ANALYZING SEATTLE'S WHOLESALE DOMINANCE IN WASHINGTON

John A. Crosby
Fresno State College

This paper reports an investigation of certain social, psychological, and economic factors thought to be influential in determining the pattern of intercommunity dominance exerted by a metropolis over its hinterland. The distribution of wholesale trade over various distances from the metropolitan center was chosen as a socially significant form of interaction between communities, which would reveal the dominance pattern. Observations were made on nine variables to determine the degree to which they influenced the pattern of wholesaling activity. These factors were studied in 46 smaller towns in Washington State.

That a metropolitan community exerts a general dominance over its surrounding area has been widely documented. Studies of many kinds of socio-economic activity suggest a gradient of metropolitan influence as one progresses outward through the urban fringe into the hinterland from which the city gains support and over which it exerts control. The spatial plotting of such diverse indices as newspaper subscriptions and telephone calls,[1] traffic counts,[2] and land values,[3] indicates a general decrease in the extent to which the city's influence is felt in the outlying region, as one progresses toward the periphery.

An extensive documentation of metropolitan dominance can be found in the work of Bogue, who studied the spatial distribution of retail and wholesale sales, services, population density, and other variables in 67 major American cities.[4] He concluded that the metropolitan center and the smaller population centers of its hinterland constitute a "metropolitan community" of towns interacting in a complex social, cultural, and economic system. Bogue noted that wholesaling was highly concentrated in the central city of this interlocking system, but it was also in evidence in outlying towns. Thus he observed patterns of sub-dominance, with the larger towns in the hinterland tending to dominate the small population centers by also providing wholesaling and service activities.

Such empirical regularities relating socio-economic phenomena and distance strongly support the hypothesis of metropolitan dominance. Additional research is needed to explain further the consistency of the dominance relationship. The purpose of the present investigation is to locate

[1] R. D. McKenzie, *The Metropolitan Community,* (New York: McGraw-Hill, 1933), p. 33.

[2] Stuart A. Queen and David B. Carpenter, *The American City,* (New York: McGraw-Hill, 1953), p. 85.

[3] E. S. Brunner and J. H. Kolb, *Rural Social Trends,* (New York: McGraw-Hill, 1933).

[4] Donald J. Bogue, *The Structure of the Metropolitan Community; A Study of Dominance and Subdominance,* (Ann Arbor: The University of Michigan Press, 1949).

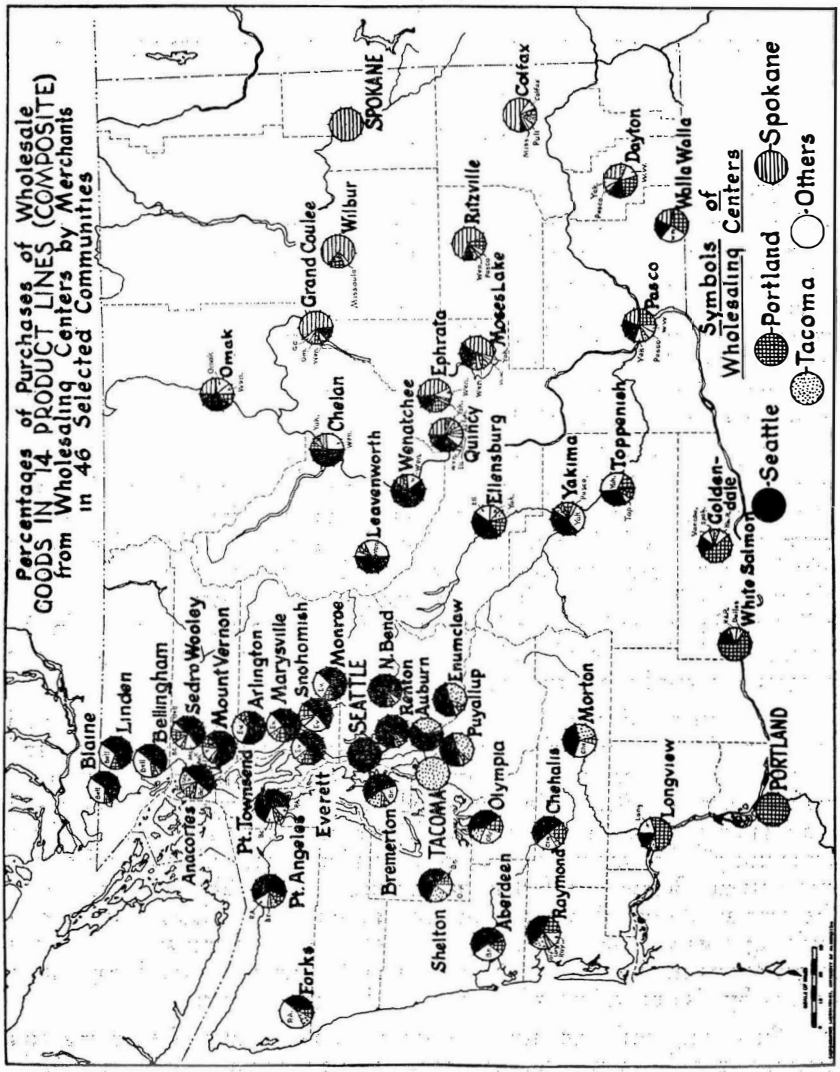
Percentages of Purchases of Wholesale
GOODS IN 14 PRODUCT LINES (COMPOSITE)
from Wholesaling Centers by Merchants
in 46 Selected Communities
Symbols of Wholesaling Centers
Portland
Spokane
Tacoma
Others
Seattle
Blaine
Linden
Bellingham
Sedro Wooley
Mount Vernon
Arlington
Marysville
Snohomish
Monroe
SEATTLE
N. Bend
Renton
Auburn
Enumclaw
Puyallup
Olympia
TACOMA
Bremerton
Everett
Anacortes
Pt. Townsend
Pt. Angeles
Forks
Shelton
Aberdeen
Raymond
Chehalis
Morton
Longview
PORTLAND
White Salmon
Goldendale
Toppenish
Yakima
Ellensburg
Quincy
Moses Lake
Ephrata
Wenatchee
Leavenworth
Chelan
Omak
Grand Coulee
Wilbur
SPOKANE
Ritzville
Colfax
Pasco
Dayton
Walla Walla

Fig. 1

and explore variables that appear influential in determining the gradient pattern. Specifically, the following questions will be examined:

1. To what extent does the amount of wholesale buying done by a given town depend upon the number of alternative wholesale outlets that are available at a distance closer than the metropolitan center?
2. In what way do population size and freight rates influence wholesale buying?
3. To what extent do the retailers' perceptions of prices, sales pressure, speed of service, and freedom of choice influence the distribution of an index of economic interaction over distances in the metropolitan community?

Research Procedure

In order to analyze the retail decisions responsible for the extent of Seattle's wholesale trade territory, a research procedure was organized that (1) permitted the determination of a given dominance pattern—in this case, wholesale activity, and (2) allowed an analysis of variables thought to be influential in determining this pattern.

Thus, in addition to establishing an index of wholesaling, measurements were made of each of 46 towns in the Seattle hinterland on (1) distance from Seattle, (2) population size, (3) freight costs, (4) number of alternative outlets closer than Seattle, and (5) the perceptions of retail merchants in the 46 towns relative to the index of wholesaling in the correlation analysis.

Each community in the Seattle hinterland was given an equal chance of being represented in the sample, provided that the population was greater than 1000, and provided that it had retail outlets for the product lines included in the index of wholesaling. In the 46 selected communities 823 retail merchants were interviewed personally with standard open-end type questions. The questioning permitted the determination of what percentage of each of 14 product lines was obtained elsewhere than Seattle. In addition the interviewer probed for reasons why each retailer bought the particular amount of goods where he did.

The 14 product lines were selected to include merchandise that was both bulky and small, heavy and light, expensive and inexpensive, franchised and non-franchised, durable and fragile, regularly and seasonally purchased, ubiquitous and available on a restricted basis from few outlets.

To measure the wholesaling for a given hinterland town, the *mean percentage* of each product line purchased in Seattle, by all sample retailers in town who handled it, was computed. These were then averaged for each town to obtain a composite index based upon all 14 lines of goods. (Figure 1).

The distance of each hinterland town from Seattle was defined as the shortest road mileage between each town and Seattle. The mileage data were obtained from the Washington State Department of Highways.

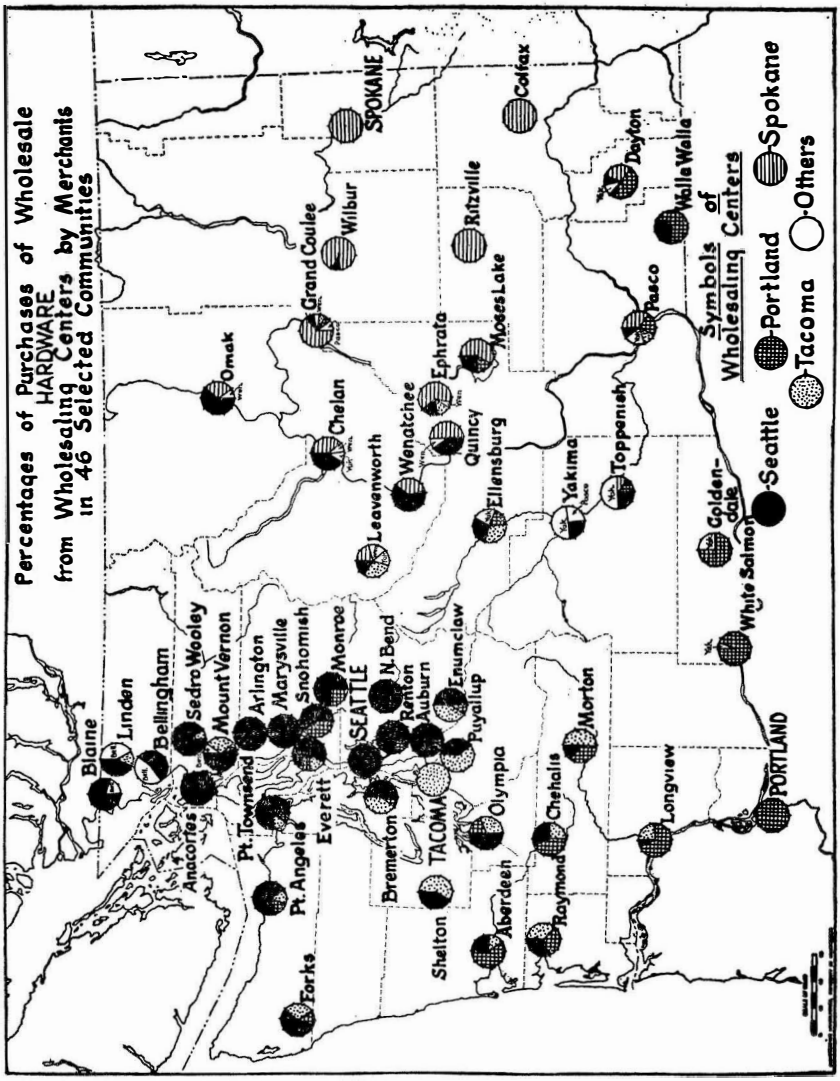
Percentages of Purchases of Wholesale
HARDWARE
from Wholesaling Centers by Merchants
in 46 Selected Communities
Symbols of Wholesaling Centers
Portland
Spokane
Tacoma
Others
Seattle
Blaine
Linden
Bellingham
Sedro Wooley
Mount Vernon
Arlington
Marysville
Snohomish
Monroe
SEATTLE
N. Bend
Renton
Auburn
Enumclaw
Puyallup
Olympia
TACOMA
Bremerton
Everett
Anacortes
Pt. Townsend
Pt. Angeles
Forks
Shelton
Aberdeen
Raymond
Chehalis
Morton
Longview
PORTLAND
White Salmon
Goldendale
Yakima
Toppenish
Ellensburg
Quincy
Leavenworth
Wenatchee
Chelan
Omak
Grand Coulee
Wilbur
SPOKANE
Ephrata
Moses Lake
Ritzville
Pasco
Walla Walla
Dayton
Colfax

Fig. 2

By relating the composite index of wholesaling to the distance measures, a dominance gradient was determined. The next step was to relate, through a matrix of intercorrelations, the dominance gradient to nine social, psychological, and economic variables. Specific hypotheses concerning each were checked through the use of multiple and partial correlations. The variables were:

1. Population size
2. Wholesale outlets closer than Seattle
3. Freight cost
4. Sales pressure
5. Freedom of choice
6. Perceived distance
7. Speed of service
8. Price advantage
9. Unawareness of alternative outlets.

Results of the Correlation Analysis

For the 46 communities, measures of distance and nine other predictor variables were thus correlated with the dependent variable—the composite index of wholesaling—and intercorrelated with each other.

Distance itself, although highly correlated with wholesaling, was found to be by no means a perfect predictor. Slightly more than 70 per cent of the variance in the wholesaling index is accounted for by variations in distance, but the remaining 30 per cent shows no influence. Both freight rates[5] and perceived distance were eliminated in the partial correlations as being but indices of actual distance, with no further value in accounting for variance in the index of wholesaling when distance was held constant. By holding both distance and alternative outlets constant, it was discovered that sales pressure,[6] freedom of choice, and awareness of alternative outlets were significant, indicating that these three, along with existing alternative outlets,[7] were to some extent independent of each other and account for some part of the variance in the wholesaling index.

The hypothesis suggested by Bogue's findings, that population size might be significantly related to wholesaling, was not supported. However, the correlation was positive, and the findings do not dispute Bogue's conclusions. Further research on this relationship would have to take into account the fact that larger communities have their own wholesale outlets and are less dependent because of this. In spite of the contribution of the several variables found to be related to wholesaling when distance is controlled, there still remains considerable variation which is not explained. This may have been the result of inadequacy and lack of refinement in the present measurement techniques. In any case, further analysis is needed of

[5] Cf. R. E. Dickenson, *City Region and Regionalism*, (London: Kegan Paul, 1947), p. 182.

[6] Paul F. Lazarsfeld, Bernard Berelson, and Hazel Gandet, *The People's Choice*, (New York: Columbia University Press, 1944).

[7] Samuel A. Stauffer, "Intervening Opportunities: A Theory Relating to Mobility and Distance," *American Sociological Review*, 5 (1940), p. 845.

the correlates of the gradient pattern of metropolitan dominance in wholesaling.

Several trends were apparent from the analysis of Seattle's wholesale dominance. From the first Seattle has had natural advantages which have permitted the successful exploitation of her resources and which have enabled her to take advantage of historical events to grow to a dominant commercial position in the Pacific Northwest.

Seattle was the earliest settlement on Puget Sound, and her use of the virgin forests for lumber export laid the foundation for a growing population. As lumber was cut from the lowlands these were turned into productive agricultural lands, which proved to be both the service and support hinterland for the burgeoning city. Growth produced growth as the needs of the hinterland were paced by the increased facilities available in the city.

By the time that the Alaskan gold rush began, Seattle, with rail terminal as well as port facilities, was in the best commercial position to take advantage of the supply needs of the territory to the north. Meanwhile, the strength of her merchant wholesalers, particularly, had grown sufficiently to challenge the control of Portland over commerce in Eastern Washington. Moreover, she used her port as a lever in demanding better freight rates from the railoads in shipments from the eastern United States. In this way Seattle gained and, in some product lines, maintained a competitive position with Spokane for the Columbia Basin Market. Some of this competitive position has been lost since the second World War, when ships were withdrawn from intercoastal service in favor of trucks, which have been able to keep much of the business. Nevertheless, in some instances the volume handled out of Seattle has permitted a commodity rate that cannot be justified for the same items in LCL shipments out of Spokane.

Railroad service is used at present for only a very small percentage of the movement of goods out of Seattle. Trucks, with their greater flexibility, have revolutionized wholesale delivery here as everywhere. Reaching beyond rail terminals, they can offer door-to-door service, which cuts costs on short hauls, and can easily adapt their schedules to changes in volume of traffic.

The Modified Mixing Rule #10 has begun to affect both wholesalers and shippers. Generally it is felt by both that everyone will benefit, once the full advantages of it are known and exploited. The big wholesale firms, which have the greatest chance to make use of volume shipments, will, if anything, tend to get bigger, but probably not at the expense of smaller firms, which now have a chance to combine orders and ordering to take advantage of lower over-all rates. The freight forwarders, though seemingly losing some of the demands to take over order assemblage for firms, are really in a position to offer greater service than before, and in exactly the same capacity, once shippers realize that this is one service that can probably be more efficiently handled by specialists. Benefits will accrue, generally, to those who have the most merchandise to move, such as the huge

wholesale operator, the established jobber with regular LCL shipments, and the semi-large firms, which can combine profitably with other firms in the same size category. For the smallest operators, taking advantage of modified mixing will require careful timing, sufficient volume, and resources that many simply cannot afford.

Modified mixing is not expected to change territorial considerations to any great extent. Trends in territory size and shape detected in this study point to "service" as the chief modifier. For larger cities contraction and concentration will be the pattern of the future. Ideally, most retailers would prefer not to carry an inventory any greater than necessary, since this tends to tie up capital. The retailer prefers, instead, that his stock be stored whenever possible by the wholesaler, so that he can get along on hand-to-mouth buying whenever permitted by price and sales timing to do so. This practice puts a premium on speed of delivery by the wholesaler, especially those wholesalers close to the market.

Over the years this has proved to be the major factor in the establishment of wholesale outlets in the "outpost" cities of Wenatchee, Yakima, and Walla Walla east of the Cascades, and Bellingham in the northwest corner. In the not too distant future we can expect to see the rise of another limited-line wholesale center in either Ephrata or Moses Lake, possibly the latter, which has the opportunity to play the role of a desirable female pursued by two suitors, Seattle and Spokane. But some center for the blossoming Columbia Basin Project area is indicated by the projected population for the area and by the start of some wholesaling on a small scale here already.

In the past Seattle has been more eager than Spokane to set up branch operations, such as are found in several lines in the "outpost" cities already. Typically, these tend to be expensive to operate, unless the area is already one in which a large city has some sort of natural advantage. In this respect Spokane with a vast marketing "desert," one to match the landscape between her and Ritzville, and another from there to Moses Lake, may be less inclined to risk a true branch in the latter town than would Seattle, which already has more of a continuity of market in Ellensburg and Yakima, east of the mountains. Perhaps both may find that it is more profitable simply to be the supplier's supplier and to let some other firm bear the actual risk of a new wholesale outlet here.

As a territory, Alaska proved to be something of a disappointment. Few of the wholesalers interviewed stated that the 49th State was responsible for more than 5 per cent of their total volume. One can not help but feel that if peace ever comes to the world, this volume may drop to an even lower percentage. When asked about their general feelings about the Alaskan market, most stated that they anticipated no great increase, short of a new mineral discovery, or some other circumstance that would bring on a boom. The outlook was for a very slow, but not necessarily steady, growth.[8]

[8] Cf. W. R. Siddal, "Seattle, Regional Capital of Alaska," *Annals of the American Association of Geographers,* XLVII (Sept., 1957), p. 277-84.

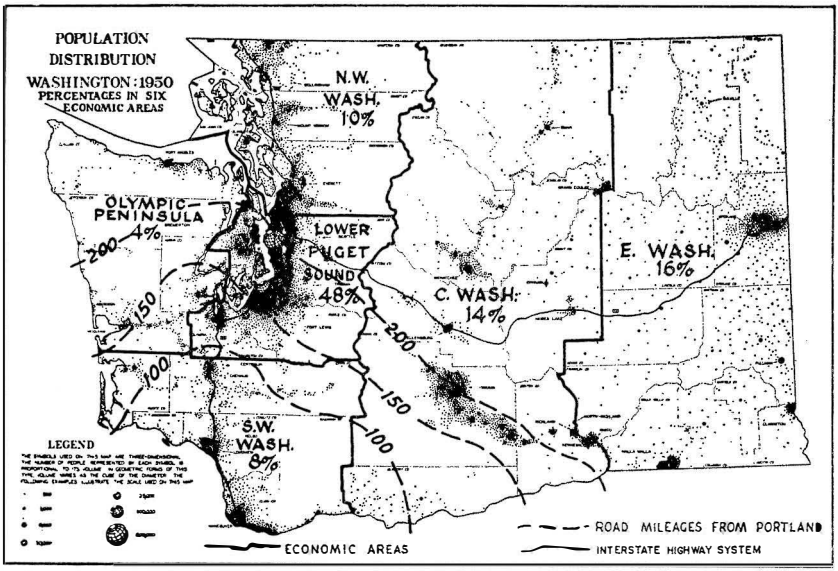

Fig. 3

During the course of this study a number of problems were posed for possible further investigation. Though an effective method of investigation, the polling of as many as 14 different types of merchants in so many towns tended to be a bit cumbersome and to pall on the interviewer. Some sort of wholesaling epitome might be useful in future investigations. Of all the wholesale lines hardware seemed most free from encumbrances of franchise and limited number of producers, yet which combined the greatest variety of physical characteristics that would reflect differing modes of merchandising for differing types of territory. The stock is broad in the true sense: thousands of items of all shapes, sizes, and weights. Most of the merchandise is franchised (although at least one chain is becoming more and more active in the northwest), and thus a retailer would be disposed to buy from whichever city seemed to combine the greatest number of advantages. A look at a map of hardware wholesaling for the state (Figure 2) and that of the composite map of the wholesaling index (Figure 1) shows a marked congruity. Further investigation might show that hardware distribution was a fairly reliable indication of the economic dominance of large metropolises.

Some depth investigation might profitably be carried on which would deal with the general concept of a market "threshold" for given lines of merchandise, which would justify branch operations of either manufacturer or wholesaler. This would have to take into account for any product the stage of technological advance, particularly in the sorting and distributive functions, and tariff regulations. Some definite investigation would, no doubt, improve the efficiency of distribution where so much cost to the consumer now arises.

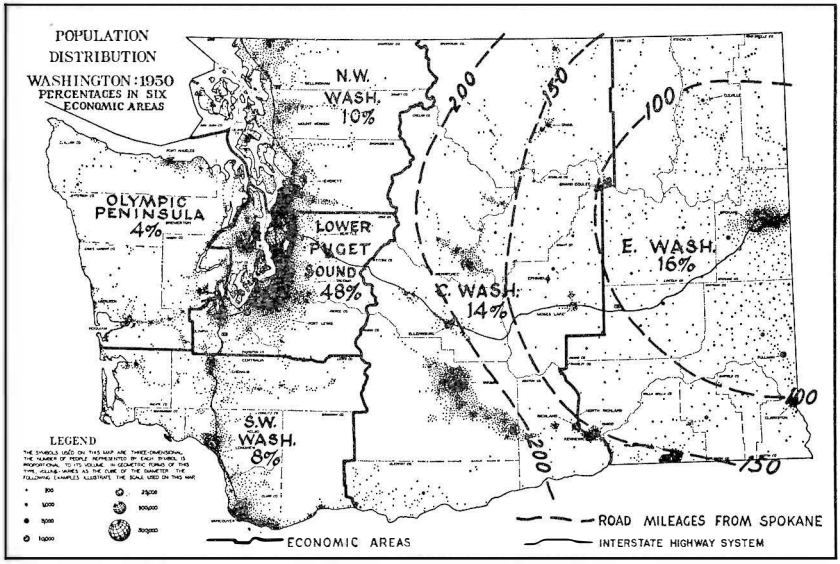

Fig. 4

This problem was brought into focus by the consistently better showing of Spokane over Seattle in regard to the percentage increase in the number of wholesale establishments. Perhaps there was some sort of backlog of capacity among the Seattle wholesalers that had been used up in the case of Spokane so that the stage was set for a sharp increase when World War II was at an end. This increase was particularly evident among the merchant wholesalers, which is the type best suited to operation out of Spokane with its sparsely settled and farflung territory. On the other hand, Seattle, with greater population in its immediate hinderland, is more favorable for the specialty wholesaler. In any event, wholesale interviews repeatedly brought responsive wails from wholesalers who anticipated that they soon would have a manufacturer's sales office in town and would, therefore, no longer be permitted to handle certain lucrative lines. All this seems to point to some critical market level where it becomes profitable for a manufacturer to sell direct to his clientele rather than through a wholesaler.

A related problem is the determination of some critical density of market on the periphery of a trade territory where a given line of merchandise will either permit or make economically unfeasible an attempt to push beyond the frontier as determined by competitive mileages. Seattle's ability to sell in certain areas of the state, notably the southeast and east, at a greater distance from her home base than can Portland or Spokane (Figures 3, 4, and 5) might well be attributed to the fact that she has more potential business on-the-way-to these areas than do the other two towns in this respective competitive areas. The statistical analysis showed "sales pressure"—frequency of sales calls—to be one factor in wholesale

city selection. The presence of established clientele in Yakima, for instance, might well persuade a representative that business done here could well pay for an advance into the Pasco area where additional accounts might be picked up. On the other hand, a Spokane representative is faced with much more travel over far less lucrative territory should he be tempted to promote business in, say, Quincy or Soap Lake.

Investigation of this sort of problem would probably have to be undertaken from a standpoint of percentages of business done by a firm at various distances and in various directions from the home base, working

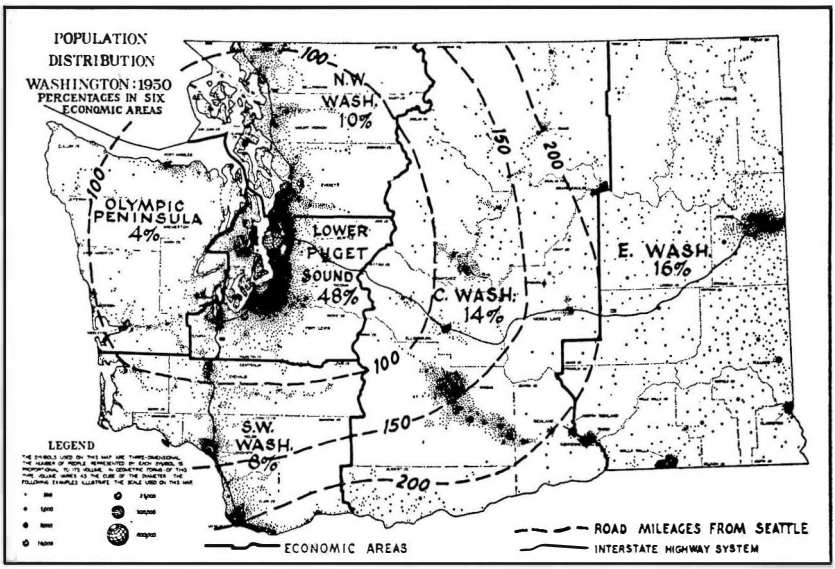

Fig. 5

out some level of sales that would have to be achieved in a given direction at a given distance to justify the pushing out of the territorial frontiers on an operational-cost basis.

Geographers could be of particular help to sales forces as well as to manufacturers and advertisers in analyzing the factors involved in attempting competitive thrusts of this nature. Doubtless much time and money could be saved by more careful analysis of sales potential and territory accessibility.