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URBAN REGIONAL COOPERATION

By

Wilbur R. Maki

Department of Agricultural Economics

University of Minnesota
Institute of Agriculture
St. Paul, Minnesota 55108

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Your planning committee has asked me to talk about "urbanization and its effects on the relationship between the central city and outstate urban areas and their relationship to the surrounding countryside". The assignment obviously envisions some sort of hierarchy among the major cities of the State and between these cities and the areas that they serve. The word hierarchy may suggest an administrative bias, which is very true, indeed, because urban-regional cooperation is both hierarchic in its structure and administrative in its motivation.

Need for urban-regional cooperation stems mainly from problems of growth and change -- the sheer size of central cities, the aging of housing and community facilities, the growing affluence that triggers a massive search for living space, and a progressive technology that manages to choke up major access routes into and out of central cities, and, at the same, thoroughly pollute the air that we all breath.

Given the potentials for both relevancy and controversy in a discussion of urban-regional cooperation, I suggest we examine four related lines of thought: First, the location dynamics of businesses and households; second, some urban-regional settlement alternatives; third, means presently at our disposal to affect the level and quality of the urban-regional economic base and related social services; and, finally, some implications of urbanization for local governments, with particular reference to housing, health, education, transportation and open space.

Location Dynamics

One way of looking at urban regions is in terms of the location dynamics of businesses and households. Basically, three sorts of considerations -- access, agglomeration and costs -- are involved in rationalizing household and location decisions.^{3/} People move to central cities, for example, because of the improved access that is achieved by relocation. Businesses seek the advantages of a common skilled labor pool and, thus, agglomerate in central cities. Finally, businesses and households compare the costs of alternative sites and bid for these sites, thus putting all sites to their best use. In each case, the search for space provides the dynamics of location and the behavioral bases for urban-regional change.

Locational processes are influenced in different ways in different situations. In rural areas, locational considerations are primarily resource oriented. In urban areas, the locational emphasis is upon markets and access to specialized labor and financial resources. To generalize about the variety of considerations affecting location decisions, the rural-urban dicotomy is useful but more appropriate is the distinction between commuting areas and metropolitan regions.

Commuting areas

By a commuting area I mean the residence area of people working in a given urban center. Some incorporated places are entirely self-contained with no commuting from places outside the corporate boundary. However, most urban places depend on the surrounding area of open-country settlement and neighboring towns for at least part of the industrial workforce.

Generally, the larger the urban place, the greater the commuting area. Indeed, large commuting areas are made up of a number of smaller ones focusing on the smaller places within the larger area. The commuting area to which I refer is a large commuting area that focuses on an area growth center.

In the lingo of the urban-regional specialist, the area growth center is a fourth-order central place, that is, typically, a city of 10,000 population or more serving a multi-county area.^{4/} County-seat towns are somewhat smaller places than area growth centers, typically, ranging in size from 1,000 to 10,000 population (and, hence, classified as third-order places). In Minnesota, roughly 20 cities meet the growth-center criterion in terms of minimum population.

Location of businesses and households in the commuting area of a growth center is explained in several ways. First, the area agricultural economy is influenced by location in relation to the growth center and to market areas for the agricultural products produced locally.^{5/} Land economists have worked on this problem every since Von Thünen the landowner-turned-economist, and by now have developed a very respectable theory about the differentiation in agricultural production as a result of distance from market centers. Relevant to us is the concept of increasing intensity of land use with decreasing distance to market center. Superior access to market is correlated with low transportation costs and, hence, high rent per acre, which encourages substitution of land for capital and management. Superior management is able to acquire land with superior access because of its ability to attain higher yields and greater outputs over which to spread per acre costs.

Another strand of thought relevant to an understanding of spatial organization is the notion of a central-place hierarchy in a system of cities.^{6/} Nonfarm businesses concentrate in central places, taking advantage of local transportation and communication networks in expanding their supply and trade areas until economies of size are exhausted. Businesses that reach a size large enough to minimize total on-site and off-site costs are in a position to drive out competitors at less advantageously located sites. A number of different types of businesses also find mutual advantage in locating in the same place so that a common pool of skilled labor and financial resources can be tapped. Thus, the central place with superior access for a wide variety of businesses has superior potential for economic growth; hence, it dominates the large area in which several small places are located, each being the center of a number of small trade and supply areas. Businesses that require the largest size of unit to attain economies of scale, or those that provide goods and services purchased infrequently or in small amounts per customer, locate only in the largest centers. A hierarchy of central places emerges, therefore, with the largest offering all the goods and services offered by the smaller ones and, in addition, high-order goods and services not available elsewhere.

Finally, a logic of space-economy exists that posits the location of businesses in accordance with the principal of profit maximization.^{7/} Those businesses with advantageous location with respect to input costs and market prices are in a position to acquire needed capital for expanding output-producing capabilities. In other words, the ultimate criterion

for business profitability is ability to acquire financial resources for capacity expansion. Generally, the larger the central place, the more readily private investment capital is acquired.

What emerges from the three lines of thought advanced by location economists is a general concept of urbanization.^{8/} This morning, I would like to highlight one part of that concept, namely, the rationale for the growth and development of urban regions.

Urban regions are defined as commuting areas of central places that have attained a growth-center status. We have described already the processes of differentiation and specialization that have resulted in a hierarchy of central places, and commuting and trading areas. To illustrate: The functions of the growth center are differentiated from the functions of other central places. Functional differentiation is achieved through specialization, not only between places but, also, within a given place through the organization of work itself. Because of specialization in growth centers, they are favored by new business ventures, which, also, are ones experiencing above-average rates of growth. Specialization, in turn, leads to higher productivity per worker and higher earnings and income per capita. Expanding local affluence favors the growth of high-order goods and services which further enhances the growth centers propensity to outpace smaller central places in both income and population growth. Many of the nearby smaller central places may become residentiary communities. Eventually, with continued growth, the residentiary places again may attract market-oriented businesses. Thus, the processes of differentiation and specialization are followed by a re-integration

of the smaller places into a new pattern of interdependent residential and business relationships.

The growth center and its commuting area is a "functional economic area" (FEA) -- a phrase coined by Karl Fox, Head of the Economics Department at Iowa State University.^{9/} Fox, along with Brian Berry from the University of Chicago, have worked on a grouping of the counties of the United States into functional economic areas.^{10/} As many as 350 area growth centers have been identified that serve a multi-county area made up of a number of smaller urban places and an open-county population, all of which focus upon the central city of their respective areas.^{11/} Thus, growth and development of urban regions is characterized, finally, by generalization of the processes of differentiation, specialization, and re-integration on a national and, indeed, a world scale.

John Hoyt, in his role as consultant to the State Planning Agency, has identified growth-center-oriented commuting areas and a number of smaller central places and commuting areas included within the larger areas. The eleven commuting areas, including the seven-county Twin Cities Metropolitan Area, make up the regional system referred to in a Minneapolis Tribune editorial last week. The State Planning Agency is now proposing the regional system as a basis for improving the efficiency and the effectiveness of state and federal agencies in providing services to the people to the State of Minnesota in each of the eleven commuting areas.

Metropolitan regions

The metropolitan region is a system of commuting areas characterized by a core area that is differentiated from other commuting areas because

of the high-order central place functions performed for the entire metropolitan region. The Twin Cities Metropolitan Area is a core area for the entire Upper Midwest -- a multi-state metropolitan region of which Minneapolis-St. Paul is a regional capital.^{12/}

A process of differentiation has taken place within the Upper Midwest that has resulted in a hierarchy of areas with the commuting areas focusing on subregional centers performing an intermediate function between the core area and outstate commuting areas. Sioux Falls, Fargo-Moorhead, and Duluth-Superior are subregional centers, each focusing on its own commuting area and serving, also, a large number of additional commuting areas in a subordinate role to administrative and control functions in the Twin Cities. St. Cloud and Mankato are emerging, also, as subregional centers. Both wholesaling and manufacturing businesses are expanding from the Twin Cities metropolitan area to the subregional centers, not only because of growing congestion and increasing competition for space, but, also, because of the growing size of the subregional centers and their critical nodal positions in regional transportation and communication networks. Thus, businesses that earlier may have moved from the regional subcenters to the Twin Cities are expanding now to these centers.

The metropolitan region now encompasses a system of commuting areas linked together by a regional transportation and communication network. No longer can a single urban place be viewed in isolation nor can a single commuting area be viewed as a unique situation. Indeed, the Upper Midwest region has roughly 40 commuting areas of which more than 30 are

very much alike in terms of their basic economic structure and the functions performed by the principal urban places within these areas.^{13/} Only a handful of commuting areas are differentiated from the rest simply because of the high-order functions performed by the central city in each of the remaining commuting areas. Thus, generalization of the metropolitan region is attained on a national scale, just as the generalization of the commuting areas is attained on a regional scale.

Center periphery relations

Can we now look at the commuting area and the metropolitan region in a way that would facilitate urban-regional cooperation? Remember, the Twin Cities Metropolitan Area -- a central city (or two cities) of less than one-million people -- is surrounded by suburbs and outlying incorporated places totaling more than one-million people. Governmentally, the Twin Cities are surrounded by 130 incorporated places, not one of which is more than a township in size.^{14/}

Of the many key functions performed by the Twin Cities as a regional center of the Upper Midwest, the three that command attention are the upgrading function, the environment-stabilizing or value-reinforcing function, and the economic-base function.^{15/} Without the Twin Cities, the Upper Midwest would be a vastly poorer place with a great deal more rural poverty, widespread lack of essential medical and educational services, and deprivation of human life that would make of the Upper Midwest another Appalachia. The Twin Cities provides an environment for improving the physical, social and economic status of people as a result of access to essential social services that are not obtained elsewhere,

including opportunities for employment, education and training that are completely lacking in the rural areas from which most disadvantaged people originate. For people who have achieved some measure of economic and social well being, the Twin Cities offers means of enjoying the good life and a re-enforcement of values supporting both means and ends. Finally, the Twin Cities offers a central place for the location of production, distribution and other value-producing activities that can compete effectively with similar activities in the central cities of other regions of the Nation. Thus, the services and institutions of the central city make possible an upgrading of the status of the poor and the disadvantaged while at the same time providing an environment for supporting the hard-won gains of those who have made it.

Given the three-fold role of the central city in the economic and social life of the region, the central city must be viewed as an integral part, first, of the commuting area and, second, the economic region. Private industry is decentralizing within the seven-county metropolitan area; most of the new jobs in trade and service activities, and, also, manufacturing, are being created in the ring of suburbs surrounding the central city. For many of the disadvantaged in the central city, the suburbs are the centers of job opportunity and of social services, but because of the inadequacies in transportation and communication, however, these opportunities still remain out of reach for many people.

The out-state commuting areas also must be viewed in a regional context. Unlike the seven-county metropolitan area, however, the relevant spatial framework is not a single commuting area but several

contiguous commuting areas. For example, in West Central Minnesota, the smaller central places -- the local service centers of four commuting areas -- serve a local population characterized by high unemployment, low per capita incomes, and high rates of out-migration. The local service centers are very much like the neighborhoods of the central city, which, also, are characterized by high unemployment, lower per capita income, and high rates of out-migration -- not of the poor but of the more well to do.

Settlement Alternatives

Center-periphery relations and the dynamics of business and residential location in commuting areas and metropolitan regions can be altered by decisions made in the public sector and the policies these decisions are intended to implement. In the core area particularly, local people and institutions are active agents in its transformation. A proclivity for invention and innovation in the core area, and access to entrepreneurship and financial resources, make feasible the profitable development of new products and processes that are the stuff from which human progress is made. In a spirit, therefore, of being able to create one's future through participation and involvement, we refer to a series of four alternatives in urban-regional settlement, starting with metropolitan concentration and extending to the most dispersed pattern of multiple urban centers and related local service centers.

Metropolitan concentration

Metropolitan concentration implies a continuation of the population and industrial location trends of the 1950's and early 1960's. The 1967 seven-county core area population of 1.7 million, for example, would increase to 2.7 million by 1985. The percentage of the total State population located in the seven-county area would increase from roughly 50 percent to about 66 percent. Total population in outstate areas would not only decline relatively, but also absolutely by about 400,000. Remember, all area growth centers probably would increase in population and entire commuting areas in southern and southeastern Minnesota would grow because of proximity to the American Manufacturing Belt. However, a majority of commuting areas of the State would decline, along with most places of less than 10,000 population located more than 100 miles from the core area.

Given the projected population explosion in the core area, costs of local government undoubtedly will increase greatly, even on a per capita basis. Understandably, to perform an occupational and social upgrading function for former residents of outstate areas and, indeed, the entire Upper Midwest, the central city in the core area must have additional financial support from state and federal government. The central city must also join with suburban governments in the planning of transportation and communication networks that would improve access to job and social opportunities for upward-mobile poor and disadvantaged people. On a functional basis, many of the suburban districts may seek cooperative arrangements to support joint services and activities that could not be supported otherwise, for example, specialized educational services for medically and emotionally handicapped children.

New towns

A second settlement alternative is symbolized by the Minnesota Experimental City -- a new town located far enough away from the Twin Cities not to compete with the Twin Cities in those functions the Twin Cities metropolitan area is most capable of fulfilling. A new town, however, could be competitive with existing growth centers if located in close proximity to them. Indeed, the Minnesota Experimental City would be an area growth center. Depending upon its location, one or more existing area growth centers may need to be re-integrated into a new system of commuting areas.

If only a fourth of the projected increase in the core area population were located in Minnesota Experimental City a new town of 250,000 population would emerge -- the second largest city in the state, assuming that all the people working in the new town would reside there, also. A total public and private investment of 7.5 billion dollars or more would be required, of which 90 percent would be private. Planning, development and construction of one new town in Minnesota would represent, therefore, a major source of new jobs in the State over a ten-year period and the new town itself would represent a major new job market for migrants from rural areas and small communities in Minnesota and the Upper Midwest.

Satellite cities

A third settlement alternative envisions more rapid growth of the satellite cities of the Twin Cities core area, namely, St. Cloud, Willmar, Mankato, St. Peter, Albert Lea, Austin, Rochester, Winona, Red Wing, and

Eau Claire. Each of the satellite cities is located roughly 100 miles from the Twin Cities and would require, therefore, its own economic base to support the local resident population and provide job opportunities for commuters from small communities within its commuting area. For example, if one-half of the projected one-million increase in the core area population were to locate in the satellite cities, an additional 100,000 people (above presently projected levels) would reside in the Mankato-St. Peter vicinity. The satellite city alternative thus implies a dispersion of population from the core area to the first ring of area growth centers outside the Twin Cities suburban communities.

One variation of the satellite city alternative that might be cited at this time is the strip city. Each of the major thoroughfares from the core area to the satellite cities would favor the growth of a strip city that eventually would extend to the existing satellite cities. Such a population distribution, because of its proximity to a major thoroughfare, would reduce total transportation costs for its residents, assuming that some reasonable amount of luck was experienced in the mix of job opportunities emerging in the proximity of the major thoroughfares.

Multiple urban centers

A fourth settlement alternative envisions 10 to 20 of the largest urban places of the State serving as revitalized, growing, central cities, or major local service centers in the principal commuting areas outside the core area. The multiple-urban-centers alternative would result in the highest degree of population dispersion in the State and, also, the highest degree of functional specialization between the core area and

out-state commuting areas. Many business and governmental activities now performed in the core area would relocate in these areas. For example, technical training and higher education, along with specialized medical services, would decentralize to area growth centers. Much of the decentralization has been achieved already in higher education, but much more decentralization is feasible, given the projected growth of urban centers of 20,000 population or more.

The four settlement alternatives can be viewed individually or accumulatively. Individually, the last two alternatives imply the greatest degree of geographic dispersion of population and industry. Accumulatively, the entire set of alternatives imply increasing dispersion which, presumably, is correlated with increasing efficiency of urban settlement. Dispersion beyond the multiple urban centers, including the 10 outstate area growth centers, and roughly the same number of local service centers in the more populous commuting areas, is likely to result in decreasing efficiency of urban-regional settlement.

Economic considerations are involved in the assessment of growth potentials of area growth centers and local service centers. Central cities that are focal areas for high-order goods and services in a sense are blessed with the conditions for above-average growth. However, as the size of service center declines, the income elasticity of goods and services offered at these centers also declines. Consequently, income growth on a per capita basis is accompanied by differential rates of growth in each of the service-center classes, with the highest rates of growth occurring among centers with the widest range of high-order goods and

services, that is, goods and services with high income elasticities of demand. Eventually, of course, accelerating growth in the central cities will encourage decentralization to area growth centers and ultimately to local service centers. Already, in much of the American Manufacturing Belt the filling-in process has reached a point where local service centers in rural areas are becoming important industrial sites as manufacturing businesses especially seek to reduce costs of access to production inputs, including labor, and to regional market outlets.

Urban-Regional Development

Urban-regional development refers primarily to federal and state policies and programs concerned with locational transformations, that is, basic shifts in the locational patterns of businesses and households. We refer now to the needs and potentials for federal-state cooperation in urban-regional settlement. Three principal areas for cooperation are examined, namely, industrial location, public services, and regional organization.

Industrial location

Industrial location strategies in which federal-state cooperation is involved in an important way are illustrated in the development planning of the Appalachian Regional Commission. A four-step industrial development strategy is being implemented in Appalachia that starts with the preparation of national economic projections and the role of the region and subregions in contributing to national requirements.^{16/} Specific location requirements of industries seeking sites in the region

are studied and these requirements are matched with the location characteristics and attributes of each of the subregions and focal areas in the Appalachian Region. Finally, criteria are being developed for the channeling of public funds for infrastructure development in the subregional and area growth centers. So far, the Appalachian Commission has managed to work its way through the first three steps; it is now faced with implementation of industrial development plans, specifically, the concentration of limited federal and state resources in a small number of central cities. These cities must have high probabilities of becoming focal areas for industrial and population growth, and thus, centers of private investment and enterprise with minimal aid and assistance needed from federal and state agencies.

Similar patterns of industrial development have been proposed for the Upper Midwest. The Upper Midwest Economic Study was a first step in articulating the role of the Upper Midwest and its subregions in contributing to national requirements.^{17/} We have yet, however, to examine the specific location requirements of industries presently or potentially seeking sites in the Upper Midwest and we have yet to assess the locational attributes of each of the commuting areas of the Upper Midwest, matching these attributes with specific industry location requirements. Finally, we have a long way to go in developing criteria for effectively channeling public investments into a limited number of growth centers, not in response to private development that has not occurred already, but in anticipation of private development that will occur because of key public investments.

The Advisory Commission on Intergovernmental Relations (ACIR) has recommended a series of federal and state measures to encourage the location of industry in area growth centers as part of a national urbanization policy that would reduce some of the pressures of overcrowding, congestion, pollution and welfare assistance in the major metropolitan regional centers.^{18/} Various forms of preferential treatment were suggested, including preferential tax credit, preferential financing arrangements, such as low market-rate loans granted by the Secretary of Commerce, and location off sets in the form of direct payments by the Secretary of Commerce based on capital outlay or operating cost differentials (i.e., costs that would be incurred by a firm locating at a pre-determined site as compared with a more economically advantageous site elsewhere). In addition, public contracts might be awarded to surplus labor areas, and federal buildings and facilities might be located in furtherance of a national policy on urbanization. Parrallel state policies were recommended, also. The National Advisory Commission on Rural Poverty (NACRP) also recommended the use of tax incentives along with a portion of the federal government procurement expenses and investment expenditures as a stimuly for private investment.^{19/}

Clearly, federal-state cooperation is essential in achieving a redistribution of industry and higher levels of economic development in outstate areas. Approaches for bringing local governments and area commissions into the industrial development planning process still need to be worked out, however, along with additional approaches for bringing together state and federal governments in a concerted attack upon problems of rural-urban imbalance.

Public services

Another basis for urban-regional cooperation is in the provision of social services. Dispersion of economic activity from metropolitan to surrounding growth centers, and consolidation of the public services now located in many small communities, would lead to the availability of a wider range of services at lower costs for residents immediately outside the metropolitan focal area and within convenient commuting distance to the growth center where the services are concentrated. Residents in peripheral counties, however, are likely to be worse off over time with the migration of more and more of their local services to area growth centers. Needed, therefore, are neighborhood service centers (or local service centers that are the rural equivalents of neighborhood service centers of the central city) in close proximity to people using these services, particularly old people and those for whom any travel distance is extremely difficult or costly.^{20/}

Realizing the importance of proximity and convenience in making use of essential public services, that National Advisory Commission on Rural Poverty recommends not only the creation of local service centers that are conveniently located throughout the commuting area of a growth center but also the linking of these centers with the specialized facilities in area growth centers by publically supported transportation systems. Concentrating formerly dispersed services in a small number of service centers is essential in making possible the attainment of a minimal size of community for supporting and justifying a public transportation system. Criteria must be developed, however, for selecting local service

centers, either as specialized centers in which different local service centers share in the total range of services provided by these centers, or as general purpose local service centers in which a given range of services is provided in each of the centers.

Increasingly high service performance standards of emerging state and federal programs for improving the quality of life in all areas will force consolidation of present social services into larger urban places. The neighborhood or local service center idea, however, is one alternative for reducing the inequities of distance in rural areas by making possible subarea centers that are linked closely to area growth centers.

Neighborhood service centers in the central city, and even in out-state growth centers, are comparable with the local service centers in rural areas. Just as in the rural areas, central city neighborhood service centers must be linked to the surrounding growth areas and, indeed, to the entire commuting area.

The Advisory Commission on Intergovernmental Relations views the provision of public services as one means available to state and federal governments for influencing population movement. Like industrial location strategies, strategies for improving public services in all commuting areas, including the central city of the core area, must be developed with concern for the interdependency of all commuting areas in the regional system. Presently, the range of public services, and access thereto, is far superior in the central city than in out-state commuting areas. Consequently, disadvantaged people throughout the State migrate to the Twin Cities to acquire badly needed services that can help, over time, to upgrade individual economic and social status. Accordingly,

the Advisory Commission on Intergovernmental Relations recommends the establishment of federal-state matching program of resettlement allowances for low-income persons migrating from labor surplus areas to labor deficit areas, for example, new towns, satellite cities, or area growth centers. The ACIR recommendations also urge the provision of additional federal funds for on-the-job training allowances for employers in labor-surplus areas along with the establishment of a nationwide computerized job information system providing data on job vacancies, skills and availabilities. The private sector, therefore, would be expected to play a larger role than now played in upgrading the individual member of the labor force who is without employment or seeking better employment opportunities. Finally, the ACIR recommendations favor inactment of federal legislation to eliminate or reduce the migrational influence of interstate variations in public assistance standards and benefits. Each of these recommendations would expand public services in labor-surplus areas as a means of re-directing population movement to growth centers and local service centers, either from low-income rural areas or low-income urban areas.

Regional structure

Earlier the formulation of a national system of about 350 commuting areas was mentioned. The National-Advisory Commission on Rural Poverty has recommended that the Federal government, with the cooperation of the states, establish development regions made up of commuting areas encompassing the entire Nation. Each commuting area would have a present or potential growth center established by an appropriate agency of government

and would be designated as a development district. Thus, a national system of commuting area development districts is being advanced. Many areas would have, not only a present or potential growth center but, also, one or more local service centers to achieve a further decentralization of low-order services, especially those for which proximity and convenience are important considerations in the location of the service facilities. The Advisory Commission further recommends that the areas be eligible for a comprehensive planning grants from the federal government and that supplementary grants, in addition to the usual federal grants, be awarded to any federally-aided project that is consistent with the comprehensive plans of area development districts. Recommended also, is amendment of the Public Works and Economic Development Act of 1965 to provide grants for developing adequate public services and facilities in area development districts afflicted with severe poverty. Obviously, the Advisory Commission recommendations are particularly appropriate for the future development of the peripheral counties in the commuting areas of West Central Minnesota.

State-Local Cooperation

What are the major problems and potentials for intergovernmental cooperation at the state and local levels as compared with state and federal levels of cooperation? Obviously local constraints impose severe handicaps on economic-base development, especially with reference to industry location and regional structure. In providing public services, however, local governments and commuting areas are extremely important

because of the need for widespread citizen participation and involvement in the formulation and financing of public service needs.

Citizen participation and involvement is essential in deciding upon the location of low-cost housing, medical clinics for disadvantaged people, schools and colleges, public transportation facilities, and access to open space. How to team participation with expertise is, of course, one of the unfinished tasks of state and local governments. Recognizing that urban-regional cooperation is hindered by organizational "blindness", selected fields of public service -- housing, health, education, transportation and open space -- are cited in the context of the existing and projected situations in the two seven-county prototype areas -- the Twin Cities core area and the West Central Minnesota pilot area.

Housing

Separation of jobs from job seekers raises some key questions regarding the location of new housing development, particularly for poor and disadvantaged families.^{21/} Should submarginal, existing housing be replaced by new, low-cost public housing in the same neighborhood or in neighborhoods close to new job opportunities? Should the new housing be scattered throughout the neighborhood or concentrated near major thoroughfares? Finally, should certain neighborhoods become primarily low-cost housing areas or should a balance of socio-economic groups be sought in all neighborhoods? Clearly, a central city is unable to fulfill its upgrading function, and also its environment-sustaining and value-reinforcing function, when it lacks a diversity of socio-economic groups. Understandably, people seek a homogeneity of contacts in their

socialrelationships; otherwise, they would not enjoy support for their way of life and the services they expect from local institutions. Homogeneity on a micro-scale, however, is compatible with variety on a macro-scale in a large city.

To improve the housing situation in the Twin Cities Metropolitan Area and in the seven-county West Central Minnesota Area, both the supply of housing must expand and the demand for it must increase.^{22/} To increase the incomes of disadvantaged and poor people without increasing the supply of housing would simply inflate the price of housing; both supply and demand expansion must occur in some reasonably coordinated fashion. A coordinated approach means, however, that housing development cannot move too far ahead of the planning and development of transportation systems and educational and health services.

Health

Lack of adequate health and medical care facilities in rural areas is an important factor in accounting for the high rates of rural out-migration and the reluctance of core area businesses to expand into rural areas. Sparsely settled areas fail to generate sufficient business to encourage maintenance of minimal medical facilities and services. Equally important is the lack of diversity and opportunities for sustaining the sort of community environment sought by professional workers and their families. Because of its size, a large urban place will have people with similar values who can get together and re-inforce each others values.

Limited studies in the economics of medical care in rural areas suggest a minimum population of 75,000 to 150,000 to maintain an adequate rural health and medical system. Many of the commuting areas of Minnesota are barely large enough to support an adequate range of medical facilities and services, especially in close proximity to many area residents in greatest need of these services, namely, the aged and the disadvantaged. Half of the area growth centers are large enough to support a 350 bed hospital and a staff of both general practitioners and specialists to handle a wide variety of health and medical needs. However, poor and disadvantaged people in the commuting areas served by the larger growth centers still lack access to services comparable to those that they would have in the central city.

Local service centers in rural areas can function as medical sub-depots and as a receiving station for the medical complex located in the growth center -- a receiving station that might be handled primarily by para-professional workers.^{23/} Again, a West Central Minnesota pilot area program could demonstrate the feasibility of several local service centers in adjoining commuting areas jointly supporting a health and medical care complex, along with their respective area growth centers. Such a pilot area program would be of particular concern to those seeking a more efficient and equitable distribution of the cost and benefits of national economic growth.

Education

Health and medical care, rather than education, was cited first because of the well recognized leadership of Minnesota in the health and medical care fields. Compared with other states, however, the public

education system in parts of Minnesota is responding somewhat later to the challenges facing public education generally, first, with reference to school consolidation and, more recently, with reference to the adequacy and quality of the education itself.^{24/}

Quality of public education varies greatly within the State and, indeed, within the seven-county Twin Cities Metropolitan Area and the seven-county West Central Minnesota Area. Differences occur because of differences in socio-economic backgrounds of school pupils, school administration goals and objectives, teacher experience and motivation, and a number of other reasons. Even in the seven-county core area, opportunities for supporting specialized educational services are lost because of small and inadequately financed local school districts. Substantial opportunities exist for inter-district cooperation and support of a wider range of curricula and specialized services, for example, particularly as part of the general upgrading function of the central city and suburbs and in response to the needs of people with special problems and handicaps. Again, parallel experimental educational programs in the core area and the pilot area would provide opportunities for investigating new and improved educational approaches that could be utilized in school districts throughout the State and the Upper Midwest.

Transportation

Transportation systems planning is one of the first candidates for urban-regional cooperation because of the importance of travel to area growth centers and regional centers. Intra-city travel is related to inter-city travel, highway travel is related to airway travel, and hauling freight by motor truck is related to hauling freight by rail

car and barge. Coordination of public investments in transportation systems, therefore, is a prime concern of area planning commissions and councils.

In the West Central Minnesota Area, transportation systems planning for future urban-regional settlement must be based on entirely different patterns of land use than those based on past trends. Because of proximity to both the Twin Cities and Fargo-Moorhead, recreational sites are likely to be more intensively utilized in the future than in the past and access routes to and from these cities will be required that depart sharply from existing road layouts. Critically important is a total resource planning approach that brings together the principal determinants affecting the network of roads and highways and that also are affected by changes in existing transportation networks.

Open space

Finally, planning and development of open space for an entire commuting area illustrates the interdependence of communities in their search for a quality environment.^{25/} Incorporated places acting individually are reluctant to plan for open space that is utilized by residents outside the incorporated place because of potential tax losses. Urban-regional cooperation is essential, therefore, to make possible an internalizing of the costs and benefits of open space and related recreational activities.

Commuting areas define one community of interest in delineating recreational areas. Other interest communities may include only peripheral counties of adjoining commuting areas, or only core counties of

major population centers. In West Central Minnesota, because of the proximity of recreational sites to local service centers, an important consideration in planning and developing open space is the contribution of outdoor recreation to the economic base of the seven-county area. On the other hand, residents of the core counties in which the surrounding growth centers are located are concerned primarily with access to recreation sites in peripheral counties and the potentials offered by these sites in adding to their enjoyment of the good life.

To the extent that the costs and benefits of recreational area development are internalized within a commuting area, the center-periphery relationship becomes critical in organizing planning and development efforts. More likely, however, a substantial number of commuting areas must be brought together before the full range of costs and benefits are internalized.

FOOTNOTES

1/ Prepared for the annual meeting of the Minnesota City Managers' Association, Mankato, Minnesota, April 11, 1969.

2/ Professor and Research Coordinator in Resource and Community Development, Department of Agricultural Economics and Center for Urban and Regional Affairs.

3/ Edgar M. Hoover, "The evolving form and organization of metropolis", In: Issues in Urban Economics, Harvey S. Perloff and Lowdon Wingo, Jr. (eds.), Johns Hopkins Press, Baltimore, 1968, pp. 237-284.

4/ Wilbur R. Maki, Growth Centers and Regional Development, Report prepared for the Office of Regional Economic Development, U.S. Department of Commerce, Department of Economics, Iowa State University, Ames, September 1966.

5/ Edgar S. Dunn, Jr., The Location of Agricultural Production, University of Florida Press, Gainesville, 1954.

6/ Wolfgang Stopler, "Spatial order and the economic growth of cities", Economic Development and Cultural Change, Vol. 3, Jan. 1955.

7/ Walter Isard, Location and Space-Economy, M.I.T. Press, Cambridge, 1956.

8/ Eric E. Lampard, "The evolving system of cities in the United States: Urbanization and economic development", in: Issues in Urban Economics, Johns Hopkins Press, Baltimore, 1968, pp. 81-139.

9/ Karl A. Fox, "Metamorphosis in America: A new synthesis of rural and urban society", in Change in the Small Community, William J. Gore and Leroy C. Hodapp (eds.), Friendship Press, New York, 1967, pp. 62-104.

10/ U.S. Bureau of the Census, Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice (Bureau of the Census Working Paper No. 28), Washington, D.C. 1968.

11/ Karl A. Fox, "A program to promote maximum employment, human dignity and civic responsibility in the United States", Department of Economics, Iowa State University, Ames, April 29, 1968 (cyclostyled).

12/ John R. Borchert, The Urbanization of the Upper Midwest: 1930-1960, Urban Report No. 2, Upper Midwest Economic Study, University of Minnesota, February 1963.

13/ For a delineation of commuting areas in the Upper Midwest based on state planning and other administrative designations, see: Wilbur R. Maki, "Regional economic development and water", in: Opportunities for Regional Research on Water Resources Problems, Dean T. Massey and Gordon D. Rose (eds.), Mimeograph No. 10, Agricultural Law Center, University of Iowa, Iowa City, Iowa, September 1968, pp. 84-104.

14/ Indeed, the distance between incorporated places is less than the six miles characteristic of rural areas in the days of the team haul and unincorporated township government. To fully appreciate the outmoded governmental structures within which a core area attempts to assume its key role in regional growth and development, one simply has to look at the history of incorporation in the seven-county Twin Cities Metropolitan Area. Practically all of the new incorporations in the state have occurred in this area, which certainly must make the seven-county area some sort of a frontier in governmental fragmentation.

15/ Anthony Downs, "Comment: intrametropolitan development", in: Issues in Urban Economics, Harvey S. Perloff and Lowdon Wingo, Jr., Johns Hopkins Press, Baltimore, 1968, pp. 419-429.

16/ Based on discussion notes of a talk presented by Ralph Widner at a seminar on rural-urban balance sponsored by the Upper Midwest Research and Development Council, Minneapolis, Minnesota, January 1969.

17/ James M. Henderson and Anne O. Krueger, National Growth and Economic Change in the Upper Midwest, University of Minnesota Press, Minneapolis, 1965.

18/ Advisory Commission on Intergovernmental Relations, Urban and Rural America: Policies for Future Growth, Report A-32, Government Printing Office, Washington, D.C., April 1968.

19/ President's National Advisory Commission on Rural Poverty, The People Left Behind, Government Printing Office, Washington, D. C., September 1967.

20/ Wilbur R. Maki, "Infrastructure in rural areas", in: Rural Poverty in the United States, A Report by the President's Advisory Commission on Rural Poverty, Government Printing Office, Washington, D.C., May 1968, pp. 86-109.

21/ Lee Rainwater, "Social and cultural problems of migrants to cities", in: Rural Poverty in the United States, op.cit., pp. 248-266.

22/ Scott Green, Urban Renewal and American Cities, The Bobbs-Merrill Company, Inc., New York, 1965.

23/ Carl F. Kraenzel, "Area development as exemplified by sixteen county cooperation in sparsely populated Montana", paper prepared for the Seminar on Area Planning in the Great Plains, Denver, Colorado, September 30 - October 1, 1968.

24/ See, for example: Iowa State Department of Public Instruction, Education Beyond High-School Age -- The Community College, State of Iowa, Des Moines, 1962.

25/ Jeanne M. Davis and Peter House, Open Space: Its Use and Preservation, Economic Research Service, U.S. Department of Agriculture, Misc. Pub. No. 1121, November 1968.