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Types of Rural and Urban Community Centers in Southern Illinois

Ray E. Wakeley

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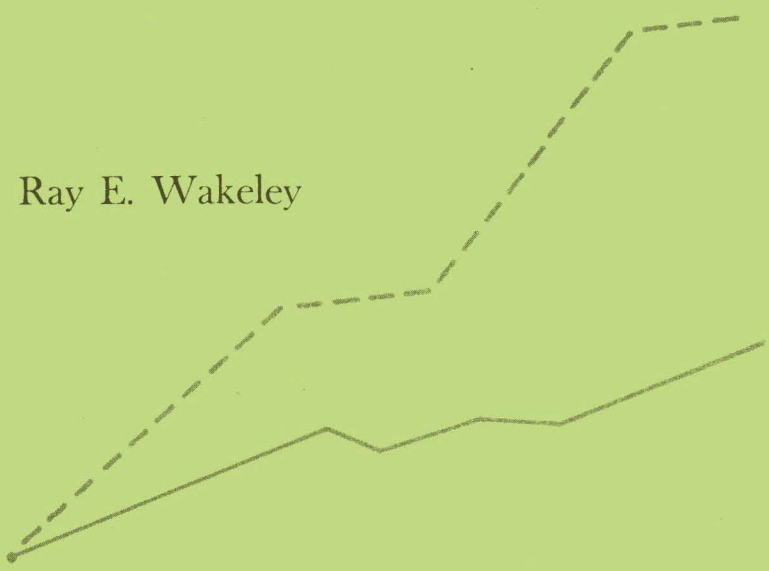

SOUTHERN ILLINOIS UNIVERSITY

AREA SERVICES BULLETIN NO. 3 IN THE SERIES

Human and Community
Resources of Southern Illinois

Types of Rural and Urban Community Centers in Southern Illinois

Ray E. Wakeley

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Southern Illinois University

Division of Area Services W. J. Tudor, Director

In cooperation with the Department of Sociology and
the Board of Economic Development, State of Illinois

PREFACE

Here is presented the third in a series of reports designed to give basic, factual information concerning the economic, social, and cultural conditions found in Southern Illinois. Not only does this report give certain basic facts but it also provides a mechanism to compare communities and gives bench-marks that can be used in development efforts in the various communities.

Dr. Ray E. Wakeley has devoted much of his professional career to the study of community life. The techniques presented in this study have evolved after these many years of study. For example, while we were associated in our work at Iowa State College similar research was conducted. While at Cornell University the year prior to his joining the Southern Illinois University staff, Dr. Wakeley completely refined these techniques. He has now returned to Cornell to carry this work further. It is hoped that the material presented here will provide another step forward in the firming-up of the methods of evaluating, measuring, and comparing communities.

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Introduction

This study is designed to show pertinent characteristics of selected business and cultural services in community centers.[1] Community service centers contain business and cultural agencies which serve the people living in the centers and in the areas tributary to them. The numbers and kinds of services offered by the centers are measures of the adequacy of the centers in serving their patrons inside and outside their boundaries. This information will be useful in planning the future course of development for community centers based on the similarities and differences in the business and cultural services they offer. The analysis will also serve a scientific purpose as it attempts to develop a scientifically validated typology of community service centers which will make it possible to extend or generalize research findings from one community to other communities of the same type. The writer's earlier community researches have demonstrated that these objectives are attainable.

MULTIFUNCTION SERVICE COMMUNITIES

Community is a meaningful but very broad folk term which is difficult to define scientifically. Based on having, sharing, living in common, it includes the community of all those who believe in and practice the teachings of Christ, the community of those who believe in and practice the principles of science. Ecologically it includes those who live in a common area in which they meet their common needs for living and making a living. Such land-based communities range from the smallest areas of common life which characterize small neighborhoods to larger areas such as towns, cities, metropolitan centers, and the world community. Such a broad concept of community is ill-adapted to a study such as this which will be limited to specific structural aspects of multi-service communities.

This scientifically limited and testable definition of community now can be stated. A community consists of the relationships between those persons living in a center and in the service area tributary to it, which

[1] This is the third study in a series by the same author on Human and Community Resources in Southern Illinois. The other two studies were: *Population Changes and Prospects in Southern Illinois* and *Growth and Decline of Towns and Cities in Southern Illinois.*

arise from participation in, or patronage of formally organized institutionalized associations and service agencies which serve them. These organizations and service agencies are in a constellatory relationship to each other in so far as they are a part of the community structure. Organizations and service agencies, most of which are located in the center, are considered functional subsystems of the community social system.

Central places which function as community centers exercise a degree of dominance over the community because of centralization of population, professional leadership, and organized business and financial power of the groups which are parts of the community constellation. The present study of Southern Illinois will be limited to two major aspects of community: (1) the service center and (2) services offered by the center which facilitate its functioning as a central place.

Services of community centers show different degrees of specialization, each service being specialized to a similar degree wherever it is offered. The degree of specialization of its services varies widely among different centers and the degree of specialization among services offered in a center helps to characterize that center. Thus, simple services like those offered by general stores are found in most centers while highly specialized department stores are found only in a few; local post office services are found in most service centers while mail delivery by city carrier is available only in a few; elementary schools are found in most community centers while four-year colleges are found only in a few. Centers which offer only simple services constitute one type. Centers which, in addition to unspecialized services, offer the most highly specialized services constitute a type at the opposite end of a possible continuum. Centers in between these two extremes can also be described in terms of the degree of specialization of the services they offer.

Service centers in Southern Illinois will be described in terms of the number of functional kinds of services they offer and the degree of specialization which characterizes them. Each broad class of services, whether business or education or health, has its own step-like pattern of specialization. That is to say, service centers tend to show a similar degree of specialization among their major functional services. This study will test the patterning of service agencies based on the principle of step-specialization upon which, in large part, the development of scalar measures depends.[2]

[2] I am aware of earlier classifications of communities and have found them useful. It is hoped that the measures developed and used in this study may contribute a more scientific basis for the analysis of community structure.

Method and Procedure

The research task here is to operationalize the ideas and concepts set forth in the preceding section of this report which was designed with possible scientific procedures in mind for meeting the research objectives. The universe for study includes all community service centers as defined. Obviously all of them could not be included in this unit of analysis. The present study included only those community service centers in the thirty-one counties of Southern Illinois. In these counties, 283 population centers were enumerated in the U.S. Census of Population in 1960. Business services were listed separately by Dun and Bradstreet for 301 centers in 1961. Business services for an additional fifteen incorporated centers and fifty-seven unincorporated centers were not listed separately but were included as part of the business services in nearby larger towns and cities. These seventy-two places could not be included in this analysis because separate business data were not available for them. An additional forty-seven centers were mentioned by name in Dun and Bradstreet, but no business services were listed for them, making a total of 420 places.

Centers included in this study included 188 of the 301 centers listed separately by Dun and Bradstreet, which were judged to be actual or potential community centers. These 188 centers each had ten or more business services listed by Dun and Bradstreet. Places not judged to be community service centers included the 113 centers which had less than ten listings by Dun and Bradstreet. Six of the 188 centers which were included in the analysis were unincorporated centers which had less than 1,000 population in 1960.

CHARACTERISTICS OF THE DATA

Data used to develop the various measures were limited to published sources, many of which were available to the writer (see appendix A). Principal sources included Dun and Bradstreet, U.S. Census of Population, reports from departments of state government in Illinois, directories of national professional organizations, and data made available by Southern Illinois University. That most of the data were economic in character was a result of the preponderance of published economic data

and the desire of the author to investigate the usefulness of data available from The Reference Book of Dun and Bradstreet, Inc. (see appendix B).

Special characteristics of the Dun and Bradstreet data are presented to facilitate their use. In the first place, a business place is not listed separately unless the center has a separate U.S. post office. A business service for a center not having a post office is usually included with the listings for its post office center. Second, business listings are classified

TABLE 1. RETAIL TRADE AND SERVICES, SCALE A

D. & B. Code	Item	Incidence
54–11	Grocery store	176
55–41	Gasoline service station	169
58	Eating and drinking places	163
72–61	Funeral service and crematory	141
57	Furniture, home furnishings and equipment	132
59–12	Drugs and proprietary	122
52–51	Hardware	112
56	Apparel and accessories	98
59–82 & 59–83	Fuel, fuel oil, bottled gas	89
56–21	Women's ready-to-wear	71
59–71	Jewelry store	61
59–92	Florists	50
54–51	Dairy products store	38
57–33	Music store	22
53–11	Department store	15
75–21 & 75–22	Parking lot, parking structures	2

according to the Standard Industrial Classification which makes them comparable to U.S. Census and other sources which use the standard classification. Third, Dun and Bradstreet lists only those businesses which offer some tangible product for sale. They do not list professional people or organizations of professional people such as physicians, lawyers, dentists or hospitals. They do list manufacturers and suppliers of medical and hospital supplies. Beauty shops and barber shops, insurance agencies, private clubs, bowling alleys, pool halls, skating rinks, swimming pools, radio and television stations, airplane landing fields, railroad or bus stations, and cinemas are not listed. However, their suppliers are listed and transportation companies are listed. Fourth, centrally-owned and manager-operated branches of business and manufacturing chains are

listed under the center which is the headquarters office of the parent company. Business places which are locally owned and operated are listed locally, whether or not they have a supplier contract with a central company located elsewhere. These characteristics of the Dun and Bradstreet data were consistently defined and adhered to uniformly. Exploratory studies indicated that the total under-enumeration of businesses would amount to approximately one-third of the total in a center. The position is taken that Dun and Bradstreet listings of local businesses, although incomplete, is a consistent and reliable indicator of the economic importance of a service center.

TABLE 2. NON-ECONOMIC SERVICES, SCALE B

Code	Item	Incidence
	Elementary school	183
	R.D. or Star mail route	160
	Central water supply	149
	High school	120
	Physician (general practitioner)	102
	Dentist (general)	79
	Mail delivery by city carrier	69
	Public library	59
	Medical specialist (other than g.p.)	51
	Local general hospital	36
	Daily newspaper	21
	Dental specialist	8
	Four-year college	5

DEVELOPMENT OF MEASURES

The objective here was to develop statistically valid scales which would measure selected major functions of the multifunctional service community. Scale items were selected which exhibited different degrees of specialization, from relatively unspecialized to highly specialized. Such items were useful in discriminating between centers whose services exhibited different degrees of specialization. Items were retained which were judged to be functionally important, which discriminated regularly, which were representative of other services which had similar incidence, and were suitably spaced to give each scale a semblance of equal scale intervals.

Three independent and three supplementary scales were constructed

and validated by the Guttman test which indicated reproducibility coefficients which ranged between .92 and .96 for the six scales. Thus the scales were used with considerable confidence in setting up service patterns for the different centers. The three independent scales were constructed as measures of retail trade services, noneconomic services, and community growth and business strength. The three supplementary scales were constructed to measure rural services, outdoor recreation and tourist services, and health services.

TABLE 3. COMMUNITY GROWTH AND BUSINESS STRENGTH, SCALE C

D. & B. Code	Item	Incidence
70 to 89	Services	175
50	Wholesale trade	155
15 to 17	Contract construction	134
	Local bank	129
	Local survey of manufactures	104
10 to 14	Mining	89
27–11	Newspapers	79
	Chamber of commerce or business men's association	65
	High school (unrestricted recommendation)	48
	General hospital	36
	County seat	31
65	Real estate developer and builder	19
40 & 45	Railroad and air transportation	7

The retail trade and services scale was constructed entirely of items selected from the retail trade and services sections of the Dun and Bradstreet Reference Book (Table 1). These items include or represent many of the items which have been used by rural sociologists in previous studies. The scale was specifically designed to measure the adequacy of retail trade services offered by various service centers. Each of the nine major retail business categories is represented by one or more scale items.

The noneconomic services scale was constructed of items of cultural services which are generally recognized as essential, including mostly communication, health, and education (Table 2). A chief difficulty in selecting items for the noneconomic services scale was the jurisdictional character of the service area for many of the items. Boundaries of service areas for local schools and governmental services are defined legally or administratively and do not change readily in response to competition.

The community growth and business strength scale includes representative items selected from all major classes of business service except retail trade (Table 3). Actually, all but one of the major classes of business service are represented by one or more items in the scale. Six items not classified by Dun and Bradstreet were also included which gives the scale a combined economic and noneconomic character. Manufacturing was represented by data from a survey by the Small Business Institute of Southern Illinois University. Manufacturing was listed for those centers which had three or more manufacturing concerns or listed ten or more manufacturing employees. Items like banking, wholesale trade, manufacturing, chamber of commerce, high school with unrestricted recommendation by the state, county seat, and real estate developer and builder, each has some characteristic which makes it especially advantageous for a center; which adds to business strength and in some sense promotes community growth.

TABLE 4. OUTDOOR RECREATION AND TOURISTS SERVICES, SCALE D

D. & B. Code	Item	Incidence
54	Food stores (incl. grocery)	178
55–41	Gasoline service stations	169
58	Eating and drinking places	163
	Central water supply	149
59–12	Drug and proprietary	122
	Physician service	102
27–11	Newspaper	79
56–51 & 56–65	Family clothing and shoes	67
79	Amusement and recreation service	53
70	Hotels, rooming houses, camps, tourist courts, motels	40
54–41	Candy, nut, and confectionery	34
59–93	Camera and photo supplies	13

These three indexes, retail trade, noneconomic services, and community growth and business strength are designed as the major "bread and butter" scales. The three scales contain a total of forty-two items, only one of which is included in more than one scale. This indicates the independence of the three scales in so far as the component items are concerned.

The other three scales are designed to measure more special and limited functions of the service centers. These are outdoor recreation and tourist services, rural services, and health services. This does not mean that these are unimportant functions. People in Southern Illinois are concerned about services needed by vacationers, hunters, fishermen and tourists; about services for farmers; and services for the protection and maintenance of health.

The outdoor recreation and tourist services scale includes places to stay, places to eat, amusement and various recreation specialties (Table 4). Outstanding scenic spots might well have been included but few of these are part of the service of a center.

TABLE 5. RURAL SERVICES, SCALE E

D. & B. Code	Item	Incidence
	Elementary school	183
54–11	Grocery	176
	R. D. or star route	160
59–62 & 59–69	Hay, grain, feed, farm & garden supplies	142
	Local bank	129
	High school	120
	Physician (general)	102
52–52	Farm equipment dealers	96
59–82 & 59–83	Fuel, fuel oil and bottled gas	90
56–51 & 56–65	Family clothing and shoes	67
	Local general hospital	36
53–11	Department store	14

The rural services scale includes mostly those services which especially meet the needs of farm people. Farmers needs for retail business services are primarily the same as for people everywhere but they do need rural mail delivery, special farm production supplies and marketing agencies (Table 5).

The health scale is designed to indicate the distribution of major health services among the centers. Health services were found to be more highly specialized, to be entirely absent in small towns in contrast to the other items of service included in the scales. A majority of small service centers had no local health services.

These three scales are considered specialty scales which indicate to some extent how well the service centers serve these special needs which are so much in the minds of the people in Southern Illinois and else-

where. The three scales contained thirty-four items, ten of which were independent and twenty-four which were included in more than one of the six scales. The health scale was the chief offender, with eight of the

TABLE 6. HEALTH SERVICES, SCALE F

D. & B. Code	Item	Incidence
	Central water supply	149
72–61	Funeral services and crematory	141
59–12	Drugs and proprietary	122
	Physician (general practitioner)	102
	Dentist (general)	79
	Medical specialty (other than g.p.)	51
	General hospital (local, public or private)	36
49	Electric, gas, and sanitary services	25
	Dental specialty (other than g.p.)	8
	Approved nurses training school	5

items included elsewhere, mostly in the noneconomic services scale. Duplication of scale items results in multiple counting of those items which are basic to the construction of scales for special service functions.

USING THE SCALES

Each of the 188 service centers were scored independently by applying each of the six scales. The scores for each center was the number of items on each of the scales which was present in the center. These scores were the basic data used in developing a typology of service centers.

Other more traditional methods of classifying community service centers also were considered and evaluated on the basis of data for Southern Illinois. Population of the 283 centers enumerated in the U.S. Census of Population in 1960 was presented and classified in an earlier report in this series.[3] These data gave clear indication of the growth and decline of service centers but gave little indication of the pattern of services present in the centers. Further testing of the data indicated that the relationship between population and the total number of services listed by Dun and Bradstreet showed wide variations. The correlation was $r=.941$ for the 188 centers included in this analysis. The r was .961 for centers with more than 200 listed services, and $r=.348$

[3] Ray E. Wakeley. *Growth and Decline of Towns and Cities in Southern Illinois,* (Carbondale, Illinois: Southern Illinois University, 1962).

for centers with ten to nineteen services. This indicated considerably more variation among the small service centers. These differences were shown by the earlier analysis to be differences in population growth and the total number of listed business services was a more reliable measure of a service center than was its population.

Population of the centers also showed a highly variable relationship with the number of each of the major classes of business service. The correlations between population and total Dun and Bradstreet listings were high, ranging from r=.962 for retail trade to r=.875 for other services, including agriculture, mining, contract construction, public utilities and wholesale trade. However the relationship for places which had a total of ten to nineteen services was quite variable, ranging from r=.409 for retail trade to r=.299 for manufacturing. The relationship between total Dun and Bradstreet listings and the total scores obtained by the use of the six scales was r=.680. This relationship was higher for small places, especially among rural places. The use of the scores had added advantages, in that the scores provided measures for both economic and noneconomic services. The problem now is how best to use the scales and the resulting scores to develop a typology of service centers.

USING THE SCALES AND SCORES

It has been indicated that the application of a scale which has a high quotient for reproducibility results in a valid set of scores. Each score, therefore, represents a typical pattern of services for the centers to which it is applied. Exceptions for a center may be considerable but the total exceptions are not numerous enough to invalidate the scale. Each score represents a patterning of the service items included in the scale and other items clustered with them. The problem now is to use the scores to develop a typological classification of centers which offer the same key services.

A first step in this analysis is to investigate the relationships among the six sets of scores obtained from the application of the six scales (Table 7). The zero order coefficients of correlation are extremely high and uniform throughout the entire matrix, the relationship between retail trade and rural services being the only one smaller than r=.90. It appears that the rural services scores are independent enough to help locate the farm service centers and, conversely, the retail trade and services scores are not the best indicators for farmer service centers. Relationships between scores for the six functional classes of services in large centers are extremely high, none being below r=.99. These are the centers which have all or nearly all the services included among the scale items.

Among the centers with fewer (10–19) services the relationships between the sets of scores indicated somewhat greater independence but all relationships between sets of scores were greater than r=.90 except between health services and rural services for which r=.88. Scores for community growth and business strength were uniformly more independent than the others, the relationship ranging from r=.89 with rural services to r=.84 with health services. It appears that the scores for community growth and business strength might help to discriminate between those small centers which are growing and those that are not.

TABLE 7. CORRELATION MATRIX FOR SCORES FROM SIX SCALES FOR 188 CENTERS IN SOUTHERN ILLINOIS

	Retail Trade and Services	Noneconomic Services	Community Growth and Business Strength	Health Services	Outdoor Recreation and Tourist Services	Rural Services
Retail Trade and Services	.....	.9771	.9701	.9823	.9838	.8312
Noneconomic Services		.....	.9717	.9895	.9630	.9710
Community Growth and Business Strength			.....	.9683	.9653	.9511
Health Services				.....	.9826	.9626
Outdoor Recreation and Tourist Services					.....	.9095
Rural Services						.....

Analysis of the Data

DETERMINING THE TYPES OF CENTERS

The six sets of scores for the 188 centers are the basic data for this analysis. The problem is to develop a firm classification of the scores which will yield a satisfactory basis for establishing classes of service centers which will serve as distinctive types. These types will be established by means of the scores resulting from the application of the six validated scales. The analysis will proceed on the basis of the sum of the six scores for each center. Analysis of the total scores was chosen because it gave greater range and stability to the distribution. Granted that the combined scores included double counting of a number of general items, the intercorrelations were so high that the use of the combined scores appeared justifiable and much simpler than a more sophisticated statistical equating of the scales.

The total number of Dun and Bradstreet business listings for each center was used as a basis for preliminary classification. Six classes were established and used in classifying the total scores (Table 8). While the total number of business services was used in developing the final classification, the types were established on the basis of a specific range of total scores for each type of center. Total scores for the 188 centers ranged from eight to seventy-three. The classification shows the number of centers with each score, classified by the six classes of total Dun and Bradstreet listings (Table 9).

Class limits were determined by two simple methods. By the first method, designated as *modes,* class limits included those scores the modal number for which was included in the same class for total Dun and Bradstreet business listings. This method yielded six classes and the first and the last again were subdivided, making six classes, two of which were subdivided (Table 9). This method, which was used in the New York study, was difficult to apply to the data for service patterns in Southern Illinois because the considerable variation between total business listings and total scores resulted in overlapping which obscured the modal tendency. Use of the *blocks* method of determining the class limits of the scores did give greater stability to the classes (Table 9). This analysis resulted in seven classes of centers designated here as types of community service centers because of the distinctively different pattern of economic and noneconomic services offered by each type.

TABLE 8. SERVICE CENTERS IN SOUTHERN ILLINOIS CLASSIFIED ACCORDING TO TOTAL BUSINESS LISTINGS BY DUN AND BRADSTREET, 1961

Classes	Centers	
1,000 +	1	
500–999	3	
400–499	2	
300–399	5	
250–299	5	
200–249	6	
Subtotal (1)		22
190–199	2	
180–189	2	
170–179	3	
160–169	0	
150–159	1	
140–149	3	
130–139	2	
120–129	3	
110–119	3	
100–109	3	
Subtotal (2)		22
90–99	2	
80–89	4	
70–79	5	
60–69	6	
50–59	8	
Subtotal (3)		25
40–49	15	
30–39	16	
Subtotal (4)		31
20–29	31	
Subtotal (5)		31
10–19	57	
Subtotal (6)		57
Total (1) to (6)		188
5–9	58	
0–4	55	
Subtotal		113
Grand Total		301

TABLE 9. CLASSIFICATION OF 188 SERVICE CENTERS ACCORDING TO TOTAL SCORES AND BY TOTAL DUN AND BRADSTREET LISTINGS

Total Scores (6 scales)	Number of D. & B. Listings 200 +	100–199	50–99	30–49	20–29	10–19	Total	Modes: Main Class	Modes: Sub-Class	Blocks
73	1						1		R*=67–73	
72	2						2		I=7	R=67–73
71	2						2		N=11	I=7
70							0	R=63–73		N=11
69	1						1	I=11		
68	4						4	N=21		
67	1						1			
66									R=63–66	
65	1	1					2		I=4	
64	3	1					4		N=10	
63	3	1					4			
62	1	5					6			R=55–66
61	1	2					3			I=12
60	1	1					2			N=27
59		2					2	R=54–62		
58								I=9		
57		2					2	N=22		
56										
55	1	1					2			
54		3	2				5			
53			1				1			
52			1				1			
51		1	1				2			
50			3				3			R=44–54
49			1				1	R=44–53		I=11
48			1				1	I=10		N=27
47				2			2	N=22		
46			1				1			
45		1	6				7			
44		1	2				3			
43							0			
42			1	1			2			
41				4			4			
40			1				1			
39				3			3			R=33–43
38			2	5	1		8			I=11
37								R=31–43		N=25
36				2			2	I=12		
35				2			2	N=31		
34				1			1			
33				2			2			
32			1	1	1		3			
31				1	1	1	3			
30				3	4		7	R=24–30		R=24–32
29				1	5	1	7	I=7		I=9
28					4	2	6	N=34		N=40
27			1		1	1	3			
26				1	3	1	5			
25					3	1	4			
24					1	1	2			

(Continued on Page 15)

Table 9 (Continued)

23			2			4	6		
22					2	4	6		
21						2	2		
20						4	4		
19					1	1	2		
18					2	4	6	R=15–23	R=15–23
17						3	3	I=9	I=9
16					1	3	4	N=39	N=39
15					1	5	6	R=8–23	
14						4	4	I=16	
13						5	5	N=58	
12						1	1		
11						4	4	R=8–14	R=8–14
10						2	2	I=7	I=7
9						1	1	N=19	N=19
8						2	2		
7									
6									
5									
4									
Total centers	22	22	25	31	31	57	188		

* R=range of scores included in each class
I=class interval
N=number of centers in the class

DESCRIBING THE SEVEN TYPES OF SERVICE CENTERS

The service patterns for the types of service centers can be described in terms of the typical service item in each of the six scales which comes closest to the average score for each type. The average score on each scale for each type of center is indicated (Table 10). The typical service is the scale item on each scale whose number most closely approximates the average score on each scale for the type of center under consideration. These average scores indicate not only the most nearly typical service but also indicate the contribution of each scale to the total scores (Table 10). The typical items on each scale for each type of service center is indicated (Table 11). Whenever the average score on any scale falls between two scale items, both items are listed and the service item closest to the average is indicated by the subscript (a). Each of the seven types of service centers is described in terms of six key services, one for each scale. These are by no means the only services present in these centers. Each key service is closely related to other services which have similar incidence. For example, in Southern Illinois most of the towns and cities which have physician service also have a system for sewage disposal, so sewage—a key health service in a town or city—was omitted

from the health scale because general physician service discriminated more consistently.

The inclusion of key items in more than one scale resulted in the emphasis of some few key items (Table 11). For example, in Type I, department store was included as a retail specialty of interest to rural people, and dental specialty was included as a noneconomic service closely related to health. Type II centers were dominated by local general hospital service which was listed as a noneconomic service of special relevance to community growth, rural service and health. Type III centers were less clearly described in terms of a single key service. All six of the scales included an additional service (b). Type IV centers included physician service as a noneconomic item especially important to health. Type V centers included drug and proprietary as a retail trade item especially important to recreation and tourist and to health services. Type VI centers included central water supply as a noneconomic service item especially important to recreation and tourism and to health. Funeral service and crematory was included as a retail trade item of secondary importance to health. It appears that the finding of funeral service in type VI was in part traditional and in part a function of the older age of the population in small rural centers. Type VII included rural mail delivery service as a noneconomic service of special interest to rural people. The almost total absence of health services appeared to be a firm characteristic of small centers in Southern Illinois. The inclusion of wholesale trade as a key service in small centers was somewhat surprising. This appears to be a result of the inclusion of rudimentary wholesale services by Dun and Bradstreet among their business listings. Undoubtedly the presence of even such simple wholesale functions would favorably affect the marketing functions and growth of small centers.

TABLE 10. AVERAGE SCORES ON SIX SCALES FOR SEVEN TYPES OF SERVICE CENTERS IN SOUTHERN ILLINOIS

Type of center	Number of centers	Retail trade & service	Non-economic	Com. gr. & bus. str.	Outdoor rec. & tourist	Rural service	Health services	Total for 6 scales
I	11	14.6	11.9	11.5	11.3	11.6	8.7	69.8
II	27	13.1	10.1	10.2	9.9	10.7	7.2	61.3
III	27	10.6	7.6	7.6	8.4	8.8	5.6	48.6
IV	25	8.4	5.2	5.3	6.8	7.7	4.1	38.0
V	40	5.8	4.2	4.2	5.1	6.0	2.9	28.2
VI	39	4.3	2.6	3.0	3.6	4.3	1.4	19.1
VII	19	2.4	1.7	1.9	2.0	3.4	0.3	11.7

TABLE 11. AVERAGE OR TYPICAL SERVICES IN EACH OF SIX SCALES WHICH CHARACTERIZE THE SEVEN TYPES OF CENTERS

Scale	Type I Centers
A	Retail trade and service; department store
B	Non-economic services; dental specialist
C	Community growth and business strength: (a) real estate developer and builder (b) county seat
D	Outdoor recreation and tourist services: candy, nut and confectionery
E	Rural services: (a) department store (b) local general hospital
F	Health services: dental specialist
	Type II Centers
A	Retail trade and service; dairy products store
B	Non-economic: local general hospital
C	Community growth and business strength: local general hospital
D	Outdoor recreation and tourist: hotel, rooming house, camp, tourist court, motel
E	Rural: local general hospital
F	Health: local general hospital
	Type III Centers
A	(a) womens ready-to-wear (b) fuel, fuel oil, bottled gas
B	(a) public library (b) mail delivery by city carrier
C	(a) chamber of commerce or business men's association (b) newspaper
D	(a) family clothing and shoes (b) amusement and recreation service
E	(a) fuel, fuel oil, bottled gas (b) farm equipment dealers
F	(a) medical specialist (b) general dental service
	Type IV Centers
A	Apparel and accessories
B	Physician (general practitioner)
C	Manufacturing
D	Newspaper
E	Farm equipment dealers
F	Physician (general practitioner)

(Continued on Page 16)

Table 11 (Continued)

Scale	Type V Centers
A	Drugs and proprietary
B	High school
C	Local bank
D	Drugs and proprietary
E	High school
F	Drugs and proprietary
	Type VI Centers
A	Funeral service and crematory
B	(a) central water supply (b) R.D. or star mail route
C	Contract construction
D	(a) central water supply (b) eating and drinking places
E	Hay, grain, feed and garden supplies
F	(a) central water supply (b) funeral services and crematory
	Type VII Centers
A	Gasoline service station
B	R. D. or star mail route
C	Wholesale trade
D	Gasoline service station
E	R. D. or star route
F	None

POPULATION AND TYPE OF CENTER

The relationship between population and the number of total Dun and Bradstreet business listings was r=.940 for all centers. The relationship decreased as the number of services decreased being r=.348 for centers with ten to nineteen services. The relationship between population and total scores was r=.557 for the 188 service centers. While the average population varied directly with the types of centers, the population of the centers varied widely for the centers in each of the seven types of centers (Table 12). Rural centers were present in all except Type I centers while urban centers were present in all but types V, VI, and VII. The proportion of centers which showed some population increases during the 1950–60 decade decreased quite regularly from Types I and II to Type VII.

The large differences in population of the centers which were found among centers with similar patterns of services indicated strongly that

the population of a center is not a good indicator of the patterns of services offered by the center. Population of the center, population of the service area, the distance to a competing center, and other factors such as income and level of living must also be given serious consideration in explaining the pattern of services of a center.

POPULATION AND SERVICES AMONG COUNTIES

Counties in Southern Illinois are extremely variable and it is interesting to see the variation in numbers of business services among them. It has been proposed that, given similar levels of income, the number of

TABLE 12. POPULATION FOR TYPES OF CENTERS, SOUTHERN ILLINOIS

Type of Center	Number of Centers	Population			Change, 1950-60 Number of Centers	
		Average		Range	Increased	Decreased or No Change
		Mean	Median			
I	11	22,792	13,904	6,165–81,712	10	1
II	27	7,464	5,537	2,025–40,073	27	0
III	27	2,588	2,260	864– 7,630	23	4
IV	25	1,231	1,055	510– 2,937	17	8
V	40	958	744	298– 5,380	22	17 n.a. 1
VI	39	953	420	130*–12,769	17	15 n.a. 7
VII	19	285	238	50– 675	1	14 n.a. 4

business services for any population aggregate of 100,000 will be similar in number. The total Dun and Bradstreet business listings in Southern Illinois was 16,562 in 1961. This gives a ratio of 1,571 business services per 100,000 of the 1960 population. This low average is explained by the very low averages for Madison, Pulaski, and St. Clair counties and the large proportion of the total population of the area in Madison and St. Clair counties (Table 13). These three are the only counties below the average for Southern Illinois. Fourteen counties have an average above 2,000 total business listings, while the averages for Wabash, White, and Marion counties are above 2,400 services each. The low averages for Madison and St. Clair counties result largely from the recent large increases in population and the strong business competition of St. Louis. Actually the central and rural counties of Southern Illinois have an advantage over the metropolitan counties on the basis of the relative num-

TABLE 13. POPULATION AND DUN AND BRADSTREET BUSINESS LISTINGS BY COUNTIES FOR 301 IN SOUTHERN ILLINOIS, 1960–61

County	Total Listed Centers	Population of County	D. & B. Listings	Ratio (Listings/Pop.) /100,000
Alexander	10	16,061	340	2,117
Bond	7	14,060	279	1,984
Clay	7	15,815	343	2,169
Clinton	15	24,029	550	2,289
Edwards	5	7,940	173	2,179
Fayette	12	21,946	483	2,201
Franklin	13	39,281	683	1,739
Gallatin	6	7,638	176	2,304
Hamilton	5	10,010	179	1,788
Hardin	4	5,879	101	1,718
Jackson	13	42,151	679	1,611
Jefferson	11	32,315	541	1,674
Johnson	11	6,928	135	1,949
Lawrence	6	18,540	301	1,624
Madison	28	224,689	2,752	1,225
Marion	11	39,349	949	2,412
Massac	3	14,341	244	1,701
Monroe	7	15,507	262	1,690
Perry	6	19,184	355	1,851
Pope	9	4,061	64	1,576
Pulaski	8	10,490	128	1,220
Randolph	15	29,988	661	2,204
Richland	7	16,299	345	2,117
St. Clair	18	262,509	3,112	1,185
Saline	7	26,227	539	2,055
Union	7	17,645	326	1,848
Wabash	6	14,047	364	2,591
Washington	12	13,569	289	2,130
Wayne	10	19,008	404	2,125
White	10	19,373	493	2,545
Williamson	12	46,117	902	1,956

ber of business places located in the counties. If there is a deficiency in the number of business services in Southern Illinois it is in the metropolitan counties bordering the city of St. Louis.

BUSINESS AND OTHER SERVICES IN SMALL CENTERS

The 113 centers which had less than ten listed business services were locally served by both economic and noneconomic service agencies. Analysis of the services offered by these centers shows the characteristic clustering of relatively simple direct services and indicates the primary services on which small centers depend for their continued existence.

Centers with five to nine business listings offered the following services in one-third or more of the centers: food store, auto dealer and service, gasoline service station, grocery store, eating or drinking place, specialty store, hay-grain-feed and garden supplies, auto repair, building supplies, hardware and farm equipment. Other business services included wholesale trade, transportation, communication and public utilities, and manufacturing. Noneconomic services included elementary school, rural mail delivery, and central water supply.

Services present in less than ten of the fifty-eight centers with five to nine business listings included hardware, farm and household appliances, farm equipment, funeral service, fuel, fuel oil and bottle gas, hotel, motel, or camp. Services other than retail business listings included contractors, commercial farms and agricultural services, lumber and wood products, petroleum bulk service, manufacturing of food and kindred products, communications, mining and quarrying, stone, sand, and gravel. Noneconomic services included local bank and high school.

The data indicate that the life of a small center depends on the presence of a small cluster of related primary retail business and noneconomic services usually supported by limited local resource developments in agriculture, mining, or manufacturing. A wide variety of more specialized services are present only occasionally and cannot be considered essential parts of the services of small centers.

Summary and Conclusions

The major objective of this study was to determine whether or not similar patterns of business and other functional services are present among the community service centers in Southern Illinois and to learn whether such patterns of services might constitute a suitable basis for constructing a structural typology of community service centers. The analysis included an intensive study of 188 of the 301 centers for which business services were listed separately in the Reference Book of Dun and Bradstreet. All data were obtained from published sources.

Measures were constructed on the basis of the presence or absence of selected items which were used to represent the services offered by the service centers. Items were selected which varied widely in degree of specialization, which discriminated consistently between the various centers and were distributed at suitable intervals for scale construction.

Six scales were constructed and validated by the Guttman test for reproducibility. Each of the scales was constructed of items designed to measure a special functional class of community services: (A) A retail trade and services scale, (B) A noneconomic services scale, (C) A community growth and business strength scale, (D) An outdoor recreation and tourist services scale, (E) A rural services scale, (F) A health services scale.

Because each scale was reproducible and the items were cumulative, from relatively unspecialized to highly specialized, a score for each scale was constructed by adding the number of scale items present in each center. Because the scores obtained by the application of different scales were highly intercorrelated, the scores for the six scales were summed and a total services score was obtained for each center. The total scores were used to identify centers which had similar patterns of services and to distinguish between centers which had patterns with distinctively different degrees of specialization of its services.

Seven types of service centers were defined on the basis of the total scores and described on the basis of items in each scale which characterized each type of center. Population and number of business listings in the service centers varied greatly within each service type and did not constitute a suitable basis for classifying the centers. The scalar measures developed and used in this study proved to be much more

adequate especially when applied to small centers or to larger centers which offered comparatively few services.

Structural relationships among and between business and socio-cultural services in Southern Illinois were regular and consistent, with a high degree of institutional stability which gave evidence of well established patterns of services. By the use of these patterns, seven distinct types of service centers were established. Type I was a highly specialized urban type bordering on the metropolitan. Type II was an urban small city type. Type III was a mixed rural-urban type for which the characteristic services did not show so clearly as for the other types. Type IV was a medium rural type. Type V was composed mostly of rural centers in the lower rural range with some small rural centers included. Types VI and VII were rural small town and hamlet types. Type VI centers showed reasonable stability of population. Type VII centers definitely appeared to be declining and probably they should not be considered community service centers except in a very limited sense.

It appears that community centers thrive and grow as they become centers where people like to live; as they supply needed goods and services and furnish employment. Centers thrive and grow as people living in the centers and their tributary areas remain and prosper and continue to look to the centers for needed goods and services.

SOME USES OF THE RESULTS

Those who are interested in developing the services offered by their community center in a logical manner will be able to identify their community in terms of the key business and other services present in the center. They can see the services which might be added or discontinued as the center grows or declines. Services which are characteristic of different community functions can be compared for any center on the basis of the six scales to determine which functions are above or below their community average.

Each of the seven types of centers has common structural characteristics which identify similar centers in such a manner that information obtained by case studies of similar communities can be added and generally applied to other communities of a similar structural type. Persons interested in area relationships or location problems can use the data presented to test the area patterns of business and other services and help to determine the patterns of relationships between the different types of centers for counties or larger areas. In summary, the data and the typology of centers here developed will be useful to students and leaders who want to study and develop communities on the basis of valid measures of institutional structure and the patterns of services offered by community service centers.

Appendix A. Sources of Data for the Six Scales

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Appendix B. Consolidated Dun and Bradstreet Code, Including Business Items Considered for Scale Construction

01 to 09 Agriculture, Forestry and Fisheries
- 01 to 07 Commercial farms, agricultural services; hunting and trapping
- 08 and 09 Forestry and forest products; fisheries

10 to 14 Mining
- 12–Bituminous coal and lignite mining
  - 12–11 bituminous coal
  - 12–13 stripping and augur mining
- 13–Crude petroleum and natural gas
- 14–Mining and quarrying of nonmetallic minerals
  - 14–73 fluorspar mining
  - 14–21 and 14–41 crushed or broken stone, riprap, sand and gravel

15 to 17 Contract Construction
- 15 & 16-General contractors
- 17–Special trade contractors
  - 17–91 structural steel erection
  - 17–93 glass and glazing work

19 to 39 Manufacturing Industries
- 20–Food and kindred products
- 24–Lumber and wood products except furniture
- 25–Furniture and fixtures
- 27–Printing, publishing and allied industries
  - 27–11 newspapers: publishing, publishing and printing
  - other
- Other (including all "heavy industry")

40 to 49 Transportation Communication and Other Public Utilities

40 & 45–Railroad transportation; transportation by air
48–Communication
49–Electric, gas and sanitary services
49–41 water supply
49–52 sewerage systems
50 Wholesale Trade
50–92 petroleum bulk stations and terminals
52 to 59 Retail Trade
52–Building materials, hardware, and farm equipment
52–51 hardware stores
52–52 farm equipment dealers
53–General merchandise
53–11 department stores
53–31 limited price variety stores
53–92 dry goods and general merchandise stores
53–93 general stores
54–Grocery stores
54–11 grocery stores
54–22 and 54–23 meat markets; sea food markets
54–31 fruit stores and vegetable markets
54–41 candy, nut, and confectionery stores
54–51 dairy products stores
54–62 retail bakeries, manufacturing
54–63 retail bakeries, nonmanufacturing
55–Automotive dealers and gasoline service stations
55–11 & 55–21 motor vehicle dealers (new and used cars); used cars only
55–31 tire, battery, and accessory dealers
55–41 gasoline service stations
other
56–Apparel and accessories
56–12 & 56–13 men's and boy's clothing and furnishings stores
56–21 women's ready-to-wear stores
56–41 children's and infant's wear stores
56–51 & 56–65 family clothing and shoe stores
56–62 & 56–63 men's and women's shoe stores
56–81 furriers and fur shops
57–Furniture, home furnishings and equipment
57–12 & 57–22 furniture stores; household appliance stores
57–32 radio and television stores
57–33 music stores
58–Eating and drinking places
59–Miscellaneous retail stores
59–12 drug stores and proprietary stores
59–21 liquor stores

59–42 & 59–43 book stores; stationery stores
59–52 sporting goods stores
59–62 & 59–69 hay, grain, and feed stores; farm and garden supply stores
59–71 jewelry stores
59–82 & 59–83 fuel, fuel oil and bottled gas dealers
59–92 florists
59–93 & 59–94 cigar stores and stands; news dealers and news stands
59–96 camera and photographic supply stores

60 to 65 Finance and Real Estate
65–Real estate

70 to 89 Services
70–Hotels, rooming houses, camps, and other lodging places
72–61 funeral service and crematories
75–Automobile repair, automobile services, and garages
75–11 automobile rentals without drivers
75–21 & 75–22 parking lots and parking structures
75–38 general automobile repair shops
76–21 electrical repair shops
78–Motion pictures
79–Amusement and recreation services, except motion pictures

Appendix C. List of Places in Seven Types of Centers, Ranked by Total Score on Six Scales

Type I

Number of centers 11
Range of scores 67–73

Centers

East Saint Louis	Carbondale	Salem
Belleville	Mount Vernon	Cairo
Alton	Marion	Mount Carmel
Centralia	Harrisburg	

Type II

Number of centers 27
Range of scores 55–65

Centers

Olney	West Frankfort	Granite City
Pinckneyville	Vandalia	Herrin
Carmi	Du Quoin	Flora

Lawrenceville	Highland	Murphysboro
Edwardsville	Chester	Breese
Metropolis	Fairfield	Albion
Benton	Anna	Collinsville
Greenville	Sparta	O'Fallon

TYPE III

Number of centers	27
Range of scores	44–54

Centers

Nashville	Grayville	Carterville
Waterloo	Johnston City	St. Elmo
Red Bud	Marissa	Louisville
Christopher	Mascoutah	Freeburg
Columbia	Trenton	Bridgeport
New Athens	West Salem	Shawneetown
Lebanon	Golconda	Madison
Carlyle	Steeleville	Bethalto
Vienna	East Alton	Sesser

TYPE IV

Number of centers	25
Range of scores	33–43

Centers

Millstadt	Carrier Mills	Jonesboro
Okawville	Ridgway	Evansville
Cobden	Clay City	Sumner
Mounds	Ramsey	Kinmundy
Norris City	Rosiclare	Dongola
Dupo	New Baden	Sandoval
Troy	Cisne	Brookport
Wayne City	Ashley	
Farina	Coulterville	

TYPE V

Number of centers	40
Range of scores	24–32

Centers

Godfrey	Mulberry Grove	Crossville
Zeigler	Tamms	Prairie du Rocher
Valmeyer	Elkville	Cave-in-Rock

Pocahontas	Marine	Dahlgren
Galatia	Enfield	Royalton
Elizabethtown	Worden	Ullin
Equality	Patoka	Percy
Goreville	Brownstown	Nobel
Creal Springs	Mound City	St. Jacob
Caseyville	Odin	Vergennes
Allendale	Tamaroa	Livingston
St. Francisville	Ava	Omaha
Venice	Germantown	
Aviston	Grand Tower	

Type VI

Number of centers	38
Range of scores	15–23

Centers

Cottage Hills	Centreville	McClure
St. Peter	Smithton	Whittington
Campbell Hill	Bellmont	Hoyleton
Sorento	Lenzburg	Bluford
Karnak	New Haven	Kell
Hurst	Albers	Mill Shoals
Hamel	Joppa	Hoffman
Beckmeyer	Hartford	St. Libory
DeSoto	Bartelso	Addieville
Stonefort	Alhambra	Alma
Waltonville	Tilden	Raleigh
Woodlawn	Willisville	East Carondelet
Roxana	Olmsted	

Type VII

Number of centers	19
Range of scores	8–14

Centers

Baldwin	Maryville	Springerton
Broughton	Browns	Mitchell
Olive Branch	Dubois	Shattuc
Mount Erie	Junction	Jacob
Hecker	Pulaski	Vernon
New Douglas	Iuka	Buncombe
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