RICE UNIVERSITY

TWO NEW TOWN PROCESSES

by

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ABSTRACT

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TWO NEW TOWN PROCESSES

The philosophy behind new town building in the U.S. and Britain is basically a common philosophy. The commonality stems from the common origin of the idea, and the cross-relationship of experience between the two countries.

The two countries have similar goals for building new towns: (1) treating the problems of overcrowding in cities; (2) combating urban sprawl; (3) development of balanced communities; and (4) the inclusion of a full range of social and economic groups within a community. But the method for achieving these goals is different in the two countries. This thesis examines the two methods: development by government and development by private enterprise.

The two methods are examined using the new town of Milton Keynes, thirty miles northwest of London, representing the public process in England, and Clear Lake City, eight miles southeast of Houston, representing the private process in the U.S. There are two main points for comparison: (1) The relationship of the product to the process; and (2) the limitations of the process for achieving national and local goals. Topics for comparing the relationship of the product to the process are: (1) location of the new town; (2) the form of the new town; (3) transportation in the town; and (4) neighborhoods, or housing groups.

Limitations of the processes are compared under three topics: (1) the goals of the process; (2) scope of the process; and (3) the controls of government on the process and controls of the developer on the process. The criteria for evaluating the two processes are common goals on the national level.
Evaluation of the two processes leads to the conclusion that the public process in England is reflective of national goals while the private process in the U.S. is based on predominately local goals. The public process in England may not totally ignore local goals, but the centralized nature of the process' organization and the multitude of controls wielded by the process combine to insure that the process responds more directly to national goals. The expectation in the U.S. that private enterprise new towns will accomplish many of the same national goals as the British public process has not fully recognized the conflict in achieving national goals through a private process geared to local goals which may be diametrically opposed to national goals.

If we continue to ascribe to the philosophy that new towns are the solution to achieving the national goals, we must either redirect the private process by instituting controls sufficient to free the private process from a local goal orientation; or there must be an acceptance of the limitations which come with the private process, and a re-evaluation of expectations of what will be achieved toward the stated national goals.
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INTRODUCTION

The most dynamic area of the United States today is the suburbs. "In pursuit of the suburban dream, Americans have precipitated one of the largest mass movements in history: during the past decade, the population of suburbia has grown by more than 15 million."¹ It was not until 1920 that the United States became an urban nation, but by the decade of the sixties it was fast becoming a suburban nation. According to preliminary 1970 census reports, 74.9 million persons reside in the suburbs of the U.S. — more than 50% of the population living in Standard Metropolitan Statistical Areas.² Very few people seem to be able to talk about the suburbs in unemotional terms, evidenced by words used to describe the phenomena: sprawl, slurb, cancerous growth, etc. "Spread city", a useful term, was chosen by Alan Campbell and Seymour Sack because "it comes as close to neutrality as any."³ The tremendous dynamism of the phenomenon has, so far, baffled American decision-makers; they have almost always condemned it. Marion Clawson argues:

1. A sprawled or discontinuous urban development is more costly and less efficient than a compact one.
2. Sprawl is unesthetic and unattractive.
3. Sprawl is wasteful of land since the intervening land is not specifically used for any purpose.
4. Land speculation is unproductive, absorbing capital, manpower, and entrepreneur skills without commensurate public gains.
5. It is unequitable to allow a system in which the new land occupier is required to shoulder such a heavy burden of capital charges or debt merely for site costs—costs which in large part are unnecessary and avoidable. 4

But condemnation will not reverse the situation. "Whether good or bad the future of this country is a 'spread city' future. It may be 'less' than 'more' spread if policies are geared to this end, but when compared to the compact city of the past it will spread." 5

New towns have been proposed as one way of dealing with the problem. Among many things, the new communities are expected to:

1. Improve living conditions through improved design while contributing to the economy of the areas in which they are located.
2. Adjust inequities in the "balance" of present development.
3. Provide a range of alternatives.
4. Offer housing to all.
5. Offer a chance for innovation in the technology and design of new communities.

In short, the new community can be planned in advance to cope with the problems of present day urbanization patterns.

New towns are not new, even to the United States, but it is important to note than government interest in the idea is mounting. They have been around a long time, but are currently experiencing somewhat of a "boom". Depending upon the definition used, the number of new towns presently under construction in the U.S. ranges from 50 to 300 or more. 6 Far fewer than 50, probably less than a dozen, are comparable to the British new towns.
During the past decade, interest on the national level in new towns has increased dramatically. Since the advocates of new towns in the U.S. are expecting of new towns many of the same things that the British have attempted to accomplish, it seems worthwhile to compare two experiences in new town building in the two countries: Milton Keynes in England, and Clear Lake City in the United States.
1.0.0 EVOLUTION OF NEW TOWNS

New town building in Britain and the U.S. share a common philosophy. The purpose of this chapter is to review the development of the ideas in the two countries in an attempt to show the common basis and expectations. Although the ideas are similar, the methods are different. The discussion here will provide a background for looking at the two processes of the selected examples so that they may be placed into national frameworks that are similar in philosophy, but different in method.
1.1.0 British New Towns Background
1.1.1 THE GARDEN CITY MOVEMENT

The British government adopted a New Towns Act in 1946. This act was not a new idea, however. The act was an outgrowth of what might be termed a new towns "movement". Understanding this act requires something of an understanding of the movement behind it. As with all such ideas, there is no precise date, person, or place to which their beginnings may be traced. It is sufficient in this case to begin with Ebenezer Howard because the movement owes more to him than anyone.

Howard was neither rich nor powerful, but his ideas were. His book, *Tomorrow: A Peaceful Path to Reform*, printed in 1898, described three magnets: the town, the country, and combination of town and country. The country has little power to attract: nature and low rents. These attractions were offset by low wages and lack of society. The town offered better jobs and more amusement. But these were offset by its crowdedness and generally "unclean" nature. The combination was to achieve the best of the two worlds and the disadvantages of neither. This combination was to be achieved through the building of new communities.

The first contribution of Howard to the New Towns movement was the idea of limit. He conceived of the city as made up of parts in "organic relation to each other". From this he theorized that there must be a "functional limit to the growth of any one element, as to the growth of the whole". The four main principles of Howard's argument were:
1. A limitation of the number of people and the area of each new town.
2. Growth by colonization.
3. A variety and sufficiency of economic opportunities and social advantages.
4. Control of land in the public interest.¹

All of these ideas were important to the background of later legislation in England. For example, the idea of limitations is endorsed by F.J. Osborn, a prominent figure in the Town and Country Planning Association which was instrumental in passing British new town legislation: "A planner who has to assume that his town may never cease to grow cannot arrive at even approximate...dimensions."²

In 1903, Howard's ideas were given their first chance for physical trial: a company was formed to build the new town of Letchworth. It was a less than opportune beginning. Letchworth was under-capitalized from the start (the land cost was £160,000; £100,000 was raised by selling shares leaving a deficit of £60,000).³ No facilities were on the site and none were available from other sources. Obviously, development was to be slow. In 1961, 2009 acres had been developed; 1388 of these acres were residential.⁴ During the period of the slow initial development, public interest in the project dwindled.

The prospectus of the company reveals how Howard's ideas have affected the new towns movement then and later. The major points were:

1. Develop about 3800 acres along the lines of Howard with necessary modifications.
2. Promote "great social improvements" along with profit for investors who can afford to wait.
FIGURE 1. LETCHWORTH: THE FIRST GARDEN CITY
3. Deal with overcrowding in cities and depopulation of rural areas.
4. Limit the dividends paid to investors to 5% with the surplus to benefit the town.
5. Maintain and increase industrial efficiency without impairing the national physique.

The government was not particularly interested in Letchworth, but Howard was not defeated. In 1920, he purchased land for Welwyn Garden City under similar conditions as Letchworth. Its financial standing was as miserable as Letchworth's had been. Eventually this town was taken over by the government under its new town program.

Although these two experiments can hardly be called successful entities, they are important to the climate of British policy. "Despite all mistakes and obstacles, the towns were built; and because they were built, they have provided an enduring three-dimensional expression of the general ideas for all the world to see."
The New Towns Act has a long history of development. In 1920, the Committee on Unhealthy Areas recommended the restriction of industry in the London area along with some movement to garden cities. Although nothing official came of the Committee report, it shows that at this early date government policy was being formulated. As early as 1935, a Departmental Committee recommended building garden cities and a Planning Board to better distribute industry. Again there was no immediate action. The Barlow Royal Commission, in 1940, gave more specific, although lukewarm, support to new town building. In its majority report, the Commission recommended a central authority to transcend any governmental agency, but did not say specifically how much actual power it would have. The new town building was to be balanced with redevelopment of congested areas. But the minority report was more definite. The minority recommended a new ministry to plan the location of industry on a national scale with the power to restrict industry in some areas and encourage it in others. It also advocated the building of "garden cities" and satellite towns. The report was largely unnoticed during the war.

A Ministry of Works and Planning was established in 1942 (superseded in its planning functions by a new Town and Country Planning Ministry in 1943). The new Ministry's duties, with additions later, were to ensure "consistency and continuity in the framing and execution of a national policy with respect to the use and development of land throughout England and Wales". The Town and Country Planning Act of 1944 gave powers for the acquisition of land in bombed areas.
and urban areas and powers of urban redevelopment. Actually, no decisive action was taken during the war, but the climate for action was taking shape. The suffering and destruction of the war probably contributed in that the longing for a policy of new hope was built up. The public had been living during the war under a government with strong powers, and the new planning controls and ideas probably were not viewed with alarm. What had emerged during the war was a feeling that the government must take more command of the nation's production and development. The public had become insistent upon action. The time had come for the culmination of all the proposals of earlier committees and commissions to be taken seriously. Winston Churchill's Conservative government, with its air of indecision toward the issues that had become popular during the war, was replaced in power by the Labour Party, eager to tackle these problems. "...Uncertainty vanished when the Labour Party came to power. The change of government wrought a radical transformation of possibilities."7

The Labour Party took office in July, 1945, and by October had appointed a New Towns Committee:

"To consider the general questions of the establishment, development, organization and administration that will arise in the promotion of New Towns in furtherance of a policy of planned decentralization from congested urban areas; and in accordance therewith to suggest guiding principles on which towns should be established and developed as self contained and balanced communities for work and living."8
The New Towns Act of 1946

The New Towns Act is notable as the first instance in Western history of a long-term national policy of consciously creating new towns whose character would be determined in advance rather than being left to the multi-headed decision making process of the market place. The act is rather specific in its statement of the process by which new towns are to be created. The basis of a limited character of the product is entrenched in the act.

The agency chosen to carry out the act is the public development corporation. Each new town is treated as a separate entity; a separate corporation is set up with the sole responsibility of planning and developing the town. The corporation is given broad powers, at least verbally, in the act to "do anything necessary or expedient for the purposes of the new town or for purposes incidental thereto," including acquiring and disposing of land, providing services, and building. Lloyd Rodwin, in The British New Towns Policy, states that the actual powers are somewhat circumscribed. Generally the corporations are limited to functions not carried out by local authorities.

The corporation membership is limited to seven members in addition to the chairman and vice-chairman. The corporations have administrative staffs (ranging in size from 60 in smaller towns, to 300 or more in larger towns) who carry out the corporation's policy decisions. The chief officials of the staff are the general manager, functioning as the executive director; the chief architect; engineer; estates officer; and the legal officer.
Initiative for the new town comes from the central government or local authority.

Minister selects site and prepares draft order.

Hearings for objections to be heard.

Corporation appointed by Minister.

Site purchased by Corporation.

Consultations with local authority and other affected groups.

Plans prepared by the staff

Hearings to gauge public support and discover objections.

Initial plans often by outside consultants.

Final approval by Minister

FIGURE 2 PROCEDURE FOR NEW TOWNS
The new towns are financed by the central government. The funds come from 60-year loans, grants which cover 50% of the first year deficit and 25% of the deficit the second year, and subsidies for housing. The local authorities also may now pay housing subsidies for ten years in return for the right to nominate tenants.

**Legislation Since The New Towns Act Of 1946**

The Town and Country Planning Act of 1947 extended the policy to cover land development for the whole country and began trying to control the location of industry. The extended policy was strengthened when the Town and Country Planning Act of 1968 was passed, instituting a comprehensive system for fulfilling the policy. The act established a hierarchy of plans with the following structure: a regional plan of overall strategy; an urban plan of long-term policy for land use and communications; and a local plan of detailed land use and environmental planning which provide the basis for implementation. The authorities are required to survey their areas and submit development plans to the appropriate Minister. With ministerial consent, the authorities may acquire land compulsorily for their own housing and other schemes. Any significant new development requires consent from the authorities.

**The Commission For The New Towns**

The Reith Committee, which led to the New Towns Act of 1946, had recommended that the new towns remain in the hands of the corporation, but the Act specified that when the town was "substantially completed", it should be handed over to the local authority. The problem was avoidable at first, but by the last of the fifties it had to be considered. In 1959, the government decided that
since the management of the towns was such a large-scale operation, it should remain, "for the time being at any rate", in the hands of an independent body. In spite of strong Labour opposition, the New Towns Act of 1959 set up a Commission for the New Towns to take over the substantially completed new towns. By 1968, the assets of four new towns, Crawley, Hatfield, Hemel Hempstead, and Welwyn, had passed from their development corporations to the commission. The Commission was not intended as a "disposals body", but was to be a "good landlord". Although the Commission is subject to local planning control, its highly centralized nature raises problems concerning local democratic control and attention to local interests. The government now intends to dissolve the Commission and have local housing authorities take over publicly owned housing after development. No decision has been made about the commercial and industrial assets.
1.1.3 ACHIEVEMENTS OF THE NEW TOWNS PROGRAM

The first new town under the New Towns Act of 1946 was Stevenage, designated in November of 1946. The original intention of the act was to build up to twenty new towns, but by 1968, 30 new towns had been designated in Britain. Following is a summary of the program to date outlining the scope of the accomplishments, the different types of new towns, and the trends of the program.

Scope

More than a half-million people have moved to the 30 new towns since they were designated, bringing the total population to about 950,000. Accompanying this move were 186,000 new houses, flats, and maisonettes, more than 950 factories, 620 offices, nearly 3000 new shops, and 370 new schools. The projected population for the new towns is now over 2 1/2 million.

Using the chart (figure 3) prepared by the British Information Service, the number of substantially completed new towns is six. Four more have experienced at least 50% of the projected growth after designation. The list includes three development proposals for towns of 80,000 or more: Warrington, Peterborough, and Northampton (located barely 16 miles from Milton Keynes).

Eleven of the new towns are in the Southeast of England and are designed to help solve London's housing problem. (figure 4) They are Basildon, Bracknell, Crawley, Harlow, Hatfield, Hemel Hempstead, Milton Keynes, Northampton, Peterborough, Stevenage, and Welwyn. Similarly, Telford and Redditch are designed to help Birmingham, Skelmerdale and Runcorn to relieve
<table>
<thead>
<tr>
<th>Great Britain:</th>
<th>Date of designation</th>
<th>Area designated (hectares)</th>
<th>Distance from nearby city (kilometres)</th>
<th>POPULATION</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>At designation</td>
<td>End 1967</td>
<td>Ultimate</td>
</tr>
<tr>
<td>Stevenage</td>
<td>November 1946</td>
<td>2,500</td>
<td>30 — London</td>
<td>7,000</td>
<td>61,700</td>
<td>100,000 — 105,000</td>
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<td>Crawley</td>
<td>January 1947</td>
<td>2,420</td>
<td>45 — London</td>
<td>10,000</td>
<td>63,700</td>
<td>75,000 — 82,000</td>
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<td>Hemel Hempstead</td>
<td>February 1947</td>
<td>2,400</td>
<td>47 — London</td>
<td>21,000</td>
<td>67,900</td>
<td>80,000 — 85,000</td>
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<tr>
<td>Harlow</td>
<td>March 1947</td>
<td>2,560</td>
<td>40 — London</td>
<td>6,500</td>
<td>75,850</td>
<td>80,000 — 85,000</td>
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<td>Aycliffe</td>
<td>April 1947</td>
<td>1,000</td>
<td>19 — Durham</td>
<td>60</td>
<td>18,000</td>
<td>45,000 — 50,000</td>
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<td>East Kilbride</td>
<td>May 1947</td>
<td>4,100</td>
<td>14 — Glasgow</td>
<td>2,400</td>
<td>57,000</td>
<td>100,000 — 110,000</td>
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<td>Peterlee</td>
<td>March 1948</td>
<td>1,000</td>
<td>16 — Durham</td>
<td>200</td>
<td>20,000</td>
<td>30,000 — 35,000</td>
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<td>Hafelfield</td>
<td>May 1948</td>
<td>940</td>
<td>32 — London</td>
<td>8,500</td>
<td>24,700</td>
<td>29,000 — 35,000</td>
</tr>
<tr>
<td>Welwyn</td>
<td>May 1948</td>
<td>1,700</td>
<td>35 — London</td>
<td>18,500</td>
<td>44,300</td>
<td>50,000 — 55,000</td>
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<td>Glenrothes</td>
<td>June 1948</td>
<td>2,300</td>
<td>50 — Edinburgh</td>
<td>1,000</td>
<td>23,700</td>
<td>75,000 — 80,000</td>
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<td>Basildon</td>
<td>January 1949</td>
<td>3,120</td>
<td>48 — London</td>
<td>25,000</td>
<td>72,000</td>
<td>140,000 — 155,000</td>
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<td>Bracknell</td>
<td>June 1949</td>
<td>1,320</td>
<td>45 — London</td>
<td>5,000</td>
<td>28,300</td>
<td>60,000 — 65,000</td>
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<td>Cwmbran</td>
<td>November 1949</td>
<td>1,260</td>
<td>29 — Cardiff</td>
<td>12,000</td>
<td>41,700</td>
<td>55,000 — 60,000</td>
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<td>Crewe</td>
<td>April 1950</td>
<td>1,720</td>
<td>37 — Leicester</td>
<td>15,700</td>
<td>47,500</td>
<td>80,000 — 90,000</td>
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<td>Cumbernauld</td>
<td>December 1955</td>
<td>1,660</td>
<td>24 — Glasgow</td>
<td>3,000</td>
<td>23,000</td>
<td>70,000 — 80,000</td>
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<td>Skelmersdale</td>
<td>October 1951</td>
<td>1,615</td>
<td>21 — Liverpool</td>
<td>10,000</td>
<td>16,000</td>
<td>80,000 — 90,000</td>
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<td>Livingston</td>
<td>April 1962</td>
<td>2,630</td>
<td>24 — Edinburgh</td>
<td>2,000</td>
<td>7,200</td>
<td>100,000 — 110,000</td>
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<td>Dawley</td>
<td>January 1963</td>
<td>3,660</td>
<td>48 — Birmingham</td>
<td>21,000</td>
<td>22,000</td>
<td>90,000 — 95,000</td>
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<td>Redditch</td>
<td>April 1963</td>
<td>2,830</td>
<td>22 — Birmingham</td>
<td>29,000</td>
<td>29,000</td>
<td>90,000 — 95,000</td>
</tr>
<tr>
<td>Burncorth</td>
<td>April 1964</td>
<td>2,000</td>
<td>23 — Liverpool</td>
<td>28,500</td>
<td>28,800</td>
<td>90,000 — 95,000</td>
</tr>
<tr>
<td>Washington</td>
<td>July 1964</td>
<td>2,120</td>
<td>9 — Newcastle</td>
<td>20,000</td>
<td>21,400</td>
<td>80,000 — 85,000</td>
</tr>
<tr>
<td>Inns</td>
<td>November 1966</td>
<td>3,000</td>
<td>42 — Glasgow</td>
<td>27,000</td>
<td>27,000</td>
<td>85,000 — 90,000</td>
</tr>
<tr>
<td>Milton Keynes</td>
<td>January 1967</td>
<td>8,800</td>
<td>55 — London</td>
<td>40,000</td>
<td>40,000</td>
<td>220,000 — 225,000</td>
</tr>
<tr>
<td>Peterborough</td>
<td>May 1967</td>
<td>6,400</td>
<td>133 — Manchester</td>
<td>80,500</td>
<td>81,000</td>
<td>175,000 — 180,000</td>
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<tr>
<td>Newtown</td>
<td>December 1967</td>
<td>600</td>
<td>43 — Aberystwyth</td>
<td>5,000</td>
<td>5,000</td>
<td>13,000 — 14,000</td>
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<tr>
<td>Northampton</td>
<td>February 1968</td>
<td>8,000</td>
<td>105 — London</td>
<td>113,000</td>
<td>113,000</td>
<td>220,000 — 225,000</td>
</tr>
<tr>
<td>Warrington</td>
<td>April 1968</td>
<td>7,460</td>
<td>24 — Manchester</td>
<td>127,000</td>
<td>127,000</td>
<td>205,000 — 210,000</td>
</tr>
</tbody>
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Northern Ireland:

|                                      |                     |                           |                                       | At designation | End 1967 | Ultimate         |
|                                      |                     |                           |                                       |              |       |                  |
| Craigavon                           | July 1965           | 2,480                     | 48 — Belfast                          | 40,000       | 41,000          | 150,000 — 155,000 |
| Antrim                             | July 1965           | 1,500                     | 24 — Belfast                          | 5,000        | 7,000           | 30,000 — 35,000   |
| Ballymena                          | August 1967         | 2,260                     | 40 — Belfast                          | 20,000       | 20,000          | 70,000 — 80,000   |

*One hectare = 2.5 acres.  
*One kilometre = 0.56 miles.  
*Renamed 'Fifold' in October 1968 when the area designated was doubled in size to take an ultimate population of 220,000.

FIGURE 3  
FIGURE 4 THE NEW TOWNS OF BRITAIN
Liverpool and Merseyside, and Warrington to alleviate Manchester. Cumbernauld, East Kilbride, Glenrothes, Irvine, and Livingston are designed to relieve pressure in Glasgow. Irvine and Livingston are also designed to stimulate industrial growth in central Scotland. Craigavon, Antrim, and Ballymena in Northern Ireland, are to reduce concentration in the Belfast urban area while, at the same time, discourage further industrial migration from Northern Ireland.

Towns designed primarily to facilitate industrial development are:
Washington, Peterlee, and Aycliffe in the Newcastle area; Newtown and Cwmbran in Wales; and Corby in England.

Trends

The first new towns were intended to have populations of 60 to 80,000 and provide outlets for the overcrowding of London. The "ultimate" populations of these towns were later expanded, and now the trend is to establish much larger towns to generate economic activity well away from major population areas. Milton Keynes represents this trend; it is 30 miles from London and is planned to accommodate 250,000. "A faster and economic rate of building is expected as the result of planning on a bigger scale. Additional advantages are that a larger new town can offer a greater variety of employment to its inhabitants, and it will become economic to provide a wider range of urban facilities at an earlier stage in the town's growth".15
The earlier new towns were all designed around the neighborhood concept with a town center concentrating the major activities. (figures 5, 6, and 7) They were to be surrounded by a green belt or open agricultural land. Cumbernauld, designated in 1955, was designed without distinct neighborhoods, and was the first to tackle the problem of the car which was burdening the existing towns. (figure 8)

The later new towns have not followed Cumbernauld's ideas on the neighborhood. They have attempted to solve the problems of cars, some by the use of public transport and others, notably Milton Keynes, by allowing for heavy car use in their schemes. The activity facilities have begun to be dispersed more than they were earlier in an attempt to avoid a congested center.
FIGURE 5 STEVENAGE
Designated - 1946
CRAWLEY

FIGURE 6 CRAWLEY
Designated - 1947
FIGURE 8 CUMBERNAULD
Designated - 1955
1.2.0 U. S. New Towns Background
1.2.1 GARDEN CITY INFLUENCE AND THE RADBURN PLAN

The history of the present U.S. new towns may be begun with the work of Clarence Stein and Henry Wright in the 1920's at Sunnyside Gardens and Radburn. Their work in the 20's was an attempt to transplant the theories of Ebenezer Howard to the U.S. Although they were not successful in creating a Garden City in its true form, they did accomplish some innovations in design, notably the Radburn Idea, that affected the American (and the British) development.

Stein, in *Toward New Towns For America* emphasized the strong influence Howard had on him. He states that upon being made chairman of the Commission of Housing and Regional Planning by New York Governor Al Smith: "I went abroad in search of more constructive action. In England 'New Towns' and 'New Towns after the War' were attempting to chart a new way; the second Garden City, Welwyn, was being built. I returned to America a disciple of Ebenezer Howard and Raymond Unwin."1 The first attempt by Stein and Wright to implement Howard's ideas was Garden Community near New York City. The plan was never realized, but it provided a theoretical basis for future prospects. (figure 9)

The first physical realization of the ideas was Sunnyside Garden, located near Manhattan on undeveloped land. It was a development of the City Housing Corporation, a limited dividend company organized in 1924 "for the ultimate purpose of building an American Garden City". Sunnyside was to be an experiment through which knowledge and experience could be gained. During 1924 to 1928, 1202 residential units were built on the 55 acres. The most significant feature
FIGURE 9 PRELIMINARY STUDY FOR PROPOSED GARDEN COMMUNITY, 1923
of the project was the common green in the block centers, an idea furthered at Radburn. (figure 10)

The success of Sunnyside up to 1928 paved the way for the City Housing Corporation to begin what was intended as a true Garden City complete with green belt and industry. Radburn had barely begun when the depression hit, ruining the City Housing Corporation and the hopes of fulfilling the original plan. The greenbelt and industry were eliminated, and only two of the "super-blocks" were finished. The significant features of Radburn as built were:

1. The superblock, 30 to 50 acres in size, with the houses on cul-de-sac streets and common green spine in the center of the block. (figure 11)
2. Separation of the pedestrian and the automobile by the use of underpasses and overpasses.
3. Specialized roads in a hierarchial arrangement to differentiate between service, neighborhood, main, and express roads.
4. Houses turned in or gardens and parks rather than facing streets.(fig.12)
5. Radburn Association, a quasi-municipal corporation to furnish services including sewage disposal, garbage collection, street lighting, policing and operation of the park areas, playground and recreation facilities.

Judged by its original intentions, Radburn was a miserable failure. Radburn did not become a Garden City. The green belt was never completed and it was not successful in attracting industry. The original intention was to retain the land in single ownership for the whole community. Only the inner block parks were retained. In spite of its premature curtailment, Radburn has served as a model, not only in the U.S., but in Europe as well.
FIGURE 10 SUNNYSIDE GARDENS

Showing the relation of the development to the city block system of layout.
FIGURE 11 RADBURN, NEW JERSEY
FIGURE 12  TYPICAL LANE AT RADBURN
Showing houses facing footpaths rather than street.
1.2.2 NEW DEAL NEW TOWNS

Although private enterprise has had the paramount role in new town building in the United States, the federal government under President Roosevelt did initiate a new town program overwhelmingly administered at the federal level eleven years before the British New Towns Act was passed. The program as carried out was narrow in that only three projects were begun, and these were actually garden suburbs without industry. The program is worth study because of its implications for present policy. The federal government cannot do the job alone. A new town program must be supported by a general commitment throughout government—not one just centered at the national level.

The greenbelt program began by order of President Roosevelt under the very broad authority granted him by the Emergency Relief Act of 1935—an act so broad it nearly resulted in being declared unconstitutional. The act did not even mention new towns, but made appropriation² for housing, highways, irrigation and conservation projects, and other relief projects. It gave the President the authority to determine what programs would be carried out, how they would be administered, and what guidelines would be followed.

Unlike the later British program headed by a Minister who consults with local authorities, the greenbelt program was headed by the Administrator of the Resettlement Administration who had full authority to select the sites at his own discretion without consulting local agencies. The sites were selected after studying one hundred cities to determine which cities they should be near, and studying the particular sites in these regions. Originally eight sites were
approved by the President, but this number was cut to five because the actual amount allocated was not enough to build eight. The number was further reduced to three because two sites, Greenbrook, New Jersey, and another near St. Louis, met with overriding objections at the local level.

The three projects actually begun were Greenbelt, Maryland, (figure 13), Greenhills, Ohio, (figure 14), and Greendale, Wisconsin (figure 15). The planning of the three towns was carried out by the Suburban Resettlement Division staffed by well-known technicians, including Clarence Stein, who drew heavily from the "Radburn Idea" and from the ideas of Howard. All were designed with town centers, pedestrian and automobile separation, and greenbelts. The federal government retained strict control of the development since it owned all the land, built all the houses, and built and provided all the services. Later, when the towns were completed, they were incorporated and the municipalities provided the services. In 1944, Congress enacted legislation to allow residents to buy their homes and in 1949 the Public Housing Administration was authorized to sell the remaining parts of the greenbelt towns.

The greenbelt towns are important as an instance of the federal government's virtually building new towns from the ground up. The limited extent of the program points to the fact that the federal government cannot build new towns alone even in the political environment which Roosevelt was in. That the program was short-lived emphasizes the need for a supporting commitment of such a policy at all levels of government, not just the federal level.
1.2.3 LEGISLATION

It was not until 1964 that the term "new communities" was used by the President in calling for legislation. The previous history of legislation in the U.S. had dealt mainly with housing and redevelopment. Several bills had been introduced in Congress containing provisions applicable to new communities, but basically the bills were concerned with open space acquisition and the provisions for new communities did not remain in the final acts. The administration, after asking for grants and loans to state and local governments for construction of public facilities in new communities and loan insurance for private developers to construct such facilities, proposed a bill in the House to set up a program of FHA loan insurance with the maximum amount up to 75% of the value of the developed land. Subject to approval by the FHA Administrator the bill would have covered land acquisition and land development. Opponents of the bill included the National Association of Real Estate Boards, the National Association of Home Builders, the American Bankers Association, the Mortgage Bankers Association, and the U.S. Chamber of Commerce. The provisions for new communities in the bill never made it out of committee.

Title X

In 1965, the Administration's bill contained three provisions applicable to new community development:

1. Mortgage insurance for private developers to cover land acquisition and improvements.
2. Loans to state land development agencies for acquisition of open land
3. Grants to local public bodies and agencies for advance acquisition of land for public works and facilities.\(^3\)

The last two provisions were omitted in committee. The bill ultimately became part of the National Housing Act as Title X—Mortgage Insurance for Land Development. However, the Committee report stated that the bill was not intended to provide special aids for the development of new towns. "While the Committee believes that the provisions of the bill will be helpful in the development of economic and marketable subdivision, it does not want this program used for land development which would, in fact, create independent new towns."\(^4\) In 1966 Title X was amended to encourage large-scale development and new communities by private developers. FHA insured 30-year mortgages were provided to finance water systems, sewer lines and sewerage disposal systems, steam, gas, and electrical installations, streets, curbs, gutters, sidewalks, storm drainage facilities, and other work both on and off site. The FHA Commissioner would determine if the work was necessary or desirable for public or common use.\(^5\)

To be eligible as a "new community", the development must make "a substantial contribution to the sound and economic growth of the area in which it is located" as determined by the following criteria:

1. Substantial economies made possible through large-scale development, and the provision of improved residential sites.
2. Adequate housing to be provided for those who would be employed in the community or the surrounding area.
3. Maximum accessibility from the new residential sites to industrial or other employment centers, commercial, recreational and cultural
facilities in or near the community.

4. Maximum accessibility to any major central city in the area.

The community proposal required approval by the local governing body and by the Governor of the State.

**The New Communities Act of 1968**

The New Communities Act of 1968, included as Title IV of the Housing and Urban Development Act of 1968, expanded the federal commitment to new communities. The focus of the 1968 Act is similar to the 1966 Act in that it is designed to enlist sources of private capital in the development of new communities by guaranteeing obligations issued on the bond market by private developers to help finance land acquisition and development costs. The main difference in the 1968 act is the percentage of these costs which would be guaranteed. The new formula is the lesser of (a) 80 percent of the Secretary's estimate of the value of the property upon completion of land development, or (b) the sum of 75 percent of the Secretary's estimate of the value of the land before development plus 90 percent of his estimate of the actual cost of the land development, or (c) $50 million principal outstanding. The total outstanding principal obligations that could be guaranteed was limited to $250 million. Factors involved in the Secretary's making the guarantees were: (1) the large initial capital investment required; (2) the extended period before initial returns can be expected; (3) the irregular pattern of cash returns characteristic of such investment; and (4) the financial and security interests of the United States.
The communities were expected to:

1. Contribute to better living conditions through improved overall community design.
2. Make substantial contributions to the sound and economic growth of the areas in which they are located.
3. Provide needed additions to the general housing supply.
4. Provide opportunities for innovation in housing and community development technology and land use planning.
5. Enlarge housing, employment, and investment opportunities.
6. Encourage a diversified local homebuilding industry.
7. Include, to the greatest extent feasible, the use of new and improved housing technology, techniques, and materials under programs administered by the Department of Housing and Urban Development with a view toward reducing housing construction, rehabilitation, and maintenance costs and stimulating the increased and sustained production of housing under such programs. 

In addition to the loan guarantees, the Secretary was authorized to make supplementary grants to States and local public bodies carrying out "new community assistance projects". New Community assistance projects are projects aided by grants under section 702 of the Housing and Urban Development Act of 1965, under section 306(a)(2) of the Consolidated Farmer's Home Administration Act, or Title VII of the Housing Act of 1961. The grants are limited to 20% of the cost of the facilities and in no event could the Federal grants for a project exceed 80% of the cost of the facilities. The grants were to be made "if the Secretary determines that such grants are necessary or desirable for carrying out an approved new community development project and that a substantial number of housing units for low and moderate income persons is to be made
available through such development projects. 7

A major problem of providing "units for low and moderate income person" is
defining what "low income" is. Keegan and Rutzick, in a review of the act,
state that: "To a reasonable extent, the Act places the responsibility of over¬
coming these problems on developers; the difficulty is in choosing a satisfac¬
tory standard to achieve the goal of 'proper balance'." Three basis were
suggested in the review for determining the extent of low-income housing:

1. Everyone who work in a community should be able to live in it.
   This is a reasonable basis, but its effect could be severely limited
   by the current practice of community developers to recruit research
   and development industry which do not attract low-income workers.
   Furthermore, even if some low-skill employers are attracted, their
   main work force might be second jobs for medium income households.

2. The low-income proportion could be based on the proportion in an
   area outside the community. The area could be the county, metro¬
   politan area, or state. The extent of the effect would then depend
   on the area selected.

3. A final proportion could be based on the amount of such housing being
   constructed in the area. This proportion would probably be very low
   since very little low-income housing is being built in areas in which
   new communities are locating. This basis can be viewed as actually
doing nothing about the aim. 8

Two features of the Act are less than complimentary—in fact, they border
on contradiction: The purpose of the bill has a stated attempt to "include, to
the greatest extent feasible, the use of new and improved technology". How¬
ever, section 409 requires the Secretary to adopt requirements to encourage
small homebuilders to be included. The kind of technological advances purported are not logically developed by small builder.

The National Committee On Urban Growth

"To give the new cities concept and other alternatives thoughtful study, the National Committee on Urban Growth Policy was formed in 1968." The report of the committee strongly endorsed the need for building New Cities. They defined six "flaws" in the metropolitan pattern: (1) The American metropolis is monumentally ugly...(2) A great deal has been left behind in the outward spread of metropolis...It has yet to be shown that the spirit of the great city can be decentralized. (3) The process of spontaneous urbanization by which metropolis has been formed is both wasteful and destructive of natural resources...(4) The map of metropolis is a crazy quilt of political jurisdictions...Problems are thus handled piecemeal, rather than in relation to each other...(5) The problems of the great core cities, in particular the older ones, have risen in an almost precisely inverse ratio to the cities' ability to solve them...(6) Finally, the range of choice offered by metropolis is not available to all."10

The Committee recommends building 100 new communities averaging 100 thousand population each and 10 new communities of at least 1 million in population by the year 2000. This project, although ambitious, is seen as accommodating only 20% of the anticipated population growth of the U.S. by the end of the century. To accomplish this goal, the committee recommended the creation of state authorized agencies, assisted by long term loans or loan guarantees, to
assemble land, install public facilities, and plan for large scale new community development. In summary, the significant feature of the proposal which differed from the New Communities Act of 1968 was the agency to accomplish the goal: the State authorized agency.

The Urban Growth And New Communities Act of 1970

The 1970 Act represents a shift in the new community "idea" in that the provision for new community development is placed within a framework of policy designed to "provide for the development of a national urban growth policy. The major revisions of the new communities provisions are (1) the inclusion of the expansion of existing communities, and (2) the inclusion of State agencies as new community developers. Both reflect the attention given the report published by the National Committee on Urban Growth. A major expansion of the provisions is the inclusion of grants for planning the communities.

Congress gave direction to the formulation of the urban growth policy which is to serve as a guide in making specific decisions at the national level by defining eight guidelines. The policy should:

1. Favor patterns which offer a range of alternatives.
2. Foster the continued economic strength of all parts of the U.S.
3. Help reverse trends of migration.
4. Treat problems of poverty and employment associated with disorderly urbanization and rural decline.
5. Encourage good housing for all.
6. Refine the Federal role in revitalizing existing communities and developing new ones.
7. Strengthen government contribution to balanced urban growth and stabilization.
8. Facilitate increased coordination in the administration of Federal programs.

To facilitate the development of the policy, Congress directed the President to use his office to collect data and report to Congress every two years on urban growth concerning trends, problems, assessment of policy, and needs related to urban growth.

Adopting basically the ideas from the National Committee on Urban Growth Report, Congress expanded the new communities provisions of the 1968 Act. Under the 1970 Act, the Secretary is authorized to guarantee obligations (1) of State land developmental agencies not exceeding 100 percent of the sum of the Secretary's estimate of the value of the real property before development and his estimate of the actual cost of the land development, or (2) of private new community developers not exceeding the sum of 80 percent of the Secretary's estimate of the value of the real property before development and 90 percent of his estimate of the actual cost of the land development. The limit on outstanding principle guaranteed for single community is $50 million and for the total outstanding principles guaranteed under the Act to all projects 500 million.

The Secretary is further authorized to make loans to private and State developers up to the amount of interest attributable to indebtedness incurred in land acquisition and development up to 15 years. The loans are to be repaid, with interest at the current rate of marketable U.S. obligations, beginning not
later than 15 years after they are made. The loan principle to a single project may not exceed $20 million with the total of such loans not exceeding $240 million.

The Secretary is also authorized to make grants to appropriate State or local bodies to provide initial services (educational, health, and safety) during the first three years prior to the completion of permanent arrangements. The amounts of the grants if dependent on the Secretary's discretion and the appropriation made by Congress.

An important addition to the program is the provision of planning grants to new community projects. The planning is to assure that the new communities will: (1) be fully responsive to social or environmental problems related to the public purposes of new community development, or (2) adequately provide for, or encourage the use of, new or advanced technology in support of program objectives. The assistance will be up to 2/3 the cost of planning. Funding for private developers will be that which is above normal market, financial, and engineering feasibility planning.

Other than the provisions for private and State developers, the Secretary is authorized to carry out new community projects on federally owned lands upon specific authorization of the President. These projects would be intended to serve as models for public and private developers.

A Community Development Corporation is created in the Department of Housing and Urban Development to carry out the functions of the Secretary in respect to new community development subject to the direction of the Secretary.
The Act retains the provisions regarding supplemental grants and the emphasis on encouraging small builders.

In general, the Act represents a step toward placing the new community program in a broader framework. It recognizes the need for a national policy, and the need for coordination of governmental institutions and programs. It is significant that the growth policy, new community development, State and regional planning, and development of inner city areas are included in one title. Of course, most of this is still "on paper". The effectuation of the ideas of the Act is not an over-night job.
1.2.4 PRESENT STATE IN THE U.S.

"Land speculation and land development have always been a part of the American economic experience. Unlike the populace of many nations, most Americans have always accepted the notion that the settling of new areas is a legitimate enterprise for monetary gain." 13

The Merchant Builder

The forces which were released after World War II caused housing production in the U.S. to change from an atomized, craft oriented activity to an industry. Along with the change, came the merchant builder. The merchant builder was different from the pre-war builder in volume of units produced, but just as important was the change in process. The merchant builder combined the operations of many crafts into a more efficient process marketing a total product, including land, improvements, houses, and merchandising. The merchant builder ushered in the change to a process with the goal of rapid turnover and consumer marketing. With the merchant builder came the development pattern characterized as sprawl and other connotative terms. The pattern was not the making of the merchant builder; they both were responses to the same set of complex forces.

The Community Builder

The community builder responded to the pattern with conviction that he could provide a better way—and make a profit while doing it. Whereas the merchant builder's goal was rapid turnover, the community builder's goal is profit through long-term undertaking. The community builders product is an "environment", totally planned."
To be able to sell such a product, the community builder must have several things which are not necessary to the merchant builder. The first of these is the assemblage of a large enough site. No definite distinction can be made between the two on size alone, but merchant builders seldom control more than 1000 acres, while the community builders operate on sites ten times that size or more. These sites were typically family land holdings for long periods, but James Rouse, for one, succeeded in assembling a varied group of parcels for Columbia, Maryland.

A second requirement for community builders is financing on longer terms. The merchant builder operates on a "quick turn-over" basis and therefore shorter financing time; the community builder must wait for several years before sales are sufficient to service the debt and a decade or more before payment on the principal can be drawn from sales. This means that the community builder will be seeking different sources of financing. National corporations entered the field of community financing with an eye toward promoting their products, improving their tax posture, and responding to anti-trust regulation. These corporations include: Boise-Cascade, Kaiser Aluminum (through its subsidiary, Westwood Properties), and American Cement Company. Another major group is the oil industries: Sunset International Petroleum, developing three California communities, Gulf Oil, involved in Reston, Virginia, and Humble, at Clear Lake City. Mortgage lenders, in particular insurance companies, have invested in community development. Connecticut General Life Insurance loaned large amounts for Coral Ridge, Florida and Columbia, Maryland. At Columbia, the
company extended the land purchase loan to finance improvements in return for a "piece of the action". "Connecticut General received the right to select three out of five members of the new firm's board of directors and it held a stock interest in the corporation." 14

Community builders have considered a greater range of facilities necessary to their projects. Industrial parks and regional shopping centers are two facilities common to community builders' projects. The difference between new communities and subdivisions is not that industry or regional shopping centers are not nearby or available to subdivisions, but they are not generally planned as an integral part of the development. "Planning" for these facilities does not mean that they will happen. Most new communities have not been very successful in attracting industry. Clear Lake City, having 2742 acres sold or optioned and twelve plants in operation, seems to be an exception.

The business organization of new community developers has been classified into three types: "expansionist", "non-expansionists", and a third combining some features of both. 15 The expansionists roughly correspond to the merchant builders. They have naturally developed in a strong housing market to a size where they could plan and execute large projects. Their talents are developed "in-house" through experience and they tend to repeat their previous experiences. The non-expansionists are typically large corporations or land owners who are attempting to diversify investments or capitalize on a particular real estate situation. Since their organization is not based on an experimental staff, they must draw heavily on planning or architectural consultants. "For this reason the results are innovative and aesthetically original. On the other hand some consul-
tant have been charged with contributing to the already high risk of new town projects with designs which are at odds with the tastes of the market. The third category is composed of business men who build up a temporary staff, composed of all the necessary skills, which have an understanding of the financial and marketing problems.

The plans of new communities range from repetition of "unplanned" communities to innovative schemes. One common feature is the neighborhood focusing on some common attraction. Most are planned in terms of clusters, neighborhoods, and villages drawing from earlier examples such as Radburn. Differing from British new towns which roughly approximate the existing proportions of residential land in cities, American examples usually range from 50% to 70% residential—much higher than existing cities.

The new communities in America to date have not had a major impact on urbanization. Significant innovations in plans are few. The role of the new community in America has not congealed into one common agreement.
2.0.0 THE TWO EXAMPLES

Two examples of new towns were chosen to examine their process. The reason specific examples were chosen is to give more "in depth" insight into the two processes. Since the processes are different, not all aspects are comparable. To provide a basis for comparison, the examples are presented from four common perspectives: the people in the process; the goals of the process; the planning accompanying the process; and the product. It is expected that the following presentation, together with the preceding background, will provide material for a comparison of the two examples in the context of the national policies involved.
2.1.0 Milton Keynes
2.1.1 PEOPLE IN THE PROCESS

Minister of Housing and Local Government

The Minister had the most influential role in the beginning of Milton Keynes since the "go ahead" for the idea depended on his designation of an area as the site. The direction of the goals for planning were set by the "assurances" the Minister gave the Corporation when he appointed them.

The South East Study published by the Ministry in 1964 had concluded that a new city of 250,000 should be built in the Bletchley area. In 1965, the Ministry published a report that the new city was feasible.

The varied responsibilities of the Ministry have been summed up as "securing consistency and continuity in the framing and execution of a national policy with respect to the use and development of land throughout England and Wales."

As important as it is to understand the interests of the Ministry, clarification of these interests is difficult to achieve without close collaboration with the Ministry. Some of the interests may be assumed from the circumstances of the Ministry's situation. As was shown earlier, the national policy is founded on the Garden City ideas of Howard, and that background is exhibited in the designation of Milton Keynes. Two somewhat contradictory ideas are involved: the idea of a finite city as the reproductive unit of growth, and the idea that the new city has ties to a parent city.
The political implications of the Minister's situation are important, especially since he becomes the focus for any objections to the new town. Osborn in *The New Towns* explains the situation: "...when the Ministry is promoter as well as final arbiter it has no one with whom to share the odium." The result of this burden has been the Ministry's tendency to keep the designated sites as small as possible.

**The Public**

There were approximately 45,000 people living in the area when it was designated as a new town. The response of these people to the new town had to be taken into account. Some of the new towns have met formidable opposition from local residents. Milton Keynes is no exception. "One result of such protests—made at an enquiry about the location of Milton Keynes—was that the Minister of Housing and Local Government decided to accept a reduction in the proposal area of some 3,300 acres." The objections to new towns from individuals come from two sources: objections to urbanization, or change; and objections from farmers. No specific data is available explaining exactly why local residents resent impending change, but Lloyd Rodwin, in *The British New Towns Policy*, gives some insight into the problem. "There may be great shock when existing properties are purchased...There are many who have other interests of this nature; the person who has bought or built a quiet place in the choice spot to retire;...the comfortable middle-class merchant or professional who likes the community as is, with all its faults and virtues, and does not want it balanced according to the taste and doctrines of some civil servant in London or on the
development corporation; the landed aristocrat who takes a paternal interest in
the area and who dreads the change into something alien; the local politicians
and job holders who see their prospects clouding with future uncertainties.\textsuperscript{6}

Farmers constitute a special group objecting to new towns because they
have special support in the national policy itself. The government has given
special attention to increasing the efficiency of farming and tries to diminish land
suited for farming as little as possible. As previously mentioned, farmers' ob-
jections were a main source of the objection at Milton Keynes. "In the designated
area of Milton Keynes there is more agricultural land than in any of the other
new towns. The Corporation's aim is to cause as little disturbance to farming
operations as possible until land is actually required for development, and we
hope to continue to maintain with the farmers a relationship of mutual understand-
ing and respect, despite the direct conflict of interest between farming and a new
town."\textsuperscript{7}

**Buckinghamshire County Council**

The Buckinghamshire County Council produced two studies which have in-
cluded proposals for a new town in the area, but failed to act on either. At
least, the proposals seem to be in accord with that of the Development Corpora-
tion.

The first proposal for the new town was in 1962\textsuperscript{8} and was intended to pro-
vide for overspill from towns in the south of the county and the county's contri-
bution to the overspill from London. Another study, the North Bucks New City\textsuperscript{9}
study in 1966 suggested the possibility of a new city of 250,000 in the area.
The County Council has been concerned with two pressures: one from London and the other from the south of the county. Both are considered threats to the most valuable scenic area of the county: the Chilterns. (See figure 16) The policy to meet these pressures is to divert growth into the north of the county, including the expansion of existing towns as well as building Milton Keynes. Maurice Ash in Regions of Tomorrow points out that maybe this policy should not be taken at face value. "Is it too far-fetched to suppose that this initiative on the part of the elders of Bucks was due to a desire to keep "London" at bay and away from their pleasant front garden?" In any case, the stated policy is in accord with the building of Milton Keynes.

Milton Keynes Development Corporation

The Development Corporation was appointed by the Minister and is directly responsible to him. The financing for development comes through the Minister. However, once the Minister gives final approval to the new town plan, the Development Corporation has a fairly firm commitment from the Minister. There have been no examples to date of sharp curtailment of development or radical alterations of plans after final approval was given.

The Development Corporation is responsible for seeing that the plan is carried out. They must meet any objections without losing what they consider important elements of the development. They have formulated a plan for development which they obviously feel is the best plan. Their interest is seeing that the plan is carried through.
FIGURE 16 THE CHILTERNS
Other Groups

Certain other groups which have not direct interest in the new town development will, nevertheless, have a major influence. The most important, presently, is the Roskill Commission which is working on a location for the Third London Airport. One of the proposals thus far is situated such that it would jeopardize Milton Keynes. No final decision has been made yet.
2.1.2 THE GOALS FOR MILTON KEYNES

The Principle objectives of the new town program in Britain on the national level are mainly limiting the size of large cities (especially London) and the re-development of declining areas. Each project also takes on specific goals beginning with direction given by the Minister of Housing and Local Government.

Milton Keynes began with certain "assurances" made by the Minister before the Development Corporation was appointed. The assurances were:

1. To incorporate Bletchley, Wolverton, and Stony Stratford in a way that preserves their individual sense of local community.

2. To fit the existing villages and hamlets into the development, not to sweep them away.

3. To protect the fertile land around Stony Stratford as far as possible; to avoid the permanent creation of large agricultural enclaves that would be uneconomic to farm; and to phase the development in a way that will achieve the lease prejudice to land which for the time being will remain in agricultural use.

4. To recognise the potential value of land in the north-eastern part of the site for large-scale industrial development.

5. To restrict access from the M1 motorway to junctions already in existence (although these junctions will need to be redesigned and enlarged.)

6. To enable valley gravel deposits to be worked before permanent development; and to prepare a rational programme for brick clay working related to the needs of the industry in the area.

7. To devise a solution to the problems of storm water drainage in consultation with the authorities concerned.
The Corporation, together with their consultants, have identified six goals for planning:

1. Opportunity and freedom of choice
2. Easy movement and access, and good communications.
3. Balance and variety
4. An attractive city
5. Public awareness and participation
6. Efficient and imaginative use of resources

**Opportunity and Freedom of Choice**

"The city should offer to its newcomers and its inhabitants the greatest possible range of opportunities in education, work, housing, recreation, health care and all other activities and services." More specifically, the goal means: housing will be of many types and financing; industries of many types, including those employing those of lower skills, will be sought; several activity centers will be within access of each residential area; schools will be located such there will be a choice provided for each residential area.

**Easy Movement and Access, and Good Communications**

Specific points of this goal are: accessibility between all activities and places; choice between public and private transportation; provision for "the use of the car unrestrained by congestion"; and provision for "free and safe movement as a pedestrian or as a cyclist".

The provision for the unrestrained use of the private car represents a shift in new town design in Britain. Early new towns did not allow adequate space
for cars and problems have resulted. The approach to the problem in later towns was reliance on public transport. The planners of Milton Keynes have decided, in view of the rising rate of car ownership, Britain, that the main form of transportation will be the car, and have designed for this fact.

Balance and Variety

One important aspect of this goal is an attempt to provide a mix of housing and social groups. "The Corporation is determined to achieve a wider spread of social, age, and racial groups, than has hitherto been achieved and also to attract to live and work in Milton Keynes people with a wider range of incomes." The extent to which the mix will be attempted is within areas bounded by major roads and served by common schools. Also, in the first stage, there is a determination to connect the existing communities and provide a common city center.

An Attractive City

The only important aspect of this goal is the attention given to historic areas in the designated city.

Public Awareness and Participation

The growing public demand for participation in planning has been incorporated into the goals for Milton Keynes. This concept is relatively new to the British experience, and as yet the procedures are not fully worked out. The result of the goal thus far is that the public is informed through the local media and exhibits of the Corporation's activities. The only specific participation by the public will be through the monitoring and research services by the Corporation.
Efficient and Imaginative Use of Resources

The attempt here is to assure that the limited amount of resources are, in fact, invested in the most efficient alternative. Mention is made of the intent to evaluate the results at intervals during the development to check if the proposals are still the most efficient.

The identification of certain goals, such as those for Milton Keynes, is common for new town planning in Britain. The goals are made public before the final approval is given by the Minister. The public nature of the goals allows them to be used as standards for judging the activities of the Corporation.
2.1.3 PLANNING

The planning of Milton Keynes began many years before the Development Corporation was appointed in such studies already mentioned as the North Bucks New City study and South East Study. What will be examined here, however, is the process by which a specific proposal by the Development Corporation was prepared and the process outlined for its implementation.

After having been established in May 1967, the Corporation drew up a brief specifying its requirements for the preparation of a plan and selected the planning consultants. (See figure 17) The following paragraph summarizes the main points of the brief given to the planning consultants. 15

The task was to prepare a plan for the New City representing "strategic objectives resulting from an environmental and land use survey". The plan was expected respect the "assurances" given the Corporation by the Minister. The primary purpose was to provide homes and jobs for people mainly from Greater London, with "possibly some overspill from South Buckinghamshire." Five fundamental requirements were given:

1. **Transport.** One point the consultants were asked to pay particular attention to was that "car ownership is expected to increase to 1.5 units per family during the time the city is being built."

2. **Town Center(s).** An early decision was to be made between a single or multi-centered city.

3. **Residential.** The aim should be to provide a wider range of living conditions and social and economic diversity. "It is the Government's declared intention that private capital shall be attracted to
MILTON KEYNES DEVELOPMENT CORPORATION

MEMBERS OF THE CORPORATION

Lord Campbell of Eskan  Chairman
W N Ismay BSc CEng FIMechE  Deputy Chairman and managing director
R G Bellchambers
J F Cassidy
H W Cutler OBE
Mrs A M Durbridge JP
S W G Morton FCIS
Professor R A Parker BSc PhD
R B Verney DL JP

Special adviser to the Corporation
F B Pooley CBE FRIBA FRICS AMTPI

Chief Officers and Heads of Departments
A G Ashton ARICS  Chief Estates Officer
E L Pye MEng DipTP CEng FICE  Chief Engineer
G T West BA(Arch)ARIBA  Architectural Project Manager
K Wren RIMTA FRVA  Chief Finance Officer
A J Leighton MA(Cantab)  Social Development Officer
G A T Shaw CBE MA(Cantab)  Secretary
A Caunce BEng MICE AMInstHE  Project Co-ordinator

Engineering consultants
J D & D M Watson

THE CONSULTANT TEAM

Llewelyn-Davies Weeks Forestier-Walker & Bor  Planning consultants
Nathaniel Lichfield and Assoc  Economic consultants
Peat Marwick Kates & Co  Transportation consultants
Peter Youngman  Landscape
Professor Gerald Wibberley  Agriculture
Professor David Donnison  Social development
Professor Emrys Jones  Demography
Professor Sir Nikolaus Pevsner  Historic buildings
Professor Melvin Webber  Urban Society

FIGURE 17
build up to 50% of total dwellings to be provided and that at least 50% of all dwellings should be owner-occupied. 16

4. Employment. Provide a wide range; allow substantial scope for future adjustment.

5. Leisure. The plan should represent a "sound appreciation of provision for recreational activities".

The preparation of the plan was in two phases: preparation of the interim report and preparation of the final plan. The purpose of the interim report was to provide a basis for beginning detailed plans and to obtain input from the public and various groups. Planning involved consultations with local authorities and groups. Inasmuch as the Development Corporation is not responsible for all the development in areas of services and social organization, the planners worked with those authorities and groups which are responsible. The Corporation states that "a number of working parties have been established with other bodies and authorities who are concerned with the new city. These working parties deal with issues such as health, education, social services, and transport. Taking as their starting point the goals established at the beginning of the planning process these working parties are preparing guidelines for the services which will go to make up the new city.

The interim report was distributed to the public and exhibitions and discussions were held to gauge public support and identify objections. Twenty-five public meetings were held and were given coverage by the local press. The meetings consisted of formal presentations, question and answer periods, and informal discussions between the members of the Corporation and smaller groups. The questions were categorized the the Corporation as follows:
1. Those requiring simple factual answers, e.g. "what is a 'reserved' site?"
2. Those requiring technical answers, e.g. "how will computerised traffic light work?"
3. Those requiring assurances that certain physical factors had been taken into account, e.g. "what will happen to small traders?"
4. Those requesting assurances that certain individual and social factors had been taken into account, e.g. "who will the Corporation try to attract to the city?"
5. Those suggesting the inclusion of special facilities, e.g. "has provision been made for a crematorium?"

The Corporation states that the proposals are not intended to be finite, but that the planning process is continuous with "monitoring" a necessary part of development. "It provides a starting point. It does not attempt to lay down, in detail the ultimate structure of the new city."
2.1.4 PHYSICAL PROPOSAL

This chapter will examine the actual proposal, and how it will grow.

Urban Form

The second goal set forth for Milton Keynes is: easy movement and access, and good communications. The major implication of this goal in the proposal is the planning for the unrestrained use of the car. The design chosen to accomplish the goal is a grid system of major limited access roads spaced at $5/8$ mile intervals.

The form for Milton Keynes was chosen by a process of elimination. The goals were classified according to their physical implications, and the physical implications were categorized as "fixes", "variables", and "criteria". Fixes were those goals which were common to all alternative land use/transport schemes; variables are those parameters which may be manipulated during planning; criteria are factors which are used to evaluate a given alternative in quantitative or qualitative terms. Using this process the variables deemed strategically important to the generation of alternative urban form were: residential density, concentration or dispersal of work places, and transport system.

A matrix was generated using three values of density, three degrees of workplace concentration, and three transport systems. Figure 18 is the matrix comparing workplace concentration to transport system. The nine relationships, evaluated as either probable, possible, or impossible, are then used to generate a matrix (figure 19) relating the results of the first matrix with residential
### MATRIX 1

<table>
<thead>
<tr>
<th>work place concentration</th>
<th>Code</th>
<th>line haul* on own right of way</th>
<th>line haul* on own right of way and feeder services on roads</th>
<th>line haul* and/or diffuse services on roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>high</td>
<td>A</td>
<td>o</td>
<td>N</td>
<td>x</td>
</tr>
<tr>
<td>medium</td>
<td>B</td>
<td>n</td>
<td>o</td>
<td>n</td>
</tr>
<tr>
<td>low</td>
<td>C</td>
<td>x</td>
<td>n</td>
<td>o</td>
</tr>
</tbody>
</table>

* A mass transport system collecting and distributing passengers at fixed points along a line.

An assessment of the feasibility of each combination is indicated by:

- o = probable
- n = possible
- x = improbable

**FIGURE 18 WORK PLACE CONCENTRATION IN RELATION TO TRANSPORT SYSTEMS**

### MATRIX 2

<table>
<thead>
<tr>
<th>Code (see Matrix 1 above)</th>
<th>average net residential density in dwellings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>high 40 per hectare (16 per acre)</td>
</tr>
<tr>
<td>A 1</td>
<td>o</td>
</tr>
<tr>
<td>A 2</td>
<td>n</td>
</tr>
<tr>
<td>A 3</td>
<td>x</td>
</tr>
<tr>
<td>B 1</td>
<td>o</td>
</tr>
<tr>
<td>B 2</td>
<td>n</td>
</tr>
<tr>
<td>B 3</td>
<td>n</td>
</tr>
<tr>
<td>C 1</td>
<td>x</td>
</tr>
<tr>
<td>C 2</td>
<td>n</td>
</tr>
<tr>
<td>C 3</td>
<td>x</td>
</tr>
</tbody>
</table>

**FIGURE 19 RESIDENTIAL DENSITY IN RELATION TO MATRIX 1**
### MATRIX 3

<table>
<thead>
<tr>
<th>Workplace Concentration</th>
<th>Transport Systems</th>
<th>Residential Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>A11 high</td>
<td>line haul own R.O.W.**</td>
<td>high</td>
</tr>
<tr>
<td>A22 high</td>
<td>line haul own R.O.W. and feeder service</td>
<td>medium</td>
</tr>
<tr>
<td>B11 medium</td>
<td>line haul own R.O.W.</td>
<td>high</td>
</tr>
<tr>
<td>B12 medium</td>
<td>line haul own R.O.W.</td>
<td>medium</td>
</tr>
<tr>
<td>B22 medium</td>
<td>line haul own R.O.W. and feeder service</td>
<td>medium</td>
</tr>
<tr>
<td>B32 medium</td>
<td>line haul and diffuse on roads</td>
<td>medium</td>
</tr>
<tr>
<td>B33 medium</td>
<td>line haul and diffuse on roads</td>
<td>low</td>
</tr>
<tr>
<td>C23* low</td>
<td>line haul own R.O.W. and feeder service</td>
<td>low</td>
</tr>
<tr>
<td>C33* low</td>
<td>line haul and diffuse on roads</td>
<td>low</td>
</tr>
</tbody>
</table>

* selected as most probable
** right of way

FIGURE 20 PROBABLE THEORETICAL PLANS
density. Those relationships evaluated as probable are then used to generate nine theoretical "plans" based on these variables. (figure 20) From this list, two were selected as most probable and alternative plans were developed. (figures 21 and 22) Plan A was selected because it gave the greatest dispersal of work spaces.

Movement Systems

The scheme adopted for the movement system is a grid spaced at 5/8 mile intervals. The grid was assumed to be the best alternative for the urban form selected. Although two spacings of the grid were tested, one mile and one kilometer (5/8 mile), no mention is made of testing alternatives other than the grid itself.

The main roads, (figure 23) which make up the grid, will be grade level and have grade level intersections. The main roads will not provide access along them for development. The only intersections with the main roads will be local roads spaced 300 meters (approx. 1600 feet) providing access to the interior of the grids. About 2/3 of the main roads will be four-lane. The remaining 1/3, located near the perimeter will be two-lane.

Each grid will have a potential of eight access points (figure 24). The local roads intersecting at these points will be given considerable latitude in the interior of the grid.
The remainder of the designated area is in residential use.

**FIGURE 21 PLAN A**

This land use concept, having a dispersed pattern of workplaces and centers, was the preferred concept.
The remainder of the designated area is in residential use.

FIGURE 22 PLAN B
This land use concept was rejected because it had a greater concentration of workplaces.
FIGURE 23  MAIN ROADS
The main road system is basically a grid, spaced at 5/8 mile intervals
Public Transport

Public transport is not envisioned as the main transport system for Milton Keynes. It is seen as a convenience auxiliary system to the car. At least 20% of all journeys are expected to be by public transport, but the planners are not optimistic about a greater percentage.

The system chosen is a bus system operating on the main road system. The buses will be provided special "laybys" off the main road for loading. A sample comparison by the planners gives the typical "journey to work" time by car at 15 minutes for 5 kilometers (3 1/8 miles), and the time by bus at 24 minutes.

Pedestrian System

The pedestrian system for Milton Keynes will be separated from the main road system and will follow only the local roads within the interior of the grid. It will not be limited to sidewalks along roads, but will provide access to schools and activity centers apart from roads. Underpasses will be provided at main roads allowing pedestrian movement from one grid area to another. (figure 25)

The Local Environment

The areas produced by the grid are treated as "environmental areas". They are not viewed as neighborhoods or communities. The planners state "there is little or no available evidence that would suggest that a particular size or unit or grouping of units is more or less appropriate socially or administratively". What is attempted is to provide maximum freedom of social development.
Activities within walking distance:
- Shops
- Middle school
- First school
- Bus stop
- Local employment

Activities which can be reached by bus or car:
1. Supermarket
2. Coffee bar
3. Health centre
4. Gardening club

FIGURE 26 CHOICE OF ACTIVITIES
One family may choose to use different centers for different purposes
POTENTIAL BUS STOP AND ACTIVITY CENTERS

- Activity center
- Main road
- Shops
- Middle school
- First school
- Secondary school
- Social information center
- Bus stops
- Local employment

POTENTIAL DISTRIBUTION OF FACILITIES AT ACTIVITY CENTERS

FIGURE 27 POTENTIAL BUS STOP AND ACTIVITY DISTRIBUTION
FIGURE 28  SKETCH OF AN ACTIVITY CENTER
The size of the environmental areas is based on the efficiency of the transport, the noise and pollution levels within the area, and the elimination of secondary roads. Secondary roads are to be eliminated because they are potentially dangerous to pedestrians. At main road intersections, pedestrians are more aware of the danger involved, and on local roads the danger is inherently lower. The environmental areas are to be kept to about 250 to 300 acres, thereby limiting residential area traffic to less than 250 vehicles at peak hours and eliminating secondary roads.

Activity centers, comprised of all schools, local shopping, and local meeting areas, will be located on the main roads where they may coupled with bus stops and provide linkage between environmental areas. Therefore, catchment areas for the various local facilities are not physically bounded. (figures 26, 27, and 28)

Eight or nine of the activity centers will be larger and more than local in nature. The centers would contain possibly three secondary schools and a scarce resources center and would allow a health center, library, place of worship, a pharmacy, etc., to share the benefits from linkage. These centers would be reached mainly by car or bus and would serve a population from 18-40,000.

The Corporation's intent is to provide for considerable latitude in the design of residential areas as compared to the situation where the residential areas are carefully presigned. The main characteristic of the residential areas will be their outward oriented nature rather than the introverted Radburn type. The
guidelines for residential design are as follows. The local road system will be a "mesh" which discourages through traffic, but allows travel within the environmental area without resorting to the main road system. Residential areas are to be interspersed with play areas, both those within view of the home and those for larger area and older group play. Each area will combine various housing types and will include public and private housing.

Although the intent is to provide a mix of housing price ranges and to include both public and private housing in each environmental area, certain constraints limit the ability to carry out the intent. At present, public housing is built at higher densities than private housing. The Corporation states: "Within the resources available under current 'cost yardstick' formula it is increasingly difficult to build public housing at densities lower than about 35 - 40 dwellings per hectare (14 to 16 per acre) whereas the private sector is tending to build in the Milton Keynes area, for example, at densities of about 25 to 30 dwellings per hectare (10 to 12 per acre)." The tendency can be seen as a clear disadvantage for the public sector's competing with private sector housing. There are indications that people who can now afford private housing prefer locations close, but not inside, the designated area. The Corporation recognizes that densities must be made comparable to private housing if the goals are to be achieved.

Another limitation comes from staging. The Corporation's forecasts indicate that it will be ten years before incomes would be sufficient for 50%
FIGURE 29 AN IMPRESSION OF PART OF THE CITY
Showing proposal for local environmental area
of the households to buy private housing even if consumer expenditures grow at a rapid rate (3.5% per year). If a mix of private and public housing is achieved, room must be left in environmental areas for the private housing while public housing is being built.

In general, the Corporation is not optimistic about achieving the goal of 50% owner-occupied housing and 50% privately developed housing except possibly over a long period of time.

✓ The City Center

In a grid system such as Milton Keynes, any area near the "center of gravity" is as advantageous as another for a city center. The area selected is on high ground near the center of the site. The activities to be located here are those which require the total population to permit their feasibility. However, certain large-scale activities, such as the hospital, the center for higher education, the Open University, and major employment areas will be located away from the center to allow for easy expansion.

Relying on estimates for 1990, 470 acres have been alloted to the center. The design of the center itself is purposely left sketchy. (figure 30.) As opposed to Cumbernauld, the idea is a loose layout with ample planted areas to allow for expansion. Although the center is not treated as a single element, extensive climate-controlled pedestrian areas are envisioned. This preliminary plan calls for pedestrian access at 150 meter (500 feet) intervals and ground level vehicular movement at about 300 meter (1000 foot) intervals.
FIGURE 30 POSSIBLE LAYOUT OF THE CITY CENTER
Growth and Change in Milton Keynes

One of the "assurances" which the Minister gave to the Corporation was: "to incorporate Bletchley, Wolverton, and Stony Stratford in a way that preserves their individual sense of local community." The first aim in development of the city by the Corporation is to link existing towns into a unified city. The development during the first 10 years will attempt to do this by a band of development through the middle $\frac{1}{3}$ of the site connecting Bletchley in the south with Wolverton and Stony Stratford in the north.

The plans for Milton Keynes have been developed for three time spans: a strategic plan, representing the "completed" development; a mid-term plan for the first 10 years; and the immediate plan for development in the first five years.

The mid-term plan (figure 32) is expected to link the existing towns. In this period the population is projected to reach 125,000. Between 20,500 and 26,000 new homes will have been built at an average net density of about 10 per acre. The city center will be well underway. Between 1200 and 1500 acres of land will be devoted to employment areas. Major parts of the park along the Ouzel River will be developed and many of the improvements to contain flooding will be complete. Public transport will be operating providing rapid connections from existing villages to the city center.

The major motorway will have been completed through the city and a majority of the sub-regional roads adjacent to the area will be complete, including the
FIGURE 32 TEN-YEAR PLAN
Showing development and permanent open space
by-pass around Newport Pagnell. The new interchange on the M1 motorway will have been completed.

The immediate plan (figure 33) includes residential development adjacent to Bletchley, Wolverton, and Stony Stratford with a new development slightly south-east of the center of the area. The center will be beginning as will water works and the urban motorway construction.

In summary, the growth of the city up until the time the strategic plan is achieved will be by the path of "least resistance", attempting to forestall the development of major works until the development has produced substantial feasibility. Growth after the strategic plan is achieved will be by "filling out" the areas where ample space has been provided. The growth and change policy is one of "loose fit" in which development is not "over-designed" or "over-developed" to the point where crowdedness hinders growth or the design is such that physical development prohibits changing function.

The city center is planned to grow in a linear fashion from east to west so that it can be near existing development from the start and grow westerly with it. The attempt is to avoid having to leave a large growth area between residential development and the city.
FIGURE 33 DEVELOPMENT IN THE FIRST FIVE YEARS
2.1.5 MILTON KEYNES AS AN EXAMPLE

Milton Keynes has certain features which are "atypical" to British new towns. Most of the new towns in Britain have included between 2,500 to 7,500 acres. Milton Keynes includes 22,000 acres. The larger size of Milton Keynes has increased the problem of dealing with agricultural land within the designated area. The typical towns have had much smaller populations than Milton Keynes. These two atypical features have not changed the process considerably. They represent the recent trend toward building "new cities" rather than "new towns". The goals of the national policy remain essentially the same.

The attempt to ultimately have at least 50% privately owned housing is another atypical feature of Milton Keynes. Some change in process from the typical example will result from this attempt. For example, the Corporation must "seek to influence the sales of private houses" to those people from South Buckinghamshire. The Corporation admits that their influence in this area will be limited. The previous discussion concerning the 50% ownership goal indicates that certain modifications of other goals may be necessary if this goal is reached.

These atypical characteristics do not invalidate the use of Milton Keynes as an example because the process remains basically typical, and the differences are the result of trends more than the circumstances of the particular example.
2.2.0 Clear Lake City
2.2.1 PEOPLE IN THE PROCESS

The purpose of this section is to identify the principle individuals, groups, and agencies involved, and to examine their interest and influence in bringing Clear Lake to its present position.

Humble Oil and Refining Company

In 1938, Humble purchased for oil and gas exploration 30,000 acres which had been the J.M. West Ranch. The original intention was to lease the property, but the owners preferred to sell. In the fifties Humble was beginning to search for ways to utilize the 23,000 acres not producing oil and gas. The Houston Chamber of Commerce was exerting pressure for Humble to do something because the large land holding represented a potential block to development of the city. Lehman Brothers of New York were engaged to make a "highest and best use" study of the property. Out of this investigation came the idea of planning a comprehensive new community, with an industrial area on the bay to be built first providing the jobs and stimulation for residential sections.

But when the National Aeronautics and Space Administration decided to locate the Manned Spacecraft Center on the property adjacent to the site on land given to Rice University by Humble, the instant demand for homes accelerated the pace. The emphasis now shifted residential development. In 1961, Humble entered into a partnership with the Del Webb Company in which the Webb company would plan the city and begin building the homes.
It is unclear exactly why Humble would undertake such a venture, but some of the circumstances help to explain. Humble was holding 30,000 acres of land which had begun to outlive their original reason for being purchased. The emphasis on investment in oil had apparently begun to lose some of its dominance and the value of investing in the land for sale had begun to promise equal, if not better potential, providing Humble was willing to wait for these returns. The property was located in a major growth corridor of Houston which was beginning to feel pressure for the expansion of the rapidly growing city.

In short, Humble, which had the resources, began the venture with the expectation of receiving an attractive return on a long-term investment through the development of a market for its large land holding.

**Friendswood Development Company**

Friendswood Development Company grew out of an Arizona Corporation associated the Del Webb Company. It was brought into the Clear Lake City development to form a partnership corporation between Humble Oil and Del Webb to plan, build, and manage the operation. The partnership was short-lived; there was some disagreements, particularly concerning housing design, and Humble bought the interests of Del Webb to reorganize Friendswood as a recognized subsidiary of Humble Oil and Refining Company. The purchase represented a significant shift—not so much in the plan proposal as in the control and management. Friendswood did not continue building the houses, however. They returned to the more normal type of operation in Houston in which the developer prepares the land for house-building and sells it to selected
builders to construct the houses and market them. Most of the personnel of Friendswood have been former "oil men" who were managers from other branches of Humble. The company has had a continuing buildup of experience and a growing diversity, and has developed into a major figure in the Houston area. Presently Friendswood has more than 80,000 acres of development and management projects in the Houston metropolitan region.

Friendswood categorizes its projects into three types:

1. "Pioneer" projects which are large land areas, with low costs per acre. These projects are long-term investments in which the aim is to create a higher value and market potential.

2. "Emerging" projects which are located in already emerging market areas. The land cost is in the mid-range and some market values are already present. The time-period is shorter than pioneer projects.

3. The other type is located where land costs are already high. Development is based on immediate resale, mainly capitalizing on present or immediately implementable values. The development is of necessity short-term.

Friendswood currently has all three types in progress with Clear Lake City representing the pioneer type.

Friendswood's development capital comes solely from Humble (except for the second new community project near Houston, Kingswood, in which $\frac{1}{2}$ comes from the King Ranch Corporation). Investment is evaluated on a discounted flow basis. Friendswood claims that after ten years, Clear Lake City is now showing profit.
The expectation, then, of Friendswood was that a long-term investment and control in the project would sufficiently build in values such that the return would be attractive, even when discounted, in comparison to other investment opportunities. According to their recent reports, the expectation is being fulfilled.

Cities of Houston and Pasadena

Houston and Pasadena have a real interest in Clear Lake City. Houston also has a considerable amount of control in the development, which will be discussed in the chapter on planning.

Both of the cities are interested in Clear Lake City because of the potential growth it represents, the additional revenue involved, and the prestige of the area. Therefore, there is a conflict of interest between the two cities; they both want the same thing. The conflict has not been totally resolved, but presently there is a "working agreement" between the two which will be discussed later.

Resident Groups

The Clear Lake City Community Association is a state-chartered group of property owners which has quasi-municipal functions such as street maintenance, recreational services, landscaping, and garbage collection. The association was set up by the developer who still retains a good deal of control in the group. Revenue for the functions provided comes from a tax of 8 mills per year per square foot of property which includes all property which the developer has sold.
The assessment also includes the commercial property. The developer has subsidized the association up to $450,000 per year, but the subsidies ended in 1970. Basically, the interests of the residents and those of the developer are the same: providing services, other than house, which enhance the "community image". Of course, when the subsidies stop, these is a conflict.

The Clear Lake City Water Authority is another quasi-municipal body set up under the rather unique Texas laws providing for the funding of water, sewer, and drainage systems in areas outside municipalities. Under the laws, water districts are set up by the developers, are allowed to sell bonds to fund construction, and are given taxing authority to fund operations and retire the bonds. The water authority is controlled by a board elected by land owners in the district.

The Clear Lake City Civic League is a more direct representative of the resident's interests. It is a state chartered, non-profit organization established in 1965 "to provide a forum for the residents of the community". It is intended to organize the residents to influence the developer and the community association. The activities include projects of service to the community such as organizing a reserve police force and raising money to finance it. Similar to all such groups, it is "issue oriented". There are about 100 families "who can be counted on to pay their dues and attend meetings" and 300 to 400 total members. The primary issue has been that of incorporation.
In Texas, a municipality may annex an unincorporated area without the consent of the area. Furthermore, areas lying within the extra-territorial jurisdiction of incorporated municipalities may not incorporate without the consent of the municipality. Cities are allowed to extend their jurisdictions based on their population. Houston has extra-territorial jurisdiction five miles outside of its incorporated boundary. This area of control can be extended by annexing small strips such as the strip which extends to the Houston Intercontinental Airport. The pattern of annexing is to extend the jurisdiction to cover developing areas without annexing such areas until substantial development has taken place.

In the Clear Lake City case, both Houston and Pasadena were in a position to extend their jurisdiction to include Clear Lake City. Pasadena annexed a strip to include Bayport. Houston annexed a 10 foot wide strip which circled the entire site. This action caused overlapping jurisdictions resulting in a court suit. The courts, in effect, threw out both annexations. However, the two cities reached an out-of-court agreement in which Pasadena would "get" Bayport (and the taxes from it) and Houston would get Clear Lake City (the prestige, including NASA). However, the system requires that newly annexed areas must be provided certain city services within three years or the area must be de-annexed. Rather than provide these services, Pasadena de-annexed all of Bayport except a strip surrounding it. Pasadena collects what amounts to a tax from the area and gives 1/3 of it to Houston under the terms of the agreement. 3
When the court removed Houston's annexed strip, this gave the residents of Clear Lake City a chance to incorporate, or to try at least. The suit now pending is attempting to force Houston to allow the incorporation.

In an interview with Paul Hoffman, the president of the Civic League in 1970 and initiator of the suit, the following reasons for incorporation were given:

1. **Cheaper city operation**: Since all the infrastructure of Clear Lake City is relatively new, it will be several years before any major rebuilding will be necessary. Also, the "social welfare problem" is minimal now—meaning that there are few, or no, low-income people in Clear Lake City.

2. **Avoid double taxation**: The normal process when Houston incorporates a new area is for Houston to assume all the debts and obligations of the water district. The Clear Lake City Water District covers the entire site—more than the developed area which Houston is likely to incorporate. The residents feel that the water district would not be dissolved due to the cumbersome operations involved in splitting it between Houston and Pasadena and the reaction of bond holders. In the event it were not dissolved, the Clear Lake City residents would be paying taxes to the water district and taxes to the city which cover the same services.

3. **Create a larger city including Nassau Bay, Clear Lake City, and Webster**: There is a desire to combine the incorporated towns of Nassau Bay and Webster with Clear Lake City—at least this desire was expressed by Paul Hoffman.
2.2.2 THE GOALS FOR CLEAR LAKE CITY

The goals for a privately developed new town such as Clear Lake City are not as definitely stated as they are for Milton Keynes. Obviously, the first goal is to make money; all other goals are secondary. But the secondary goals are not to be taken lightly. The developer of Clear Lake City realizes that the corporation's image may be enhanced (or deteriorated) by the development.

A developer of a new community has the goal of capturing as much of the home-buying market as possible. Ideally, this goal would mean providing a broad range of housing types and prices. If the developer could offer the full range, he would be in a better position to capture a larger share of the market. If he has no houses below $20,000 or above $40,000, for example, he obviously will not be able to draw from the full market.

It must be understood that Friendswood, like other developers of new communities in the U.S., is trying to sell what they consider a better product than the usual subdivision development. The product they are selling is a "community", rather than a house. Clear Lake City is classified by Friendswood Development Company as a "pioneer project". As such, the goal is to create a higher value and market potential by building in value. This goal concurs with the goal the residents have of protecting their investment in the community.
One of the goals in planning Clear Lake City was to leave as much room for change as is possible while retaining the image of a "planned community". The developer does not want to be tied to a "one and only" type scheme because he recognizes the limited ability to foresee the changes inherent in such long-term planning. If he promises a specific product to the residents, antagonism may arise when he is not able to deliver the exact product. Nevertheless, there must be a plan of action.

In this case, the plan of action was formulated with the idea of developing the land as a new community. The original plan was to develop the eastern edge as an industrial base to create a market for the residential area. With the advent of NASA, the strategy changed drastically because NASA created an instant residential market.

One of the major problems in such a long-term project is that of maintaining control. The developer recognizes that the profit to be made will be in the last 1/3 of the development. If the developer is to realize these profits, he must have enough control retained to capitalize on the profitable phase.
2.2.3 PLANNING CLEAR LAKE CITY

Clear Lake City is advertised as a "planned community". The present project manager for Clear Lake City, C.L. Pence, explained what is meant by a planner community as a community containing "all the elements of a city": industry, houses, apartments, commercial, and recreation. This does not include a "specific" plan which gives in detail what the community will eventually be. Planning for Clear Lake City is specific in its product only indirectly as it seeks to "build in values" in line with the idea given earlier in describing that Clear Lake City was a "pioneer project".

Clear Lake City began with a master plan which generally is still in effect. But the master plan did not spell out exactly what would happen. It was a broad land use plan. The reasons for this are based on the expectation of change in life-styles and preferences. It is explained that rigid ideas of what will happen and resulting "pre-investment" on those lines can be nullified by a change in life-styles. Furthermore, if a specific plan is made public a great deal of animosity can result if a change is made which residents feel threaten the "image" they bought. Consequently, the developers publish very little about what they plan, and dwell more on what has been built.

In simplified terms, the next step after the master land use plan is specific plans for new subdivisions. Each new subdivision revises and updates the master plan. The planning of new subdivisions usually begins about 18 months prior to sale of the land to builders. The plans are prepared by the planning staff of Friendswood with the use of outside planning consultants.
After "design" plans are made for a subdivision, consulting engineers make the specific plans which must be filed with the city planning department of Houston.

Houston does not have zoning, but the city has to give approval of subdivision plans. Subdivision plats must be approved by the city if the site is within the extra-territorial jurisdiction of Houston in order to be recorded in the court house. In order to obtain financing for the sale of the houses, the title must be conveyed by "lots and blocks" which requires recordation of the plat. The rules for approval are given a minimums and include street requirements, lot sizes and characteristics, building lines, easement dedication, park and school site requirements, and the form to be used in gaining approval. It is important to note who is involved in the recordation procedure other than the City Planning Department: the county engineer, the flood control engineer, and the appropriate school district. (See figure 34) This fact insures that at least a minimum of cooperation must exist between the developer and these agencies. Another important aspect of the recordation is the inclusion of deed restrictions. Deed restrictions are Houston's answer to zoning—in fact they are more specific. The restrictions may specify setbacks, materials to be used in houses, land use, and many other requirements. The developer, however, is the one who sets the deed restrictions rather than the governmental agency in the case of zoning. Once a tract is sold in a recorded plat, the restrictions are binding on any landowners in the tract.
PLAT REVIEW SEQUENCE

Houston City Planning Commission

1. Preliminary conference by engineer or developer with Planning Department staff

2. Planning Department sends copies to affected City departments and other governmental agencies for their review and recommendations

3. Planning Department receives comments and recommendations from other agencies

4. Planning Department consolidates and makes recommendations to the Planning Commission

5. City Planning Commission may:
   A. Disapprove plat
   B. Delay action
   C. Approve plat with or without conditions

6. Engineer incorporates requirements of City Planning Commission then draws and submits final plat to Planning Department

7. Planning Department channels final plat through steps 2, 3, 4, and 5 for final action by City Planning Commission

8. Engineer submits copies of approved final plat to Planning Department for checking and required signatures

9. Planning Department transmits executed plat to County Clerk for recording if plat is within City or to County Flood Control District for signatures if outside City

Plate outside city limits within 1 mile Jurisdiction (Harris County)

Plate inside city limits

*Recommended but not required.
When the subdivision plat is recorded, the project office at Clear Lake City takes over and manages the project. Actual construction is contracted to outside firms. Management of the project is important and requires a good deal of expertise in human relations. Besides the physical building to be done, the managing requires keeping good relations with the residents. The further along a project goes, the more important this aspect becomes because the developer is losing more control both legally and indirectly. For instance, the water district is controlled by a board elected by property owners. As the land is sold, the developer loses his control of the vote.

Friendswood Development Company does not build houses. It develops the land, complete with streets and other improvements, ready for houses to be built. The lots are then sold to builders. Friendswood’s control after this point comes from the restrictions on the deed, and through the procedures for review of plans. All plans are reviewed by the developer before building starts. The developer also makes inspections during the building.

In summary, the planning of Clear Lake City is a continuous process based on the attempt to leave as many alternatives open as possible, while creating a salable image. It requires a constant re-evaluation and revision of the product.
2.1.4 THE PRODUCT

Urban Form

The form of Clear Lake City is based on accomplishing the goals of the developer, the residents, and potential residents. The underlying foundation of the form is the protection of the single family house value and image. The concept of Clear Lake City is very similar to early British new towns. It is conceived of as a group of neighborhoods surrounding a town center. (figure 35) Consistent with American experience, the industry and commercial areas are segregated from residential areas.

The idea of the neighborhood is a group of residences of comparable "image" with an elementary school serving it. The "neighborhood" is not particularly stressed by the planners, but the idea is evident. Actually, the units are subdivisions which conform to the process of development and the preferences of the market. The infrastructure is a product of the process of recordation procedure.

Transport System

The car sets the pattern for the transport system; all other modes become insignificant relative to the car.

The major access route to the community is Bay Area Boulevard, (figure 36) running through the site connecting the industrial area with the freeway. This boulevard represents a major "pre-investment" in the project. It is four-lane with a varying width median widening to include trees in the eastern half of the site.
FIGURE 35 CLEAR LAKE CITY LAND USE PLAN
Prepared by Del Webb Company - 1961
FIGURE 36  CLEAR LAKE CITY - 1970
Two other major streets run generally north-south. El Camino Real separates Camino South subdivision, the lowest priced housing, from Oakbrook and Oakbrook West. Space Center Boulevard provides the west entrance to the Manned Spacecraft Center. El Dorado Boulevard will eventually become another major road running parallel to Bay Area Boulevard. The other streets are of varying importance. The general pattern is to discourage through traffic in the residential areas.

The present subdivisions provide little or no provisions for pedestrians or cyclists other than sidewalks. The two new subdivisions (figure 37) are planned to accommodate internal pedestrian movement, especially to the elementary school. The one major internal street will have a pedestrian underpass.

The Subdivisions

At present there are four subdivisions in Clear Lake City: Camino South, Oakbrook, Oakbrook West, and Clear Lake Forest. As stated before, the form and size of the subdivisions are based on development processes—staging in particular—and the image to be marketed.

The first subdivision was Oakbrook. It is atypical in that 1/4 of it is now non-single family houses. It contains 1081 single family houses and 1052 apartments, townhouses, and duplexes. The country club and golf course are located in this subdivision. It is bounded by boulevards and has a secondary road separating single family houses from other uses.
FIGURE 37 THE TWO NEW SUBDIVISIONS
Scheduled to open - March, 1972

1. MIDDLEBROOK  first phase
2. BROOKFOREST,  first phase
E  Elementary school
P  Park
Oakbrook West is made up of single family houses except for the two corners. The northeast corner is unrestricted and at present has a convenience food store located in it. The southwest corner is a site for a junior high school. The homes range in price from $28,000 to $35,000.

Camino South was started before Oakbrook West, but it is not "finished" yet either. The form is the same as the other two subdivisions, but the lots are slightly smaller (63 feet by 120 feet as compared to 75 feet by 120 feet). The price range began at $18,000 to $23,000, but the bottom level is now up to $21,000.

Clear Lake Forest, the "prestige" subdivision in Clear Lake City, is located well away from the rest of the built community near Clear Lake. Consistent with the image of the subdivision it has its own separate community association and small commercial area.

There is very little that distinguishes the subdivisions of Clear Lake City from other subdivisions near Houston. The two new subdivisions represent some change from the typical, but can hardly be called innovative. The lot layout and street patterns of the built subdivisions are the same as almost all of the subdivisions in Houston. This means that any competitive advantage Clear Lake City has must come from the image which a "planned community" offers.

The importance of the image is shown by the community's reaction to a proposed mixed-priced addition under the federal Operation Breakthrough program.
All of the Operation Breakthrough projects which were proposed for sub-urban locations ran into difficulties. The demise of the Clear Lake City pro-ject was due to many factors. The whole situation has been described by Robert Hartsfield, the planner associated with the firm of Caudill, Rowlett, and Scott at the time, and the originator of the proposal, as a 'comedy of errors'. The time-table for the project was too fast for the federal bureaucracy, the community and the consultants. The site selection procedure was hurried through. Friendswood offered a site across State Highway 3 from the present development, but through negotiations a 20 acre plot immediately north-west of the present subdivisions was arrived at. The fact that the announcement of the project was a "surprise" to the community and that it was hurried through, caused the residents to feel that Friendswood and the Clear Lake City Water Authority had "betrayed" them.

But the major opposition to the project grew out of the intent of the project itself. The federal government intended the project to be a balance of high, medium, and low-income. In fact, the percentage of low-income was to have been small. But the fact that some of the housing would be subsidized threatened the status of the residents, they felt. This feeling is not easily explained; several factors contribute to it. The first is the stigma attached to govern-ment subsidized housing in general. Part of the blame for this stigma must be placed on the government itself. The general low-quality of public housing in the past contributes to the stigma. Also, the whole idea that "home-ownership is the ideal" has pervaded government programs. A quote from an FHA manual
of the early post-war era warned that "if a neighborhood is to retain stability, it is necessary that properties shall continue to be occupied by the same racial and social group."\(^6\)

Both the developer and residents have expressed the feeling that what they object to in such a proposal is the lack commitment subsidies represent. They feel that a person who has to pay very little to own a house (or rent a house) will have less commitment to the community.\(^7\) A significant difference in the government's view and the developer's view of what the "market" is can be seen in the situation. Washington's view of the market was: those people who want housing; the developer's view of the market is: those who can afford housing, and want it.

**Growth and Change**

Growth is of paramount importance to the developer for two reasons: (1) the project must maintain momentum, and (2) the pre-investments must be returned at the earliest possible date. Momentum is important to the "image" of the project. Nobody likes a "loser", especially home-buyers, for whom the purchase of a house represents the largest investment in their life-time. As stated earlier, part of the goal of the home-buyer is protecting the value of the home. If the momentum of a projects wanes the appreciation rate of the house is apt to wane also. The substantial cut-backs in NASA operations threatened Clear Lake City with such a situation. Since the percentage of home-buyers connected with NASA had been as high as 90%, the impact was significant. For-sale signs began to show up. Further aggravating the situation was the climbing interest rate. The two factors caused a considerable slackening in
momentum. (See figure 38) It seems that the period is beginning to end.
Interest rates are coming down and home sales are going up. Sales for the
first quarter of 1971 were approaching a 100% increase over the 1970 rate.
Corresponding to this was a significant drop (below 60%) in the percentage of
NASA related homebuyers. It appears that Friendswood has sufficient backing
to weather a momentum lag and restore growth momentum to the project—a ne¬
cessity in such a long-term project.

The pattern of physical growth depends on a myriad of factors, but for sim¬
plification the pattern may be approached from two factors. The first of these
is access. With respect to commercial development, growth has occured at the
intersection of Bay Area Boulevard, providing access from the outside, and
El Camino Real, the major internal access route.

The second major factor is the "unit" of growth: the subdivision. The
units grow as entities because of the plat recordation procedures and the image
marketing approach. This process produced the pattern of units separated by
boulevards from each other and different land uses. Figures 39, 40, 41, and
42 show the growth story pictorially. What the sequence also shows is that
there has been as much growth adjacent to Clear Lake City as inside it.
SINGLE-FAMILY HOME SALES
CLEAR LAKE CITY

<table>
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<tr>
<th>Year</th>
<th>Number</th>
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</tr>
<tr>
<td>1964</td>
<td>114</td>
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<tr>
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<td>1969</td>
<td>456</td>
</tr>
<tr>
<td>1970</td>
<td>307</td>
</tr>
<tr>
<td>1971 (mid-March)</td>
<td>210</td>
</tr>
</tbody>
</table>

Source: C. L. Pence, Project Manager

FIGURE 38
2.2.5 CLEAR LAKE CITY AS AN EXAMPLE

It is difficult to determine what a typical new town in the U.S. is. There has not been a strong national program which would cause some nationally accepted definition of a new town to become typical. Indeed, each development seems to adopt a definition suited to its particular needs and attitudes. Some definitions allow only those developments which are politically and physically separate entities; others include any large-scale developments which are primarily intended as residential. Some definitions require that the development have an industrial base; others include development which are primarily intended as retirement communities. In view of the disagreement over what a new town is, it seems that the only way to assess Clear Lake City's typicality is to compare it with large-scale developments.

The main untypical characteristic of Clear Lake City is its industrial development. Many such developments have included portions devoted to industry, but few can match the actual development. No other development seems to have planned for the type of heavy industry which Clear Lake City has. However, Clear Lake City's industrial area, Bayport, is actually treated almost as a separate entity. Bayport is not included in the community politically or image-wise. In fact, the City of Pasadena's annexation in the area indicate that Bayport will become more separated, even though it physically joins the rest of Clear Lake City.
The absence of zoning in Houston considerably alters the situation of Clear Lake City as opposed to other such developments. Zoning has been a major problem with some new communities. The absence of zoning does not mean that Clear Lake City has not been subject to control from Houston, as has already been shown. The control is more influential on particular subdivisions rather than on the total plan.

The validity of using Clear Lake City as an example comes from the basic intent of the developer. It seems that the intent of providing a "planned community" at Clear Lake City is typical compared to other new community development in the United States.
3.0.0 COMPARISON OF THE TWO

The two examples are compared for two general points. The first point is the relation of the physical form to process. This matter becomes important in a philosophy which attempts to reach goals by producing fairly specific products. The second point is that the limitations of the process are critical when the expectations of a policy are so high. The comparison attempts to show the difference in limitations between the public method and the private method which the two examples imply.
3.1.0 Relation of Physical Form to Process
3.1.1 LOCATION

Siting of a new town may be considered part of the physical form. As such, it is considered here as the first part of form that is related to process. Presumably, a new settlement should have some strong reasons for locating in a particular spot, as indeed the investigation of historical examples bears out. Furthermore, the growth depends on advantages of the location. In a settlement of small size intended to remain strongly under the influence of an existing city, some of the burden for selecting the right site, it might be argued, is lightened. But when the new settlement is intended to become a counter-magnet to an existing city, and is intended to be developed rapidly, the selection of its location becomes of paramount importance.

Milton Keynes, which is expected to become somewhat of a "counter city" to London, is such a case. The agency responsible for deciding the issue, in this case the Ministry of Housing and Local Government, would be expected to devote much study to alternative locations and be in a position to choose the "best" alternative. The problem had indeed been studied (South East Study), and Buckinghamshire County Council had already obliged with the initiative in its own proposal for a city. In fact, as Maurice Ash has pointed out, was not the initiative by Buckinghamshire a guise to keep London "at bay"? It would seem that if the city is to grow at an accelerated rate by concentrating development, and thereby expediting the achievement of a counter magnet, either the new city should be combined with the existing city, or it should be located
where there would be less competition. The Ministry bears the odium of political objection to the project; the extent to which political expediency enters in must not be taken lightly.

The major factor in the location of Clear Lake City is one of "land expediency" as opposed to political expediency. The assemblage of a large enough bloc of land is one of the major hurdles in a privately developed new town in the U.S. Most of the new towns, thus far, have grown out of large ranches which have been held as a large contiguous piece of land for many years. The story of the assemblage of Columbia, which did not develop from one large land holding, begins to sound like a complicated "spy story". The site for Clear Lake City was not selected first and the land assembled second. In fact, if the land had not existed assembled as it was, the idea of a new town would never have evolved.

The significant point coming from the two examples is that neither location was chosen because it was necessarily the best location for a new town.
3.1.2 URBAN FORM

Milton Keynes was developed in a framework of national policy aimed at national social goals. Development of new towns in Britain has other aims than marketing a product. For example, one aim of new towns is to cut commuting between home and work. New towns are intended as a place for experimentation in the design and planning of centers and traffic. They are planned in an atmosphere of optimism concerning the ability to control how the plan will develop. Due to the "social" aspect of policy, there is a great deal of "lowest common denominator" planning.

Although the urban form of Milton Keynes is substantially different from most British new towns, the urban form represents a development conceived within the national policy. The form proposed, although flexible, depends heavily upon the kinds of aims and controls in the national policy.

Clear Lake City is based more on local goals expressed by a certain "buying segment of the population. Thus successful development necessarily concentrated on satisfying such demands. The form of the city is also a product of the controls of local governmental bodies. The controls imposed by local governments are not aiming at the kind of social planning inherent in British policy. Rather, government influence in Clear Lake City is aimed at such aspects of physical planning as co-ordination of street layouts, utilities, easements and lot sizes.
3.1.3 TRANSPORT SYSTEM

On first consideration, the impression is that Milton Keynes would have an overwhelming advantage in integrating its transportation system into the regional fabric. A sophisticated level of planning is indicated by the fact that its plan is worked into national planning and that regional and local authorities are consulted heavily during planning. Clear Lake City was planned and is being developed by private means without governmental "preference". Development, however, has shown that private developers can plan in accordance with government planning. For example, early plans by the Del Webb Corporation (figure 35) included the Gulf Freeway with specific interchanges relating to major streets in Clear Lake City. The Gulf Freeway has been developed as planned; in fact, one of the interchanges has been built without the roads which connect to it. The proposed relocation of State Road 146 is proceeding basically according to plan.

The Milton Keynes process had developed a transport system which depends on quite specific implementation. The grid of major roads will work only if development follows the guidelines carefully. Furthermore, planning is begun for items such as public transport well ahead of the time that they will "pay". In contrast, transportation planning for Clear Lake City develops according to rather general guidelines. No public transportation system has evolved because it is "uneconomical" at present.
3.1.4 NEIGHBORHOODS

The form of Clear Lake City reflects the attempt to evolve neighborhoods of a certain identity. The identity has been based on house values more than on the physical layout of the neighborhoods. There is a conscious attempt to separate the different house values. In contrast, Milton Keynes is intended to include a mix of different house types including single family and multi-family housing, private and public housing, and various financing arrangements.

The difference between Clear Lake City and Milton Keynes cannot be explained merely by saying that the two represent different life styles. There is not that much difference between British housing type preferences and American preferences. "Very few surveys, in town or country, have shown a preference (for self-contained houses) of less than 90%." However, the difference in planning is complex. Some of the difference can be explained by the greater ability of American home-buyers to purchase single-family detached houses. Federal programs have favored this type of housing in the U.S.; whereas, in Britain, where the majority of housing is built by the government, the government has favored multiple unit dwellings for many reasons, including cost of units and cost of land.

The basic difference between neighborhoods in the two examples is that the neighborhoods of Milton Keynes reflect national goals, while the neighborhoods of Clear Lake City reflect local goals.
3.2.0 Limitations of the Processes
3.2.1 GOALS

In order to grasp the inherent limitations of the two processes, at least three elements of each should be examined: the goals of the process, the scope of the process, and the controls in the process.

The goals of new towns in the U.S. and Britain share a common philosophy. Similarity can be found between the purposes of the Urban Growth and New Community Development Act of 1970 in the United States, and the British New Towns Act of 1946 with its later additions. The legislative background for both includes such ideas as decentralization from congested areas and "balanced communities for work and living." Common problems attacked are:

1. Disorderly urban growth and over-population of cities.
2. Wasteful use of resources.
3. Long journeys to work.
5. The general "ugliness" of the urban environment.

The dissimilarity comes from different emphasis and interpretation of the national goals shown by the two examples.

The developer of Clear Lake City speaks of a "planned community"; the residents invest in a "planned community"; the evolving national policy speaks of a "planned community"; but the ideas of what a planned community is are not necessarily the same. The major division of interpretation in the U.S. is between national goals and local goals.
In the criteria for eligibility for federal assistance under the 1970 Act, points 7 and 8 of Section 712(a) exemplify the difference in local and national goals. On the national level, the requirements are:

(7) makes substantial provision for housing within the means of persons of low and moderate income and that such housing will constitute an appropriate proportion of the community's housing supply;

(8) will make significant use of advances in design and technology with respect to land utilization, materials and methods of construction, and the provision of community facilities and services).

The evidence indicates that the "planned community" the residents are buying is concerned more with an "image" which does not allow the mix of house prices suggested in the national goals. The developer is interested in offering a broad range of house prices and making "advances in design and technology", but the position of these goals in the hierarchy is below the profit goal.

The Milton Keynes process dictates a correlation between national goals and the goals of the Development Corporation. The goals originate at the national level and filter down to the Corporation. Similar to the U.S. situation, national goals and local goals may differ in Britain. The trouble with the farmers and residents in the designated area, the intent behind the proposal of Buckinghamshire County Council, and the preferences of the people seeking housing imply differences in local and national goals. However, the goals for Milton Keynes originate on the national level, not the local level; this national origin allows the national goals to dominate. It is this difference in the origin of the goals that determines whether national or local goals dominate.
3.2.2 SCOPE

The inherent scope of the two processes limit both, but the limitations operate at different levels.

On the national level a public policy, such as Britain's, has limitations on the percentage of total national development it incorporates. The expectations of the new town policy's effect on London's growth, compared to the actual percentage affected, is an example. The expected ratio of planned development to normal accretion was 5:1—the actual ratio was 1:5.\(^2\) The ambitious recommendations of the National Committee on Urban Growth Policy would incorporate only 20% of the growth even if they were fully realized.

The private developer in the U.S. brings a large percentage of growth into the process. However, the large majority of developers are not doing new communities. Statistics compiled in 1968 indicate the number of developments with a minimum of 1000 acres planned for 3-4000 residents with "sufficient supporting facilities, activities, and uses to constitute a complete community but not necessarily including industry", ranges from 200 to 250.\(^3\) A survey by county extension agents for the Department of Agriculture included developments of 950 acres or more. Of the 376 developments commenced during 1960 to 1967, new towns, defined as those which included "some employment in industrial plants or offices, educational, recreational, and commercial facilities, and a variety of housing types," constituted a little more than 11% of the total. The limitation of the private developer process is not in the percentage of total development, but in the percentage which conforms to the
criteria for classification as new communities.

Considering the examples as entities, the public process in Milton Keynes indicates that the public process is more adaptable to significant innovations. As mentioned before, the private process is limited in scope by the local goals. It may be further limited by the cooperation between the developer and agencies responsible for services and facilities, but the Clear Lake City experience indicates that educational programs, commercial facilities, social facilities and programs, and employment opportunities can be integrated into the private process. However, the implication of the private process is that a specific product for the future is hard to establish years in advance of the effectuation by the private development process.
3.2.3 CONTROLS

A significant factor in the controls which contribute to the Milton Keynes process is the influence the process has on the housing market. This process is able to determine, to a large extent, who will move in, where they will come from, and where they will work. The government's dominance in the housing market allows it to determine what the housing will be. The attempt to increase the private sector's participation begins to break down the controls. When the government is the principal supplier, local goals exhibited by the preferences of the market have less influence, and the problem of achieving a "mix" is diminished.

Clear Lake City's case is just the opposite. The attempt is to provide just what the people want—and can afford to buy. The developer of Clear Lake City would like to broaden its market and include lower-priced housing, but its control of the range is mitigated by the necessity to protect its biggest market: the medium priced house-buyer. Remembering that the product of the community builder is an "image" which allows him to charge a little more for his direct product, the house, we can see that he is in trouble if he hoses his competitive edge of the image. An interesting difference emerges: Milton Keynes has a problem private housing; Clear Lake City has trouble providing public housing.
3.3.0 Conclusion
The expectation that the goals of national policy would be achieved through private enterprise seems not to have taken into account the conflict in national goals and individual, or local, goals. As a review of what has been expected of new communities in the United States, the following paragraphs are quoted from the Advisory Commission on Intergovernmental Relations' report.

The building of entirely new communities can provide an alternative to this pattern in two ways. A "satellite new community" on the edge of a metropolitan area can provide a balanced, well-planned municipality, including a range of life styles and housing types, and it can provide or be readily accessible to employment opportunities. On the other hand, an "independent new community" can bring urbanization entirely outside the orbit of existing metropolitan concentrations. Such communities can be self-contained or located near job opportunities as part of an areawide economic and development and urbanization policy. In either context, they can furnish alternative destinations for persons displaced from farming, mining, lumbering, and other resource-oriented occupations which no longer require the manpower formerly needed. They can also provide alternative to others seeking new locations because of unemployment, job dislocations, urban renewal, and personal preferences.

New communities can be an important element of a national urbanization policy geared to developing new urban growth patterns outside of the existing major urban complexes. With increasing speed and ease of communication and travel, changing patterns of transportation, and altering relationships between raw material, finished product, and market, many of the earlier
determinants of urban settlement are no longer relevant. Technological and industrial advances have served to expand the opportunities for the location of urbanization and to open up additional choices. The building of new communities can help to capitalize on these opportunities.

The optimistic expectations of new towns in the U.S. must be tempered by the limitations inherent in the private process. The limitations do not invalidate the private process. The private process can be used to approach national goals. What must be understood is that it will be limited in achieving some of the goals such as providing a mix of house types and prices until the government accomplishes one of two things:

1. The first of these would be to institute necessary controls to redirect both the private process of building new communities and the influences on the private process, such as state and local governments, private buyers, industry, and the actions of the federal government itself. The government has concentrated mainly on controls on the developer through more favorable financing and grants. It has not integrated controls on the limiting factors of the process due to local goals.

2. Secondly, the government could provide clear-cut advantages to the people now buying in new communities if the community develops according to national goals. The Urban Growth and New Communities Act of 1970 does give these people advantages. The grants for facilities are the main advantage. But still the conflict is in effect. These people are buying in a "planned community" for the image and the protection it offers their investment. The goal of providing a "mix", they feel, will diminish the advantages
of a planned community. Real hope for new communities in the United States lies in finding ways to provide the image and the mix.

The differences between national goals and local goals must also be dealt with in the British process. The attempt to provide for citizen input and the work with local authorities in the Milton Keynes process reflect the attempt to deal with differences. There is an attempt to bring the product more in line with individual "wants". The centralized nature of the Milton Keynes process and the extensive controls of the government allow the national goals to dominate.

The strength of the British process is its correspondence to national goals; its weakness lies in satisfying local goals. In contrast, the strength of the private process in the United States is the way it responds to local goals; the weakness of the private process is its inability to meet national goals. A compromise seems to be in order.
Notes
INTRODUCTION


2. Ibid.


1.1.0


2. Ibid., p. 8

3. Ibid., p. 36

4. Ibid., p. 44

5. Ibid., p. 34


7. Ibid., p. 20

8. Ibid., p. 21


10. Rodwin, The British New Towns Policy. The basis for this argument is given on page 42, and following.


13. Ibid., p. 3.


15. Ibid., p. 4.

1.2.0


4. Ibid., p. 181.


7. Ibid., sec. 412.


10. Ibid., p. 6.

12. Ibid., p. 6.


2.1.0


8. Ibid., p. 3.


15. Ibid., Vol. II, p. 89.
16. Ibid., p. 91.
17. Ibid., Vol. I, p. 11.
20. Cedric Price, in a lecture at Rice University, argued that this was the case. The Development Corporation admits that house prices will be slightly higher within the designated area than those outside. They say that the shorter commuting times of locations within the city will offset the price disadvantage.

2.2.0

1. The tax depletion allowance to the oil industry gives the industry a particularly advantageous position for investment.


4. Ibid.


3.0.0


2. Ash, Regions of Tomorrow, p. 22.

3. Advisory Commission on Intergovernmental Relations, Urban and Rural America, p. 77.

3.3.0

1. Ibid., p. 62-3.
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