

SELECTED REVIEW OF THE U.S. MANAGEMENT EXPERIENCE
APPLICABLE TO PLANNED DEVELOPMENT IN NEW AND
RENEWING COMMUNITIES

by
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To many European community development experts, the U.S. new community experience represents primarily a negative example of "what not to do". For example, the comprehensive book, New Towns in National Development, prepared by the International Federation for Housing and Planning, the single article on U.S. new towns is entitled "The Lessons of Failure---an Evaluation of the U.S. New Communities" by Evans and Rodwin.*

It is true that many U.S. new communities have faced financial difficulties, particularly those started in the early 70's away from the "sunbelt" and under Federal sponsorship. However, it is a gross oversimplification to "write off" the entire U.S. new communities experience as a failure. In fact, many of them have been quite successful. In some 38 towns in the U.S. which I have surveyed in 1980, there was a population of 580,000 and 260,000 jobs, with considerable capacity to grow on some 400,000 acres. Although only a few of these projects have been around long enough to be financially profitable, many have been successful in community design; aesthetics; management of common recreation facilities and open space; conserving energy by shorter daily trips to shopping, schools, and recreation; environmental protection; and providing for balanced residential and industrial growth. Those that have attempted racial and economic integration have had reasonable success in achieving these goals.

Reston, Virginia, has a current population of 34,000 and 11,000 jobs; Columbia has 56,000 population and 30,000 jobs (48% of which are filled by Columbians); and Irvine Ranch, California, population and employment over 100,000. They are successful new towns which will stand up to other new towns throughout the world in terms of design, housing quality, and other features.

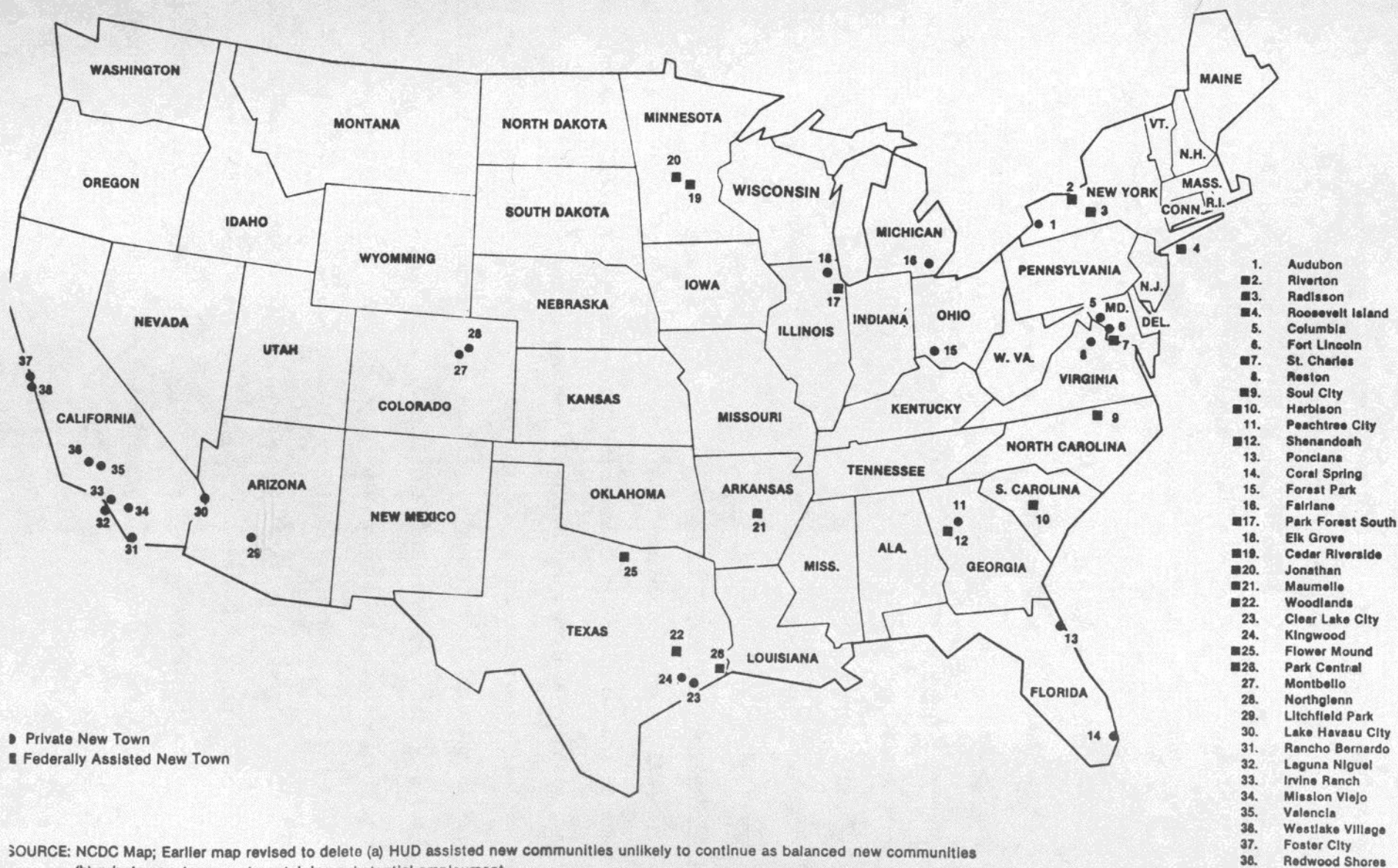
*See References at end of paper.

Both the failed and successful new community projects have an important contribution to make to the art and science of management of large scale development both here and abroad. Figure 1, taken from a forthcoming book on management of new towns to be published by HUD, shows some 38 new towns in the U.S. The graphics that follow are taken from this publication. In effect, this paper is a brief summary of that publication.

This paper is designed to describe selected experience and literature on the management of U.S. large scale development. It is to be used in conjunction with the bibliography published for the first time for this conference entitled "Planning, Financing, Staffing, Organizing, Building and Managing Large-Scale Development: A selected bibliography". This annotated bibliography contains some 164 references. Cross references by number to items on this bibliography are made in this paper. Additional references discovered after the bibliography was written are included at the end of this paper. References to these other publications listed by author.

Unfortunately, some of the best experience in new community management is not written down, but is in the minds of the new community executives. During the past several years, an effort was made by the HUD New Communities to draw out some of this experience for the management book. Columbia, Reston, Irvine, Rancho Bernardo management methods were examined in some depth and site visits made. This experience is written up in more detail in the draft management book. In addition, the New Community Development Corporation at HUD has been involved in several advanced management practices. These are briefly described here. The review of the experience and literature must be very selected because of space limitations.

Figure 1 —New Communities in the United States (revised, 1980)



SOURCE: NCDC Map; Earlier map revised to delete (a) HUD assisted new communities unlikely to continue as balanced new communities
(b) private new towns not containing substantial employment.

Among the management topics covered briefly in this paper are:

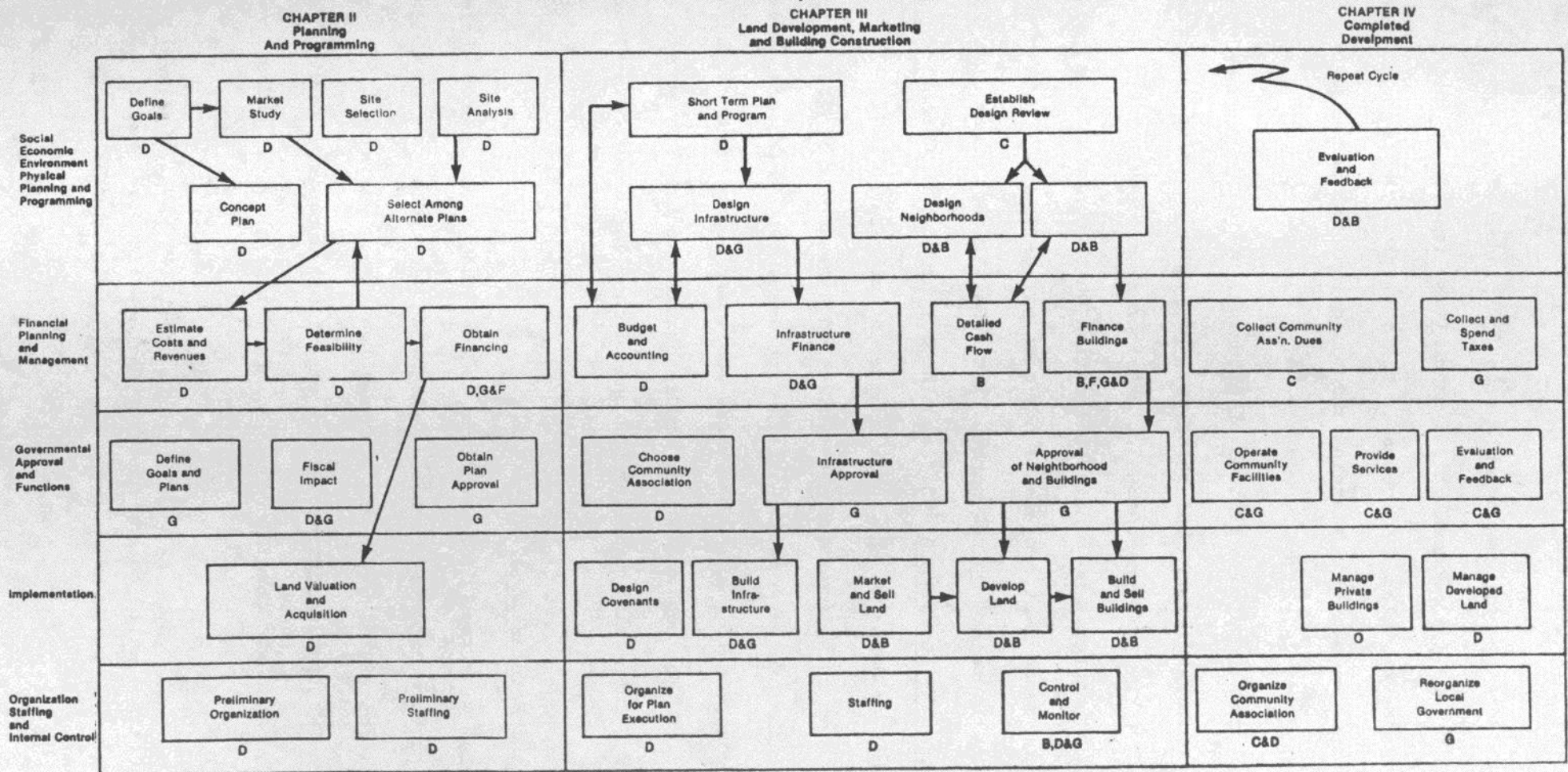
- The overall integration of the management process.
- Tools helpful in determining the size and location of the projects,
including forecasting of growth of employment and population.
- Techniques for optimizing various goals in the planning process.
- Financial contingency planning.
- Fiscal impact analysis.
- Organizing, staffing and management style.
- Budgeting, accounting and development control.
- Community and governmental relations.
- Marketing and market analysis.
- Architectural control.
- Management of completed land and buildings by community associations.
- Evaluation and Feedback.

Overall Management Integration

Figure 2 shows one approach toward the integration of all of the functions of planning and managing a new community. The process is broken down into three phases: planning and programming; land development marketing and building construction; and management of a completed development. The figure shows the entities in the U.S. most likely to perform the function: developers, builders, community associations, financial institutions, and governmental organizations. It shows the interrelationship between planning, financing, implementation, and governmental approvals and staffing at every stage of development.

Failure to integrate financial planning, physical planning, and governmental approvals could result in severe problems for the new community. Too often in the U.S., planning is a governmental function which does not take into account the fiscal or financial impact of planning and design decisions. By contrast,

Figure 2 — New Community Management Process



Legend: Letters below boxes indicate the responsibility for the function:

B = Builders; C = Community Associations; D = Developer;
F = Financial Institutions (Incl. Governmental);
G = Government (primarily); O = Owners

SOURCE: U.S. Department of Housing & Urban Development, New Community Development Corporation, 1980.

the new community developer is responsible both for planning and implementation; therefore, he must take into account the financial implications of his plan and ensure initially that the plan is acceptable to local governments. The Figure also shows how other elements of planning and management fit into the larger management picture.

Needless to say, the actual process of planning, building and management of each new community will vary, but this prototype chart contains many common elements typical of the U.S. new community development process.

Unfortunately, there is no single publication which contains an adequate description of the management process of new communities in the U.S., in spite of the voluminous literature on new communities. Only Apgar's book, New Perspectives in Community Development (5)* and the forthcoming NCDC book on management attempt to describe the whole management process.

Key features of this process are establishing a clear set of goals from the beginning of the process, costing out the achievement of the goals, having a tight set of controls to ensure that these goals are being achieved, then following up with a thorough evaluation and feedback to constantly monitor goal achievement. Successive improvements can be made in the process of developing the new community.

Site Selection and Forecasting.

A key problem with some U.S. new towns is that they were located in the wrong place to capture growth: either in the wrong metropolitan area which did not grow as anticipated (Riverton and Gananda, New York; Newfields, Ohio) or were located too far from the pattern of growth within a rapidly growing metropolitan area (Shenandoah, Georgia; Flower Mound, Texas) or with inadequate access. (Flower Mound)

*Numbers in parentheses refer to the bibliography by the author, "Planning, Financing, Organizing, Building and Managing Large-Scale Development: A selected bibliography".

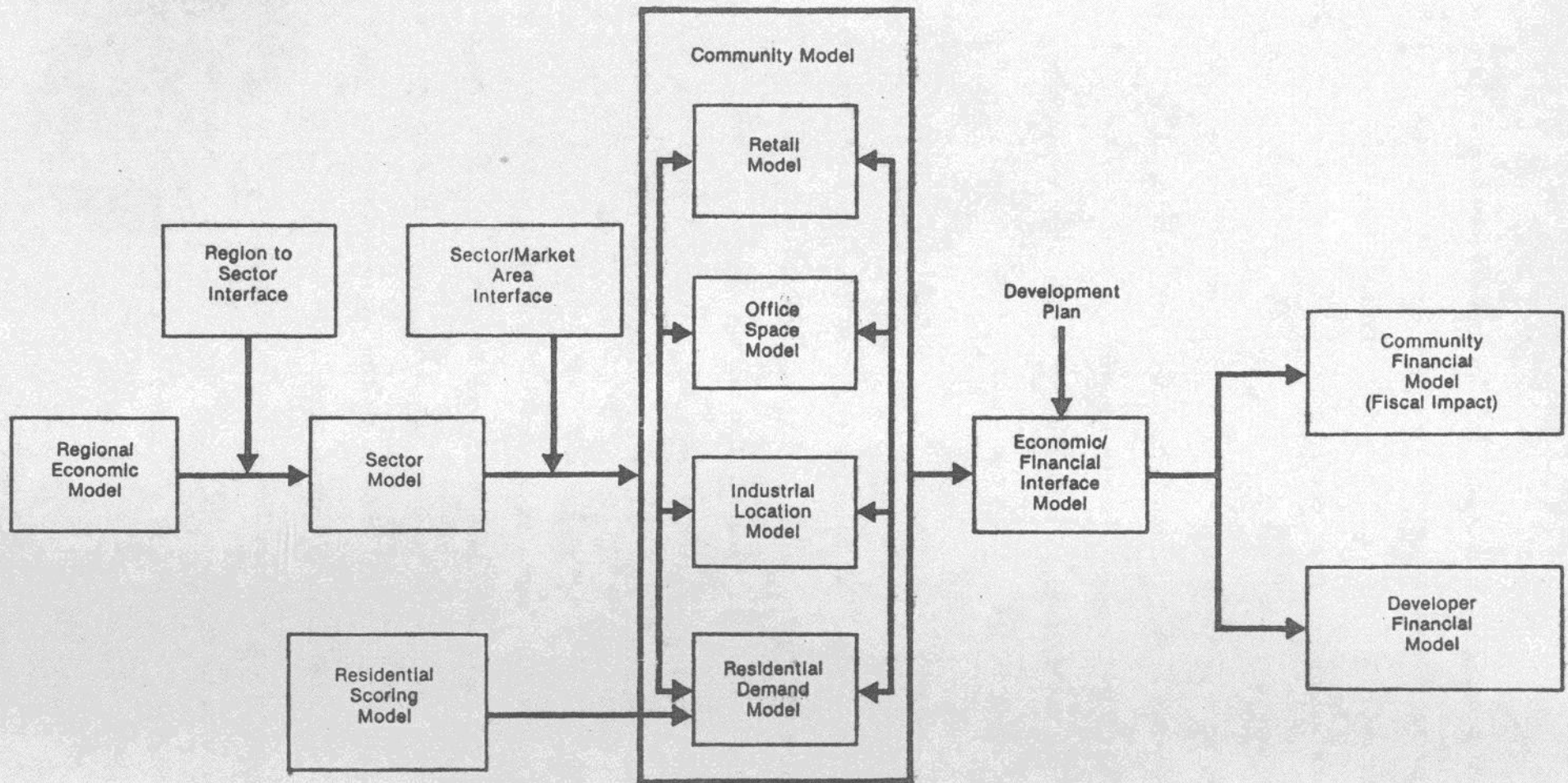
Those which had good access and were in rapidly growing areas have enjoyed considerable success (Woodlands, Texas; Rancho Bernardo, California; Irvine, California; Reston, Va.; Columbia, Maryland; etc.). Thus, site selection both within and among metropolitan areas (and for energy new towns in rural areas) may be the most important decision a new community developer makes. In countries, such as the USSR, where the decision is made to locate industry and build the town around it, the decision is not so critical. There is a built-in market for the new community housing.

One of the key factors in selecting the wrong location within and among metropolitan areas in the U.S. is our inability to forecast long term growth of jobs and housing, by state, region, and sub-region. The growth forecast by all of the leading forecasting agencies for the North East and North Central Regions for the 70's did not materialize. The forecasts were then considered reasonable considering the growth of these areas in the 60's.

To assist HUD in improving its forecasting by region, sub-region and by project, HUD hired the Decision Science Corporation to develop an integrated financial and economic model. A chart of this series of models is shown in Figure 3. Unfortunately, only the developer financial model has been used extensively by the New Community Development Corporation. Although most of the parts of the model have been validated by Sterling Systems, NCDC cannot attest that the forecasting power of the model is superior to other models or other methods of forecasting. Copies of the various NUCOMs submodels can be obtained from the National Technical Information Service (13).

The management book described above contains a review of the literature on model building to determine if there were any great breakthroughs which had been achieved. Figure 4 is a chart of models developed in the 60s.

Figure 3 — Advanced NUCOMS System — Major Models



SOURCE: Advanced New Community Simulation System (NUCOMS) Revised Users Manual, Decision Sciences Corporation, Jenkintown, Pa, 1974. NTIS number PB 251270/AS.

Figure 4—Classification of Twenty Urban Planning Models (1960's)*

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Model Name	Author(s)	City	Approx. Date	Land Use	a. Residential	b. Industrial (Mfg.)	c. Commercial	d. Govt. or Institution	e. Roads, Streets, Alleys	f. Public Open Space	Population	Transportation	a. Interzonal Trips	b. Other Transp.	Economic Activity	a. Employment	1. Retail Trade	2. Manufacturing	3. Service	4. Trade	1. Retail	2. Other	c. Personal Income	Projection Allocation Derivation	Behavioral	a. Economic (Market)	b. Preference	Growth Forces	a. Gravity	b. Trend	c. Growth Index	d. Input-Output	Econometric	a. Regression	b. Input-Output	c. Markov Process	Mathematical Programming	a. Linear Programming	b. Other Analytic Forms	Simulation	a. Autonomous	b. With Intervention																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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SOURCE: Cited in *Models and Techniques for Urban Planning*, Cornell Aeronautical Laboratory, Inc., of Cornell University, Buffalo, NY, 1968. p A-13.

*Covers only to 1968. See text for PLUM, DRAM, NUCOMS, USM, etc.

Among the models reviewed in the book are PLUM, DRAM, USM, Emperic, etc. References to these models can be found by consulting the index of the management bibliography under "forecasting" and "economic models".

Unfortunately, the general conclusion is that these models represent no great breakthrough in forecasting future metropolitan or rural growth, although they may be helpful in forecasting sub-regional growth and the impacts of various policies.

Among the proper responses to such uncertainty is to recognize the high risk involved and reduce long term commitments in land purchase or, national policy permitting, control more of the variables to reduce uncertainty. The French ZAD approach (see Underhill) is in many ways an optimum response, because it limits land prices generally to pre-development prices in a given zone so that all of the land does not have to be purchased in advance. This reduces interest costs on land debt and greatly reduces risk to the new town developer; at the same time, it does not imperil future new town development, since the government has eminent domain authority and prices are controlled in the area.

Another approach is to undertake a new town without purchase of all of the land in advance, but by a contract between the local government and local property owners. This is the approach being taken in Germantown, Maryland.

Still another approach to reduce risk due to uncertainty is to undertake "mini-new towns" which contain both jobs and housing but are on a smaller scale than the traditional satellite new community on 5,000 to 7,000 acres. This was recommended by the national group, Development Choices for the 80s which recommended that great reliance be on balanced, mixed use development which it called "urban villages" (Council).

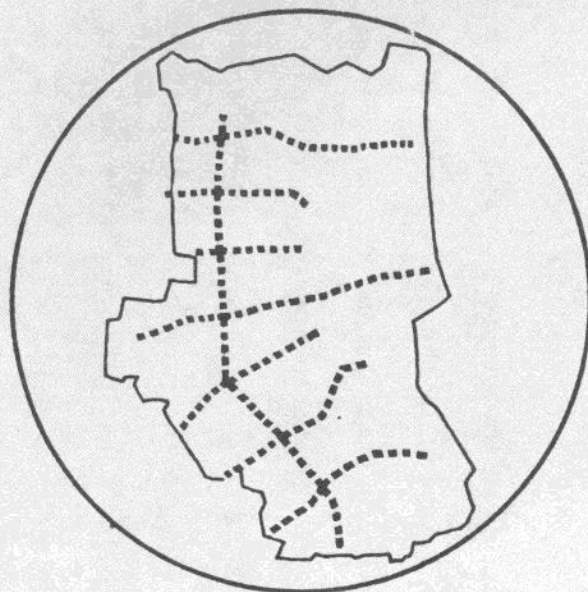
A risk-reducing solution for the Western areas of the U.S. is to make use of a small part of the 260 million acres under the jurisdiction of the U.S. Bureau of Land Management. Land for new towns could be drawn down on an incremental basis, paying only for what is needed at the time and reducing holding costs of future uncertain development.

Optimization of Various Goals

Key management tools for site selection, planning, development, and management of new towns are various techniques for optimization of various goals simultaneously in the process of planning and development of a new town. This is often done through the political process in the U.S. Through citizen participation, public hearings and various techniques, diverse interests with different goals are taken into account: environmental, social, fiscal, financial, design, aesthetic. Often this is done internally in the new community by the "team approach" popularized by Columbia, where various professionals representing different viewpoints hammer out compromises among various goals or values at each stage of development of a new town. A formal matrix or checklist approach may also be used, as illustrated by the Wilsey and Ham Transportation Plan for Irvine Ranch shown on Figure 5.

The optimization process is not only desirable, it is an essential ingredient of good management for the new town. Of critical importance is optimizing or compromising among conflicting goals of citizens existing in the jurisdiction in which the new community is located. This will help ensure that the new community is not blocked or significantly delayed initially or at later stages of development. (See citizen participation references in bibliography) It is also critical that cost implications of design decisions be factored into the process. A helpful tool in analyzing alternative plans is the so-called IPAS, or Interactive Computer

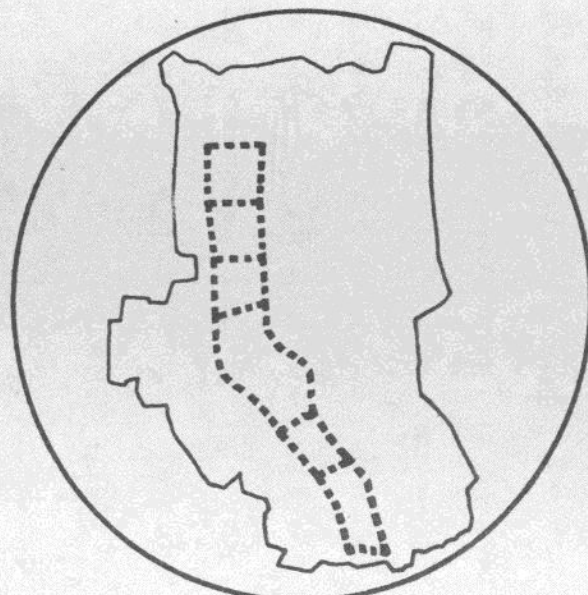
Figure 5—Evaluation of Options for Transportation Planning in Irvine New Town



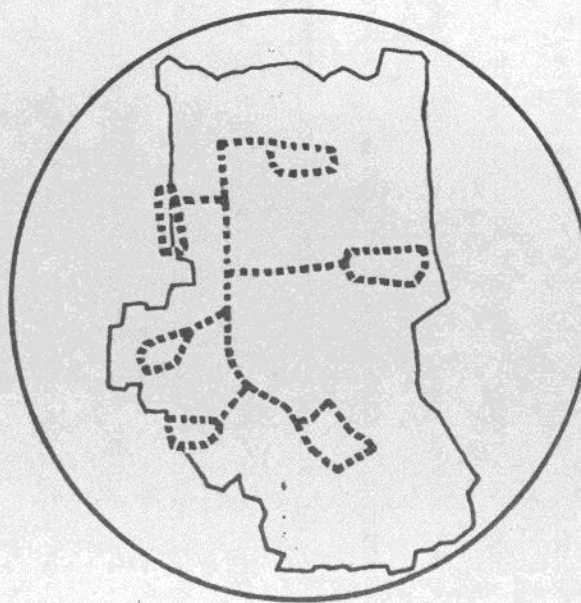
Public Transit—Tree

Evaluation Criteria	Alternative Advanced Public Transport System	ALTERNATIVE EVALUATION*							Remarks
		Grid	Radial	Tree	Loop	Linear	Trunk-Loop #1	Trunk-Loop #2	
Level of Service									
Coverage		3	5	2	4	1	7	6	Assume same frequency of operation on all lines.
System Interface		5	5	2	7	1	4	6	Regional accessibility (air and ground).
Convenience		7	2	6	3	1	3	4	Trip time for local trips.
Economic									
Operating Cost		1	7	3	2	6	4	5	Administration, control, maintenance.
Capital Cost		1	7	3	2	6	4	5	Route and vehicle cost.
Revenue		7	2	5	6	1	3	4	
Land Use									
Choices		7	2	6	5	1	3	4	Flexibility of activity locations.
Open Space		7	2	6	5	4	1	2	Complementary with open space system.
Continuity		5	1	7	2	4	6	3	Annexation phasing impact.
Social									
Accessibility		4	3	2	6	1	4	7	For all age groups and trip purposes.
Disruption		1	7	2	6	5	4	3	To existing social and physical structures.
Environmental									
Air Quality		7	2	5	6	1	3	4	Overall pollution level.
Wildlife		2	7	1	4	3	5	6	Habitat disruption.
Landscape		1	4	2	7	3	5	6	Visual impact — urban design factors.
Noise		1	7	4	6	3	2	5	
Natural Envir.		1	7	2	5	3	4	6	Resource preservation.
Total Rating		60	68	58	76	47	62	76	

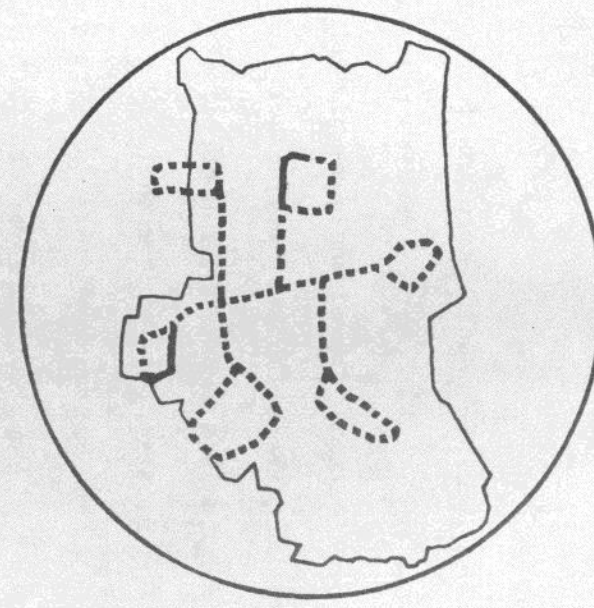
*A comparison among transit alternatives. Highest Rating = 7. Lowest Rating = 1.
Assuming the same type of hardware and system performance for each alternative.



Public Transit—Linear



Public Transit—Trunk Loop 1



Public Transit—Transit Trunk Loop 2

Graphic System. This System, in current use by the HUD New Community Development Corporation, permits digitization of all maps so that any scale or section of the map can be recalled and drawn automatically by the computer, minor or major changes made, then the revised plan recalled. This permits easy examination of alternative plans.

References to computer graphics as well as social and environmental factors in design are made in the bibliography.

Financial Contingency Planning.

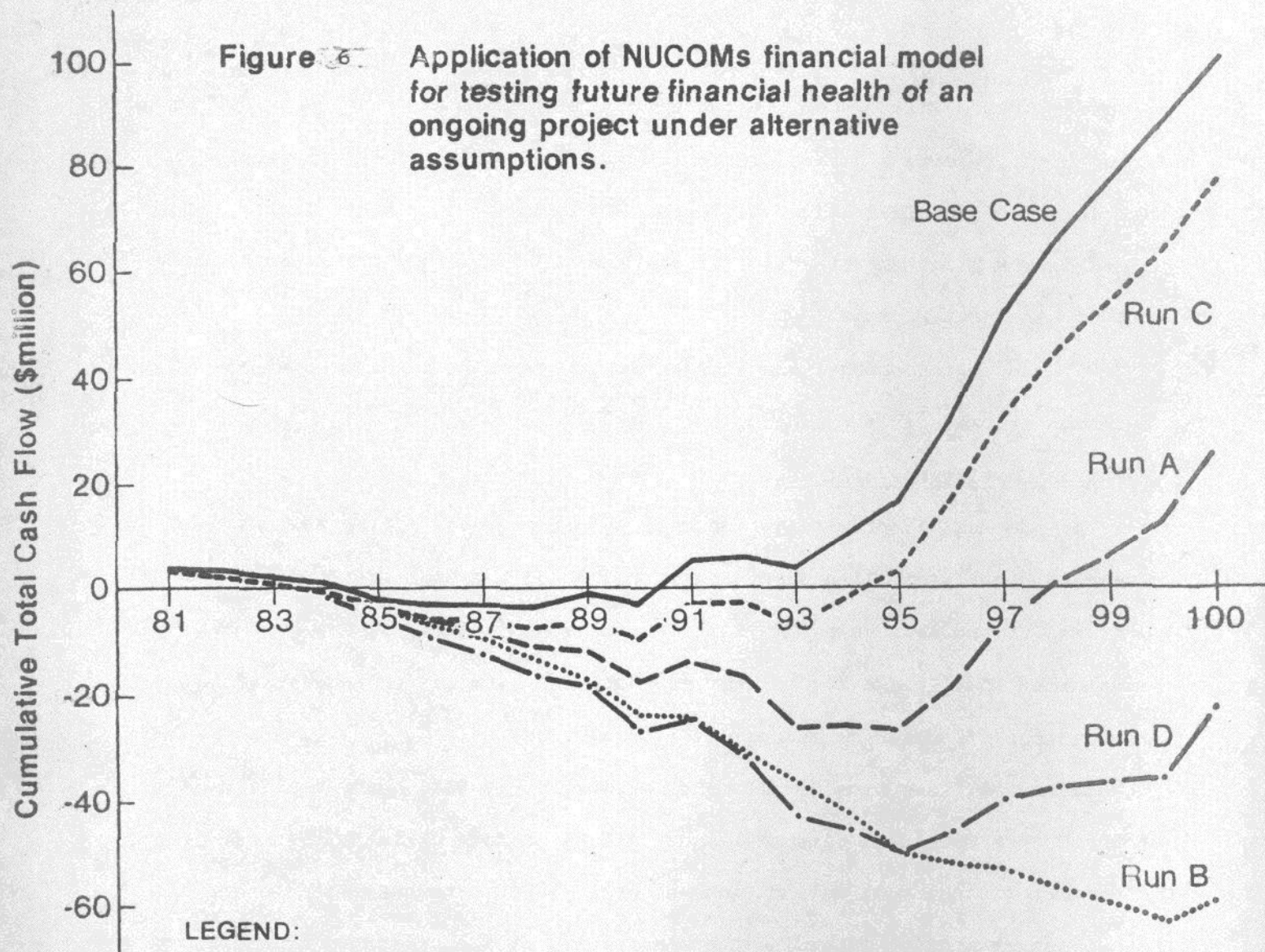
The process of optimizing financial and other goals of the new community have been greatly facilitated by the introduction and widespread use of computerized financial models in U.S. new community management. The Columbia "economical model" is a key management tool, for example, in understanding cost implications of design decisions.

In the New Community Development Corporation at HUD, heavy use is made of the NUCOMs developer financial model. (13j) Before making a major decision on project financing or refinancing, several computer runs are done under different assumptions to determine the sensitivity of the project's financial feasibility to various probable future assumptions. This is illustrated graphically by Figure 6. The Figure contains several assumptions against which feasibility was tested.

Fiscal Impact Planning.

From the viewpoint of obtaining local governmental approvals, the critical factor is not the developer's financial feasibility, but the fiscal impact of the project: the net impact of revenues and costs of the local jurisdiction. The NUCOMs model also has a fiscal impact component. (13k) There exists a whole range of fiscal impact models, including the Municipal Impact Evaluation

Figure 6 Application of NUCOMs financial model for testing future financial health of an ongoing project under alternative assumptions.



LEGEND:

Base Case: Assumes land for 460 to 550 housing units sold per year; 9% inflation in revenues and 7% in cost annually; zero costs for interest on negative and positive cash position.

Run A. Same as above, except assumes 9% in both revenue and cost inflation; 10% interest on negative cash and 7% interest on surplus cash.

Run B. Same as Run A, except assumes zero inflation for cost and revenues.

Run C. Same as base case, except assumes 10% slower development pace.

Run D. Same as Run A, except for 10% slower development pace.

NOTE: Total cumulative cash flow equals total revenues, minus total costs. Thus, in Base Case, project becomes profitable in 1990; in Run A, in 1997. In this project there already has been ten years of development; Cash flow forecasts would be different for a new project.

System (MUNIES) show in Figure 7. There are eight references to fiscal impact approaches listed in the index to the bibliography. The best overview and evaluation of the approaches to fiscal impact planning is in The Fiscal Impact Guidebook by Burchell (21)

Organization, Staffing and Management Style.

The internal organization of the development company is not necessarily the most burning issue of new community management. However, a sound organizational structure can facilitate good decisions and productive work by employees. Conversely, an inadequate organization can impair worker performance. There is no one approach to this question. It depends on the size of the new community and the scope of activities of the developer--i.e. whether or not it is a builder as well as developer.

The organization of the development entity evolves through various stages of planning, development, construction and operations. Several illustrative organizational charts have been prepared for the U.S. new community management book which are shown as Figures 8 through 14. Figure 8 shows that the planning, accounting and governmental relations functions are dominant during the early years of new town planning. Later, the construction, engineering, marketing and property management functions are filled out (Figure 9). Figure 10 shows a more detailed sub-organization for actual development in Rancho Bernardo, California, one of the successful U.S. new communities.

Figure 11 illustrates the continual conflict in organizational philosophies in new community management between the functional and "project approach" to organization. This Figure shows the "functional approach", where the organization revolves around functional divisions, such as marketing, planning and finance, with experts assigned from these divisions to assist specific projects. The