

A DESIGN STUDY OF A SATELLITE
COMMUNITY CENTER

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A B S T R A C T

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Essentially the thesis topic was selected as the vehicle for an investigation into the general character of today's city. The ills and shortcomings of the current city-structure soon turned a passive investigation into a dynamic search for better systems upon which to hang our city-structure. The systems involved in city-renewal obviously comprize more than the transportation facilities or government jurisdictional problems. Fundamental social attitudes are really the crux of the problem and the city-structure, however badly in need of re-study, can only be remodelled when the social implications of the remodeling process have been evaluated. This thesis, therefore, represents a wholly inadequate attempt to correlate human activities to the physical city.

The first section briefly summarizes some of the problems confronting the city and offers , presumptuously perhaps, some conditions for future action. The second section focuses upon the city-center in an effort to understand the relation between the

human centers of activity and the technological system that supports these centers. The third section offers a program for a town of 25,000 to 30,000 people. The design of a community center based on this program is an effort to correlate some of the principles discussed earlier with practice. The last section summarizes the town design.

Cambridge, Massachusetts

August 14, 1961

Pietro Belluschi, Dean
School of Architecture and Planning
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Dear Dean Belluschi:

I hereby submit this thesis, entitled
"A Design Study of a Satellite Community Center"
in partial fulfillment of the requirements
for the degree of Master of Architecture.

Very truly yours,

Donald R. Shelangoskie

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The old city dusty, decayed, smiles with gaping teeth hangs on providing a single sinister link with the pasts glooms misery, while rehabilitationists scramble madly patching the wounds in the bleeding carcass that refuses to stop bleeding. Anguishes dull pain stupefied and embitters Mans noble attempts. Ah better to be done. The time is here to dig the grave and heave the horse in with a tear and a memory and then turn to the work at hand. With cold logic a new structure shall emerge from the ruins of the old hoping past mistakes are past and new only are ahead.

C I T Y

Dispersion essentially is a modern phenomenon in city-building. During the previous four millennium Man built cities--the functional form of various requirements, physical as well as social -- built them tightly packed, closed by confining walls to protect the inhabitants from natural perils as well as other men. Not only defense but travel distance caused men to locate their essential structures near at hand, easily accessible to all. A man could walk only so far in a day, and as new methods of transportation appeared, ship, horse, cart, the dimensions of the city increased hardly at all. The new methods of travel were, in fact, at their inception, of a dynamically small scale. When the dimensions of the city occasionally became grand, it was most likely the result of political forces which were not always cognizant of logical, logistical or technological considerations.

Socially man found it convenient to live in proximity with neighbors, providing they were of the same blood, clan, tribe, race, or nationality. Superstition, myths, and natural phenomena could be better controlled by group action within the well defined limits of encircling walls and moats. And when, due to technological inadequacies, slavery became essential for further urban advancement, and extravaganza, the closed-city served as an excellent

place to contain and control masses of people, providing they could be satisfied or appeased by one means or another.

Obviously, there were real advantages to living in the city. Much prized but increasingly illusive social-contact inspired the genius of Man's civilizing processes. This genius has, through technological gadgets and devices, expanded the available choices and activities of Man; so that today our cities like a lobster's shell are constricting and confining Man's activities to the point that the old shell now is in the painful process of being exchanged for a new one capable of entertaining the increasingly complex activities of Man. Essentially this process is one of opening the city, removing the walls, and allowing nature, after 4,000 years, to return on terms carefully dictated.

Events of so fundamental a character as this city dispersion process do not occur simply by the wish of Wright, Thoreau or Emerson,¹ but are the result of social forces and technological means within a society. The city today is virtually being ripped apart by massive highways which are continuing the work begun a century ago by the railroads. And where the highways fail to go the parking lot quickly appears. Airports consume huge acres of land and images of intercontinental and interplanetary rockets conjure up impressions of still more land to be consumed by the increasing methods of trans-

portation. The means of transportation, by always demanding greater amounts of land, continually point to the inadequacy of the present city-form. But social pressures--the fairy-tale garden-city suburb--also demand another solution to the city structure.

The purpose of any city-structure is social; new patterns of life necessarily will be reflected in the supporting physical structure. It seems that with improved transportation the old paleolithic wanderlust has been reactivated as our society becomes increasingly transient. The old neighborhoods are being broken down; social roots exist increasingly with the corporation, despite nostalgic reminiscences of past tree-shaded towns, and social prestige within the ordered, old hierarchy. The old neighborhood units are being replaced by new communal ties which become fast sensuous affairs that are quickly made and retained only over long distances, usually to be rapidly forgotten as the family moves with promotion within the company.

The exodus of the young to colleges, most never to return, disrupts the old home town also. New leadership is often lacking. Older citizens are forced into premature retirement and being unaccustomed to the new mobility find only loneliness and rejection with the children far removed.

The transient children also develop new attitudes in a world in which mobility is normal and stability abnormal. They, like their fathers, become adapted to continual change making and quickly breaking friendships in an atmosphere increasingly demanding and molding extroverted personalities.

Strangely, though, church and community play an increased role in the transients' lives. In a society not yet wealthy, the focus becomes a kind of community co-operative in which ideas, hardships, and materials become community property belonging to all, contributed by none. Community life offers, perhaps, the only challenge to the supremacy of the organization which tends to become increasingly the only organizing agency in the lives of these people.

Certainly though, the Organization Man is not the only class today, but he represents perhaps the most influential personality in our society, if not today then certainly tomorrow. He is educated, often with more than one degree, embroiled in the process of raising a family, active in those community interests that affect him, and thus a determinate figure in the national attitude. He is becoming the illusive average in our society, and above all is increasing in numbers at a fantastic rate from people of all backgrounds. He is the grey-faced anonymous American lurking behind and supporting our structure. It is he, and most urgently he,

that our cities will be built for. He is, if not the constant inhabitant of cities, certainly the one who has become the most dominant utilizer of its benefits.

The old worker class is still around however, representing the largest group in our society, but even here the dynamic technological forces are beginning to create serious rumblings. These are the people whose position is most precarious in our society, simply because the social hierarchy here is the most ordered, but inflexible. Dependent, for values and life, on work, work that is rapidly being replaced by machines, this segment of society represents the most serious threat to our civilization as surely as the transients represent our best hope. The 6,000,000 unemployed come largely from this group of people. The unemployment represents less a slow-down in the economy than a basic flaw. The jobs these people previously occupied are not temporarily shut down because of a business recession but are jobs that no longer exist, jobs that have been replaced very effectively by automatic machines. These people also may have to become transients, but with greater difficulty. Values and basic attitudes in this group will first have to undergo possibly a violent revolution, which could severely shake the emerging social pattern. Re-education and movement to other employment areas will act as only a stop gap measure. Ultimately the issue must be faced; a new position within the social structure must be

found for these people. Where is anyone's guess.

Mumford conjectures that cities were created when the two basic groups of men formed an effective alliance,² each contributing basic attitudes in the new flux of urban living. The same two attitudes are still as forceful as when nomadic paleolithic man accepted the role of soldier and governor of pastoral neolithic man. Though the mobile paleolithic character of society has been emphasized, there is still the other half that will continue to remain forceful. The neolithic villager will continue to provide a stabilizing atmosphere in society, hard cores of organized civilization around which the transients will swarm on their illusive search. The main difference will be in the emphasis. Except for certain primitive eras in history, the dominant character of civilization has been determined by the stable elements of society. Of course, the nomads occasionally got out of hand and caused a bit of trouble, sometimes war or some other bestiality, but in the total order it has been the stable pastoral attitude which has been the mainstream of society. Possibly now the emphasis will shift and the nomad will become free once again in a society mobile like no other, and exert, hopefully, a creative effort toward civilization.

Mobility, however, has produced a crisis which threatens the basic structural concept of the old closed city. The crisis is a strange

phenomenon in certain aspects. The roots of the problem lie with the suburb, which has existed as an ideal, perhaps, from the time the city first attained sufficient size and caused nature to become somewhat remote. People, weary of the riotous urban environment, began to maintain country estates to which they could retire in a less strenuous atmosphere. Obviously only a person of circumstance could afford the leisure for such commodious living, and thus, a legend was born which became the unattainable Utopia for middle-class society in many places, in many civilizations. With the technological improvement in the methods of transportation, the old legends and memories were dug out and dusted off as nineteenth century cities opened crowded doors with the extension of the railroads. The legend became a reality for thousands for a brief period, but then the legend turned into a fairy-tale with the advent of the automobile and various other attendant devices, such as the telephone, electricity, paving equipment and long term mortgages. Now the ghost of the ideal is all that remains, the carcass has long since departed beneath the press of millions fleeing on car choked highways to the distant bedroom dormitories. Originally the suburb had offered a small comprehensible world that was a safe place to raise children, enter into politics, that was free from corruption, political as well as actual. Now it is a mindless amoeba, spreading cancer-like without social, political or imageable coherence.

The strange part of the tale now occurs. The new-found momentary

mobility has become an irreversible process. The whole mechanism of highways, railroad and tight-city spaces has become completely unworkable to the point that they threaten the very mobility that they originally created. The old relationships between country and city, which provided such delightful contrasts, are gone as is the social order, as we have seen, beneath the sprawling undefined semi-urban mess. It begins to appear now that it is not the new conditions which are at fault, but the old theories of city form which have not been up-dated to reconcile the new conditions. The mobile society is a fact. The stable closed-city is what is in error.

We are now faced with the challenging prospect of revising the old theories and testing them to arrive at a workable urban concept. Unfortunately, major decisions are being made before even the first steps of a co-ordinated theory have been put into practice. A vast highway program has been embarked upon, rails are being torn up, slums demolished, cities rebuilt, all in the name of renewal. The criterion is first economic, which is justified, but not in the limited sense that the term is now being employed. The most economical way to rebuild would seem to be to know where to go before starting, so that costly duplication and outright errors can be eliminated before they are accomplished facts. This kind of attitude involves certain fundamental principles, however, which are strange to an historically individualistic, highly independent society which the

old Protestant ethnic represents. The hard core of this resistance still remains, but hopefully it will give way and not too late.

Ebenezer Howard once wrote:

"...On a small scale society may readily become more individualistic than now -- if by individualism is meant a society in which there is fuller and freer opportunity for its members to do and produce what they will, and to form free associations, of the most varied kinds; while it may also become more socialistic--if by socialism is meant a condition of life in which the well-being of the community is safeguarded, and in which the collective spirit is manifested by a wide extension of the area of municipal effort."

Perhaps this is the real key to analyzing the socio-city structure in terms of future courses of action. Freedom and individual action are necessarily involved with available actual choices. Obviously there is no freedom of action if there is only one choice. A man without neighbors, of course, can do anything he wishes; he can only affect his own choices. But if he has a neighbor, the entire problem changes. Neighbors impose certain social responsibilities upon an individual by also having equally defensible rights. What our friend does now is a matter of concern for his neighbors, a matter of responsibility for him. In a society thus complicated by others, some kind of co-ordination must necessarily take place where conflicts of interest occur if the choices are to be maximized.

In less extended, less complex social structures this co-ordination takes place as a matter of course. We, unfortunately, have long passed this stage of development, and therefore must rely increasingly on artificial prods. Thus we have governments, and thus we must have controls to order urban growth.

The amount and nature of the co-operative controls the community will have to assume will undoubtedly be the center of much controversy under the present governmental monopoly. The problem fundamentally centers on the balance of land control between the individual and the community. The basic concept of individual land ownership is a block now to effective planning in this country. Zoning, essentially a land-use control, has stripped some of the problems from this concept, but zoning has very definite limitations, beyond which the only solution seems to be for the community to assume actual control of the land. It is not necessary or even desirable for the land to be, as in the Soviet Union, controlled by the central government; but instead, local municipalities should assume control of the land by forming corporations to which the members of the community would become stockholders, each with a vote. The corporation then becomes a part of the larger national community to which it contributes goods and services, and receives from the national community the benefits of the total community. Thus, those utilities common to the large organization of corporations, such as inter-regional transportation systems, cultural

facilities and recreational facilities, become accessible to the small municipal corporation. In a sense the small corporation becomes a stockholder in the national corporation - receiving dividends in terms of highways, parks and museums, while sharing the corporation's financial and social responsibilities.

The system is really little different than the present condition except that the corporate body, not the individual, has direct control of the land. Each individual, however, still maintains control of the administration and use of the land by being a member of the corporate body. The individual also retains his old freedom of movement and personal choice by being able to lease from the corporation land to carry out his enterprises. He has, though, given up the possibility of doing whatever he desires on a specific property - a right which, when it encroaches upon the functioning of the community, is logically within the jurisdiction of the community anyway.

The land-owning city corporation has certain immediate advantages, the most evident of which would be the ability to acquire land irrespective of current political boundaries. This would allow metropolitan regions to consolidate themselves and eventually to control and actually stimulate their own growth. The implications for planning are, of course, unlimited. In accordance

with a continuously up-dated comprehensive plan the community would be able to predict in advance where and how renewal programs will be required. They could then prepare the land years in advance by not renewing leases as they terminate or, if the function of the area was to change, by granting new leases to the new functions. It would be possible in this way to avoid the instantaneous mass transplantation of peoples and the total demolition of great sectors of the city structure which cause such terrible sociological and visual problems under the current system.

There is a problem, though, when two adjacent cities begin to encroach upon each other's land. Theoretically, this should never happen in the new system if the planning is really sound within and between the corporations, except under very controlled conditions in which the adjacent communities, feeling the population pressure, agree, for economic and administrative reasons, to merge. The same merger could happen within the present system, but usually fails to for a variety of reasons; none the least of which is personal prestige and fear of losing jobs, neither of which would be a factor in the new system. The merger would be, strictly speaking, a business convenience to benefit both parties.

The new city, though, is more than an administrative system. It must have a physical character that is adapted to the new social and administrative implications. It must be as dynamic and as flexible as the new corporation system is.

The essential quality of the new city will be the centers occurring within a technological grid. The centers grow and govern to meet their specific requirements thus providing interest and variety to the urban environment. They will, however, have many constant relationships, being held together by the technological glue of transportation networks and the nervous system of electronic communication. Each center will have all of the basic requirements for daily living and yet each will be incomplete without the total civilization to support them. All of the various social and technological systems required for urban life today will be represented in the center - but the special, specific qualities of any one particular system will occur only at certain well defined points, adding character and a special interest at these points. The ultra-specialized urban city, with its swarming specialized dormitory and industrial suburbs, will become de-specialized, general in character and the specialities will be scattered to places where they can better be maintained. In the system the supporting technological apparatus disappears in anonymity and today's anonymous man reasserts his individuality in a myriad of centers which assume a variety and character as

great as the people living within the center-region. Yet each center shall, through the supporting technological grid, gain the benefits of the total civilization. The people in Jack-Rabbit Junction, Montana will have the possibility of educational benefits equal to those people living in the finest exclusive suburb of the largest city today. Mumford summarizes the concept as follows:

"Each unit in this system has a certain degree of self-sufficiency and self-direction, equal to ordinary occasions. But by being linked together, the power stations form a whole system whose parts, though relatively independent, can upon demand work as a whole, and make good what is lacking in any particular area. The demand may be made at any point in the system, and the system as a whole may be drawn on to respond to it. Though the whole is at the disposal of the part, it is the local user who determines when it shall be used and how much shall be taken. No single central power station, however big, would have the efficiency, the flexibility or the security of the whole grid, nor would it be capable of further growth, except by following the pattern of the grid." 4

The major transportation grid will be the corporate property of the national organization and the member communities all will have accessibility to it and yet not monopolize any part of it. The transportation grid then becomes a delimiting element in the environment, by-passing cities, but connected to them by access roads or rails. In the spaces between the centers, the transportation facilities have the physical possibility of function-

ing at their proper scale and the visual possibility of being in harmony with the environment. The apparatus of each of the communication forms has a certain scale and use which is, by virtue of its size or speed, particular and characteristic of that mode of communication. Each should find a position within the environment that is consistent with its particular scale and use, and a position that does not conflict with other objects --natural or artificial.

Electronic communications serve several functions in the new city in addition to disseminating news and propaganda. The school, library, and various other cultural agencies will be interconnected by means of the communication system in the same relationship that the communities are connected to the total city by the transportation system. The advantage would be, as Mumford once again points out, that any part of the city structure can gain the benefits of the total society. This does not mean that all can directly observe the original object at any single time but that, through the reproduction of artifacts in the form of slides, microfilm or books, everyone can gain a second-hand knowledge, a knowledge never-the-less of the world's legacy.

"If a borrower at a branch library in a small town does not find a book he needs, he may put in a request that will be transmitted to the regional library center, situated in the principal town of the country. The regional library has a catalogue of all the

co-operating libraries in the region, on which it can draw, if the book is not in the central regional library. If this fails the request can be passed on to the regional center which has command of the total resources of the co-operating libraries."

"Thus, without having at hand a local library of large dimensions, any single unit in the system has a far larger collection of books at call than even the largest city can afford to offer to the local borrower." ⁵

Industry likewise becomes a community concern, not in ownership, but in placement. Industry forms the backbone of the new city situated between centers in close proximity to transportation facilities and penetrating into the city only with those industries which are specifically associated with that particular community. Industry in this relation now becomes community property in the sense that it is easily accessible to all of the participating communities. The industries, of course, still retain their identity as independent organisms, but benefit in the new system by having a labor force in closer connection with their work and by gaining the same mobility as the rest of society.

Recreation land ⁶ is the urban tissue holding the parts of the structure together by providing the continuity between the various parts of the city. It softens man's harsh structures, forgives

his mistakes, hushes his rowdiness, and gives definition to an otherwise unlimited extension of urban garble.

Open space is the essential ingredient lacking in today's city, but thanks to the automobile that too is now reappearing. Of course, the open space takes the form of vast asphalt parking expanses, but hopefully, when we have learned the value once again of trees, and when the current idolization of the automobile is less fervent, then the parking-lots, having done their job, will become recreation areas providing the natural breathing spaces to the city. Trees also will eventually reappear as a transition zone along the central arteries and skyways of today, after the human activity of these zones has finally died, choked by the basic scale conflict between superhighway and building.

The public open spaces within a community will be co-ordinated with the regional recreational lands and used to define and delineate the city structure. The open space with its recreational character will pervade to the center as well as serve as a buffer between town and industry, highways and pedestrian circulation. Natural paths, which form a continuous pedestrian system, will link town to ocean shore and mountain park. Not that anyone would care to walk to the mountain from his home in the city, but the pedestrian can form a powerful organizing element, from which at

convenient points the citizen can demount his vehicle and enter into the pedestrian system to get to his destination. It provides by its existence another alternative to the methods of travel, one which has been largely forgotten in the last few years.

Once long ago Egyptian religion, based on the Cult of The Dead, created extensive extremely permanent monuments - a vast nucleated graveyard which served as centers of intense activity, even if they were for the dead. Between and around these centers the rude mud shacks, epitomizing the transient existence on earth, rose to shelter, temporarily to be sure, the inhabitants of the valley while they waited-out life. Villages and cities could be and were moved at will by the god-king Pharaohs. By utilizing the convenient Nile as a superhighway, to which all of the various centers of activity, living as well as dead, were related, the technology of the time, primitive indeed, could move vast quantities of material and men; not only could it move them, but it could supply and sustain them equally as well.

Today we are faced with the same goals as the old Egyptians, but instead of one communicative, organizing element we have a vast hierarchy of various communication forms. If we organize the technology skillfully enough, we, like the Egyptians, will

arrive at a highly flexible city-structure which will be able to accommodate at will any momentary whim or catastrophe of society. Not only will we be able to move people and goods more efficiently than now but whole cities also could be moved in the advent of nuclear destruction or sheer obsolescence.

Filling the spaces in the grid will be the activity of man. His urban centers, homes, schools and recreation spaces would be essentially the same as today - but they would gain definition by continuous flowing open spaces and tenuous transportation facilities. Instead of allowing uncontrolled disastrous growth, we would shape and mold the growth providing communities in conjunction with work and in relation to man and his scale.

T O W N C E N T E R

The focus of the city is the town center and it is to it that the theme of this paper now turns, hopefully dissecting it in great enough detail so that an image of the essential character of the city will be formed.

The town center, and I speak of town centers in general, should be more than just a grouping of activities given form by architecture, but it should also be an image and above all an ideal. It is here that people come to shop and work and transact business; some play here and others pray. It is the center of communication and education, and for the young, the center of the world, perhaps. Here the pulse of society beats its greatest rhythms. It is here that the nebulous spark of genius touches stone and arrives at civilization, in the drunken shadow of the destitute and the forgotten. It is from here that the bastille was stormed and from here Socrates spoke and died. The town center adds to the humdrum of life the variety and choice that indeed make life bearable, and sometimes miserable.

The town, then, has an image, an image which should in all of its force be translated into stone and steel. The center should be integrated into the life of the town and yet, should be set apart

from it in a slightly special position where it can be comprehended in its entirety, where it can set the essential flavor and character of the town. Visitors will be able to know the town's people by knowing their center. The center will have the quality of the people regardless of the architecture, with greater difficulty perhaps, if the architecture is out of character, but nevertheless, it will be there. We only need remember Huxley's essay "Sabbionetta" to be reassured of this.⁷

It is difficult to think of a town center in terms of isolated activities unrelated to each other. The same classes of all activities found within the town center occur, perhaps even in greater quantity, in other parts of the town, but because a particular representative of a function resides in the town center, it assumes an importance beyond all of the other of its compatriots. Thus the department store in town has far greater significance than the one out on the highway; and the school in town seems to offer a bit better education than any of the country estates for all of their extravagant landscaping. The juxtaposition of elements within the center produces an atmosphere greater than the simple total of their activities. Unexpected emergent qualities appear, unpredictable, and largely uncontrollable.

Because the town center is a center, certain spatial problems immediately arise, the greatest of which perhaps is accessibility.

All means of transportation should converge here offering the citizens a variety of ways to travel in any direction. Yet the character of the activities in the center is essentially pedestrian. Parking lots, train depots and, depending on the city-size, aircraft terminals, must all be designed to offer access to the town with out interfering with either the activity or the scale of the town. In addition the town must be supplied and serviced by utilities and warehouses. To add to the problem, there is not only a scale dichotomy between the pedestrian activity and the utilities, but also between the utilities themselves. For example, the scale of a train is considerably different, as is its function, than that of an automobile, and conflicts, both in scale and in function, must be carefully avoided.

Above all these systems must, due to changing forms and relationships, be designed to attain a maximum of flexibility, consistent with the total scheme. The parking problem, for example, can happily be solved perhaps with parking garages, but when the town expands or if the automobile declines as a method of transportation, the garages become white elephants to be torn down at great expense. Open parking lots on the other hand, for all of their ugliness, represent a flexible solution since it is a simple matter to build on them or even to replant the grass.

Retail Facilities

Retail facilities contribute during the day the most consistent activity to the life of the center. With the advent of new merchandising techniques, which have added among other innovations evening shopping hours, the retail facilities are beginning to contribute new variety to the night-time activities also. Shopping activity is perhaps the most vigorous function found in the center. Thriving on confined lineal spaces preferably choked with people, these facilities provide the everyday social contact for the shopper, in addition to being just a search for the best bargain. But the bargain hunt is the reason most shoppers come to a town center in preference to isolated shopping facilities. The center should offer a greater selection and greater number of stores with the same selection so that the fickle shopper can have a variety to choose from. The variety does not always accrue from the nature of the article sold either, but the services sold in conjunction with the goods also count for much in the scale of customer satisfaction. Thus "when a consumer purchases a pair of shoes, she purchases a whole package of utilities including convenient and comfortable fitting, counselling, advice, and friendly service."⁹ Owing to the recent success of planned shopping facilities, the services purchased can be extended to the general shopping environment.

Architecturally the shopping environment should be essentially a street with an unbroken parade of shops and stores offering as few barriers as possible between the shopper and the goods within the stores. To add variety the street should have quieter niches containing cafes etc., and should be closely associated with the other activities of the town center. Due to the transient nature of many smaller shops in the center, the construction should be as flexible as possible, allowing alterations with the changing owners.

It has become an accepted idea that the automobile should be left out of the shopping street - thus allowing free and random crossing of the street as the shopper progresses down the avenue.

This creates new problems; greatest of these is the lethargy with which the pedestrian is willing to leave his car and walk more than 600 feet to get to the shopping facilities. It also increases the desirability of covered walks, and even mechanized walks, to get the shopper from car to shop without getting either wet or tired.

Since both railroad and truck service should be available to the center, except in the smallest neighborhood units, it would seem well to create a central warehousing facility which would serve as a distribution point for both truck and railroad. The goods could be distributed to the center by an underground road system

which in large centers would rely on an automatic mechanized distribution system and in smaller units would rely on small electric trains like those now used in mines. A supply mechanism of this kind has certain advantages. It is flexible, allowing extension as the center grows without disturbing existing facilities, and yet it is able to supply the old as well as the new facilities, directly into basement storage areas, with the same efficiency as the original installation. It treats both railroad and truck facilities in an equal manner, not as now, subsidizing the truck. By keeping truck facilities remote, it eliminates entirely any conflict with either pedestrian or automobile traffic. The system as outlined would, of course, serve not only the retail facilities, but would be extended to office and recreation activities as well.

Civic Facilities

The civic functions of a town center represent perhaps the most varied activities of the town ranging from very public government offices and theaters to very intimate pubs, illicit cabarets and back-room gambling cassinos. Thus, at one hand, government, public assembly and entertainment represent a certain permanence worthy of some architectural extravagance and at the other hand the bar and cabaret represent the most mobile function, like the cow bird, laying its eggs secretly in another's nest to avoid the respon-

sibility of raising the children. Between these extremes are the local clubs and organizations requiring space for small meetings in the form of business luncheons and evening social hours. Here various youth groups such as the Boy Scouts need space usually independent of the school.

Government represents a strong anomaly in the town. Usually it is an administrative activity, lethargic, plodding through formless forms with a never-ending lack of interest or variety. It seeks hiding in smoke filled cubical offices amid the clack of typewriters and faceless secretaries. Yet occasionally it comes to life raising its head from the administrative swamp to rise to some threatened crisis in which everyone in the town responds with vigor and decision. Thus the requirements are two-fold: an anonymous office space for the everyday business of government and a space for formality - the indigent crowds demanding justice or the jovial celebrating a local or national victory.

Entertainment facilities represent the seasoning of life and so in the town center they should be used this way. Entertainment is essentially a spontaneous thing which quickly sickens and dies like a caged wild animal, if confined to homogeneous concentrated areas, or if prescribed by governmental decree, or if even organized too intensively. Sometimes it demands pomp and pageantry

for special holidays, sometimes an electric crowded atmosphere like New York's Broadway, and sometimes a quiet secluded place, a little sad and melancholy. Entertainment facilities represent the least consistent of all of the town activities, but the most unpredictable and explosive as well.

Institutional functions provide serenity and stability to a town and give to it the continuity the other functions may lack. The educational facilities provide the fundamental contacts with the world in an ever-expanding horizon, as children progress to adulthood. In a mobile society it becomes important for schools in every community to have access to the same wealth of material that only the best suburban schools do today. By having the quality facilities and educational materials at hand in addition to a sensitive teaching staff, the school system can serve as one of the stabilizing elements in the urban flux. The library serves, as the school does for the young, to maintain the intellectual connections with the world for adults; and it becomes imperative that through the communication systems available all libraries have the advantage of the total accumulated knowledge of civilization. The school and library are central functions to the life of the community and therefore should be included in the town center; thus, in small towns the High School may find a position adjacent to the center, and in larger towns the Junior College or University resides here. It is also important to provide the

opportunity for rural schools within the educational hierarchy. In a small town, for example, the Junior High School may be rural and the High School urban.

The old age problem is rapidly assuming greater proportions and the old people also must find a place within the community. The primary thing to be avoided is too strict a segregation or institutionalization. The flag, long a sign of institutions, should be taken down and replaced with a recognition of the life and vitality that these people still have. The old people should, in short, be integrated into the community. Thus private nursing homes should not form a colony, nor should public homes be wrapped in a grandiose institutional architecture. Certainly these people can not lead the active life of a young person, but they can enjoy watching young people live, not by staged programs or by gifts and nonsense, but by being able to observe close at hand the normal functioning of life.

Industry

Industry is really the key to a successful town. Only by including industry in a decentralized way into the entire urban community can industry be served efficiently, technologically; and only in this way can the community assume normal proportions in relation

to the tax, social, and physical structure. Heavy industry, as has been noted, is a national institution owing allegiance to no particular center but should be accessible to centers in an entire region. Light industry can be local in character and should be integrated into the fabric of the town as English flatted-factories or as industrial parks for larger establishments. The town industrial park should find a position adjacent to both the center and to transportation facilities and it should be easily accessible to all neighborhoods within the community. Nor should the possible esthetic forms particular to certain industries be forgotten in the urge to condemn functional but necessary elements to a less prominent position in the town.

The social value of industry is high, since it brings into the town people from all stations of society. Thus the managerial and working people eventually rub shoulders with the town's professional and commuter citizens in the melting pot of the town center.

Housing adjacent to the community center, owing to its priority position, should be the highest density to be found in the town. In this position it can offer greater amenities to certain groups of people who otherwise would have difficulty finding suitable housing elsewhere. Basically housing adjacent to the center should

be provided in two economic groups. Those units with the greatest amenities in terms of view, proximity to services etc. would be high-income housing primarily for single or childless people who find a less urbanized kind of life unsuitable for their purposes. Other units which can provide fewer amenities, but essential standard comforts would be low and medium income housing serving old people without extravagant means who desire to get away from the chains and memories of a large empty house and garden; and also would serve those young people on modest incomes who find it convenient to live near the center.

A stratification of society into age groups as indicated here would certainly not be a rigid or economically enforced system. Instead, it represents a tendency which is already occurring. Obviously the stratification offers certain short-comings, creating to a degree homogeneous neighborhoods, but at the same time it avoids certain conflicts, especially between old people and children. Although oldsters enjoy the company of children, prolonged and constant contact can be tedious for both. Within the town center, containing educational and recreational facilities, the old people have the advantage of observing the children, but at their whim they can end the contact and withdraw to the privacy of their home. Little can be said for the housing in the centers

without children except that as the suburban exodus indicated, children need a certain amount of room to function like children. Space in the center is at a premium and therefore, I believe, basically foreign to children as a constant environment. Rather the center becomes an area which is a special experience for the child, to be seen and enjoyed on occasional shopping trips with Mom, as he grows older to be explored on trips of his own, and finally, finishing his school in the center, it becomes for a few years his constant companion and springboard to still greater social contact.

A moment ago in old Greece, amid the riot and juxtaposition of functional architecture's business, civilization reached a peak which it has rarely equalled since. The fundamental character of the Agora was the great variety and mixture of ingredients to be found there. In fact and not surprizingly, all the activities of Man focused in the Agora, and all men, slave or free had access to this small part of the city. Out of this great boiling pot came the first awakening of the worth and ability of Man. The example the Greeks set will be difficult to equal.

P R O G R A M

Within the communication grid as outlined in the last section the various centers and social nodes could assume any functional or physical organization dictated by specific conditions of site, climate or position in relation to other centers. As an example of a typical center I propose to consider a town of about 25,000 people situated in the matrix of a metropolitan region, about half-way between the regional center with a tributary population of 1,000,000 people and a major subregional center of 200,000. The major centers are 50 miles apart, serviced we shall assume by the utopian conditions of the previous sections.

The constituents of a town of this size will include all of the activities essential for the daily organization of life. It is from this assumption that the town perhaps achieves its most important quality. The specialized suburb of today is rejected in favor of the historical concept of the "complete town" containing industry, government, education, shopping, recreation and entertainment facilities in addition to housing.

The specific requirements for the town are as follows:

A. Assumptions

1. Population: 20,000 to 30,000 - assume median of 25,000 for calculation.
2. Family size: 3.59 community has approximately 7,000 families.
3. Annual family income: \$5,000

B. Classification of Areas

1. Primary Core Area: floor area -- 41,500 square feet
 - a. Retail services
 - b. Service facilities
 - c. Government
 - d. other
2. Secondary Core Area:
 - a. Education
 - b. Medical Services
 - c. Industry (light)
 - d. Medium density housing
 - e. Commercial
 - f. Recreation areas
 - g. Social facilities

3. Outer Area:
 - a. Neighborhoods
 - b. Industry
 - c. Wholesale
 - d. Community Utilities
 - e. Recreation areas

C. Approximate Land Area Requirements

- | | | |
|-------------------|-------------|-------------------|
| 1. Primary Area | 20 acres | 1,000 square feet |
| 2. Secondary Area | 80 acres | 2,000 square feet |
| 3. Outer Area | 3,100 acres | 2-1/4 mi sq min |

NOTE: Above areas are progressive, each including the areas of the preceding figure.

D. Program

1. Primary Core Area: 415,000 square feet
 a. Retail Facilities: 197,000 square feet 40 %

Activity	Per Cent of Total Spent Income	Dollars	Per Cent Distr. to Community	\$/ sq. ft area	sq. ft. required
Food	27.7	830	60	90	65,000
Drugs	1.7	43	50	60	5,000
Clothing	5.9	90	30	40	16,000
Liquor	1.0	25	50	60	3,000
Department Store	7.9	200	50	60	22,000
Shoes	1.2	30	50	55	4,000
Furniture	2.1	32	30	40	6,000
Household	2.2	67	60	40	12,000
Restaurant	3.0	60	40	45	10,000
Auto*	10.6	270	50	35	54,000

- b. Service--Financial--Office Facilities: 134,000 square ft.

Financial (banking and insurance) 19,000 square ft.

Service Trades 32,000

Professional Offices 40,000

Transportation 6,000

Transient Residence 40,000

- c. Other Uses: 43,000 square feet 10%

Wholesale 13,000 square ft.

Vacant 32,000 square ft.

* For convenience, total Auto area has been included here; actually most of these facilities will be found without the Primary Core Area.

d. Public and Government Facilities	84,000
Library	20,000
Post Office	15,000
Police	4,000
Fire Department	10,000
City Hall	35,000

2. Secondary Core Area: 750,000 square feet - excluding
Industry

Education (High School).....	92,000
Medical Services	70,000
Light Industry	300,000
Medium Density Housing	200,000
Commercial Facilities	50,000
Recreation	-----
Social Facilities	40,000

3. Parking: Goal ---400% parking in all of the above areas.
In other words, approximately 4,000 places in
the Primary and Secondary Core Areas combined.

E. Explanation

1. Primary Core Area:

- a. The Percent of Total Income ratios come from two sources: The Comparative Housing Study and the Selection of Retail Locations; both coincide closely. The percentage given represents the percent of the the total family income, in this case
- b. the percentage of \$5,000 which appears in the next Dollars Spent column.
- c. The Percent-Distribution to the Community is based on an unpublished pamphlet by the M.I.T. City Planning department which contains an estimated distribution of retail trade in the Hartford Metropolitan Area. By adjusting, in what seemed a logical, but nevertheless arbitrary way, the percentages in the study, the values represented here were derived.
- d. Dollars Per Square Foot Area was derived from the Comparative Housing Study with a check against the Retail Trade Study.
- e. The Required Square Footages in the last column are the result of the obvious calculation of the preceding factors.

2. The areas of the remaining functions in the town core were derived, again with interpolation, from a study by Murphy, Vance and Epstein of the Central Business Districts of six cities (100,000 -400,000 population). The study compiled and computed ratios of the area requirements of all of the various functions within the C.B.D.

3. Parking for the entire center is set at about 4,000 cars which represents approximately 400 per cent of the center facilities floor area, and slightly more than half of the total families in the community. The first agrees with the best current shopping center policy, and the last agrees with a fairly logical assumption that only rarely will half of the town's people converge on the center at one time.

F. Site

Other than certain general characteristics the site selection was arbitrary. The fundamental consideration was the position of the proposed town in relation to the metropolitan transportation system, and less limiting the relation to the metropolitan centers of activity.

Because of its proximity, and consequent familiarity, the Boston Metropolitan Area became the general site location, and a position along the Massachusetts Turnpike served also by railroads offered a transportation hierarchy which was desirable. This area also expects a great increase in suburban growth; a process which is already underway. The specific location along the highway was chosen because of certain personal design criteria to be innumeraled below.

Arbitrary site selection in the manner indicated here represents a very shoddy attitude but due to time and knowledge considerations this method had to be accepted for this study. Actually, proposed towns of this kind should be located in accordance with a regional plan, based on various economic and governmental investigations.

In addition to fulfilling general locational considerations, the site offered several design advantages because of the varied topography. The river, which divides the town in half, offers a natural delimitation and focus between the neighborhoods. The bowl-shaped town center area offers the possibility of providing from the surrounding hills good views into the center and easy pedestrian

access as well. Perhaps the most important consideration was the that the site seemed to offer about an average number of benefits and disadvantages, the same as any typical town. Nothing really spectacular dominates the site. It is, in short, a site for an ordinary town - unpretentious and very average.

DESIGN

The design of the center was determined to a large extent by the analysis of the neighborhood circulation systems. The basic organization of the town would be into four concentric neighborhoods each directly related to the town center by roads and pedestrian paths. Each neighborhood will be defined by the major community roads which serve the neighborhood as well as the recreation greenbelt between the neighborhoods.

The neighborhood unit will focus on its center which, through its individual character, will serve to differentiate it from the other neighborhoods in the community. Here will be found the four elementary schools as well as the neighborhood shopping center. A relatively well organized park would also be here, probably in conjunction with the school. Each neighborhood would contain about 4,000 people (1200 families). The remainder of the residents of the community will be housed in close connection to the community center in housing of a slightly denser nature, probably row housing as contrasted to the individual house of the neighborhood.

The next larger unit in the community would be a combination of two neighborhoods which would be able to support a Junior High

School and a larger less organized recreational area in the form of a greenbelt between the two neighborhoods.

Between the two groups of neighborhoods would be found the community facilities including the major town center, High School, industry, and the major recreational and cultural facilities - such as the football field and the library.

The community will be linked to the regional communication grid by a main highway, railroad and power-line, which is located in the community space between the neighborhood groups. These feeder facilities become the technological tie to the region by furnishing electric power and transportation connections directly to the neighborhood groups as well as to the town center and community industrial sector. (see fig. 1, p. 43)

The community highway system is symmetrical except for the additional emphasis given the south east-west road which connects to the major regional highways that by-pass the town center. The six major community roads intersect at the town center, providing a continuous road system around the center, but at a sufficient distance to keep interference with the pedestrian activity to a minimum. From the major ring road, access roads are pro-

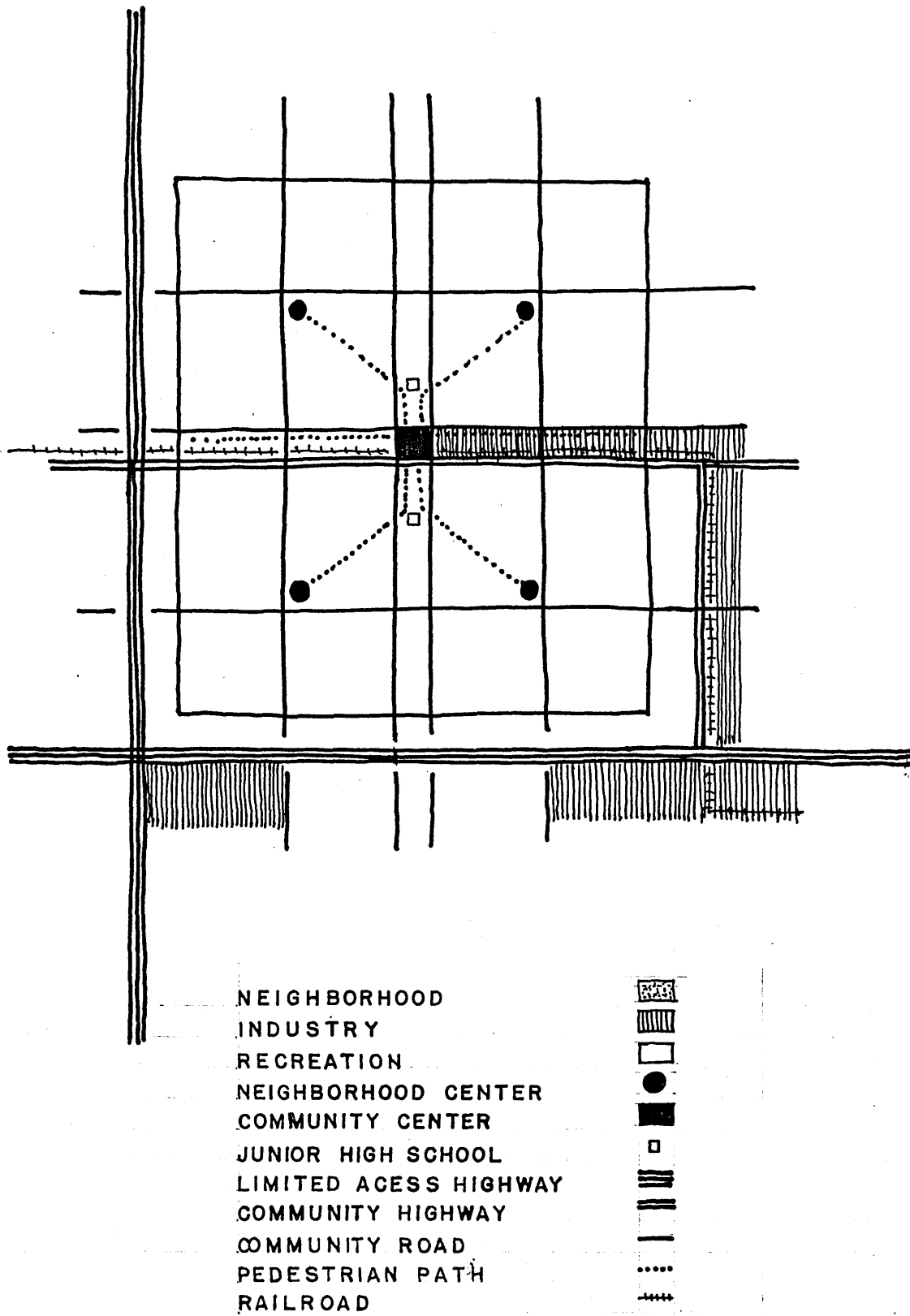


FIG 1 COMMUNITY DIAGRAM

vided to parking areas. Truck and bus service has a separate access road which services the distribution control center and the transportation terminal respectively. The railroad, after emerging from the hill on each side of the community center, services the transportation center as well as the goods distribution center.

The six primary pedestrian paths connecting the community center to the neighborhoods determine the primary entrance to the center, and the point of juncture of these paths form the major space and activity area of the town. The paths proceed along natural ridges which provide excellent views into the center and convenient grade separations between highways and railroads. The pedestrian circulation system, after entering the center, provides covered access along all of the traveled routes within the center. The only exception is the unprotected platform spanning the river between the high school and the main center.

Activities in the various subsidiary spaces within the center are separated. (see fig. 2, p. 45) To add variety the activities in these areas are not homogeneous; thus the community area contains a few offices and stores, and the main shopping street has offices and meeting rooms in second floor spaces. The major space is the meeting place of the town and as a result it contains a representative of all of the basic activities of the center.

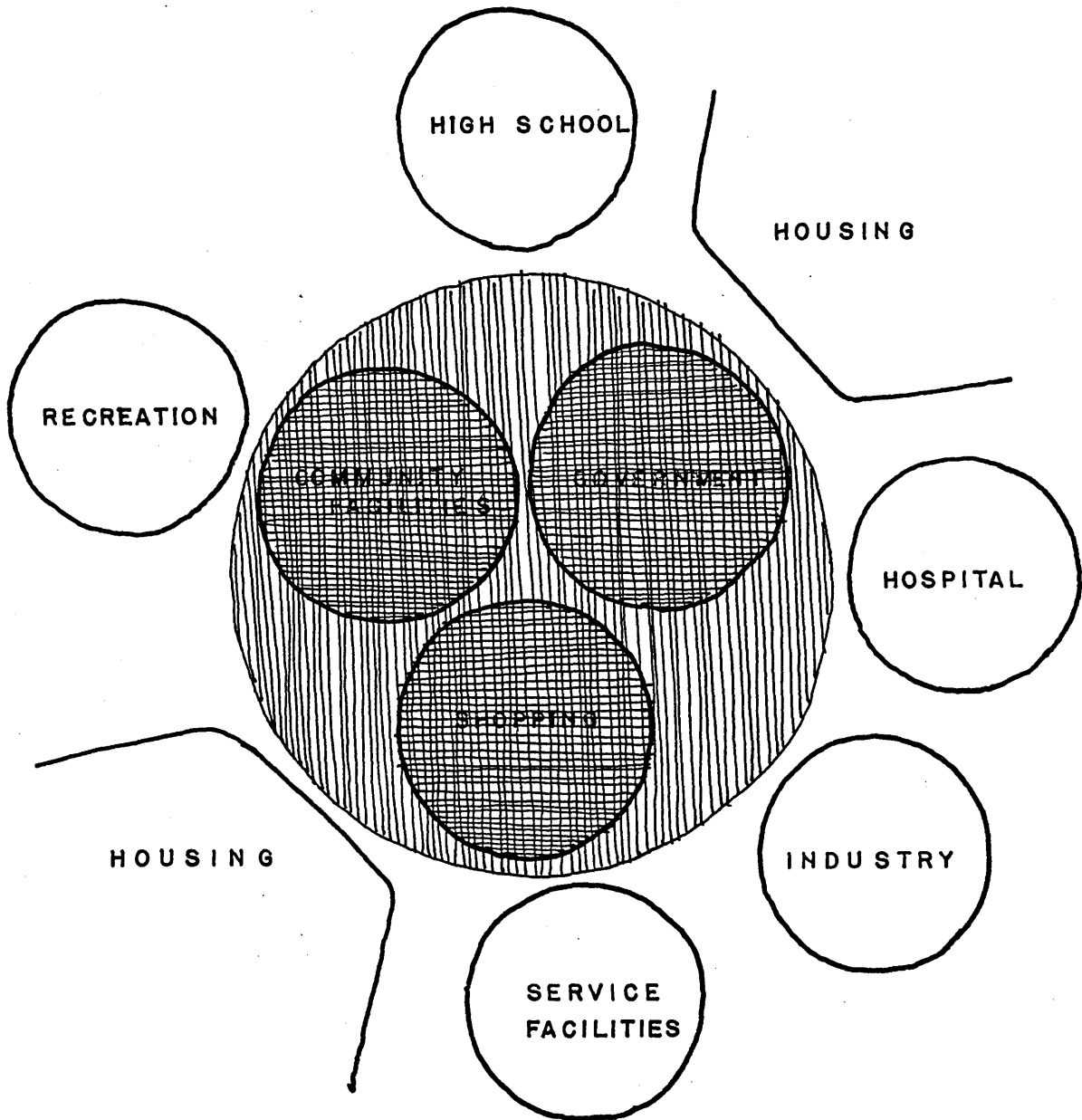


FIG 2 COMMUNITY CENTER

By expressing the various activities in the center in rather specific architectural terms, the center assumes a small scale, almost romantic in character, which adds richness and variety to the human activity. The small scale character is obtained at the price of flexibility to an extent. Although there is flexibility in the shopping and office facilities, other elements, notably the government and library facilities, may offer too specific a solution to allow for much future change.

The treatment of the water deserves some mention. The two sides of the river are different in character. An attempt to recognize the two edge conditions was made by allowing the water to enter into the main civic space in a rather geometric architectural manner. The opposite edge was allowed to ramble with a continuous tree screen which provides a connection to the recreation spaces outside the center.

The last consideration is the difficult scale problem between the parking facilities and the center. A compromise was attempted in an effort to reduce the surface parking area and still provide its benefits. Three parking garages situated at three primary entrance connections to the center were provided for long term parkers. These garages serve the additional purpose of visually defining the entrances to the center. The remaining parking area was provided in short term open parking lots.

FOOTNOTES

- 1 Morton and Lucia White, "The American Intellectual Versus the American City," Daedalus, Journal of the American Academy of Arts and Sciences, Winter 1961.
- 2 Lewis Mumford, The City In History, (New York, 1961), p. 25.
- 3 Ebenezer Howard, Garden Cities of Tomorrow, (London, 1904), p. 131.
- 4 Lewis Mumford, op. cit., p. 565.
- 5 Lewis Mumford, loc. cit.
- 6 Recreation land as used here refers to all land not occupied by buildings, streets or people.
- 7 Aldous Huxley, Collected Essays, (New York, 1958), p. 36.
- 8 Frederic Gibberd, Town Design, (London, 1953), p. 47 - 48.

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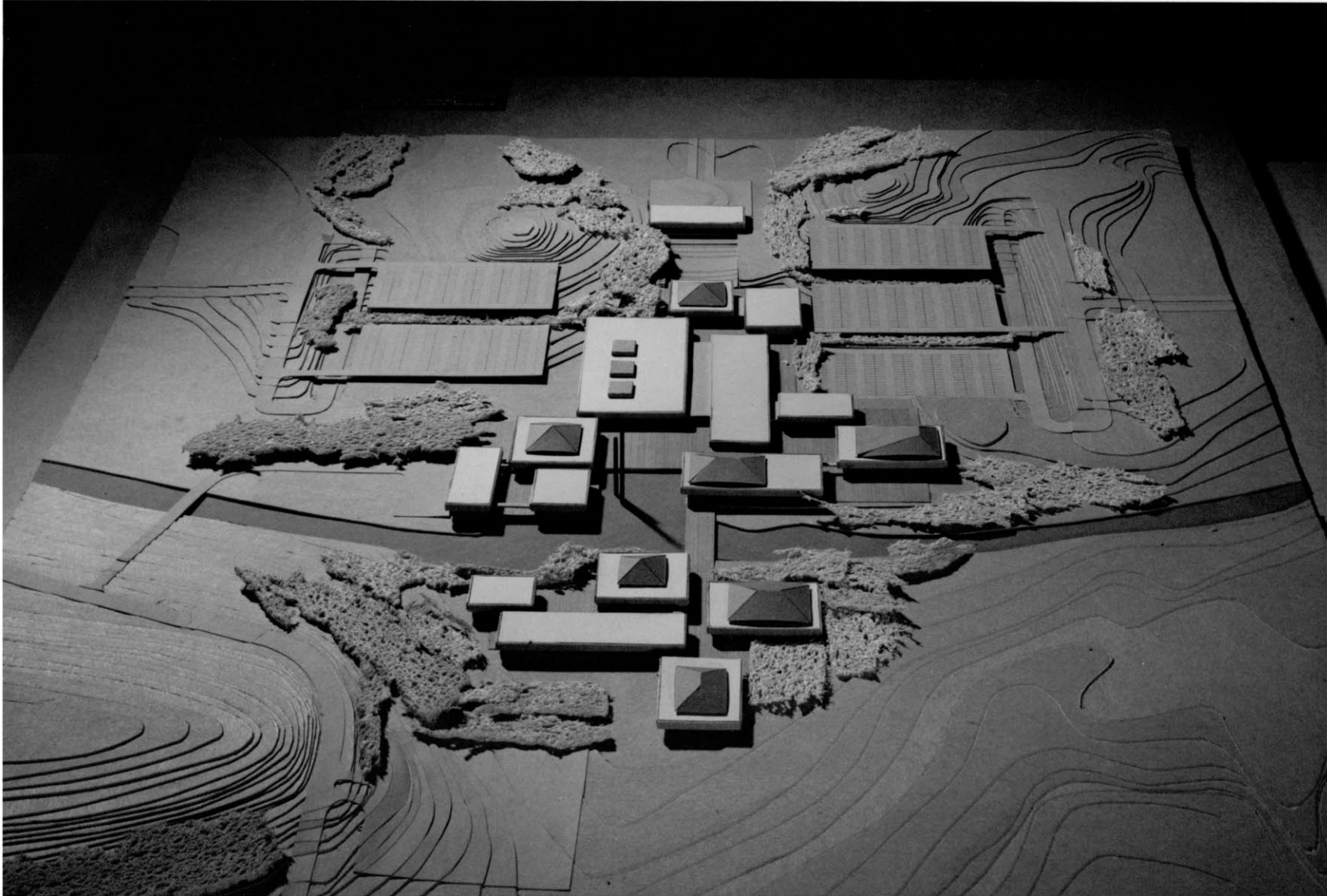
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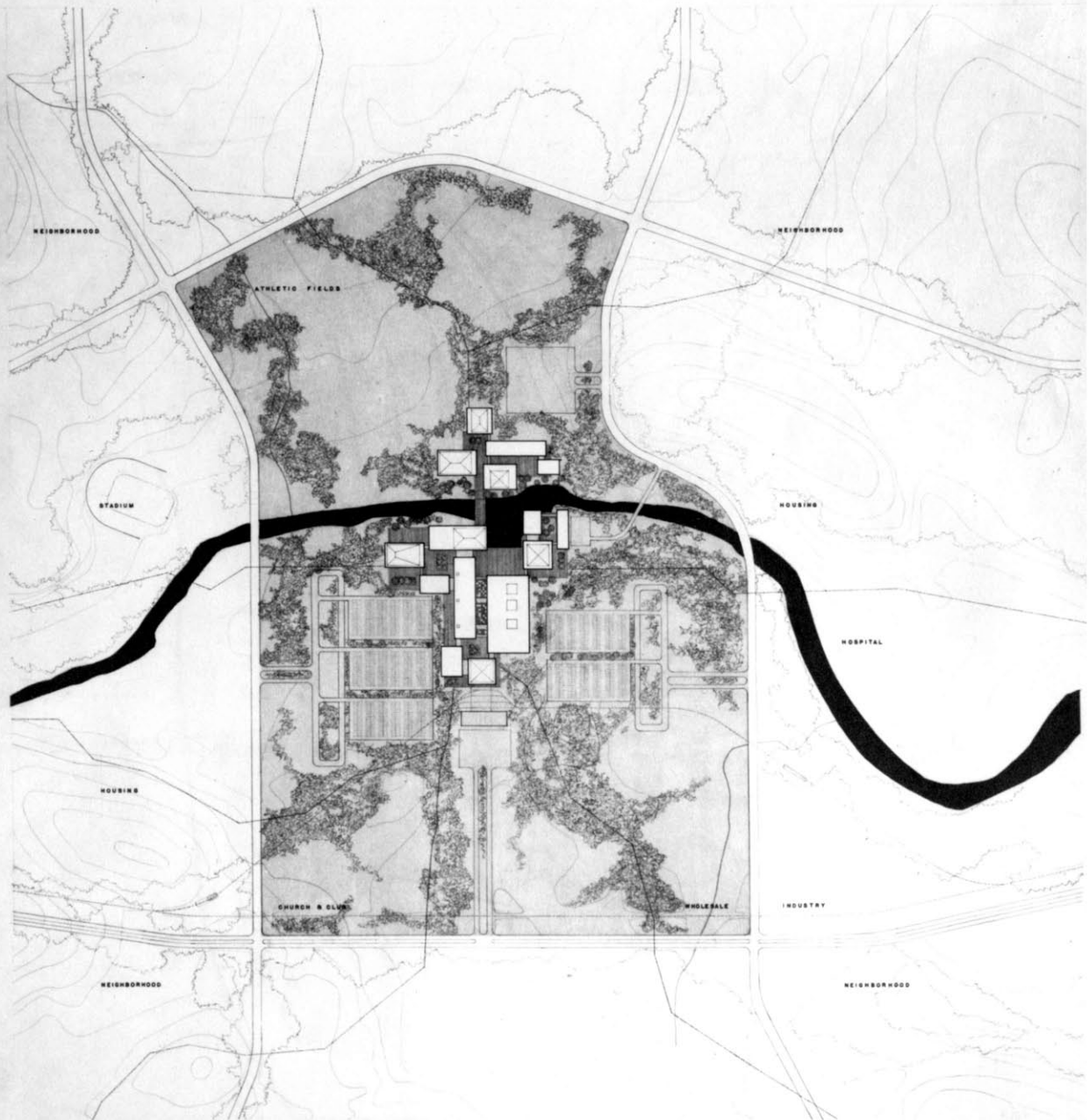
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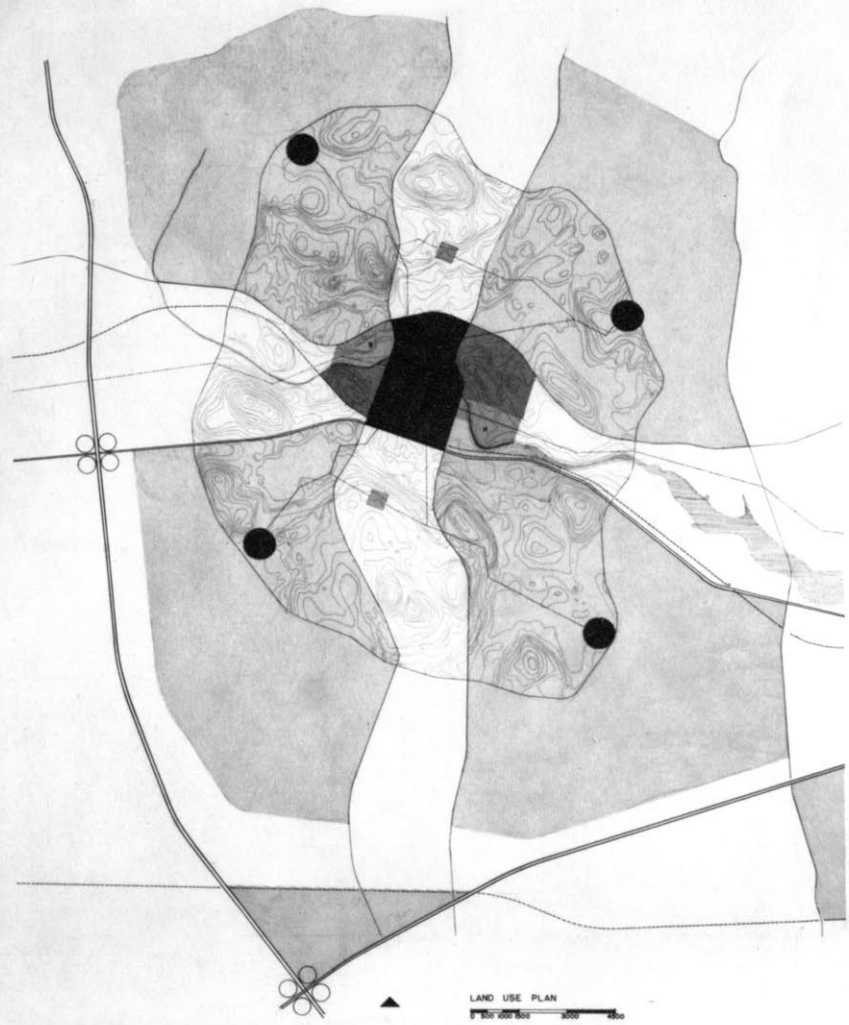
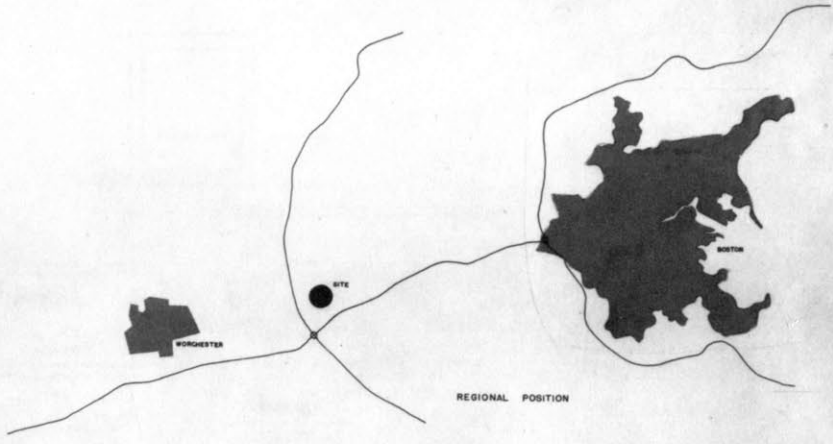
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 MASTER IN ARCHITECTURE THESIS
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY
 DONALD R. SHELAMSKI
 AUGUST 1961



LEGEND
 HIGHWAY
 ROAD
 RAILROAD
 PEDESTRIAN PATH

SITE PLAN
 0 50 100 200 300

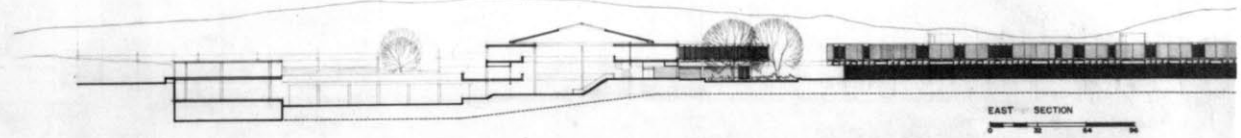
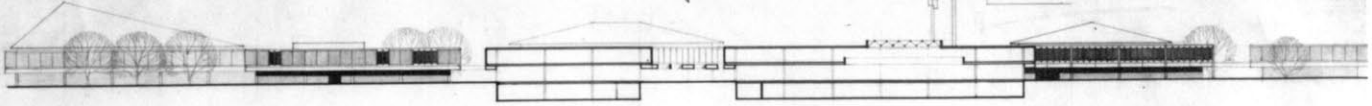
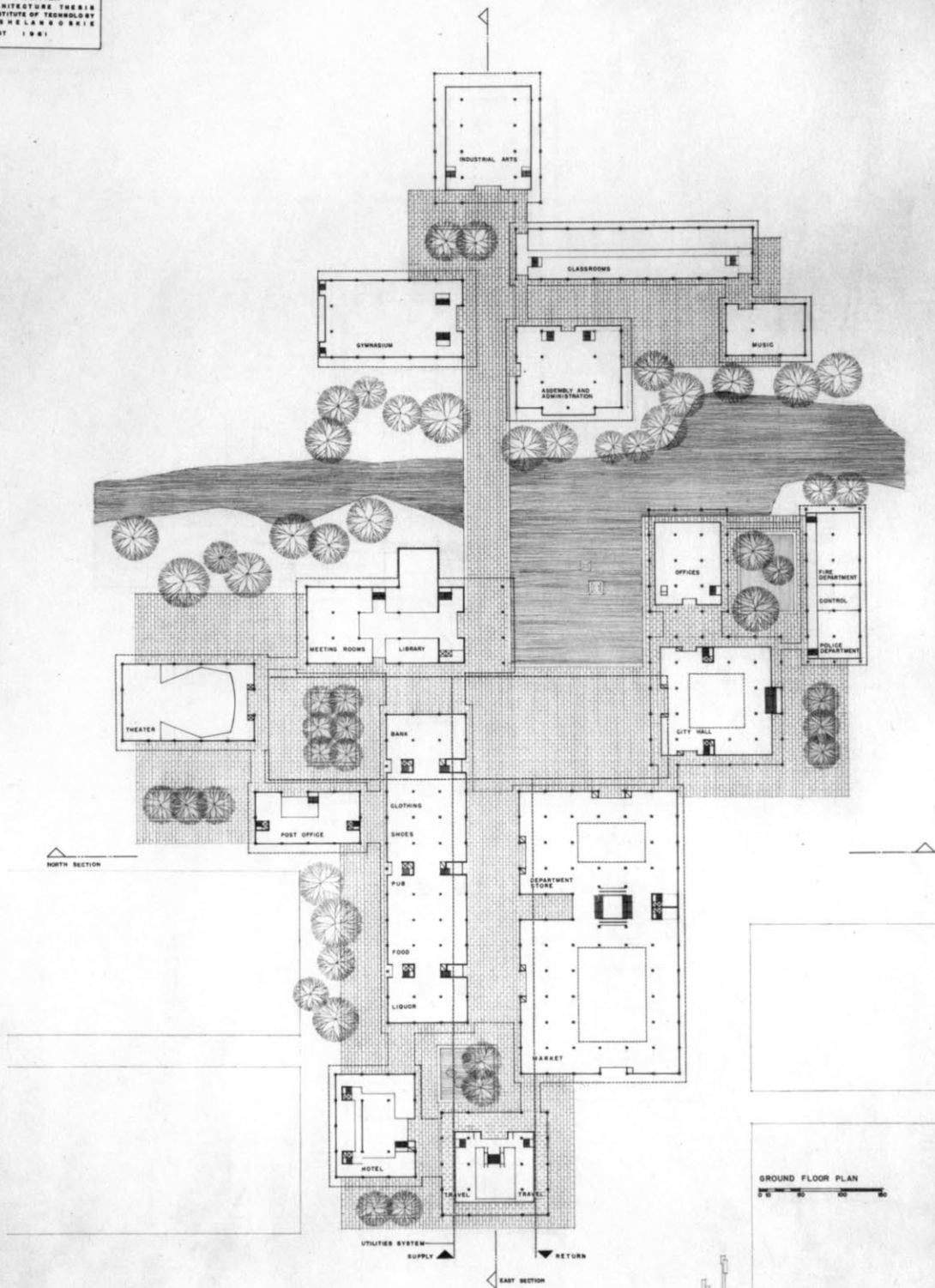
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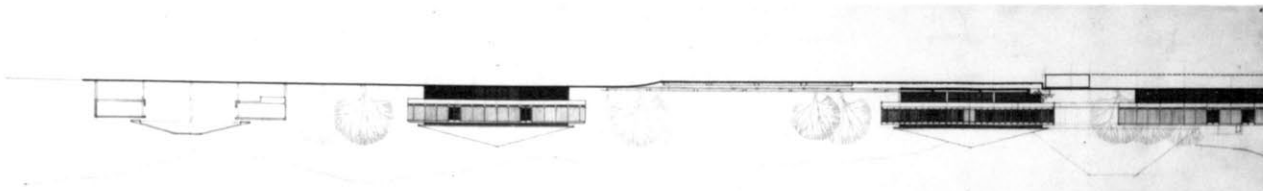


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 - NEIGHBORHOOD CENTER
 - JUNIOR HIGH SCHOOL
 - SPORTS AND CULTURAL ACTIVITIES
 - HOSPITAL
 - INDUSTRY
 - INTERSTATE HIGHWAY
 - HIGHWAY
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 - PEDESTRIAN PATH
 - RAILROAD

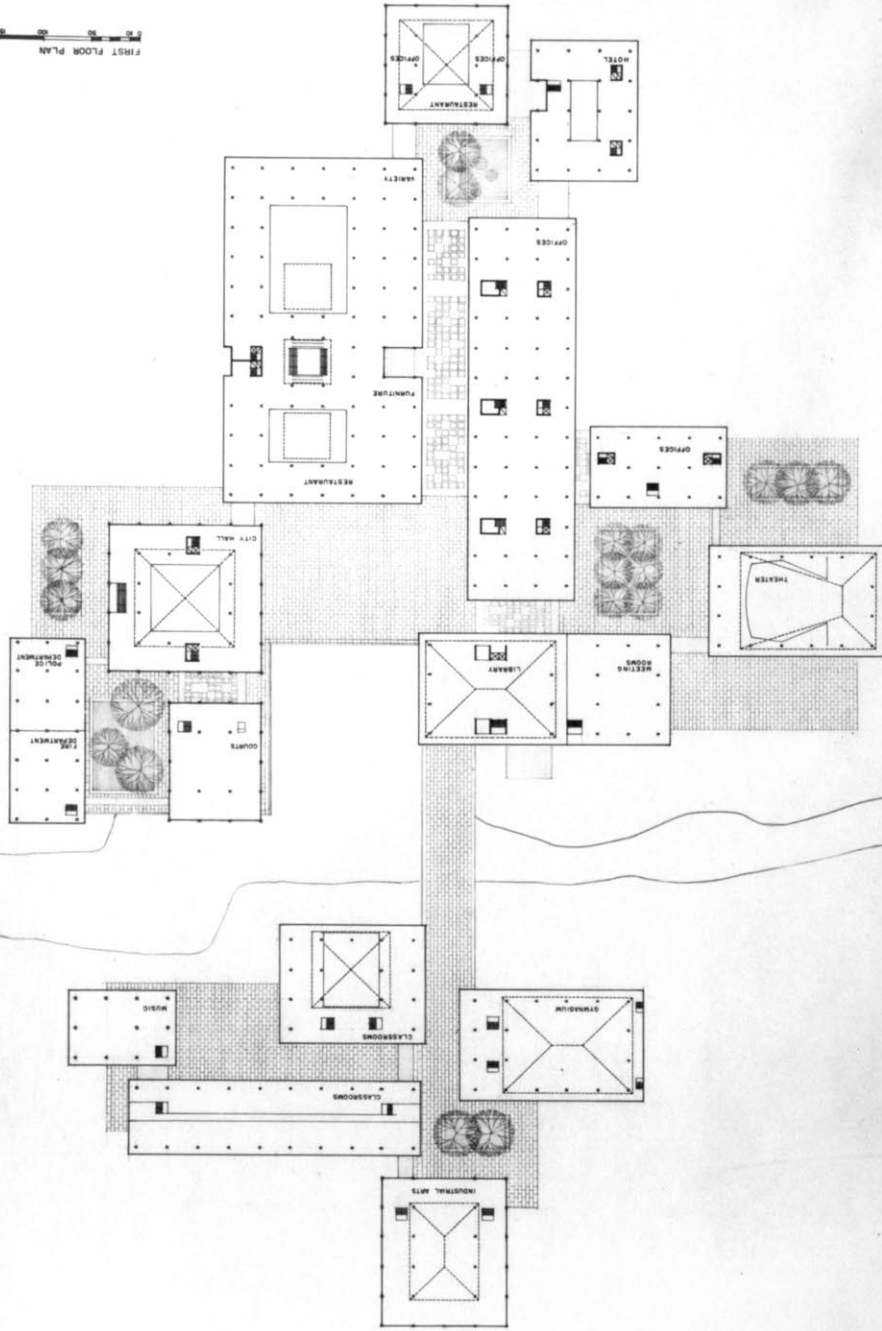


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