

I. PROJECT NARRATIVE

A. *Project Purpose*

The Pueblo of Santa Ana is a Native American community located midway between Albuquerque and Santa Fe in New Mexico. Residents (646 total) live in 170 homes on the Pueblo, with an additional 18 homes under construction through a joint Tribal and U.S. Housing and Urban Development program. As a federally recognized Indian nation comprising 79,034 acres within the United States, we (the Pueblo of Santa Ana) possess our own government structure with 12 departments, each with its own mission and goals. Each of the units within the Santa Ana Government realize a significant need to share information with other departments, with outside organizations, and with Pueblo residents. The widely distributed centers of government often have difficulty communicating effectively using existing techniques. Through departmental surveys and interviews over the past year (1999) conducted by the Tribal Administration, each of the departments has expressed a keen interest in using telecommunications technologies to facilitate information sharing and community input in Tribal operations. The result of these surveys and interviews is a Technology Goals statement and departmental intranet use plan (see p. A-6) for the Pueblo with 10 key points for improving the digital literacy of the residents of our community. In order to provide continuity with the past in a contemporary setting, we seek to implement a Tribal Community Empowerment program that is responsive to the Tribe's unique cultural heritage, yet realistic of its setting in the new millennium. The six project goals are outlined below:

1. Encourage active participation in Tribal decision-making through improved communication among government entities and Santa Ana community members;

Under the Pueblo of Santa Ana's 12 government departments are 10 existing entities. An Information Technology Services Department is under development and U.S. Indian Health Services maintains a medical clinic. The Tribal Administration oversees each of the government departments which are spread throughout various buildings on the Pueblo. See the appendix for an organizational chart (p. A-2) and a description of each of the departments (p. A-7). To balance development of the community with the Pueblo's values for community input, the Tribe seeks to develop a broadband wireless network that will provide:

- A *Santa Ana community intranet* to facilitate information sharing among Tribal Government and community members;
- *Internet access* for all government departments and community members; and
- A *Santa Ana Government local area network (LAN)* for secure information sharing.

Currently Government communication relies on: i) telephones without voicemail or ii) in-person conversations. Present communication methods are outdated, time-consuming, and inefficient. For example, Tribal Council meetings are currently arranged by going door-to-door of Tribal Council members' homes to schedule a meeting. As a result, communication is completely dependent on the availability of the conveyor and recipient. Similarly, Santa Ana's traditional or historical pueblo, *Tamaya*, where many of the current residents hold an ancestral home, has suffered from vandalism attacks in recent years. Each night a different Tribal male has responsibility for keeping watch on *Tamaya* but each person's turn on the watchlist is communicated verbally and sometimes forgotten as Pueblo members attend to other responsibilities. A watchlist calendar that all *Tribal* members can view online will greatly enhance the security of *Tamaya*. Additionally, the Tribal Administrator has repeatedly emphasized that he wants and needs better information from Tribal members in order to make effective decisions on behalf of the Santa Ana community as he leads them into the 21st century. The proposed network seeks to transform Tribal governance from one-way to two-way by encouraging more active participation by all community members.

All Tribal residents will receive access to the Santa Ana community intranet and Internet via their choice of set-top boxes or computers in their homes. The Tribal Government seeks to use the Tribal

intranet for the following three purposes: 1) **information access:** to provide Pueblo members with greater information access to Tribal resources through departmental websites; 2) **service delivery:** to provide citizens with ready access to government services via online requests; and 3) **communications:** to facilitate more efficient communication linkages among government officials and Tribal citizens. The intranet will use input forms and other mechanisms for soliciting community input, allowing the Tribal Government to make better-informed decisions. Internet access will provide community members with the ability to participate in the growing digital society. Additionally, the secure Santa Ana Government LAN will greatly improve the means of communication among Tribal decision-makers in each of the 12 government departments.

2. Improve community access to government resources via access to the Tribe's intranet with content available in written and spoken English and spoken Keresan in each community member's home;

As with any network, the network's value increases with each additional user. The Tribe will therefore implement the community network strategically, with the goal of reaching the most users first. In the first phase, each of the government departments will be networked. The second phase will network homes in each of the three Tribal villages (Chical, Ranchito, and Rebahane) with access to the Santa Ana intranet and Internet access. Each of the terminals in the homes will connect to a Santa Ana Pueblo intranet start-up screen that includes pointers to relevant Internet resources. The intranet will enhance the ability of Tribal members to enrich community relationships and will provide information in audio-streamed Keresan for those community members who do not read English—helping to preserve the language. Keres is one of the 18 most popular American Indian languages, as indicated by the 1990 U.S. Census report and is spoken on the Pueblo of Santa Ana, but does not comprise a written format. Results of a survey of the government departments that lists how the network will be used to improve communications is included on p A-7. Although the Tribe is very excited about the opportunities a broadband network will bring to the community, we are also very aware of the dangers it brings to our cultural heritage. To limit the potential negative impacts of intensive technology integration into Tribal affairs, the Tribe will develop its own intranet with content focused on the needs of our community members, and developed by Santa Ana citizens.

3. Cultivate leadership and 21st century skills in the younger population via internships and mentorships in Tribal Government units and tailored courses provided by the Southwestern Indian Polytechnic Institute (SIPI);

In recent years, the Santa Ana community has realized that fewer and fewer of our younger generation graduate high school, let alone college or university. Anecdotal evidence indicates that many young people in the community do not see the value in continuing their education when they can find an immediate job at a local retail-level business. Tribal leaders see this as a significant problem, since these jobs usually have few opportunities for advancement and do not adequately prepare the Tribal community for participation in the digital economy. If the Tribe does not grow its own technical people, we will have to hire non-Tribal people to fill these jobs. The Pueblo of Santa Ana, as a means of self-sufficiency and empowerment, needs to hire Tribal members to perform Tribal functions. But for those students who do leave the Santa Ana community to go to college, Tribal leaders see two primary difficulties: (1) Students are ill-prepared academically and socially to go from a rural, insulated setting to the institutional setting of a university. The Tribe has found that even the high school honor roll students feel overwhelmed and as a result, drop out; and (2) If all the school hurdles are met and students achieve their degrees, they face an additional problem. With few jobs requiring college-level skills in or near the Pueblo community, they are forced to go elsewhere, even if they would prefer to return to Santa Ana to contribute their expertise for the benefit of the Pueblo community. To address this concern, the Tribe has developed a partnership with the Southwestern Indian Polytechnic Institute (SIPI), a local two-year college located in Albuquerque that provides learning opportunities in an environment sensitive to the needs of Native Americans. As an intermediary step between life on a reservation and the sometimes intimidating culture of a four-

year university, SIPI has been successful in encouraging Tribal students to pursue their education as well as in gaining an understanding of concepts such as market enterprise and the economy which are foreign to many Tribal members.

An integral component of this project is to groom Santa Ana's younger population for Tribal leadership with a view towards the skills needed in the Information Age. Through this project, 12 Santa Ana students each semester will receive scholarships funded by the Santa Ana Tribe for books and fee expenses at SIPI. These 12 students will also receive paid internships within the Santa Ana Government's Tribal departments. The average age of students at SIPI is 29, so although the internships target Santa Ana's college-age students, opportunities will also be made available to Tribal adults. Each intern will be assigned to a mentor within a government department. Mentors will be selected based on their leadership capabilities and subject matter expertise. In many cases, mentors will be non-Tribal members, ensuring a healthy diversity of job-related experiences for students. Tribal leaders have expressed concern that very few Tribal members and employees have past mentoring experience. Therefore, we will create a half-time staff position to manage the mentoring and internship program. (See Career Skills Coordinator job description on p. A-11.)

Working with their mentor and the Website Consultant, the interns will select appropriate departmental content and develop and maintain the website for the Santa Ana intranet. The internships will be mutually beneficial to both the interns and the Tribal departments as the interns will receive payment for their services and the Tribal departments would receive the knowledge and skills of a technology-savvy intern. Each of the departments will pay a slightly higher rate than the wages paid at local businesses so students will see the benefits of continuing their education. After initial meetings with the faculty at SIPI, leaders at Santa Ana selected two courses that meet the preliminary technology skills needs of the internship program. SIPI has agreed to provide these two courses at an accelerated pace. These two courses are usually taught over a semester period but for the purposes of this project, will be taught over a period of one month each semester so that the students can begin to use their new technical skills immediately upon employment in the Tribal departments. The two accelerated courses are *Introduction to Microcomputer Applications* and *Web Publishing*. Full course descriptions are outlined on p. A-12.

4. Attain information literacy and digital skills among all age groups of the Santa Ana community.

The Tribe seeks to attain information literacy and digital skills through computer-training courses at the Pueblo. Through funding provided by a New Mexico Department of Labor Job Training Partnership Block grant, Santa Ana currently offers evening computer classes for working adults who are looking for ways to improve their skills and advance in their careers through an existing relationship with a highly-successful, local computer training company called Desktop Solutions. (See full details on p. A-12.) The Pueblo will hire a Network Administrator to maintain the network with the goal of transferring this responsibility to a Tribal member. The Network Administrator will also teach novice and advanced computer training courses to Pueblo members, with the ultimate goal of having an information literate Tribal population—one that is capable of dealing with the ever expanding reach of technology and information. Training will take place in the computer lab in the Department of Education which currently has eight networked computers and is receiving four more fully-equipped computers through funding from the Gates Foundation. (See p. A-12 for details.) To meet the needs of Santa Ana's youngest citizens, three kid-friendly computers will be purchased for children participating in the Head Start program. The Tribe will purchase two additional kid-friendly computers out of Tribal funds for a total of five computers ergonomically designed to facilitate use by some of the youngest Tribal members. Additionally, one intern in the Department of Education will be responsible for starting a computer club to teach elementary and middle school children about computer use. The computer club will investigate hardware components and innovative software, and engage in collaborative projects with other students around the world using the Internet.

5. Demonstrate an innovative, cost-effective, and scalable model of wireless broadband telecommunications application in a rural community.

The Santa Ana Pueblo seeks to combine wireless networking equipment with existing wireline service in a unique combination supporting a secure LAN for Tribal Government, a Tribal intranet, and community Internet access. This model network will provide an immediate, high-speed connection to every member of the Tribe and is far more cost-effective and scalable than many other technologies given the current services available. The current telecommunications state-of-service for the Santa Ana Pueblo is not unlike that of many Native American reservations and rural areas that simply do not offer the economies of scale for a private company to provide high-speed service. The network design for this program evolved by evaluating a number of telecommunications options while emphasizing a scalable, forward-looking growth of the network for bandwidth, distance, services, and cost with regards to maintenance and replication of this model.

Many of the potential technologies—dial-up, Digital Subscriber Line (DSL), Cable Modem, fiber, and wireless are discussed in detail on p. A-13. For this program, the Santa Ana Pueblo will leverage emerging telecommunications technologies for point-to-multipoint (PMP) wireless service in the 2.4 GHz Instrumentation, Science, and Medical (ISM) band. This unlicensed band has seen a rapidly emerging use as a wireless LAN within business and educational institutions as well as for point to point connectivity between LANs. Recent advances in modulation techniques with signal processing have seen equipment advance to supporting point to multipoint configurations from 3 to 11 Mbps. With the opening of the 5.7 GHz band for ISM by the FCC, a 54 Mbps wireless unlicensed device is under development. Furthermore, the current 2.4 GHz equipment now has a defined interoperability standard under the 802.11 standard, allowing for multiple vendor selection.

The Santa Ana network is also based on standard Internet Protocol (IP) technology and thus will interface with existing applications, products, and Internet services with little difficulty. By using the PMP wireless network, everyone in the Pueblo, including all Government functions and residences, will be supported for initial network connections up to 3 Mbps for each individual or client. The approach will establish six-60 degree sectors (for full 360-degree coverage) of signal delivery (for an aggregate wide area network of 18 Mbps) allowing bandwidth that can be managed very efficiently. If certain users or Tribal Government functions require higher bandwidth, the network management software can be easily configured to provide guaranteed bandwidth, video quality of service (QoS) guarantees, and network security. Each of these features will allow Tribal Government officers to realize a much-needed ability to communicate planning tools, meeting information, health information to citizens, and functions such as GIS mapping information for the Pueblo Department of Natural Resources. These features are also not restricted to fixed computer systems. Mobility within a 2-3 mile line of sight (more depending on antenna selection) will allow a member with a laptop to communicate via the network, providing a truly untethered, high-bandwidth connection.

Finally, home users will have access to the network via computer systems in the home or through set-top boxes that utilize the television. Each will have Ethernet connections to the wireless bridge that will be installed in each home. The benefits for many Tribal members of a set-top box is that members unfamiliar with computers can access the network with a much simpler system that integrates to their television, a medium with which they are more comfortable. With this equipment, the member will access documents and the Internet via the Government Center server. Thus, this device, for many members, will allow for easier maintenance of the home system, updates to each member by simply sending Icon and screen information to the home set-top box device, and generate more usage among all members. Additional details on these tools are presented on p. A-13.

6. Employ participatory research as a component of project evaluations for ongoing project improvements and project replication in other communities.

Participatory research is a unique form of inquiry that involves study participants as “researchers” in order to produce knowledge that might help stimulate social change and empower the oppressed. This project will involve the participation of Santa Ana community members in the development, design, and project evaluation. Complete evaluation details are provided on p. A-21.

B. Innovation

Numerous aspects of innovation exist in the technical details of this network. In particular, this approach goes beyond the traditional ISP approach of providing direct Internet service to a home where communication technologies are deployed and supported at the ISP/Central Office. For the Santa Ana Pueblo, all services except the Internet link to the ISP are provided at the Pueblo Government Center, thus allowing an important cultural aspect of preserving a Tribal heritage with secure internal communications. Other wireless systems utilize point-to-point links with hubs and router at each end. For a Native American group to develop a local wireless intranet with multimedia applications support that covers all government functions and the entire residential area of the reservation while providing for upgrades is a unique approach. With some training, we can maintain the network ourselves. This model can be replicated in numerous other Native American groups and harder-to-serve communities at a lower cost with more rapid deployment than other technologies. The ability to use the unlicensed ISM band further allows the Pueblo to bypass spectrum holders who have little incentive to work or deploy in similar communities. Programs such as the enterprising Santa Ana network will demonstrate that there is in fact an untapped market in rural areas. Additionally, use of participatory research methods and development of the Santa Ana intranet by users with little or no prior experience in website design is a creative model for other communities.

C. Diffusion Potential

There are 550 federally recognized American Indian tribes in the United States. Of these, only 20 percent have publicly available websites. U.S. Census data indicates that Native Americans are the fastest growing population groups in the U.S. (16% vs. 9.7% for nation as a whole). Although some tribes do not wish to develop websites, recent studies have indicated that the most significant barrier is lack of resources. However, federal, state, and philanthropic initiatives are seeking to address the massive divide that exists between rural Native Americans and the rest of the United States in terms of access to telecommunications infrastructure. This project will serve as a model for other tribes in similar rural areas with little available infrastructure through the use of an innovative wireless networking approach. As indicated in #5 of the project purpose section above, this approach is one of the most cost-effective ways to provide broadband network service to rural areas. Once other tribes are connected, some of the content generated in Keresan for use on this Tribal intranet can be used by other American Native American tribes as Keresan is one the most popular Native American languages. Additionally, the evaluation methodology used in this project is designed to assist other communities in understanding specifically how this project was implemented, rather than simply focusing on the project outcomes.

The Pueblo of Santa Ana currently has a static website that will be expanded to include a project website that tracks the progress of the program implementation and allows interested individuals to contact Santa Ana government officials and residents directly via email. Additionally, we will post quarterly updates on lessons learned for other communities who seek to implement similar community networks. We will also distribute project results via several communication channels including technical reports, executive summaries, technical professional papers, articles in popular publications, news releases, project brochure, conference presentations, and personal discussions with interested individuals and, of course, via the Tribal Internet website. We are exploring the most appropriate mechanisms for promoting this project among the Native American community and other interested communities. We have discussed the possibility of the Santa Ana community network presenting at an upcoming FCC seminar, the “Indian Telecom Training Initiative (ITTI 2000)” to be

held in September 2000. ITTI 2000 will provide information to help tribal governments make decisions about telecommunications services for tribal residents. Other potential channels are included in the Project Timeline on p. A-3.

D. Project Feasibility

Technical Approach

The technical approach for the Santa Ana community network was decided upon after careful consideration and is the most feasible and cost-effective approach for the area given last-mile costs of local telecommunications providers and the desire of the Tribe to maintain its own secure network. Specific details are outlined on p. A-13.

Partner Qualifications

This is a unique partnership of a progressive Tribal community (Pueblo of Santa Ana), a culturally relevant higher learning institute (Southwestern Indian Polytechnic Institute), and a leading research university with emphasis on telecommunications and technology transfer (Georgia Institute of Technology). Details on each of the partners are included on p. A-8.

Budget, Implementation Schedule, and Timeline

Details of the project budget are included in the budget narrative section. The implementation schedule and timeline are appended.

Project Sustainment

The Tribe will use a team approach to maintaining the departmental websites and LAN. A Network Administrator will be hired to maintain the network; Interns will work with the Website Consultant to develop website updates; individuals from within each department will be responsible for supplying relevant content for the websites; and the Project Director will coordinate all activities. The Tribe is committed to the sustainment of the network past the proposed three-year project timeline. It is expected that once the network has been up and running for three years, the Tribal Government departments and Santa Ana residents will utilize it intensively for communication. A cadre of Santa Ana workers trained in information technology use and management will take over maintenance of the network which the Tribal Government will absorb as general operating expenses. Because there are few recurring monthly costs with the use of a wireless network, the Tribe will budget for technology upgrades but these costs will be far less than if the Tribe had implemented a terrestrial network. Additionally, this network design allows for easy inclusion of other building sites as they are constructed on Tribal lands.

The Tribe also intends to seek additional funding from the Gates Foundation for two additional grants for Native Americans: 1) Content Creation and Storage Grant: provides equipment and training to make and store digital content such as stories, oral histories, archives, photos, and art work; and 2) Training Lab and Trainer Stipend Grant: provides ongoing training for Tribal members in order to promote self-sufficiency in the use of digital technology. President Clinton also recently announced a \$10 million program to fund training for Native American college students to prepare them for careers in information technology. Santa Ana students intend to apply for these tuition funds, with the goal of returning to the Pueblo to fill Tribal employment opportunities.

E. Community Involvement

Partnerships

The goals of this project require the skills of a variety of talented partners. Santa Ana will oversee the entire Tribal network project, with assistance from two partner institutions. Santa Ana has prior productive experience in working with the researchers from the Georgia Tech Research Institute (GTRI), and selected GTRI as a partner for this project based on their level of expertise with relevant technology factors and sensitivities to Tribal cultural issues. For the purpose of this project, GTRI (as an unbiased non-profit resource) will act as a liaison to technology vendors, assist in network implementation, and design and conduct the evaluation component. Additionally, the Southwestern

Indian Polytechnic Institute (SIPI) serves as a partner by providing two accelerated courses to Santa Ana students and by working with the Career Skills Coordinator to effectively provide guidance services to Santa Ana students. Currently, two students are enrolled at SIPI (with a goal of increasing to 12 each semester). Letters of support are included on p. A-25 and A-26. Additionally, Santa Ana's Telecommunications Task Force has met several times with local Native American-owned telecom service providers and will solicit bids from them for network and tower installation.

Involvement of the Community

A diverse group of members of the Santa Ana community have been involved in the development of the technology design for the proposed network. Tribal Administration has conducted surveys and interviews of Tribal residents and Government departments to find the most pressing needs facing the Tribe. The Tribal Administrator established a Santa Ana Telecommunications Task Force whose charge is to pursue the technology goals of the Tribe. The most frequently and highly ranked needs have consistently been access to a network to facilitate more effective communications among Tribal members and government departments and access to the Internet. From these surveys, community members developed a Santa Ana 10-point Technology Goals statement which is included on p. A-6. A subsequent questionnaire sent to Tribal Government departments identifies ways the departments will use an intranet to enhance communications among themselves and Tribal residents. Results of this survey are outlined on p. A-7.

Support for End Users

Tribal leaders are sensitive to the reality that many Tribal members are unfamiliar with the use of computers and although community members have indicated that they are excited about the possibilities the Tribal intranet and Internet access will provide, some are hesitant to fully commit to daily use of an unfamiliar technology such as a desktop or laptop computer. To address this concern, this project seeks to involve all homes on the Pueblo by providing each home with their choice of a desktop computer or set-top box. It is anticipated that more experienced technology users will choose a computer while more inexperienced users will choose a set-top box which operates in a manner similar to a familiar technology, the television set. An advantage of this approach is that it allows for relatively unsophisticated users of technology to find an appropriate balance of living in a traditional Indian environment while adopting use of the network in the most appropriate way for the Santa Ana culture. The Santa Ana community intranet will be developed by Santa Ana, for Santa Ana.

Despite the hesitations of some Tribal members, demand for computer training services provided by Desktop Solutions and various workshops conducted by the Department of Education have exceeded expectations. An Information Technology Services Department will be formed to assist Tribal departments and community members with access to help desk resources over the life of the project. This department will be staffed by the Project Director, Career Skills Coordinator, Network Administrator, Information Clerk, and one Intern, with a Website Developer and Network Installer on a contract basis. The Network Administrator will provide on-site and ongoing training opportunities for all Tribal members and will be available to answer questions on a daily basis.

The Tribe is committed to preserving its culture but also is fully aware that it must prepare its younger population for life in the digital age for the Tribe to remain self-sufficient. The Tribe does not seek to replace its traditional informal communication channels with technology, but to build on these as active participation provides a significant bond for the community. By combining technical skills and leadership skills learned through the internship program, the Tribe will maintain its sense of cultural heritage by tailoring intranet content. Additionally, the Tribe will employ participatory evaluation techniques to ensure that the Tribal network is frequently evaluated and modified in terms of outcomes that are meaningful to Tribal members, as well as other interested communities.

Privacy Protection

The Santa Ana network has considerable security features to ensure the privacy and integrity of the government and individual data. For Internet access, the Cisco router will deploy Triple DES, 128-bit

encryption on all data with secure firewall software. Furthermore, the Proxy Server approach will have additional firewall protection. For the Intranet portion, the wireless network uses Frequency Hopped Spread Spectrum, which was designed by the military for secure communications. The possibility of someone having a wide band receiver in the appropriate frequency, determining the hop code, and then breaking the encryption, is extremely small. Furthermore, each user will have password-protected access so that databases and other functions can distinguish between levels of access. This will allow high level government data traffic to be protected by the encryption and password. Finally, the Cisco and 3Com support Virtual LAN tunneling protocols that can be used to add additional security to the network. As a component of the evaluation process, usage by individual clients will be tracked. However, this will be high-level network access usage (without access to the details of the data) by the Network Administrator.

F. Reducing Disparities

According to the U.S. Department of Commerce, rural Native American communities are the most under-served in the United States in relation to telecommunications service and access. 1999 data show that rural Native American communities have significantly lower home computer penetration rates than the U.S. as a whole (26.8% vs 42%). Similarly, compared to a U.S. average of household Internet use at 26.2 percent, only 18.9 percent of Native Americans have access to the Internet. The negative aspects of the digital divide are highly visible on the Pueblo of Santa Ana. Only ten homes out of 170 within the Pueblo have computers, and fewer have Internet access. One particularly daunting aspect of the digital divide is that those without access often do not consider the Internet to be relevant to them. This is alarming as the U.S. Office of Management and Budget estimates that by 2010, 75 percent of all transactions between individuals and government will take place over the Internet. As a result, many of Santa Ana's residents are at a serious risk of being marginalized in society as more and more daily functions take place online. According to the most recent U.S. Census (1990), 63 percent of the Santa Ana community members speak Keresan at home. Although many residents also speak English, 29 percent of the respondents to the Census indicated that they "do not speak English very well." Providing content via audio streaming in Keresan and English and written English will facilitate access to the content available by a greater percentage of the residents. Data from the U.S. Census Bureau indicate that 25 percent of the Santa Ana residents aged 25 years or over did not possess a high school diploma in 1990. One goal of this project is to reverse this trend and encourage Tribal students to pursue a college education, and subsequently contribute their knowledge for the betterment of the Tribe through Tribal employment opportunities.

G. Evaluation and Documentation

Santa Ana will employ theory-based and participatory evaluation to effectively assess the impact of the Santa Ana Community Network. The basic theory of how the network will promote Tribal self-sufficiency is outlined in the Outcomes Model on p. A-1. By combining data collected via project implementation with an understanding of the process that led to project outcomes, this evaluation will reveal a great deal about the network's impact and its most influential factors. We will use participatory research to create a more egalitarian process, where the outside evaluator's perspective is given no more priority than Santa Ana stakeholders and to make the evaluation process and its results relevant, useful, and empowering to Santa Ana community members. One of the researchers will focus on the network as the subject of her dissertation topic. The evaluation process will document interim outcomes measured in both quantitative and qualitative ways to demonstrate whether the community network implementation is on track. Additionally, tracking short term outcomes will allow project staff to modify the theory and the implementation based on what we are learning, thereby increasing the potential for achieving long-term impacts. This evaluation approach seeks to provide a great deal of information about how to implement similarly complex community networks. The process of implementation and all lessons learned will be compiled in a community resource book that will be made accessible via the Santa Ana website for other interested communities to learn from the Santa Ana experience. Full evaluation details are on p. A-21.