



2006 Annual Report

Message from the Board Chair

I am pleased to report that 2005-06 was another successful year for CRA. During the period July 1, 2005 to June 30, 2006, CRA continued to serve as an ever more visible voice for computing research, organizing leadership summits, delivering information to decision makers, and launching the Community Computing Consortium (CCC) to stimulate new research ideas and funding. CRA's financial position is stable and secure and the number of engaged participants continues to grow.

Here are a few of the highlights.

Community: For the twelfth year, CRA hosted the Computing Leadership Summit in February 2006, bringing together the presidents, executive directors, and other senior leadership of CRA and its five affiliate societies—AAAI, ACM, CACS/AIC, IEEE-Computer Society, SIAM, and USENIX—and NRC's Computer Science and Telecommunications Board. Participants were updated on progress made by two task forces created at the 2005 Summit—one to address research funding issues and the other to consider ways to improve the image of computing as a career path. At the summit, participants also discussed NSF/CISE's planned GENI (Global Environment for Networking Investigations) initiative and its implications. CRA also launched the Community Computing Consortium (CCC) to stimulate new ideas in computing research, as part of a broad-based effort to define the future of computing. This will be a major CRA activity during the coming year.

Human Resources: CRA's successful Committee on the Status of Women in Computing Research (CRA-W) convened a planning group to evaluate CRA-W's mission, focus, operations, and program portfolio. In addition, CRA-W's proposal on broadening participation in computing was funded by NSF, as was a proposal to continue support for Career Mentoring Workshops. The Coalition to Diversify Computing (CDC) was also active, including planning for the upcoming Richard Tapia conference.

Information: CRA is *the source* for journalists, researchers, and others seeking input for articles and papers related to IT, including such issues as employment opportunities in IT, off-shoring of IT jobs, women and minorities in computing, and the importance of computing research to the economy. CRA conducted its 35th annual *Taulbee Survey* of

Ph.D.-granting CS&CE departments and the *Salary Survey of Computer Science Researchers in Industrial Laboratories*. The popular Computing Research Policy Blog (<http://www.cra.org/blog>) and the CRA Bulletin (<http://www.cra.org/bulletin>) provide timely information on policy, education and research issues. CRA also provides current items of interest to chairs of U.S. and Canadian Ph.D.-granting CS&CE departments and the larger computing research community through its newsletter, *Computing Research News*, and via regular e-mail communications to department chairs and lab directors.

Research Policy: The Government Affairs Committee has worked to capitalize on opportunities presented by the President's *American Competitiveness Initiative* (ACI). CRA brought together members of the computing community to act jointly in urging Congress to support computing research and the ACI, including community input on the Congressional Budget Resolution and the importance of ACI funding for computing research in the appropriations process. Recognizing the increasing demands of CRA's policy mission, the Board approved the addition of a new full-time policy analyst to the CRA staff, a position that was filled in June 2006.

CRA Board of Directors: Board members whose terms expired on June 30, 2006 include: Randy Bryant (Carnegie Mellon); John King (University of Michigan); Alfred Spector (IBM Corp.); and Wim Sweldens (Lucent Technologies, Bell Labs). Jim Foley (Georgia Tech) finished a year as Past President. We thank all for their dedicated service to CRA and to the computing research community.

We welcomed new members to the board in 2006: Annie Antón (North Carolina State); Eric Grimson (MIT); Andrew Chien (Intel Research); Bob Sproull (Sun Microsystems Laboratories); and Ben Wah (IEEE-CS representative).

At the end of my first term as chair of the CRA board, I am excited and energized by the breadth and depth of CRA's activities and the community support for CRA initiatives. I encourage each of you to "answer the call" when you are asked to participate. We need your enthusiasm, your ideas and your commitment. CRA is all of us.

Daniel A. Reed
Board Chair

HIGHLIGHTS 2005-06

Research Policy

In FY 2005-06, CRA Government Affairs continued to make progress in the policy areas most important to CRA's membership, including efforts to capitalize on opportunities presented by the President's *American Competitiveness Initiative* (ACI) and a willingness within the Defense Department leadership to engage our community in a discussion about the importance of fundamental computer science. CRA continues to be the "organization of record" for computing research policy issues—policymakers and the press continue to seek our input on issues under consideration related to computing research, and members of our organization continue to be asked to serve in federal advisory roles or, less formally, to brief key members of Congress or the Administration on IT-related issues.

The Government Affairs Committee's focus for FY 2005-06 was two-pronged: 1) take advantage of momentum created by the President's inclusion of the ACI in his FY 2007 budget to urge stronger support for federal investment in computing research; and 2) persist in our efforts to address the situation at DARPA regarding the agency's policies that discourage and prevent the participation of university researchers in agency research programs.

In the former effort, CRA has assumed a leadership role in bringing together members of the computing community to act jointly in urging Congress to support computing research and the ACI, including community input on the Congressional Budget Resolution and the importance of ACI funding for computing research in the appropriations process. Regarding concerns about DARPA, the GAC has continued its engagement with the leadership of the agency, as well as elsewhere in the Department of Defense and in Congress. These efforts helped lead to two separate, ongoing studies within DOD to understand the scope of the CS/DOD problem. CRA Board and GAC members are participating in both efforts.

The committee has continued to ramp up its efforts to provide policy resources for the computing community. Recognizing the increasing demands of CRA's policy mission, the Board approved the addition of a new full-time policy analyst to the CRA staff, a position that was filled in June 2006. Melissa Norr will work with CRA Director of Government Affairs, Peter Harsha, in expanding CRA's visibility in the policymaking process and encouraging the participation of CRA members in that process—whether as members of federal advisory boards or by taking positions within federal agencies.

Information Activities

Increasingly CRA is serving as a source for journalists, researchers, and others seeking input for articles and papers related to IT, including such issues as employment opportunities in IT, off-shoring of IT jobs, women and minorities in computing, and other topics. There continues to be a demand for statistical information on CS and CE enrollments to which both Board members and staff regularly respond.

CRA conducted its 35th annual *Taulbee Survey* of Ph.D.-granting CS&CE departments. The annual *Salary Survey of Computer Science Researchers in Industrial Laboratories* was conducted last fall and results were provided to labs that participated.

The popular Computing Research Policy Blog (<http://www.cra.org/govaffairs/blog>) continued to provide postings on current activities in the policy arena, while the CRA Bulletin (<http://www.cra.org/bulletin>) focused on education and research data gleaned from CRA surveys and outside sources.

CRA continued to provide current items of interest to chairs of U.S. and Canadian Ph.D.-granting CS&CE departments and the larger computing research community through its newsletter, *Computing Research News*, and via regular e-mail communications to department chairs and lab directors. CRA-W formed a new committee this year to improve communications with other organizations and program participants. Its first activity was to initiate a biannual newsletter for CRA-W alumni with a first edition in May 2006.

Human Resources

Awards: Mary Lou Soffa, the Owen R. Cheatham Professor and Chair of Computer Science at the University of Virginia, received CRA's A. Nico Habermann award in June 2006. During the year, CRA presented Outstanding Undergraduate Awards to Jenny Yuen, University of Washington, and David Eisenstat, University of Rochester. Runners-up were Susanna Ricco, Harvey Mudd College, and Kanat Tangwongsan, Carnegie Mellon University. In addition, ten students were selected as Finalists and a number received Honorable Mention. The student awards, given for outstanding research potential, were sponsored by Mitsubishi Electric Research Laboratories.

CRA-Women (CRA-W) continued to be a thriving and energetic subcommittee focusing on developing programs to increase the representation and opportunities for women in computing research. Bylaws were approved at its May 2006 board meeting.

A Steering Committee on Strategic Planning was convened to evaluate CRA-W's mission, focus, operations, and program portfolio. Areas needing improvement were identified and potential new programs discussed. A fund-raising committee was formed to lead and coordinate the proposal-writing and fund-raising activities. A campaign aimed at CRA-W alumni and friends was initiated with the first edition of a new biannual Alumni Newsletter published in March 2006.

CRA-W's proposal, "Broadening Participation in Computing (BPC): Widening the Research Pipeline," was funded by the National Science Foundation at \$1.5 million over three years. The grant provides significant support for programs related to Distributed Mentoring, Collaborative Research Experience for Undergraduates, and the Distinguished Lecture Series; it also provides support for a new CRA-W/CDC discipline-specific, week-long summer school program that focuses on a research area where women are noticeably under-represented. The first, on computer architecture, took place at Princeton University in July 2006.

The U.S. Distributed Mentoring Project (DMP) continues to be one of CRA-W's most visible programs. In summer 2006, 41 students and 25 mentors participated. In Canada, twelve awards were made. Through fund-raising efforts, about seven students who

attend U.S. or Canadian institutions, but are not citizens of either country, were funded. Working with CDC, efforts also were made to attract more applications from students at minority institutions.

The Collaborative Research Experiences for Undergraduates (CREU) also continues to be a very visible program. Since fall 2005, the program has been conducted in cooperation with the CDC, with teams composed of students from under-represented groups in computing. Eleven teams were funded this year, including 23 students and 4 minority teams.

CRA-W submitted a proposal to the NSF Advance Program to fund the Cohort of Associate Professors Project (CAPP), which CRA-W has successfully run twice. It was anticipated the project would be funded at \$268,000 for the next two years, and would continue in the form of two separate, but collocated, workshops—CAPP-R for associate professors from primarily research institutions, and CAPP-E for those from primarily teaching institutions. The first workshops were scheduled for fall 2006.

A proposal to NSF for Career Mentoring Workshops was funded at \$485,000 over five years. This grant will provide support for the CRA Career Mentoring Workshops held every other year and the annual CRA-W Career Mentoring Workshops at SIGSCE.

The Grad Cohort Program, which brings together women graduate students in their first and third year of graduate school for a two-day workshop on graduate school survival, career planning, and networking, continues to be very successful. The third program was held in March 2006 in San Francisco, CA and supported a cohort of first-year students and a cohort of second-year students. Of 326 applications, 190 students and 25 speakers attended and participated in Grad Cohort 2006. This year's program was supported by Google and Microsoft.

Also in 2005-06, CRA-W presented the Anita Borg Early Career Award to Gail Murphy, Associate Professor at the University of British Columbia. In the Distinguished Lecture Series, five lectures were scheduled for fall 2006. Industrial outreach activities included the ResearchHers mail list and a panel on mid-career change at the Grace Hopper Conference in fall 2006. Five articles were published in *CRN's* "Expanding the Pipeline" column; and CRA-W continues to maintain a booklist of more than 200 entries of computer science and engineering books authored by women.

The **Coalition to Diversify Computing (CDC)** had a busy year. Each of the parent organizations (ACM, CRA and IEEE-CS) provided funds for the 2005-06 operating budget, as well as administrative support for items like meeting planning, conference calls, and hosting the website and listservs. The CDC Executive Committee approved a contract to redesign the CDC website, which will include blogs as well as information about CDC projects.

CDC projects are funded by two NSF grants. From EPICS, CDC received \$40,000 to support Sending Students to Conferences, Distributed Research Sessions (DRS), and the Tapia Conference projects. Broadening Participation, a joint project with CRA-W, provided a total of \$1.5M over three years. This will be used to fund some new joint initiatives and existing CDC projects, such as Sending Students to Conferences and DRS, mentioned above.

A proposal for “BPC-Demonstration: Academic Career Workshops for Underrepresented Participants” was submitted to NSF during 2005-06. Based on the success of CDC’s first workshop held in September 2005, a proposal was submitted to hold these workshops on an annual basis. When possible, the proposed workshops will be held in conjunction with the Tapia Conferences.

A proposal was submitted to the BPC program to support annual Workshops for Minority Junior Faculty. There have been active discussions with CRA-W about revising the Collaborative Research Experiences for Undergraduates (CREU) program.

By the end of 2005-06, planning was already under way for the Richard Tapia Celebration of Diversity in Computing Conference 2007. Tapia 2007 will be held in conjunction with the Grace Hopper Conference 2007 (from now on the latter conference will be held annually). The meetings will take place in October 2007 in Orlando, Florida.

Students for the fall 2006 Distributed Research Session were identified during the summer. Some of the EPICS funding for this project will be used to have a technical contractor visit the participating universities to ensure that AG nodes and PIGS are operational for the summer session.

Increased advertising for the Sending Students/Mentors to Technical Conferences project resulted in an increase in the number of applications. Four awards were made based on the February 15, 2006 application pool.

The CDC Executive Committee approved a new awards project that will focus on nominating more minority researchers for various awards, and a proposal for funding was submitted.

Community-Building

CRA hosted its annual Computing Leadership Summit in February, bringing together the presidents, executive directors, and other senior leadership of CRA and its five affiliate societies—AAAI, ACM, CACS/AIC, IEEE-Computer Society, SIAM, and USENIX—and NRC's Computer Science and Telecommunications Board.

Participants were updated on progress made by two task forces set up at the 2005 Summit—one to address research funding issues and the other to consider ways to improve the image of computing as a career path for young people. Speaker Douglas Comer, Intel, addressed the industrial push behind increasing federal funding for physical sciences following the publication of "The American Competitiveness Initiative" report. Peter Freeman provided details of NSF/CISE’s planned GENI (Global Environment for Networking Investigations) initiative and the need for broad community support.

At CRA’s Conference at Snowbird 2006, Mary Jane Irwin, Penn State University, and David Patterson, UC Berkeley, were presented with CRA Distinguished Service Awards for outstanding contributions to the computing research community. Stuart Zweben, Ohio State University, received a special award for his contributions to CRA’s annual Taulbee Survey.

CRA Financial Statement

July 1, 2005 - June 30, 2006

See Chart on Page 13

2005-06 Computing Research Association Members

Academic Members

The following departments held membership in CRA for all, or in a few cases part, of the period July 2005 to June 2006.

Arizona State University - CSE	Illinois Institute of Technology - CS
Auburn University - CSSE	Illinois State University - ACS
Binghamton University, SUNY - CS	Indiana University - ICS
Boston College - CS	Iowa State University - CS
Boston University - CS	Iowa State University - ECE
Bowdoin College - CS	Johns Hopkins University - CS
Bowling Green State University - CS	Johns Hopkins University - SI
Bradley University - CS	Juniata College - IT & CS
Brandeis University - CS	Kansas State University - CIS
Brigham Young University - CS	Kent State University - CS
Brown University - CS	Lafayette College – CS
Bryn Mawr College - MCS	Lehigh University - CSE
Bucknell University - CS	Long Island University – ICS*
California Institute of Technology - CS	Louisiana State University - CS
California Polytechnic State University - CS	Loyola University, Chicago - CS
Carnegie Mellon University - CS	Massachusetts Institute of Technology - EECS
Case Western Reserve University - EECS	McMaster University - CE&S*
City University of New York, Graduate Center - CS	Miami University - CS
Clemson University - CS	Michigan State University - CSE
Colgate University - CS	Michigan Technological University - CS
College of William & Mary - CS	Mississippi State University - CSE
Colorado School of Mines - MCS	Montana State University - CS
Colorado State University - CS	Montclair State University - CS
Columbia University - CS	National University of Singapore - CS/IS
Cornell University - CS	Naval Postgraduate School - CS
Cornell University - ECE	New Mexico State University - CS
Dalhousie University - CS	New York University - CS
Dartmouth College - CS	North Carolina State University - CS
DePaul University - CS	Northeastern University - CIS
Drexel University - CS	Northwestern University - EECS
Drexel University - IST	Oakland University - CSE
Duke University - CS	Ohio State University - CSE
Emory University - MCS	Ohio University - EECS
Florida Atlantic University - CSE	Oklahoma State University - CS
Florida Institute of Technology - CS	Old Dominion University - CS
Florida International University - CS	Oregon State University - EECS
Florida State University - CS	Pace University - CSIS
Florida State University - IS	Pennsylvania State University - CSE
Georgia Institute of Technology - CS	Pennsylvania State University - IST
Georgia Southern University - IT	Polytechnic University - CIS
Georgia State University - CIS	Pomona College - MCS
Georgia State University - CS	Portland State University - CS
Grinnell College - MCS	Princeton University - CS
Harvard University - CS	Purdue University - CS
Harvey Mudd College - CS	Purdue University - ECE
Hobart and William Smith Colleges – MCS*	Rensselaer Polytechnic Institute - CS

Rice University - CS
 Rochester Institute of Technology - CS
 Roosevelt University - CS&T
 Rutgers University, Busch Campus - CS
 Saint Louis University - MCS
 Santa Clara University - CE
 Simon Fraser University - CS
 Singapore Management University - IS
 Southern Illinois University,
 Carbondale - CS
 Southern Methodist University - CSE
 Southern Polytechnic State
 University - CSE
 Stanford University - CS
 Stevens Institute of Technology - CS
 Stony Brook University, SUNY - CS
 Swarthmore College - CS
 Syracuse University - IS
 Temple University – CIS*
 Texas A&M University - CS
 Toyota Technological Institute
 at Chicago - CS
 Tufts University - CS
 Union College – CS*
 University at Albany, SUNY – CI*
 University at Buffalo - CSE
 University at Buffalo - IS
 University of Alabama, Birmingham - CIS
 University of Alabama, Tuscaloosa - CS
 University of Alberta - CS
 University of Arizona - CS
 University of Arkansas at
 Little Rock - IS&SE
 University of Calgary - CS
 University of California, Berkeley - EECS
 University of California, Berkeley - IMS
 University of California, Davis - CS
 University of California, Irvine - ICS
 University of California, Los Angeles - CS
 University of California, Riverside - CSE
 University of California, San Diego - CSE
 University of California, Santa Barbara - CS
 University of California, Santa Cruz - CE
 University of California, Santa Cruz - CS
 University of Central Florida - CS
 University of Chicago - CS
 University of Cincinnati - ECECS
 University of Colorado, Boulder - CS
 University of Delaware - CIS
 University of Denver - CS
 University of Florida - CISE
 University of Georgia - CS
 University of Hawaii - ICS
 University of Houston - CS
 University of Houston – ECE*
 University of Idaho - CS
 University of Illinois, Chicago - CS
 University of Illinois, Urbana
 Champaign - CS
 University of Illinois, Urbana
 Champaign - ECE
 University of Iowa - CS
 University of Kansas - EECS
 University of Kentucky - CS
 University of Louisiana at Lafayette - CACS
 University of Louisville - CECS
 University of Maine - CS
 University of Maryland - CS
 University of Maryland,
 Baltimore Co - CSEE
 University of Maryland, Baltimore
 County – IS*
 University of Massachusetts, Amherst - CS
 University of Massachusetts, Boston - CS
 University of Michigan - EECS
 University of Michigan - I
 University of Michigan, Dearborn - CIS
 University of Minnesota - CSE
 University of Mississippi - CIS
 University of Missouri, Columbia - CS
 University of Missouri, Rolla - CS
 University of Montana - CS
 University of Montreal – CS*
 University of Nebraska at Omaha - CS/IST
 University of Nebraska, Lincoln - CSE
 University of Nevada, Las Vegas - CS
 University of Nevada, Reno - CSE
 University of New Brunswick - CS
 University of New Hampshire - CS
 University of New Mexico - CS
 University of New Mexico - ECE
 University of North Carolina at
 Chapel Hill - CS
 University of North Carolina at
 Chapel Hill – SILS*
 University of North Carolina, Charlotte - IT
 University of North Dakota - CS
 University of North Texas - CS
 University of Notre Dame - CSE
 University of Oklahoma - CS
 University of Oregon - CIS
 University of Pennsylvania - CIS
 University of Pittsburgh - CS
 University of Pittsburgh - IS
 University of Puget Sound - MCS
 University of Rochester - CS
 University of South Alabama - CIS
 University of South Carolina - CSE
 University of South Florida - CSE
 University of Southern California - CS
 University of Southern California - EES
 University of Tennessee, Knoxville - CS

University of Texas, Arlington - CSE
University of Texas, Austin - CS
University of Texas, Dallas - CS
University of Texas, El Paso - CS
University of Toronto - CS
University of Tulsa - MCS
University of Utah - CS
University of Virginia - CS
University of Washington - CSE
University of Washington - I
University of Washington, Bothell - CS
University of Washington, Tacoma - CSS
University of Waterloo - CS
University of Wisconsin, Madison - CS
University of Wisconsin, Milwaukee - EECS

University of Wyoming - CS
Utah State University - CS
Vanderbilt University - EECS
Virginia Commonwealth University - CS
Virginia Tech - CS
Wake Forest University - CS
Washington State University - EECS
Washington University in St. Louis - CS
Wayne State University - CS
Williams College - CS
Worcester Polytechnic Institute - CS
Wright State University - CSE
Yale University - CS
York University - CS

Labs and Centers Members

Microsoft Corporation (*Sustaining Member*)
Sun Microsystems (*Sustaining Member*)

IBM Research (*Supporting Member*)

Accenture Technology Labs
Argonne National Laboratory
Avaya
CA Labs*
Computer Science Research Institute at
Sandia National Labs
Fraunhofer Center for Experimental
Software Engineering*
Fujitsu Laboratories of America
Google
Hewlett-Packard Company
IDA Center for Computing Sciences
Intel Corporation
Lawrence Berkeley National Laboratory
Los Alamos National Laboratory

Lucent Technologies, Bell Labs
McAfee Research
Mitsubishi Electric Research Labs
National Center for Atmospheric Research
NCSA
NEC Laboratories America
NTT DoCoMo USA Labs
Pacific Northwest National Laboratory
Panasonic Information & Networking
Technologies Lab
Ricoh Innovations
San Diego Supercomputer Center
SAP Labs*
SRI International
Telcordia Technologies

Affiliate Professional Society Members

American Association for Artificial Intelligence
Association for Computing Machinery
Canadian Association of Computer Science (CACS/AIC)
IEEE Computer Society
Society for Industrial and Applied Mathematics
USENIX Association Labs and Centers Members

****Indicates new members in 2005-06.***

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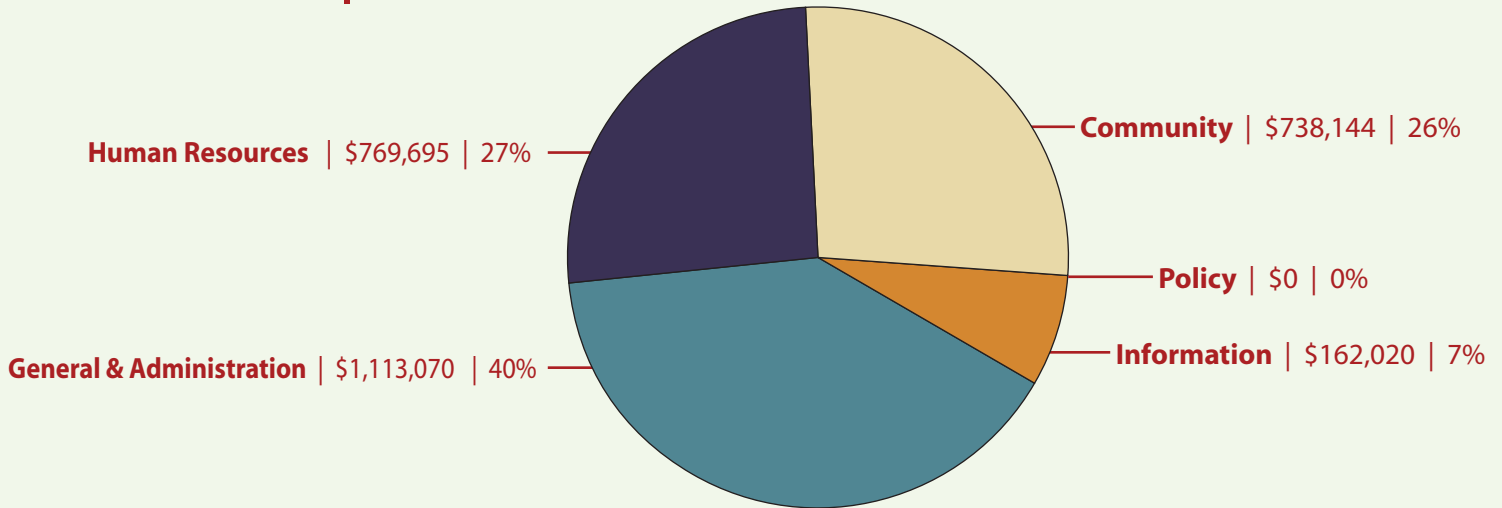
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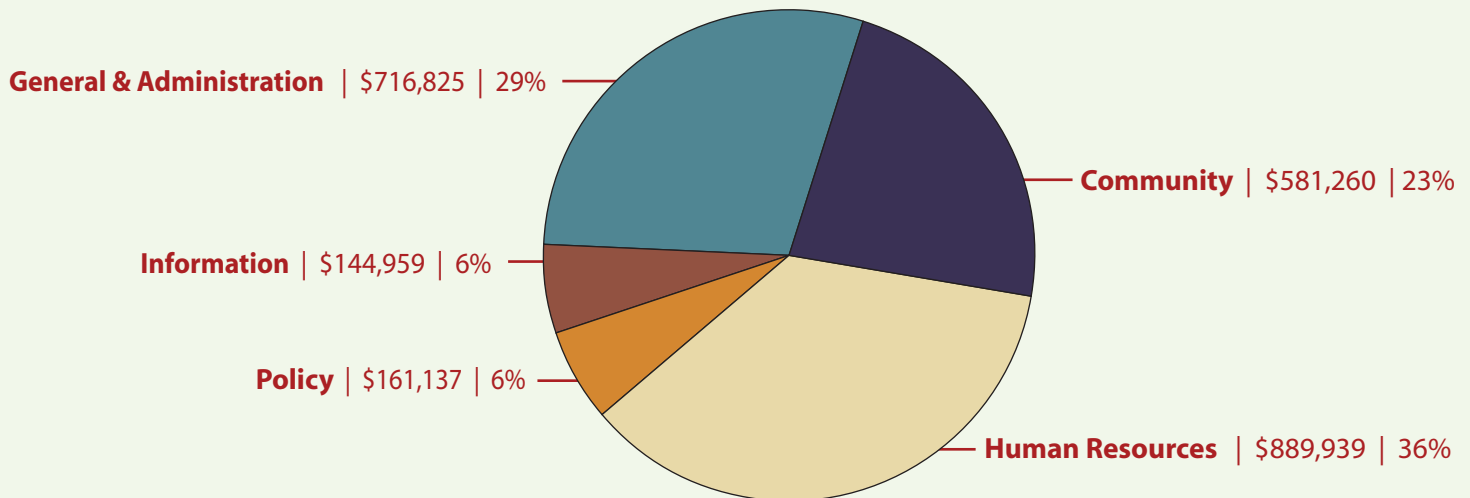
CRA Financial Statement

July 2005 - June 2006

Income | \$2,782,929



Expenses | \$2,494,120



Cash Position | \$1,678,280

Total Assets	\$2,227,052*
Total Liabilities	<u>548,772</u>
Total Net Assets	<u>\$1,678,280</u>

**Includes Temporarily Restricted Funds of \$338,465
(provided by a sponsor for a specific purpose)*