



reporter

PUBLISHED BY THE UNIVERSITY OF MINNESOTA, CENTER FOR URBAN AND REGIONAL AFFAIRS

Retail Sales Trends in Minnesota

by *Dave Senf and Thomas Anding*

Economic growth in rural areas of Minnesota, as in many rural areas of the nation, has stagnated during the 1980s, reversing gains of the 1970s. Sluggish or declining retail sales in greater Minnesota are one sign of the economic problems plaguing rural areas across the state. Empty storefronts in many communities stand out as highly visible confirmation of declining retail trade and underlying economic stress.

An analysis of retail sales trends in Minnesota from 1979 through 1986 clearly corroborates the widely reported dropoff in retail spending in many communities outside the Twin Cities metro area. Retail trade has been increasing in the metro area and in some regional trade centers, while declining in many medium- and small-sized communities in greater Minnesota. The pattern of retail trade shifts is similar to but more pronounced than shifts in employment, income, and population in the state.

Causes and Consequences

While lower income and fewer farm-related purchases can explain much of the trade decline in greater Minnesota, other factors are also making a significant contribution. A long-standing shift in purchasing patterns in rural Minnesota appears to be accelerating. Rural buyers are abandoning small trade centers in favor of larger or regional trade centers. Another factor is reduced retail spending that is perhaps more in response to an increased uncertainty about future income than to actual income loss.

The collapse of farm land values represents a massive loss of wealth that may also be curtailing retail spending among farm as well as non-farm households. Many rural residents while not directly involved in farming, still own farmland and have suffered a substantial decline in wealth as land values have fallen.

The degree to which retail sales in greater Minnesota will rebound as farm conditions and rural income improve depends largely on the degree to which these factors have affected retail sales. In some communities, retail sales are likely never to recover to the real levels of the late 1970s, even with sustained economic growth in the surrounding rural areas. Six years of low sales have forced many retailers out of business. Those businesses are unlikely to reopen even if rural economic conditions improve. Instead, retail trade will likely continue to bypass small towns and flow towards larger retail centers.

Data Source

Retail sales figures presented in this study are based on data compiled by the Minnesota Department of Revenue as part of their retail sales tax collection system. Extensive corrections have recently been made by the department on sales data back to 1979, increasing the accuracy of the data for research purposes. While some anomalies still exist, the overall reliability of the data is adequate for establishing relative trends between regions and communities grouped by size.

All sales figures presented here have been adjusted to 1986 dollars using the Minneapolis-St. Paul Consumer Price Index. This adjustment makes the severity of the retail sales decline in greater Minnesota clearly evident. Its severity may be overstated in absolute terms since the Minneapolis-St. Paul price index is based on a bundle of goods which includes more than just retail goods. But comparisons of retail sales growth in the Twin Cities metro area and greater Minnesota should not be influenced by adjustments for inflation since differences in retail price levels across the state are probably small.

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Sales Trends

Retail sales in the metro area (Metropolitan Development Region 11) increased by 17 percent from 1979 through 1986, while they declined by 15 percent in greater Minnesota. The decline in greater Minnesota was more drastic in farm regions, down 27 percent, than in non-farm regions, down 11 percent (see Figure 1). Regions were designated farm or non-farm based on the predominance of counties within a region dependent on farm income for 20 percent or more of their total county income (see Figure 2). Twenty-seven out of the thirty-five farm-dependent counties in the state are located in the economic development regions defined here as farm regions. The other eight farm-dependent counties are included in the non-farm regions classification.

Decreases in retail sales in greater Minnesota exceeded decreases in other economic activity indicators (Figure 3). Population in greater Minnesota fell from 51 percent of the state's population to 50 percent between 1980 and 1986. Employment decreased from 39 to 37 percent; while income decreased from 45 to 43 percent over the same six years.* Retail sales, in comparison, dropped from 44 percent to 38 percent of total state sales.

Figures 4 and 5 present retail sales and income changes by county and economic development region. Retail sales increased in only sixteen counties between 1979 and 1986 (Figure 4). Most of these counties are in the St. Cloud-Rochester axis running through the metro area. Two recreation and retirement-based counties (Cass and Crow Wing) also had increases in retail sales.

Retail sales decreased on average by 30 percent in farm dependent counties and by 11 percent in non-farm dependent coun-

Figure 1. MINNESOTA RETAIL SALES, 1979-86

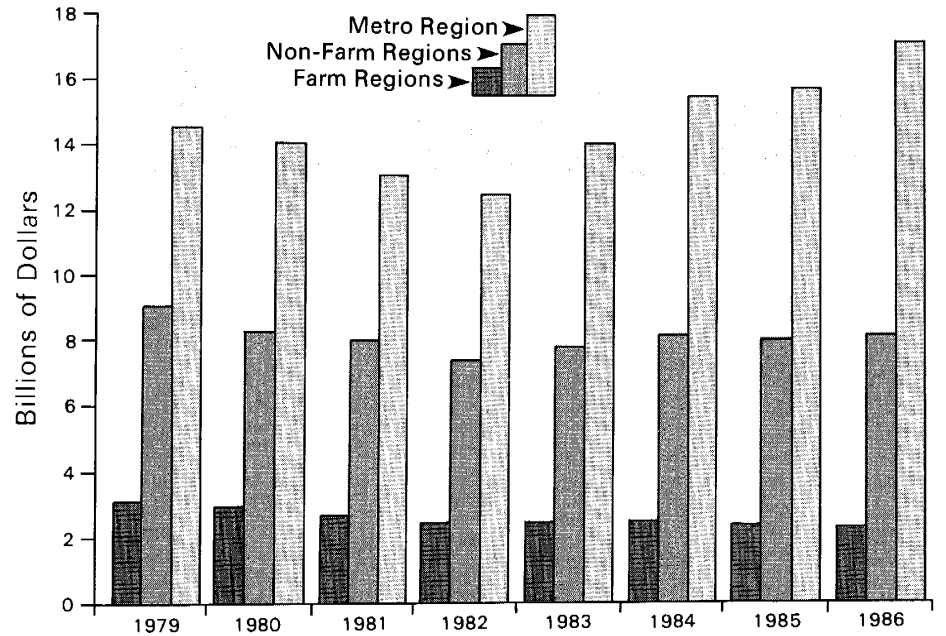


Figure 2. MINNESOTA DEVELOPMENT REGIONS CLASSIFIED BY FARM DEPENDENCY

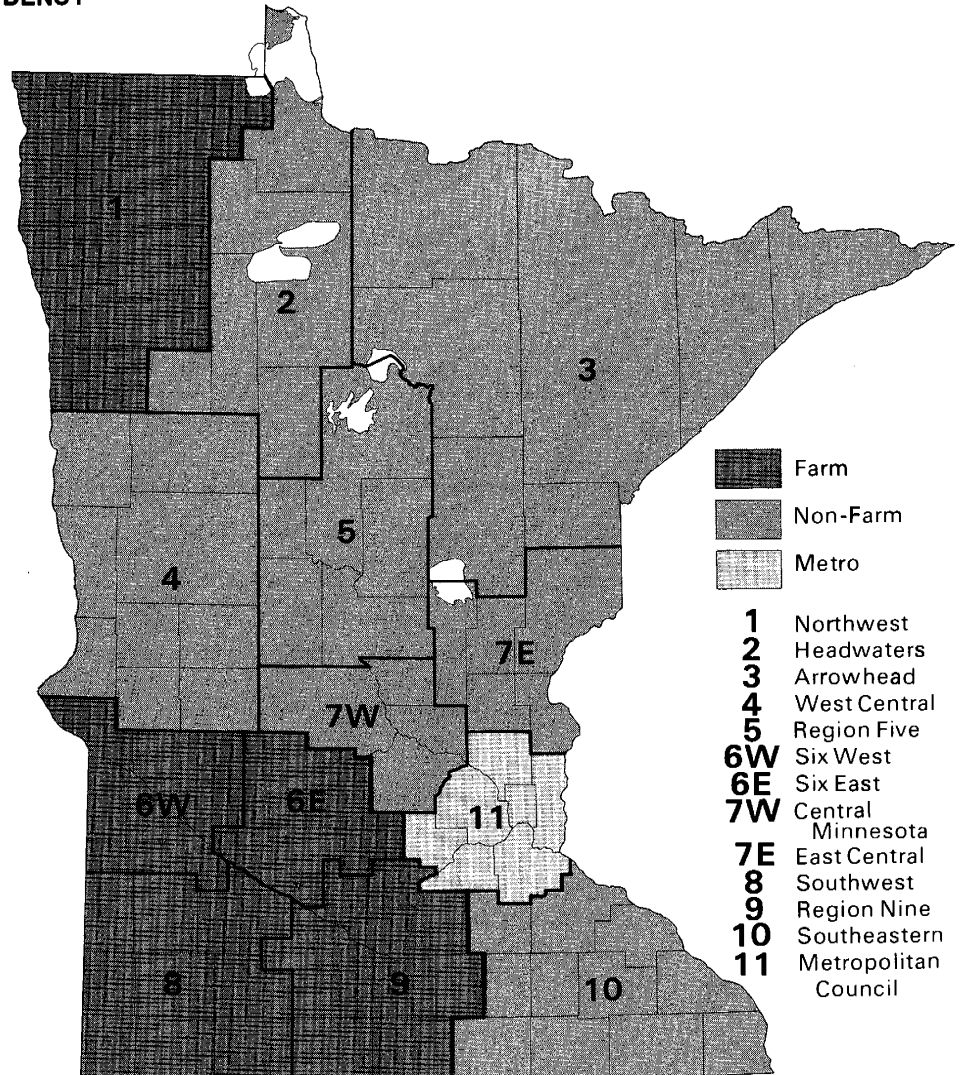


Figure 3. GREATER MINNESOTA'S SHARE OF STATE ECONOMIC ACTIVITY

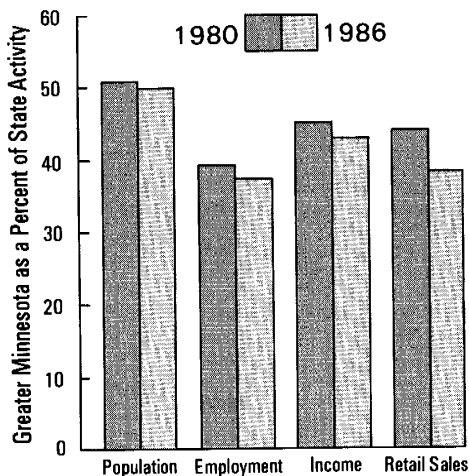


Figure 4. RETAIL SALES CHANGE BY COUNTY, 1979-1986

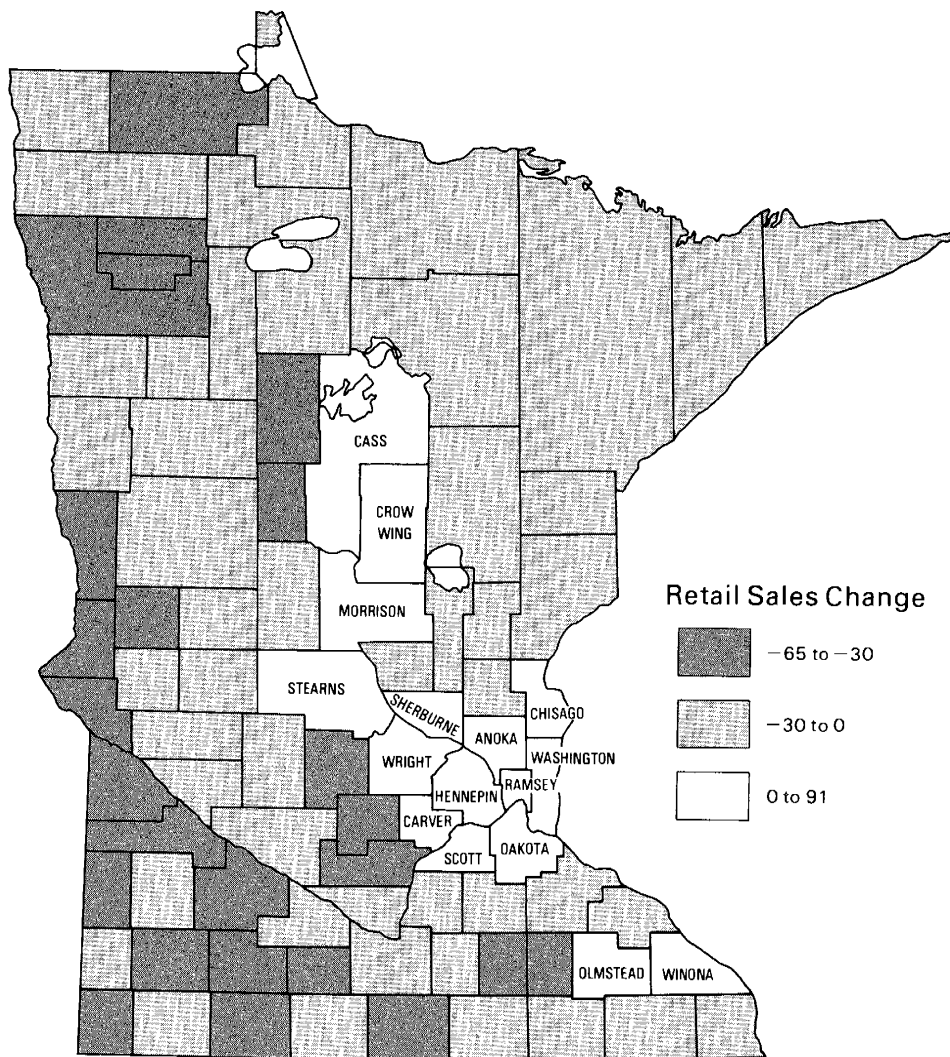
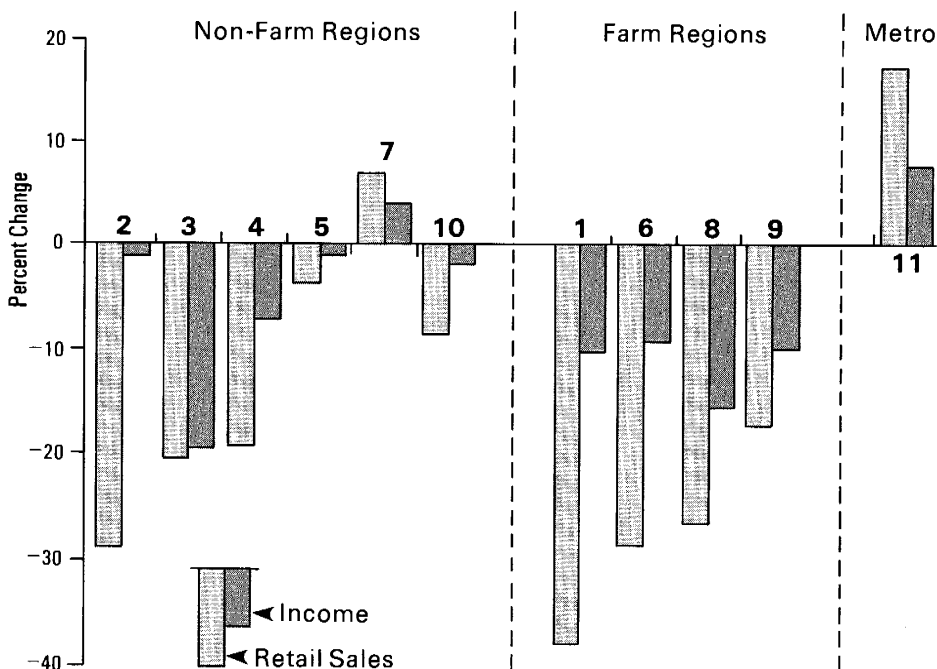


Figure 5. RETAIL SALES AND INCOME CHANGES BY REGION, 1979-1985



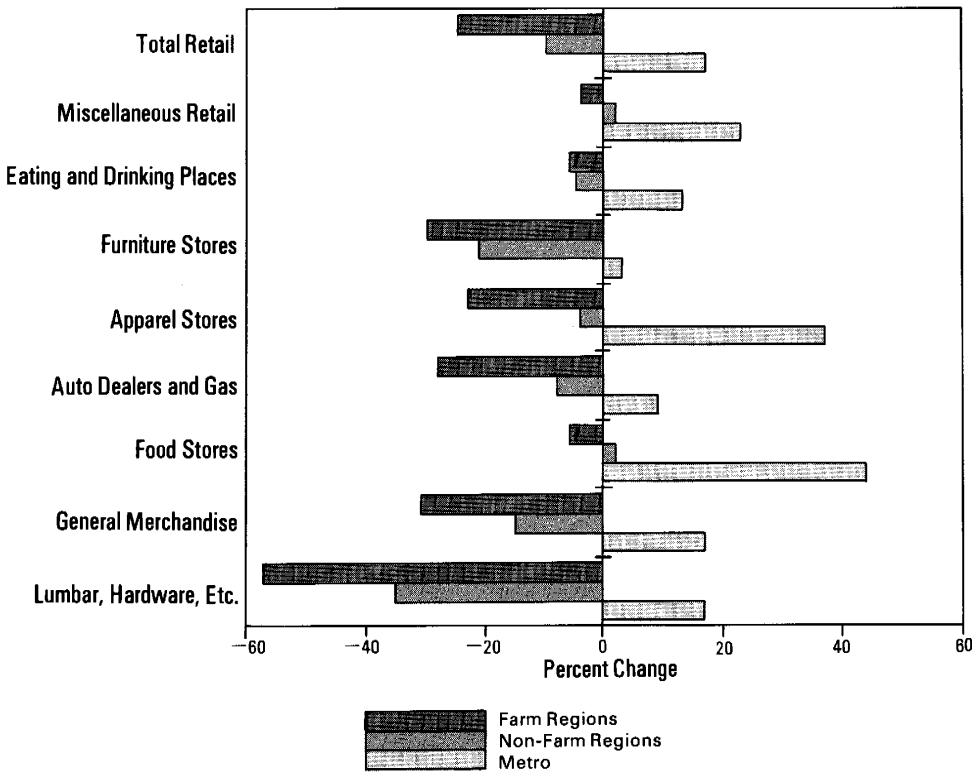
ties, excluding the metro area counties. Region 7 was the only region besides the metro area which had increases in income and retail sales between 1979 and 1985 (Figure 5). These nine counties were fueled by the expanding economy of St. Cloud. As Figure 5 shows, changes in income correlate somewhat with changes in retail sales, but not completely. Retail sales declines in farm regions are larger relative to income declines than in non-farm regions, reflecting the dropoff in direct farm-related purchasing.

Changes in retail sales by type of retail business are examined in Figures 6 and 7. Figure 6 shows these changes for the metro area, non-farm regions, and farm regions. In the metro area, sales have increased in all retail sectors during the 1980s. In non-farm regions, sales have increased only in the food stores and miscellaneous retail businesses. Retail sales declined in all businesses in farm regions, with significant drops in five types of business: lumber and hardware, general merchandise, auto dealers and gas stations, apparel, and furniture stores. On average, farm communities have lost 23 percent of their retail volume since 1979. Non-farm communities have lost 11 percent.

Finally, Figure 7 shows changes in greater Minnesota sales shares for each type of business by trade center size. Trade centers were classified according to the size of their retail sector, based on sales volume and number of trade establishments in each center. The size of various trade centers generally corresponds with the size of the population in each Minnesota community. Large trade centers are communities with eighty or more retail stores that generated a sales volume above 25 million dollars in 1986. Fifty-four communities outside of the metro area were classified as large trade centers, ranging from St. Cloud, Duluth, and Rochester to Roseau, St. James, and Cambridge. Median trade centers sold from 9 to 25 million dollars worth of goods in 1986. They encompass forty to eighty retail stores. North Branch, Cold Spring, Lester Prairie, and Bird Island are representative of the 106 communities classified as medium trade centers. Small trade centers, with fewer than forty retail stores, sold less than 9 million dollars in 1986. A total of 496 hamlets and small towns in Minnesota were grouped into the small trade center category: communities such as Comstock, Blooming Prairie, Madison Lake, and Walnut Grove.

The shift of retail activity to large trade centers can be followed in more detail in Figure 7. It gives some insight into what types of retail activity are shifting. Large trade centers, on average, expanded their share of sales in every retail sector between 1979 and 1986, gaining the most in general merchandise stores. Medium trade centers lost sales shares in all retail sectors. In small trade centers, retail sales shares were lost in five types of business but

Figure 6. RETAIL SALES CHANGE BY TYPE OF BUSINESS, 1979-1985



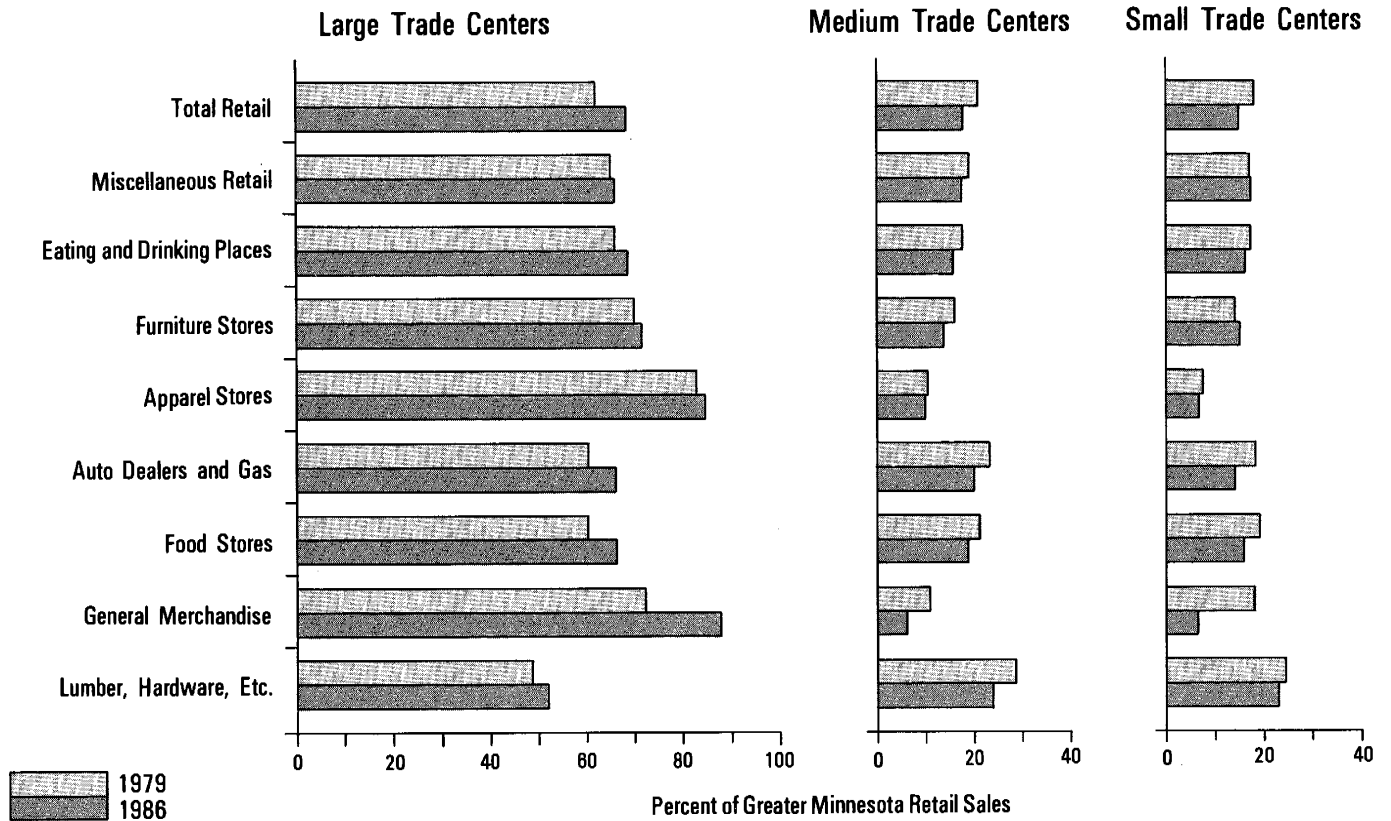
gained in three others. The share of sales in lumber and hardware, furniture, and miscellaneous retail stores increased in small trade centers.

To Sum Up

Retail sales growth in the metro area has far outpaced growth in greater Minnesota. In real dollar terms, sales decreased substantially in greater Minnesota between 1979 and 1986, especially in small and medium-sized towns. The decline is related to stagnant or declining real income in these communities and to the continued movement of purchases to larger trade centers. Retail sales have grown more slowly in farm communities than in non-farm communities, an obvious result of the farm crisis. Further CURA research will be examining the changing functional mix in the retailing, service, wholesale, and manufacturing sectors across Minnesota as a means of better understanding what the future holds for the towns and cities of the state.

Dave Senf is a graduate assistant with CURA and is working on his Ph.D. dissertation in the Department of Agricultural and Applied Economics. Senf's special area of expertise is in natural resources and regional economics. Thomas Anding is CURA's associate director.

Figure 7. GREATER MINNESOTA RETAIL MARKET SHARES BY TRADE CENTER SIZE



To Promote the General Welfare

by Clarke Chambers

In the academy, cooperative ventures have strengths and can tap resources that solo programs cannot match. That advantage was demonstrated again last year in connection with the bicentennial of the United States Constitution. A series of lectures sponsored by the School of Social Work and the Social Welfare History Archives in cooperation with CURA, brought four scholars of national renown to campus to speak on the constitutional and social implications of federal welfare policies and programs. Funding came from the Minnesota Humanities Commission, the Office of the Provost, the College of Home Economics, the School of Social Work, and CURA, along with in-kind support from the Humphrey Institute of Public Affairs and many other university units. These scholars shared with faculty and students their insights into the history of public assistance, social insurance, mental health, and family welfare over two hundred years of American experience.

The lectures, together with additional material by the program planners, professors Esther Wattenberg and Clarke Chambers, and by the series' commentator, H.E. Mason of the Department of Philosophy, have now been published by CURA under the title *To Promote the General Welfare*.

The presenters agreed that while the Constitution of 1787 was itself silent on issues that over time came to be identified as welfare concerns, in major part owing to the consensus of the revolutionary generation that welfare and education were matters properly assigned to local and state government under a federal system, the original grant of authority to Congress to "lay and collect taxes...to provide for the common defense and the general welfare" proved ambiguous—and potent—enough in time to make possible a vast expansion of power on the part of the national government in the twentieth century to regulate the economy and to inaugurate a patchwork system combining means-tested public assistance programs and social insurance systems.

Michael Katz, professor of history at the University of Pennsylvania, in his analysis of "Historic Obstacles to Welfare Reform," notes the great variations in policy and practice that continue to mark public assistance, arising from the assignment of political authority to thousands of local units of government. Federalism also dictated the bifurcation between means-tested relief programs, demeaning to the poor, and old age, disability, and unemployment insurance programs through which participating citizens are entitled to benefits as

their rights. As a result, Katz argues, "social welfare has a class structure": social insurance serves everyone, while recipients of poor relief "lack both the political power to extend its benefits very far and the social status to erase its historic stigma." He concludes that America is the only major modernized country "without national health insurance or a system of family allowances." Unable to check the economic forces that generate poverty, the hodgepodge system pleases no one. "Poor people find it demeaning and inadequate; liberals consider it incomplete and irrational; conservatives, who think it is too expensive, believe it erodes the work ethic and encourages immorality."

Despite this history, Professor Katz ends on an affirming note. America today has the resources to alleviate and prevent poverty if it wills to do so; the tradition, dating from the New Deal, of effective national action demonstrates that sound policies can effectively resolve social and economic problems. The possibilities for the creation of policy initiatives are great.

Gerald Grob, professor of history and research fellow in the Institute of Health, Health Care Policy, and Aging Research at Rutgers University, traces a system of "dual responsibility" for the mentally ill arising from the division of powers between local and state governments, a contest in which the states emerged as the chief provider of services by 1900. Indeed, by 1940, state care of the chronically mentally ill constituted a major claim on state budgets everywhere. In the 1960s, the focus returned to local communities which were expected to provide care and treatment of persons released from state mental hospitals as part of a national crusade for de-institutionalization. This shift was shaped by many elements: "a psychodynamic model that emphasized life experiences and the role of environmental influences"; "the movement of psychiatrists away from mental hospitals"; "the rise of nonmedical mental health occupations"; and the introduction of psychotropic drugs that made possible treatment outside a controlled institutional setting. The transformation was empowered, moreover, by the assumption of responsibility by the federal government through the National Institute of Mental Health, which initiated well-funded programs for research, education, training, and implementation in practice. In the process the needs of the severely mentally ill were often neglected.

Lela Costin, professor of social work, now emeritus, at the University of Illinois,

provides a concluding essay focused on the history of welfare policies for women and children. Women were assigned to a "separate sphere" in which their nurturing roles as wives and mothers were exalted, but in which their legal and personal status was severely proscribed by patriarchal systems. In the nineteenth century "class biases were added to gender biases, putting poor and immigrant mothers and children at even higher risk of unjustified legal intervention and control." In our own day, even though government has come to play a vigorous role in child protection, it tends to intrude disproportionately upon culturally different families, and its effectiveness is frustrated by society's failure to provide funds and resources essential to prompt, intensive, and effective services. As for the labor of children and youths, the state has moderated the force of exploitation without providing positive alternatives. Youths are "effectively blocked from the labor market," Costin concludes; for them, "job hunting is a depressing and frustrating venture which pushes youth further from accomplishment and increases apathy and despair." Persisting poverty for millions of women and children is a problem not yet adequately addressed; that neglect is measured in malnutrition, ill health, frustrated educational ambitions, and homelessness.

Congress this fall prided itself on the enactment of a welfare "reform" bill. The impact this legislation will likely have for Americans in need through no personal fault of their own remains to be seen. This volume of collected essays will inform our understanding of complex concerns as yet unresolved for the promotion of the general welfare. The study of the past surely has its uses.

Clarke Chambers is a professor in the Department of History, director of the Social Welfare History Archives, and an adjunct professor in the School of Social Work at the University of Minnesota. *To Promote the General Welfare* can be ordered by phone (612/625-1551) or on the Publications Order Form at the end of the insert about CURA publications included with this issue of the *CURA Reporter*.

NETS for the Unemployed in Minneapolis

by Margo Doten and Judith Weir

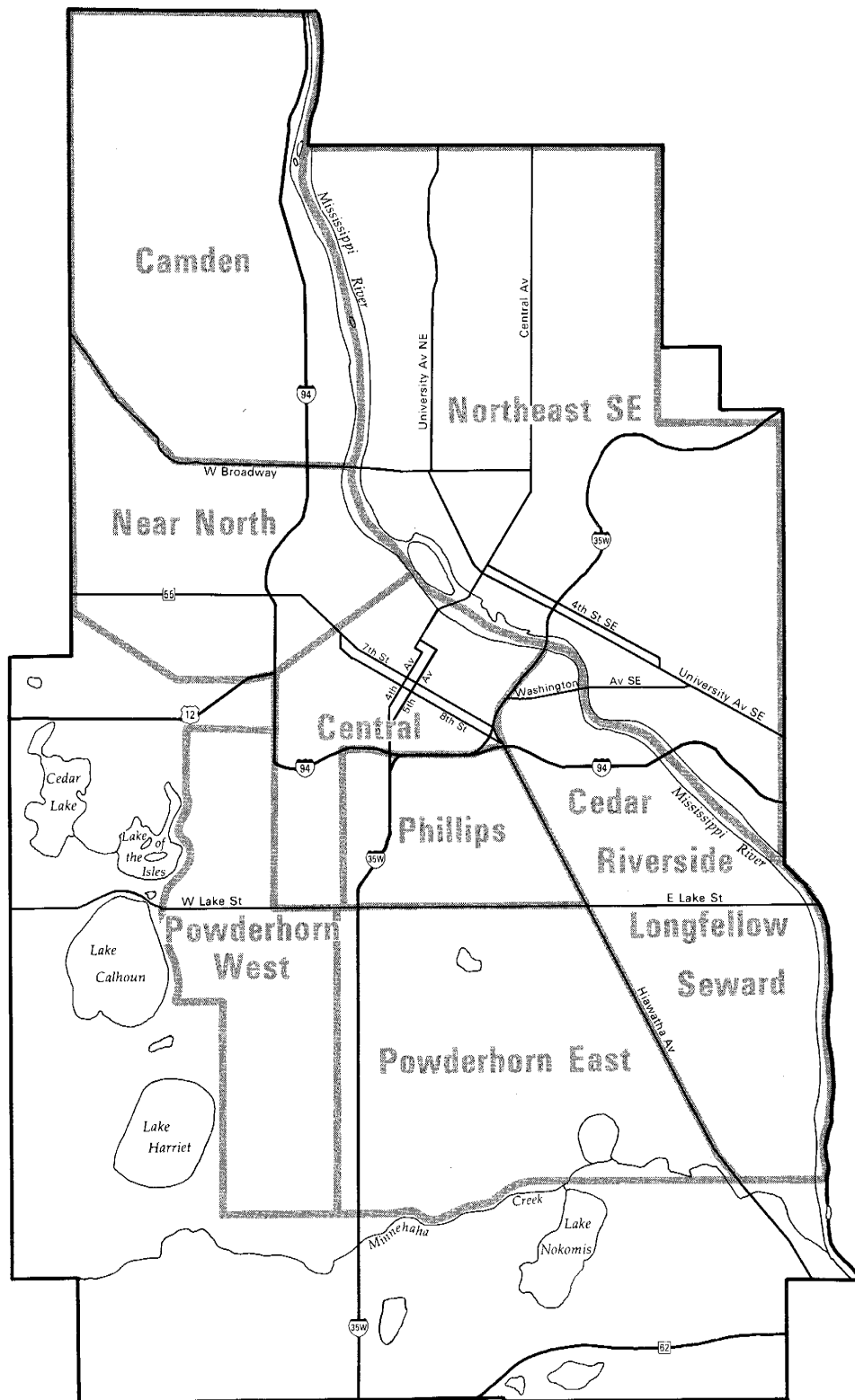
The Minneapolis Neighborhood Employment Network (NET) began in 1982 as part of a new strategy for developing employment in the city. Dealing with employment issues at the neighborhood level, it was felt, would encourage programs that responded to the particular needs of each community in the city and, could lessen administrative costs, and facilitate outreach efforts. Nine neighborhood job banks now work independently in eight communities in Minneapolis (see map). One of the job banks is city-wide and focuses on serving the Indian community.

NET calls itself a "neighbor-to-neighbor employment program." Its facilitators assist the chronically unemployed and the hard-to-employ in their neighborhood. The goal is to help them until they become employable and are employed. Facilitators meet with clients to learn about their work history, education, job skills, and interests. Barriers to employment are discussed in an open manner. Recommendations for improvements in attitudes toward work, hygiene, and physical appearance are made, if necessary. Clients may be referred to other social service agencies or for chemical dependency counseling or treatment. Job training or educational programs may be appropriate. Help is offered in job preparation skills such as resume writing and interview techniques, and on broader issues like successful work behavior and money management. When clients are ready, leads are given to jobs that are appropriate to their skill levels. Staff continue to work closely with clients throughout the job search process. Many are placed with new businesses located close to their homes. About 900 people are placed in jobs or training programs each year.

Each NET job bank is sponsored by a community organization or community-based social service agency. And each NET has a corporate partner, a large corporation located in or near the area it serves, which provides a source of jobs, funding for program operations, support for the overall effort, and leadership in involving other community businesses (Table 1).

NET operates on two levels: in communities where each NET works independently and as a city-wide network of these groups. Staff from the community NETs meet every two weeks to share information, discuss common issues and problems, and talk about what they are doing. Overall coordination comes from a part-time staff person, Mike Brinda, who works out of Mayor Fraser's office, but the entire program and

MINNEAPOLIS NEIGHBORHOOD EMPLOYMENT NETWORK COMMUNITIES





We present here a complete list of CURA publications that are currently available. Individual works are cross-referenced if they could be placed under more than one subject heading. Major articles that have appeared in the *CURA Reporter* are also included in each subject area if copies of the *Reporter* are still available. Publications are available free-of-charge unless otherwise noted. A large number of CURA publications are now out of print but can be photocopied at a cost of 10¢ per page. For a complete backlist order a copy of *The Complete List of CURA Publications*, included on the order form at the end of this listing.

CURA Publications in Print, Dec. 1988

COMMUNITY AND NEIGHBORHOOD STUDIES

“Assessing Neighborhood Health and Social Needs: The People’s Center Re-examines Its Constituency in Cedar-Riverside.” Donald Chock. March 1983. *CURA Reporter* 13(2): 7-11. Results of a survey conducted for the People’s Center show what areas of health and social needs are most important to the center’s clients and potential clients. The survey was used to discover how aware people are of the center and to help plan directions the center might take in the future.

“Citizen Participation in Minneapolis.” See “Planning and Public Affairs.”

Community Involvement in the Whittier Neighborhood: An Analysis of Neighborhood Conditions and Neighborhood Change. Rebecca Lou Smith and Thomas L. Anding. 1980. CURA 80-4. 90 pp. A revitalization effort in the inner city of Minneapolis is evaluated. A corporate and neighborhood partnership enabled a variety of programs to be tackled: housing, crime, business, and neighborhood image.

“Economic Health Through Community-Based Development.” See “Economic Development and Employment.”

“Employment in Powderhorn East.” See “Economic Development and Employment.”

“Future City: Duluth Tomorrow.” William K. Miller. July 1984. *CURA Reporter* 14(4): 7-10. Highlights of a series of futures forums held in Duluth in 1983 present a fresh look at Duluth’s demographics, economics, land-use, transportation, human services, and quality-of-life.

Harrison Neighborhood Needs Assessment, A Community-Based Project for Neighborhood Improvement Planning. Candace Campbell and Paul Schersten. 1985. CURA 85-6. 32 pp. A survey conducted for the Harrison Neighborhood Association (Minneapolis) in the fall of 1984 asked residents about the assets and problems of their neighborhood. Twenty-five percent of the neighborhood responded. The survey aided the neighborhood association in planning future activities.

“The Hmong and Their Neighbors.” See “Minorities.”

“Homeless in Hennepin County.” See “Human Services.”

Institutionalizing Organized Citizen Participation: Challenges and Opportunities. See “Planning and Public Affairs.”

“The Loring Park Development: The Design, the Development, and the Difference it Has Made.” B. Warner Shippee, Philip Wagner, and Dana Reed. March 1984.

CURA Reporter 14(2): 1-6. A redevelopment project on the edge of downtown Minneapolis is traced through planning stages, design, and construction. Were development goals met? Has a new type of resident been attracted to the city? CURA researchers report on their conclusions after surveys and discussions with planners, designers, developers, and residents.

Making the Arts Accessible: A Survey of Minnesota Community Arts Organizations. Jacalyn Plagge. 1987. CURA 87-1. 113 pp. Organizations that provide cultural activities or outlets for Minnesotans at the local level were surveyed in 1985. A profile of these groups, their purpose, budget, activities, funding, and level of professionalism, is presented along with a listing of most of the community arts organizations in Minnesota.

“Making the Arts Accessible: Community Arts Organizations in Minnesota.” Jacalyn Plagge. July 1987. *CURA Reporter* 17(3): 5-8. A 1985 survey of local arts organizations in Minnesota shows their diversity and strength. *Making the Arts...*, above, is the complete study.

“The Minneapolis Survey: How the City Grew and What Should be Preserved.” Judith A. Martin. March 1983. *CURA Reporter* 13(2): 1-6. Reports on a major survey of the City of Minneapolis that shows the development of the city, recommends which buildings and districts should be preserved, and suggests what role the preservation process can serve for the city.

“Neighborhoods and City Hall in St. Paul and Minneapolis.” Jack Whitehurst and Fred Smith. June 1988. *CURA Reporter* 18(3): 1-8. The different approaches that Minneapolis and St. Paul take to citizen participation are discussed in terms of how community organizations are funded, how information is made available to citizens and citizen organizations, peer cooperation, staffing of neighborhood programs and organizations, and who controls the neighborhood agenda.

“New Jobs From Community-Based Economic Development.” See “Economic Development and Employment.”

“Northeast Minneapolis: Have Jobs Declined?” See “Economic Development and Employment.”

Profiles of the Twin Cities Poor. Report/One. An Overview: the Twin Cities Poor and Their Problems. See “Human Services.”

“Prospects for Retail Business in Duluth.” See “Economic Development and Employment.”

Recycling the Central City: The Development of a New Town-In Town. See “Housing.”

Windows to the Past: A Bibliography of Minnesota County Atlases. See “Land Use.”

ECONOMIC DEVELOPMENT AND EMPLOYMENT

“Beyond the Mall of America: The Rise of Twin Cities Festival Markets.” Judith A. Martin. May 1985. **CURA Reporter** 15(2): 1-6. Festival markets are a new type of retailing springing up in urban centers across the country. Shoppers at Butler Square, St. Anthony Main, Riverplace, Calhoun Square, and Bandana Square were surveyed to discover what it is that attracts people to these new retail centers. (See also *“Twin Cities Festival Markets: The Merchant’s Perspective”* in this section.)

“The Business Firm as an Instrument of Social Change: A Colombian Model.” Chip Peterson. January 1986. **CURA Reporter** 16(1): 7-8. A corporate conglomerate in Colombia is dedicated to establishing social justice for the poor. This article presents background on the organization and work of Fundacion Social. (See also *Fundamental Principles and Model...* in this section.)

“Citizen Opinion on the Economy.” William J. Craig. October 1987. **CURA Reporter** 17(4): 8-10. A survey in the early summer of 1987 asked over 1,200 Minnesotans about their personal financial situations and plans for making major purchases. In rating important problems facing Minnesota, the economy ranked first.

“Economic Health Through Community-Based Development.” Jeffrey D. Freeman and Warren W. Hanson. March 1984. **CURA Reporter** 14(2): 7-10. A survey of fourteen community-based economic development organizations discovered how they began, what they have accomplished, what is needed for them to be successful, and how they contribute to a healthy economy.

“The Economics of New Firms: Policy Implications for Minnesota.” Paul D. Reynolds and Brenda Miller. April 1988. **CURA Reporter** 18(2): 1-6. A 1986 survey quantifies how much new firms contribute to the Minnesota economy, delineates how they do this, shows how their contributions can be predicted, and discusses the implications of this for government action. See *1987 Minnesota New Firms...* in this section for the full study.

The Educational Needs of Dislocated Workers in Minnesota. Rosemarie J. Park, Rebecca L. Storlie and René V. Dawis. 1988. CURA 88-4. 43 pp. Economic changes in the United States are causing job losses in a number of major industries. Dislocated workers from four Minnesota industries—manufacturing, mining, lumber, and agriculture—were interviewed about their job goals, plans for retraining, and needs for improved basic skills in reading and mathematics. This report includes policy recommendations as to what unions, companies, government, and educational institutions can do to aid dislocated workers.

“The Educational Needs of Dislocated Workers in Minnesota.” Rosemarie J. Park, Rebecca L. Storlie and René V. Dawis. June 1988. **CURA Reporter** 18(3): 11-14. A study of dislocated workers in four Minnesota industries is presented in capsule form. For the full study, see *The Educational Needs...* above.

“Employment in Powderhorn East.” Debra L. Burns. May 1987. **CURA Reporter** 17(2): 6-9. A cooperatively developed study of employment in the Powderhorn East area of Minneapolis surveyed sixty-seven businesses about their hiring practices, types of jobs, employee turnover, hiring problems, and why hiring employees from the neighborhood was an advantage or disadvantage.

“Evaluating International Business Development: Lessons for Minnesota.” Robert Kudrle and Cynthia Kite. May 1987. **CURA Reporter** 17(2): 1-5. Developing business with foreign countries will strengthen Minnesota’s economy. This analysis of how other states evaluate their foreign sales promotions suggests ways that Minnesota can improve on such methods. See *State Evaluation...* in this section for the full study.

Fundamental Principles and Model for Social Intervention of Colombia’s Fundación Social. Fundación Social. 1985. Translated from Spanish by Rosa Maria de la Cueva de Peterson. CURA 85-7. 30 pp. A corporate conglomerate in Colombia, guided by Jesuits and contemporary Catholic social teaching, is dedicated to establishing social justice for the poor in that country. This document presents the history and fundamental principles of their organization.

“The Illusion of Self-Sufficiency: Realities for Working, Single Parent Families.” See “Human Services.”

“New Firms in Minnesota: Explorations in Economic Change.” Paul D. Reynolds and Steven West. July 1985. **CURA Reporter** 15(3): 1-5. Results of a survey of 551 new firms in Minnesota show what kinds of businesses are succeeding in Minnesota, what their growth patterns are, and how they are contributing to the state’s economy. Policy implications for the state are spelled out.

“New Jobs From Community-Based Economic Development.” Thomas Lussenhop and Candace Campbell. May 1985. **CURA Reporter** 15(2): 7-10. An update on how new businesses and jobs have been created in Minnesota through the efforts of local residents and business people organized to rebuild the economy in their area. Seventeen Minnesota community-based economic development projects were surveyed in the fall of 1984.

1987 Minnesota New Firms Study: An Exploration of New Firms and Their Economic Contributions. Paul D. Reynolds and Brenda Miller. 1988. CURA 88-1. 142 pp. Jobs provided by new firms accounted for 42-99 percent of the net increase in jobs in Minnesota between 1978 and 1986 and 12-29 percent of the net increase in personal income. This study considers the mechanisms behind new firm contributions to the state’s economy, how their contribu-

tions can be predicted, and what implications this holds for government strategies. A 1986 survey of over 1,000 new Minnesota firms provided the data for this report.

“Northeast Minneapolis: Have Jobs Declined?” William J. Craig. July 1985. *CURA Reporter* 15(3): 6-8. A report on what has been happening to jobs in Northeast is presented, based on three data sources. Company migrations, long-term economic and demographic changes, and changes in employment are explored.

Profiles of the Twin Cities Poor. Report/Six. Working Poor. See “Human Services.”

“Pay Equity in Minnesota: State and Local Wage Policy Innovation.” See “Planning and Public Affairs.”

“Prospects for Retail Business in Duluth.” Jerrold M. Peterson and John M. Charnes. October 1983. *CURA Reporter* 13(4): 1-5. Using a combination of marketing and economic forecasting models, the authors predict that Duluth may be on the brink of a modest budding expansion in retail trade.

“Questions About Women in the Minnesota Economy.” William J. Craig. January 1984. *CURA Reporter* 14(1): 8-9. A brief analysis of data from the 1980 population census indicates the tough economic position of many Minnesota women. Maps show the percent of women in the labor force by county and the percent of women and young children in poverty by county.

State Evaluation of Foreign Sales Efforts. Robert T. Kudrle and Cynthia M. Kite. 1988. CURA 88-5. 152 pp. The past fifteen years have seen a dramatic increase in state attention to foreign countries as a source of economic stimulation. This study surveyed other states to see what Minnesota could learn from them. It features an analysis of evaluation methods used to assess foreign sales promotions and suggests ways that Minnesota can improve on these methods. Minnesota’s activities and the Minnesota Trade Office are also reviewed.

“Toward Hmong Self-Sufficiency: The Challenge of Economic Development for the Hmong.” See “Minorities.”

“Training Refugee Women for Employment in Minnesota.” See “Minorities.”

Training Southeast Asian Refugee Women for Employment: Public Policies and Community Programs, 1975-1985. See “Minorities.”

Twin Cities Conversions. The Case Studies: How the Finances Work. See “Housing.”

“Twin Cities’ Festival Markets: The Merchants’ Perspective.” Judith A. Martin. July 1985. *CURA Reporter* 15(3): 9-11. Merchants in the new festival markets—St. Anthony Main, Riverplace, and Bandana Square—were asked what they thought about the location and design of their mar-

ketplace, who their clients were, and how the business climate was. (See also “*Beyond the Malling of America...*” in this section.)

“Working and On AFDC: The Impact of Recent Federal Cutbacks.” See “Human Services.”

“Working and On AFDC: The Impact of Recent Federal Cutbacks One Year Later.” See “Human Services.”

EDUCATION

The Berman, Weiler Study of Minnesota Student Performance: A Critical Review. Edward L. Duren, Jr. and Thomas R. Peek. 1984. CURA/College of Education Project on the Future of K-12 Public Education in Minnesota. CURA 84-4. 16 pp. An assessment of performance by Minnesota students in grades K-12 was prepared for the Minnesota Business Partnership by Berman, Weiler Associates of Berkeley, California. This report offers a summary and critique of their assessment.

“Challenging Myths About Welfare.” CURA. May 1983. *CURA Reporter* 13(3): 5. Course materials have been prepared, field tested, and published that present the social welfare system to high school students.

“Citizen Opinion On Education.” William J. Craig. March 1986. *CURA Reporter* 16(2): 1-5. Results of a Minnesota survey of citizens’ opinions about education are summarized here. See *1985 Minnesota Citizen Opinions...* in this section for the full study.

Courses in Survey Research, University of Minnesota 1988-89. See “Planning and Public Affairs.”

Courses on Aging, University of Minnesota 1988-89. See “Human Services.”

Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1988-89. See “Environment and Energy.”

The Educational Needs of Dislocated Workers in Minnesota. See “Economic Development and Employment.”

“Financing Education Beyond High School: Is the Minnesota Experiment Working?” James C. Hearn. June 1986. *CURA Reporter* 16(3):1-5. A blanket subsidy of post-secondary education tuition has been replaced with a targeted subsidy for low income students. The full study of this policy change is also available. See *Targeted Subsidization...* in this section.

"Internships by the Group." Barbara Lukermann. November 1984. *CURA Reporter* 14(5): 6-7. A new kind of professional internship has been created for students in the Humphrey Institute of Public Affairs. Students were placed as a group with two government offices—the Minneapolis Planning Department and the St. Paul District Heating Development Corporation—during this first year of the new internship.

"K-12: What the Data Show About Public Education in Minnesota." Thomas R. Peek. October 1985. *CURA Reporter* 15(4): 10-14. A highly condensed version of CURA's report on public education in Minnesota is presented here. The full report is *Minnesota K-12 Education: The Current Debate...* listed in this section.

"Looking at Public Education in Minnesota." Thomas R. Peek. October 1983. *CURA Reporter* 13(4): 8-11. Highlights of a four-part television and radio series on Minnesota public education are presented: a profile of students, teacher background and reforms for excellence, what's going on inside the schools, and possibilities for reform.

Making the Arts Accessible: A Survey of Minnesota Community Arts Organizations. See "Community and Neighborhood Studies."

Minnesota K-12 Education: A Catalogue of Reform Proposals. Lawrence C. Wells. 1986. CURA/College of Education Project on The Future of K-12 Public Education in Minnesota. CURA 86-2. 140 pp. Major education reform proposals from Minnesota organizations in the mid-1980s are presented in summary form by eleven subject areas. For each proposal there is a brief description, a statement of basic premises, and a note about the cost implication. An overview of the proposals, a legislative update on educational reform in Minnesota, a bibliography, and information about the eighteen Minnesota organizations making the proposals are included.

Minnesota K-12 Education: A Catalogue of Reform Proposals, a summary version. Lawrence C. Wells. 1986. CURA/College of Education Project on The Future of K-12 Public Education in Minnesota. CURA 86-2s. 28 pp. An overview of reform proposals presented in the mid-1980s is presented along with a legislative update on educational reform in Minnesota, a bibliography of the proposals, and information about the eighteen Minnesota organizations making the proposals.

Minnesota K-12 Education: The Current Debate, The Present Condition. Thomas R. Peek, Edward L. Duren Jr., and Lawrence C. Wells. 1985. CURA/College of Education Project on the Future of K-12 Public Education in Minnesota. CURA 85-3. 164 pp. A review and analysis of the debate on public education in Minnesota, the book includes a history of educational change in Minnesota, a description of recent trends affecting schools in Minnesota, challenges facing education today, and a policy framework for understanding Minnesota public education.

1985 Minnesota Citizen Opinions on Public Education and Educational Reform. William J. Craig and Kumarasiri Samaranayaka. 1985. CURA/College of Education Project on The Future of K-12 Public Education in Minnesota. CURA 85-10. 39 pp. The results of a statewide survey of 2,000 adults in the spring of 1985 indicate that Minnesotans are concerned about primary and secondary education and are willing to spend money to improve the schools, especially equal access to quality education. They want schools to be accountable through published results of standardized tests and they reject the concept of open enrollment.

"Open Enrollment in Public Schools." William J. Craig. December 1987. *CURA Reporter* 17(5): 7. The Minnesota Center for Survey Research in its 1987 state survey designed a question to measure changes in attitudes about public school open enrollment. Significant changes in attitude have occurred over a three-year period.

"Population Analysis and Policy." See "Planning and Public Affairs."

"Slipping By: How Postsecondary Options for Minnesota High School Students Were Legislated." Tim L. Mazzone. December 1986. *CURA Reporter* 16(6): 8-12. The 1985 Postsecondary Enrollment Options Act enables Minnesota public school juniors and seniors to take courses full- or part-time at a postsecondary institution for dual high school and college or vo-tech credit. This report traces the political maneuverings by public officials and lobbyists in getting this act through the legislative process.

"Solving Real Engineering Problems." David Potyondy. January 1984. *CURA Reporter* 14(1): 9-12. An innovative way of introducing students to the field of engineering allows college students to interact with engineering faculty, computers, and engineers working in the community.

"Student Housing Survey." See "Housing."

Targeted Subsidization of Postsecondary Education Enrollment in Minnesota: A Policy Evaluation. James C. Hearn, Hideki Sano, and Susan Urahn. 1985. CURA 85-9. 159 pp. Over the past five years, Minnesota has been raising tuition for postsecondary education and at the same time increasing the money available for need-based student financial aid. In effect, this has replaced a blanket subsidy for all students with a targeted subsidy aimed at those in greatest need. Has this policy change affected high school students' expectations and plans for further education? Has it affected their access to more education or their choices of what schools to attend? And has the quality of aid packages for needy students changed in recent years? Two separate data sources are used in answering these questions and looking at the whole picture of equity in financing postsecondary education.

"Teacher Supply and Demand: A Problem for Minnesota?" Lawrence C. Wells. October 1986. *CURA Reporter* 16(4): 5-8. The supply of elementary and secondary school teachers is expected to be short by the 1990s at the national

level. Will this affect Minnesota? The article presents the best available statistical projections for the nation as whole and for Minnesota.

“Training in Co-op Development.” CURA. July 1985. **CURA Reporter** 14(4): 6-7. An internship program allows graduate students to develop housing opportunities for low and moderate income people in the metro area.

White Hmong Dialogues. See “Minorities.”

White Hmong Dialogues Tape. See “Minorities.”

White Hmong Language Lessons. See “Minorities.”

White Hmong Language Lessons Tapes. See “Minorities.”

ENVIRONMENT AND ENERGY

Available Wetlands for Bioenergy Purposes—Land Use and Drainage Constraints. CURA. 1981. Black and white map 8 1/2 x 11 inches.

“Changes in Waste Disposal and Recycling: The Minneapolis Plan.” John Gilkeson. October 1988. **CURA Reporter** 18(4): 7-10. Highlights are given of how the City of Minneapolis’ solid waste plan was developed and how it is being implemented. The report also details the experience of Minneapolis’ on-route recycling plan which was started in 1983.

“Citizen Opinion on the Environment.” Thomas L. Anding and Christopher Klyza. December 1987. **CURA Reporter** 17(5): 5-6. Minnesotans were surveyed on environmental issues during May and June of 1987. The specific issues raised and reported on were: a mandatory beverage container deposit law, garbage burning plants, the use of agricultural chemicals, the quality of drinking water, and the health threats of radon.

Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1988-89. Margaret R. Wolfe. 1988. 47 pp. Courses relating to environmental studies at the University of Minnesota are listed by subject area and by department. This publication is supplemental to official University bulletins and an additional section describes special centers, services, and libraries that deal with the environment.

“Cultural Factors in Household Energy Use: A Comparison of Foley, Minnesota and Munka Ljungby, Sweden.” Rita J. Erickson. July 1987. **CURA Reporter** 17(3): 1-4. A central question in this comparative study was the relative importance of behavior versus technology in determining energy consumption. The role of government is also discussed.

Energy From Peatlands: Options and Impacts. CURA Peat Policy Project. 1981. CURA 81-2. 193 pp. This book is a major report on Minnesota’s peat resources and how they might be developed. It includes a discussion of direct peat mining, using peatlands as farmland for growing energy crops, and preserving peatlands. It analyzes the economies of these various approaches; considers the impact development would have on local economies, communities, and the environment; explains the legal and regulatory options available to Minnesota; and presents the recommendations of the peat panel that prepared the report.

Environmental Lead Risk Maps of the Twin Cities. Howard W. Mielke and John L. Adams. 1988. CURA 88-9. 18 pp. + three 17 x 22 inch maps. The distribution of lead in Minneapolis and St. Paul soils has been measured and mapped. A text introducing the maps outlines the dangers of lead exposure, who is at greatest risk, and the policy implications of the data.

Fiscal Constraints on Minnesota—Impacts and Policies: Budget Cuts and Environmental Programs. See “Planning and Public Affairs.”

The Greenhouse Effect: Policy Implications of a Global Warming. Dean Abrahamson and Peter Ciborowski. 1988. CURA 88-8. 428 pp. \$15.00. Possible policy responses are presented to the global warming which will result from the release of greenhouse gases into the earth’s atmosphere. Both preventive and adaptive responses are considered along with a number of proposed policy frameworks and a proposed energy strategy for industrialized countries.

Growing Crops for Energy: A Bibliography of Bioenergy References 1970-80. Julie A. Winkler. 1982. CURA 82-3. 98 pp. References for books, articles, reports, and conference proceedings on renewable energy crops are collected here. Also available in a computerized retrieval system, IN-DEX, at the Minnesota Department of Energy and Economic Development.

Growing Energy Crops on Minnesota’s Wetlands: The Land Use Perspective. Jeffrey P. Anderson and William J. Craig. 1984. CURA 84-3. 103 pp. A major report analyzes the land use issues that will control development of bioenergy in Minnesota. The report includes an inventory of Minnesota’s wetlands, analysis of possible land use conflicts and economic limitations, case studies of three Minnesota counties, and projections of how much land will be available for growing energy crops.

“A Growing Role for County Government in Water Management and Water Quality.” Roger Steinberg. October 1985. **CURA Reporter** 15(4): 1-5. Four case studies are presented to show how county government is taking the initiative in protecting water quality and organizing for water management.

Homeowners That Use Solar Energy: A Study of the Social Aspects of Diffusion of Solar Technology. Edward J. Mack, Ronald E. Anderson, and Brian C. Aldrich. 1983. Mi-

nesota Center for Social Research. CURA 83-6. 32 pp. People who use solar energy in their homes were surveyed to find out who they are, what their experiences have been with the new technology, and what role various government agencies played in their choosing solar.

The Minnesota Land Management Information System Ten Years Later. See "Land Use."

"Minnesota's Shorelands." See "Land Use."

"Owners of Private Forest Lands in Minnesota." See "Land Use."

Peatland Energy Options: System Analysis. Roger Aiken and Douglas S. Wilson. 1982. 36 pp. A technical supplement to the CURA Peat Policy Project's major report, *Energy from Peatlands: Options and Impacts*, this work presents calculations that compare the amount of energy that could be extracted from Minnesota peatlands using three different mining techniques as well as a renewable approach. Cattails are used as the renewable crop to be grown on the peatlands, harvested, and converted to usable energy.

"Plastics in the Waste Stream: Potential Problems and Management Alternatives." Steven Chiesa and Mark Bjeland. April 1988. *CURA Reporter* 18(2): 7-11. The diversity and volume of plastic materials in municipal waste is rising rapidly. This study explains the differences among plastics and provides information on composting, incineration, and new technology for recycling.

Presettlement Wetlands of Minnesota. CURA. 1981. Black and white map 8 1/2 x 11 inches.

Public Control of Privately-Owned Land: Approaching Land Use From the Legal Perspective. See "Land Use."

"Radon in Minnesota." Dean Abrahamson. October 1987. *CURA Reporter* 17(4): 11-14. This study explains the nature of radon and reports on radon levels in Minnesota and possible health risks. The article presents an overall view of the radon problem and suggests individual and government actions to be taken.

"Top Ten Environmental Issues." Thomas L. Anding. March 1984. *CURA Reporter* 14(2): 10-11. A survey of Minnesota-based environmental organizations reveals what these groups consider the most important environmental problems facing Minnesota in mid-1983. These rankings are compared with similar environmental priorities set in France and Sweden.

Uranium in Minnesota: An Introduction to Exploration, Mining, and Milling. Dean Abrahamson and Edward Zabinski. 1980, Revised 1981. CURA 80-2. 74 pp. Prepared as a primer on uranium and how it is mined, this work gives particular attention to current explorations for uranium in Minnesota, the radiation hazards involved in mining and milling, and the means available to the state for controlling the development of uranium mining in Minnesota.

"Who Uses Solar Energy?" Edward J. Mack, Ronald E. Anderson and Brian C. Aldrich. May 1983. *CURA Reporter* 13(3): 6-10. This article summarizes *Homeowners That Use Solar Energy...* in this section.

HOUSING

"The Business Firm as an Instrument of Social Change: A Colombian Model." See "Economic Development and Employment."

Homeowners That Use Solar Energy: A Study of the Social Aspects of Diffusion of Solar Technology. See "Environment and Energy."

"The Loring Park Development: the Design, the Development, and the Difference it Has Made." See "Community and Neighborhood Studies."

"The Minneapolis Survey: How the City Grew and What Should Be Preserved." See "Community and Neighborhood Studies."

Profiles of the Twin Cities Poor. Report/Three. The Twin Cities Poor: A Housing Crisis. See "Human Services."

"Public Housing for the Elderly: Reducing the Vacancy Rates in Minneapolis." See "Human Services."

Recycling the Central City: The Development of a New Town-In Town. Judith A. Martin. 1978. CURA 78-1. 165 pp. Author Martin presents a detailed examination of the planning and development of Minneapolis' Cedar-Riverside project, the first federally sponsored new town. Her study includes the origins of the project through the first phase of development, along with a survey conducted after the first year of occupancy. Illustrated with many maps and photographs.

Sooner or Later... The Disappearance of Federally Subsidized Low Income Rental Housing in Minnesota. Janet Larsen. 1988. Minnesota Housing Project. CURA 88-3. 121 pp. Federal housing programs have subsidized privately-owned rental housing units for low-income people since the early 1960s. The current administration, however, has reduced funding to almost zero for those programs that have provided the existing stock of affordable housing. This report documents how quickly subsidized housing is likely to be lost in Minnesota and shows what agencies and programs control which housing, how many units are involved, and where those units are located.

"Training in Co-op Development." See "Education."

Twin Cities Conversions of the Real Estate Kind. Barbara Lukermann et al. 1981. CURA 81-5. 96 pp. A major study of condominium and cooperative conversions in the Twin Cities metropolitan area was completed in 1981. The

results, presented here, include maps locating all the conversions; surveys of condominium developers, of buyers, and of those displaced when the buildings were converted; an analysis of cooperative housing; financial case studies; an evaluation of the Minneapolis Homeownership Program; and a discussion of the study results in terms of housing policy for the metropolitan area. More detailed reports of parts of this study are also printed separately under the general title: *Twin City Conversions*.

Twin Cities Conversions. The Case Studies: How the Finances Work. Milo Pinkerton. 1981. CURA 81-8. 27 pp. The financial aspects of three actual conversions are described here, each representative of a particular type of conversion. Time lines for development, income and expenses, and profits and loss are recorded for each project. A comparison of three apartments is made in terms of costs to the renter or owner before and after conversion. The effects of conversion on real estate taxes are analyzed.

Twin Cities Conversions. The Complete Inventory: 1970-1980. Milo Pinkerton. 1981. CURA 81-9. 40 pp. This is a complete listing of the addresses of all the conversions studied. All converted condominiums in the seven-county metro area and all converted cooperatives are included along with the new condos and new co-ops in Hennepin and Ramsey counties.

"Who Uses Solar Energy?" See "Environment and Energy."

HUMAN SERVICES

"Assessing Neighborhood Health and Social Needs: The People's Center Re-examines its Constituency in Cedar-Riverside." See "Community and Neighborhood Studies."

"The Business Firm as an Instrument of Social Change: A Colombian Model." See "Economic Development and Employment."

"Challenging Myths About Welfare." See "Education."

"Changing Patterns of Grantmaking: The Philanthropy Project in Retrospect." See "Planning and Public Affairs."

Courses on Aging, University of Minnesota 1988-89. Monica Colberg. 1988. All-University Council on Aging. 19 pp. The University of Minnesota offers many courses related to aging and this is a listing of those courses in which aging is a primary focus. Courses are listed by campus (Twin Cities and coordinate campuses) and by department. Listings are complete with course name, number, quarter offered, teacher, credits granted, prerequisites, and course description.

Down to the Bone: Community-Based Facilities in a Time of Retrenchment. Esther Wattenberg. 1986. CURA 86-4. 99 pp. How do community-based social service facilities respond to a period of fiscal austerity? A history of the development of community-based facilities is followed by results of a survey of directors of sixty-nine facilities in the Twin Cities metropolitan area in 1982 and two case studies: facilities for troubled adolescents and facilities for the developmentally disabled.

"Down to the Bone: Community-Based Facilities in a Time of Retrenchment." Esther Wattenberg. June 1986. **CURA Reporter** 16(3): 10-14. A history of how these facilities have evolved is followed by two case studies of vulnerable populations. These are highlights from the full publication *Down to the Bone*...

"DRGs, Elderly Patients, and the Managerial Family." Lucy Rose Fischer and Nancy N. Eustis. December 1987. **CURA Reporter** 17(5): 8-11. Care for the elderly is compared before (1983) and after (1986) the new prospective payment system for hospitals was instituted. Major changes have occurred in the way the sick elderly are treated. Hospital care is essentially rationed and families are being forced into the role of managers in obtaining care for their elderly members.

The Experience of Smaller Nonprofits Raising Money from Minnesota's Largest Foundations. See "Planning and Public Affairs."

"Government Support for Child Care." William J. Craig. December 1987. **CURA Reporter** 17(5): 6-7. A survey of 1,215 Minnesotans in 1987 contained two questions about government involvement in child care: Should government provide day care for pre-school children of working parents? And, if so, who should provide it? School districts or licensed day care providers? Or should money go directly to the parents for purchase of day care services?

"Homeless in Hennepin County." Edwina L. Hertzberg. October 1988. **CURA Reporter** 18(4): 1-7. What is it like to be homeless? The researcher interviewed thirty-six homeless people in depth and gives demographics of those interviewed along with their first hand experiences, a typology of the homeless, and some policy recommendations.

"Hmong Resettlement." See "Minorities."

"The Illusion of Self-Sufficiency: Realities for Working, Single Parent Families." Esther Wattenberg. May 1987. **CURA Reporter** 17(2): 10-14. Women who are fully employed frequently remain poor despite their work efforts. A conference to examine this problem in Minnesota discussed types of employment and the changing labor market, housing, health care, and the plight of children.

"Maps for the Fingers." See "Land Use."

"New Conflict Project Builds Theory." John Clark. March 1987. **CURA Reporter** 17(1): 6-7. Recently, greater atten-

tion has been given to developing more effective and efficient ways of responding to conflict. This article introduces a new center at the University of Minnesota where faculty from many disciplines can study new ways to settle disputes and build theories about social conflict and its management.

“Nonprofits in the Twin Cities: Expectations and Realities.” See “Planning and Public Affairs.”

“Nursing Home Beds in Minnesota: An Unsung Shortage?” Ruth Stryker-Gordon. March 1986. **CURA Reporter** 16(2): 8-10. A survey taken in 1984 looks at what has happened to access to nursing home care since the institution of the prospective payment system. What are occupancy rates? Are there waiting lists? How long does one wait and who gets in when an opening occurs?

“Nursing in the World of DRGs and Prospective Payment.” Margaret Newman and Sharon Autio. December 1986. **CURA Reporter** 16(5): 1-7. A Twin Cities survey examined how nursing has changed under the new prospective payment system of health care financing. Patients are in the hospital less and are sicker while they are there. Nurses are overworked. Patient care in the home is increasing.

Profiles of the Twin Cities Poor. Report/One. An Overview: the Twin Cities Poor and Their Problems. William J. Craig and Carol A. Westrum. January 1987. 6 pp. This six-part series of reports is based on a 1984 survey of 966 low income households in the Twin Cities metropolitan area. This study is a thorough documentation of the characteristics of the low income population of the Twin Cities and the problems they face. Households were interviewed where income levels were no more than twice the poverty level; the result was a representative sample of the poorest 20 percent of Twin Cities households. This is the best available data base about the population.

Profiles of the Twin Cities Poor. Report/Two. Unmet Basic Needs of Low-Income Single Parent Families. Peter Rode and Kim Merriam. February 1987. 4 pp.

Profiles of the Twin Cities Poor. Report/Three. The Twin Cities Poor: A Housing Crisis. Dulcie Hagedorn and Frederick W. Smith. April 1987. 4 pp.

Profiles of the Twin Cities Poor. Report/Four. Living on AFDC: Many Families Cannot Afford Basic Necessities. Peter Rode. May 1987. 4 pp.

Profiles of the Twin Cities Poor. Report/Five. Special Problems of Low Income Vulnerable Households. Kim J. Merriam. June 1987. 4 pp.

Profiles of the Twin Cities Poor. Report/Six. Working Poor. William J. Craig. August 1987. 4 pp. plus 2-page reader questionnaire.

“Public Housing for the Elderly: Reducing the Vacancy Rates in Minneapolis.” Jean K. Quam and Maryann Syers. January 1986. **CURA Reporter** 16(1): 9-13. High vacancy rates in high-rises for the elderly have plagued Minneapolis.

This study explores the rental application process and why, despite many improvements, the high vacancy rates continues.

Research on Aging, University of Minnesota 1980-1985. AUCA Research Committee. 1986. All University Council on Aging, Center for Urban and Regional Affairs. CURA 86-1. 163 pp. Research on aging is an expanding field at the University of Minnesota. An inventory of research projects in aging is presented with summary descriptions of 134 projects conducted during the first half of the 1980s. Projects are grouped by their University departments and are also indexed by principal investigator and by keywords.

To Promote the General Welfare. Clarke A. Chambers and Esther Wattenberg, eds. 1988. CURA 88-7. 111 pp. Public welfare policy over the last two hundred years was examined in a series of lectures held at the University of Minnesota to celebrate the bicentennial of the United States Constitution. Papers by three of the scholars in the series are printed here: Michael B. Katz on Historic Obstacles to Welfare Reform; Gerald N. Grob on Public Policy and Mental Illness; and Lela B. Costin on Women, Children, and “The General Welfare.” In addition, H.E. Mason provides a written response to the entire series.

“Who Benefits? Looking at Minnesota Foundation Grants to the Disadvantaged.” Frederick W. Smith. February 1985. **CURA Reporter** 15(1): 1-6. How much of Minnesota’s generous private philanthropy goes to benefit the disadvantaged? A detailed analysis is presented of which disadvantaged (racial minorities, women, and others) get what, from whom.

“Working and On AFDC: The Impact of Recent Federal Cutbacks.” William J. Craig and Ira Moscovice. May 1983. **CURA Reporter** 13(3): 1-4. A report on the AFDC study after six months had elapsed. This report includes four outstate counties in addition to Hennepin County.

“Working and On AFDC: The Impact of Recent Federal Cutbacks One Year Later.” William J. Craig and Ira Moscovice. May 1984. **CURA Reporter** 14(3): 9-11. What happened to AFDC families when benefits were cut back in early 1982? A sample of AFDC families in Hennepin County were followed through a series of three surveys to see how the cutbacks affected their lives and economic situation.

LAND USE

Building Permits Monitor Development and Land Use Change in Wright County. William J. Craig. 1979. CURA 79-5. 137 pp. A new method of monitoring growth and land use changes is proposed and a pilot study using this method in Wright County is reported. County building permits were geocoded and computerized so that computer-generated maps could show land use changes.

Energy From Peatlands: Options and Impacts. See "Environment and Energy."

Growing Energy Crops on Minnesota's Wetlands: The Land Use Perspective. See "Environment and Energy."

"A Lost Lake Reconsidered." Hans Olaf Pfannkuch. June 1986. *CURA Reporter* 16(3): 6-9. A hydrologic study was made in Columbia Park in northeast Minneapolis to discover if it would be feasible to restore Lake Sandy, which had once been located there. Background on how the lake disappeared is also included.

"Maps for the Fingers." Judith H. Weir. October 1983. *CURA Reporter* 13(4): 5-7. A project to create maps of the Twin Cities that can be used by the blind is described along with ongoing research in tactual map-making and studies of how spatial concepts are learned.

The Minnesota Land Management Information System Ten Years Later. William J. Craig. 1986. CURA 86-3. 11 pp. What has happened to MLMIS since it began ten years ago at CURA? This computerized databank of the state's natural resources—one of the world's premier systems for supporting natural resource planning and decision making—is now operated by the state of Minnesota. Craig describes how the system is working today.

"Minnesota's Shorelands." Joseph Stinchfield, Jeffrey Stitt and Glenn Radde. November 1984. *CURA Reporter* 14(5): 7-11. Results of an extensive study of residents on Minnesota's lakes and river shorelands give a portrait of who these owners are, what their homes are like, how they use the water, and what concerns they have about Minnesota's shorelands.

"Owners of Private Forest Lands in Minnesota." Karen Harrington. March 1986. *CURA Reporter* 16(2): 6-8. A statewide survey of private forest lands asked who are the owners? Where are their holdings? What do they want from their land? And how do they make management decisions about their land?

"Preserving Metro Area Farmland: A Survey and Perspective." Darrell E. Napton and John R. Borchert. January 1986. *CURA Reporter* 16(1): 1-7. Background on the development of various government efforts to protect farmland in the Twin Cities area is presented along with the results of a survey of metro area farmers that assessed views of farming, the threat of urbanization, and reactions to the Agricultural Preserve Program.

Public Control of Privately-Owned Land: Approaching Land Use From the Legal Perspective. AUCEQ. 1975. All University Council on Environmental Quality. 28 pp. A brief history of the development of public restrictions on the use of private land is presented along with descriptions of five acts passed by the Minnesota State Legislature in the early 1970s that extended the state's role in regulating private land use.

"Reserving Farmland for Grasses and Trees: RIM Reserve Program." Philip Heywood and Terence Cooper. October 1988. *CURA Reporter* 18(4): 11-15. Farmers in ten Minnesota counties were surveyed about their participation in a new state program (Reinvest in Minnesota) designed to create wildlife habitat, control soil erosion, and improve water quality through payments for farmland easements.

"Will Farmland Survive the Farm Crisis? The Winona County Data." Thomas L. Anding, John R. Gilkeson, and Kevin L. Kajer. March 1987. *CURA Reporter* 17(1): 7-11, 12. In 1986 farmers in Winona County, Minnesota were surveyed about their conservation practices, land use, soil erosion, water quality, use of chemicals and fertilizers, and changes in farm practices in general as a result of the farm crisis in the 1980s.

Windows to the Past: A Bibliography of Minnesota County Atlases. Mai Treude. 1980. CURA 80-3. 198 pp. Treude has prepared a comprehensive listing of Minnesota's county atlases and where they are available. Published from 1867 to the present, these atlases contain records of land use and land ownership, directories of businesses and residences, photographs of buildings and people, geneologies, county histories, and advertisements. In an introduction to the bibliography, a brief history of the county atlas and how it developed in Minnesota is presented along with a number of illustrations from Minnesota atlases.

MINORITIES

An Annotated Bibliography of Cambodia and Cambodian Refugees. John Marston. 1987. Southeast Asian Refugee Studies Project. Occasional Papers, Number Five. CURA 87-2. 121 pp. \$4.50. This annotated bibliography of books and journals about Cambodia and Cambodians is intended as a reference tool for people working with Cambodian refugees in the United States. Entries are divided into seventeen broad subject categories. The largest number of entries deal with the recent history of Cambodia. Other entries include general works on Cambodia, ethnography, antiquities, other arts and culture, Cambodian literature and literature about Cambodia, language and dictionaries, refugees in Thailand, Cambodians in countries of resettlement, and bibliographies.

Annotated Bibliography of Recent Research on Chicanos and Latinos in Minnesota. Greg Stark, Kathryn Guthrie and Cheryl Selinsky. 1980. CURA 80-1. 60 pp. This bibliography includes both published and unpublished works of merit. Research is presented in four categories: policy and issue-oriented studies, immigrant affairs, data sources and descriptive studies, and specific program studies. At least one verified location of where to obtain each study is given.

Bibliography of Social Science Research and Writings on American Indians. Russell Thornton and Mary K. Grasmick. 1979. CURA 79-1. 163 pp. Thornton and Grasmick compiled a listing of social science knowledge on American Indians as it appeared in scholarly journals in the fields of history, sociology, geography, political science, economics, and American and ethnic studies. Entries date from the late 19th century to 1976.

A Bibliography of the Hmong (Miao) 2nd Edition. Douglas P. Olney. 1983. Southeast Asian Refugee Studies Project. Occasional Papers, Number One. CURA 83-7. 78 pp. \$3.00. Writings on the Hmong people of Laos are listed under eight subject headings: general works on Southeast Asia, general Hmong ethnography, specific aspects of Hmong ethnography, linguistic studies of Hmong and Mien, refugee resettlement, journalism, Hmong language books, and bibliographies. Most of the works listed are available at the University of Minnesota.

The Experience of Smaller Nonprofits Raising Money from Minnesota's Largest Foundations. See "Planning and Public Affairs."

The Hmong: An Annotated Bibliography, 1983-1987. Christina J. Smith. 1988. Southeast Asian Refugee Studies Project. Occasional Papers, Number Seven. CURA 88-6. 67 pp. \$4.00. Materials published on the Hmong between 1983 and mid-1987 are compiled in this new annotated bibliography. The focus is on Hmong resettlement in the United States and on works published in English. Eight major sections list bibliographies; works on ethnography; linguistics; refugee/resettlement issues; physical and mental health; and bilingual materials, audiovisual materials, and sources.

"The Hmong and Their Neighbors." Douglas P. Olney. January 1983. **CURA Reporter** 13(1): 8-14. Reports on a study of Hmong in the Phillips neighborhood in Minneapolis which examined Hmong acquaintance with neighbors and the community, their attitudes toward Americans, language problems, and problems they have encountered in the neighborhood.

The Hmong in the West: Observations and Reports. Bruce T. Downing and Douglas P. Olney, eds. 1982. Southeast Asian Refugee Studies Project. CURA 82-1. 410 pp. \$8.25. Papers of the 1981 Hmong Research Conference are published here. The papers cover a wide range of subjects and include a brief history of the Hmong people and why they left Laos, traditional Hmong culture and cultural change, Hmong linguistics, problems of English language training, Hmong communities in the United States, and problems of resettlement.

"Hmong Resettlement." Bruce T. Downing, Glenn Hendricks, Sarah R. Mason, and Douglas Olney. May 1984. **CURA Reporter** 14(3): 1-8. A major study of the Hmong resettlement experience in the United States was completed for the federal government. This article highlights the Twin

Cities component of that study, looking at employment, welfare dependency, English proficiency, education, and community relations.

Southeast Asian Refugee Youth: An Annotated Bibliography. Ruth E. Hammond and Glenn L. Hendricks. 1988. Southeast Asian Refugee Studies Project. Occasional Papers, Number Six. CURA 88-2. 143 pp. \$6.50. This bibliography was compiled in conjunction with the Minneapolis-St. Paul study on refugee youth. The 372 citations are listed under eight categories: adaptation and acculturation, education, physical and mental health, unaccompanied minors and Amerasian youth, courtship and marriage, general topics, journalism, and bibliographies. Abstracts are included with each entry.

"Toward Hmong Self-Sufficiency: The Challenge of Economic Development for the Hmong." Simon M. Fass. July 1984. **CURA Reporter** 14(4): 1-6. A comprehensive study of Hmong economic development projects examines how the Hmong are progressing in their attempts to become self-sufficient. Reports on sewing projects, farming projects, small businesses, and employment projects.

"Training Refugee Women for Employment in Minnesota." Sarah R. Mason. October 1986. **CURA Reporter** 16(4): 8-14. Results of a survey of sixty-nine community programs is presented. This article highlights parts of the full study *Training Southeast Asian Women...* also listed in this section.

Training Southeast Asian Women for Employment: Public Policies and Community Programs, 1975-1985. Sarah R. Mason. 1986. Southeast Asian Refugee Studies Project. Occasional Papers, Number Two. CURA 86-6. 142 pp. \$1.00. Sixty-nine community programs for training Southeast Asian refugee women were surveyed. The report includes background on the development of public policy in regard to refugee training as well as case studies of the training programs that were surveyed across the country from Santa Ana, California to Providence, Rhode Island.

"Voiceless" Groups in the Twin Cities Community: Programming Needs of Some of Public Television's Non-Audiences. Orville C. Walker, Priscella Goldstein, and William Rudelius. 1974. CURA and the Graduate School of Business Administration. 22 pp. Results are presented from a survey conducted among minority groups in the community as to how television can serve their needs. Those surveyed were: elderly on fixed income, hard of hearing, mental health patients, women prisoners, teenage expectant mothers, runaway teenagers, V.D. victims, American Indians, black teenage girls, Asians, disabled, and nuns.

White Hmong Dialogues. David Strecker and Lopao Vang. 1986. Southeast Asian Refugee Studies Project. Occasional Papers, Number Three. CURA 86-5. 22 pp. \$2.00. Twenty dialogues in White Hmong are presented in Hmong and English as a teaching aid for students learning to speak Hmong. These dialogues were originally developed for an

intensive beginning Hmong class and include vocabulary, grammar notes, and pattern drills.

White Hmong Dialogues Tape. David Strecker and Lopao Vang. 1987. Southeast Asian Refugee Studies Project. One cassette tape. \$4.00. This tape has been prepared by Hmong language instructor Lopao Vang to accompany *White Hmong Dialogues*. It presents spoken Hmong conversation for each of the twenty lessons in that publication.

White Hmong Language Lessons. Doris Whitelock. 1982. Southeast Asian Refugee Studies Project. Occasional Papers, Number Two. CURA 82-6. 131 pp. \$6.25. This book presents a series of structured lessons in one of the major Hmong dialects. The lessons should be studied with the help of a native Hmong speaker or with the cassette tapes designed to accompany the lessons, prepared by Judy Fuller and Vang Vang.

White Hmong Language Lessons Tapes. Judy Fuller and Vang Vang. 1983. Southeast Asian Refugee Studies Project. \$10.00. Three cassette tapes. The tapes are designed to accompany *White Hmong Language Lessons*.

“Who Benefits? Looking at Minnesota Foundation Grants to the Disadvantaged.” See “Human Services.”

PLANNING AND PUBLIC AFFAIRS

“The Baby Boomers are Coming Home.” John Fraser Hart. February 1985. **CURA Reporter** 15(1): 7-10. This article presents a study of migration patterns between counties in Minnesota during the 1970s.

“Citizen Participation in Minneapolis.” Karen M. Hult. November 1984. **CURA Reporter** 14(5):1-6. Citizen participation in Minneapolis from 1980-84 is examined and analyzed. This article summarizes *Institutionalizing Organized Citizen...* also in this section.

“Changing Patterns of Grantmaking: The Philanthropy Project in Retrospect.” Jon Pratt. March 1987. **CURA Reporter** 17(1): 1-5. The Philanthropy Project was a three-year effort to reform philanthropy in Minnesota. It was started by staff people from small nonprofit organizations who had trouble getting funds from foundations and corporations. The article tells of the project’s short history and includes documentation of its own evaluation process.

Courses in Survey Research, University of Minnesota 1988-89. Minnesota Center for Survey Research. 1988. 11 pp. Many classes at the University of Minnesota make use of various methods of survey research. This is a listing of those classes in which at least 25 percent of the primary focus of the class is on survey research. Courses are described and listed by the academic department sponsoring them.

“CURA Adds Survey Research Center.” William J. Craig. October 1986. **CURA Reporter** 16(3): 1-5. The Minnesota Center for Survey Research has become part of CURA. The article presents background on the center and what kind of research it does.

Down to the Bone: Community-Based Facilities at a Time of Retrenchment. See “Human Services.”

“Down to the Bone: Community-Based Facilities at a Time of Retrenchment.” See “Human Services.”

“Economic Health Through Community-Based Development.” See “Economic Development and Employment.”

“The Economics of New Firms: Policy Implications for Minnesota.” See “Economic Development and Employment.”

The Educational Needs of Dislocated Workers in Minnesota. “See Economic Development and Employment.”

“Evaluating International Business Development: Lessons for Minnesota.” See “Economic Development and Employment.”

The Experience of Smaller Nonprofits Raising Money from Minnesota’s Largest Foundations. Frederick W. Smith and Rosangelica Aburto. 1985. The Philanthropy Project. CURA 85-8. 13 pp. Members of the Philanthropy Project, a coalition of ninety Minnesota nonprofit organizations, were surveyed about their experiences in raising money from Minnesota’s forty largest foundations in the years up to and including 1983. Results of the survey are presented here along with a number of recommendations that may prove useful for new, small nonprofit organizations.

Fiscal Constraints on Minnesota—Impacts and Policies: Budget Cuts and Environmental Programs. Nancy Walters. 1983. CURA 83-4. 42 pp. The impact of federal budget cuts on Minnesota’s environmental programs is examined agency by agency.

Fiscal Constraints on Minnesota—Impacts and Policies: Economic Conditions and Changing Government Policies. Thomas R. Peek and Douglas S. Wilson. 1983. CURA 83-1. 161 pp. The report gives a comprehensive look at the state’s fiscal crisis in the early 1980s and the resulting fiscal and intergovernmental policy changes.

Fiscal Constraints on Minnesota—Impacts and Policies: Local Perspectives on Minnesota’s Intergovernmental System. Thomas R. Peek and Douglas S. Wilson. 1984. CURA 84-1. 41 pp. Perspectives of local officials on Minnesota’s intergovernmental system are summarized and proposals for its reform suggested.

Fiscal Constraints on Minnesota—Impacts and Policies: Proposals for Fiscal Reform. Thomas R. Peek and Douglas S. Wilson. 1984. CURA 83-5. 64 pp. Major proposals for reform of Minnesota’s fiscal system are presented along with a policy framework for examining them.

“Future City: Duluth Tomorrow.” See “Community and Neighborhood Studies.”

“Government Support for Child Care.” See “Human Services.”

The Greenhouse Effect: Policy Implications of a Global Warming. See “Environment and Energy.”

“A Growing Role for County Government in Water Management and Water Quality.” See “Environment and Energy.”

The Hmong in the West: Observations and Reports. See “Minorities.”

“Hmong Resettlement.” See “Minorities.”

Institutionalizing Organized Citizen Participation: Challenges and Opportunities. Karen M. Hult. 1984. CURA 84-5. 42 pp. Changes in citizen participation in Minneapolis were studied and analyzed over a four-year period: 1980-84.

“Liveable Cities: Europe and America at Odds.” Judith A. Martin. July 1987. **CURA Reporter** 17(3): 9-11. This report on a European conference about “Making Cities Liveable” highlights the gap between European and American views of what is needed to create a liveable city.

The Minnesota Land Management Information System Ten Years Later. See “Land Use.”

Minnesota Population Change, 1960-1970. CURA and Minnesota State Planning Agency. June 1973. SPA/CURA Wall Map Series #2. Color 28 x 23 inches. Based on the 1970 Census of Population, the change in Minnesota’s population is mapped with black used to represent population increase and orange to represent population decrease.

Minnesota Population Change, 1970-1980. CURA. 1982. CURA 82-7. Two-sided colored map 18 x24 inches.

Minnesota Population Distribution, 1970. CURA and Minnesota State Planning Agency. February 1973. SPA/CURA Wall Map Series # 1. Color 28 x 23 inches. Population distribution in Minnesota and the Twin Cities metropolitan area is shown with dots and proportional circles. Data are based on the 1970 Census of Population.

“Minnesota’s Intergovernmental System: Perspectives of Local Officials.” Thomas R. Peek and Douglas S. Wilson. January 1984. **CURA Reporter** 14(1): 1-6. This article summarizes the full report, *Fiscal Constraints on Minnesota...Local Perspectives on Minnesota’s Intergovernmental System* in this section.

“Neighborhoods and City Hall in St. Paul and Minneapolis.” See “Community and Neighborhood Studies.”

“New Firms in Minnesota: Explorations in Economic Change.” See “Economic Development and Employment.”

“New Jobs From Community-Based Economic Development.” See “Economic Development and Employment.”

1987 Minnesota New Firms Study: An Exploration of New Firms and Their Economic Contributions. See “Economic Development and Employment.”

“Nonprofits in the Twin Cities: Expectations and Realities.” Barbara Lukermann. October 1987. **CURA Reporter** 17(4): 1-7. The Twin Cities Nonprofit Sector Project was part of a national study documenting changes in government spending and nonprofit human service agencies as a result of the Reagan administration’s new policies. This report details how funding changed between 1981 and 1984 and how this affected nonprofits and the services they provide to the community.

“Pay Equity in Minnesota: State and Local Wage Policy Innovation.” Sara M. Evans and Barbara J. Nelson. December 1987. **CURA Reporter** 17(5): 1-5. The University of Minnesota Comparable Worth Research Project collected data on the implementation of comparable worth policies in the state, twenty-two Minnesota localities, and in other states between 1984 and 1987. Differences between state and local implementation are dramatic, compliance has been high, and a managerial revolution has unexpectedly resulted at the local level.

“Population Analysis and Policy.” James W. Vaupel. June 1988. **CURA Reporter** 18 (3): 9-10. Some of the opportunities for population research at the new University of Minnesota Center for Population Analysis and Policy are described. A Ph.D. program, multi-disciplinary conferences, and a number of research clusters are being organized.

Profiles of the Twin Cities Poor. Report/One. An Overview: the Twin Cities Poor and Their Problems. See “Human Services.”

“Questions About Women in the Minnesota Economy.” See “Economic Development and Employment.”

Recycling the Central City: The Development of a New Town-In Town. See “Housing.”

“Reserving Farmland for Grasses and Trees: RIM Reserve Program.” See “Land Use.”

The Silent Epidemic: Lead in Minneapolis and St. Paul Soils. See “Environment and Energy.”

“Slipping By: How Postsecondary Options for Minnesota High School Students Were Legislated.” See “Education.”

Sooner or Later... The Disappearance of Federally Subsidized Low Income Rental Housing in Minnesota. See “Housing.”

State Evaluation of Foreign Sales Efforts. See “Economic Development and Employment.”

Targeted Subsidization of Postsecondary Education Enrollment in Minnesota: A Policy Evaluation. See "Education."

"Training Refugee Women for Employment in Minnesota." See "Minorities."

Training Southeast Asian Women for Employment: Public Policies and Community Programs, 1975-1985. See "Minorities."

Twin Cities Conversions of the Real Estate Kind. See "Housing."

"Twin Cities Survey Results." CURA. May 1987. **CURA Reporter** 17(2): 15. The Minnesota Center for Survey Research surveys the Twin Cities area every year. The survey is briefly described and the top five issues facing the metropolitan area, as revealed by the poll, are compared for the years 1982 through 1986.

What is the Population of St. Cloud? John Fraser Hart. 1985. CURA 85-4. 21 pp. A detailed look at the concept of geographic place—urban and rural and metropolitan—and how U.S. Census concepts and definitions affect statistical information.

"What is the Population of St. Cloud?" John Fraser Hart. October 1985. **CURA Reporter** 15(4): 6-9. This version is substantially the same as the full publication listed above.

CURA NEWSLETTERS, PROGRAMS, AND PUBLICATIONS

Aging: News. This quarterly newsletter from the All-University Council on Aging includes news on seminars, classes, and programs in aging at the University of Minnesota as well as announcements of meetings in Minnesota and nationally, research opportunities, short reports, and book reviews.

Aging at the University of Minnesota. All-University Council on Aging. 1984. 6 page brochure. An explanation of the structure, programs, and functions of the All-University Council on Aging is presented in succinct form.

The Complete List of CURA Publications. A listing of virtually every CURA publication (both in and out-of-print) is kept on computer and may be ordered at any time. Out-of-print publications may be ordered from this list at a cost of 10 cents per page for photocopying.

"Community and Regional Research in Duluth." See "Community and Neighborhood Studies."

Conflict Change: Theory and Practice. 1987. 6 page brochure. The mission and goals of the Conflict and Change Center are described along with an outline of their current projects.

Conflict and Change Process. Research and practice on new ways to resolve disputes is featured in this bimonthly newsletter reporting on work done through the Center for Conflict and Change.

"CURA Adds Survey Research Center." See "Planning and Public Affairs."

CURA: Center for Urban and Regional Affairs, University of Minnesota. CURA. 1987. 16 page brochure. Descriptions of what CURA is, what kinds of projects CURA undertakes, and how CURA operates are followed by capsule presentations of the many programs associated with CURA.

CURA Reporter. Research reports, articles about current CURA projects, and announcements of new CURA publications are published five times a year in the **Reporter**.

Minor in Gerontology. Graduate Studies at the University of Minnesota. 1988. All-University Council on Aging. 8 page brochure. The University of Minnesota's new program for obtaining a degree with a minor in gerontology is described, including research opportunities, faculty, and courses available for the degree.

"New Conflict Project Builds Theory." See "Human Services."

Southeast Asian Refugee Studies Newsletter. Information about research and publications that relate to the Indochinese refugees, and particularly the Hmong people of Laos, is reported in the quarterly newsletter.

University of Minnesota — Minnesota Center for Survey Research. Minnesota Center for Survey Research. 1987. 10 page brochure. An introduction to the work and services of the Minnesota Center for Survey Research includes capsule descriptions of two omnibus surveys (the Twin Cities Area Survey and the Minnesota State Survey) that are conducted regularly by the center.

"Update: CURA Programs 1985-87." CURA. May 1987. **CURA Reporter** 17(2): 12 page insert. Capsule descriptions of CURA projects over a two-year period are presented as a way to review CURA's work in progress.

CURA PUBLICATIONS ORDER FORM

COMMUNITY AND NEIGHBORHOOD STUDIES

- Community Involvement in the Whittier Neighborhood: An Analysis of Neighborhood Conditions and Neighborhood Change.** Smith and Anding.
- Harrison Neighborhood Needs Assessment, A Community-Based Project for Neighborhood Improvement Planning.** Campbell and Schersten.
- Making the Arts Accessible: A Survey of Minnesota Community Arts Organizations.** Plagge.

ECONOMIC DEVELOPMENT AND EMPLOYMENT

- The Educational Needs of Dislocated Workers in Minnesota.** Park, Storlie and Dawis.
- Fundamental Principles and Model for Social Intervention of Colombia's Fundación Social.** Fundación Social.
- 1987 Minnesota New Firms Study: An Exploration of New Firms and Their Economic Contributions.** Reynolds and Miller.
- State Evaluation of Foreign Sales Efforts.** Kudrle and Kite.

EDUCATION

- The Berman, Weiler Study of Minnesota Student Performance: A Critical Review.** Duren, Jr. and Peek.
- Minnesota K-12 Education: A Catalogue of Reform Proposals.** Wells.
- Minnesota K-12 Education: A Catalogue of Reform Proposals, a summary version.** Wells.
- Minnesota K-12 Education: The Current Debate, The Present Condition.** Peek, Duren Jr., and Wells.
- 1985 Minnesota Citizen Opinions on Public Education and Educational Reform.** Craig and Samaranayaka.
- Targeted Subsidization of Postsecondary Education Enrollment in Minnesota: A Policy Evaluation.** Hearn, Sano, and Urahn.

ENVIRONMENT AND ENERGY

- Available Wetlands for Bioenergy Purposes—Land Use and Drainage Constraints.** Map.
- Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1988-89.** Wolfe.
- Energy From Peatlands: Options and Impacts.** CURA Peat Policy Project.
- Environmental Lead Risk Maps of the Twin Cities.** Mielke and Adams.
- The Greenhouse Effect: Policy Implications of a Global Warming.** Abrahamson and Ciborowski. \$15.00.
- Growing Crops for Energy: A Bibliography of Bioenergy References 1970-80.** Winkler.
- Growing Energy Crops on Minnesota's Wetlands: The Land Use Perspective.** Anderson and Craig.

- Homeowners That Use Solar Energy: A Study of the Social Aspects of Diffusion of Solar Technology.** Mack, Anderson, and Aldrich.
- Peatland Energy Options: System Analysis.** Aiken and Wilson.
- Presettlement Wetlands of Minnesota.** Map.
- Uranium in Minnesota: An Introduction to Exploration, Mining, and Milling.** Abrahamson and Zabinski.

HOUSING

- Recycling the Central City: The Development of a New Town-In Town.** Martin.
- Sooner or Later... The Disappearance of Federally Subsidized Low Income Rental Housing in Minnesota.** Larsen.
- Twin Cities Conversions of the Real Estate Kind.** Lukermann and others.
- Twin Cities Conversions. The Case Studies: How the Finances Work.** Pinkerton.
- Twin Cities Conversions. The Complete Inventory: 1970-1980.** Milo Pinkerton.

HUMAN SERVICES

- Courses on Aging, University of Minnesota 1988-89.** Colberg.
- Down to the Bone: Community-Based Facilities in a Time of Retrenchment.** Wattenberg.
- Profiles of the Twin Cities Poor. Report/One. An Overview: the Twin Cities Poor and Their Problems.** Craig and Westrum.
- Profiles of the Twin Cities Poor. Report/Two. Unmet Basic Needs of Low-Income Single Parent Families.** Rode and Merriam.
- Profiles of the Twin Cities Poor. Report/Three. The Twin Cities Poor: A Housing Crisis.** Hagedorn and Smith.
- Profiles of the Twin Cities Poor. Report/Four. Living on AFDC: Many Families Cannot Afford Basic Necessities.** Rode.
- Profiles of the Twin Cities Poor. Report/Five. Special Problems of Low Income Vulnerable Households.** Merriam.
- Profiles of the Twin Cities Poor. Report/Six. Working Poor.** Craig.
- Research on Aging, University of Minnesota 1980-1985.** AUCA.
- To Promote the General Welfare.** Chambers and Wattenberg, eds.

LAND USE

- Building Permits Monitor Development and Land Use Change in Wright County.** Craig.
- The Minnesota Land Management Information System Ten Years Later.** Craig.

- Public Control of Privately-Owned Land: Approaching Land Use From the Legal Perspective.** AUCEQ.
- Windows to the Past: A Bibliography of Minnesota County Atlases.** Treude.

MINORITIES

- An Annotated Bibliography of Cambodia and Cambodian Refugees.** Marston. \$4.50.
- Annotated Bibliography of Recent Research on Chicanos and Latinos in Minnesota.** Stark, Guthrie and Selinsky.
- Bibliography of Social Science Research and Writings on American Indians.** Thornton and Grasmick.
- A Bibliography of the Hmong (Miao) 2nd Edition.** Olney. \$3.00.
- The Hmong: An Annotated Bibliography, 1983-1987.** Smith. \$4.00.
- The Hmong in the West: Observations and Reports.** Downing and Olney, eds. \$8.25.
- Southeast Asian Refugee Youth: An Annotated Bibliography.** Hammond and Hendricks. \$6.50.
- Training Southeast Asian Women for Employment: Public Policies and Community Programs, 1975-1985.** Mason. \$1.00.
- "Voiceless" Groups in the Twin Cities Community: Programming Needs of Some of Public Television's Non-audiences.**
- White Hmong Dialogues.** Strecker and Vang. \$2.00.
- White Hmong Dialogues Tape.** Strecker and Vang. \$4.00.
- White Hmong Language Lessons.** Whitelock. \$6.25.
- White Hmong Language Lessons Tapes.** Fuller and Vang. \$10.00.

PLANNING AND PUBLIC AFFAIRS

- Courses in Survey Research, University of Minnesota 1988-89.** Minnesota Center for Survey Research.
- The Experience of Smaller Nonprofits Raising Money from Minnesota's Largest Foundations.** Smith and Aburto.
- Fiscal Constraints on Minnesota—Impacts and Policies: Budget Cuts and Environmental Programs.** Walters.
- Fiscal Constraints on Minnesota—Impacts and Policies: Economic Conditions and Changing Government Policies.** Peek and Wilson.

- Fiscal Constraints on Minnesota—Impacts and Policies: Local Perspectives on Minnesota's Intergovernmental System.** Peek and Wilson.
- Fiscal Constraints on Minnesota—Impacts and Policies: Proposals for Fiscal Reform.** Peek and Wilson.
- Institutionalizing Organized Citizen Participation: Challenges and Opportunities.** Hult.
- Minnesota Population Change, 1960-1970.** SPA/CURA Wall Map Series #2.
- Minnesota Population Change, 1970-1980.** Map.
- Minnesota Population Distribution, 1970.** SPA/CURA Wall Map Series # 1.

CURA NEWSLETTERS, PROGRAMS, AND PUBLICATIONS

- Aging at the University of Minnesota.**
- The Complete List of CURA Publications.**
- Conflict Change: Theory and Practice.**
- CURA: Center for Urban and Regional Affairs, University of Minnesota.**
- Minor in Gerontology. Graduate Studies at the University of Minnesota.**
- University of Minnesota — Minnesota Center for Survey Research.**

Please add my name to the mailing list to receive:

- Aging: News.**
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all its affiliated parts are private sector/non-profit ventures though they are initiated by the public sector.

NET differs from other employment programs in being community-based and in attempting to deal with the barriers that prevent successful employment for its clients. Because NET job banks are based in the neighborhood they are more accessible to people.

Client Survey

Last summer NET asked CURA to survey its clients. A team of three graduate students was made available to NET through a CURA-Humphrey Institute Group Internship. Results of their survey surprised everyone involved. NET clients had higher than expected educational levels, more work experience, and well-defined long-range goals but a lack of intermediate steps for achieving them. The clients were all experiencing current financial difficulties.

Goals of the survey were:

- to better understand who is using NET and whether they fit the stereotype of the hard-to-employ,
- to find out what NET users want in the immediate and intermediate (two to five years) future,
- to learn what NET's clients perceive as obstacles to getting and keeping the jobs they want.

Erick Wiger, Nancy Waisanen, and Tamara Hancock, who conducted the survey, said there is a prevalent belief that those not currently employed as the Twin Cities approach full employment are "the uneducated, the unskilled, the unmoti-

vated, and those facing insurmountable personal or social obstacles to employment." The survey was taken to see whether this perception is correct. "A better understanding of who their clients are and why they have a hard time finding work allows NET to focus its efforts," the CURA surveyors said. "Additionally, by providing information to potential employers about what they can expect from a NET referral, the chance for a successful placement is increased."

Working from a sixty-item questionnaire, Wiger, Waisanen, and Hancock interviewed 150 clients in nine NET job banks. They also gave written math and reading tests at each interview. Two-thirds of the clients met the interviewers by appointment; when an appointment was canceled the interviewer met with a walk-in client, so one-third of the final sample were new NET clients. Clients were paid \$10 for participating in the survey, which took about one hour per person.

Gender, Race, and Family Situation

Of the 150 clients surveyed, 79 were men and 71 women. By race, there were 47 percent black, 30 percent white, 19 percent Indian, and the rest Hispanic, Asian, or other.

Fifty-six percent of those participating in the survey were responsible for supporting only themselves. Twenty percent were responsible for the support of another adult. And 41 percent were responsible for the care of one or more minor children.

The average number of children per client was 1.7. This compares with .6, the average number for the total population.

Slightly more than half of those with children had only one child to support. Fifty-five percent of the families with children included at least one child less than five years old, and an additional 21 percent had at least one child between the ages of five and twelve. This means that 76 percent of the clients with children (and 31 percent of the total sample) were supporting at least one child under the age of twelve. Fifty-eight percent of the clients with children were single parents, 40 percent parented with a partner, and the rest did not report.

Health

When asked how they would rate their own physical health, 42 percent said very good; 45 percent, good; 11 percent, fair; and 3 percent, poor. Of those with health problems, more than half said health interfered with their ability to perform at a job, but only 22 percent said they had been discriminated against because of health.

Nine percent of those interviewed care for a chronically ill child or parent, or reported some other family health problem that affects their ability to get and keep a job.

Twelve percent said they have physical handicaps affecting the type of work they can do. Three percent said they had suffered from mental illness, and 27 percent a drug or alcohol problem. More than three-quarters of these respondents said the problems affected their ability to get or keep a job.

Of the 22 percent convicted of a crime (other than traffic violations), more than half said their records affected their ability to get or keep a job, either because they met employers who won't hire ex-cons or because their driver's license was taken away.

Income

Median income for all NET clients was \$7,000 in 1987. Their incomes ranged from 0 to \$46,000, with eleven people not knowing the amount of their 1987 income. Current sources of income were wages, friends or family, AFDC, General Assistance, Social Security, child support, unemployment compensation, workers' compensation, and other.

About one-third of the clients received food stamps; 38 percent, medical assistance; and a little over 11 percent, subsidized housing and bus passes. In addition, some 44 percent said someone helps them with housing or food. Help of this kind came largely from parents, charities or shelters, spouses, or other relatives.

When asked about income needs, the average monthly take-home income required was said to be \$640. Eleven clients said they did not know how much income they needed. The clients reported a median family income of \$7,500 in 1987 (\$625 a month); the median personal contribution of the people interviewed was \$6,000 (\$500 a month).

Table 1. LOCAL AFFILIATIONS FOR NET

Neighborhood	Community base	Corporate partner
Camden	Pillsbury United Neighborhood Services	General Mills
Cedar Riverside, Longfellow, Seward	West Bank Job Bank	University of Minnesota
Central	Loring Nicollet Bethlehem Centers	Norwest Bank
City-wide	Anishinabe Council of Job Developers	—
Near North	Urban League, LEAP and Northside Residents Redevelopment Council (NRRC)	Prudential
Northeast/Southeast	Eastside Neighborhood Services	Soo Line
Phillips	Phillips Job Bank	Honeywell
Powderhorn East	HIRED at Sabathani	First Banks
Powderhorn West	Loring Nicollet Bethlehem Centers	Super Valu

Work History

Thirty-seven percent of the NET clients had a job at the time they were interviewed, and about one-third of these had permanent full-time positions. Median wage for all employed clients was \$5 per hour.

The remaining 63 percent of those interviewed had been unemployed for an average of six to nine months, with 15 percent having been without a job for more than two years. They had received a median wage of \$5.30 per hour at their last job—60 percent in full-time work, and the rest part-time or temporary work. Highest previous wages of men interviewed were about one and a half times the highest previous wages of the women.

The surveyors found that about one-third of the clients interviewed had held skilled blue-collar (machinist, construction) or white-collar (engineer, counselor) positions. An additional third had held at least one semi-skilled position (sales, data entry). And the final third had held only entry-level or service positions in food service or factories. Some 11 percent had served in the armed forces.

The majority had held at least one job for more than two years, and only about a fifth of those interviewed had never held a job for a whole year.

Periods of unemployment for these clients ranged from none to 104 weeks in the previous two years, with a median period of seven months. Sixteen percent of those interviewed had been unemployed for two full years prior to this interview.

Education and Skills

NET clients were given a math and reading literacy test as part of the study. Of a total of 45 points, the average test score was 34.5, indicating the equivalent of a 9th grade or higher education. Scores ranged from 10 to 45 points, but 73 percent of the sample fell into the highest level (9th grade or higher), and only 4 percent had test scores showing skills levels at 4th grade or lower.

Eighty-three percent had a high school diploma or GED. The survey showed a remarkable level of educational experience, including 38 percent with some college, 7 percent with an associate degree, and 10 percent with a bachelor's degree. Only 4 percent had gone to a vocational-technical institute, but 49 percent had successfully completed a job training program. Of those who did not finish high school, almost half finished the eleventh grade, and only two respondents did not go beyond eighth grade.

Hopes and Aspirations

"Most NET clients have a clear vision of where they would like to be in their careers two to five years from now," the study said. "However, short-term goals tend to overshadow the long-term during their job hunts."



Applicants for car washing jobs in the suburbs participate in a mass hiring at Loring Nicollet Bethlehem Centers in central Minneapolis.

Of the 150 people surveyed, 140 knew what they wanted to do in the intermediate future. Forty-two percent chose white collar skilled employment; 25 percent, blue collar skilled employment; 22 percent, white collar semi-skilled employment (sales, computer technical); and only 11 percent chose semi-skilled blue collar employment. However, only one-third of the respondents had any experience in skilled jobs. And 91 percent said the job they had liked the least in the past was a semi-skilled job.

Only one-quarter of those interviewed were seeking jobs that related to their long-term interests. Two-thirds of those seeking work listed a need for money as their prime reason for work. Fifteen percent cited career or family changes as the main reason for needing a job, and another 15 percent were working but wanted a better job.

The minimum acceptable wage to both men and women of all ages was \$5.74 an hour. Respondents also said relationships with their co-workers and other environ-

The CURA-Humphrey Institute Group Internship

Since 1983, CURA and the Humphrey Institute of Public Affairs have sponsored the placement of a group of public affairs graduate students, rather than individual students, in an internship. These internships are generally with a city or state agency for a specific large-scale or complex project. Generally, two group internships have been offered each year, beginning in June and providing each student with the equivalent of at least a three month full-time position. Cost-sharing between CURA, the Humphrey Institute, and the government agency provides the agency with a relatively low cost and high-

quality group of students to work on a project.

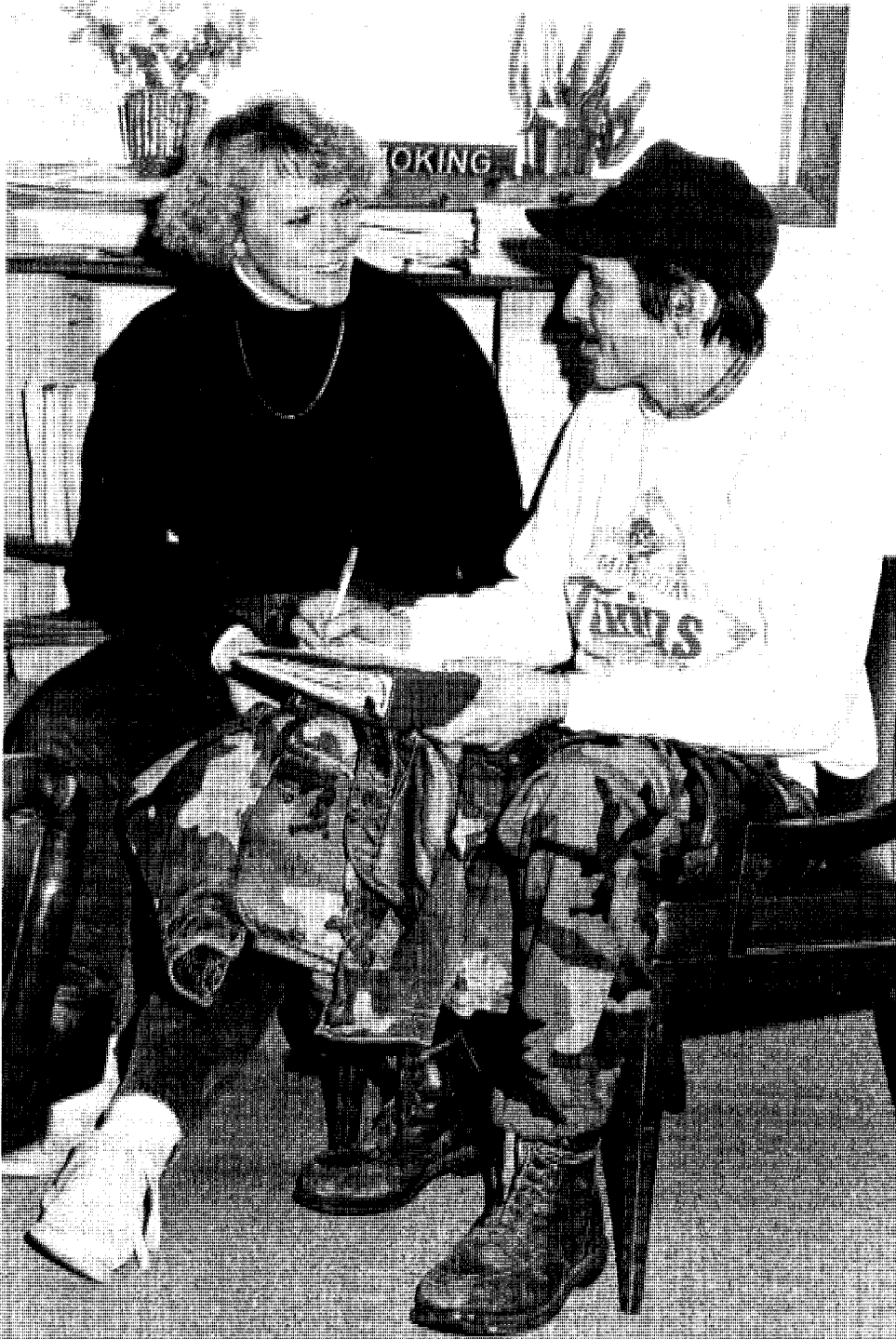
A member of the institute faculty or CURA staff is assigned to work closely with the students and their internship supervisor for the duration of each internship. The faculty conduct a joint weekly or biweekly seminar for the interns during the course of the internship. The seminar provides the students with a chance to reflect on the challenges of this professional-level job experience. The seminar also provides the opportunity to bring in outside consultants to discuss the internship project and process.

mental factors would be important, and 89 percent mentioned the chance for a raise or promotion as an important consideration. Almost 20 percent expected to stay at their next job until retirement.

Barriers to Employment

Clients saw five types of barriers in their search for employment:

- an inability to find or obtain good jobs, (largely because of too much competition for desirable jobs);
- lack of specific job skills, schooling, or job experience;
- lack of basic necessities needed to find or hold a job, such as food, shelter, clothing, phone, or adequate transportation;
- problems related to families and children;
- miscellaneous barriers, including discrimination, disabilities, stress and self-esteem problems, or a criminal record.



Karen Carlsen, director of the Phillips Job Bank, interviews Terry Sayers, who is looking for a job.

More than three-quarters of the respondents said the first barrier, competition for good jobs, makes it "much harder" or "harder" for them to find jobs. A total of 68 percent said low pay makes finding or keeping good jobs difficult. And half said not knowing where the jobs are makes it harder to find work.

Asked about barriers to job retention, clients said the major problems were boredom or lack of advancement and personality conflicts with supervisors or co-workers. A number of other barriers, including family demands, scheduling problems and alcohol abuse were also cited.

In Conclusion

"NET clients defy stereotypes," Wiger, Waisanen, and Hancock said. "They are a diverse group, but NET clients typically are literate high school graduates who have a vision for their futures. Many have long work histories. Almost half support children. Some NET clients may need special help, but they offer much to potential employers."

The survey said the clients interviewed have an idea of where they want to be in the future, but an even clearer need to deal with immediate concerns. "They are looking to NET to fulfill their short-term needs," the survey concluded. "Their salary requirements for the most part were reasonable for the jobs they were seeking, and they seemed able to live on a remarkably small amount of money."

And yet the clients interviewed faced serious challenges.

Almost every one had some particular barrier to getting or keeping a good job. When asked about handicaps, one woman answered, "My handicap is that I'm poverty-stricken." Many people said they had to work day labor in order to survive, which took away from the time they could spend job-hunting.

"The challenge for NET is to help people rise above the day-to-day survival mentality," the report concluded. "It may be necessary to work with people after they find their initial jobs to help them approach their long term goals. From the clients' perspective, NET provides encouragement and support which is hard to find elsewhere."

Margo Doten summarized the NET Client Survey for publication by the Minneapolis Neighborhood Employment Network. Her summary forms the bulk of this article, with additions and slight modification by CURA editor, Judith Weir. Copies of the full survey report are available from Mike Brinda at the NET office, Room 127, City Hall, Minneapolis, MN 55415 (612/348-2100).

Photos by Nancy Conroy.

Radon in Living Areas of Minnesota Houses

by John Gilkeson

This is a report on research in progress being conducted by Dean Abrahamson of the Humphrey Institute of Public Affairs and Thomas Anding of CURA. Also involved, along with John Gilkeson, were research assistants Evan Fulton, Suzanne Hartley and Paul Zabinski. CURA and the Humphrey Institute (CURA/HHH) have been collaborating on radon research since 1986.

Radon has become an important environmental topic in Minnesota and across the country. The media have been filled with radon stories, yet a brief review of what we know about radon still seems appropriate.

Radon is a colorless, odorless gas which occurs naturally in the environment due to the decay of uranium and thorium. Radon rises through the earth as it is generated, and can enter buildings from the ground through cracks in basement floors and walls.

Radon and Cancer

There are a number of decay products which pose health risks, but the most common of these is Radon 222, which has a half life of less than four days. It is estimated that radon causes 10 percent of the lung cancers in the United States, making it second only to smoking as a cause of this disease. The health effects of radon have been well established by studies of uranium miners and their exposure to the gas. There is still some debate about the cancer risk from the low level exposures that most of us incur, but a National Academy of Science committee has recently concluded that the cancer risk is directly proportional to the level of exposure to radon.

Levels of Exposure

The Environmental Protection Agency (EPA) has set a level of 4 pCi/L* as an action level for radon. The EPA recommends that residents take steps to reduce radon levels in their dwellings when this level is exceeded. Exposure to this level for 80 percent of a person's expected seventy-year life results in an "individual lifetime lung cancer risk" of nearly one in one hundred using currently accepted radiation risk coefficients. The sensitivity of infants and children to a level of 4 pCi/L is unknown, but could be higher than for adults.

radon. Background levels of radon in outside air are approximately .2 to .4 pCi/L. Inside levels can be 4 pCi/L or higher in basement areas during the winter, but most of us don't live our lives in basements. The average person may be exposed to less than 4 pCi/L over seventy years, and cancer risk will continue to be directly proportional to the level of exposure.

The problem which arises from adhering strictly to this assumption of lower exposure is that of ignoring the populations that are at risk by claiming that everyone is average. In the real world, very few people are average, and there are significant portions of the population that are incurring either high risks or low risks. With radon, we simply do not know what the realistic case level of exposure is, so it may be most prudent to base policy decisions on the one in one-hundred cancer risk scenario noted above. We know that in doing so, we are protecting the populations that are most at risk. The federal government generally sets exposure limits to other carcinogens on the basis of a cancer risk of one in one hundred thousand.

Radon in Minnesota

Despite the uncertainties in measuring lifetime radon exposure, Minnesotans need to be concerned about radon levels for a number of reasons:

- Minnesota has a significant amount of granitic and uranium-bearing rock,
- Minnesotans spend a large portion of the year inside because of the long winter,
- most buildings in Minnesota have basements which have a large area exposed to ground and hence to radon, and,
- most buildings are relatively tight and have heating systems which together permit the retention and circulation of significant amounts of radon gas.

In the October 1987 *CURA Reporter*, we reported the results of over 900 radon tests conducted in Minnesota, which included basement readings from 200 faculty single-family homes representing all of the University of Minnesota campuses. Of the latter readings, approximately half were less than 3 pCi/L and about one-third were 4 pCi/L or higher. The levels in faculty homes were measured with alpha-track detectors. These can be used to make long-term measurements, and are generally considered to be more accurate than the short-term, and

slightly less expensive charcoal-canister detectors.

The EPA and the Minnesota Department of Health have recently conducted a survey of basement radon levels in 1,000 Minnesota homes. Approximately 90 percent of these readings were made with charcoal canister detectors. In comparison to the CURA/HHH study of 200 faculty homes, nearly half of these houses had radon levels over 4 pCi/L. It was this finding which led the EPA to call for widespread radon testing in Minnesota in September of this year. At this time it is not entirely clear whether the higher readings found by the EPA and Minnesota Department of Health reflect a measurement difference between the two types of detectors, or a real difference in the levels of radon in the two samples of houses. There has been no large random statewide study conducted with alpha-track detectors.

Measuring Radon in Living Areas

A second CURA/HHH radon study was designed and carried out between September 1987 and March 1988. The initial study and other results of radon testing in Minnesota indicated that radon levels high enough to warrant some concern were widespread. However, virtually all measurements had been made in basements.

In the second CURA/HHH study, radon levels were measured in the basement and upper level living areas of fifty single-family houses in the Twin Cities. The purpose of this was threefold. First, basement levels of radon are assumed to be the highest in the house, but basements are generally not a main living area. It is the levels in the main living areas that are important in determining the health risk from exposure to radon. Second, by measuring basement and upper floor radon levels, it may be possible to determine if there is any relationship between these measurements. If a relationship between basement and upper floor radon levels were found, it would simplify the accurate measurement of a family's exposure to radon in their house. A family could simply measure their basement radon level for 3 months to a year, and be able to arrive at a fairly good estimate of the radon levels in their main living areas. Thirdly, such a study would verify the assumption that basement radon levels are highest.

Fifty Twin Cities houses from the original CURA/HHH survey were selected for this more detailed study. Selection was based primarily on initial basement radon

*Concentrations of radon in air are measured in units of picoCuries per Liter, or pCi/L.

levels; almost every house selected had a previous basement reading of 3 pCi/L or more. Thirty-seven of the houses had hot air heat, and thirteen had hot water heat.

The project staff developed a worksheet to describe various physical features of each house that might have an influence on radon levels. Some of the items noted were the type and condition of basement floor and walls and the presence or absence of a sump, dirt floor, basement cold air return, outside combustion air source for major gas and oil appliances, and laundry chutes. Starting in mid-January of 1988, detectors were installed in these houses by four graduate assistants. A training session for all of the installers was held at the first three houses, in order to assure consistent methods of placement and accurate record-keeping. Basement detectors were installed in the same place as in the original survey, and upper floor detectors were placed in the most heavily used rooms. Additional detectors were also placed in suspected source areas such as sumps and crawl spaces where appropriate. No detectors were placed in kitchens or bathrooms. Detectors were in place for five to nine weeks between mid-January and mid-March. In the average house, they were in place for just over seven weeks.

Radon in Water

Three houses had private wells, and water supply radon detectors were placed in these houses, as well as in three control houses with a public water supply. Consistent with expectations, the three with private wells had the highest levels of radon in their water. A control house served by a public ground-water system had a moderate level of radon. The two houses served by a public surface-water system had very low levels of radon in the water. It is generally agreed that water makes a very small contribution to radon levels in household air. Our study yielded no evidence to the contrary.

Radon in Air

The distribution of radon levels for this sample is shown in Table 1. Average readings are clearly highest in the basement and drop on each successive floor. Most houses had levels lower than the sample average, and a few houses had fairly high levels. The

distribution of radon levels in this sample should not be compared to others since this sample of houses was chosen because of known basement readings of 3 pCi/L or more.

Relationship between Basement and Upper Floor Radon Levels

Though the results clearly demonstrate that radon levels decrease on the upper floors of a house, they do not provide any clear quantitative or statistical measure of the relationship between upper floor and basement radon levels. However, a number of important factors and trends do seem to emerge from the data.

Importance of Type of Heating System

- The relationship between basement and upper floor radon levels is markedly different for houses heated with hot air and those heated with hot water. This appears to be directly due to the differences in air circulation patterns created by these heating systems.
- If two houses have the same basement radon level, radon in the upper floors will most likely be higher in the house with air heat, as compared to the house with water heat.
- In houses with air heat, there are fairly strong quantitative relationships between basement and upper floor radon levels.
- In houses with water heat, there is a quantitative relationship between first and second floor radon levels, most likely due to the normal patterns of convective air flow which occur in these houses. There appears to be no quantitative relationship between basement and upper floor radon levels for these houses.

Nature of the Quantitative Relationship

- Where a quantitative relationship was found, upper floor radon levels appear to be a logarithmic function of radon levels on lower floors. For example, the higher the radon level in the basement, the more rapidly the radon level drops off on upper floors. This is consistent with scientific models of diffusion from a point source.

House Type and Age

- Finally, it was observed that house type and age are not necessarily predictors of radon levels. Two century-old inner city houses with stone foundations and partial dirt floors had much lower levels than many newer suburban houses with cement floors and cement block walls.

Figure 1 profiles a typical air-heated house and a typical water-heated house from our sample. The average radon levels are shown for each floor and air circulation patterns that appear to be the driving force in distributing radon throughout the house are displayed.

What Next?

Our findings and those of others indicate that radon levels in single-family houses in Minnesota are high enough to warrant concern, but they are not so high that immediate corrective action to reduce radon levels is necessary. The radon levels in main living areas on upper floors in our select sample are generally 40 to 70 percent of the levels found in basements. Homeowners and renters have plenty of time to acquaint themselves with the methods of radon measurement and the implications of radon levels found in their dwelling. Depending on what these radon levels are, individuals may wish to simply modify their living patterns so as to decrease their exposure, or they may wish to take more active steps toward reducing radon in their house.

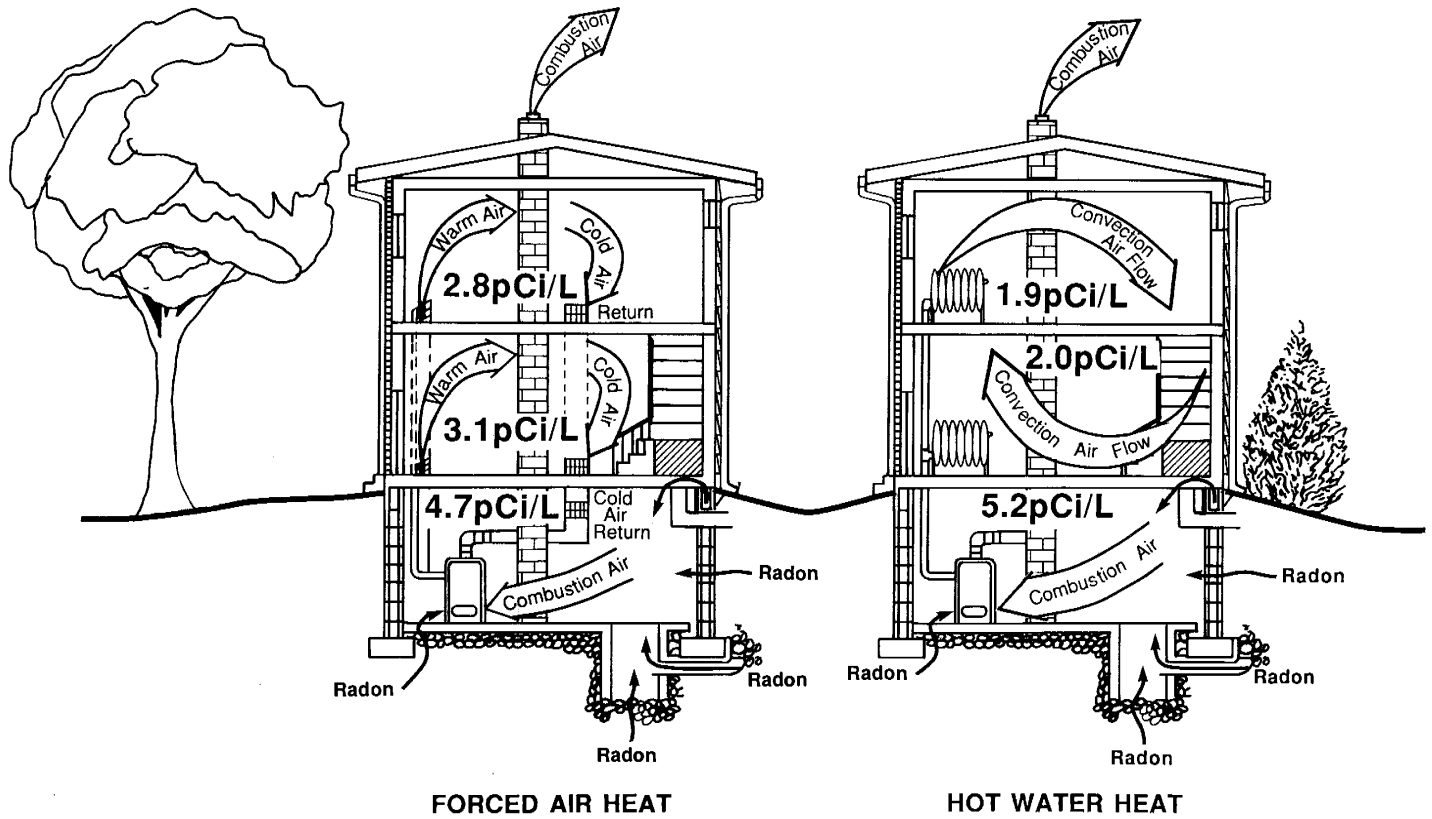
At this time there is no state, federal, or trade association program to license or certify radon mitigation contractors, ensuring that homeowners receive what they pay for. The EPA has conducted workshops for contractors, and homeowners would be well-advised to seek out contractors who have attended these workshops. In addition, little is known about what constitute the most cost-effective radon reduction methods for the various types of houses found in Minnesota. There have not been enough scientifically conducted measurements to indicate whether we have radon hot spots in the state or where they might be. Since radon levels can vary significantly from house to house, measurements of radon in the ground may be necessary for this purpose, once any cluster of houses with high levels has been identified.

Because of all the attention focused on radon recently, there are likely to be several bills introduced by various groups to the 1989 Minnesota Legislature addressing the contractor certification and regulation issue and seeking to expand radon monitoring across the state. The Minnesota Geological Survey is conducting limited measurements of soil radon levels around houses in conjunction with measurements inside the same houses. More widespread testing of soil radon levels based on geologic indicators is being considered by the Minnesota

Table 1. Distribution of Radon by Level Within the House

Location	Number of readings	Average reading (pCi/L)	Percent of readings (pCi/L) with radon levels of:		
			<2	2-4	>4
basement	50	4.8	12	38	50
1st floor	50	2.9	38	34	28
2nd floor	33	2.4	49	45	6
3rd floor	9	2.0	89	0	11

Figure 1. HOW THE HEATING SYSTEM AFFECTS RADON LEVEL*



* Radon levels on each floor are averages from this study.

Health Department and the Minnesota Geological Survey. The Cold Climate Housing Research Center at the University of Minnesota, which has studied similar issues of energy and air flow in houses, is beginning to develop a number of methods for reducing

radon in cold climate housing.

Despite all of these activities, the fundamental public health issue of determining acceptable levels of exposure and cancer risk will remain under discussion for some time to come.

John Gilkeson is an environmental research assistant with CURA and is completing his master's degree at the Humphrey Institute of Public Affairs.

CURA

reporter

CURA
University of Minnesota
330 Hubert H. Humphrey Center
301 19th Avenue South
Minneapolis, MN 55455

ADDRESS CORRECTION REQUESTED

Volume XVIII, Number 5 December 1988

The Center for Urban and Regional Affairs was established to help make the University of Minnesota more responsive to the needs of the larger community and to increase the constructive interaction between faculty and students, on the one hand, and those dealing directly with major public problems, on the other hand.

The **CURA Reporter** is published five times during the year to provide information about what CURA projects are doing.

Thomas M. Scott, director; Thomas L. Anding, associate director; William J. Craig, assistant director; Judith H. Weir, editor.