PAPER NUMBER THREE

THE SCENARIO FOR MINNESOTA'S EXPERIMENTAL CITY

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NOTE

The University of Minnesota Experimental City Project is a study of the concept of an experimental new city in the 250,000 population range, in which the human condition would be improved significantly and where, as a national proving ground, technological innovations could be demonstrated and evaluated.

Much of the content of this statement draws heavily upon the studies conducted at the University of Minnesota from 1967 to 1969. (Minnesota Experimental City Progress Report, May 1969; Volume I: A Compendium of Publications Relating to Socio-cultural Aspects; Volume II: A Compendium of Publications Relating to Economic and Physical Aspects) Reports are available through the Project, 110 Architecture Building, University of Minnesota, Minneapolis, Minnesota, 55455 at $2.50/volume.
The United States is today an urban nation. Fully 70% of our people reside in nearly 6,000 urban centers and most of this population is found in 200 major metropolitan areas--composed of an urban corporate unit, or units and adjacent suburbs. We have come to recognize these facts about urbanization and their implications, but we have not fully assimilated them.

We were nurtured in a society whose traditions were based largely on rural and small town experiences. Our values, institutions, and folkways are firmly grounded in a way of life that evolved slowly over centuries. But that era ended rather decisively in the United States about the time of the Second World War. From that historical watershed we entered a new world and a new time--a time of change.

Indeed, the cascading changes of the last two decades have meant new problems for both rural and urban America--problems which are overwhelming! There is disgust, anguish, alienation, and impatience, and in some places open revolt. But why?

Mankind has never been richer, but the gap between rich and poor is widening. We have more democracy than ever before, but more dictatorship. We have more concern for equality--which makes the lash of unreasoned discrimination all the worse. We have the capabilities to build large, and sometimes beautiful cities, but still we have slums; to build 100-million motor cars and still we have traffic jams; to educate all and still we have illiteracy. We have the organizational and technological capacity to put a man on the moon, but all around us our most elementary institutions are failing. The streets are not clean, the schools don't educate, the air is foul, and people feel unsafe.

It is in this setting that a new generation is stirring. America is
coming under the domination of an urban generation—management conditioned, well educated, economically confident, and technologically strong. For this generation, the city is not an alien place. It's a natural environment, a familiar home. The new generation grew up on city streets, found pleasures in crowds, and made a living in managed corporations. The city is its past, as well as its future.

This new generation is not coming upon us like some slow-gathering fog, gradually and unnoticed. Already it stands around us in growing numbers and, before we know it, it will engulf our cities. Within a mere three to four decades, a doubling of our population is expected and most of the needed concomitant development will occur in our cities. That population will be city-oriented, with city values, attitudes, and behavioral patterns; it will not be conditioned, disciplined, and motivated in the way as were earlier urban residents. Further, the population will come in such numbers that another, wholly new urban plant (doubling the nation's entire existing physical facilities) must be put in place to accommodate them.

These new generations will come with such aspirations, expectations and demands that mere replication of existing urban facilities and services will be insufficient and unacceptable.

Let there be no doubt about it! They are not likely to be satisfied with another Chicago (even a new one), nor another Detroit, nor a Los Angeles, or Miami. Even the people who now live in these cities (retired farmers and their emancipated offspring), are not satisfied with them. How can we hope to sell such arrangements to the younger, even more sophisticated clients? They obviously will be accommodated! But how? Where?

Shall we extend and expand still further the suburbs of our existing urban centers? Given no alternative directions, we will do just that,
drifting along in the established and well-worn paths of suburban accretions tied onto existing cities. They become drag chains of cities that are already ungovernable, divided by dissension, bordering on bankruptcy, and smothering in a sea of waste. Such expansion will continue to grow and spread until overlapping one another, they will form unbroken bands of urban congestion lining our coasts and extending for hundreds of miles. This is the prognosis for undirected urban expansion, following present trends. With few exceptions, we can foresee the shape of America's urban future (if no intervention occurs) in existing city building practices. The prospect is bleak and forbidding, and one which few people would knowingly espouse.

But we don't necessarily need to view the current scene with such finality. Instead, we can view it as a new beginning of history, a new beginning in which we can take hold and create a new environment. We have the wit and the resources to fashion a better future for ourselves and our children. However, to achieve a better urban environment, it will be necessary to shift our planning emphasis from one of accomodation, to one of choice.

Traditionally we have opted for managing and shaping our world, for being masters of our own fates. What we prized as an individual trait in a frontier era, the determination of one's own destiny, we must now learn to develop as a collective ethic in an urban era.

We have the capability and the resources to break out of the narrow confines of past practices and to build a new urban culture, one better suited to present realities and future prospects. What we must do is to make the willful determination that we shall be a proud, efficient and well managed society; that our cities shall be both productive and beautiful; that they shall represent our best efforts as an urban civilization.
AN EXPERIMENTAL CITY

To the 1965 call of Dr. Athelstan Spilhaus for a full scale city experiment, a number of people -- from business, industry, government, and the academic community -- responded favorably. Their early discussions led to the notion that the starting point should be the development of an experimental, new city in which modern technology would be used to improve the human condition, to improve it significantly.

To them, the City should be more than a physical experiment. It should test out; it should demonstrate the application of developing technologies to our service problems. More than that, it would be a crucible within which we might try out some of the new ways of life made possible by today's economy and technology; new ways of achieving the social and political objectives of our American heritage; and new ways of devising institutions for the requirements of this new era. Here it would be possible to experiment in the real world, on a municipal scale.

Just as our agricultural experiments earlier enabled us to achieve particular eminence, so would this experiment in city-building and urban life serve to give needed direction and vigor to America in the years ahead.

And let there be no mistake about it: we enter this last third of the 20th Century with few sure guidelines for action and only vague notions about what the future holds. If we are to spend wisely the billions -- no, trillions -- of city-building dollars (which will in any event be spent), we will need all the know-how we can develop. It is wholly appropriate, therefore, that we equip exploratory missions to "scout ahead," to probe and analyze, to find ways to mold creatively, new, effective environments.

We need to start with the premise that reorganizing and restructuring existing urban centers can never provide the milieu needed for the urban
experiments here proposed. Cosmetic surgery, which is about all that can be offered in our established cities, is not proving adequate to the task. While renewal and rehabilitation, rebuilding and refurbishing will be needed to extend the useful life of our present urban centers, our cities must be capable of satisfying the demanding standards of an affluent, technologically advanced, sophisticated urban society. Tinkering with, patching up, and readjusting the fabric and machinery of nineteenth century cities is not going to fit them to the task. These are institutionally as well as physically immune to radical solutions.

We must start afresh on new ground, with as little handicap from the past as possible. Our mission must be to break out, and break through; to innovate, experiment and work out the "bugs". Let us begin building new and different visions of how urban America should be organized and housed. However, in these efforts, let us also be guided by the understanding that this is a dynamic age and that we work with few certainties. Therefore, let us not expect to find the answer, the formula which can be applied repeatedly. If there is an answer, perhaps it is that testing and experimentation must continually adapt our approaches to changing circumstances.

THE ORGANIZED EFFORT

For four years, energies of the University of Minnesota, of the State and Federal governments, and of the business community have been harnessed in developing the theoretical foundations for such an entirely new kind of city. From the outset, the idea maintained a magnetic quality, attracting the brainpower and experience of some 200 individuals from all over America. These individuals were guided by a very talented twenty-four-man Steering Committee, the national contributions of most of whom are known to you. They come from diverse worlds — from health, education, economics, and social work, from government and the military, from science, religion and from planning and architecture. These committee members note that the United States is in urgent need of planned new cities to set new design
standards for a population which for too long has had to accept
scattered, unorganized growth as the norm.

More than assembling bits and pieces from the present urban structure,
the MXC Steering Committee members seek to achieve an overlap--at once,
an advance into the future possibilities and a break with past con-
straints--in man's ability to shape his environment and the quality of
his life. They seek to break through, and break out. Their premises are
that:

(1) man can creatively mold his environment;
(2) that he can, in a positive and constructive way, unite the
resources of private technology with public authority; and
(3) that he can reorient social, economic, and physical forces to
serve people.

The premise is that a new environment can be devised that will cast off
the drag chains of a century of unplanned evolution, that will "overleap"
the earlier development processes to provide for new heights of human
fulfillment.

CONCEPTS OF THE PEOPLE AND THE CITIES.

Concepts were formulated against a backdrop of premises to effect
significant improvement in the human condition—not just in man's social,
or economic or political world, but in all of his relationships. The
following set of community and human values was early subscribed to, and
has been maintained to date:

(a) The City will encourage citizen participation in evaluation
and change. It will develop mechanisms for adjusting the city's
institutions so as to accommodate this change.

(b) The City will foster social interaction with the various age
groups and between groups of different ages as well as between
religious, racial, and ethnic subgroups.

(c) The City will support personal integrity, individuality,
and choice.
(d) The City will meet not only the common needs of individuals and groups, but also the special needs of subgroups such as the very old and the very young.

(e) The City will provide protection and security.

(f) The City will foster creative and renewing experiences.

A concept of total systems promoting human development is put forth as the central and dominating theme for the planning process. The paramount consideration is to make people the heartbeat of the city, rather than permit the technological framework to become the pervading element.

Some particular social concerns include:

(1) Urban people come in all ages, sizes, and shapes. A city planned for people therefore would take into account needs and aspirations throughout life, not just children and youth, or those traditionally thought of as contributing to the Gross National Product. The City would be designed to provide a range of developmental opportunities to people of all ages and backgrounds. Implications: new educational systems will be required; work-leisure roles may alternate throughout life; young persons, indeed people of all ages, must have entrees to political systems. How can all of us be given adequate means and sufficient time to influence public decisions effectively?

(2) There are among people, certain common and basic needs that continue throughout life. There are others which are age-related. In addition, each person develops his own unique fit as his life experiences unfold. Inevitably, there will be conflicts among these needs. Two dimensions of the problem:

(a) Inevitability of these conflicting needs requires new criteria for making hard choices lest those with little influence or power be continually sacrificed. Do you spread the penalty of the planning choices? Really serious attention must be paid to the implementation part of the plan or, again, the weaker interests will lose out. Innovation in implementation is urgent.
(b) The diversity of needs suggests the importance of keeping as many options open as long as possible -- a kind of negative planning. Might we not consider planning for a range of needs instead of the average? As a possibility we might have the duplication of services or services to meet more than two categories of needs; keeping the plan openended and easy to open up.

(3) Another area of concern: the whole notion of a core model for NXC needs examination; the need to input variables reflecting human needs and aspirations; the need to develop the social accounting system.

(4) The City cannot be built with economic resources from the private sector alone, particularly where this would mean that decisions would have to be made with an eye to investment return. People and their government, the public sector, must be involved to create a city for people! We must re-examine the cost and benefit rationale (even though non-economic cost and benefits may be included) for planning decisions. We might choose to develop a probability-for-success formula which would force consideration of potential resident satisfaction.

(5) Man's needs and aspirations change over time. Thus, we need to plan for tomorrow and the next tomorrow, too. To keep the options open, we particularly need to work hard on developing feedback channels, hopefully connected to key decision points in the city system.

A needed focus as the United States enters its third century is upon the future relationships of people in urban environments. How can we best accommodate the young and old, the rich and poor, the black and white, the swinger and the square in one community? An Experimental City could be a testing ground for just such new living patterns. These patterns, if their practicability and viability be demonstrated, might point the way for cities to adapt more readily to changing urban situations.

For too long the design of communities has drawn upon a principle we enunciated in the 1920's--an era in which the technologies so radically affecting city-form and activities were unknown--in which family and friendship units and the values and customs of rural America were
held in high esteem; in which each community was less dependent on state
and national interest; and in which there was little regard for man's
relationships to his environment. If society has produced changes in
man's needed living arrangements since early post World War I days, then
the community planning assumptions surviving from those days must be
re-examined. They have a tenacious grip on the various urban planning
disciplines.

Among the assumptions which stand in need of examination in the
light of current conditions are:

(1) We have assumed that the neighborhood, with its focus upon
the elementary school, should be the basic design unit on the
micro-community level. What of the resident’s ties to people
outside the neighborhood, or the needs for participation and
interests in community-wide activities?

(2) We have assumed that low density residential areas, separated
from places of work, foster a sense of personal freedom in the
management of the immediate environment. What of residents who
prefer multi-family dwelling units or limited land resources?

(3) We have assumed duplication of human services within a community
is wasteful of financial and manpower resources. What of the
potential quality, innovation, and cost effectiveness benefits
which a cartel arrangement stifles? Duplication of some human
services might be justified in the broader community context.

(4) We have assumed that trends in the settlement of communities reflect
the preference of the residents. What have been the limits on
the range of options from which urban residents can choose?

(5) One more assumption to be challenged is that the family, headed
by young, employable parents, is the primary unit around which
community design proceeds. What of the needs of persons with
more than 25 years of living experience, the large number of
middle aged and elderly?

Our premise will be that an understanding of the personal and social
relationships of urban people to each other, to their institutions, and to
the physical setting of the city is a potential springboard for achieving
communities which are responsive to current human needs and aspirations,
as well as the cascading rates of change in human needs. Only after re-
examining social roles and relationships in current urban society can
deductions be made to modify or support existing community planning concepts.

Typically, we tend to dichotomize urban problems into social or physical problems. For example, the "urban crisis" calls to mind human beings imprisoned in ghettos, institutions afflicted with hardened arteries, racial bias, foul air, or inefficient transportation networks. Corrective efforts fail when each problem is treated without regard, on the one hand, for the technological barriers or contributions, or, on the other hand, for the individuals and groups who can escalate or alleviate a detrimental physical condition. For example, newly established job opportunities go unutilized because of transportation impediments in the central city, public subsidies continue at high levels, resentments rise, etc. Obviously there are interacting relationships between the social and physical worlds which, taken together, comprise a city.

The press and movement of people in status, as well as in space, raises very serious problems only now coming to a head.

What are the major criteria which individuals consider important in governing their associations with others? What are the mechanisms by which different groups come to face, meet, and know each other in mutually fulfilling ways? What are the characteristics of physical settings which meet the social objectives of man? Can these be specified for the 1970's and on into the 1980's?

Answers to these concerns require a perspective of the city as a socio-physical entity.

Problems: The starting point for a coordinated socio-physical theory is a specification of human needs and aspirations as they unfold, expand, and change throughout the life of every individual. But the task is complex. Some human needs and hopes are psychological; others are social; still
others are biological. Moreover, the requirements of different individuals and groups are frequently incompatible. Some needs and hopes are constant throughout life; others evolve over time. Usually we endeavor to deal with these matters intuitively and, in so doing, generate urban systems which, with the hindsight of today, are frequently in conflict with, or irrelevant to the basic premises of human existence.

We would seek to devise an urban theory based, not on accident, not on random intuition, not on idealistic speculations of what becomes mankind, but rather on a rigorous synthesis of that which is known or intelligently guessed about the premises of human fulfillment. The problem if social and physical systems are to be tied together, is knowing which of man’s needs and desires are basic to personal and social growth and development and postulating from them a setting which insures the stable evolution of the people it embodies; in brief, urban physical and social forms in which needs and aspirations can be fulfilled.

SCENARIO FOR MINNESOTA’S EXPERIMENTAL CITY

The roles of the project team, the roles of thinkers, planners, developers, and managers, must be roles of intervention—actions which alter the social and economic environment to achieve otherwise unattainable goals. A creative, coordinative intervention is needed not only to provide a good start for the MXC, but also to help it achieve an on-going viable community.

We envision a unique partnership in which the social, economic and physical concerns of both the private and public sectors are involved, a partnership through which private technology will be united with the broad resources of public authority toward the common goals of the new city.

A review of the Minnesota Experimental City Scenario provides some notion
of the dimensions of intervention required to:

(1) create a new, viable city in Minnesota, a city located at a distance from existing major urban centers, a city with a population of 250,000 or more;

(2) incorporate in the development an "instant" aspect, which would imply substantial physical completion within a ten-year period; and

(3) assure a social environment in which individuals can find opportunity for growth and self-renewal.

To establish a new city of 250,000 population within a ten-year period would entail an organizational effort almost without parallel in our history. Under the simplified assumption that the level of immigration would be constant, an average of 25,000 people would have to be attracted to the City each year.

If 25% of Minnesota's projected net growth during the period 1975 to 1985 were to be attracted to the new city, between 35% and 50% of the population target would be reached. A further boost would be provided by attracting what would otherwise be net out-migrants from the region. Even if it be assumed that in excess of half of the new city's population would come from Minnesota and its neighboring states, still well over 10,000 people per year will need to be recruited from the rest of the United States and the world.

With this assumed constant level of 25,000 in-migrants per year would come the need to generate something of the order of 8,000 to 11,000 jobs per year. Half of the jobs in the MXC can be accounted for by the minimum requirements of servicing the population; the other half (up to 5,000 jobs per year) would be in basic activities, with 1,500 to 3,000 jobs per year probably in manufacturing.

Under the above assumptions, housing would be required at a uniform rate of between 7,000 and 9,000 dwelling units each year. The need for housing and jobs, of course, would not develop uniformly. For example,
there would be an initial period during which a large number of dwelling units would be needed for the construction force. The task would be further complicated by such problems as timing; the need to build critical infrastructure in advance of residential, industrial and commercial facilities; and the need to match housing and job development.

The scope of the undertaking can be understood also in terms of the dollar investment required; a crude estimate of the total cost of the City can be derived from estimates of per household costs and number of households. Assuming between $100,000 and $150,000 per household for infrastructure, jobs, housing, etc., and allowing for 80,000 households, yields a total cost of between $8 and $12 billion.

While in absolute terms an experimental city seems expensive, in relative terms it does not. Nationally, if the same per household costs are used, and if, on net, 35 million new households are formed between now and the year 2000, $4 to $5 trillion in new urban capital is going to be needed. Thus the proposed City would represent only about one-half of one percent of all the money which, under the preceding assumptions, will be required in urban capital between now and the year 2000. And even without the Experimental City having been built, most of the money it would have cost would have to be spent just to accomodate the 250,000 people the MXC would have housed.

Firm commitments on the part of business and industry to generate economic activities and employment opportunities are an essential precondition to breaking ground for the Experimental City. From these commitments to intervene in a situation where development would not naturally take place, a major part of the City's economic base should develop.

From this initial intervention will come the impetus for the City's commercial life so that factories, stores, jobs, people, housing, and community facilities meet together in completion at scheduled points in time and space.
THE ATTRACTIONS OF INNOVATION AND EXPERIMENTATION

With its heavy emphasis on innovation and experimentation, the City might expect to attract firms oriented to research and technological innovations. Of particular importance for the Experimental City would be the fields of electronics and communications. The rapid growth of those industries and their anticipated growth rate in the decade ahead make them prospective sources of economic activity in the City. Further, electronics and communications firms are well represented in Minnesota and some have shown particular interest in the new City proposal. Many are currently expanding into small communities outside the Minneapolis-St. Paul metropolitan area.

The innovative communications system of the City would provide impetus for major growth in information handling and communications, supporting the idea of the City as a National Information Center. Such a Center would include activities related to handling, storage, and interpretation of data for a variety of users within the region and beyond. For example, if the City were located between Minneapolis and Winnipeg, it might serve as the principal point for mediating the information-oriented activities of those centers.

Tourism and Recreation: The City would be a major tourist attraction and a liberal provision of recreation and resort facilities would reinforce this role. The availability of leisure pursuits such as a regional theater and music hall would stimulate the City's recreational component and add to its potential as an emergent regional and national convention center.

Services: The Experimental City could develop, also, as a Services Center specializing in health, education, finance, government, retail trade, and personal services. Even without specialization, development of these services would be sufficiently broad to create dominance by the Experimental City over its hinterland.
Concentration of Public Investment: Cooperation by Federal, State, and local governments in decisions regarding the location of public facilities could give the City's economy a strong boost. By concentrating public investments in one city, a high level of service could be provided and many tangible economies realized. The significance of this to the economic base would extend beyond the direct employment provided by hospitals, schools, colleges, and other public facilities. Such concentrations would help establish the City as a credible unit and, therefore, attract further private investment. They would help to provide support to the economic base until such time as the minimal threshold levels for self-sustaining growth were attained.

To construct the necessary economic base and to achieve the investment to carry the project to full, viable maturity in the proposed development period will require unusual coordination in assembling the commitments. Obviously, a relatively large portion of the total investment would have to be committed in advance of the construction start, since the ten-year construction period permits little slack in the initial schedule. Further, capital investments in the early years and initial construction activity would produce little visible evidence until perhaps as late as year three. This suggests that good will will be of primary importance. Even up through years four and five, commitments would have to be based on the original prospectus and faith in the new City scheme. Thus, only during the second half of the period of development and construction would accomplishments be likely to trigger further investment decisions. The time lag for a particular industry would depend, of course, on the time needed between the decision to invest and final execution.

While the commitment to provide a setting for experimentation and for testing technology may well have favorable consequences for the economic base, it also carries issues which will confront the "interveners." For example, will social costs within the City outweigh the economic gains attached to certain innovations?
Again, one of the characteristics of experimental projects is that their components are considered disposable. Industry and business can write off their losses when they become too great. Is a comparable procedure appropriate for cities? Such a question points to the need for an economic intervention with a social dimension. Active participation by the public sector or a "commission" (with the capacity to bridge the gaps between economic, technological, experimental, and social considerations) offers some hope that the full range of costs and benefits will be carefully weighed.

SOCIAL INTERVENTION

During the formative years, intervention must be concentrated on motivating people to settle in the City and on providing an environment which will enhance the development of their individual and group resources so that a self-renewing city will result. If these objectives are to be accomplished, intervention must be based on two assumptions:

1. While economic opportunity and security are necessary to attract people to a new setting, a number of other roles must be satisfied—the role of a family member, of a man of leisure, of a resident of the community, etc. Initial intervention, therefore, must recognize the variety of non-economic needs and aspiration within each of the prospective residents.

2. If a viable, self-renewing City is to be achieved, initial intervention must include more than implementing plans to attract people. Equal consideration must be directed to providing an environment which sustains individuals and their desired interrelationships after settlement in the City. This assumption suggests the desirability of involving a full gamut of interests; for example, business, and industry, "public interest" organizations, and the residents themselves.

EMPLOYMENT PLANNING AND RECRUITMENT

Employment planning and recruitment will involve more than guaranteed opportunity and security. Difficult questions revolve around such planning needs as: an identification of non-occupational inducements including services required by the arriving population and the inducement potential
to be attached to the opportunity to participate in a unique experiment: guidelines for an effective orientation to the unique features of the City; the effectiveness of new employees as a recruitment force in stimulating others to move to the City; job training programs (both before and after settlement in the City) which stimulate the development of economic and social abilities that can become a positive force in the City.

Beyond the original recruitment process is the need to sustain the interests of new residents after their arrival. Recruitment efforts cannot meet objectives if the new resident's dissatisfaction with his job or the amenities of the environment force him to leave soon after arrival.

Therefore, conventional recruitment techniques must be supplemented by other measures aimed at meeting the short and long term needs of residents. That effort will involve residents as they articulate their needs, suggest modifications in recruitment programs, and assume the increasing authority required for the City to become a self-renewing entity.

ROLES OF AN MEC CORPORATION(S)

If the City is to achieve physical and social reality, it must have a structure or vehicle charged with planning, developing, and administering to assure successful intervention. While all of these three functions are interrelated, each carries an emphasis of its own which suggests the need for coordinated talents dedicated to realizing the desired concept.

One suggestion for the structure to initiate and oversee that intervention is a Minnesota Experimental City corporation made up of individuals representing private and public interests who have a stake in the realization of the City. This group, however it is originally constituted, would assume over-all responsibility for bringing the City into being. It is conceived as an organization concerned with shortening its own life by setting the stage for a permanent, democratic governing structure.
Until that government is realized, the corporation's role might be that of "inn-keeper".

Unlike the planning arms of local governments (which do not have the authority to implement), the planning of MXC would be a central operation. The City cannot "get off the ground" without implementing important planning assignments--the detailing of schedules, financing and awarding of contracts, and supervision of operations appropriate to the city-building tasks. Clearly established power to take decisive action will be essential.

The planning process will involve attracting and using the resources of both private and public organizations, identifying and incorporating those innovations which hold promise for reducing urban problems and for stimulating the MXC to meet its goals, and integrating the various subsystems into a working whole.

A second major responsibility of a quasi-public corporation is development--an activity concerned with putting the City in place. Obviously, this activity cannot be divorced from the planning process, as the City's physical structuring must, in large measure, be coordinated with the desirable social and economic ordering of the environment.

Finally, the corporation must plan for the point in time (or points in time) when administration of the City is to be assumed by its citizens. This involves early attention to the development of feedback and modification techniques and mechanisms linking the residents and organizations to crucial decision-making levels. Undoubtedly, the corporation will have demonstrated, by its performance in the early phases of city growth, certain features appropriate for incorporation in the permanent governing structure.

Two specific issues lie in the beginning authority of the MXC:

(1) Because of the City's emphasis upon its control of its environs, the organization must consider the political area to be metro-
politan in scope rather than constricted to city limits. Precedents for a metropolitan form of government, and an understanding of its strengths and weaknesses, are available in existing literature and should prove useful in these considerations.

(2) Because of the immense power inherent in the corporation, a "check and balance" alternative influence has been suggested which would not only serve as a constraining influence but could very well enrich the quality of decisions and accomplishments. A "blue ribbon" commission, serving in an advisory capacity to the corporation, could undertake the following tasks: predict changes resulting from technological advances; select new technological applications necessary to maintain a high-technology city; oversee physical and social experimentation programs; and define the criteria to be employed when experiments are in conflict or are interrelated. This kind of contribution to the development corporation should be of enormous aid in the formative months of the City when economic resources, participation, social goals, and physical structuring are headline news.

Even if time and money constraints did not press upon the building of the City, an important potential limitation is our inability to predict human reactions to it as a place to live. The innovative features raise questions which the MXC corporation must face regarding a curriculum which effectively orients people to productive use of the innovations; which of the innovations will the resident reject and which will he accept? How will the resident react to experimental efforts? Will the accumulated experience of the interveners garnered in more traditional settings, limit the alternatives considered? What is the most effective way to induce people of all kinds to move to the MXC?

Involved in these questions regarding man's values and desired living arrangements are perhaps the largest constraints of all to the realization of the Experimental City.

In laying the foundations for the MXC environmental construct, some deviations from standard planning practice will obviously be required. Unlike previous uses of econometric and land use planning models, in which the ultimate objective was a determination of the effect of marginal
increments or changes on existing urban system, any use of systems analysis in the development of an Experimental city should recognize that relatively few of the major parameters are fixed.

In the early stages, it may prove easier to consider economic, social, and political elements of MEC in terms of what they are not, rather than by what they are. This could be done by establishing upper and lower bounds of feasible behavior, performance, resource supply, etc., within which the planner should work. Such upper and lower bounds would arise from the range of acceptable policy alternatives which the Federal government and private corporate interveners in the city accept for the project. These might be supplemented, for example, by the range of socio-cultural profiles which typify employees in the particular firms.

Progress from the negative to the positive definition of the elements of the City and their relative configurations can perhaps be developed in terms of a core model to which all of the various subsystems can be related through the establishment of definitional consensus on variables at the interfaces of the subsystems. In this manner, work by groups of experts can proceed relatively autonomously and then be related back at intervals to determine the implications for the total system.

THE TASKS AHEAD

We know that the tasks ahead are enormous; we know that only through a level of cooperation unique in our nation's history can the proposed Minnesota Experimental City achieve reality. Certainly, it will require wholly new methods of planning, not just the traditional ones of architects and engineers, or of lawyers who plan institutions, or of the scientists and systems analysts who perform so magnificently on the complex systems involved in space and defense—but all of these, and others: educators, social workers, sociologists, economists, and political scientists who must determine the ends and help us to define the limits of means for building such a city.
We know that, while we have prototypes for such a planning team, we have never quite joined this expertise in a process capable of mounting an experimental city for the 21st century--focusing what we do know, and the best judgment about what we don't know, on the problem of how to define that city and build it. All the old, inherited institutions and compartmentalizations of city life are abandoned in recognizing that effective social services may require new institutions and new financial arrangements.

But more than that, we know that the planning process involves people; we know that we can put preliminary dimensions on such a city, but the people will arrive and they will change those dimensions; we can define preliminary goals, but the people will change those goals. And with people of all types, occupations, and races, that change is bound to occur more rapidly than in the somewhat segregated society in which we have lived in the past. Indeed, if this does not happen, the city will not be worthy of our attention.

The possibilities for progress have expended enormously in recent years. But we have really proceeded only at a snail's pace. The gap between the possible and that attained has grown ever wider.

Arrogant creatures that those of us associated with the Experimental City idea are, we have been saying to ourselves that we could build a city that was open to all, in which our massive technological capacities could be focused for once on building a city with adequate housing, stimulating jobs, superb education, exciting recreation, real security, varied neighborhoods, with air and water free of pollution; with effective transportation and communication systems--things not considered possible a generation ago. But more; we have been saying that we could build institutions which respond to changing human desires, which adapt to new tasks, new tastes, and new styles; desires which change as the city grows. Further, we have been saying that it is within the ability of men to build such a city in our time, to build without destroying our
heritage of natural resources, to build in a way that would generate pride and a new vital sense of community.

Today, you and I may not know that we can build a wholly ideal community, one that can reconcile the cleavages of class, race, and age and style of life of the multitude that comprises the American People. But, we must believe that it is possible. We know that the resources are there to do it, only they must be reallocated. We know that collectively we have the talent to invent the institutions, to engage in the professional collaborations, to devise new systems. Above all, we know that unless some group in America starts out confident that it can organize such an enterprise, and that it can persuade the state and the nation that it needs such a demonstration, it will never happen.

To achieve the Minnesota Experimental City scenario,—to bring a totally new city of 250,000 population from conception to full bloom in 10 to 15 years would require a tremendous effort, even if it were to be a conventional city in a high-growth area. To create a city of this magnitude,—a city which would entail large measures of social, economic, and physical experimentation, would be a city-building effort greater than most any of all time.

But we believe that there are in America today men and women who not only have the necessary pioneering zeal, but also the unifying vision to lift our abstract, theoretical studies into reality; and to move us from what we have today into what can be tomorrow.