

**CURA****reporter**

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## Preventing Reading Failure in First Grade

*by Barbara M. Taylor, Barbara J. Frye, Ruth Short, and Brenda Shearer*

There is no skill more basic to success in school than reading ability. Yet, the probability is very high that a child who is disabled in reading at the end of first grade will remain a disabled reader. Research on reading disability indicates that the best way to break the cycle of failure in school experienced by poor readers is to identify these children as early as possible and to provide a reading intervention program right away.

A successful reading intervention program in Ohio has done just that. The program, called Reading Recovery, identifies the 20 percent of children entering first grade who are determined to be at greatest risk in terms of failing to learn to read. These students are individually instructed in reading for thirty minutes a day by tutors who have been trained in the Reading Recovery procedures. After fifteen weeks, 70 to 80 percent of the children have left the program because they have caught up to their peers in reading. Follow-up studies have found that these students seldom need any further remedial reading instruction.

One limitation of the Reading Recovery program is that it is very expensive because of the individual tutoring and, therefore, difficult for schools to provide. Another limitation is that it is a pull-out program; children leave their classrooms each day to be tutored.

It is likely that a considerable number of students who are in the lowest 20 percent of a class in reading ability will be referred to special education services as learning disabled or mildly handicapped students. A large percentage of special education students have reading problems. However, within the field of special education there has been a movement in Minnesota and in the nation toward more quality education for learning disabled and mildly handicapped children within the regular classroom. Proponents of the regular education initiative argue against segregating children from

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their peers and against the fragmentation of instructional programs which results when the traditional pull-out approach is used for remedial services to students with learning difficulties.

### Early Intervention in Reading

An appealing alternative to the Reading Recovery tutorial program is training first grade teachers to use similar remedial reading intervention procedures with the lowest-achieving first graders within the regular classroom. In the research project described here, six first grade teachers in one school district were trained over the course of a school year to use a special reading program called Early Intervention in Reading, developed by the project director. The program is similar in a number of ways to the successful Reading Recovery program initiated in Ohio. The intent of Early Intervention in Reading is to provide a special reading program within the regular classroom for at-risk children in first grade before they have a chance to actually fail in reading or fall considerably behind their peers.

St. Louis Park Public Schools, the district in which the program was implemented, hoped to see a large percentage of these lowest-achieving students reading well by the end of first grade. The district also hoped to see significantly fewer students enrolled in special education as a result of this program.

### The Research Design

Thirty lowest-achieving first grade students in six classrooms were selected in early October 1989 to participate in the Early Intervention in Reading Program. Students were chosen based on their teacher's judgment and a test of sounding and blending abilities developed by the project director. The twelve-item test, which examines a child's ability to segment words into individual sounds and to blend the sounds together into words, has been quite successful in identifying the children who will and will not learn to read by the end of the first grade.

Thirty additional low-achieving students from six other classrooms served as controls. They went through the same testing as the experimental students, but did not receive the reading intervention program. Thirty children of average ability in the six experimental classes also participated in the testing so that comparisons could be made with the low-achieving experimental students.

The six experimental teachers received

initial training in the Early Intervention in Reading Program during an all-day workshop the summer before the program began. Several after-school meetings were held to deal with concerns or issues pertaining to the program. The most valuable teacher training, however, was provided by project assistants who were doctoral students in reading education at the University of Minnesota. Working under the guidance of the project director, the assistants spent approximately forty-five minutes twice a week in the first grade classrooms while the program was being used. They took notes on the program in operation and they also listened to children from the experimental group read individually. Later in the day they provided teachers with feedback on how the program was working and offered suggestions for making the program more effective.

### Elements of the Early Intervention Program

In the experimental program, five lowest-achieving students per class worked as a group for fifteen or twenty minutes a day with the classroom teacher. These group meetings began the end of October and ran through April. Approximately two other low-achieving students per class (not serving as experimental subjects) joined the program in December, January or February because their teachers were concerned about their slow progress in reading. These students joined on a regular or part-time basis depending on what the teacher felt would be beneficial.

During the rest of the daily reading period, the children in the experiment participated in the regular reading program. In the St. Louis Park schools the regular reading program does not group by ability for reading instruction. The program uses children's literature rather than textbooks for reading. Phonics instruction is included in the regular first grade program. The experimental intervention program also used children's literature. It provided considerable instruction in phonemic segmentation and blending, not stressed in the regular reading program. Materials for the Early Intervention in Reading Program consisted of thirty-six picture books, summaries of these picture books on a chart and in booklet form, and fourteen additional short, easy-to-read picture books. All materials ranged from 40 to 200 words in length.

In the experiment, children spent three days reading a story summary. On the first day, they heard the teacher read the original picture book to their entire class. The teacher then worked with them, reading

the summary of the story on a chart. She stopped at appropriate words (three-letter words with short vowel sounds, at first) to model how to segment the words into phonemes, or individual sounds, and blend the phonemes together. For example, *cat* would be segmented into the three sounds *c-a-t*. She also modeled the use of context clues as an aid in decoding. The experimental students developed their phonemic segmentation and blending ability and phonics knowledge by writing five words from the story. They wrote the phonemes from a word in a series of boxes, sounding out *f-ee-t* and blending the sounds into *feet*, for example. The writing was done with as much help from the teacher as needed.

On the second and third days, the children reread the story summary from the chart with the teacher's help. During their reading, the teacher provided instruction in symbol-sound correspondences, particularly for vowel sounds. The teacher continued to model phonemic segmentation and blending and the use of context clues, asking, for example, "What word would make sense in this sentence?"

The children agreed upon one sentence related to the story which they each wrote at the back of their story summary booklet with the teacher's help. The teacher was careful to provide students with the letters for sounds they could not spell successfully, but expected them to tell her the correct letters for many of the sounds in the words they were writing. For the word *said*, the teacher might ask the children what letters were at the beginning and end of the word and tell them that *ai* was in the middle (since *ai* is phonetically irregular in this word).

In addition to working with the teacher for fifteen to twenty minutes a day, the children in the experimental program also worked individually or in pairs with a trained aide or a project assistant for five to ten minutes a day. They reread their personal copies of the story summaries and illustrated them. The aide was careful to provide as much help as needed with difficult words, but encouraged the children to use the strategies they had been learning from the teacher to work out unknown words on their own.

A goal was to have the children reading their story summaries successfully (with at least 93 percent accuracy) by the end of the third day. After the third day the children took their story summaries home to read to their parents. They were asked to return the booklets to school, however, so they could continue to practice rereading "old" stories.

Fourteen picture books were used at the end of the program to help the children make a transition to independent reading of new material. First, the teacher would read the book to the entire class. Then she worked with the project children individually or in pairs as they reread the story to her. When children came to difficult words, the teacher primarily asked questions which encouraged the children to use what they

**Cover photo: Mary Rathmanner teaches phonemic segmentation and blending to the six students in her first grade class participating in the experimental Early Intervention in Reading. The program was pioneered in St. Louis Park last year and is being introduced at Lincoln Elementary School in White Bear Lake this year, where these pictures were taken.**



**Children in the special reading program participate along with the rest of their class in the regular reading program. Here, teacher Betsy Jann reads *The Carrot Seed* to the entire class.**

knew about phonic and contextual analysis to successfully decode the words. The project children reread the story to the teacher, an aide, or project assistant three or four more times over the course of two or three days so that by the end of the third day, they could read the story successfully.

#### **Reading Assistance in the Control Classes**

All six teachers in the control classes spent additional time with their lowest-achieving

readers. They retaught the reading skills already taught to the entire class. Five of the six teachers said they listened to these children read one-on-one more frequently. In one building, for three months in the fall, a special reading teacher worked with the lowest-achieving students in one of these control classes. She spent thirty minutes a day with them outside the classroom during the regular reading period. In the other building a special reading teacher went into all three control classrooms for thirty minutes a day for a total of five or six weeks to

work with the lowest-achieving readers. The weeks with the special teacher were spread out over the first six months of the school year.

#### **Testing**

At the beginning of May, all experimental and control children were individually tested through an informal reading inventory in which children read passages of increasing difficulty until the material became too difficult. In addition, they read a 150-word selection from an easy reader—a type of book typically read by children at the end of first grade. To test phonic knowledge, children were asked individually to provide sounds for fifteen vowels or vowel pairs (such as *ee*, *ai*). And finally, they were given a standardized reading test by their regular classroom teacher. The reading readiness form of the test was given in September and the form for the end of first grade in May.

#### **Findings**

The results of this study clearly indicate that the Early Intervention in Reading Program was effective in getting low-achieving first graders off to a good start in reading. Sixty-seven percent were reading by the end of first grade. Approximately 50 percent were reading at an end-of-first grade level or better. As a group, their mean percentile score on the standardized reading test increased from 29 to 37 between September and late April.

In comparison, only 36 percent of the students in control classes were reading by May. Approximately 22 percent were reading on an end-of-first grade level or better. As a group, the control students' mean percentile score on a standardized reading test went from 34 in September to 27 in late April. Statistical analyses revealed that experimental children scored significantly higher than the control children at the end of the school year on the standardized reading test and in knowledge of vowel sounds.

The control students in this study looked quite similar in beginning and end-of-year performance measures to ten low-achieving first graders from St. Louis Park for whom similar data were collected during the 1988-89 school year. Only three of these ten students (30 percent) were reading in May. Their mean percentile score on the standardized reading test was 36 in September and 25 in late April. It is important to note that these ten low-achieving first graders from 1988-89 had different teachers than the control students during this research project in 1989-90.

When compared to students of average ability, the children in the Early Intervention in Reading Program did not fare too badly. Eighty-five percent of the average students were reading in May, approximately 57 percent at an end-of-first grade level or better. Average students had a mean percentile score of 52 and 51, in September and April, on the standardized reading test.

For the most part, the children (approximately two per class) who joined the experimental program in December or later on either a regular or irregular basis were not reading as well in May as the thirty children who began the program in October. This finding suggests that it is important to get low-achieving first graders into a special reading intervention program as early as possible in the fall of a school year and to ensure that the program is carried out on a regular basis.

The running records show that the experimental children were successful throughout the program. By the end of the third day on a story, children, on the average, were able to reread just-covered stories in the program with 94 percent accuracy. This suggests that it is important to carefully consider the length of stories (or story summaries) that children read so that they are experiencing success frequently and consistently.

### Placements in Special Education

A comparison was made of the number of first grade students who qualified for special education learning disability services in first grade during the 1987-88, 1988-89, and 1989-90 school years. In 1987-88, 11.3 percent qualified. In 1988-89, 8.0 percent qualified. In 1989-90, 5.2 percent of the students in the experimental classes qualified and 7.2 percent in the control classes qualified. This indicates that during the year when the Early Intervention in Reading Program was initiated, fewer first grade children were placed in special education programs than in previous years.

### Conclusions

Early Intervention in Reading was a successful program for preventing reading failure among first graders. The program, used by classroom teachers as a supplement to the developmental reading program, helped many low-achieving students get off to a good start in reading. Children in the program were reading significantly better in May than comparable children who were not in the program. Additionally, first grade placements in special education were down in the district as compared to previous school years, and were especially low for those in the experimental classes.

There are a number of components of the program which probably contributed to its success:

- First, children in the program received special supplemental instruction on a regular basis each day from their classroom teacher.
- Second, this instruction, based on sound practices supported by research, made use of quality literature, developed students' phonemic segmentation and blending ability, and taught students phonic and contextual analysis skills. Children were engaged in repeated



**Jonathon reads to aide Kay Roepke. Individual work with a teacher or aide is a daily part of Early Intervention in Reading.**

reading of stories and in writing about these stories.

- Third, children were successful in the program. Running records of children's oral reading show that at the end of three days, the children were able to read the stories they had been working on independently and with a high degree of accuracy. Teachers reported that the majority of children felt very positive about the program.

Early Intervention in Reading Program, unlike the Reading Recovery Program developed in Ohio, appears to be a cost-effective, in-class intervention program that can be provided by the classroom teacher. Children in the program were not pulled out of class for small group instruction or individual tutoring by another teacher.

Further research and development of the Early Intervention in Reading Program is needed. The St. Louis Park District has hired the equivalent of two half-time teachers to help implement the program in all fourteen of its first grade classrooms for the 1990-91 school year. Meanwhile, the project director is working with four classroom teachers and two basic skills teachers in the White Bear Lake Area Public Schools as they implement the program in 1990-91. It is hoped that through these efforts the Early Intervention in Reading Program will continue to be researched, developed, and used.

This reading intervention program, like

Reading Recovery, has demonstrated that many low-achieving students, who might otherwise fail to learn to read, can in fact read by the end of first grade. It is important that intervention for these students begin right away in the fall and continue on a regular basis during the first grade school year. Extra help with reading skills, through the Early Intervention in Reading Program, can help prevent children from being labelled as failures at the beginning of their school experience, and it can perhaps save education dollars by diminishing the need for special education.

**Barbara Taylor, project director of this study, is a professor of curriculum and instruction in the University of Minnesota's College of Education. She teaches courses on reading, language arts, and children's literature. Her current research centers on early intervention programs, like the one described here, and on the use of literature in elementary reading programs. She has co-authored a textbook on reading difficulties and has a second book forthcoming in February, *Reading Together*, for parents about reading with their children. Barbara Frye received a Ph.D. in education from the University of Minnesota in July 1990. She is an assistant professor of education at the University of South Florida at St. Petersburg. Ruth**



Short and Brenda Shearer are doctoral students in education at the University of Minnesota. Currently Ruth Short is working with teachers in White Bear Lake on the Early Intervention in Reading Program. Brenda Shearer, a reading teacher in Osceola, Wisconsin, is helping first grade teachers in her building implement the Early Intervention in Reading Program. A more technical research report on this reading intervention program is available. For copies write to Barbara Taylor at the College of Education, 330 Peik Hall, 159 Pillsbury Drive S.E., University of Minnesota, Minneapolis, MN 55455.

This study was supported by an interactive research grant from CURA and the Office of the Vice President for Academic Affairs, University of Minnesota. Interactive research grants have been created to encourage University faculty to carry out research projects that involve significant issues of public policy for the state and that include interaction with community groups, agencies, or organizations in Minnesota. These grants are available to regular faculty members at the University of Minnesota and are awarded annually on a competitive basis.

Photos on pages 1, 3, and 4 by Nancy Conroy.

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# Do Highway Funds Spur Economic Development?

by Yorgos J. Stephanedes

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Where should a state spend money if it wants to boost its economy? We recently studied this issue, looking at the effects that highway funds have on economic development. We examined changes in local employment and income after money was spent on Minnesota highways and the influence of local economic changes on highway funding.

## Background

Most states in the Upper Midwest have a dispersed population, which means that considerable investment in a transportation infrastructure is required. Investment in transportation is typically a major component of the state budget, even though federal aid is also available. In the United States, state spending for highways totaled \$38.2 billion in 1986, representing 9 percent of state budgets. Spending on highways rated third, after education and welfare. Recently, most states in the Upper Midwest have been assuming a greater role in designing their own economic development programs. Investment policies directed at improving the transportation infrastructure play a key role in such programs.

Thirty-six states explicitly consider regional economic development as a justification for highway funding and as one factor which influences decisions about the highways in which to invest. In the Upper Midwest, one of the most ambitious programs is Iowa's RISE (Revitalize Iowa's Sound Economy), which provides \$27 mil-

lion in annual funding dedicated to highway construction and improvement projects intended to foster economic development over a five-year period. The inclusion of regional development objectives in highway funding is valid, however, only if highways have a significant impact on regional development, if they create jobs and increase income. There is considerable disagreement as to whether, and in what degree, this is the case.

Our findings indicate that in Minnesota government plays both an active and a reactive role in regional economic development. Government is a *reactive player* when it improves highways to support economies that are already healthy or improving. It has done this, often effectively, in regional centers, where it rewards development with improved highways that, in turn, act as catalysts for more development by improving access and removing bottlenecks. Government becomes an *active player* when it attempts to stimulate development in local economies that are weak or deteriorating. Such attempts usually occur in rural areas, but are not always effective. Improved roads tend to hurt the economies of rural areas, in the long run, if the areas are located near regional centers. If they are far from regional centers, on the other hand, the areas may benefit from improved roads, which can provide better access for timber and farm products going to market and improved access for tourists coming into the area.

## Earlier Studies

The traditional view in past research has been that improving the transportation infrastructure is a necessary predecessor to economic development in a region. In the last ten to fifteen years, however, this view has come under heavy criticism. New empirical research has shown that transportation can develop concurrently with regional economic development or even as a result of new development. In some places increased investment in transportation has attracted little new industry and its effort has been minimal.

The inconclusive and occasionally contradictory findings about the relationship between transportation and economic development are the result of three major factors. First, previous studies have considered this issue at substantially different geographic levels and there is no reason to believe that the process works in the same way at different levels. Second, at the level of county and multi-county analysis, most studies have used a cross-sectional correlation analysis, although such analysis is unable to determine the direction of relationships between two variables.

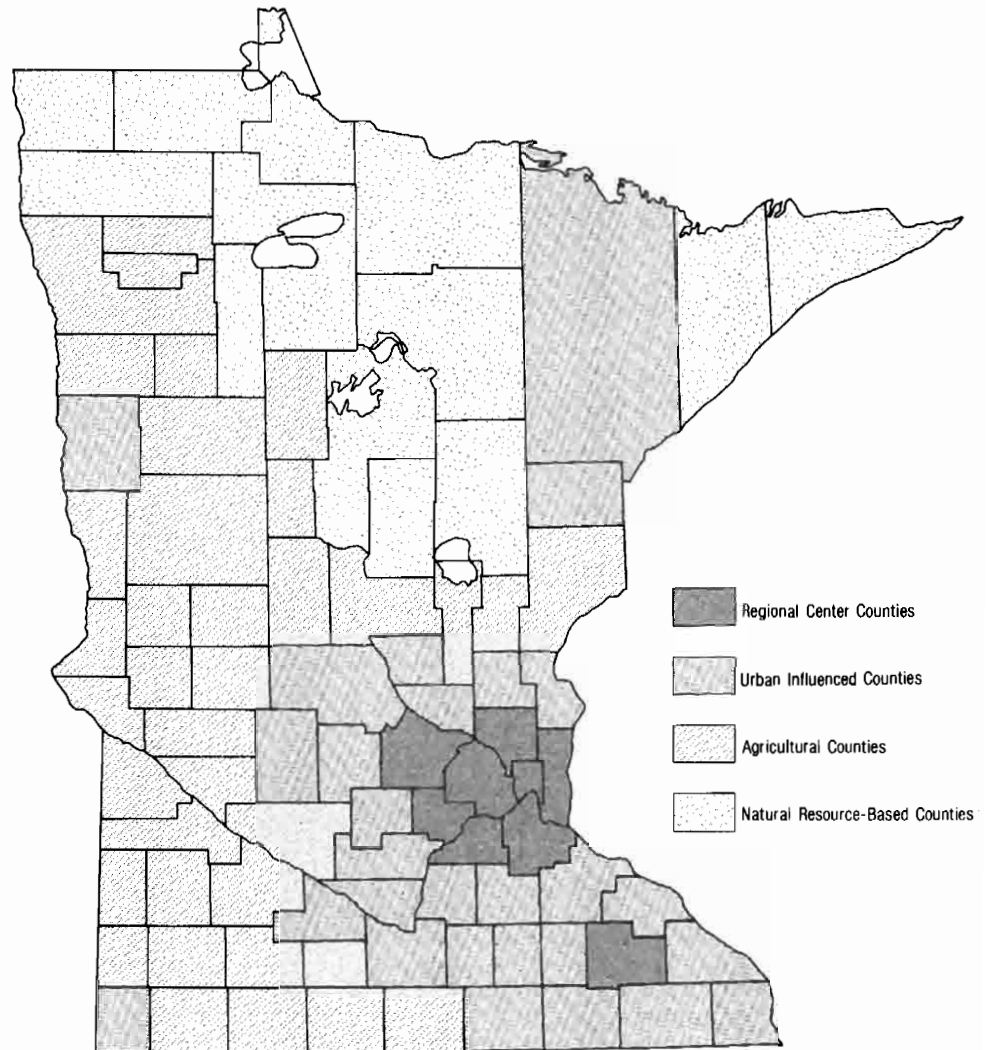
Finally, previous studies have paid too little attention to the long delays that are inherent in transportation- economy interactions. A substantial highway reconstruction project may take two years to complete and it may take another three years before regional industries fully realize the benefits from the highway improvement by restructuring their transportation operations and increasing their competitiveness in the market. Indirect effects from these immediate benefits, such as expansion of headquarters and employee relocation, may happen over an additional three to five years. If we add a one- or two- year waiting period before an approved reconstruction project actually begins, we can see how research results, over a period of ten to twelve years, may differ depending on the year in which the analysis takes place.

## Data and Methods of This Study

A time-series analysis was used in this study to take into account the variation in economic effects of highway reconstruction over as long as a fifteen-year period. This should increase the accuracy and consistency of the findings and bring us closer to being able to distinguish between cause and effect.

The study is based on highway expenditure data compiled by the Minnesota Department of Transportation as part of their annual project funding system. The data are broken down by county, for all eighty-seven Minnesota counties, for the years 1957-1982, and are limited to the state trunk highway system. This includes the major highway projects funded by the Minnesota Department of Transportation and constitutes the overwhelming majority of

**Figure 1. Classification of Minnesota Counties Based on Demographics, Economics, and Locational Variables**



the highway budget. Employment data used came from *County Business Patterns* (Bureau of the Census) and represent employment in the middle of March each year, for the years 1964-1982. The analysis includes nine different levels of employment, by place of work, and eight different levels of income by place of residence.

Before the analysis, effects reflecting the dominance of the size of county, regional or national trends, inflation, and other effects that are common across several counties were filtered out. To accomplish this filtering, groupings of counties were formed based on county characteristics. The assumption is that, within these groupings, counties will react in similar ways to highway changes. We grouped the counties by local features and by interactions between counties, recognizing that, in part, counties depend for their growth on their neighbors.

We sought to classify the counties by features that are familiar to the transportation policy analyst; that can be easily quanti-

fied with existing data; that can capture the socioeconomic, demographic, and accessibility differences across counties; and that are least correlated with each other. The six most important features used to classify the Minnesota counties were:

- **Accessibility within a county...** measured by the percent of county area covered by paved and unpaved roads.
- **Accessibility between counties...** measured by the number of roads crossing county borders divided by the county perimeter. No weighting was provided for the number of lanes per road.
- **Population density.**
- **Population dominance...** measured by the average of population densities of adjacent counties. This feature can indicate the potential for increased travel between counties given improved accessibility.
- **Average salary income per household.**



We present here a complete list of CURA publications that are currently in print. 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 *CURA 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. 1990

## COMMUNITY AND NEIGHBORHOOD STUDIES

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**City Venture Corporation: An Experiment in Urban Development Through Public/Private Partnership.** See Planning and Public Affairs.

**Community Reinvestment in the City of St. Paul: Are Residents and Businesses Receiving the Financial Services They Need?** See Economic Development and Employment.

**"Discrimination in St. Paul's Financial Services."** See Economic Development and Employment.

**"Employment in Powderhorn East."** See Economic Development and Employment.

**"Homeless in Hennepin County."** See Human Services.

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

**"Looking Back at City Venture Corporation."** See Planning and Public Affairs.

**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. A summary article of this study appeared in the July 1987 issue of the *CURA Reporter*.

**"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.

**"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.

**"NETS for the Unemployed in Minneapolis."** See Economic Development and Employment.

**"Northeast Minneapolis: Have Jobs Declined?"** See Economic Development and Employment.

**Past Choices/Present Landscapes: The Impact of Urban Renewal on the Twin Cities.** Judith A. Martin and Antony Goddard. 1989. 214 pp. \$10.00. Urban renewal was designed to clean up and rebuild our deteriorating American cities. In the 1950s clearance and new construction were emphasized. In the 1960s attention turned to rehabilitation. Now the program is mostly forgotten, but it has left an indelible mark on the land-

scapes of the cities. Martin and Goddard trace the history of urban renewal in Minneapolis and St. Paul, looking at both downtown and neighborhood projects. They document the social and political processes that guided local renewal decisions, demonstrating that urban renewal in the Twin Cities was substantially different than elsewhere.

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

**Who's Organizing the Twin Cities?** Frederick W. Smith and Jack Whitehurst. 1990. CURA 90-9. 26 pp. Neighborhood organizations face a tide of rising expectations that have, in many cases, transformed the position of "neighborhood organizer" from a part-time volunteer job to an ever more demanding full-time paid job. This monograph reports on a survey conducted in September 1989 of neighborhood organizers in the Twin Cities. It provides a portrait of who is out there organizing, gives initial data on how to increase training opportunities and job satisfaction for current organizers, and examines ways to attract and prepare new people for this work.

**"Youth in the Iron Mining Districts of Minnesota and Sweden: Their Attitudes, Perceptions, and Aspirations."** J. Clark Laundergan, Kerstin Hägg, Maria Bolander, and Sheldon Johnson. October 1990. *CURA Reporter* 20(4): 11-15. Two identical surveys of youth from northern Minnesota and youth from northern Sweden measure attitudes, perceptions, and aspirations of young people who are all from depressed, iron ore communities. The survey responses of the two groups are analyzed and compared. The report was done through the Center for Community and Regional Research at the University of Minnesota—Duluth, a CURA-funded center.

## ECONOMIC DEVELOPMENT AND EMPLOYMENT

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**"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 Fundación Social. For the full study see *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.

**City Venture Corporation: An Experiment in Urban Development Through Public/Private Partnership.** See Planning and Public Affairs.

**Community Reinvestment in the City of St. Paul: Are Residents and Businesses Receiving the Financial Services They Need?** William J. Craig, Miriam Goldfein, Lucy Mathews



Heegaard, and Frederick W. Smith. 1990. CURA 90-3. 132 pp. A study of financial institutions in St. Paul looked at whether residents and businesses are receiving the financial services they need. St. Paul neighborhoods, low income people, and minority populations were compared in relation to how available loan money is for buying or improving homes. Data on lending patterns were analyzed. Interviews about financial services were conducted in four districts: Frogtown, the West Side, Hamline-Midway, and St. Anthony Park. A summary of this study appeared in the July 1990 *CURA Reporter*.

**“Developing Markets for Minnesota’s Recycled Materials.”** See Environment and Energy.

**“Discrimination in St. Paul’s Financial Services.”** Frederick W. Smith and William J. Craig. July 1990. *CURA Reporter* 20(3): 1-6. Community reinvestment in St. Paul was studied to determine if residents and businesses are receiving the financial services they need. The study looked at St. Paul neighborhoods, low income and minority segments of the population, and specific types of financial institutions and their lending patterns. For the full study see *Community Reinvestment...* in this section.

**“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. A summary of the study appeared in the June 1988 *CURA Reporter*.

**“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 T. Kurdle and Cynthia M. 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.

**Fundamental Principles and Model for Social Intervention of Colombia’s Fundación Social.** Fundación Social. 1985. Translated from the 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.

**“Life Insurance Companies and Farm Foreclosures.”** See Land Use.

**“Looking Back at City Venture Corporation.”** See Planning and Public Affairs.

**“Looking Toward the Mall of America after 1992.”** John R. Borchert. February 1990. *CURA Reporter* 20(1): 1-3. If the Mall of America is built as planned, what will be the economic impact on other retail centers in the Twin Cities (including downtown St. Paul and Minneapolis), greater Minnesota, and several surrounding states? Borchert calculates the likely outcomes based on the mall’s gigantic size and its probable market penetration.

**“NETS for the Unemployed in Minneapolis.”** Margo Doten and Judith Weir. December 1988. *CURA Reporter* 18(5): 6-9. The Minneapolis Neighborhood Employment Network (NET) started in 1982 and deals with employment issues at the neighborhood level. This is a report on a CURA survey of NET’s clients to better understand the type of people who use the NET job banks. The survey was done by graduate students through a CURA-Humphrey Institute of Public Affairs group internship.

**“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 economy. Policy implications for the state are spelled out.

**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 contributions 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. A summary of this study appeared in the April 1988 *CURA Reporter*.

**“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.

## EDUCATION

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

**“Retail Sales Trends in Minnesota.”** Dave Senf and Thomas L. Anding. December 1988. **CURA Reporter** 18(5): 1-4. A report on retail sales trends in Minnesota from 1979 through 1989 is presented. It shows a significant drop in retail spending in medium- and small-sized communities outside the Twin Cities metro area. An increase is shown in the metro area and in some regional trade centers in greater Minnesota. Maps and tables are included.

**“Shopping Downtown.”** William J. Craig. April 1989. **CURA Reporter** 19(2): 1-5. The Minnesota Center for Survey Research, in its 1988 Twin Cities Area Survey, did a survey of residents to explore who the people are who shop downtown in either city, why they shop downtown, why some people avoid downtown, and what people think the cities can do to increase downtown shopping. The article was based on a survey of 1,006 adults living in the seven-county Twin Cities metropolitan area.

**“Small Towns Can’t Stop Growing.”** See Planning and Public Affairs.

**Trade Centers of the Upper Midwest: Changes from 1960 to 1989.** Thomas L. Anding, John S. Adams, William Casey, Sandra de Montille, and Miriam Goldfein. 1990. CURA 90-12. 59 pp. Significant changes have occurred in the economy of the Upper Midwest in the last thirty years. This study presents a new profile of trade centers in Minnesota, Iowa, Wisconsin, the Dakotas, Nebraska, and Montana. Data about the trade centers in 1960 and 1989 are compared. A large number of tables, figures, and maps present the story of changes in the number of business establishments and the kind of businesses operating in the whole range of trade centers, from hamlets to metropolitan areas. The report examines wholesale trade, retail trade, agricultural services, construction, manufacturers, transportation and communications, banks, and services.

**“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. 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 marketplace, who their clients were, and how the business climate was.

**“Who Owns Downtown?”** Judith A. Martin. February 1989. **CURA Reporter** 19(1): 1-5. Downtown Minneapolis is examined through a critical look at the various actors involved there, from the actual land owners to businesspeople, shoppers, public officials, developers, people who work downtown, and residents of downtown. Each group has different perceptions of downtown and these ideas and conflicts are explored in the report.

**“Youth in the Iron Mining Districts of Minnesota and Sweden: Their Attitudes, Perceptions, and Aspirations.”** See Community and Neighborhood Studies.

**“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.

**Courses in Survey Research, University of Minnesota 1990-1991.** See Planning and Public Affairs.

**Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1990-91.** See Environment and Energy.

**Courses on Aging, University of Minnesota 1990-91.** See Human Services.

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

**“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 postsecondary education tuition has been replaced with a targeted subsidy for low income students. The full study about this policy change is *Targeted Subsidization ...* also listed in this section.

**“Involving Parents in Head Start.”** Robert K. Leik and Mary Anne Chalkley. October 1989. **CURA Reporter** 19(3): 11-14. The Head Start Program, which began in the 1960s, has become a successful national attempt to overcome some of the educational disadvantages faced by children of poverty. Head start program goals have always included involving parents in the program. This CURA-funded study was planned specifically to test whether particular kinds of parent-child interaction in the context of Head Start have any favorable impact.

**“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 (*Minnesota K-12 Education: The Current Debate, the Present Condition*) is presented here. The full report is now out-of-print.

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

**Minor in Gerontology. Graduate Studies at the University of Minnesota.** See CURA Newsletters, Programs, and Publications.

**“A Note on University Research and Service to the Community.”** See CURA Newsletters, Programs, and Publications.

**“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. Mazzoni. 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 votech credit. This report traces the political maneuverings by public officials and lobbyists in getting this act through the legislative process.

**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. A *CURA Reporter* article in June 1986 summarizes this study.

**"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.

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

**University of Minnesota Class of '39 Symposium: How Can We Help Our University? What's the Problem?** University of Minnesota Class of '39. 1989. CURA 89-2. 45 pp. To commemorate their golden anniversary, the Class of '39 organized a series of four public meetings to discuss and analyze the problems currently facing the University of Minnesota. The speeches given at the first symposium, in November 1988, are presented here along with a preface by Arthur E. Naftalin, a member of the Class of '39. The papers are: John R. Borchert on "The Changing Context of the University," Philip M. Raup on "A Profile of the University of Minnesota—What It Is and What It Is Not," John E. Turner on "Viewing the University of Minnesota from the Classroom," James R. Nobles on "Managing a Mega-University: How the University Operates," Josie R. Johnson on "The Uni-

versity and Its Changing Clientele: How Are Women, Minorities, and Non-Traditional Students Being Received?" and Elmer L. Anderson on "The University and Its Politics: Whom Does the University Serve?"

**White Hmong Dialogues.** See Minorities.

**White Hmong Dialogues Cassette Tape.** See Minorities.

**White Hmong Language Lessons.** See Minorities.

**White Hmong Language Lessons Cassette Tapes.** See Minorities.

## ENVIRONMENT AND ENERGY

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**"Assessing the Health Risks of Incinerating Garbage."** Jeffrey B. Stevens. October 1989. *CURA Reporter* 19(3): 6-10. At the time of this report, thirteen municipal solid waste incinerators were in operation or had permits in the state of Minnesota. This study assesses the risks to the public and the environment from burning garbage.

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

**Building a Strategy for Marketing Minnesota's Secondary Materials. Executive Summary: A Blueprint for Action.** CURA. 1990. CURA 90-6. 8 pp. The results of the December 1989 workshop on developing markets for secondary (recycled) materials are summarized here. Three major impediments to the use of secondary materials are identified. Five major actions to overcome these impediments are listed. Strategies for marketing paper, plastics, glass, and metals are outlined.

**Building a Strategy for Marketing Minnesota's Secondary Materials. Volume I: Market Status Report.** Thomas R. Peek. 1990. CURA 90-4. 57 pp. Over the past twenty years our nation has almost doubled the amount of solid waste it generates. Recycling part of the waste is increasingly a part of government strategy for coping with the growing volume of garbage. Finding markets for secondary materials such as paper, plastics, glass, and metals has become a major concern. This volume, prepared for a two-day workshop in December 1989, presents background on Minnesota's secondary materials, their markets, what is preventing the full use of these materials, and how such obstacles might be overcome. State actions to encourage markets for these secondary materials are reviewed. While the report focuses on Minnesota, much of it is relevant to the Midwest as a whole. A *CURA Reporter* article in July 1990 summarizes this study.

**Building a Strategy for Marketing Minnesota's Secondary Materials. Volume II: A Blueprint for Action.** Thomas R. Peek. 1990. CURA 90-5. 66 pp. A two-day workshop on developing markets for secondary (recycled) materials was held in December 1989. Thirty-five people came from industry, government, and the academic and nonprofit communities. Some were key decision-makers in industry and state government.

The assessments they made about factors inhibiting markets for recycled paper, plastics, glass, and metals are presented here along with the strategies they developed to build up these markets. The results are summarized in a *CURA Reporter* article in July 1990.

**“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, 1990-91.** Margaret R. Wolfe. 1990. CURA 90-11. 52 pp. Courses relating to environmental studies at the University of Minnesota are listed by subject area and by field of instruction. Course descriptions are included. This publication is supplemental to official University bulletins. An additional section describes special centers 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.

**Decommissioning Commercial Nuclear Power Plants.** Jane Anderson, Dave Aquilina, and David Rodbourne. 1980. CURA 80-6. 109 pp. Different methods of decommissioning, the estimated costs, financing issues, and radiation problems are all presented. This study was designed to serve as a background work for the public discussion of policy issues involved when we must dispose of nuclear power plants as they shut down after a normal life-span of thirty years.

**Deepening Dilemmas on the Duschee.** Thomas L. Anding, Thomas R. Peek, Evan Fulton, and John Gilkeson. 1990. 30 minute videotape. 1/2" VHS. Color. This sequel to the 1987 video, *Dilemma on the Duschee*, returns to the Duschee Creek Watershed to find out how policymakers and farmers are working through the maze of issues affecting the agricultural landscape as groundwater protection shifts from the laboratory into the social and political arena. Policy questions on agricultural chemicals and groundwater pollution are examined through interviews with local farmers and officials as well as representatives of state and federal government.

**“Developing Markets for Minnesota's Recycled Materials.”** Thomas R. Peek. July 1990. *CURA Reporter* 20(3): 7-8. With the proliferation of community recycling programs in the 1980s, the volume of materials collected has grown dramatically to the point where there have been, at times, oversupplies and actual gluts of some recycled materials. The report dis-

cusses strategies for marketing recycled materials, barriers to the marketplace, and how they can be overcome. This article summarizes the publications *Building a Strategy for Marketing Minnesota's Secondary Materials, Volumes I and II* listed earlier in this section.

**Dilemma on the Duschee.** Thomas L. Anding, Thomas R. Peek, Evan Fulton, John Gilkeson, and Kevin Kajer. 1987. 33 minute videotape. 1/2" VHS. Color. This video documents the problems of groundwater contamination in the Duschee Creek Watershed in southeastern Minnesota. Local farmers are interviewed about present-day agricultural practices and the problems associated with the use of agricultural chemicals and with stopping the use of chemicals.

**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 in the Twin Cities.** Howard W. Mielke and John L. Adams. 1989. CURA 89-4. 22 pp. Lead is an extremely toxic substance that has been used in large quantities in our technological society. Lead dust has accumulated in the soils of urban areas. The Urban Lead Mapping Project collected soil samples from parks, playgrounds, housesides, streetsides, and midyards in the Twin Cities. The resulting maps, showing the distribution of lead dust in this urban area, are the first of their kind. They show that lead content is highest in houseside soils, particularly in inner-city neighborhoods. Parks and playgrounds in the Twin Cities are quite safe in terms of lead risk. This monograph presents the maps and summary statistics from the Urban Lead Mapping Project along with a brief explanation of the dangers of exposure to lead.

**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. 420 pp. \$15.00. One of the most significant environmental challenges facing society today is how to respond to a predicted global warming stemming from the greenhouse effect. This book contains papers from a conference held several years ago to consider the policy implications of the greenhouse effect. Both political and technical responses are discussed, including changes in government energy policies that might slow the greenhouse effect and alterations in land-use and in industrial policies that might compensate for the effects of the predicted global warming.

**“Groundwater in Southeastern Minnesota's Karst Country.”** Betty J. Wheeler, E. Calvin Alexander, Jr., and Russell S. Adams, Jr. April 1990. *CURA Reporter* 20(2): 10-14. Groundwater in karst country frequently moves quickly through horizontal fractures in rock that is soft and has dissolved over time. Consequently, an agricultural chemical or spill of a toxic sub-



stance can move quickly into the groundwater in such areas and contaminate springs and wells. This study examines the level of nitrates and pesticides in the Duschee Creek watershed, near Lanesboro, over a three year period.

**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 that 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 as to 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. Minnesota 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.

**"Hydropower: Potential Energy for Minnesota?"** Robert J. Geisen. December 1989. **CURA Reporter** 19(4): 5-8. Minnesota's potential hydropower is explored through calculations based on river height and flow and an assessment of existing and potential dams in the state. The analysis indicates that if fully exploited, hydropower could double the amount of electricity being generated from state waters today. This would yield 20 percent of the total annual demand for electricity.

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

**Peatland Energy Options: System Analysis.** Roger Aiken and Douglas S. Wilson. 1982. CURA 82-2. 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 Bjelland. 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.

**"Protecting Minnesota's Ground Water."** John Gilkeson. April 1989. **CURA Reporter** 19(2): 11-14. CURA developed and conducted a groundwater quality survey after legislation on

protecting groundwater was developed by the Water Quality Advisory Task Force of the Minnesota Environmental Quality Board. The survey found that Minnesotans believe there is a pollution problem and that there is a high level of support for a variety of protection and program funding measures. The survey also found that the use of pesticides and fertilizers is seen as the number one threat to groundwater by residents of greater Minnesota.

**"Radon in Living Areas of Minnesota Houses."** John Gilkeson. December 1988. **CURA Reporter** 18(5): 10-12. During the past several years it has been recognized that radon gas which seeps into houses may pose a significant health risk. CURA surveyed fifty Twin Cities' houses to determine how radon levels varied in their living areas. In general, it was found that radon levels in living areas were considerably lower than in basements.

**"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.

**"A Resounding 'Yes' for Recycling."** John Gilkeson. April 1989. **CURA Reporter** 19(2): 10-11. A CURA survey of Minnesota residents on a variety of environmental topics found support for mandatory recycling was virtually unanimous across all demographic groups. The survey also asked respondents about their preferred methods of waste disposal.

**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.

## HOUSING

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

**Housing Needs and Markets in Rochester and Olmsted County. Summary of a Report to the Rochester/Olmsted Community Housing Partnership, Inc.** Barbara Lukermann, Edward G. Goetz, Patricia Beech, Steven Capistrant, Denise Rogers, Barbara Sporlein. 1990. CURA 90-2. 11 pp. A study of housing in Olmsted County found that families in lower and very low income categories as well as special populations are having problems obtaining suitable housing in this wealthy part of the state. A *CURA Reporter* article in April 1990 also summarized the study.

**"Operating Low-Income Housing: The Cost of Cooperative vs. Rental Units."** Claudia Parliament, Stephen B. Parliament, and Anita Tegmi. February 1990. **CURA Reporter** 20(1): 10-13.

minorities, women, and others) get what, from whom.

**Who's Organizing the Twin Cities?** See Community and Neighborhood Studies.

**"Women Who Leave Violent Relationships."** Maryann Syers. April 1990. **CURA Reporter** 20 (2): 6-10. More than 45,000 Minnesota women are battered by their spouses or boyfriends each year. Formerly battered women were asked what problems they faced and what helped them in their adjustment after they left their violent partner.

## LAND USE

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**"Assessing the Health Risks of Incinerating Garbage."** See Environment and Energy.

**Deepening Dilemmas on the Duschee.** See Environment and Energy.

**Dilemma on the Duschee.** See Environment and Energy.

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

**"Groundwater in Southeastern Minnesota's Karst Country."** See Environment and Energy.

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

**"A Growing Role for County Government in Water Management and Water Quality."** See Environment and Energy.

**"Life Insurance Companies and Farm Foreclosures."** Dave Senf. February 1989. **CURA Reporter** 19(1): 5-7. As a result of low farm income, falling land values, high interest rates, and heavy debt, the farm crisis of the mid-1980s accelerated foreclosures on farm mortgages. This report tracks farm foreclosures to determine whether big land holders are concentrating farm ownership or whether insurance companies are selling off the land to individual farmers as the farm crisis eases.

**Life Insurance Company Ownership of United States Agricultural Land in 1988.** Thora Cartlidge and Barbara Naramore. 1989. CURA 89-9. 39 pp. Financial stress on farms in the United States became severe in 1982 and the number of farm foreclosures by life insurance companies increased dramatically. This report for 1988 updates farm foreclosure and acquisition activities previously described for calendar years 1986 and 1987.

**"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.

**"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.

**"Protecting Minnesota's Ground Water."** See Environment and Energy.

**"Regional Planning for Broadcast Towers."** See Planning and Public Affairs.

**"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.

**State of Minnesota Land Use, Development Region 2 (1969).** MLMIS. 1971. Color map 18 x 24 inches.

**A Study of Land Sales by Government and Insurance Lenders in Seven Southeastern Minnesota Counties.** Barbara Naramore and Thora Cartlidge. 1989. CURA 89-8. 53 pp. The impact of farm foreclosures on land tenure patterns and land use was examined in Fillmore, Goodhue, Houston, Mower, Olmsted, Wabasha, and Winona counties. The study, for years 1983 through mid-1989, showed that sales of foreclosed land by government and insurance company lenders are increasing. The typical buyer intends to retain ownership and to continue using the land for crop production. Land sold by insurance lenders brought higher prices than land sold by government lenders. Insurance lenders also tended to sell larger parcels and to hold land longer than government lenders.

**Twin Cities Metropolitan Area Land Use, 1974.** Brown, Dwight et al. 1975. MLMIS #5013. Color map 23 x 29 inches.

**"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.

## MINORITIES

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**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 refer-

ence 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.

**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.

**Bibliography: Nursing Research and Practice with Refugees.** Marjorie A. Muecke. 1990. Southeast Asia Refugee Studies Project. Occasional Papers, Number Ten. CURA 90-13. 36 pp. \$3.00. Nurses work directly with refugees both in refugee camps and in their places of resettlement, often providing first contact with the U.S. health care system. This bibliography of articles in English by nurses who have worked with refugees seeks to provide better access to a widely dispersed literature, much of it in masters theses or conference proceedings. Refugee groups from around the world are covered and only articles that are not in the mainstream of scientific citation, and therefore difficult to find, are included.

**"Discrimination in St. Paul's Financial Services."** See Economic Development and Employment.

**"Establishing the World: Hmong Shamans."** Dwight Conquergood. April 1989. *CURA Reporter* 19(2): 5-10. Hmong society is rooted in a strong spiritual core and the shaman plays a vital role as healer. He or she is able to travel between the physical world and the spiritual world seeking out the life souls that must be brought into unison to allow the body to be healthy. According to Hmong belief the body is a repository of many life souls. This excerpt from the ethnographic commentary to *I Am A Shaman* helps to explain much that has puzzled westerners about Hmong culture and medicine.

**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.

**I Am a Shaman: A Hmong Life Story with Ethnographic Commentary.** Dwight Conquergood and Paja Thao. 1989. Southeast Asian Refugee Studies Project. Occasional Papers, Number Eight. CURA 89-3. 86 pp. The life story of a Hmong shaman, Paja Thao, living in Chicago in 1984, is presented here in the form of an epic poem, translated into English. Conquergood provides an accompanying ethnographic commentary on the role of the shaman in Hmong society, concluding with the life story of a Hmong woman shaman, Zoua Yang. Excerpts from the commentary are presented in the April 1989 *CURA Reporter*.

**"Involving Parents in Head Start."** See Education.

**The Life of Shong Lue Yang: Hmong "Mother of Writing" (Keeb Kwm Soob Lwj Yaj: Hmoob "Niam Ntawv").** Chia Koua Vang, Gnia Yee Yang, and William A. Smalley. 1990. Southeast Asian Refugee Studies Project. Occasional Papers, Number Nine. CURA 90-1. 192 pp. \$7.50. The life story of Shong Lue Yang and the Vietnam War as seen from the under side is told here by two of Shong Lue's followers now living in the United States. Shong Lue was a messianic figure who emerged among the Hmong people of Vietnam and Laos in 1959. He was assassinated and his movement violently crushed in 1971. The text is in three languages—Pahawh Hmong (Shong Lue's writing system), White Hmong, and English—presented simultaneously so that they may be compared.

**"Putting Affordable Housing on the Front Burner in Rochester and Olmstead County."** See Housing.

**Southeast Asian Refugee Studies Newsletter.** See CURA Newsletters, Programs, and Publications.

**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.

**"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 that train Southeast Asian women for employment are presented. This article highlights parts of the full study *Training Southeast Asian Women ...* listed below.

**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. 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.

**White Hmong Dialogues.** David Strecker and Lopao Vang. 1986. Southeast Asian Refugee Studies Project. Occasional Papers, Number Three. CURA 86-5. 22 pp. \$3.00. 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 Cassette 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.

**White Hmong Language Lessons Cassette Tapes.** Judy Fuller and Vang Vang. 1983. Southeast Asian Refugee Studies Project. Three cassette tapes. \$10.00. 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

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**"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.

**"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.

**City Venture Corporation: An Experiment in Urban Development Through Public/Private Partnership.** Thomas L. Anding, Mark Bouman, Edward Duren, Jr., Barbara Lukermann, Warner Shippee, Rebecca Smith, and Beverly Stadum. 1990. CURA 90-7. 170 pp. This is a comprehensive study of a private corporation's efforts to solve the problems of decaying inner cities and make a profit at the same time. The study examines City Venture's profit orientation, its holistic approach, its composition and style, and its effectiveness in seven cities. A summary version appeared in the October 1990 *CURA Reporter*.

**Courses in Survey Research, University of Minnesota 1990-1991.** Minnesota Center for Survey Research. 1990. 20 pp. Many departments at the University of Minnesota make use of various methods of survey research. Those where at least 25 percent of the primary focus is on survey research are listed here. Listings are alphabetical by department and include course descriptions, teachers, quarters when the class will be offered, prerequisites, and the percent of the class devoted to survey research. Only classes on the Twin Cities campuses of the University are covered.

**"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.

**Deepening Dilemmas on the Duschee.** See Environment and Energy.

**Dilemma on the Duschee.** See Environment and Energy.

**Down to the Bone: Community-Based Facilities in a Time of Retrenchment.** See Human Services.

**"Down to the Bone: Community-Based Facilities in a Time of Retrenchment."** See Human Services.

**"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.

**"Government Support for Child Care."** See Human Services.

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

**"Groundwater in Southeastern Minnesota's Karst Country."** See Environment and Energy.

**"A Growing Role for County Government in Water Management and Water Quality."** See Environment and Energy.

**"Hydropower: Potential Energy for Minnesota?"** See Environment and Energy.

**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.

**"Looking Back at City Venture Corporation."** Thomas L. Anding, Mark Bouman, Edward Duren, Jr., Barbara Lukermann, Warner Shippee, Rebecca Smith, and Beverly Stadum. October 1990. **CURA Reporter** 20(4): 1-9. A private corporation's efforts to solve the problems of decaying inner cities while making a profit are reviewed. This article presents a summary version of *City Venture Corporation* ... listed earlier in this section.

**"Looking Toward the Mall of America after 1992."** See Economic Development and Employment.

**Minnesota Population Change 1960-1970.** CURA. June 1973. CURA/SPA Wall Map Series #2. Color map 28 x 23 inches.

**Minnesota Population Change 1970-1980.** CURA. 1982. CURA 82-7. Two-sided colored map 18 x 24 inches.

**Minnesota Population Distribution, 1970.** CURA. February 1973. CURA/SPA Wall Map Series #1. Color map 28 x 23 inches.

**"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.

**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.

**"Operating Low-Income Housing: The Cost of Cooperative vs. Rental Units."** See Housing.

**Past Choices/Present Landscapes: The Impact of Urban Renewal on the Twin Cities.** See Community and Neighborhood Studies.

**"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.

**"Protecting Minnesota's Ground Water."** See Environment and Energy.

**"Putting Affordable Housing on the Front Burner in Rochester and Olmstead County."** See Housing.

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

**"Regional Planning for Broadcast Towers."** Eric Anderson. December 1989. **CURA Reporter** 19(4): 9-12. A form of land use that produces no odors, no water pollution, and no smoke and puts virtually no demand on municipal services is broadcast towers. The problems of air rights and regional planning for broadcast towers are explained. Towers have been around since the early days of radio in the 1920s and their numbers are still growing.

**"Reserving Farmland for Grasses and Trees: RIM Reserve Program."** See Land Use.

**"A Resounding 'Yes' for Recycling."** See Environment and Energy.

**"Shopping Downtown."** See Economic Development and Employment.

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

**"Small Towns Can't Stop Growing."** John Fraser Hart and Tanya Bendiksen. October 1989. **CURA Reporter** 19(3): 1-5. A population study of Minnesota towns from 1970 to 1980 shows that few small towns are losing population. Once a town has reached the size of 350 people it seems to keep on growing. While the retail and service sections of small towns may be declining, manufacturing is expanding.

**"Snowbirds Head South."** See Human Services.

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

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

**To Promote the General Welfare.** Clarke A. Chambers and Esther Wattenberg. 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 distinguished 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. A summary of the series appeared in the December 1988 *CURA Reporter*.

**"To Promote the General Welfare."** Clarke A. Chambers. December 1988. *CURA Reporter* 18(5): 5. Public welfare policy over the last two hundred years is examined. This summarizes *To Promote the General Welfare* listed above.

**Trade Centers of the Upper Midwest: Changes from 1960 to 1989.** See Economic Development and Employment.

**"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.

**"The Unmet Need: Minnesota's Family Law Survey."** See Human Services.

**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. 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.

**"Who Owns Downtown?"** See Economic Development and Employment.

## CURA NEWSLETTERS, PROGRAMS, AND PUBLICATIONS

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**Aging: News.** All-University Council on Aging. May 1976-present. 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.

**"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.

**Conflict and Change Process.** Conflict and Change Center. March 1988-present. Research and practice on new ways to resolve disputes are featured in this bimonthly newsletter reporting on work done through the Center for Conflict and Change.

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

**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.** Center for Urban and Regional Affairs. June 1970-present. Research reports, articles about current CURA projects, and announcements of new CURA publications are published five times a year in the *CURA Reporter*.

**CURA Update '89.** Center for Urban and Regional Affairs. 1989. 24 pp. Capsule descriptions of CURA projects over a two-year period are presented as a way to review CURA's work in progress.

**Minor in Gerontology. Graduate Studies at the University of Minnesota.** All-University Council on Aging. 1988. 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.

**"A Note on University Research and Service to the Community."** Thomas M. Scott. 1989. In *CURA Update '89*: 1-3. 1989. The role of urban universities and research universities is discussed in light of the MSPAN report that recommended development of an urban university in the Twin Cities. Particular emphasis is placed on the role of research, kinds of research, applications of research, and its relevance to the community. CURA's role in carrying research into the community is given as an example of how one research university is able to be of service to its community.

**Southeast Asian Refugee Studies Newsletter.** Southeast Asian Refugee Studies Project. September 1980-present. Information about research and publications that relate to the Indochinese refugees, and particularly the Hmong people of Laos, is reported in this 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 of reviewing CURA's work in progress.

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- Making the Arts Accessible: A Survey of Minnesota Community Arts Organizations.** Plagge. Free.
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- Who's Organizing the Twin Cities?** Smith and Whitehurst. Free.

## ECONOMIC DEVELOPMENT AND EMPLOYMENT

- Community Reinvestment in the City of St. Paul: Are Residents and Businesses Receiving the Financial Services They Need?** Craig et al. Free.
- The Educational Needs of Dislocated Workers in Minnesota.** Park, Storlie, and Dawis. Free.
- Fundamental Principles and Model for Social Intervention of Colombia's Fundación Social.** Fundación Social. Free.
- 1987 Minnesota New Firms Study: An Exploration of New Firms and Their Economic Contributions.** Reynolds and Miller. Free.
- Trade Centers of the Upper Midwest: Changes from 1960 to 1989.** Anding et al. Free.

## EDUCATION

- Targeted Subsidization of Postsecondary Education Enrollment in Minnesota: A Policy Evaluation.** Hearn, Sano, and Urahn. Free.
- University of Minnesota Class of '39 Symposium: How Can We Help Our University? What's the Problem?** University of Minnesota Class of '39. Free.

## ENVIRONMENT AND ENERGY

- Available Wetlands for Bioenergy Purposes - Land Use and Drainage Constraints.** Map. Free.
- Building a Strategy for Marketing Minnesota's Secondary Materials. Executive Summary: A Blueprint for Action.** Free.
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- Courses on the Environment. A Student Guide to University of Minnesota Courses on Environmental Issues on the Twin Cities Campus, 1990-91.** Free.
- Decommissioning Commercial Nuclear Power Plants.** Anderson, Aquilina, and Rodbourne. Free.
- Deepening Dilemmas on the Duschee.** Video. Free.
- Dilemma on the Duschee.** Video. Free.
- Energy From Peatlands: Options and Impacts.** CURA Peat Policy Project. Free.
- Environmental Lead Risk in the Twin Cities.** Mielke and Adams. Free.
- The Greenhouse Effect: Policy Implications of a Global Warming.** Abrahamson and Ciborowski. \$15.00.

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

## HOUSING

- Housing Needs and Markets in Rochester and Olmsted County. Summary of a Report to the Rochester/Olmsted Community Housing Partnership, Inc.** Lukermann et al. Free.
- Recycling the Central City: The Development of a New Town-in Town.** Martin. Free.
- Sooner or Later... The Disappearance of Federally Subsidized Low Income Rental Housing in Minnesota.** Larsen. Free.
- Twin Cities Conversions of the Real Estate Kind.** Lukermann et al. Free.
- Twin Cities Conversions. The Case Studies: How the Finances Work.** Pinkerton. Free.
- Twin Cities Conversions. The Complete Inventory: 1970-1980.** Pinkerton. Free.

## HUMAN SERVICES

- Courses on Aging, University of Minnesota 1990-91.** Free.
- Down to the Bone: Community-Based Facilities in a Time of Retrenchment.** Wattenberg. Free.
- Prospective Determination of Noninvasive Clinical Correlates of Dehydration in Hospitalized Elderly.** Lindquist and Gross. Free.
- Research on Aging, University of Minnesota 1986-1990.** Free.

## LAND USE

- Life Insurance Company Ownership of United States Agricultural Land in 1988.** Cartlidge and Naramore. Free.
- State of Minnesota Land Use, Development Region 2 (1969).** Map. Free.
- A Study of Land Sales by Government and Insurance Lenders in Seven Southeastern Minnesota Counties.** Naramore and Cartlidge. Free.
- Twin Cities Metropolitan Area Land Use, 1974.** Map. Free.

## MINORITIES

- An Annotated Bibliography of Cambodia and Cambodian Refugees.** Marston. \$4.50.

- Bibliography of Social Science Research and Writings on American Indians.** Thornton and Grasmick. Free.
- A Bibliography of the Hmong (Miao) 2nd Edition.** Olney. \$3.00.
- Bibliography: Nursing Research and Practice with Refugees.** Muecke. \$3.00.
- The Hmong: An Annotated Bibliography, 1983-1987.** Smith. \$4.00.
- I Am a Shaman: A Hmong Life Story with Ethnographic Commentary.** Conquergood and Thao. \$4.00.
- The Life of Shong Lue Yang: Hmong "Mother of Writing" (Keeb Kwam Soob Lw) Yaj: Hmoob "Niam Ntawv").** Vang, Yang, and Smalley. \$7.50.
- 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. Free.
- White Hmong Dialogues.** Strecker and Vang. \$3.00.
- White Hmong Dialogues Cassette Tape.** \$4.00.
- White Hmong Language Lessons.** Whitelock. \$6.50.
- White Hmong Language Lessons Cassette Tapes.** \$10.00.

PLANNING AND PUBLIC AFFAIRS

- City Venture Corporation: An Experiment in Urban Development Through Public/Private Partnership.** Anding et al. Free.
- Courses in Survey Research, University of Minnesota 1990-1991.** Minnesota Center for Survey Research. Free.
- The Experience of Smaller Nonprofits Raising Money from Minnesota's Largest Foundations.** Smith and Aburto. Free.
- Fiscal Constraints on Minnesota - Impacts and Policies: Budget Cuts and Environmental Programs.** Walters. Free.
- Fiscal Constraints on Minnesota - Impacts and Policies: Economic Conditions and Changing Government Policies.** Peek and Wilson. Free.
- Fiscal Constraints on Minnesota - Impacts and Policies: Local Perspectives on Minnesota's Intergovernmental System.** Peek and Wilson. Free.
- Fiscal Constraints on Minnesota - Impacts and Policies: Proposals for Fiscal Reform.** Peek and Wilson. Free.
- Institutionalizing Organized Citizen Participation: Challenges and Opportunities.** Hult. Free.

- Minnesota Population Change 1960-70.** Map. Free.
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- Minnesota Population Distribution, 1970.** Map. Free.
- To Promote the General Welfare.** Chambers and Wattenberg. Free.
- What is the Population of St. Cloud?** Hart. Free.

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- Conflict Change: Theory and Practice.** Brochure. Free.
- CURA: Center for Urban and Regional Affairs, University of Minnesota.** Brochure. Free.
- CURA Update '89.** Free.
- Minor in Gerontology. Graduate Studies at the University of Minnesota.** Brochure. Free.
- "A Note on University Research and Service to the Community." CURA Update '89.** Scott. Free.
- University of Minnesota — Minnesota Center for Survey Research.** Brochure. Free.
- "Update: CURA Programs 1985-87."** Free.

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- **Median age**...age can indicate the potential for mobility. For example, people in certain age brackets are expected to more easily travel across counties to find work if there is access.

Additional features could have been considered. While this filtering process does not guarantee that all the effects of outside factors have been eliminated, it reduces the potential influence of the factors we considered most likely to distort our analysis.

Classifying the eighty-seven counties into groups based on their characteristics is an essential element of the filtering process. In addition, the classification makes analysis of the results more meaningful as it allows us to focus on each group of counties separately. Since possible relationships between highway expenditures and economic development are likely to differ across groups, we developed and evaluated these relationships separately for each group.

The classification process led us to identify four county groups (Figure 1):

- **Regional center counties** are characterized by low median age and high values in the other five features used for the classification. There are nine counties in this cluster: the Twin Cities metropolitan area and Olmsted County, where the city of Rochester is located.
- **Urban-influenced counties** have median values in all six features. There are twenty-eight counties in the cluster.
- **Agricultural counties** show high median age and low values in all other features. There are thirty-seven counties in the cluster.
- **Natural resource counties** are distinct because of low values in all features except age (median age is at a middle point). The cluster has thirteen counties.

Dominating the regional center counties is the Minneapolis-St. Paul metropolitan area. It has been described as the finance, insurance, service, and market center for the Upper Midwest. However, with 10 percent of the nation's computer manufacturing in Minnesota, the Twin Cities' reputation in technologically-oriented services stems primarily from its involvement with computers. Also contributing to this technological reputation are the companies that have corporate headquarters in the area. The Twin Cities tie with San Francisco-Oakland for seventh place in housing the nation's 500 largest industrial firms. One factor contributing to the Twin Cities' impressive development as a service economy may be its central location within the airline network. Benefiting from this, consumer services have also grown, especially tourism and health services. In Olmsted County, the Mayo Clinic and IBM have created a high concentration of health and computer manufacturing services. The county has substantial interaction with the rest of the world via air.

Urban-influenced counties are characterized by concentrations of light manufacturing. They form a corridor of robust economic activity in the southeast corner of the state. The western part of the state is dominated by the agricultural counties, while the north-northeast (where the economy depends heavily upon timber, mining and tourism), contains all the "natural resource counties." Although the lumber and wood products industry is evenly dispersed throughout the state, the majority of lumber is harvested in the northeast and paper producers have tended to locate there. Tourism is also most heavily concentrated in northern Minnesota.

The specific economic sectors of Minnesota's economy are compared with the United States as a whole in Figure 2. Contrary to some beliefs, the Minnesota economy is not more service-oriented than the United States as a whole, and manufacturing is not really behind the general trend in the United States. However, Minnesota seems to be a financial and insurance center, probably because the administrative headquarters of several financial firms are in the Twin Cities. In addition, Minnesota still exceeds the United States economy in agriculture and forestry. Overall, the Minnesota economy seems to be very close to the United States economy. Within specific sectors, however, there may be very substantial differences, as with computer manufacturing, already mentioned, where employment remains ten to twenty times

above the United States as a whole.

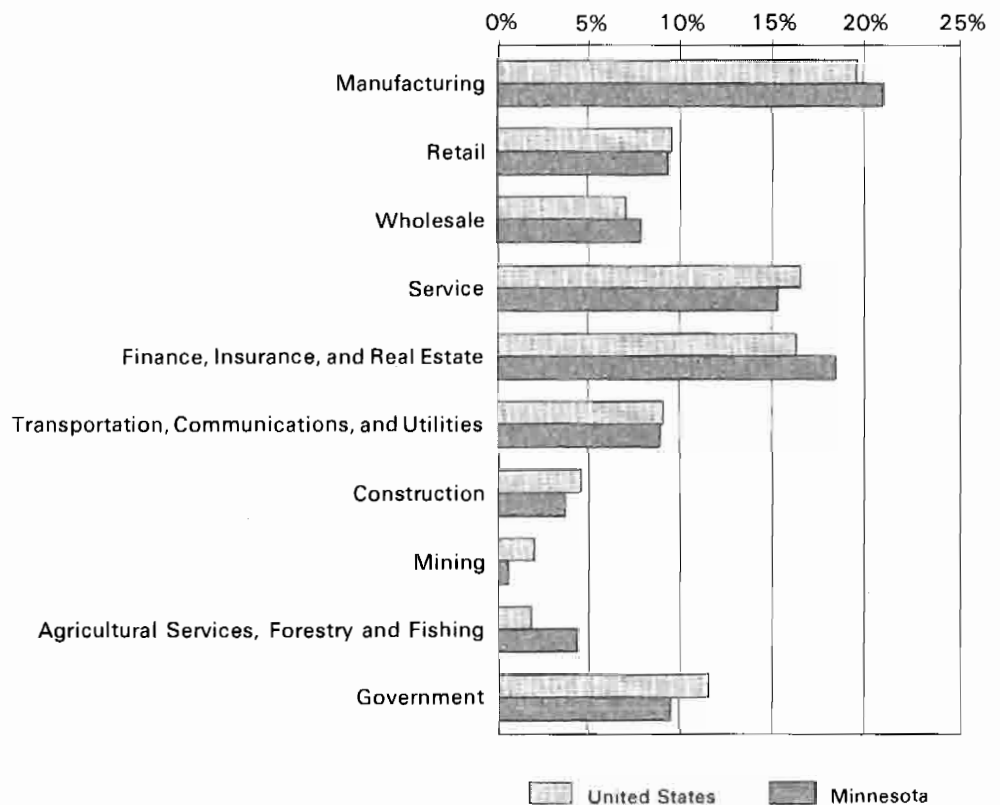
After the filtering process was completed through this system of grouping Minnesota counties, we proceeded with a time-series analysis of the data. This analysis was enhanced from time to time with causality tests, used as an aid in determining the impact of one variable on another. Though the analysis is not perfect, it may have erred on the side of being too conservative.

### How Highway Funds Influence Economic Development

Our analysis resulted in a number of conclusions about the way highway funds interact with the local economy. The effect was different among the county groups. It should be noted at the outset that highway construction jobs were not included in the analysis since they disappear after construction.

The data demonstrate that in regional center counties and urban-influenced counties, money spent on improving highways causes an increase in total employment above the normal trend. These counties include the economic centers of the state and, therefore, are most likely to have the economic activity necessary for absorbing highway improvements. A few of the new jobs are created in the second year after the improvement, but most are created between the fifth and the tenth year. We found that urban-influenced counties

Figure 2. Minnesota's Economy Compared with the National Economy, 1986





—such as St. Louis (Duluth), Clay (Moorhead), Stearns (St. Cloud), and Blue Earth (Mankato)—are as likely to benefit from highway investment as are the regional center counties.

Improved highways generate income and employment in the natural resource counties as well. In particular, they generate growth in the service and retail sectors.\* While these effects are in general agreement with past studies, the growth in service indicators is long-term and this was not entirely expected. Such growth indicates that the service sector in these counties is eager to provide more jobs and that its expansion can be hampered by the lack of good quality roads. To be sure, the density of the highway system is low in the natural resource counties so that improvements on highways in these counties are much more conspicuous than in some other areas of the state.

We found that retail activity is affected by highways in every group of counties. While highway construction can impede business in the urban-influenced and regional center counties, it stimulates business in agricultural and natural resource counties. There retail activity represents a large part of the local economy—up to 31 percent of total employment as compared with a maximum of 25 percent in the more urbanized counties. Figure 3 illustrates the impact of a one-time, above the trend, increase in highway funding on retail employment in the natural resource counties. As the figure suggests, following an increase in highway expenditures by 10 percent in the first year, retail employment also increases, by 2.5 percent. While most of the employment increase occurs in the first six years, the effect lasts approximately ten years.

### How Economic Development Influences Highway Funding

Our analysis shows that highway investments are made throughout the state whenever total employment increases. This is especially true in agricultural and natural resource counties and indicates the

eagerness of state government to aid any increasing economic activity in Minnesota. An increase of jobs above the trend by a given percentage attracts additional state investments of almost double that percentage. Thus a 10 percent increase in jobs will attract an 18 percent investment over ten years, or, to put it another way, an extra 100 jobs will attract an extra \$28,500 in highway investment. Our detailed accounting of this effect leads us to conclude that approximately one of every sixty new jobs in Minnesota is created by the Minnesota Department of Transportation.

In general, government reacts to economic improvements and does not seek to play an active role by stimulating a contracting economy. Natural resource counties and farm-related activities in certain agricultural counties, represent the major exception. In these counties, government plays an active role which tends to stimulate the local economy through highway expenditures when income drops. While the pol-

icy does not always succeed in the agricultural counties, it seems to be effective in the natural resource counties.

### Some Conclusions

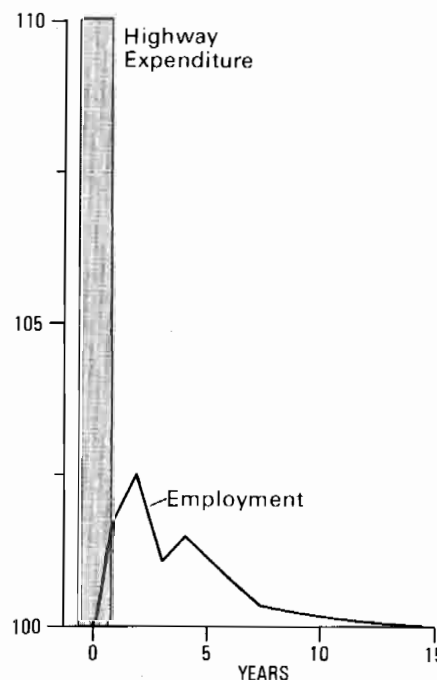
The effectiveness of the active government role in the natural resource counties indicates that state policy makers appreciate the needs of the timber and tourist industries in the north-northeast part of the state, and their potential benefit from road improvements. At the same time, the local industry knows how to take advantage of the improvements. This regional relationship appears to carry the ingredients of a success story.

The finding that improved highways tend to help the economy of urban areas but may hurt certain of their adjacent counties should not be surprising. In particular, counties adjacent to urban areas tend to depend on these areas for the infrastructure necessary for development; better highways may allow rural residents to conduct more of their economic activities in nearby centers. Further, a comparison of the percentage of people working (66 percent) and living (47 percent) in the regional center counties strongly suggests that highways are helping the residents of the adjacent counties to get to work as well as providing jobs for them.

The distributional nature of the effects of better highways is evident when analyzing the different parts of the state. In particular, while certain counties are likely to gain from improved roads, others are likely to lose, so that the statewide effect is not significant. This finding agrees with conclusions from a geographic study which reported that where the highway network is good and most services are widely available, any effects of highway improvements on services are likely to be more dramatic in competition among service locations than on the overall disposition of the consumer who purchases goods.\*

The negligible economic effect of highway funding on a statewide basis indicates

**Figure 3. Impact of a One-Time Highway Expenditure on Retail Employment in Natural Resource Counties (in percents)**



\* Service employment is up to 33 percent of total employment in these counties, higher than a maximum of 26 percent in the other county groups.

\* Eric S. Sheppard, *Transportation and Economic Development, Appendix 1, Final Report to Minnesota Department of Transportation*. Department of Civil and Mineral Engineering, University of Minnesota, May 1987.

that, as long as Minnesota is viewed in isolation from its adjacent states, the potential for statewide economic gains cannot be a valid argument on which to base decisions for increased highway funding in Minnesota. However, our findings suggest that highway investment can be used for shaping regional development policy within the state. Similarly, it can be argued that, if Minnesota is viewed in competition with its neighboring states in the Upper Midwest, transportation improvements in the state could result in state economic gains.

**Yorgos Stephanedes is a professor of civil engineering at the University of Minnesota. His major research interest is in the application of advanced technologies (such as automation, robotics, image processing, automatic control, guidance and navigation, communications, and driver information systems) to transportation and the effect of these applications on economic competitiveness. He is currently chairing an international conference on advanced technologies that will be held in Minneapolis next summer.**

The research presented here followed a major study prepared for the Minnesota Department of Transportation (Mn/DOT) by Stephanedes and a number of other University of Minnesota researchers, including David Eagle, a Ph.D. student in the Department of Economics and graduate research assistant in the Department of Civil and Mineral Engineering, and Eric Sheppard, a professor in the Department of Geography. The results of that study have been published in nine volumes under the general title *Transportation and Economic Development*. Copies may be obtained by writing Mn/DOT. This study is an extension of the Mn/DOT study and provides a closer look at Minnesota, county by county.

This study was supported by an interactive research grant from CURA and the Office of the Vice President for Academic Affairs, University of Minnesota. Interactive research grants have been created to encourage University faculty to carry out research projects that involve significant issues of public policy for the state and that include interaction with community groups, agencies, or organizations in Minnesota. These grants are available to regular faculty members at the University of Minnesota and are awarded annually on a competitive basis.

Photos on pages 5 and 8 by Robert Friedman.

## More Snowbirds, More Money

by William J. Craig



Last December we reported our estimate of 73,000 seniors leaving Minnesota each winter for extended stays in warmer states.\* While out of state, we estimated they spent \$110 million dollars. This article provides an update and is based on new survey information and an extensive newspaper series in Arizona, the favorite destination for Minnesotans. Based on the new information, we estimate the number of snowbirds has increased to 83,000 and the dollars spent to \$150 million.

*Snowbirds* is a term used in southern states to describe the flocks of seasonal migrants that arrive each winter and leave each spring. The first known use of the term is traced to a 1967 *New York Times* article. This seems to be about the time that people began making these winter escapes in large numbers.

Our earlier research showed that about 9 percent of Minnesota's senior households leave the state for a period of at least five weeks during the winter. We estimated that this represents 73,000 people. Arizona accounted for one-third of the trips; California, Florida, and Texas followed and combined for another half of the destinations. Although people begin to leave in November, January is the biggest departure month. Among seniors we found snowbirds more likely to be: younger, married, well educated, middle income, healthy, and living in outstate Minnesota.

### New Survey Data

The Wilder Research Center has collected new data as part of their Senior Study. Data for our first analysis came from a 1988 Wilder survey that interviewed 1,500 households, sampled by region in proportion to their numbers across the state. Since then Wilder has supplemented this survey with two others, one of more outstate households and one of minority households.

The outstate survey was conducted in the summer of 1989. Its purpose was to expand the number of households interviewed in each development region of Minnesota to 200, a sufficient number to complete a "needs assessment" for each of the thirteen regional area agencies on aging (see map). Data from those 1,536 new surveys allow us to look at recent trends, regional differences, and more detailed analysis.

The most significant finding from the new outstate survey is growth in the number of snowbirds. In 1989, 11.2 percent of the outstate elderly were snowbirds, compared to 9.8 percent in 1988. In this calculation data were weighted back to regional-level proportions. This 1.4 percentage point rise is a relatively large shift for a single year amounting to a 14 percent gain. This change might be due to sampling error, but we doubt it. We know that snowbird activity is increasing, and this is our best estimate of the rate of change, at least for this one period. If this same increase was made by all Minnesotans, the number of seniors leav-

\*William J. Craig, "Snowbirds Head South," *CURA Reporter*, XIX(4), December 1989.

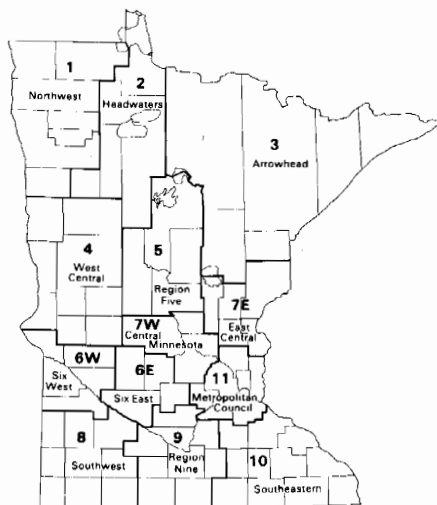
ing the state has grown from 73,000 to 83,000 and the rate of snowbird participation from 9.2 to 10.5 percent.

Differences by region were not major (Table 1). These figures combine interviews from the 1989 outstate survey with the original 1988 Wilder survey. On average, 10 percent of the state's senior population were snowbirds. As before, the metropolitan area is quite low with only 8 percent of those who are sixty or older behaving as snowbirds. Metro seniors seem more likely to take several short trips rather than go for an extended stay. Only Region 6E, the area around Willmar, had a smaller percentage of seniors traveling—6 percent. Every other region sent seniors in proportions near or above the state average. Region 8, in the extreme southwest corner of the state, sent the most seniors—15 percent. For interviews with 200 people the sampling error is  $\pm 4.2$  percentage points, so the differences among most regions are not statistically significant; they might be due to a sampling error.\*

Numerous people suggested to the author that farmers are likely candidates for winter travel. Those without animals to care for could travel in the winter even before retirement years. Data from the combined surveys show that farmers generally are not snowbirds. Only 5.1 percent of farmers were snowbirds, roughly half the rate for seniors as a whole. Snowbirds were much more likely to have worked in white collar professional, managerial, or sales jobs.

Another hypothesis is that snowbirds are city-dwellers who have retired to their lake place, but who leave each winter to escape the isolation. The data partially support this idea, although no question dealt directly with this issue. A question about length of residence shows that snowbirds have a slight tendency to be more recent arrivals at their current home. Also, the tendency of snowbirds to live in open country is stronger in the lake counties of the state. Neither of these differences, however, is supported by more than a few percentage points in the data.

The minority survey made a special effort to contact American Indians, blacks, Hispanics, and Southeast Asians in early 1989. There had been too few of these groups in the original survey to justify any statistical analysis. One hundred households were surveyed from each minority group. The results showed virtually no seasonal migration by any of these groups. The lower income levels of minority seniors probably account for the difference.



**Table 1. Snowbird Population in Minnesota (based on an average of 1988 and 1989 data)**

Region	Number of households interviewed	Percent of seniors who are snowbirds
1	200	10
2	200	13
3	200	10
4	200	13
5	200	12
6E	200	6
6W	200	9
7E	200	9
7W	200	9
8	200	15
9	200	11
10	200	12
11	636	8
Total	3,036	10

### Arizona Newspaper Series

Arizona's economy is boosted by \$500 million every year by snowbirds, and as much as \$20 million is paid in taxes. Small wonder that the state is interested in the snowbird issue. *The Arizona Republican* ran a special series this past winter, "Snowbirds: Arizona's Winter Gold Mine."\*\* The series was so popular that it was reprinted. This series provides interesting insight into the impact on a receiving community and a few of the findings are included below.

A later article in *The Arizona Republican* reported research directly relevant to Minnesota.\*\* It showed that the number of snowbirds in the 1989-90 season had increased 6 percent over the previous sea-

son, corroborating our finding that more people are escaping winter each year.

More important, the article reported an estimate of an average monthly expenditure of \$1,200 per household. This is 20 percent higher than the figure we used in our earlier research. When this higher expenditure rate is used in conjunction with an increase in the number of snowbirds, our estimate of money spent annually by Minnesota snowbirds increases from \$110 million to \$150 million. Even this figure is only 0.2 percent of Minnesota's gross state product.

Arizonans reckon that the popularity of their state began with wide distribution of the magazine *Arizona Highways*. People were intrigued, came to look, and stayed—at least for the relatively cool winter months. Like so many other migration streams, the stories told by the first arrivals brought their friends and relatives.

Over 20 percent of Arizona's snowbirds come from Canada, but Canadians stay for a relatively short time because of eligibility rules for Canadian health care plans. Minnesota, Iowa, and Washington each account for 10-20 percent of the state's snowbirds. United States citizens tend to stay in Arizona for about five months, at least for recreational vehicle park visitors.

Minnesota's snowbirds average only eleven weeks out of the state, and a median of eight weeks. It has been suggested that Minnesotans would have been out of the state longer if they did not feel restricted by state tax laws. To claim a full-year's homestead credit on their property taxes Minnesotans must sign a form saying they lived in their house on January 2. A \$68,000 home that is the primary residence of the owner might have, for example, a tax bill of \$680 if it receives the homestead classification, or a tax bill of \$2,040 if it does not. What has not been widely known is that Minnesotans who will be out of town on January 2nd can make arrangements to homestead their property with the local tax assessor before they leave home. Absent owners must intend to return and maintain the Minnesota property as their primary residence. As this becomes more widely known, Minnesotans may spend more time out of state in the winter.

The impact of snowbirds on the Phoenix area is enormous, partly because it is seasonal. For example, Apache Junction, a community near Phoenix, grows from its 18,000 summer population to 45,000 in winter. Restaurants, hospitals, highways, and the sewer system need to be built to serve the winter bulge. The prospect of reducing this seasonal swing is bleak. Seventy-four percent of the Phoenix area snowbirds say they are unwilling to make Phoenix their permanent home.

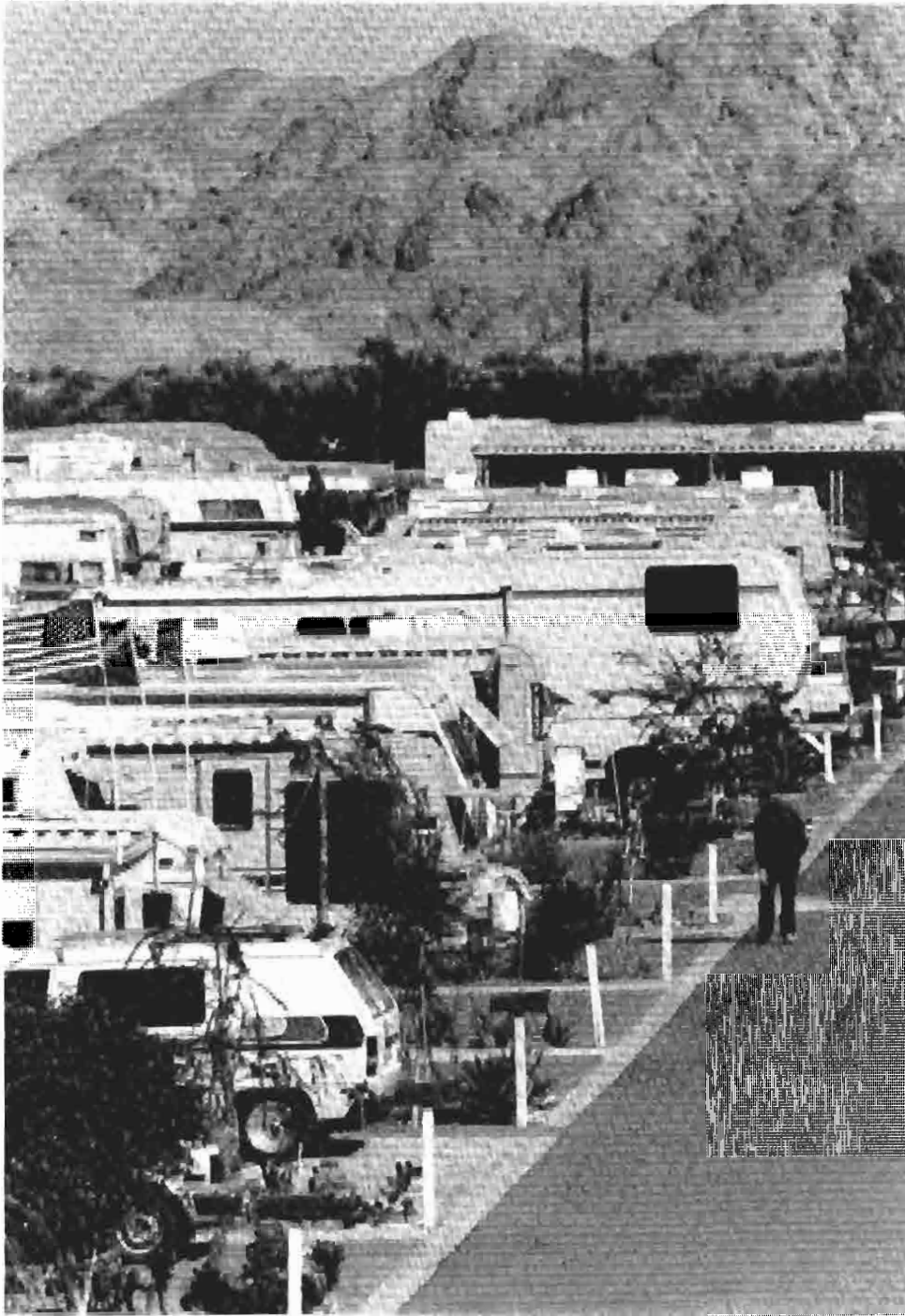
On the positive side, snowbirds build church attendance and provide untold numbers of volunteer hours to social service agencies. Some businesses survive only because of snowbirds. It is estimated that 9

\* For the metropolitan area (Region 11), where the sample was considerably larger, the sampling error is  $\pm 2.3$  percentage points and for the overall sample of 3,036 households the sampling error is  $\pm 1.1$  percentage points. These sampling errors are based on a 90/10 response distribution. The sampling error for the original 1988 survey is  $\pm 1.5$  percentage points.

\*\* February 25-28, 1990. Word of these articles came to us through Helen Peterson of Fairmont, Minnesota who spends four months in Scottsdale each winter.

\*\* Kathleen Ingley, "Winter Visitors to Valley a Record," *The Arizona Republican*, April 27, 1990, p. F1 ff.





ries I heard from callers are worth recounting. Al, from St. Louis Park, leaves a second car at his mobile home in Mesa. He has six St. Louis Park neighbors with homes in the same park in Mesa. The whole neighborhood just moves south for five months each winter.

John, from Blaine, doesn't settle anywhere, but uses his van to visit his children during the winter months. Keith, from New Hope, is home for Christmas, but on the road at other times to visit a brother in one part of the country and a son elsewhere. Both are married and travel with their wives. This family visiting is an important part of the snowbird phenomena, one not likely to diminish.

Margie, from Edina, was originally from Texas and now uses her winter months to revisit her home state. There are many reasons for people to be familiar with other parts of the country and to live there part of the year.

For Minnesota snowbirds, the ability to spend the cold winter months in places where they can be outside and active is wonderful. Minnesota loses something with their departure, however. We lose the money that would have been spent here, but more important we lose the vitality they give to their local communities. We know they are energetic participants and volunteers. With their departure, many local programs collapse until spring when they return.

Two suggestions were made in the earlier article on how to minimize the negative impact of snowbird flights; they are worth repeating here. First, the state could push for *sunbird* migration that would attract more summer visitors, counteracting the dollars lost in winter. Second, increasing the number of indoor winter activities for seniors might reduce the attractiveness of distant destinations. For the period under study, we seem to be losing the battle. One can only speculate on how higher oil prices and a weaker economy will affect this winter's annual migration.

percent of retail sales in metropolitan Phoenix are to snowbirds during the November through March period.

Obviously the snowbirds themselves benefit or they wouldn't be there. They are physically and socially active in Arizona. From swimming and dancing to games and visiting, snowbirds are active in their winter roost. An eighty-year-old Canadian finishing a brisk walk in 70-degree weather said, "Isn't it grand? I would be locked indoors if I were back home."

### Conclusions and Reflections


Seasonal migration is an important and growing part of the lives of our seniors. Especially for a cold-winter state like Minnesota, we can look to increasing numbers of seniors departing each winter for places where they can be active in their retirement years. And over time, they seem to be increasing their expenditures.

Shortly after the previous study was released I was interviewed on Jim Roger's talk show on WCCO radio. Some of the sto-

**Will Craig is assistant director of CURA and director of the University's Minnesota Center for Survey Research.**

**Photos on pages 9 and 11 by Tom Story ©The Arizona Republic, February 25-28, 1990. Used with permission.**

# Trade Centers of the Upper Midwest: Changes from 1960 to 1989



by: Thomas L. Anding, John S. Adams, William Casey, Sandra de Montille, and Miriam Goldfein

**JUST RELEASED:** A new CURA report that profiles the economic system of the Upper Midwest.

Significant changes have occurred in the economy of the region in the last thirty years. This new study presents a picture of trade centers in Minnesota, Iowa, Wisconsin, the Dakotas, Nebraska, and Montana. Data about the trade centers in 1960 and 1989 are compared. A large number of tables, figures, and maps present the story of changes in the number of business establishments and the kind of businesses operating in the whole range of trade centers, from hamlets to metropolitan areas. The report examines wholesale and retail trade, agricultural services, construction, manufacturers, transportation and communications, banks, and services. It shows how the region's trade centers are responding to long term trends. The report is intended to help clarify for regional policy makers how national and international economic trends have affected the trade centers of the Upper Midwest during a thirty-year period.

Copies may be ordered on the CURA Publications Order Form in this *CURA Reporter* or by phoning 612/625-1551.



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