

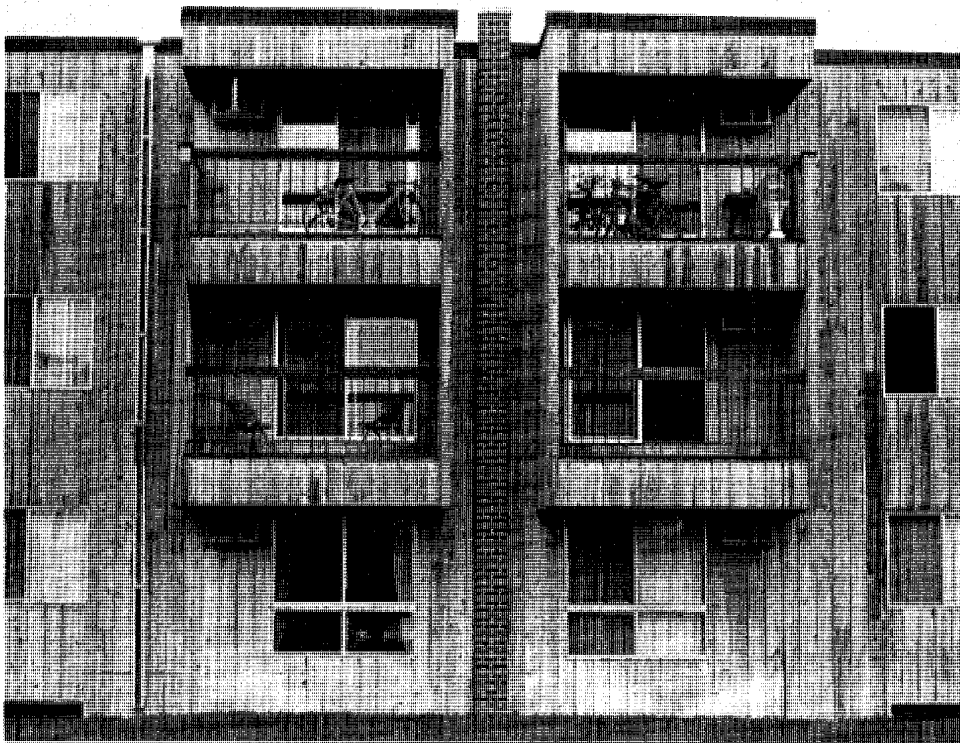
CURA

reporter

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Twin City Conversions of the Real Estate Kind

by Barbara Lukermann



The ads are enticing:

"Average appreciation at resale—35%.
Average yearly appreciation—18%
SURE BEATS THE MONEY MARKET!"

"Quick! Condos at \$27,900, limited grand opening offer..."

"Sheer pleasure for \$46,900!...one bedroom, 5% down..."

Then there is the other side of the coin. Tenant displacement in a tightening rental market; loss of rental stock for moderate income households; speculation in apartment conversion that raises building prices beyond their level as rental property; and a growing constituency seeing these negative factors as far outweighing the strong market demand for this entrée into the benefits of home ownership.

An overview study of conversions in the Twin Cities market between 1970 and 1980 was supported by CURA and begun in a year of intense activity, 1979, when 31 percent of the decade's total conversions took place. The objective was to document how demand and supply forces were operating to fuel this type of real estate activity, and in the process, to analyze the legitimate public policy issues and arguments for further public intervention in the marketplace. A series of surveys was conducted with developers, buyers, and those forced to move by conversion, supplemented with case studies of typical conversion projects. An innovative housing ownership program of the City of Minneapolis (HOP IV) that uses revenue bonds to reduce interest rates and includes condominiums as eligible purchases for low and moderate income buyers was also evaluated as a possible precedent for expanding ownership at affordable prices.

How Much Activity Has There Been?

While less than 3 percent of the multifamily stock had been converted into cooperatives (coops) and condominiums (condos) by the end of 1979 (7,636 units in total), this was still enough to make the Twin Cities the fifth most highly impacted metro area ac-

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Barbara Lukermann is a planning consultant in the Twin Cities and teaches part-time as an adjunct faculty member in the planning program at the Humphrey Institute of Public Affairs. She holds a bachelor's degree in geography from Cambridge University, England, and a masters degree in geography from the University of Minnesota. She has served as a member of the Board of Governors of the national American Institute of Planners and as the first chairperson of its successor organization, the American Institute of Certified Planners. Her consulting practice is in land use planning with an emphasis on economic feasibility analysis, particularly in the local housing market. An interest in condominium housing stems from the mid-1960s when she completed feasibility studies for the first luxury condominium project in the Twin Cities—Point of France. Lukermann has been a citizen member of the Minnesota Environmental Quality Board since 1976 and has also served as the chairperson of the Metropolitan Waste Control Commission during the late 1970s. A continuing research interest is the public-private marketplace interaction and the land development process.

This report presents an overview of a study CURA will be publishing this summer. The two year project was directed by Barbara Lukermann, who also served as the main author for the final publication. Milo Pinkerton, a graduate student in architecture, worked as project assistant. Graduate students in Humphrey Institute's Planning Program did most of the survey work and contributed to the analysis as well. Louise Brown, a graduate student in the Humphrey Institute of Public Affairs, wrote the section on cooperative housing conversions. Nancy Homans, also a graduate student in the Humphrey Institute, prepared the evaluation of Minneapolis' HOP IV program. The CURA study on displacement was conducted by Thomas Anding, associate director, and Rebecca Smith, graduate student in geography.

CURA will be publishing a general report (*Twin City Conversions of the Real Estate Kind*) that presents all aspects of the conversion study, as well as four additional reports that detail various aspects of the study, intended for those with a professional interest in housing conversions. To order copies of these reports, please use the CURA Publication Order Form on the last page of this *CURA Reporter*.

Page 1 photo: The most typical condominium conversions are in the suburbs.

According to a 1980 study by the U.S. Department of Housing and Urban Development (HUD) that looked at trends on a national scale. In sheer numbers, however, we drop back into tenth place and the 7,000+ is miniscule in comparison to Chicago's 79,000!

Although major concern is expressed about loss of moderately priced rental stock in the central cities, it is clear from Table 1 and the map that conversion has been primarily a suburban phenomenon, at least as far as condos are concerned. The reverse is true for coops. Three out of every four converted condos are located in the suburbs, mostly in moderately priced and relatively new apartment buildings. Communities undergoing heaviest activity (Edina, Burnsville, Roseville, Minnetonka, St. Louis Park) are the higher income suburbs. This matches a general HUD conclusion that conversions are most prevalent in areas where household incomes are \$25,000 (1979 dollars) and above. Edina in fact has seen 22 percent of its multifamily housing stock converted into condos, and just seven suburbs account for over 60 percent of all conversion activity.

One reason for heavy publicity in newspapers during 1979 and for the adoption of both a condo conversion ordinance in Minneapolis and the Uniform Condominium Act by the state legislature in 1980 was the accelerating pace of conversion activity (see Table 2) and a growing concern that it was indeed getting out of hand. Factors other than regulation, however, have been responsible for a marked slow-down in the past year.

A previous HUD study (1975) had concluded that coops were more than likely to fade in market appeal, faced with the superiority of the condo form of ownership and its easier access to financing. But in fact the reverse has been true. Coops have expanded their popularity in the central cities and several new forms have emerged. These include limited equity coops (441 units), cooperatives for the elderly (338

units, although these are new rather than conversions) and, most recently, *clustrominiums*. This latter term is a copywrited description used by one developer who has now converted four projects for a total of 421 units. His objective was to use the coop legal form of ownership in order to assume a low rate blanket mortgage on an apartment building but market it to buyers under a word he felt more appealing than the term *coop*. Use of limited partnerships to maintain responsibility for the mortgage until paid off by the homeowners association attracted keen investor interest with its tax shelter opportunities, and ready buyers for low rate mortgages were found. Continued expansion, however, will be dependent upon assumable mortgage opportunities.

Just as more creative financing has expanded the market for coop housing, a combination of different financial factors helped spur the conversion process during the 1970s and developers and buyers alike conclude that these are more critical than any other consideration in projecting how the market will fare in the future. Anticipation of appreciating value during inflationary times has made homeownership ever more attractive to a broad range of households so long as the interest rates/mortgage pool can keep monthly payments at affordable levels. For many, ownership of a single family home has gone beyond reach and the condo or coop provides the initial boost up into the real estate market.

Who is Buying?

The locations of condo and coop conversions show distinct differences and so do buyers of these two forms of housing. Over 70 percent of all condo buyers are single persons, and more than 40 percent represent households headed by a single female (see Table 3). Household size is therefore extremely low (1.4 persons) and only 5 percent have children at home. Average age is 37 years, but made up of a broad distribution of age groups, with more under

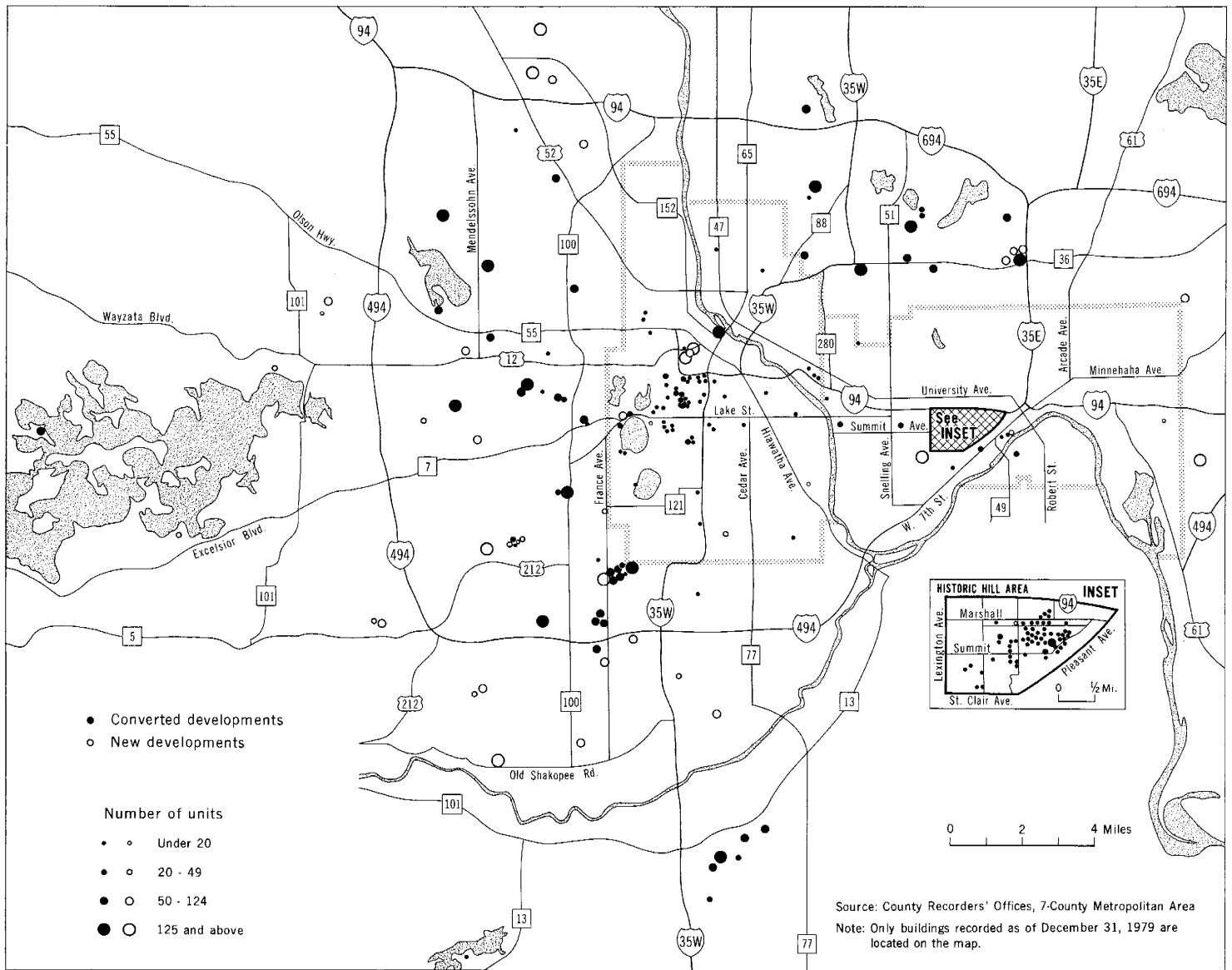
Table 1. DISTRIBUTION OF CONVERSIONS BETWEEN CENTRAL CITIES AND SUBURBAN COMMUNITIES (January 1980)

	Condominiums	Cooperatives	Total
Central Cities	1702 (26%)	778 (78%)	2480 (32%)
Minneapolis	1153	740	1893
Saint Paul	549	38	587
Suburban Areas	4941 (74%)	215 (22%)	5156 (68%)
TOTALS	6643 (100%)	993 (100%)	7636 (100%)

Table 2. HISTORICAL TRENDS IN THE PACE OF CONDO CONVERSION IN THE TWIN CITIES

	Central Cities	Suburban Areas	Total
1970-72	62 units	387 units	449 units (7%)
1973-76	641	1633	2274 (34%)
1977-79	999	2921	3920 (59%)

Note: 31% of all conversions occurred during 1979



CONDOMINIUM DEVELOPMENT IN THE TWIN CITIES, 1980

30 than over 60 years of age. Median household income in 1980 was \$17,900.

It is evident that the converted condo is appealing strongly to the younger, well educated single individual, as well as to the empty nester. About two-thirds of all buyers

moved into their condo from a previous home in the central cities and since three-fourths of the stock is located in the suburbs this has meant a further outflow from core city to suburb. Two-thirds have lived in their present residence for two years or less,

thus a relatively high level of satisfaction with the move ("the smartest thing I ever did") is based on a relatively brief time span. Whether the joy of anticipated appreciation is realized, only the future will tell.

In contrast, coop buyers are older and have lived in their unit for a much longer time. Almost three-fourths are over 60 years of age, and even more surprising is the fact that a third are between 70 and 80 and 10 percent are over 80. Single female heads of household outnumber single males by more than three to one. Median income is slightly less than that of the condo buyer (\$16,800) but coops are a far cry from being the *poor man's condo*. Over half the sample in the coop survey was retired. Thus, it was not surprising to find 25 percent who listed their income as less than \$10,000. Partly because of long term residence, over 60 percent of coop owners had monthly housing costs under \$250,

Table 3. COMPARISON OF BUYER AND MOVER HOUSEHOLD CHARACTERISTICS (1980)

	Condo Buyers*	Outmovers	Coop Owners
	N = 200	N = 207	N = 63
Households headed by a single person	71%	42%	72%
Female	42%	26%	56%
Male	29%	18%	16%
Persons per household	1.4 persons	1.7 persons	1.4 persons
Households with children	5%	17%	3%
Household head under 30 years	26%	29%	5%
Household head over 60 years	18%	21%	75%
Median Age	37 years	37 years	67 years
Median household income	\$17,900	\$20,000	\$16,800

*Converted condominiums only

whereas less than 20 percent of condo buyers were able to keep their housing costs at this low level.

Why Are They Buying?

The ads are right on. Affordable monthly housing costs (median of \$370, including association fees and real estate taxes) and bright prospects for selling at inflated prices head the list, particularly for the younger, first home buyer. Other than the mobile home, the converted condo or coop is the only affordable owner-occupied housing type available to them and their planned permanency is relatively low. Only 30 percent of the HOP IV buyers (average age 34, 89 percent single person households) believe they will still be living there after five years.

For the older buyer, reasons are more diverse. A move from a single family home (one out of five buyers fall into this category) more likely than not led to a condo or coop purchase in the same neighborhood; 37 percent said they moved within the same neighborhood. Reasons given included affordability; opportunities for appreciation; maintenance savings; liking the neighborhood; and also, very important in St. Paul, the attraction of the restored large homes in the Historic Hill District. St. Paul is unique in having highly concentrated conversion activity in a single neighborhood and in the conversions being part of an historic preservation, neighborhood revitalization process. This revitalization is not confined to condo conversion since a large number of former family homes have been restored back to single family occupancy. Buyers of condos tend to have the same higher income profiles as their new single family neighbors and appreciate the same ambience provided by the structure itself.

For the *old-time* coop buyer, roots go back to the end of World War II when housing was as scarce as hens' teeth, rent controls were still in effect, and landlords or tenant groups initiated the conversion to a coop as a survival measure. Interviews held by Louise Brown with some of these early pioneers in Twin City coops spoke of difficulties and true grit. "This place was a real dump when I bought in, but we've fixed it up real good now." Despite handicaps in getting financing and the fact that "people who bought didn't necessarily know how to run it," many of these post war coop conversions retain their initial tenants, a fine reputation, and a waiting list for friends to move in as a vacancy occurs. The clustrominium buyer's motives mirror those of the condo buyer; the limited equity coop buyer is seeking affordable housing with limited income resources and finds this form a haven in a sea of wild housing prices.

Is There a Profit In It?

If 15 or 16 percent net above costs to the



Riverview is the most conspicuous cooperative in the Twin Cities. It is called a "clustrominium" by its developer.

developer entices you, move on in. Three financial case studies analyzed by Milo Pinkerton showed one project that nearly broke even (it was in the Historic Hill district where the motivation was neighborhood revitalization rather than profit through conversion) and two other projects that netted about 16 percent profit. Hardly a rip-off in these days of high interest rates and high risks, but it was sufficient in the late 1970s to sustain developer interest if they felt secure in the market demand and their own ability to get in and out quickly. Low margins tied to a fast turnaround and a move on to the next project satisfied the developer.

Some developers got into the conversion business simply to learn how; others came in because their traditional role in building apartments dried up and they looked for alternatives. Still others were interested in historic preservation with total gutting and exterior restoration. And, lastly, some entrepreneurs quickly recognized opportunities for using the below market interest rate financing set up for home ownership in Minneapolis under the HOP IV program. Several, with no previous experience, proceeded to take on the roll of converter with relative success.

Discussions with the experienced

condo converter pointed to some *rules of thumb* (perhaps no longer viable in 1981): "...calculate total sell-out price of converted units, subtract estimated expenses to convert at 30 percent, subtract developer profit at 15 percent and leave 55 percent for purchase price of the apartment building." Under these conditions it was assumed that each unit would return a minimum developer profit of \$5,000 and cover all overhead costs. It was recognized that acquisition cost (speculation price?) of a rental building for conversion would still be greater than the building's value as a rental property. The *Klondike* mentality of gouging and outrageous speculation did not surface in the various surveys taken in the Twin Cities market, but all developers agreed that the selling price of buildings for conversion always exceeded their value as a rental property.

What about the profit to the final consumer, the buyer? It appears that the buyer sees himself or herself as sitting in the catbird seat if inflation and tax benefits of homeownership continue apace. The case studies demonstrated that each unit would need an annual appreciation of less than 3 percent per year in order for the former renter of the same apartment unit (now condo owner) to come out at a break-even position. Despite higher monthly cash outlays for the condo unit as compared to previous rent, the homeowner in Minnesota enjoys substantial benefits in lower assessment ratios and a homestead credit of 58 percent of the final tax, with \$650 as the ceiling. Since the homestead credit taxes are rebated by the state to the local unit of government, there is no starvation of the local property tax base, but rather a sharing of the tax base among all residents and property owners in the State of Minnesota. There is indeed a profit to be made from homeownership that has helped transform housing from basic shelter to a good investment.

Who Is Being Displaced?

Results of the buyer survey told us that 23 percent had previously lived in the same building and become tenant buyers. But profiling the tenant/buyer as to age, income, and household status was shaky evidence on which to describe those who moved out. CURA's decision to follow-up with an outmover survey of their own, sampling identical buildings from which interviews were obtained for buy-ins, clearly showed the wisdom of not drawing hasty conclusions about the similarity between the two groups. Outmovers (or those displaced) proved to be a group distinct from the buy-ins.

Outmovers were more likely to have two or more persons in the household (41 percent single heads v. 71 percent for the buyer group); more likely to have children (3 times the ratio of buy-ins); slightly higher income (\$20,000 v. \$17,900); and slightly

more were elderly (21 percent v. 18 percent). What is interesting is that a lack of resources to become a homeowner was not necessarily the reason for refusing to purchase the condo, since 29 percent have subsequently become homeowners within a year of moving. Some 54 percent of those with children became owners. Evidently the one or two-bedroom apartment did not meet their needs.

There is also a marked difference in how people perceived their move from a building about to be converted. Some 72 percent of all outmovers said their move was indeed precipitated by the conversion process, but only 54 percent reported this as an "involuntary move." It seems that those viewing their move as voluntary had greater mobility and a wider choice of housing. They were younger, more often single, and with an income higher than the average for the renter group. Their ability to pay the higher costs of homeownership after the move is another aspect of their mobility. Those seeing their move as "forced" upon them by conversion had generally lived longer at their previous residence and generally remained as renters. Their inclination to buy-in was severely limited by either age or income and they were less likely to be satisfied with the replacement home. Elderly households, forced to move by conversion, are seen as the most severely hurt group. They were predominantly retired, living on a lower income, had lived longer than any other group in the apartment building, and 90 percent remained renters following the move. More of the displaced elderly expressed dissatisfaction with their living arrangements following the forced move.

Protecting the Rental Stock

Relatively little hard data was collected on the actual extent to which conversion has eroded the supply of affordable rental housing for middle and lower income groups. The case studies covered units renting in the late 1970s for slightly less than \$300 a month. The 500 unit Towers Condominiums in downtown Minneapolis and most suburban conversions are obviously not low income rental properties. Perhaps the greatest losses of lower cost housing occurred as part of the neighborhood revitalization of St. Paul's Historic Hill District, followed by some buildings converted under HOP IV during 1979, and limited equity coops. But in many respects the loss of rental stock has been exaggerated since two-thirds of all buyers of converted units had been renters and thus demand for comparable rental units was offset by their decision to shift into ownership status. Effective loss of rental units was probably closer to 250 a year during the 1970s rather than 750.

The question of whether it is appropriate public policy to protect this rental stock is

not a simple one. It can be argued that conversion of lower income rental into limited equity coop housing is not a negative trend if it ends up by sustaining moderately priced housing in a different tenure form. Similarly, pumping new capital into old housing stock in St. Paul (much of it substandard and vacant properties) has achieved many other public goals, as well as private ones. In Minneapolis, under HOP IV, households earning under \$22,000 found the converted condo the only affordable ownership option and many were attracted into the central city in conformance with stated public policy goals under the comprehensive plan. The difficulty here was the obvious fact that condos do not provide a suitable housing resource for families, and families were the prime group sought as new city residents.

The heart of the debate, however, centers on two issues: gentrification (or displacement of lower income, blue collar households and replacement with higher income, white collar households) and maintaining affordable housing options for lower income groups. It is not solely the fact that the market is not attracting new investment into middle income rental units as replacement stock, but it is also a *takeover issue* and the effect of speculation in increasing the cost of housing for all—renters and buyers alike. Without doubt, the conversion option has increased the sale price of rental properties; developers agree. There has also been a perceptible shift in public outcry for not only protecting tenants rights, but for also protecting the rental stock and affordable housing. Rent control mechanisms, moratoria on conversion, or heavy taxes on conversion are all being discussed in the Twin Cities today.

In California, some cities have gone so far as to require a converter of this type of rental stock to either replace it on a one-to-one basis or put into the kitty an escrowed sum to permit the local unit of government to help increase the supply. What our local public sector response will be is not known. What is known is that it is impossible to construct new apartments at rental levels comparable with the existing supply—the cost of construction and the cost of financing have simply gone beyond that point, even making new section 8 subsidized housing under the Minnesota Housing Finance Agency interest subsidies infeasible. The HUD defined *fair market rent* levels simply cannot be matched with new units, even with the interest rate subsidy. All evidence points to even more rapid rent increases in the year ahead, with 1980 Consumer Price Index increases for rents paralleling increases in construction costs and general CPI trends for the first time in a decade. It is inevitable that the rent control forces will have to tangle with the restrictions on conversion. They are siamese twins.



The Historic Hill Area in St. Paul combines condominium conversions with rehabilitations.

Should We Subsidize Conversion?

There is the belief that some forms of conversion are more palatable than others, even to the extent of giving public subsidy to some efforts. Conversion of low and moderately priced rentals into low equity coops is a case in point. But what about any form of displacement occurring as part of that conversion? Should we subsidize relocation costs for those not choosing to buy a share? Who can afford to cover these relocation costs? Most likely not the converters themselves who may be tenant organized groups. More likely it will be a public subsidy.

One solution would be to provide public subsidies (in the form of interest rate subsidies, or land/building write downs) only where displacement will NOT occur—that is, for conversion of vacant or non-residential buildings into condos or coops. This is St. Paul's existing policy in rehabilitation

loans for rental buildings. If public subsidy of conversion and displacement is a factor then it would seem appropriate to require any developer receiving those subsidies to undertake the responsibility of covering costs of relocation or making other provision to eliminate the cost, such as lifetime tenancy for the elderly or handicapped. These types of guidelines or policies were not followed in the HOP IV experience.

It could be argued, however, that this is begging the question since national and state policies are in fact subsidizing homeownership in general. What is different about converted homeownership is that displacement or gentrification may occur as part of the process. It is futile to blame the marketplace for the ills that beset us. Of course there is a demand for the product of the converter. Demographics of the United States in the 1980s will continue to keep demand high if mortgage funds are available. Ways can be found to contain the

speculator-induced increases to housing costs through a variety of tools ranging from taxes on conversion to tenant protection clauses or outright moratoria. The most successful tool would be a rein on inflation itself and the expectation of massive annual appreciation.

How Much More?

HUD has predicted an increasing pace nationally, with four new conversions for every one now in existence to take place during the 1980s. While 7,600 conversions in a decade having 60,000 new multi-family housing starts has had significant impact on the number of tenants displaced and the number of rental units lost, a quadrupling of the tenure change in an era of no or few multifamily housing starts could be devastating.

Until quite recently, the matrix of incentives to the landlord of a rental building, to

the converter, and to the final buyer has overwhelmingly been in favor of the predicted speed up. With rent levels sagging behind the Consumer Price Index, buildings worth more for conversion, and opportunities to reinvest in more profitable ventures, a landlord has had multiple reasons for a sell out. A strong buyer market, with single family homeownership beyond the reach of the young and the middle income groups, has created the incentive for developers to move in, convert quickly with minimum improvements, and get a reasonable rate of return on risk capital. Several things have happened, however, in the past eighteen months to make one take a second look.

First and foremost, lack of mortgage loan funds and interest rates of over 14 percent (as compared with an 8 percent subsidized rate under the 1979 HOP IV situation) are making monthly payments even for the smaller condos and market rate coops beyond the reach of a small segment of this market. Higher costs of financing for the developer for the bridge loans and risk of a longer sell-out time while finding buyers with their own permanent financing are making conversions a higher risk venture. The 15 percent profit margin is too thin to allow for vastly extended marketing periods. The low-equity coop is the only growth component of the conversion industry at this point in time. Calls for rent controls and the threat of this being put into place in Minneapolis may indeed be increasing the interest of apartment owners to move into conversion, but it seems inevitable that if rent control does indeed receive endorsement by the central cities it must do so with some form of protection against massive conversion as a way out. From our perspective in 1981 it does not seem likely that the predicted quadrupling of conversions will become a reality. It is a potential, however, and it is therefore highly necessary for public policies to be put in place to guide the marketplace in conformity with desired ends.

GRADUATE INTERNS AVAILABLE.

Trained, experienced graduate students in sociology are available for applied research internships. Eight graduate students (some advanced, all having completed the doctoral program methods/statistics sequence) are seeking paid positions that involve the collection and/or analysis of

social science data (in any form) for policy or practical purposes. A wide variety of experience, knowledge, and skills are represented among these students. Contact Professor Paul Reynolds, Department of Sociology, University of Minnesota (612/373-3268) for more information.

Household Energy Savings

by William Rudelius, Richard Weijo, and Gary Dodge

William Rudelius is a professor and Richard Weijo is a doctoral student in the School of Management, University of Minnesota. Gary Dodge is director of the Saint Paul Energy Office. Rudelius and Weijo recently completed a report titled *Energy Conservation for Homeowners: An Action Program for the City of Saint Paul* that was based on the Saint Paul Energy Mobilization Survey, part of which Dodge planned and coordinated. Funds for the Rudelius-Weijo study were provided by the Saint Paul Energy Office, the School of Management, and CURA. A few copies of the study are available from the School of Management, 225 Business Administration, 271 19th Avenue South, University of Minnesota, Minneapolis, 55455 (612/373-4482).

"Save energy: help reduce America's dependence on foreign oil!"

This is the type of appeal all of us see or hear every day in newspapers and on television to help inspire us to save energy—at home, in our cars, at work. There is only one problem with such appeals to patriotism and social responsibility: they don't work.

So what does work?

Individuals and households will take permanent, continuing actions to save energy for one main reason: it's in their own best short-run and long-run interest to do so. But for households to take energy-saving actions around the home, they need more precise information on the costs and savings of such actions. It is possible for our communities to devise creative programs that promote energy conservation (efficient energy use) among households.

The Saint Paul Energy Mobilization Survey

On February 13-15, 1980, Saint Paul mobilized for energy. Thousands of city workers and volunteers conducted the Saint Paul Energy Mobilization Survey to collect information from some 34,000 city households and businesses on their energy-conserving activities.

The study described here dealt only with the homeowners responding to the Saint Paul survey. These respondents were presented with eighteen common energy-conserving actions. We list them here arranged according to the frequency with which the action needs to be taken by a homeowner.

Continuous actions

- Regularly turn off unused lights
- Close drapes and shades at night
- Close off rooms
- Turn down furnace thermostat

Seasonal actions

- Caulk cracks
- Weatherstrip doors and windows
- Replace broken window/storm doors
- Clean and tuneup the furnace

One-time actions

- Install clock set-back thermostat
- Install more efficient furnace
- Turn down water heater thermostat
- Install water flow regulators
- Insulate hot water pipes
- Insulate hot water heater
- Insulate the attic (6" or more)
- Insulate in the crawl space
- Insulate in the walls
- Install fireplace doors/caps

For each action the respondent was asked to indicate if he or she had performed that energy action and if not, why not. The survey also collected information on the respondent's age, income and size of home.

Our study examined the characteristics of homeowners who had engaged in conservation activities already or were planning to do so in the near future. In addition, it identified households that are large energy consumers and can be direct targets for a conservation campaign. If Saint Paul can succeed in persuading these households to save energy, it will make a larger impact than having households that are already conserving and using minimal levels of energy make additional minor changes.

People use a sequence of steps to

arrive at an economic decision: awareness, choice, implementation, use, and evaluation. Applied to energy decisions, households at different stages of this decision process need different kinds of assistance to get them to take energy-saving actions.

Useful Information for Households

The main incentive for energy actions by households is economic, to save money. Yet few homeowners understand which specific energy-saving actions will accomplish this. For example, who really knows how much his or her fuel bill will be reduced in a year by installing six inches of R-19 insulation in the attic? So using information provided by the Minnesota Energy Agency and Northern States Power Company, we estimated what the net five-year savings might be for typical Saint Paul houses.

Table 1 provides this information for a two-floor, three-bedroom home and for a three-floor, four-bedroom home—larger homes where the potential for energy savings is great. Note that the net five-year savings are shown for both the situation when homeowners do the work themselves (the "Materials Only" savings column) and when they contract to have it done (the "Labor and Materials" savings column). The differences in savings of various actions are dramatic. For example, attic insulation in the four-bedroom home will be a much better investment than in the three-bedroom home. And a clock set-back thermostat will be a good investment in both homes—unless a household is very con-

scientious in turning its thermostat down on its own.

But the key value of Table 1 is that it permits each household to make its own knowledgeable energy-saving decisions—to elect to take those actions best for it.

Actions Saint Paul Can Emphasize

The information in Table 1 can be weighted by the number of houses of various sizes and the energy actions people living in them have not yet taken. In this way one can identify what energy actions Saint Paul should stress in the future. Figure 1 summarizes the potential energy savings possible from households living in three different sized houses. The figure is arranged according to the stages of the decision process that households are presently in. Thus, if all those who were in the "awareness" stage completed the energy-saving actions, the largest savings would be realized.

Our analysis of the Saint Paul survey results showed that energy savings vary significantly according to the age and income of the homeowner. And among the kinds of actions that can save energy (continuous, seasonal, and one-time), one-time actions offer the greatest potential for energy savings. A reasonable plan for Saint Paul could, therefore, emphasize the following.

- Seek energy savings from all households in the city, but focus special effort on groups for which the energy savings potential is the greatest:

those whose heads of household are under 60 years of age; those whose annual income exceeds \$20,000; and those who live in larger homes (three-floor and four-bedrooms).

- Direct programs and messages at households who need help in making decisions to take energy-saving actions. These can include: providing loan, grant, or tax assistance programs for those unable to take action (for physical or financial reasons); providing lists of approved contractors, lenders, and suppliers; and providing information on the dollar benefits and costs of energy-saving actions.
- Use "reminder" advertising to promote energy conservation from continuous activities (such as setting back thermostats and turning off lights) to seasonal activities (such as weatherstripping and furnace tune-ups) in the fall and spring.

Actions Saint Paul Could Use to Communicate Energy-Saving Ideas

Since Saint Paul has a very limited budget, it must devise an effective system of energy-saving ideas. Our suggestions to Saint Paul include these.

- Arrange to adapt, print, and distribute the information on five-year net dollar savings of various energy-conservation actions for each of the three types of typical homes studied here, two of which are shown in Table 1.

Table 1. NET FIVE-YEAR DOLLAR SAVINGS OF VARIOUS ENERGY-CONSERVATION ACTIONS, BY TYPE OF HOME

General Category	Specific Action	2 Floor, 3 Bedroom Home					3 Floor, 4 Bedroom Home				
		Net 5-Year Savings ^a					Net 5-Year Savings ^a				
		First-Year Savings (\$)	Cost of Materials (\$)	Cost of Labor (\$)	Materials Only (\$)	Labor and Materials (\$)	First-Year Savings (\$)	Cost of Materials (\$)	Cost of Labor (\$)	Materials Only (\$)	Labor and Materials (\$)
Continuous	Regularly turn off unused lights	\$ 8	\$ 0	\$ 0	\$ 56	\$ 56	\$11	\$ 0	\$ 0	\$ 82	\$ 82
	Close drapes and shades at night	\$ 7	\$ 0	\$ 0	\$ 52	\$ 52	\$10	\$ 0	\$ 0	\$ 74	\$ 74
	Close off rooms	\$17	\$ 0	\$ 0	\$126	\$126	\$24	\$ 0	\$ 0	\$179	\$179
	Turn down furnace thermostat	\$44	\$ 0	\$ 0	\$327	\$327	\$86	\$ 0	\$ 0	\$640	\$640
Seasonal	Caulk cracks ^b	\$39	\$ 19	\$ 54	\$271	\$217	\$53	\$ 22	\$ 72	\$372	\$300
	Weatherstrip doors and windows ^b	\$39	\$ 40	\$ 40	\$250	\$210	\$53	\$ 50	\$ 50	\$344	\$294
	Replace broken windows/storm doors ^b	\$ 5	\$ 3	\$ 5	\$ 34	\$ 29	\$ 5	\$ 3	\$ 5	\$ 34	\$ 29
	Clean and tuneup the furnace ^c	\$12	\$ 0	\$ 50	\$ 60	(\$190)	\$27	\$ 0	\$ 50	\$135	(\$115)
One-Time	Install clock set back thermostat	\$30	\$ 40	\$ 40	\$183	\$143	\$58	\$ 40	\$ 40	\$392	\$352
	Install more efficient furnace	\$81	\$700	\$700	(\$ 97)	(\$797)	\$150	\$800	\$700	\$316	(\$384)
	Turn down water heater thermostat	\$ 8	\$ 0	\$ 0	\$ 56	\$ 56	\$ 8	\$ 0	\$ 0	\$ 56	\$ 56
	Install water flow restrictors	\$11	\$ 10	\$ 10	\$ 72	\$ 62	\$11	\$ 10	\$ 10	\$ 72	\$ 62
	Insulate hot water pipes	\$ 2	\$ 2	\$ 0	\$ 13	\$ 13	\$ 2	\$ 2	\$ 0	\$ 13	\$ 13
	Insulate hot water heater	\$ 3	\$ 10	\$ 10	\$ 12	\$ 2	\$ 4	\$ 10	\$ 10	\$ 20	\$ 10
	Insulate the attic (6" or more)	\$16	\$150	\$300	(\$ 31)	(\$331)	\$153	\$150	\$350	\$988	\$638
	Insulate in the crawl space	\$18	\$ 60	\$ 60	\$ 74	\$ 14	\$18	\$ 60	\$ 60	\$ 74	\$ 14
	Insulate in the walls	\$89	\$260	\$1460	\$402	(\$1058)	\$353	\$390	\$2190	\$2236	\$ 46
	Install fireplace doors/caps	\$ 8	\$100	\$100	(\$ 44)	(\$144)	\$ 8	\$100	\$100	(\$ 44)	(\$144)

^aAssumes a 20 percent per year increase in energy costs. Then the "Materials Only" column under "Net 5-Year Savings" is the First-Year Savings compounded for four additional years at 20 percent per year minus the "Cost of Materials." The "Labor and Materials" column is similar but the "Cost of Labor" is subtracted as well as "Cost of Materials."

^bAssumes action is done once and it lasts for five years.

^cTo achieve an energy saving from cleaning and tuning up a furnace, some experts say this activity must be done annually. So "net 5-year savings" shown are 5 times the net first-year savings. These are not compounded because the costs are assumed to compound as well.

- Encourage owners of large homes to insulate their attics and all homeowners to do the following:
 - one-time actions—install clock set-back thermostat;
 - seasonal actions—caulk cracks, weatherstrip doors and windows;
 - continuous actions—close off rooms, turn down furnace thermostat.
- Use public service announcements on TV and radio; informative advertisements for local newspapers; inside-the-bus posters; neighborhood newspapers; direct-mail inserts in tax statements and utility bills; and pamphlets distributed by hardware

stores, home-improvement centers, and neighborhood groups.

- Use Saint Paul's neighborhood councils and especially the projected energy conservation offices that a pilot group of neighborhood councils will operate to communicate energy-saving ideas to local neighborhood residents, as well as local churches, PTA's, hardware stores, and home-improvement centers.

This study focuses specifically on the energy-conservation needs of the City of Saint Paul and its homeowners. But the research approach used can be applied to all communities—large or small, frost belt or sun belt.

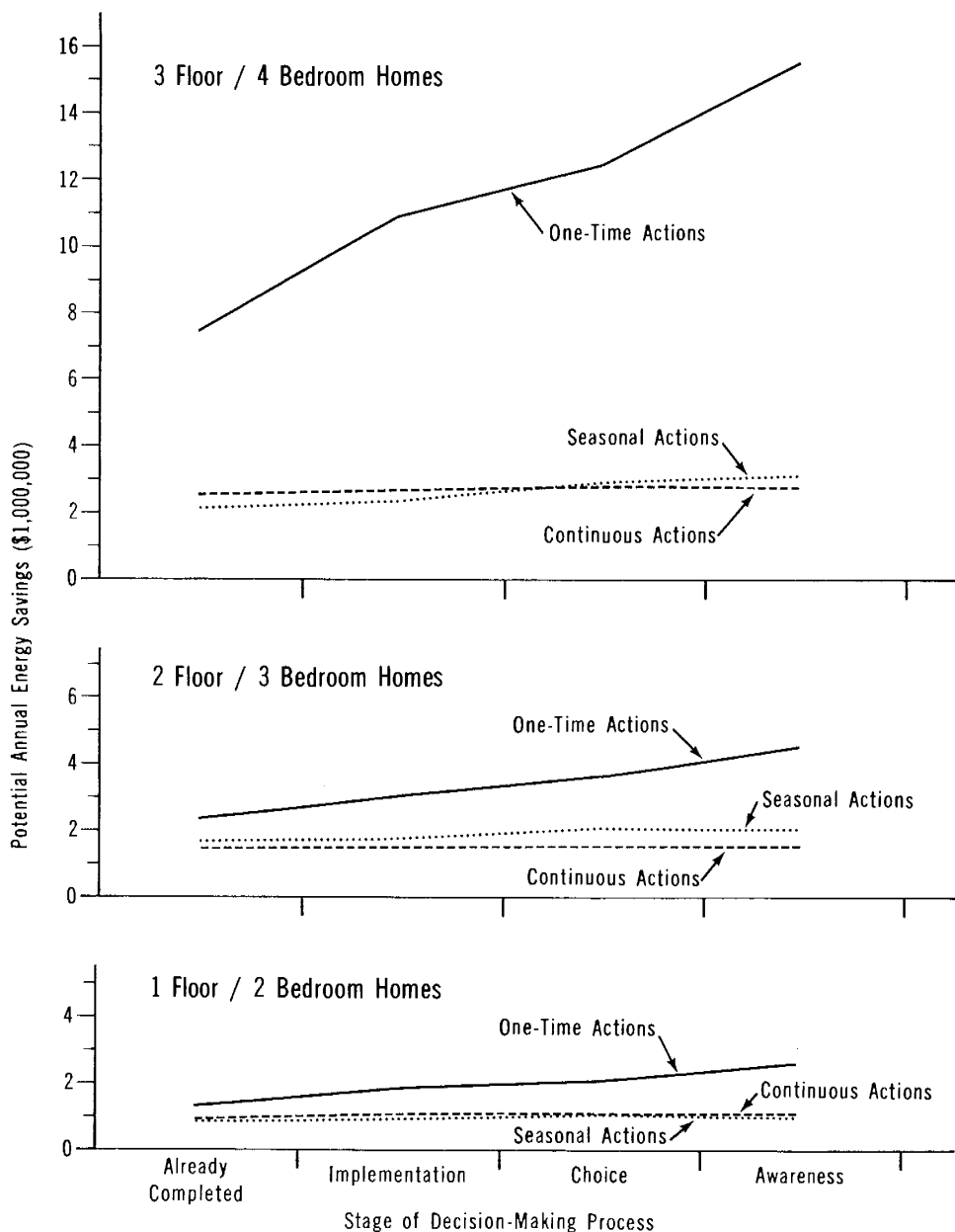


Figure 1. TOTAL POTENTIAL ANNUAL ENERGY SAVINGS FOR SAINT PAUL, BY TYPE OF HOUSE IN WHICH HOUSEHOLD IS LIVING.

Local Opposition to Power Plant Siting in Minnesota

by Brian C. Aldrich and Edward Mack

Brian Aldrich is an associate professor of urban and community studies in the Department of Sociology and Social Work at Winona State University. Edward Mack is a graduate student in the Department of Sociology at the University of Minnesota. Both have a long history of involvement with citizen organization in such areas as urban renewal, housing, and environment.

Citizen advocacy groups have received a great deal of attention in the media but all too little in academia. Their perspectives need to be documented with the care and thought more often given to government or corporate perspectives. With that goal in mind, CURA presents this article which highlights a study completed last year by Aldrich and Mack. In-depth interviews were conducted with the leaders of nine local power plant siting opposition organizations in Minnesota and with three opposition leaders who represent "bridging" organizations—groups that viewed the local siting controversies in a larger context. Information was also collected from power company staff, state agency personnel, and public meetings. A background review included transcripts of public hearings, laws, media reports, utility company documents, and national press reports. The full study was published at Winona State University under the title *Communities of Opposition: Energy Facility Siting in Minnesota*. Copies are available for \$3 each from the Department of Sociology and Social Work, Winona State University; Winona, Minnesota 55987.

The media are full of reports of protest actions of a particular kind these days: local citizens protesting the actions of large agencies and organizations. Farmers and students in Japan demonstrate against a new airport outside of Tokyo; nuclear protesters rally in Scotland; fishermen, conservationists, and students band together in Montana to save river water so the trout will survive "big coal." Minnesota has been no exception. This report describes the activities of nine citizen organizations engaged in energy related protest actions in Minnesota during 1978.

The specific threat to which these opposition communities had responded was the proposed siting of large coal-fired electrical power generating facilities in their areas. These behemoths of energy generation vary in size from 400 to 1500 megawatts, take up 3,000 to 5,000 acres of land, consume hundreds of thousands of gallons of water daily, and discharge chemical pollutants and heavy metals into the land, air, and water of the surrounding countryside. Constructing such plants involves the forced removal of people living in the area through the operation of eminent domain. All of these "spillover" effects are directly in conflict with the images and attachments of the people living on or near such proposed sites.

Crisis Mobilization

Perhaps the most startling commonality among the opposition organizations was the manner in which they got started. In almost every instance they suddenly discovered that their land, place, or area was on one of the proposed alternative sites. *Suddenly* means late in the process of the formal hearings which are supposed to decide such matters. And discovery always seemed to come as a shock, contributing substantially to the heightened level of tension produced by the announcement of an alternative site. Mobilizing support and creating organizations were made much easier under such crisis conditions.

One opposition leader described his initial response as follows:

We had taken off a few days and came back. We got back about the 21st of July. We got the papers and there was a map in there of Southern Minnesota. By golly, there was this Rice Lake area. This was one of the nineteen sites.

He continued:

We just got on the horn and called a few people. We put it on the radios. I suppose you'd call it a rural townhouse meeting. You put out the word through the media, the papers, the radio and word of mouth and tell people to call a few others and you get people to feel that they're going to be concerned. You start it from there. We had an election and elected our board of directors and officers (Save Our Land and Environment, SOLE).

In this case the individual had previ-

ously experienced a similar situation when Northern States Power Company (NSP) had announced they were considering the Henderson site in Sibley County. That proposal and the power line corridors associated with it had also created a great deal of local organization and opposition, but that plant had eventually gone to the Sherco site in Becker, Minnesota.

Galvanization and the formation of an organization in response to a threat to place and prerogatives is a typical and common strategy in a bureaucratic world. But the suddenness of the discovery added an element of impending disaster and apparent betrayal which contributed to the mobilization process.

Tactics

Tactics are those short-run actions designed to gain advantages for the organization and its members. These varied somewhat among the opposition groups, depending upon a variety of circumstances. However, the basic tactics used were: (1) communication—getting out information on their side of the issue, including everything from forms of confrontation with the power company or local supporters of the site, to marches, demonstrations, and confrontations with the governor; (2) hearings—participation in official committee meetings or formal hearings of state agencies such as the Environmental Quality Board or the Minnesota Energy Agency; (3) legal counsel—making use of lawyers both in hearings and the court room; and (4) courts and legislation—court actions questioning alleged violations of administrative procedures or environmental protection legislation, and legislative actions designed to alter the process of site selection or the determination of energy needs.

After deciding to organize, the first action often was to communicate alternative information to residents of the local area, the township, the municipality, and eventually to the residents of the entire state. A typical response was:

Ours has been mainly an information strategy. We try to bring this information to the attention (of the public). To get it into the public debate of this area...I think we've succeeded modestly well in the early stages of this radio program. We take up a different topic every time. Every time some of us are involved... We're trying to get some other information into the debates besides what's coming from NSP by the way of the community leaders, leading businessmen, newspaper editors, county commissioners and all the big farmers. The way NSP worked here is that they just went to those people, sold them on it and counted on them to sell it to the rest of the community (Save Hiawathaland, SAVHI).

Sometimes the informational meetings were not cordial. One meeting between

farmers on the proposed site and NSP officials was described in the following fashion by the opposition leader who had planned it:

Mr. "X" (local NSP manager) called me and stated that he wanted a half dozen or so of the people that were involved to attend this land owner's meeting. We had been forewarned that they were trying to get on a one-to-one basis with us. So we came there with a group of 100 to 110 people. A long ways from the six people. After all the people got in he came up to me and said, I thought there was to be only six or eight people. And I said, you got that here haven't you. Then we started the meeting. Prior to the meeting on Monday night we had gone to Becker (to the Sherco site) to pick up a lot of information as to what goes on with these power plants—in the building of them, and if it's beneficial to the community. And we started questioning all these processes...(Circuit Breakers).

Virtually all of the organizations presented alternative facts and figures about the implications of a large coal-fired power plant.

Variation in the use of communications as a tactic was mainly a matter of how focused or diffuse the efforts were. For example, some organizations concentrated their energies on key individuals and key hearings. They determined who the decision-makers were and what effect information of various kinds would have on them. Others talked to literally anyone who would listen to them, practically anywhere in the state (or the United States as it turned out). Some groups joined with the anti-power line protestors in marching on the State Capitol. Letters were written, newspaper columns and radio talk shows were initiated, and fliers were distributed; literally, any means was used that would get out the word. The primary result, at least as reported by the opposition leaders and observed from newspaper reports, was to neutralize local support for the site.

The Network of Opposition

Construction of a coal-fired power plant takes approximately four and one half years. Before construction can begin, a complex series of events must occur. The power plant siting process begins with the application for a "certificate of need" from the Minnesota Energy Agency. The certificate of need basically presents the utility's justification for the expansion or construction of a plant. The time from the point of application for certificate of need to the beginning of construction may be an additional three and one half to five years.

Groups that oppose power plant construction or expansion see themselves at a distinct disadvantage in the situation.

Actually NSP is more or less a quasi-government with the right of eminent domain. And if they spend all this money on public relations and legal

fees, all they do is get it back with all the rates, and the state sanctions. Therefore, if the citizens are being subjected to that type of action, the state should also provide legal funds somehow or other. It's really ridiculous to think that now we've retained an attorney and what we're going to have to pay. We paid for our farms once and we'll probably have to pay for them again. You know, it just isn't right (Citizens Concerned for the Protection of the Environment, CCPE).

This quote expresses the sense of injustice felt when the costs of opposing a power plant have to be borne by the individuals involved, while the costs to the utility are internalized as a business expense and passed along to the consumer, including the opposition group members, in the form of higher utility rates.

Our research indicated that a network of relations existed among most of the organizations and was used to transmit resources of one kind or another. While one might expect that money is a resource that would be transmitted, this was not found to be the case generally. Several of the organizations reported donating money through CO:REG (Coalition of Rural Environmental Groups) to a legal defense fund for anti-

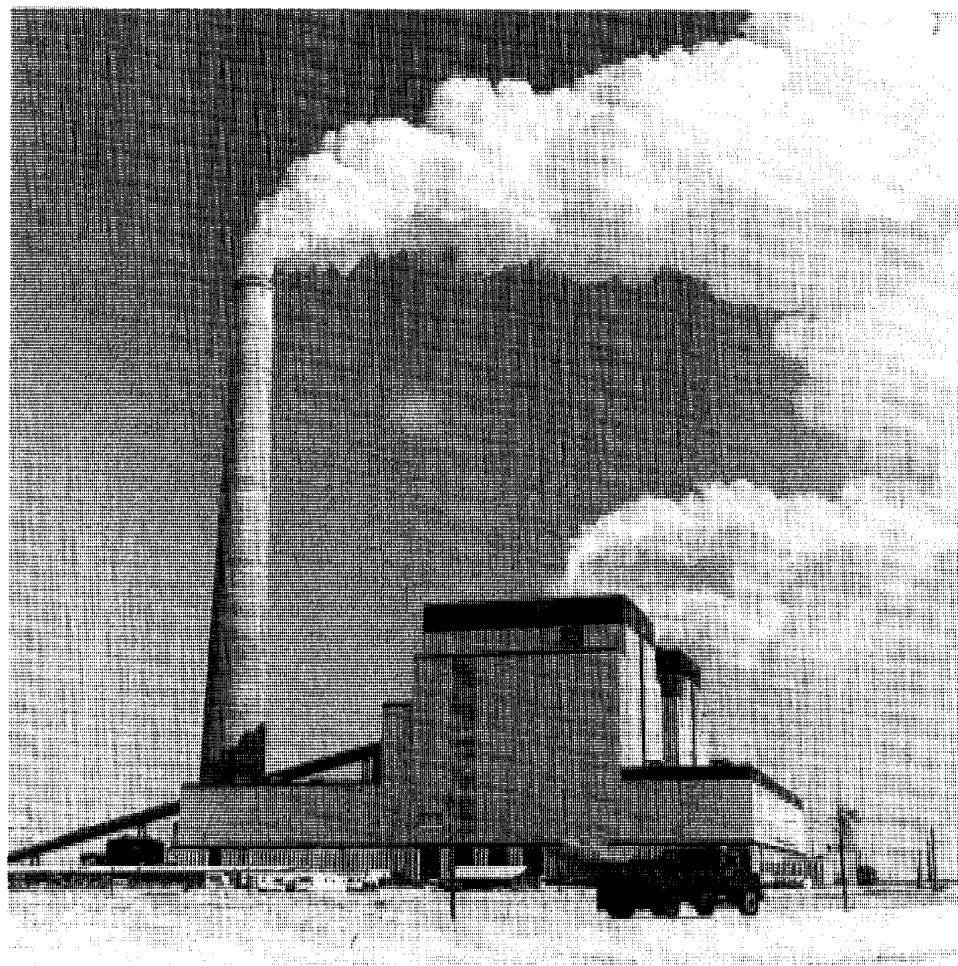
power line demonstrators. Floodwood-Fine Lakes Citizens Group also reported responding to this one-time request for a donation. All of the organizations reported that their operating costs were paid out of membership dues and fees, various fundraising events, sporadic outside contributions, or member donations, but not by donations from other similar organizations.

Information, either written or verbal, was the main resource transmitted through the network:

The main thing, as far as I'm concerned, the main thing with these coalitions is communication. You've got to know what everybody is doing and coordinate them. See, what happens with farmers, they become busy. Yes, if you want to find out (what's happening with the other groups) you'll just call because their number's in the CO:REG directory (CCPE).

The \$100 to \$150 monthly telephone bill reported by the CO:REG spokesperson supports this statement about the use of telephone communication.

Various types of information were transmitted among organizations. CO:REG had a considerable amount of technical information which was available to other groups. SAVHI reported contacting



Northern States Power plant at Becker in Sherburne County.

CO:REG for information shortly after SAVHI was formed. What they received were "papers on diseconomies of scale, and some things on oil, gas, and other types of energy sources, some things on the effects of large power plants." Circuit Breakers reported receiving technical information on demand projections and information on rules and regulations related to the siting process.

Information was exchanged regarding experiences with existing power plants. CAPP (Citizens Against Power Plant Pollution) experience with the existing plan at Becker was sought by Circuit Breakers just prior to a meeting that the utility company had requested.

And prior to the meeting on Monday night, we had gone to Becker on Saturday to pick up a lot of information as to what goes on in the building of them and if it's beneficial to the community, and we started questioning all these processes. They (NSP) were coming out with the facts and figures that we were going to get an enormous amount of money for our land...and we started questioning about this, "Well on what basis do you purchase the land?" Well, NSP has an appraiser come out and the appraisers hired by NSP, so their land value is determined before you even get a chance.

They said in their propaganda sheet...that they gave us when they came out, that they just hired the people locally to work in this plant. Well in the Becker area at the time we were up there, I believe it was twelve people out of 200, or whatever it is that work in the plant, were local people. The rest were all transported in or brought in from the Minneapolis area because it's a highly technical job and nobody locally has the knowledge to work in such a plant as this (Circuit Breakers).

These statements show that the organizations also exchanged information about various aspects of the siting process, such as the procedure for land appraisal, and about the reliability of statements made by the utility regarding the consequences of plant construction.

The experiences of somewhat inactive organizations that had opposed earlier power plants were also incorporated into the network. One such organization, SAVE (Save America's Vital Energy), was still in existence at Henderson, where a power plant had been proposed a few years earlier, although the plant was finally sited at another location.

Images

Leaders of farmer-dominated opposition organizations view their environment as: a commodity essential to their economic well-being; a central feature in their psychological well-being as a result of generations of attachment; and an environment free of air, water, and land pollution.

Rural repatriates do not have the same direct economic connection to the land but they view the rural environment in a similar way: as aesthetically and emotionally pleasing, as a place that reminds them of their earlier rural experiences, and as one of the few places industrialization has not reached and generated high levels of pollution.

The leaders of CO:REG, the umbrella organization, view the power plant siting issue as one that is integral with the regional and national issues of environmental pollution. They see it as part of the "industrial invasion" of the countryside—a question of the power of one set of interests in the society which seeks to impose itself upon others.

But images are not merely "held." In some cases they are also acted upon. They are the backdrop that defines particular issues, providing a normative framework against which events can be measured as they occur. For these opposition communities, the gap between the images they held and an alternative future involving a large power plant was enough to generate systematic, organized attempts to maintain their environment the way they wanted it.

Evaluations of Siting Supporters

Leaders of these local opposition groups evaluated three groups of competitors negatively: (1) the several utilities, both cooperatives and private corporations; (2) the state agencies, especially the Minnesota Energy Agency, which determines whether or not there is enough demand to warrant a new plant; the Environmental Quality Board, which determines the actual siting and constructs a site inventory; and the Pollution Control Agency; and (3) local community competitors, who might be business people, municipal governments, school boards, or assorted residents and farmers. These three groups constituted a major institutional array of siting proponents with which opposition groups had to contend. It is especially important to note that state agencies were not regarded by opponents as impartial arbiters between competing class status groups but as partisans in the conflict. State agencies were perceived as either directly siding with the utilities or being uncooperative with opposition groups.

What emerges from the interviews, especially when placed in the context of the economic growth of the region, is that the power utilities, both cooperatives and private corporations, are perceived as having merged with the government in the common task of metropolitanizing or colonizing the countryside with the support and assistance of local businesses whose economic orientation is toward the large urban centers of capital and organizational control. The result, for the opposition, is a wide-

spread negative view of the process of determining energy needs and power plant sites. Very little benefit can be seen by local opposition farmers, who stand to lose their land in an inflationary land market, or by the members of the new middle class who have left and/or rejected the city for the aesthetic and recreational qualities of a countryside environment. Yet the state cannot function as a mediator in the conflict because it is perceived as yielding its authority and expertise to the power utilities.

Conclusion

In the ongoing controversy over energy facility siting, energy development, and the newly emerging issues of mining and hazardous waste disposal, some important aspects of the process remain to be understood. One is the extent to which scientific methods and inferences about the impact of the proposed project could be used by the conflicting groups. Would this reduce the level of conflict? Or are the sources of that conflict in the different values and images the members of each group hold?

Second, are these, to make an unintended pun, conflicts over situs or status? That is, are they conflicts over qualitatively different orders of existence: of place and community v. occupation and profit? Or are they conflicts between the power of different statuses? If the former, science does not help because the lines of conflict separate different worlds of value. In the case of the latter, it is a matter of political power. Our research argues that they are issues of place and community v. occupation and profit. What is needed? A mechanism to resolve value differences within the region.

Preserving Our Shade Trees— Minnesota's Experience

Minnesota has the most successful shade tree disease control program in the country. Nearly 500 cities across the state participate in the Shade Tree Program, which is administered through the Minnesota Department of Agriculture. The state program provides expertise and matching grants to participating cities for quick removal of diseased trees from public and private property as well as matching grants for replanting on public property. Since 1977, losses to Dutch elm disease have been cut from 250,000 trees annually to 100,000. Similar success has occurred in the battle against oak wilt. Many lost trees have been replaced.

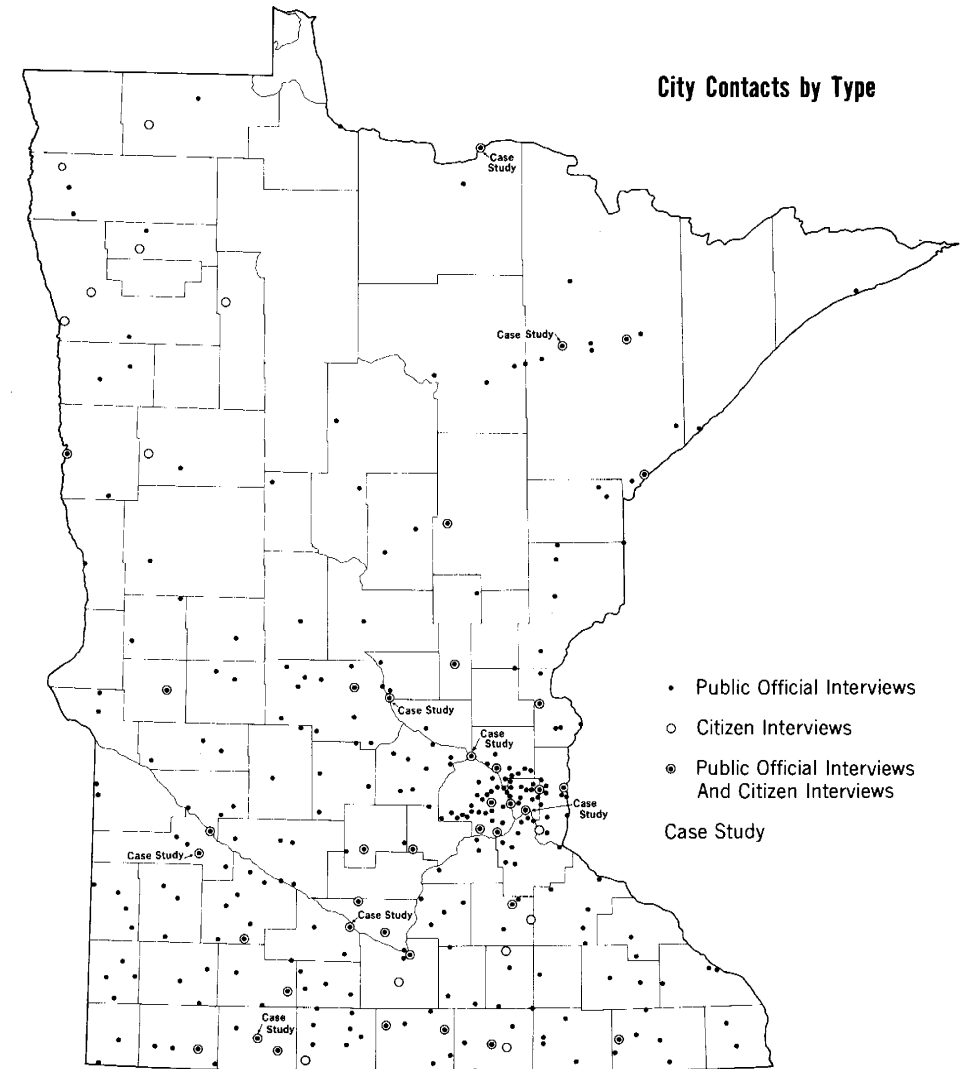
While the basic problems of combating shade tree diseases are financial and technical, it is clear that other problems are involved, problems that are social, political, and environmental. Over 360 cities have not participated in the program and success in individual participating cities varies greatly.

Do the citizens of the state care enough about trees to make this effort worthwhile? How do cities feel about the state program? Can the state program be made more effective? Can less successful cities learn something from more successful ones about how to run a good local program?

The CURA Study

With these questions in mind, the director of the state Shade Tree Program approached the University in late winter of 1980. CURA assembled a team of researchers to answer the questions. Included were faculty members from political science (Virginia Gray) and sociology (Paul Reynolds), CURA's assistant director (Will Craig), and the project assistant (Lois Geer).

The study's methodology included collecting data from a wide variety of sources. State program records and staff were able to provide data on the reported characteristics of each local program and its effectiveness. Other government records provided information on the demographic, physical, and political structure of each city. Three major surveys were undertaken during the summer of 1980 to complete the necessary information base (see map). Telephone interviews were obtained with over 300 city officials. Eighteen hundred citizens living in fifty-three cities were also interviewed by telephone. Finally, detailed case studies were made in eight cities. In all surveys,



cities were selected at random, but with an eye to providing the broadest possible range of geographic location, city size, and program success. In all but the case studies, cities were also selected which were not participating in the state program.

Survey Results

The citizen survey found that support for shade trees was very broad and not restricted to a few elite. About 90 percent of the citizens of Minnesota considered shade trees very or extremely important for their

appearance, property value, effect on micro-climate, and general intrinsic value. Matching this concern, a relatively high proportion of Minnesotans had actually taken some action to promote or protect their urban forests: 18 percent had reported one or more diseased trees; on their own property, 27 percent had removed and 31 percent had planted at least one tree; and 25 percent had provided care for new trees on their boulevards. A great majority of people (85 percent) in participating cities thought their local program was operating at average or above average efficiency.

Consistent with these feelings, over two-thirds of the people said they would be willing to have their taxes raised to some extent to support an adequate shade tree program.

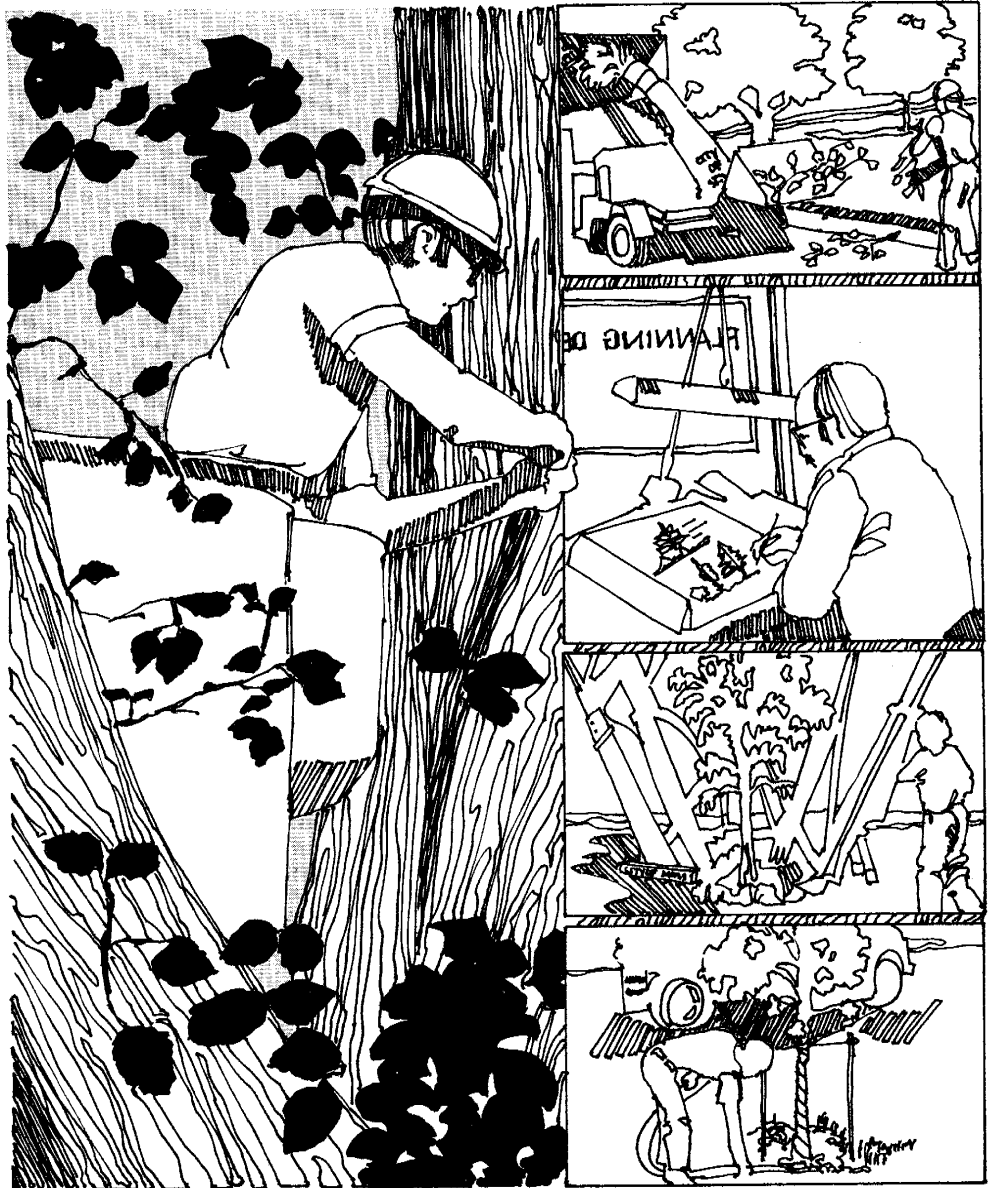
Local officials were equally enthusiastic in their support for shade trees and local shade tree programs. When asked to rank city problems in order of importance, there were only two other areas (fire and crime) that a larger percentage of officials thought required a great deal of attention. Most cities were running their shade tree program according to state guidelines and felt that it was operating effectively. In addition, they had favorable comments about the state program. They found the grant process operated smoothly and funds were adequate for their needs. For some cities, unfortunately, the state program was instituted too late, after they had already lost their shade trees. A current problem mentioned was their inability, under current law, to control the disease beyond city limits. Thus infection could come from areas outside their control.

Study Findings

Answers to the questions on how the state Shade Tree Program might be improved were attained through analysis of combined data sets. Three major areas of inquiry were addressed: reasons for participation, explanations of success in retaining trees, and explanations of replanting success. The case studies were used to help understand statistical results throughout.

Participation in the state program can be explained by two major factors: city size and degree of problem. The study found that every city of over 5,000 people was participating in the state program, but that participation rates fell off below that threshold; only half the cities with about 450 people were in the state program. Itasca County had solved this problem by offering to administer local programs for its smaller cities. Whether looking at the 288 cities that had never participated in the state program, or the 76 that had dropped out since 1977-78, the major reason for non-participation was lack of a current threat. These cities had either yet to encounter a problem or had already passed through the problem.

Success in retaining trees was measured by both Shade Tree Program staff and numerical rates of loss. Multiple regression techniques were used to identify explanations of relative success. Where communities are more southerly or where any adjacent wild elms were healthy, tree losses were lower. Where local programs operated efficiently, with timely and complete inspections and with adequate equipment, elm losses were also low. Citizens accounted for a large part of local program success. Losses were lower where citizens:



Minnesota's shade tree program promotes local tree inspection, careful disposal of diseased trees, planning for reforestation, replanting, and care and maintenance of new trees.

- expected local governments to handle community problems (of any kind),
- knew about the local shade tree program and its operation,
- restricted their use of elm firewood.

Replanting success was measured in a similar manner and a similar approach was taken to explain this success. The major limitation on success was participation in that aspect of the state program. Forty percent of the cities in the general state program did not participate in the replanting program. Of those which did, success varied widely. Yet our ability to explain this variation was reduced by the fact that a local replanting program can be stretched out over many years. Associated with replanting success were: well maintained

neighborhoods, northern location, emphasis on informing the citizens about the local program, citizen rating of the local program, and the use of elm firewood.

Conclusions

The state Shade Tree Program has been effective by any measure. It has saved money and the quality of life associated with these trees. These goals are supported by the cities and citizens of the state.

The University study did find a number of areas where improvements could be made. Individual cities should conduct their programs according to state guidelines, promote citizen awareness, and join in the replanting programs. For the state program, recommendations include promoting the replanting program and fostering sup-

port mechanisms for smaller cities similar to these developed by Itasca County. Finally, the study made a number of recommendations to the state legislature which would make the Shade Tree Program more effective, including allowing creation of a buffer zone around each city, continued research and education, and paying attention to unique or new situations.

These legislative recommendations were based on the premise that the current program was invaluable and inviolate. The Shade Tree Program is effective, extremely popular, and economically sound. Yet the 1981 legislature funded the program at only \$7 million for the biennium: one-third of what was recommended and one-half of what is required to continue it in its present form. Given the decentralized nature of the program and the uncertainties of nature, it is impossible to predict the implications of this cut. But they could be environmentally, politically, and economically disastrous.

Copies of the University report, *Community Shade Tree Programs in Minnesota: A Study of Participation and Effectiveness* are available for reading in the CURA library, 316 Walter Library. Copies of the 109 page report (and 123 page appendix) are available for the cost of copying (5¢ per page) and postage. Those with further questions may contact the Shade Tree Program at 612/296-8580.

New CURA Publications

Energy From Peatlands: Options and Impacts. CURA Peat Policy Project. CURA 81-2. 183 pp. \$5.

A major report from CURA's Peat Policy Project, this publication was designed to help Minnesotans understand the energy potential that our peatlands offer and the impact that their development would have on the state. It presents background on Minnesota's peat resources; details the options open to Minnesota (direct mining of peat, use of peat as a medium for growing energy crops, or preservation of peatlands); analyzes the economic viability of these different approaches; studies the impact that peat development would have on local economies, communities, and the environment; and explains the legal and regulatory options that Minnesota has if a decision to develop peat is made. The report concludes with the recommendations that the panel developed during their nine-month study. An extensive bibliography is also included.

Executive Summary—Energy from Peatlands: Options and Impacts. CURA Peat Policy Project. CURA 81-1. 20 pp. Free.

This is a summary of the full peat report noted above and includes the complete recommendations of the peat panel.

Indochinese Refugee Settlement Patterns in Minnesota, Glenn Hendricks. CURA 81-3. 7 pp. and 3 maps. Free.

The impact of escalating numbers of Indochinese refugees settling in Minnesota is being felt in a number of ways. In recent months a particular issue coming to the forefront in some residential areas of the Twin Cities has been the large number of refugees moving into the neighborhood. Yet concrete data on how many refugees live where has not been available. This report presents maps that roughly locate Indochinese settlements in Minnesota and in the Twin Cities along with a text which explains some of the factors involved in refugee decisions about where to live.

What is Happening to Farmland in Minnesota? William J. Craig. CURA 81-4. 11 pp. Free.

The loss of agricultural land in Minnesota, though less than in most states, is reported to be significant. The amount involved is in dispute. This report looks at how calculations of farmland losses are made and also at the indicators of just where in the state we are losing farmland. It appears that statewide farmland losses may be half what they have been publicized to be. No reliable estimate exists of changes in farmland in various parts of the state.

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- Twin City Conversions. The Displacement Factor: A Survey of Outmovers.** Thomas L. Anding and Rebecca Smith, CURA 81-7. Free.
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reporter

Volume XI, Number 3 July 1981

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

The **CURA REPORTER** is published by CURA to provide information about:

- what CURA projects are doing
- related programs and projects in the University
- related programs in other Minnesota colleges and universities, and
- actions outside the educational establishment which affect our plans and programs.

Comments and contributions are welcome. Thomas M. Scott, director; Thomas L. Anding, associate director; William J. Craig, assistant director; Judith H. Weir, editor.

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117 Pleasant Street S.E.
University of Minnesota
Minneapolis, Minnesota 55455

ADDRESS CORRECTION REQUESTED