

**University of California-Los Angeles**  
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Los Angeles, CA

The Neighborhood Knowledge California (NKCA) Telecommunication Project

## **I. Project Purpose: New Information Tools to Support the Achievement of the American Dream – A Home of One’s Own**

Researchers have found that fulfillment of “the American dream,” owning a home of one’s own, is the best single action for families to take in building assets and wealth. Homeownership provides a cushion during emergencies and serves as a resource for investment in education, start-up businesses, and retirement. However, rates of homeownership vary greatly according to race; nationwide homeownership by minorities is 27 percentage points below that of non-Hispanic white populations. In California the homeownership rate is 10 percentage points lower than the national standard. Moreover, many of the state’s recent immigrants lack a complete understanding of their rights under fair housing and fair lending laws.

Minority and low-income Americans have lower ownership rates in part due to persistent housing and lending discrimination. Lower income households often find their residential choices narrowed because of where they want to live—geographic “redlining”—or because of how they look—e.g. applicants’ race/ethnicity, disability etc. Since geographic discrimination is one of the primary challenges to expanding homeownership, more than forty grassroots groups, representing five metropolitan areas, have met with UCLA over the past six months to design an online system to make their own maps and publish their own research. (See Appendix A) The Neighborhood Knowledge California (NKCA) Network came together because the participants can afford neither the expensive and complicated GIS software packages, nor the time to secure and reformat the public and private data sources that they need, to do their best work.

Over the last three decades Congress passed the Fair Housing law, the Community Reinvestment Act (CRA) and the Home Mortgage Disclosure Act (HMDA). These legislative landmarks have guided efforts to promote residential integration and expand access to financial services to all without regard to race, color, national origin, religion, sex, familial status, or disability. Yet, research indicates that for many the American dream of homeownership is still deferred. Research by John Yinger<sup>1</sup> reports that across the U.S.:

- Housing discrimination costs black homebuyers \$5.7 billion and Hispanic homebuyers \$3.4 billion every three years by paying more for housing and for loans
- Real estate agents presented 25 percent fewer homes to the minority buyers compared to whites.
- Lenders were 60 percent more likely to reject minority applicants. Households in minority neighborhoods faced further difficulties trying to sell their homes or secure housing loans and property insurance

Again, many of the trends appear to be more severe in California. Subprime lending is intended to offer credit-impaired borrowers who cannot qualify for a conventional loan a chance to borrow money at slightly higher rates. However, the California Reinvestment Committee<sup>2</sup> recently completed a study of this category of loans in four California cities. This research found that more than one-third of these mortgages could be classified as “predatory” loans. These loans 1) demonstrated extremely high prices through rates, points, and fees; 2) were targeted at lower

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<sup>1</sup> Yinger, John. *Closed Doors, Opportunities Lost*. New York: Russell Sage Foundation, 1995.

<sup>2</sup> For more information, see the California Reinvestment Committee’s website at <http://www.calreinvest.org/>.

income people; the elderly, and people of color; and 3) often had hidden prepayment requirements with costly penalties.

Persons with disabilities represent another group that has been excluded from full access to housing opportunities. Exclusion has functioned through bias among those who sell and rent dwellings, and, of course, through residential designs that create physical impediments to access and use. Efforts such as policies that increase residential “visitability” are important steps in addressing these forms of discrimination.

Fair housing and fair lending groups have a dual role in expanding homeownership. First, they must undertake research to help analyze the role that both geography and household demographic characteristics play in restricting homeownership opportunities. This is complex and time-consuming work, involving both the analysis of existing data sets and collecting data on “test buyers/borrowers.” Second, they have a broad educational role with potential homeowners, other community and faith-based organizations, local governments as well as their partners in the real estate industry. Fair housing/lending groups have found that the best way to work is through marshalling careful and precise evidence and bringing in the banking industry and realtor associations to help address shared concerns.

Analysis of financial/residential exclusion is often difficult for local organizations that have anecdotal evidence of the problem but have difficulty quantifying and mapping its extent and location. Moreover, their individual efforts are too often isolated, fragmented, and lacking in the capacity to undertake collaborative regional or statewide data research projects to address systemic problems like unfair marketing practices. These groups lack integrated, web-based tools to highlight trends and geographic patterns and enable them to provide public and private institutions with reliable feedback in direct and efficient ways. They need the web for research and to publish and disseminate their findings so that they can bring about greater change.

In general, California-based fair housing and fair lending groups have access to the web. For these groups the “digital divide” is about lack of access to badly needed public and private data sets, information collection tools, software such as Geographic Information Systems (GIS), and the technical skills to use them. More than twenty years after federal requirements for full public disclosure of this data, groups may be able to get CRA or HMDA numbers by census tract but nowhere on the web is this data mapped for public use.

These data sources, alone, are necessary but not sufficient for organizations working in this arena. Not only do fair housing/lending groups need to design and print maps and charts and download data sets, they need to easily upload their own data research against a backdrop of federal and state indicators mapped to the census tract level. The NKCA information platform will enable these groups to design their own research collection plan in a Microsoft Excel spreadsheet and then upload, batch geocode, and analyze this information against census maps built from HMDA, CRA, Census, and State Department of Housing sources. In addition, NKCA will enable these groups to establish baseline measures of chosen indicators and begin to monitor trends that occur over time. Additional research tools enable researchers to draw meaningful conclusions from the data that can be used for policy change and advocacy.

Other partners will also be using this mapping tool. Representatives of the California Association of Realtors have been invited to map online those agents that have the ability to work with non-English speaking buyers and those who specialize in helping low-income first time homebuyers. Representatives from the State Department of Housing and Community Development, the California Housing Finance Agency, and local governments in the five target metropolitan areas have been invited to post information through online forms on their home

ownership finance programs. Using the same tool as the fair housing/lending groups, these government partners will map the census tracts where they have invested in affordable home ownership. We have indications of enthusiasm from many of these partners.

Without a doubt, the State of California is a large territory to cover for technology outreach and training. The three partners in NKCA’s Outreach and Training Team—California Reinvestment Committee (CRC) and the California Coalition for Rural Housing (CCRH) and the UCLA Advanced Policy Institute (API)—have a combined membership of more than 400 community-based housing and banking organizations. While the NKCA project plans for significant outreach and training aimed at the Central Valley region, the fastest growing in the state, efforts will begin and focus on the targeted training of the more than forty organizations that designed the NKCA system. These planning meetings were conducted in five metropolitan areas (Sacramento, Oakland, Fresno, Los Angeles and San Diego). Rural housing organizations were represented at those Sacramento and Fresno meetings. These participants emphasized the importance of finding lenders who can work with owner/builders who use self-help “sweat equity”. These groups have already shaped the development of functional and technical specifications for the platform as well as outreach and training strategies. Each group of participating agencies represents the ongoing test group through full development and use of the system. Delivery of version 1.0 is scheduled for October of this year. (See Appendix B)

**II. Real and Measurable Outcomes for Community Change through Use of a Statewide Banking and Housing Information System**

These five planning groups have determined the priority uses for this new shared information system and provided realistic community change outcomes.

USE	OUTCOME
Online data systems will be used so that participating organizations can collect information from potential homebuyers, renters, and borrowers who claim to have faced unfair treatment and will map this data by census tract.	The aim is to establish a baseline and double the number of fair housing and fair lending cases that are identified by the participating organizations.
By coordinating and sharing fair housing and fair lending research online, NKCA will be used to increase the skills and share the insights of participating organizations.	Currently groups in fair housing/fair lending rarely work together; this project will lead to at least five municipal cluster groups with coordinated strategies and activities by groups within and sometimes across metropolitan boundaries. CRC will use the system to manage statewide data collaboration to catalog fair lending complaints.
A wide range of mapping and data tools will be used to target training and outreach activities to neighborhoods with the lowest levels of ownership lending.	The goal is to secure new commitments from the real estate industry to service these areas. This will be measurable in part through increases in owner occupancy, mortgage lending rates as reflected in HMDA data, and banking services.

<p>NKCA will be used by fair housing/lending groups and their partners to develop model policies and programs for state and local government to improve fair housing/fair lending practices.</p>	<p>NKCA will improve outreach and marketing to local and state government representatives and officials, the financial industry, and others to support improvements in policies and programs. Results will be measured by their success at turning their recommendations into local and statewide actions.</p>
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The research partner--The Edmund G. "Pat" Brown Institute for Public Affairs--will be providing ongoing client-centered evaluation to improve the technology tools and ongoing delivery of training services. This will be combined with quantitative and strategic feedback to ensure achievement of identified project outcomes.

### III. INNOVATION

NKCA is innovative because the project 1) provides cost saving, hosted mapping application services that can be used by groups with or without broadband connections; 2) extends the value of neighborhood information systems that cover only a municipal or metropolitan area to cover an entire state, 3) enables users to combine their own data layers (that can be simply uploaded from a spreadsheet) with public datasets already available on the UCLA-based servers, and 4) allows those users to remotely produce and store custom maps and data analyses from those datasets.

CommerceNet, a Silicon Valley-based non-profit research and investment organization, along with the State of California Technology, Trade and Commerce agency chose NKCA as one of only nine Next Generation Internet (NGI) demonstration projects to promote promising new broadband applications. Like all of API's projects, NKCA is being developed to function as well with fewer graphics for utilization at lower bandwidths because this is the typical connectivity among small and medium sized non-profit organizations.

The clear trend in online neighborhood information systems is that they are usually located in cities where there are major universities (e.g. Chicago, Philadelphia, Minneapolis, Los Angeles). Such projects are either reliant on university infrastructure or utilize socially committed graduates with technical skills. Moreover, information collection and display has been organized around municipal or metropolitan geographies. However, the underlying platforms could in fact be adapted to serve statewide, regional or even national users if two impediments could be overcome.

First, larger projects often seems daunting due to the need for person-to-person outreach and local training needs of unskilled groups. The most important step here is to develop a site that has gone through extensive usability testing so that its applications are highly intuitive, combined with some excellent online tutorials. Additionally, our training team will integrate technology instruction into their ongoing technical assistance work, each building upon a history of operating on a statewide level.

Second, these systems must be designed in ways that can be easily customizable to address the specific action agenda of low-income communities. Very few internet-based projects exist that seek to combine both thematic mapping (shaded or colored census tracts) with property level point data in an easy-to-use format. Moreover, even fewer sites have built tools that support the collection and display of GIS data by community residents and their organizations. This

internet-based platform allows users to automatically add their own layers of data either in their personal files on the server (MyNKCA) or, if approved, for submission on the platform itself, as part of shared data resources for community-based research and action on housing and lending. We know of no websites on the Internet that enables users to upload and batch geocode data files of the users own design.

Such a tool can break through the barriers of cost and staff time to make advanced data analysis and GIS capabilities a regular part of the community toolkit. The platform then becomes more than a set of hosted application services; it becomes a forum for community research, networking, and statewide improvements in fair housing and lending that lead to increased levels of homeownership among lower income and minority families.

#### **IV. Diffusion Potential**

NKCA has an ambitious goal: linking California's fair housing/fair lending organizations with public agencies, and committed leadership in the real estate and finance industries to expand opportunities for low-income residents. As noted, many of the community-based information projects that TOP and other programs have funded have been at the level of neighborhoods, cities, or metropolitan regions. This project seeks to embark on a statewide information system so that communities located in so-called "pockets of poverty" can as a group make their needs known and participate more fully in the California economy. The aim is to demonstrate that real economies of scale can be realized through such a project so that other citywide projects can realize that they can assume a regional or statewide role in information collection, sharing and planning. As we describe below, the NKCA project is so scalable that by changing a few lines of code the system covers the Western region of the U.S. as a data collection and analysis platform.

Beyond data and mapping analysis, the planning groups mentioned the important role that youth can play in disseminating new information tools. The UCLA Advanced Policy Institute has been providing support to ten California "Wellness Villages" that support the work of youth in community improvement and policymaking. The training that API provides these groups will include an introduction to NKCA as a research and policy tool that can assist them in meeting their locally identified community goals.

Perhaps, the most important opportunity for diffusion exists within the State of California since this mapping platform may be adapted to work with a variety of outreach and training groups that have different policy interests. One statewide health group is interested in adapting the NKCA system to support community-based planning around health and safety promotion. Another statewide organization has approached us about using this platform for analyzing sectoral development in the California economy and linking these emerging employment opportunities with targeted job training through online mapping and data analysis.

We believe that a statewide information system and network can serve the needs of many low-income communities in an efficient and sensitive manner. We are committed to writing up our work for both research and popular publications so that lessons we learn in this project can be shared with others throughout the U.S. In addition, we have been exploring the possibility of licensing our code so that projects in other areas can build their own platforms.

#### **V. Project Feasibility**

NKCA's *technical approach* is database-driven, enabling designated users to modify much of the content, data, and links through a well-developed administration interface. NKCA builds on the flexibility and expandability that have characterized API projects. The system is built using industry-standard software development platforms with which the API technology team has considerable experience. The overall system has three components: (1) the front-end web-based interface; (2) the mapping system; and (3) the database that contains content. The web interface is written in the powerful Cold Fusion scripting software and is hosted on Microsoft's Internet Information Server. The mapping system uses ESRI's ARCIMS, Spatial Database Engine, and Internet Map Server, while the database software is Microsoft SQL Server. The advantages of this software combination are numerous. First, Cold Fusion, as a dynamic scripting language, allows the site to accommodate new content easily and offer versions in Spanish/English and high/low bandwidth. Second, maintaining the website's content on widely supported SQL Server guarantees that the site will be scalable as new datasets are incorporated. These two features allow for site *scalability* because each component is specially adapted to address changing user demand and enable appropriate growth. For example, NKCA will configure ARCIMS in such a way that the "maproom" will be able to display the western states or even the entire US with the change of a few lines of code. This will enable this statewide project to one day become a mapping tool that is available in other states if our California experience warrants this step.

By dividing the content, the mapping system, and the database back-end, NKCA allows for upgrades to the *system* when software alternatives become available. Additionally, because of an ongoing relationship with Microsoft and ESRI, NKCA will remain apprised of new changes in technology. The reliability and scalability of these software products, as well as the technology team's experience with them, is the main reason why NKCA chose them over other development platforms.

The lead organization on the project is the UCLA Advanced Policy Institute, the outreach and technical assistance arm of the UCLA School of Public Policy and Social Research. API provides technical assistance (i.e. GIS mapping, website production, data analysis) to nonprofits, community-based organizations, the UCLA campus, and a wide variety of state and local public and private agencies. Its proven track record is augmented by organizations with extensive outreach experience in low-income communities. (*Applicant qualifications* see Appendix E.)

The proposed *budget* is sufficient to carry out the outlined tasks with matching funds provided from State, regional, and municipal sources as well as a substantial direct funding match from the resources of UCLA. Matching funds are being secured from the California Technology Foundation, CommerceNet, the Southern California Association of Governments (SCAG), and UCLA in the amount of \$749,426 NKCA seeks a total \$748,881 from TOP.

The *implementation plan* for NKCA covers a three-year period. The first year will begin with the launch of version 1.0 of website in the first quarter of the funding period. It will end with a statewide user conference that provides feedback for upgrades and improvements. Five fair housing/lending strategic plans for the five target areas will be presented at the conference. The second year will expand the number of data sets and add new functionalities and content. Focus will be on the implementation of five local plans. The third year will involve a greater reliance on the forty-organization test group as trainers for others in the community and an emphasis on achieving the identified goals in each strategic plan to achieve the overall results outlined in this proposal. (see Appendix C).

NKCA will have on its website a *privacy* statement clarifying our commitment to not share user information with any third parties. In essence, this user-based system delineates the rights and requirements of using the website and guarantees that information that users submit will be confidential. Since none of the datasets that NKCA will use contain personal information, the online member database security is the main privacy issue.

Several factors ensure that NKCA will be sustainable on a long-term basis. Based on the success of API's project, potential new matching money may be available from State legislation and increased funding support from the UCLA campus is already in hand. Local governments have expressed real interest in paying for NKCA information services that would be syndicated to their websites from the UCLA servers. Such contracts are one way to generate additional data and resources for NKCA. There is an excellent chance that the costs of running the website will be covered on an ongoing basis. Moreover, the basic software of hardware architecture for API's other websites will be leveraged for NKCA to reduce the long-term costs. This applies as well to maintenance provisions; automated data updating and easy-to-use administrative interfaces will allow the site to sustain itself in the event that there is significant staff turnover.

## **VI. Community Involvement**

Through the assistance of the California Reinvestment Committee, two hundred representatives of that organization's membership base were surveyed regarding community development and reinvestment issues. Based on the total number of respondents, eighty percent strongly believed that an Internet site that enabled mapping of housing, financial, demographic, and other data would be of use to their community-based organization.

This survey was followed up by a series of site planning focus group meetings, held in Fresno, Oakland, San Diego, Los Angeles and Sacramento. Two meetings occurred in Sacramento, one for rural and urban non-profit organizations and another for those working on state housing and banking policy issues from within government. These meetings were used to inform the development of functional and technical specifications of NKCA.

Participants in the focus groups were first asked, how they currently used data and maps in their work, and after a demonstration of an NKCA prototype, were asked how they would use this new system. The discussion at these meetings then moved into clarifying their priorities for data sets and for specific application functionalities. These participants have agreed to be beta testers during this summer and we will be focusing our outreach and training on ensuring that each local grouping of participants is taking full advantage of the site. There will be online forms for this group and others to provide constant feedback and this will provide content for our Frequently Asked Questions pages.

NKCA's expected users fall into a number of categories, and *support for* each category of *end-users* requires different outreach strategy. Users can be divided into four types: (1) community-based organization staff and members; (2) government agencies and private organizations; and (3) the general public.

The first group is our main outreach target on a face-to-face basis. Staff and members of community-based organizations that focus on fair housing and fair banking will continue to aid us in project design and make up the most active user group. Particular emphasis will be given to rural housing organizations that have had less access to information technology and struggle to produce housing for owners with very low incomes amid rapidly rising land costs. Government and private sector users will require minimal support to fully utilize the system. The State of

California has not yet developed its own GIS platform and the CIO and high-level state officials have expressed interest in providing relevant data sets to NKCA. We have discovered that the more a system is used by government staff the greater we are able to access other public data sets for sharing. The last group, the general public, will be integrated through the initial project design through use of focus groups during year one. NKCA will be built to accommodate the widest range of users including people with disabilities, Spanish speakers, and those with less powerful computer equipment and slower Internet connections.

Our ability to work throughout the state is dependent on NKCA's key *partners*, the California Reinvestment Committee (CRC) and the California Coalition for Rural Housing (CCRH). CRC combines a strong record of advocacy and coalition building with extensive experience in housing and economic development. Their statewide membership of community organizations provides our project with an urban constituency for outreach, focus groups, and training. CCRH compliments CRC by providing a rural-based coalition of membership organizations that work to improve access to affordable housing by farmworkers and others in lower-income communities. It represents a state coalition of community-oriented nonprofit and public builders of affordable rural housing.

The Edmund G "Pat" Brown Institute (PBI) of Public Affairs at California State University, Los Angeles will conduct evaluation of the project. PBI will perform quantitative analysis of usage and user profiles as well as write case studies and complete qualitative evaluation (see Appendix D) for one page summaries of each of these organizations). Evaluation forms that provide input on improving the training sessions will be used at each outreach activity. Several regional meetings and one statewide meeting will be conducted annually to get user input on the current design and direction for future development.

## **VII. Evaluation**

The evaluation strategy is organized along methodological lines. Experienced researchers from the Pat Brown Institute (PBI) at California State University, Los Angeles will analyze statistics from the user database and log files to construct a profile of the website usage. Their assessment will aid in identifying activity on the site and the relevance of NKCA's databases. The demographic and geographic characteristics of users will be reported through the use of maps and detailed reports. This quantitative work will be supplemented by qualitative evaluation. PBI will hold focus group meetings, administer questionnaires, interview users, and conduct secondary research in order to create case studies of NKCA users. Their primary objective will be to illustrate the stories of individuals and groups who make use of NKCA and add context to the quantitative analysis. A detailed evaluation plan is outlined in Appendix D.