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SUMMARY REPORT

**MINNESOTA
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THE MXC CONCEPT

Minnesota's quality of life has traditionally led the nation. With the growth of the past generation have come some problems - the decline of rural Minnesota population, growth of urban problems in the Twin Cities metropolitan area, increasing strain on the environment and the recreational countryside. If Minnesota is to maintain its leadership in quality of living, it must continue to pioneer in enhancing its environment, in creating opportunities for the young, in maintaining a viable economy, and in creating a better balance of its growth between the metropolitan region and the rest of the state. Minnesota Experimental City is a logical part of meeting that challenge of leadership.

MXC will not be a city at all, at least not in the terms we know a city today. It would be experimental in the same way that the nation's agricultural programs have been built on experimentation. MXC is based on the premise that because we have it within our power to build better living environments, we should do so.

Advances in the science and technology of agriculture and health, for example, have provided better lives for millions of Americans. It is ironic that we have not used research and development as intelligently in devising better living environments as we do in most other areas of our society and our economy. One basic goal of MXC is to provide the model, the example, from which other towns and cities - in Minnesota and across the U.S. - can learn and adapt as they continue to build and rebuild.

MXC is the leading project in the country to develop a new kind of city, one which reflects the values and needs of people, which affords the amenities of an urban area without the congestion and sprawl. With vision and foresight, it is possible to build a new urban community which expresses the hopes and goals of our society, which permits people to live in harmony with the environment. In Minnesota today, we have an opportunity to do just that.

BACKGROUND

Present trends in Minnesota are sobering when projected out a few years. While the state as a whole is growing at a comfortable rate, most of that growth is concentrated in the metropolitan region and a few smaller cities. During the 1960's, nearly all the population growth took place in the Twin Cities area.

The population of Minnesota is projected to increase by one million by 2000, less than 30 years from now. Most of that growth will take place in the Twin Cities' periphery with resultant congestion, sprawl, and costs. In 62 outstate counties, more than 200,000 will leave because of the lack of opportunity to stay.¹

Faced with these prospects, we can

- 1) let the forces of change run their course and suffer the consequences, incur the economic and social costs;
- 2) or we can attempt to manage the forces of change, using them to preserve the values of the region.

Wherever the population growth occurs in the state, significant public investment will be required in transportation, education, health care, utilities, and other facilities. It is only logical to begin making more of those public investments in ways which can produce a better Minnesota for the future.

¹
Minnesota Population, Minnesota Department of Health, 1972

Minnesota has been spared many of the problems seen in other states, but it is not immune. In many places it is too late to take the steps which are clearly needed, but Minnesota still has that opportunity to break the mold, to take positive steps now, to interrupt the trends that seem to be taking us all in directions we don't want to go. We need alternatives.

MXC is one such alternative. MXC is an opportunity to demonstrate what is possible, to demonstrate better ways of doing things which can be adapted by other communities. Such demonstrations aren't possible in existing urban areas today, where present living and governmental patterns are difficult if not impossible to alter in any significant way in the short run. In a new environment, free from the constraints of present patterns, we have the possibility of creating not only an improved new city, but a new kind of city. A total community which is designed and built on a human scale, which respects the environment, which makes use of technology instead of being the accidental result of obsolete systems installed for a different era.

Such a development needs to be large enough to have its own economic viability and to act as a regional growth center, large enough to test out carefully structured innovations in a flexible, dynamic way. All studies indicate that the population required is between 150,000 and 250,000.

An experimental city would bear a family resemblance to new towns in the U.S. and Europe, but MXC represents a maturation, a logical next generation in this proven concept - differing most importantly in its relationship with a larger region and in the degree of innovation possible.

The idea of an experimental city was developed and refined at the University of Minnesota in the mid-1960's, under the direction of a distinguished National Steering Committee. Today, it is an idea which has been endorsed by many in this country and abroad. It has already influenced urban thinking on a broad scale.

LEGISLATIVE HISTORY

In 1969 - after four years of intensive study - the idea for an experimental city was presented to the Minnesota Legislature. Committees from each house were given responsibility for considering the idea and returning in 1971 with recommendations. The committees endorsed the ideas and recommended that a special Authority be appointed by the Governor with responsibility for:

- *selecting a site in the state for an experimental city;
- *preparing a plan for the development of such a city.

Legislation was enacted by the 1971 Session, and the Authority was appointed later that year.

The eleven-member Authority, with the assistance of a small staff, has worked intensively since October, 1971, to develop a series of recommendations for the 1973 Legislature to consider. These include suggested sites, appropriate financing mechanisms related to MXC's income-producing potential, and necessary steps to implement.

SITE SELECTION

Site selection began with a screening of the entire state, based on criteria developed during the studies at the University and subsequent discussion with the State Planning Agency and the Department of Natural Resources. Criteria included:

- environmental characteristics,
- access to transportation links,
- potential benefit to existing towns and cities,
- distance from the metro area, and
- climatic considerations.

This analysis identified areas within the state warranting further study as well as some specific site areas. The result was identification of 21 potential sites across the state.

A more detailed set of 12 criteria was then developed and all possible sites were evaluated accordingly. Twenty-one site possibilities were narrowed to six, each of which was visited by members of the Authority, staff, and consultants. More detailed environmental analysis was performed on each of the six to determine its specific suitability for development, the nature of existing land use and settlement patterns, and the important physical and environmental characteristics which would determine future development. Factors analyzed included location of water and wetlands, soil characteristics, degree and direction of slope, vegetative cover and related information which will be of use to the areas involved.

Consideration was also given to the extent of public land in the site area and immediately surrounding area. Within the site area county-owned or administered land was considered advantageous in terms of acquisition. State or national forest land outside the immediate area could help serve as a natural barrier both to extension of the community in the future and to fringe developments.

Staff members were assisted materially in the environmental analysis by professionals from the Department of Natural Resources, the University of Minnesota and State College System faculty, the Soil Conservation Service, and various private consultants with special in-depth knowledge of the sites.

SETTLEMENT PATTERNS

Throughout history, man has come together in cities. Athens, Rome, and other capitals have been centers of civilization as well as seats of government. When George Washington and Thomas Jefferson selected a site for a new Capital city, they had these examples in mind. But as cities have grown like Topsy, we have seen congestion and sprawl inadvertantly created by speculative real estate economics and by local tax policies which have added to the deterioration of older neighborhoods. Adjoining farms and recreation areas have not been preserved as a logical, natural part of the environment.

A primary purpose of MXC is to learn from these unsatisfactory patterns of development and avoid their repetition. Planned communities - as opposed to accidental cities - are not a new idea. But in recent years a number have been created following the Garden City concepts of the early 1900's with extensive green spaces, some separation of pedestrian and vehicular traffic, neighborhood shopping centers, and careful planning of recreation and aesthetic amenities. One example is Jonathan, in Carver County west of Minneapolis; others include Columbia, Maryland and Reston, Virginia near Washington; Tapiola in Finland; Harlow in England; and Vallingby in Sweden.

While each of these represent superior planning and development, MXC has the opportunity to go beyond their accomplishments in several important ways including:

Greater decentralization of employment and retail activity;

Less reliance on the private automobile and highway system;

More open space and close integration with the surrounding countryside;

Greater opportunity for individual living choices;

Significantly more innovation in urban systems and their operation;

New governmental and political structures - including taxation - which foster new development patterns.

Much of this will be possible only in a non-metropolitan location, one which is free from the constraints and influences of existing development methods and practices.

DEVELOPMENT/LAND USE

The physical layout of MXC will be very different from that of most towns and cities. It will take its shape from the basic land forms, preserving much of the natural pattern. Only a small percentage (perhaps only one-third) of the total population will live in dense urban centers. The majority of the residents will live in a dispersed pattern throughout the larger area in patterns reflecting the topography and natural features.

While the total site area will be 50,000 acres or more, less than one half - approximately 25,000 acres will actually be developed. The balance will retain its existing use patterns or be altered only to enhance environmental and aesthetic values, to help retain a natural atmosphere, to provide privacy and a sense of space. Much of the "undeveloped" part of the site will be in agricultural use, making it possible for many existing residents to continue their present occupation.

Special attention will be given to recreational spaces - both passive and active - within the site, to provide a range of recreational alternatives as an integral part of the community, avoiding the necessity for the population to spill over into more distant points for their leisure pursuits.

ECONOMIC BASE

When most American cities were founded, they were located near natural resources or transportation routes. But as the economy has moved away from its natural resource base to a human resource base, older location factors have become relatively less important. Increasingly the strength of our economy comes from the processing of ideas and information, and employment moves increasingly into the service and knowledge industries. A city designed for the future should reflect that set of factors.

The economic base of MXC will be centered in two principal components - the development of new urban systems and the advanced communication/information systems. The city building business is one of the most important in the nation, and the growth and rebuilding of the nation will require it to double almost within a generation. As a test bed for urban innovation, MXC will have a natural attraction to such industries. Further, the quality of telecommunications and related facilities will become increasingly important as a factor in corporate expansion decisions, particularly in industries that are information dependent. Participation in the design and development of networks and computer software will be attractive to a wide range of firms in manufacturing and services.

Approximately 30 per cent of the total employment opportunity will be found in such activities as computer systems and services, educational publishing and services, consultants, planners, architects and engineers, multifunctional automated equipment, instrumentation, communications equipment and systems, industrialized housing systems, waste management and pollution control, and related urban systems. This is an employment base which will not grow significantly in Minnesota without the stimulus of an environment like the experimental city; it can add measurably to the quality of the state's economy. The remainder, and majority, of the working population will be employed in the usual support activities for the core industry and for the residents of the community.

Economic opportunities will occur not only in the city itself, but in a much larger region. Additionally, agriculture in the region will have an opportunity to serve a major new market and to develop new methods of production and distribution beneficial to the producer and consumer alike.

EMPLOYMENT

The economic activity projected for MXC can provide employment opportunities for approximately 130,000 persons. Just over half this employment would be in professional, technical, managerial and clerical jobs:

Professional-technical	21.2%
Managers	10.1
Clerical	20.9
Sales workers	6.2
Crafts, foremn	11.9
Operations and kindred workers	14.7
Service workers	12.3
Laborers	2.7

This employment would generate personal income well over \$1 billion (in 1970/dollars)

Manufacturing	\$458
Trade	173
Services	277
Utilities and Transport	88
Construction	69
Financial Services	60
Government	290

INNOVATION AND EXPERIMENTATION

Innovation in MXC will serve two purposes:

- *Provide improved urban systems for residents
- *Provide experience in urban innovation which can be adapted for use elsewhere.

Some of the innovations and experiments will be partially built into the city; others will be developed over time in response to the preferences of residents. Most innovations will have been tested on a pilot basis before use in MXC, so that there will be a reasonable level of assurance that they will "work".

People will not be "experimented on", but will experiment with the service and technological opportunities provided by MXC. Some of them may include:

A communications system that can reduce the need for much personal travel or alter the pattern of such travel;

A transportation network for both people and goods which is integrated into the community, not super-imposed;

Enclosure for parts of the community - perhaps using dome-like structures - to provide partial climate control.

Integration of energy production and waste management in ways which make optimum use of recycling and energy conservation;

A concept of education which makes the entire city a "school without walls" and the entire population the "student body".

Some of the innovations are described in the following pages.

TELECOMMUNICATIONS

The goals of a telecommunications system for MXC include the reduction in the need for the physical movement of people and information, the expansion of opportunity to all residents through access to information of all kinds, and support for the decentralized or dispersed settlement pattern desired for MXC.

The MXC telecommunications system will be built in to the structure of the city just as streets and sewer lines are in present cities. The city will be wired, but not automated. In essence the telecommunications system will represent an extension of the telephone and television systems we know now, but that extension will be considerable. It will be in four parts:

- *a cablecasting network delivery services to each resident.
- *an institutional network interconnecting businesses, municipal offices, hospitals and schools.
- *a switched audio (telephone) network.
- *a network for mobile communications.

The individual resident would have the ability to rent or acquire a range of terminal devices which could include interactive or two-way video and computer capabilities. For businesses and institutions, a more elaborate system with much more interactive capability will be feasible. The telephone system would be closely related to the cable casting network, in some cases providing interchangeable services in data and video transmission. Telephone, as well as other aspects of the telecommunications system would be interconnected into the larger national networks, including earth satellite stations.

TRANSPORT SYSTEM

A basic goal of the MXC transport system is to serve the movement needs of population, not determine them. The transport system is designed to provide individuals with more options than they typically have today where most people must rely on the individual automobile for convenient, accessible transport. A second goal is to provide transportation in ways which are environmentally acceptable. The present auto-roadway system in the U.S. is efficient in terms of neither energy consumption nor land use.

Providing better transportation requires several things: achieving a better balance of loads (smaller peaks) in the system and thereby a reduced capacity demand; the basic dispersed MXC land use pattern makes that possible. The proposed transport system conforms to that land use pattern and takes advantage of it by providing several realistic alternatives ranging from high speed "mass" transit to walking. The system for moving both people and goods will be based on a sparse network of high capacity, automated links with some secondary access roads. The vehicle fleet will consist of public transit vehicles operating only on an automated guideway; private and public vehicles (taxi-buses) operating on the road network; private dual-mode automobiles and trucks.

The transport system will be constructed in successive stages - perhaps six - so that while each is part of an integrated concept, the system can be altered on the basis of experience and preference of the population. Similarly, technological advances can be incorporated throughout the city's development without rendering existing system components obsolete.

Within the compact urban center of the community, both vertical and horizontal displacement will be built in, much as an elevator is an integral part of a single building.

EDUCATION

Learning is a basic human activity, but over time the process of education has become increasingly institutionalized with the result that the learning process is sometimes actually impeded by the very organizations created to facilitate it. The learning system in MXC will reflect the fact of the natural learning process and build around it. It will recognize that learning is a life-long experience, not confined to the young or to specified times or places. MXC will take the view that all its residents are learners and that all its citizens and institutions represent learning resources.

For the very young, learning experiences will be provided at an earlier than usual age both in the home and in special places. Youth will "go to college" in the entire state college and university system, and link into institutions elsewhere as well. Persons beyond the usual "college age" will use increasing amounts of leisure time to develop cultural and avocational interests; as job content changes and people experience two or more "careers" during a lifetime, more career education will occur both during the work day at the work place, and through a public system of education.

Education can take place in the home through widely expanded telecommunications capabilities including some two-way capacity. As the need for continuing education in business grows, cooperative arrangements will increase to put more structured education in the business place. Public facilities - hospitals, offices, theatres - will be constructed to recognize their education role. In addition, there will be specialized learning centers which transcend age groupings with capabilities like libraries and information banks, computer simulating and gaming, ecological and environmental resources.

MXC will be a learning community.

HEALTH CARE DELIVERY SYSTEM

Every resident will have access to high quality health care. Physical and mental health care will be part of one integrated system. The goal of the MXC health care delivery system will be to maximize the physical and mental wellbeing of MXC residents as well as that of residents from a larger area who may want to relate to MXC.

This goal will be approached in four ways:

Emphasis will be shifted from curative to preventive medicine.

Equal emphasis will be placed upon the best available technology and on the most advanced organizational arrangement to provide quality health care.

Services and facilities will be made more accessible to those in need of care.

Improvement in care will be achieved partly through systems to provide practitioners with better information about the patient, and the citizen with better information about health care and access to the care delivery system.

The MXC health care system will differ from other systems in a greater decentralization of care, with less being provided in large central hospital-type facilities; in a health information system which provides more complete information on participating citizens; increasing use of all those involved with providing health care; a strong "paraprofessionals" program of health education; a planning of facilities on the human scale.

The providers of health care - the doctors, dentists, nurses and others - will practice in any of several accepted manners. The idea is simply to provide the individual resident a greater range of alternatives than is typically available and to make it possible to enjoy better health care.

UTILITIES

MXC will consider all the usual public utility services as one essentially integrated system - water, electric energy, fuels, heat, sewage, solid waste. Many of the most important accomplishments in the 20th century are related to a high per capita energy consumption, yet it is increasingly clear that significantly greater efficiencies must be achieved in energy at a radically lower environmental cost. MXC energy planning revolves around those two factors.

All the technological alternatives now being considered for MXC are based on systems which have a high degree of recycling - water, sewage, solids - and a potential energy providing capability.

Some of the most important innovation and experimentation will take place in utilities, both technologically and politically. MXC will provide an almost ideal place to provide energy on a decentralized basis, using fuel cells, solar or wind energy, and related technologies which appear well adapted to small scale production. Energy will be supplied initially from existing regional grids, and the MXC system will evolve, able to anticipate future technologies and to experiment to some degree with the best alternatives available during the staging process.

MXC will also provide opportunity for new organizational arrangements for providing utility services which better deal with the need for public participation in certain policy aspects and for private sector participation in operating aspects.

SUPPLEMENTAL REPORT ON SITE SELECTION

MARCH 1973

SUPPLEMENTAL REPORT ON SITE SELECTION
MINNESOTA EXPERIMENTAL CITY

The 1971 session of the Minnesota Legislature created a Minnesota Experimental City Authority as a vehicle to plan and effectuate an experimental city project in Minnesota. A principal responsibility of the Authority was to select and designate a site for the Experimental City. At its meeting of November 17, 1972, the Authority voted to select two preferred sites, one in Douglas County and one in Aitkin County. It also recommended that the staff and members of the Authority continue their studies of the sites in these two counties and to discuss the project with appropriate public officials and interested citizens in the areas affected.

A further environmental analysis was carried out following guidelines established by staff and environmental consultants, and illustrative development plans were developed for each on the basis of environmental constraints and design considerations. In addition, socioeconomic and political factors were reviewed in considerable depth, including factors which had received only preliminary review during the first analysis.

Finally, meetings and discussions were held with elected officials and individual citizens in both areas.

The further environmental analysis, reported in part in Addendum One to the Environmental Planning Statement, reviewed each site in terms of a series of factors identified by staff and consultants. These factors were basic geology of the area; the location of principal soil types; waterbodies, including lake patterns and river corridors; hydrology, including lakes, rivers and streams, and floodplains and their relationship to ridgelines and sub-watersheds; location of principal roads and highways, railroads, and towns and villages; existing land use in terms of development, pasture, and agriculture; orientation of terrain in terms of southerly slopes, other slopes, and flat land; vegetation as identified by predominant forest cover, and landform in terms of flat land, rolling, and rough land.

In addition to mapping each of these sets of characteristics for each of the two sites, composite maps were prepared showing developable land - i.e., land which had suitable characteristics for development - and constraints such as lakes, marsh, floodplain, and organic soils. Finally, a land use suitability map was prepared for each site area to identify land which should be retained in open space (marsh, floodplain, lakes, agricultural, forest), land suitable for general residential development, and land suitable for industrial development and for airports.

In each instance, the analysis was carried out in an area approximating a subwatershed, significantly larger than a site would be. This was done both to consider a wider area of environmental factors and to make it possible to examine the implications of future development patterns.

Work on principal design factors which determine development patterns had identified a desired settlement pattern characterized by a high degree of decentralization of both economic and social activity. Such a pattern of development enables planners to work within and respond to existing environmental constraints rather than simply to create ways to overcome them by modifying environmental factors in the conventional manner. A low ratio of population to land also permits a distribution of population and activity more in keeping with the so-called carrying capacity of the land.

On both sites it was determined that the desired pattern could be developed feasibly, leaving significant amounts of land in existing use patterns as open space, interspersed with development in a dendritic fashion. Additional work in assessing such infrastructure technologies as transportation, energy and waste management, and telecommunications has indicated that such a dispersed pattern can be supported feasibly.

The initial site selection process provided members of the Authority with basic information to narrow the range of possibilities in a systematic fashion. That analytic process was not, however, intended to be the sole source of information or to replace the decisionmaking process.

A number of factors in the initial criteria did not lend themselves adequately to the scoring and ranking procedure used for many of the physical and environmental factors. These socioeconomic and political factors included the relationship of the location decision to state population balance and growth policy, the potential contribution to regional growth patterns within the state, innovative potential, disruption of social and economic patterns in the site area, nature of public response and potential for public support and participation in subsequent planning, ease of acquisition process, and local growth patterns and probabilities.

Meetings were held with County Boards in Aitkin, Douglas and Otter Tail Counties to acquaint them with the status of the project, plans for development and the potential county involvement. In addition the acting executive director met with the Arrowhead Regional Planning Commission for the same purpose, following earlier discussions with the Commission staff.

A series of public meetings was held in both site areas, usually under the sponsorship of a local civic organization or other interested group. In some cases, the meetings were arranged by Legislators from the district who had an interest in the project. Meetings were held as follows:

Alexandria	-	November	30
Evansville	-	December	6
Hill City	-	December	19
Millerville	-	December	20
Brandon	-	December	20
Alexandria	-	January	4
Ashby	-	January	8
Fergus Falls	-	January	13
Elbow Lake	-	January	15
Aitkin	-	January	16
Grand Rapids	-	January	17
Grand Rapids	-	January	22

The general format for such meetings was a basic presentation by representatives of the authority followed by questions from the floor.

During the fall, meetings have been held on the campuses of six state colleges and universities to acquaint a larger public with the status of the project. In most cases, the meetings were attended by members of the college community and the public at large. Attendance, press and television coverage was strongest at the colleges nearest the potential sites - at Moorhead, Bemidji, and Duluth. In addition a meeting was held on December 5 in Minneapolis in conjunction with the University Division of Continuing Education to discuss both the project and the potential innovations in urban systems. That meeting was attended by approximately 200 persons including a number from the two site areas.

In addition to the meetings, there have been numerous individual communications with Authority members and staff in the form of letters, telephone calls, and individual and group visits to the Authority offices.

Following its further consideration of the two sites, the Authority met on February 12, 1973, to consider further its site recommendations. At that meeting, the Authority agreed to recommend the Pine Moraine Site in Aitkin County as the preferred location for MXC. The Authority observed at that time that both sites have much to commend them - as did sites which were not in the final consideration - but that the site in Aitkin County had more factors favorable to implementation of next steps. Nine key factors, among others, entered into the decision process. (It was also noted that this site was one which was recommended by the then Department of Natural Resources and the State Planning Agency in 1969.)

1. The ability to control development outside the perimeter of MXC is critical both to the integrity of the city and to guarding against adverse environmental activity outside that perimeter. Some elements of protection can be built into the design of the city itself. Zoning and land use planning in conjunction with surrounding jurisdictions can be used to preclude undesirable development, but experience in the use of such means suggests that they are often less than satisfactory.

Fringe development has also been restricted by greenbelts - land set aside through ownership or through prior use restrictions. Such an approach has been used with success in Europe and has the added advantage of retaining valuable open space. A major limitation to the use of green belts has been the inability to acquire large enough land areas. The presence of the Land O Lakes State Forest and the Chippewa National Forest to the west of the site area and the Savanna State Forest to the east and other public land in the area provide significant natural buffers against undesirable fringe development. Hence, the total area of perimeter which would be vulnerable is reduced significantly. Because of the desirability both to MXC and the state and Federal forest service of retaining and upgrading the forest areas, they represent an exceptional kind of greenbelt. In Douglas County, on the other hand, there are no such natural boundaries, and there are a large number of nearby small towns in the area.

2. Income levels and other statistical measures of economic well being in both areas tend to be below state and national levels, although they are lower in Aitkin County than in Douglas. Beyond that, the dependence of the economy of Aitkin County and the larger region on two natural resource processing industries - timber and minerals - have caused most forecasts to suggest a growth potential below that of the state and

region. In western Minnesota, the combination of opportunities in agriculture and in the recreation/retirement home market are considered to offer a greater probability of future economic growth and viability in spite of uncertainties about the future of national agricultural policy.

While public investment in neither area is great, there has been relatively heavier investment in transportation and education in the western region. The need for public investment to enhance growth opportunities was considered greater in the region around Aitkin County.

3. Because of the presence of an interstate highway, two nearby small cities, and numerous smaller towns and villages, local patterns of growth are more firmly established in Douglas County and the Lake Region. While the area is not likely to experience significant growth in numbers within the foreseeable future, the patterns of growth are becoming well established. Relative ease of access to residents from large population centers connected by I-94 will place increasing pressures on further recreational development. The pattern of such development found typically is not compatible with the higher standards of environmental conservation set for MXC.

4. Within the proposed site area the residents have expressed a significantly greater interest in working with MXC through a next stage of development than their counterparts in Douglas County. While a project of statewide and national significance cannot respond only to the pressures of local residents, the interests and concerns of those whose present living patterns would be affected most must be considered with care and means found to involve them in a substantive way. Expressions from a large number of individuals within the site area, from the County Commissioners and from the County Chamber of Commerce all indicated that the next stage of planning could be carried on in the Pine Moraine Site with the constructive participation of local residents and officials. While there were similar indications of interest from many individuals in the Lake Region, it was clear that there would not be the same receptiveness to participation in further planning.

5. While there would be some disruption of economic and social activity in both areas, the presence of large acreages of public land in the Pine Moraine site would tend to reduce problems of dislocation and provide greater flexibility in minimizing them. Further, the economic and social productivity of the land would be enhanced over the long term. The population now in the Pine Moraine site area is under 900, and a large number of

residents have their primary place of employment elsewhere and are as dependent for a livelihood on their land as residents in the Lake Region.

The long-term process of land acquisition, then, could be accomplished more readily and at a more acceptable social and economic cost in the Pine Moraine site.

6. Surface transportation is less well developed in the Pine Moraine area, both in terms of regional access and on site roads. While this may be a relative disadvantage in the very early stages of development, the situation affords an opportunity for innovation in transportation which can benefit a wide area of the state over time. Within the site area itself, local roads are much less developed in the Pine Moraine site and fewer in number than in Lake Region. This provides many advantages in terms of creating a new, less automobile dependent local access system in Pine Moraine and poses less of a requirement to accommodate to existing transportation patterns both for present residents and especially for persons living in the larger surrounding area.

7. The relatively greater isolation of the Pine Moraine site in terms of access, distance from established growth patterns, and a lower historic level of both public and private investment create a better potential for innovation than that found in the Lake Region. Such innovations would not only be important to the success

of MXC itself, but could have a better chance to extend benefits and influence subsequent development elsewhere in the region.

8. The fact that the Pine Moraine location lies outside existing growth patterns in the state means that creation of a growth center could provide an additional counterforce within the state to stimulate a more balanced distribution of population and socio-economic opportunity. Its relationship to the Duluth area and to the range cities to the east and north would help create a cluster of growth opportunity which could provide a badly needed factor of stabilization for the larger region.

Present projections of the Upper Midwest Council and others suggest that most growth in the state will continue to take place in the metropolitan region with "spurs" extending toward Rochester and Mankato to the south and Brainerd and St. Cloud to the north with secondary growth potential in the Lake Region and around Moorhead. The location of the MXC in a part of the state where present growth prospects are not high can provide another alternative to the continuation of growth concentration in the metropolitan region.

9. The concept and practice of regionalism is relatively well developed in Northeastern Minnesota. Future planning and implementation must take place within a regional context so that maximum benefit can be obtained

from public investments over as wide an area as possible. The planning for MXC must be coordinated with activity throughout the surrounding region, and the governmental framework for such coordination exists to an appreciable degree in Northeastern Minnesota.

On the basis of these considerations, the Authority voted to recommend the Pine Moraine Site in Aitkin County as the preferred location for an experimental city, to define the site as the townships of Hill Lake, Macville, Lemay, and Shovel Lake, and to take appropriate steps to recommend further planning which could contribute to the best development not only of that site but also to the future growth of the state. The members of the Authority are aware that the Pine Moraine site will be less easy to develop than some other sites, but ease of development is but one of many considerations. They are aware that great care must be taken to plan in ways which meet the standards of development set and which balance social and environmental concerns not only within the site area itself, but within the region and the entire state. It is the concensus of the Authority that the Pine Moraine site affords the best combination of opportunities to the project and to the state to create a truly new and significantly innovative element in the future growth of the state and to realize the goals set for the experimental city.