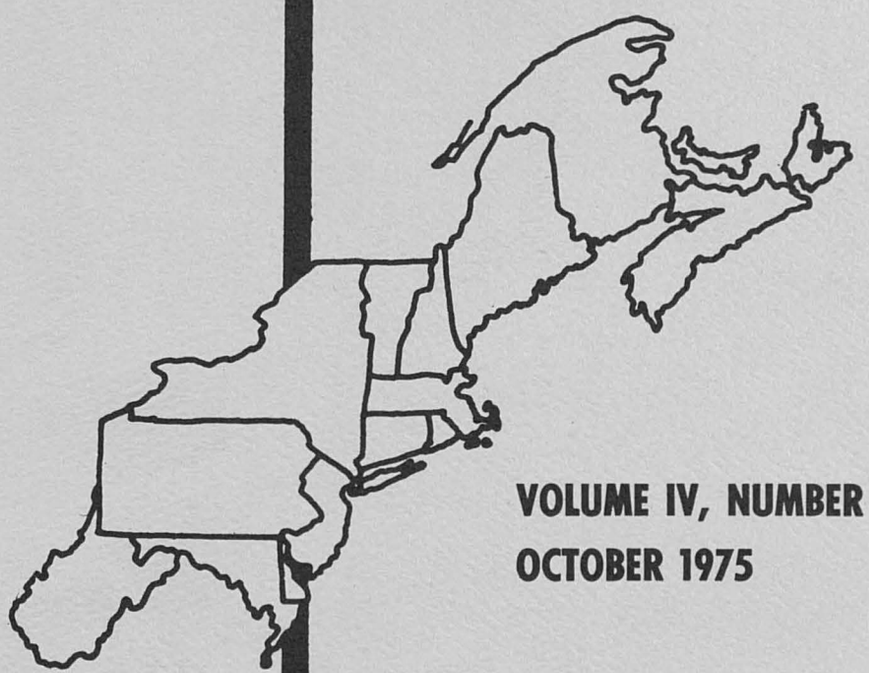
JOURNAL OF THE

Northeastern Agricultural Economics Council



VOLUME IV, NUMBER 2
OCTOBER 1975

TOWN PLAN ANALYSIS SYSTEM

Frederic O. Sargent
Department of Agricultural and Resource Economics
Vermont Agricultural Experiment Station1/

The Housing Act of 1954 authorized the federal government to subsidize municipal planning programs. As a result, planning firms produced "comprehensive plans" for rural towns2/ at an increasing rate. After a decade of experience with these HHFA "701" "comprehensive" town plans, it became evident that there was a wide variation in quality and content of the plans. Plans varied from useful tools for guiding growth to useless documents containing no meaningful recommendations. The latter situation resulted when urban planners drafted plans for rural areas based on urban concepts with no significant input by local people. Also, administrators of the "701" program and students of regional planning had no accepted criteria to distinguish an acceptable rural town plan from a useless compilation of data. This situation allowed planners who lacked rural planning know-how to use urban planning concepts to develop nonrelevant "shelf" plans in performance of their "701" contracts. By 1968 this problem was generally recognized. As a result, a research project was developed at the University of Vermont (Hatch 212), to study town plans and planning. The project had two objectives: (1) to evaluate adopted rural town plans by measuring the quality and content of plans, thus separating implementable plans from nonimplementable plans, and plans with considerable content from plans with little content, and (2) to develop planning concepts and procedures relevant to rural areas. This paper is a progress report on the first objective--a proposal of a town plan analysis and evaluation system.3/

To evaluate town plans it is first necessary to precisely define the planning process and a "plan." A search for a concise definition in planning literature was interesting but inconclusive. Planning textbooks and literature refer to urban areas—usually municipalities of 50,000 population and over. Sometimes they cover cities as small as 10,000. The focus of rural planning is in municipalities of 10,000 and less.

1/ Assistance in developing this system supplied by John Lord, Rodney Griffin, Bruce Hyde, and John Maher is gratefully acknowledged.

2/ The word "town" in this report refers to the New England political entity which is called a township in other areas.

3/ For a report on the second objective—development of planning concepts and procedures relevant to rural towns—see this Journal, Volume III, Number 1, p. 125, May 1974.

A study of town plans and the planning process in 100 Vermont towns was then conducted. These towns varied in population from under 200 to 15,000. On the basis of this study, definitions were developed for the "planning process" and a "plan" for purposes of analyzing rural town plans.

The planning process may be defined as consisting of four sequential phases and one indispensable condition. The four phases are: (1) inventory—economic, demographic, physical, and environmental; (2) development of a proposed land use map and text, i.e., a plan; (3) enactment of bylaws and other actions to implement the plan; and (4) enforcement of the bylaws and continuation of the planning process. The four steps are like four links in a chain—omit any one and the planning process breaks down. The inventory must describe the economy and the natural resource base, and classify the latter according to use limitations and suitabilities. Implementation consists of developing and adopting four bylaws: zoning regulations, subdivision regulations, an official map, and a capital budget. Other implementation steps, such as land purchase or further studies, may be included. Enforcement consists of actually applying the zoning and subdivision controls in the public interest and according to the requirements of the plan and of state statutes.

The indispensable condition which must be obtained in each phase in the planning process is local-public participation. Without this element, a rural town plan invariably becomes a "shelf" plan—an oversized report that satisfies the "701" contract but leaves nothing in the minds of local town officials.

A rural town plan may be defined for purpose of analysis as a compilation of statements of: (1) public goals, (2) present land use, (3) recommendations for future land uses in accord with public goals, and (4) suggested methods of implementation. The keystone word in this definition, for purposes of plan evaluation and analysis, is "recommendations." Without recommendations to achieve public goals, an inventory of present land use and a statement of assumed goals is not an implementable guide to future land use.

While all parts of a plan are necessary, it appears that the recommendations may be taken as key indicators of the quality and quantity of a plan.

This emphasis on recommendations as the essence of a plan is based on four assumptions. It is assumed that within reasonable limits: (1) the greater the number of implementable recommendations, the more useful the plan will be in guiding land use, (2) specific recommendations are more implementable than vague recommendations, (3) the more subjects covered by recommendations, the more comprehensive is the plan, and (4) the purpose of a town plan is to actually guide land use in the future. With these four assumptions and the recognition that recommendations are the heart of a plan, we may rate a plan by listing the recommendations, weighing them according to whether they are strong or

weak, and counting the subjects covered. Following is a proposed method for analyzing and evaluating town plans based on these definitions and assumptions.

Identification of Recommendations

The first step in evaluating a plan is to identify and tabulate recommendations by listing key words and phrases. These words, which reflect the force or urgency of the recommendation, provide a criterion for dividing the recommendations into two categories: strong and weak. Strong recommendations are those that include definite action words or phrases: recommend, it is recommended, propose, it is proposed, should, shall, will, must, and it is necessary. "Weak" recommendations are those that make the proposal in a more qualified way: may, could, might, encourage, should encourage, suggest, hope, should receive attention, should consider, and is feasible. Since weak recommendations lack the force of definite proposals, they are not considered in the plan evaluation system. Only statements that propose a future specific land use by use of these words and phrases are recorded.

The strong recommendations may be further classed as either specific and immediately implementable or conceptual long-term policy statement. A conceptual or long-term recommendation proposes a land use in general or vague terms--"consideration should be given to a town park." A specific or short-term recommendation proposes a specific land use--"purchase of the Maynard Place with BOR funds for a town park is a first priority in the recreation plan." Conceptual or long-term recommendations are indispensable parts of a plan. They are fundamental for setting a direction and guiding town growth. However, they do not stand alone and must be supplemented by specific, short-term recommendations. The conceptual or long-run recommendations will provide insight into the town level of sophistication in planning. The specific short-run recommendations provide a basis for evaluating and comparing the implementable hard core of town plans. The "701" contracts called for comprehensive, implementable plans--not merely for conceptual plans.

Specificity of Recommendations

The immediately implementable (strong) recommendations are further graded according to how specific they are. Each recommendation is rated by giving it one point for each of three characteristics: (1) a clear text statement, (2) a statement of the implementation method, and (3) for showing the recommended land use on a map when necessary. The points are added to indicate the specificity of the recommendation. This rating is based on an assumption that any recommendation is stronger (and the plan is, therefore, potentially more implementable) if a specific implementation action is proposed, and also if the proposed land use is shown on a map. Not all proposals and recommendations require mapping, however. The types that need mapping are: proposed land uses, transportation routes and facilities, and other community facilities. A recommendation

that does not require mapping would be "playgrounds should be provided in all new subdivisions," or "in the future all transmission lines should be placed underground." In those cases where a map is not required and a recommendation has a clear text statement as well as a proposed implementation method, full specificity rating (3) is recorded.

An average specificity rating for a plan may now be calculated by adding the ratings of each recommendation and dividing by the total number of recommendations. A plan with 30 implementable recommendations, each with a specificity rating of 3 points (in text, on map, and action specified), has an average specificity rating of "3." It is assumed that this plan would be more useful in guiding land use than another plan with 30 implementable recommendations and an average specificity rating of only "2."

Summary of Plan Rating System

All recommendations are listed and classed as strong or weak by key words.

All strong (implementable) recommendations are given 0 to 3 points according to the following scale:

		Points
Strong recommendations:	in text--1, on map--1, and specific action proposed--1. Total	3
Strong recommendations:	in text--1, specific action proposed--1. No location required. Total	3
Strong recommendations:	in text--1, on map with no specific action--1. Total	2
Strong recommendations:	in text only, map not required	2
Strong recommendations:	on map only, not in text	1
Strong recommendations:	in text, location required, no map location, no action specified	0
Strong recommendations:	in text only, but vague and general	0

Thus, each strong recommendation receives a "specificity rating" of from 0 to 3 as follows:

Very specific recommendation	3
Moderately specific recommendation	2
Poorly specific recommendation	1
Vague, general, unspecific recommendation	0

"Comprehensiveness" Rating

The actual number of subjects covered is another useful measure of a plan. To measure this attribute, the recommendations are classified according to subject categories. The general subjects covered in a comprehensive plan are classified in various ways in planning texts. We used eight classes: (1) urban land use, (2) environmental protection and public access, (3) transportation, (4) public utilities, (5) public facilities, (6) housing, (7) agricultural land, and (8) other. The comprehensiveness of a town plan may be indicated by an enumeration of the number of general subject categories treated and the number of recommendations in each category, and then a comparison of the plan's coverage with other plans for the towns of comparable size in the region. We can conclude from this analysis that town "B" (in Table 1) has a more comprehensive plan than town "A" but is less comprehensive than the average plan in the county.

Table 1
Example of Comprehensiveness Rating

Subject	Number of recommendations		
	Plan of town A	Plan of town B	Average of 17 plans in county
Urban land use	4	10	15
Environmental protection	6	4	10
Transportation	0	1	3
Public utilities	--	3	2
Public facilities	--	1	2
Housing	--	1	1
Agricultural land	--	2	1
Other	2	--	1
Total	12	22	35

Uses of Town Plan Analysis System

The purpose of the town plan analysis system is to permit state, regional, and town planning administrators and students of planning to evaluate "comprehensive" rural town plans in objective and comparative terms. By using this plan rating method it is possible for the selectmen of a town who have approved expenditures of $10,000 for a "comprehensive" plan to determine where their plan stands in comparison with other plans. Is it in the top 20 or 50 percent of plans of towns in the same size groups? Is it in the bottom 10 percent and of little use as a guide to future land use? State administrators can make benefit-cost analyses to see what benefits they have received for the dollars invested in town

and regional plans—what planning consultants are producing plans covering the most subjects with strong recommendations—how many specific recommendations per dollar are being provided. Researchers can make analyses and comparisons of the quantity and quality of the content of town plans. Regional planning commissions may objectively compare town plans to determine which ones are useful, which ones need revision, and which ones might be invalidated if challenged as they have no objectively identifiable and measurable content. Finally, a system for defining plans in terms of implementable recommendations makes it possible to objectively measure the implementation of town plans.

Analysis of 88 Vermont Town Plans[4/]

The town plan analysis system was applied on an experimental basis to adopted municipal development plans of 88 Vermont municipalities—62 percent of the adopted municipal plans in the state, in order to learn their characteristics. The plans represented communities ranging in size from 187 to 14,586. The 88 plans included a total of 1,510 recommendations, an average of 17 per plan. The top 10 plans had an average of 40 recommendations per plan, the lowest 10 plans—12. Of the eight subject categories, "Environmental Protection" received the most attention with 33 percent of the total. This high count is due to the fact that this category included recreation, a very popular subject for town plans. The category of "Urban Land Use" received the second highest number of recommendations with approximately 25 percent of the total. "Transportation" and "Community Facilities" followed with 14 percent and 13 percent, respectively. Eight percent of the recommendations dealt with "Community Utilities." "Housing" and "Agriculture" received very little attention.

The study of 88 plans leads to the conclusion that the highest rated one-fourth of the plans are reasonably good guides to land use. The lowest rated 25 percent are of questionable use or useless. The middle 50 percent should be strengthened by revision as soon as possible if control of future land use in the public interest is desired. The reasons for the variations in content and quality of plans and the quality of plans produced per dollar cost should be the subject of further research.

Analysis of Individual Town Plans

This system may be used to compare and analyze individual adopted municipal plans. Table 2 provides a comparison of 24 plans on the basis of comprehensiveness and specificity. These plans were each in the top 10 plans of the 88 studied in one of these categories. The comparisons made in Table 2 are analytical and comparative. Conclusions should not be drawn concerning which plan is "best" or which one covers more subjects

---

4/ This study was conducted by Rodney E. Griffin, graduate assistant, and is reported in his Master's thesis.

or has greater specificity or greater potential implementability on the basis of raw scores alone. The ratings in Table 2 may be used to show the relative content and quality of each plan in comparison with other plans from similar size towns. This information should be used in conjunction with additional information such as the rate of implementation. For instance, municipality "C" has a high rating. Further investigation discloses that while it was an excellent plan, it was not being implemented. Variances were granted to all who applied--the statutory requirements for variances notwithstanding. Town "Q" has a low average specificity. The reason was that this was a first plan and it had to be watered down to get it approved by the voters. Town "R" solved the same problem by reducing the number of subjects covered and the number of specific recommendations.

This system should be used as the first step in analyzing a town plan. It should be followed by further analysis.

Further research should be conducted to discover what practices or procedures are correlated with the more implementable plans. The selectmen in town "F" could be given an appraisal of what they got for their $10,000 in comparison with neighboring towns. The selectmen of town "I" could be shown that theirs is one of the most limited plans of towns in its size category and needs to be supplemented. Table 2 could be supplemented by data indicating the planning consultant and the contract prices of each plan. This would provide useful information that could be used to improve planning services by providing a basis of comparison of the planner's products.

Identification of Null Plans

Table 3 shows the lower end of the plan quality array. Nine plans contained no strong recommendations and, therefore, could not realistically be called implementable town plans. Table 3 with Table 2 provide a basis for discovering what towns are in urgent need of planning assistance.

Limitations in the Use of this System

Some cautions should be made to those using this plan analysis system. First, it must be reiterated that this system rates only one element in the planning process--the town plan. The implementation and enforcement steps must be analyzed and evaluated before conclusions can be drawn concerning the whole planning process. The highest rated plan might not have superior implementation and enforcement.

Second, since this plan rating system is based on translating words indicating recommendations to categories of conceptual or implementable, and then weighing these statements in the context of the plan, judgment is involved. It is necessary to reduce and control the possible bias introduced by this use of judgment. This may be done by having a single person rate all the plans in a county or region. This procedure will

Table 2
Comparison of Adopted Plans in 24 Vermont Municipalities

Municipality code	Population	Number of subjects treated (A)	Total number of recommendations (B)	Total specificity rating (C)	Average specificity rating (D)
	Municipalities of 5,000-15,000 population				
A	14,586	14	30	83	2.77
B	10,063	21	36	67	1.86
C	10,032	21	62	186	3.00
D	8,776	12	22	104	2.97
E	6,532	16	38	99	2.60
Average		17	38	108	2.64
	Municipalities of 2,000-4,999 population				
F	4,664	16	33	84	2.55
G	4,158	23	52	97	1.86
H	3,728	14	38	114	3.00
I	3,705	9	10	30	3.00
J	2,388	10	18	54	3.00
K	2,371	10	25	71	2.84
L	2,050	16	23	63	2.74
M	2,040	15	39	96	2.46
Average		14	29	76	2.68
	Municipalities with less than 2,000 population				
N	1,727	19	20	26	1.30
O	1,711	16	22	51	2.32
P	1,347	6	11	33	3.00
Q	1,024	19	35	12	.34
R	809	7	8	24	3.00
S	790	11	14	42	3.00
T	687	16	26	63	2.42
U	599	9	12	36	3.00
V	582	10	11	33	3.00
W	416	9	13	39	3.00
X	187	9	8	39	3.00
Average		12	16	36	2.49

assure that any subjective definitions of "conceptual" or "implementable" recommendations will be uniform for all plans evaluated and, therefore, the relative position of each plan in the array or ratings will correspond to a uniform basis of evaluation.

Table 3
Characteristics of 10 Lowest Rated of 88 Plans ("Null" Plans)

Characteristic	Range	Average
Subjects mentioned	1- 4	3.2
Total specificity rating	0- 9	3.9
Average specificity rating	0-60	32.5
Number of recommendations per plan	2- 6	4.3
Plan with no strong recommendations	9	
Plan with strong recommendations	1	

Third, the basis of comparison of a plan should be other plans in the same region or state and municipalities of a similar size, and plans of a comparable vintage.

Fourth, a clear distinction must be made between plans that are intended to be conceptual, and will be supplemented by more detailed planning after approval and plans intended and designed to be implemented immediately after adoption. This distinction becomes apparent by taking all the strong recommendations of the plan and comparing the ratio between conceptual general policy statements and specific and immediately implementable proposals.

Finally, the plan analysis system should be used to identify and explain gross differences in plan quality. It should be used to determine if a plan is in the top 25 percent or 50 percent of plans in a region---not to identify the single "best" plan.

If generally adopted as a means of evaluating town plans, this system should lead to discontinuation of the development of urban plans for rural towns (by exposing "null" plans and weak plans), it should lead to development of plans more in accord with democratically evolved public goals, it should significantly improve the comprehensiveness, meaningful content and implementability of rural town plans, and it will provide a basis for evaluating implementation and researching correlations between various types of plans and a number of selected factors.