potential partners (participation in global K12 science projects; access to government information, electronic town meetings; training for employees, job and resume databases) increases the strength of the argument that they should have budget lines for supporting the community network.
- Providing fee-based interactive services, such as special aliased e-mail, e-mail accounts, and private mailing lists or chat areas. If the CN is not an ISP, these services would have to be hosted by the ISP with some of the fees handed back to the CN.
- Training for corporations and nonprofit organizations

4. Methodology

The study used three methods to gather data :

- *Content analysis*

Content analysis was used because it is an effective method for discerning patterns and themes in textual and graphic data. There were two objectives for this phase of the project, the evaluation of each site against a standard and the evaluation of the structure, depth, quality, design (text, graphics, CGI/Javascript/Java) and utility of each site's existing content. To develop the coding scheme, an AI document outlining the required features of CN web sites was used as a starting point. Next, three randomly selected web sites were examined and exhaustively described in terms of their content and structures. This produced a list of features and structural elements used as the basis for the first version of the coding scheme.

A trained coder then began to examine systematically each CN's web site, modifying the coding scheme as needed. By the third iteration, the scheme had stabilized into the final version (see Appendix A: Web Site Coding Scheme). The coding scheme was checked for reliability by one of the researchers, who recoded three web sites and compared the results to the work of the coder; the result of this exercise was intercoder reliability of 94%.

To get a sense of the structure of these CNs, site maps were drawn for each network.

- *Surveys*

Based on the research questions and a set of interviews with a sample of CN Board members, a survey instrument was developed. The instrument went through several iterations during a pretesting phase, where it was examined by two CN Board members and two researchers not connected with this project. Based on their observations and criticisms, the instrument was modified into the final version (see Appendix B: Interview and Survey Instrument).

The survey was administered to every CN board and technical staff member at all CNs that were not visited by the researchers. Its purpose was to gather data about the demographics of CNs, including the types of hardware and software used to develop content and maintain the network. It was also be used to develop an inventory of the resources and services made available through the networks and to collect management information, including statements of local goals, planning, and methods of evaluation. Finally, the surveys were used to collect information about the successes, failures and challenges faced by these networks.

During the first week of September, 1997, 194 surveys were mailed to CN Board members and technical staff. By the end of November, 1997, 43 surveys had been returned, of which 38 contained usable data, for a response rate of about 22%.

- *Case studies*

In order to gather more detailed information about CNs, seven sites were selected for case study analyses and visited by the researchers. These case study sites reflected geographic distribution (they were located across the state), and population size (large and small) and type (rural and urban). During these site visits, more extensive data were collected through interviews, observation, and document collection (budget documents, operations and training

manuals, policy and mission statements). Questions were asked about the range of information resources and services which were being offered to the public, how they were being used and how they could be improved. Also, data were gathered about the management and daily operation of these networks.

In addition, the researchers set up an unmoderated CN listserv in August, 1997, with membership restricted to CN board members and technical staff to provide a “private forum” for them to discuss issues raised during the research. The hope was that this communication channel would be used by the CN members and would provide additional longitudinal data; unfortunately, after a flurry of introductions, list traffic dropped off and eventually ceased.

- *Utility of this methodology:*

One goal of this research was to develop a portable methodology for the evaluation of CNs that can be used in other settings and the data collection strategies described below can serve as a basis for such a methodology. The combination of data collection techniques proved to be very useful in gathering a wide range of information about CNs. Content analysis is a powerful and non-intrusive technique for discerning patterns in a sample of data instances, particularly when they are textual in nature. The coding scheme allowed both the description of the “typical” CN web site and a means by which the individual web sites could be compared and contrasted. This scheme can easily be used as a template for analyses of other CN sites, although some modifications are to be expected to adapt the instrument to local conditions.

Surveys and interviews are useful techniques for gathering data from a large number and wide range of people. The interview schedule was an effective tool for opening and carrying out in depth conversations with CN Board members; the questions were on target and the language was easily understood. The survey instrument developed for this study generated rich data from those who took the time to fill it out. However, there was a low response rate. This may indicate that the instrument requires further modification; it may also indicate that the researchers did not handle the promotion and distribution of the instrument in as effective a way as could have been done.

The site visits were very useful because they allowed the researchers to observe the routine workings of CN Boards; most of the visits coincided with Board meetings. Conversations with Board members before and after these meetings proved to be rich sources of data, allowing the researchers to follow up on matters raised in the meetings and probe further about issues covered in the interviews.

5. Background of the researchers

Howard Rosenbaum joined the faculty of the School of Library and Information Science in 1993. His research interests include the history and development of electronic networking, with a focus on the emerging National Information Infrastructure and its implications for the information professions, the “public digital library,” electronic commerce, electronic publishing and copyright, community networking, computer mediated communication, the study of managers and information, and organizations, and the intersection of theoretical approaches in library and information science and sociology. Rosenbaum has been a co-author on two national research studies, *Managing*

Information Technologies: Transforming County Governments in the 1990s (1992), and *The National Research and Education Network: Research and Policy and Perspectives* (1991). He has presented his work at American Society for Information Science midyear and national meetings, the International Communications Association, the Canadian Association for Information Science, and the American Sociological Association.

He has had extensive experience using qualitative methods in a variety of settings to investigate a range of research problems in library and information science. Rosenbaum teaches in the areas of information networking, electronic commerce, intellectual freedom, information organizations, and social science information and offers continuing education workshops for librarians and information professionals in HTML, web page design, and the use of the internet.

Kim Gregson is a doctoral student in School of Library and Information Science. She has an extensive background in computers and information networking and has worked as a web programmer and programmer. Her research interests include community networking and political participation, and she has presenting work on this topic at the National Meetings of the American Society for Information Science in fall 1997. She has compiled an online bibliography on the topic of community networking and teledemocracy and will be co-teaching a course on community networks this fall.

6. Budget

<u>Activity</u>	<u>Rate</u>	<u>Requested</u>	<u>Actual</u>
<u>Consulting</u>			
Principal Investigator	20 days @ 187.50/day	3750.00	3255.45
University contribution to FICA			261.37
<u>Data collection</u>			
<u>Survey</u>			
Copying	300 copies (6 pgs)@ .8/page	150.00	
Mailing	300 surveys@ .64	<u>192.00</u>	
		342.00	48.00
<u>Telephone</u>			
Interviews and arrangements (and follow-up as needed)		200.00	
Taping of interviews	60 microcassette tapes@ 1.50	90.00	
Supplies		<u>200.00</u>	
		490.00	298.53
<u>Data analysis</u>			
Data entry	40 hrs.@ 8.00	320.00	
Content analysis	60 hrs@ 8.00	480.00	
Interview transcription	180 hrs@ 8.00	<u>1440.00</u>	
		2240.00	1200.00
University contribution to FICA			231.14
<u>Travel</u>			
Mileage	1000 miles@ .25/mile	250.00	
Hotel	12 nights@80.00/night	960.00	
Food	12 days @24.00/day	<u>288.00</u>	
		1498.00	581.74
<u>Total</u>		<u>8320.00</u>	<u>5,878.23</u>

Bibliography

- Access Indiana. (1997). Access Indiana Online Brochure.
URL: http://www.ai.org/intel/aibrochure/ind_text/page1.htm
- Access Indiana. (1995). Community Network RFP.
URL: <http://www.ind.net/ACCESS/CNRFP/cnetrfp-1.html>
- Beamish, A. (1995). Communities On-Line: Community Based Computer Networks. Masters Thesis
URL: <http://alberti.mit.edu/arch/4.207/anneb/thesis/background.html>, 1995.
- Graham, G. (1995). A Domain Where Thought is Free to Roam: The Social Purpose of Community Networks. prepared for Telecommunities Canada, 3/29/95
URL: <http://panizzi.shef.ac.uk/community/canada.html>
- Indiana Community Network Association. (1997a). Board Policy Handbook: ICNA Mission and Goals.
URL: <http://www.icna.ai.org/hand.html>
- Indiana Community Network Association. (1997b). Board Policy Handbook: Section 8.01 Community Network Definition.
URL: <http://www.icna.ai.org/hand8.html>
- Indiana Rural Development Council. (1997a). IRDC urges rural communities to apply for community network grants. Press Release.
URL: <http://www.ai.org/irdc/press.html>
- Indiana Rural Development Council. (1997b). Governor O'Bannon, Lt. Governor Kernan and Superintendent Dr. Suellen Reed Award \$30,000 In Community Network Grants To Seven Local Community Leaders. Press Release
URL: <http://www.ai.org/intel/pr020497-2.html>
- Kretzmann, J. and McKnight, J.L. (1993). *Building communities from the inside out : a path toward finding and mobilizing a community's assets*. Evanston, IL: Center for Urban Affairs and Policy Research, Northwestern University, 1993.
- Morino, M. (1994). Assessment and Evolution of Community Networking. Presented at the Apple Conference on Building Community Computing Networks, Cupertino, CA, 5/5/94.
URL: <http://www.morino.org/ties94sp.html>
- Odasz, F. (1996). Community Networking: Leveraging the Public Good Electronically! (Or, Networking in the Public Interest).
URL: <http://macsky.bigsky.dillon.mt.us/>
- Schuler, D. (1996). *New Community Networks: Wired For Change*. Reading, MA: Addison-Wesley.
- Schuler, D. (1996). How to Kill Community Networks - Hint: We May Have Already Started. *The Network Observer*, 1/96a,
URL: <http://www.scn.org/ip/commnet/kill-commnets.html>
- Van Tassel, J. (1996), Yakety-Yak, Do Talk Back!: PEN, the Nation's First Publicly Funded Electronic Network, Makes a Difference in Santa Monica. In Kling, R. (Ed.) *Computerization and Controversy: Value Conflicts and Social Choices, 2nd edition*, San Diego, CA: Academic Press. p. 547-551.
- Whitman, M. (1997). ACCESS INDIANA Meeting Notes, February 4, 1997.
URL: <http://www.ai.org/intel/a020497.html>

Appendix A: Web Site Coding Scheme

Community Network Website Codesheet 3.0

Site URL: http://

Site name:

Date:

Coder:

Structure

10 Home Page:

- __100 Display the ACCESS INDIANA logo with a direct link to **www.ai.org**
- __1000 Display the ICNA logos with a direct link to **www.icna.ai.org**
- __1001 Provide a direct link to the current ICNA-recommended guidelines for website accessibility by persons with disabilities at **www.icna.ai.org**
- __1002 Link to the AIIN map
- __10020 ICNA list of CNs
- __1003 CN logo
- __101 Textual identification of the community the CN represents
- __102 Graphical identification of the community the CN represents
- __103 Link to the design company/authors
- __104 Table of contents
- __1040 TOC Image map
- __105 Link to site map
- __106 Other:

20 Design features

- __200 Graphics
 - __2000 Background colors
 - __2001 Background graphics
 - __2002 Still images (.jpg, .gif)
- __201 Multimedia
 - __2010 Animated graphics (.gif)
 - __2011 Sound
 - __2012 Quicktime or other animation formats
 - __2011 Video
- __202 Frames
- __203 Interactive features
 - __2030 Locally sponsored discussion groups and listservs
 - __20300 Instructions for subscribing
 - __20301 Access to discussion groups/listservs of interest sponsored by other community nets, AIIN or ICNA
 - __2031 Web based text conferencing
 - __20310 Chat rooms
 - __2032 Forms
 - __20320 Demographic
 - __20321 Comments/Feedback
 - __20322 Ecommerce order form
 - __2033 Cookies How many? ____
 - __2034 Counter
 - __2035 Java
 - __2036 Javascript
 - __2037 Perl/CGI
 - __2038 <mailto> link for user to send mail to the CN

- __2039 Other:
- __204 Local search engine
- __2040 Web search engine
- __205 Other:

Content

30 Local CN Content

- __300 Info about the CN
 - __3000 By-Laws
 - __3001 History of the CN
 - __3002 Information about the Board of Directors
 - __3003 Mission statement
 - __3004 What's new
 - __3005 Other:
- __302 Acceptable use Policy
 - __3020 Information for parents about keeping kids safe on the internet
 - __3021 Other:
- __303 Financial Statement
 - __3030 Previous financial statements
- __304 A schedule of upcoming meetings
 - __3040 Minutes/notes of past meetings
- __305 Individual membership information
 - __3050 Info on how to join
 - __3051 Benefits of being a member
 - __3052 Costs of being online
 - __3053 Other:
- __306 Corporate membership information
 - __3060 Info on how to join
 - __3061 Benefits of being member
 - __3062 Costs of being online
 - __3063 Other:
- __307 Other services
 - __3070 Computer training
 - __3071 General internet training
 - __3072 Using the web
 - __3073 Creating web pages
 - __3074 Location of public access terminals
 - __30740 Hours of availability
 - __30741 Policies for use
 - __3075 Other:
- __308 Other:

40 Local links

- __400 Links to Community information
 - __4000 History
 - __4001 Demographics/population/census information
 - __4002 Map(s)
 - __4003 Photos of landmarks
 - __4004 Other:
- __401 Local government
 - __4010 A directory of all elected officials

- __40100 Street addresses, mailing addresses, telephone numbers, fax numbers and e-mail addresses for all city and county offices
- __40101 Photos of all city and county office buildings
- __40102 Other:
- __4011 Calendar
 - __40110 Notice of upcoming meetings
 - __40111 Agenda for all upcoming meetings
 - __40112 Minutes from all past meetings
 - __40113 Other:
- __4012 Election Information
 - __40120 Dates of upcoming elections
 - __40121 Information about voting, registration
 - __40122 Location of polling places
 - __40123 Candidate information from past/upcoming elections
 - __40124 Past election results - by candidate, by voter demographic
 - __40125 Other:
- __4013 Background information on political issues
 - __40130 Online Opinion Polls/Past Poll Results
 - __40131 Other:
- __4014 Local govt information (reports)
- __4015 Other:
- __402 Links to local K-12 schools and school corporations
 - __4020 A map, with boundaries, of all schools and their school corporations
 - __40200 The street address, mailing address, telephone number, fax number and email address for each school corporation
 - __40201 Copy of each school corporation's budget
 - __4021 School Board information
 - __40210 Local school board meeting dates
 - __40211 Agendas for upcoming school board meetings
 - __40212 Archive of minutes from past school board meetings
 - __40213 Copy of school board policy manuals
 - __40214 Photos and biographies of members of the local school boards
 - __40215 Other:
 - __4022 Individual Schools
 - __40220 Current school lunch menus
 - __40221 Archived copies of school newspapers
 - __40222 Copies of student handbooks
 - __40223 A calendar of events for each school
 - __40224 The street address, mailing address, telephone number, fax number and e-mail address for each school
 - __40225 Photos of every school, principal and superintendent
 - __40226 Web pages for individual classes/students/teachers at the school
 - __40227 Other:
 - __4023 Info on educational alternatives - home school contacts, trade schools, correspondence courses
- __403 Links to local public libraries (website, if available)
 - __4030 If a separate website is not available, the street address, mailing address, telephone number, fax number and e-mail address for each library with photos of each library and its director
 - __4031 Links to each library's to each library's on-line catalog
 - __4032 A map showing each library's location
 - __4033 Hours of operation
 - __4034 A calendar of events
 - __40340 Local library board meeting dates

- __40341 Agendas for upcoming library board meetings
- __40342 Archive of minutes from past library board meetings
- __40343 Other:
- __4035 Photos and biographies of members of the local library boards
- __4036 Copy of library board policy manuals
- __4037 Copy of each library's budget
- __4038 Other:
- __404 Links to local service organizations (website, if available)
- __4040 If a website is not available, the logo, street address, mailing address, telephone number, fax number and e-mail address for each organization and its director
- __4041 A calendar of events and activities
- __4042 Information about special projects and how to contribute
- __4043 Photos and biographies of members of the local boards
- __4044 Local volunteer opportunities
- __4045 Other:
- __405 Links to local businesses and professional services (website, if available)
- __4050 If a website is not available, the street address, mailing address, telephone number, fax number and e-mail address
- __4051 Presence of advertisers/sponsors
- __40510 Banner ads
- __40511 Smaller logos
- __40512 Link to company site, company name
- __40513 Other:
- __4052 Link to local Chamber of Commerce
- __40520 If a website is not available, the street address, mailing address, telephone number, fax number, and e-mail address
- __40521 Names and photos of the director, Board members
- __40522 Other:
- __4053 Link to local Economic Development Council
- __40530 If a website is not available, the street address, mailing address, telephone number, fax number, and e-mail address
- __40531 Names and photos of the director, Board members
- __40532 Other:
- __4054 Link to local Rural Development Council
- __40540 If a website is not available, the street address, mailing address, telephone number, fax number, and e-mail address
- __40541 Names and photos of the director, Board members
- __40542 Other:
- __406 Links to local places of worship (website, if available)
- __4060 If a website is not available, the street address, mailing address, telephone number, fax number, e-mail address,
- __4061 Photo and map location for each site
- __4062 Service dates and times
- __4063 Other:
- __407 Links to local health care facilities (website, if available)
- __4070 If a website is not available, the logo, street address, mailing address, telephone number, fax number, e-mail address
- __40700 Photo and map location for each facility
- __40701 Photos and biographies of members of the local boards
- __4071 A calendar of events and activities
- __4072 Information about special projects and how to contribute
- __4073 Descriptions of specialties, if there any
- __4074 Local health care pamphlets and information

- __4075 Other:
- __408 Links to local public and utility service/organizations (arts/cultural, parks, recreational facilities, transportation providers, trash services, etc.)
 - __4080 If a website is not available, the logo, street address, mailing address, telephone number, fax number, e-mail address
 - __40800 Photo, address, and map location for each facility
 - __4081 The street address, mailing address, telephone number, fax number, e-mail of the local parks/recreation office
 - __40800 Name, photo of the Director
 - __40801 Photos and biographies of members of the local board
 - __4082 Hours of operation
 - __4083 Schedules
 - __4084 Reservation information
 - __4085 Information about special projects and events
 - __4086 Other:
- __409 Links to local media
 - __4090 Links to local TV stations
 - __40900 <mailto> to the station
 - __40901 If a website is not available, the logo, street address, mailing address, telephone number, fax number, e-mail address
 - __40902 Other:
 - __4091 Links to local radio stations
 - __40910 <mailto> to the station
 - __40911 If a website is not available, the logo, street address, mailing address, telephone number, fax number, e-mail address
 - __40912 Other:
 - __4092 Links to local newspapers
 - __40920 <mailto> to the editor
 - __40921 If a website is not available, the logo, street address, mailing address, telephone number, fax number, e-mail address
 - __40922 Other:
 - __4093 Online Local news
 - __4094 Community bulletin board
 - __40940 An archive of all court reports
 - __40941 An archive of all police reports
 - __40942 An archive of all state and Federal tax liens
 - __40943 Postings from community members
 - __40944 An archive of all public announcements and legal statements from tax-supported institutions
 - __40945 Other:
 - __4095 A link to local/regional weather
 - __4096 Other:
- __410 Links to Local Realtors (website, if available)
 - __4100 If a website is not available, street address, mailing address, telephone number, fax number, e-mail address and map location for each Realtor
 - __4101 A link to the local Board of Realtors
 - __4102 Other:
- __411 Links to local extension services (website, if available)
 - __4110 If a website is not available, the street address, mailing address, telephone number, fax number, e-mail address, and map location for the service office, with photos of the extension educators
 - __41100 Photos of the extension educators
 - __4111 A calendar of events and activities

- __4112 Information about special projects and programs
- __4113 Local service pamphlets and information
- __4114 Other:
- __412 Links to local military (website, if available)
 - __4120 If a website is not available, the street address, mailing address, telephone number, fax number, e-mail address
 - __41200 Photo and map location for the National Guard Armory
 - __41201 Photo of the local commanding officer
 - __4121 A calendar of events and activities
 - __4122 Information about special projects and programs
 - __4123 Local service pamphlets and information
 - __4124 Other:
- __413 Links to local job/employment opportunities (website, if available)
 - __4130 If a website is not available, the street address, mailing address, telephone number, fax number, e-mail address
 - __41300 Photo and map location for the local Office of Workforce Development
 - __4131 A listing of current employment opportunities
 - __4132 Local service pamphlets and information
 - __4133 Other:
- __414 A current community calendar
 - __4140 Last year's calendar, this year's calendar and next year's calendar
 - __41400 Searchable by date, event type and/or applicable age group.
 - __4141 Direct entry option for passworded users
 - __4142 Links to other relevant on-line calendars
 - __4143 Other:
- __415 Other:

50 Regional, State & National Links

- __501 Other CNs
 - __5010 The AI list of community networks in Indiana
 - __5011 Other:
- __502 State government
 - __5020 Homepages of elected officials.
 - __5021 Other prominent and relevant state information available via AIIN.
 - __5022 Links to regional and state Workforce Development websites.
 - __5023 A link to the Indiana Department of Education IDEANet homepage
 - __5024 Links to regional, state military websites
 - __5025 A link to the Purdue University Extension Service website
 - __5026 Other:
- __503 Business
 - __5030 Links to regional, state Boards of Realtors
 - __5031 Links to national Boards of Realtors
 - __5032 Links to regional Economic Development Councils
 - __5033 Links to national business organizations
 - __5034 Other:
- __504 Media
 - __5040 Links to regional, state news sources
 - __5041 Links to national news sources
 - __5042 Other:
- __505 Health care
 - __5050 Links to the Indiana Department of Health and national health care websites
 - __5051 Other:

- __506 Recreation
 - __5060 Links to state parks and facilities
 - __5061 Links to national parks and facilities
 - __5062 Other:
- __507 Libraries and education
 - __5070 A link to the Indiana State Library homepage
 - __5071 Links to all university libraries in Indiana
 - __5072 Links to all Indiana college and university websites
 - __50720 A map indicating the location of local colleges and universities
 - __5073 A link to the Indiana Higher Education Commission
 - __5074 Links to state service organizations
 - __5075 Other:
- __508 National government
 - __5080 Homepages of elected officials.
 - __5081 Federal government departments/agencies
 - __5082 Links to national military websites
 - __5083 Links to national political parties
 - __5084 Other:
- __509 Other:

6.0 Other

Appendix B: Interview and survey questions

A Study of State-Funded Community Networks in Indiana

Community Network Board Member Survey

**School of Library and Information Science
Indiana University**

Funded by the Indiana Department of Education

August 1997

**Dr. Howard Rosenbaum
Ms. Kim Gregson**

Purpose: The main objective of this survey is to gather data about the current state of state-funded community networks (CNs) in Indiana. The survey will be used to develop an inventory of the resources and services made available through the CNs and to collect management information, including statements of local goals, planning, and methods of evaluation. Information will be collected about the successes, challenges, and failures faced by Cns in the last year.

This information will also enable the researchers to assess the cooperative strategies currently used by existing CNs, critically examine the means by which potential users and content providers can be made aware of the value of community networking, and focus on the public education and public library components of community networking.

Your cooperation is essential in this study. We hope that you will take the time to fill out and use the enclosed envelope to return this survey; you may also fax the survey to 812.855.6166 if this is more convenient. The data collected in this survey will be aggregated for reporting purposes, so individual responses will be anonymous and will remain confidential.

We would appreciate the return of the completed survey by Friday, October 4, 1997.

Questions regarding this survey should be addressed to:

Dr. Howard Rosenbaum
<hrosenba@indiana.edu>
Main Library 011
School of Library and Information Science
10th and Jordan
Indiana University
Bloomington, Indiana 47405-1801
821.855.3250 (Voice)
812.855.6166 (Fax)

A. The Community Network Board of Directors:

1. How many Board members do you have? _____
 - a. What sectors of the community are represented on the board?
 K-12 Private citizen Public library
 Local business Local government Local university/college
 Other (please describe): _____
 - b. How are candidates recruited for the Board?
 - c. How many Board meetings were held last year? _____ How many did you attend? _____
2. Which of the following best describes the Board's decision making process
 Robert's Rules of Order Consensus building
 Majority voting
 Other (please describe): _____
3. In your opinion, what are the three most important decisions the Board made in the last year?

B. The CN and the community

4. How satisfied are you with the current relationship between the CN and the community (Circle one)?

Very unsatisfied			Neutral			Very satisfied
1	2	3	4	5	6	7

 - a. Briefly describe the relationship between the CN and the community
 - b. How does the CN strengthen the "sense of community"?
 - c. What has the community done to support the CN?
 - d. What are the measures that you look for to indicate the impact the CN is having on the community?
5. How many users do you have?

Individual _____	K-12 (teachers, staff) _____
Business _____	Public library (librarians) _____
Govt/non-profits _____	

Total number (if you can't break them out into categories) _____

 - a. Briefly describe your typical individual users
 - b. Why are they using the system?
 - c. How many users do you gain from month to month? _____
 - d. How many users do you lose from month to month? _____
 1. Why do they leave the CN?

e. How do you communicate with your users (Check all that apply)?

- Email
- Web page announcements
- Bill insert
- Newsletter
- Local media
- Other (please specify)

f. Which of the following describe your typical communications with your users (Check all that apply)?

- Feedback about current and proposed content
- Soliciting information about what the resources and services they want,
- Feedback about how they think the CN is doing
- Information about power outages, downtime and maintenance
- Other (please describe):

6. Who develops content for the CN? (Check all that apply)

- Board Members
- Subcontractors
- CN members
- Non-members

a. Have you funded content development? Yes ___ No ___

1. If yes, briefly describe the process (competitive grants...)

2. What limitations did funders place on you (in the AI money for example) in the type of content that you could pay to have developed?

7. Do you have any paying advertisers or sponsors on your site? Yes ___ No ___

If no, skip to Question 8

a. How did you set your rates?

b. What are your rates for different sized businesses?

c. What are your rates for profit/non-profit organizations?

d. What are your rates for companies in your area vs. outside of the area?

e. Do you have any restrictions about who may advertise on or sponsor your CN? Yes ___ No ___

1. If yes, who may not advertise or provide sponsorship?

f. Do you have any restrictions about advertising or sponsorship content? Yes ___ No ___

1. If yes, what are they?

2. Do you provide statistics to the businesses about users or about usage, such as the number of hits on their page each month? Yes ___ No ___

g. Have any businesses stopped running their advertising or sponsorship? Yes ___ No ___

1. If yes, why?

8. How are you promoting and marketing the CN? (Check all that apply)?

- | | |
|--|--|
| <input type="checkbox"/> Word of mouth | <input type="checkbox"/> Press releases |
| <input type="checkbox"/> Newspaper advertising | <input type="checkbox"/> Radio advertising |
| <input type="checkbox"/> Organizational newsletters | <input type="checkbox"/> Direct mail |
| <input type="checkbox"/> Appearance at public events (fairs, festivals, demos) | |
| <input type="checkbox"/> Other (please describe): | |

a. In your opinion, how successful are these efforts (Circle one)?

Very unsuccessful		No effect		Very successful		
1	2	3	4	5	6	7

9. Please describe the relationship between the CN and the local schools (in the space below)

- What types of programs is the CN running with the schools?
- How many teachers have been trained how to use the features of the CN? ____
- How many students have been trained? ____

10. Please describe the relationship between the CN and the local public libraries (in the space below)

- What types of programs is the CN running with the libraries?
- How many librarians have been trained how to use the features of the CN? ____
- How many library patrons have been trained? ____

11. What other organizations/companies/groups in the community work with the CN? (Please list)

- How do these organizations/companies/groups use the CN?

12. Do you use volunteers? Yes ____ No ____

If yes, please answer (a) to (c); if no, skip to (d)

- How many? ____
- What are their main tasks?
- How do you recruit them?
- Please explain why you do not use volunteers

C. Your CN (Goals, resources and services, costs)

13. In your opinion, what were the three most important challenges the CN faced in the last year? (List below)

- How did you resolve them?
- In your opinion, what is the CN's biggest challenge in the next 12 months?

14. In your opinion, what are the three most important successes accomplished by the CN in the last year

15. In your opinion, what has been the CN's biggest failure?

- a. Why do think this happened?
- b. How did you deal with it?

16. In your opinion, what should be the main goal of the CN for the next year?

17. Please assess the long term financial stability of the network (Circle one)

Very Unstable Unstable Stable Very stable
1 2 3 4 5 6 7

a. What strategies is the Board pursuing to achieve sustainability? (List below)

- 1. In your opinion, what are the three greatest obstacles that the CN has to overcome to achieve sustainability?
- 2. What other revenue streams is the CN investigating?
- 3. What information would you need to help you investigate sustainability issues?
- 4. Who have you talked to in the community about sustainability for the CN?

b. When would you estimate that the network will achieve self-sufficiency?

c. Who have you approached about grants, matching funds, donations

- 1. Was the effort successful? Yes ___ No ___

18. What are the CN's revenues? Monthly _____ Quarterly _____

a. What are the sources of these revenues?

b. When do your contracts for T1 or modem pool access need to be renegotiated? _____

- 1. Do you expect the cost to increase or decrease?
- 2. Do you have plans to change who manages your server in the future? Yes ___ No ___
 - a. Why?

19. What do you charge for membership? Individual members _____
 Commercial members _____
 Non-profit members _____

a. What do you get rebated back from the ISP per user?

20. Which of the following do you host on your CN (Check all that apply; if none apply, please skip to (d))?

- ___ Personal webpages for users ___ Chat rooms/groups
- ___ Pages for commercial or organizational members ___ Threaded discussions

- 23. Of ICNA's various activities, which ones do you object to?
- 24. What would you like to see ICNA do for your CN in the next year?
- 25. What services would you like the ICNA to offer as benefits of membership?

E. Personal Information

- 26. How long have you been a Board member? ____
- 27. Gender M ___ F ___ Age _____
- 28. What is your occupation? _____

29. How would you assess your computer experience?

Novice			Intermediate			Expert
1	2	3	4	5	6	7

30. How would you assess your internet experience?

Novice			Intermediate			Expert
1	2	3	4	5	6	7

Thank you very much for participating in this survey.

Use the enclosed envelope to return the survey to: Howard Rosenbaum Mail Library 011 School of Library and Information Science Bloomington, IN 47405-1801	You can fax the completed survey to: Howard Rosenbaum 812.855.8166
---	--

Appendix C: State-funded Community Networks in Indiana

Access Bartholomew County	connect)
http://www.columbus.in.us	http://www.franklincoll.edu/comweb/
Access Bartholomew County	LakeNET
http://www.accessevansville.org	http://www.thetimesonline.com/lakenet/
Access LaPorte County	Michiana Free-Net Society
http://www.lc-link.org	http://www.michiana.org
Access Perry County	Midwest Prairie Net
http://www.perryco.org	http://www.prairienet.ai.org
Access Spencer County	Noble Community Access Network
http://www.spencerco.org	http://www.noblecan.org
Boone County Community Network	South Central Indiana Community Access Network
http://www.bccn.boone.in.us	http://www.scican.net
CarrollNet	Sheridan Community Network
http://www.carlnet.org	http://www.sheridan.org
CommuniNet	SouthLake Net
http://www.communinet.org	http://web1.icongrp.com/webpages/south/
Crawford County Community Network	Waynet (not online yet)
http://www.cccn.net	http://waynet.wayne.in.us
DeKalb County Community Network	West Central Indiana Community Net
http://www.dekalbnet.org	http://www.wcic.org
East Central Indiana Community Net	
http://www.ecicnet.org	
Falls Cites Community Network	
http://fccn.venus.net	
Fort Wayne Area InfoNet	
http://www.ft-wayne.in.us	
Greenet	
http://www.greenet.net	
HoosierNet	
http://www.bloomington.in.us	
Huntington County Community Network	
http://www.huntington.in.us	
Indianapolis OnLine	
http://www.indianapolis.in.us	
Johnson County Community Network (could not	