

A DEPARTMENT STORE, TACOMA, WASHINGTON
THESIS REPORT FOR DEGREE OF MASTER IN ARCHITECTURE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
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September 9, 1949

Dean William W. Wurster
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Dear Dean Wurster,

This thesis report, a department store in Tacoma, Washington, is respectfully submitted in partial fulfillment of the requirements for the degree of Master in Architecture.

Sincerely,

dm
Daniel M. Streissguth ⁰ *th.*

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FOREWORD

The health and vigor of the U.S. department store is attested to by continuing store plant expansion throughout the nation. In nearly every major center, the situation is the same. For examples: Jordan Marsh Co., Boston, is expending millions on its mammoth new downtown store, and is building two new branches; Macy's, Altman's, Bloomingdale's, and Lord & Taylor's - all have established outposts in New York suburbs; both Rich's and the Davidson-Paxton Co. are enlarging their downtown Atlanta stores, and Davidson's plans satellite stores in Columbus, S. Car., and Augusta, Ga.; Neiman-Marcus Co., Dallas, plans expansion throughout the Southwest, and will build stores in University Park (Dallas), Amarillo, Houston, and Phoenix. And in Los Angeles there has been a remarkable flowering of new stores in the districts of Westchester (Milliron's), Crenshaw (May Co., The Broadway), Wilshire (May Co.), and Pasadena (Magnin's, Bullock's).

Department store design, then, is a currently pressing architectural problem, with this burgeoning construction, and should be the subject of continuing inquiry and experimentation.

Department store design, in addition, is of particular interest to me because of personal background; I have come to a keen interest in retailing and merchandising, and I bear to department stores somewhat the same warm interest that others feel for railroading or sailing.

I did not set about designing a particular store. Instead, I have examined, in communities I know, department store potentials, and have selected a city which demonstrates need for new retail blood. I then proceeded to pick for myself a suitable client, establish a building program, select a site, and design a building.

One further word: I have made no attempt to examine the morality of the central department store. True, it is by nature an impersonal, super-scale organization, and is a major generator of traffic and consequently of crowds and perhaps confusion. Yet the department store has much to be said in its favor: its application of principles of large-scale production to the problems of retail selling and its consolidation of ownership and management of many lines of merchandise under one roof enable it to offer a combination of large merchandise assortments and reasonable prices. And, properly designed, it may offer more attractive atmosphere, more desirable shopping conditions, and better service than any of its competitors.

DEVELOPMENT OF THE DEPARTMENT STORE

The modern department store was generated by the Industrial Revolution, which created the necessity for establishment of a centralized point for contact between the new mass producers and mass consumers. The mid-19th Century department store, then, has no direct predecessors; it originated almost spontaneously.

Early department store history has been explored only sketchily and is rather poorly documented. One wonders why this is so, as many others of the building types fostered by the industrial age have been the subject of much interest to architectural historians: the railway stations, exhibition halls, factories, and office buildings.

At any rate, the department store may be traced to the 1830's¹, when many commercial buildings went up in cities like Boston, St. Louis, and New York. Rows of adjacent stores were erected and arranged so that adjacent units could be thrown together as businesses grew. The modern department store evolved from these commercial establishments, which were offering the first cheap ready-to-wear clothing to their mass customers. The stores, as their name implies, were simply storage

1 Gideon, S., Space, Time and Architecture, Harvard Univ. Press, Cambridge, 1940, p 168

spaces where goods were kept for display and sale to the large crowds of shoppers attracted by large selections and low prices.

It is probable that the first real department stores appeared sometime after 1850. The first store elevator was installed in a New York emporium in 1857, and in 1863 the first of the great metropolitan stores was built by the A. T. Stewart Co. in New York. Its six elevators and cast iron construction made possible the erection of a relatively high (five floors) building of prefabricated parts. The interesting old building is still in use (Figure 1) as an adjunct to the huge, quiet John Wanamaker store below Union Square. The building, with five block-square floors broken only by a central light well-rotunda, has served perhaps as prototype for most stores built in America since then. At any rate, the typical U.S. department store has changed little since the building of the Stewart store; the "warehouse" form, the stacked, unbroken floors for storage and sales, have persisted even until now, and most of today's great stores still occupy the homes built for them during the late 1800's and early 1900's.

One notable early departure from this standard occurred in 1876, when merchant Wanamaker transformed

Figure 1

A. T. Stewart & Co. Building, New York



a Philadelphia railroad freight depot into an immense, single-floor dry goods store, with two acres of floor space and with concentric shopping aisles (Figure 2).

The department store matured quickly. To established lines of dry goods and ready-to-wear were added retail stocks of other related merchandise, formerly custom made and sold in small shops: shoes, hats, jewelry, books, household goods, and furniture. To compete with small shops which offered restful, personalized small-scale services, the department store established large-scale service facilities. The first department store dining service was established at Marshall Field's in 1875; store auditoriums, delivery service, customer lounges, credit privileges, travel bureaus, etc., quickly followed.

The outward appearance of the newer stores changed with the years. The grace and lightness apparent in the details of the Stewart Co. facade gave way to Victorianism, as in the building Field, Leiter & Co. (now Marshall Field & Co.) occupied in 1868 on Chicago's newly developed State Street (Figure 3).

Mastery of the "warehouse" form came soon, in such structures as Richardson's strong building for John Pray, Boston, and in Sullivan's well known Schlesinger-Meyer Co. (now Carson Pirie & Scott), Chicago, 1895 (Figure 4).

Figure 2

John Wanamaker store, Philadelphia

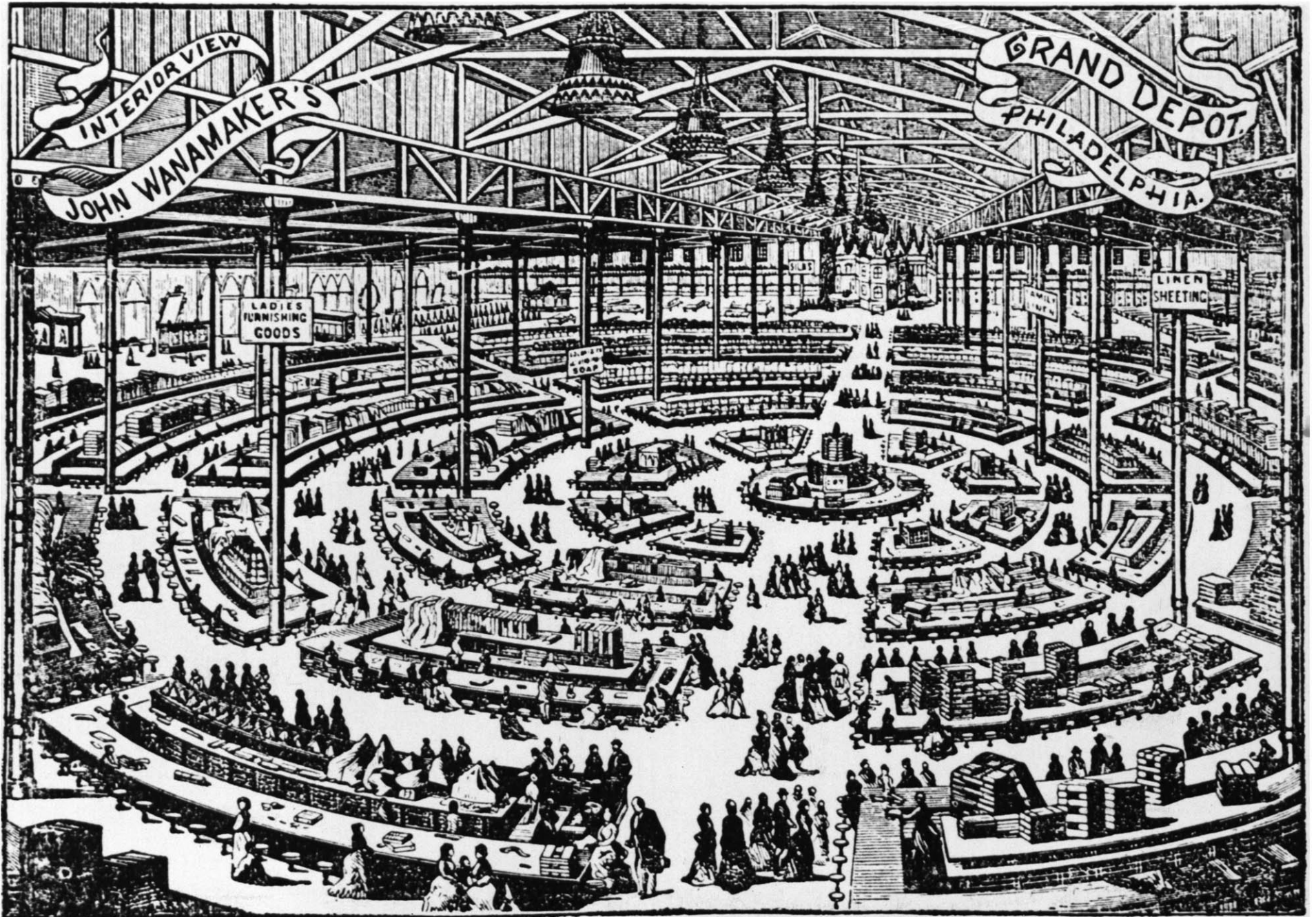


Figure 3

Field, Lieter & Co. Building, Chicago



FIELD, HEYER & CO.

— RETAIL —

STATE & WASHINGTON STREETS, CHICAGO.

CHICAGO.

The years between 1900 and 1917 were the heyday of metropolitan department store building. During this time came buildings for most of the giant companies which now dominate retail trade in their communities, such as the Famous-Barr Co. building, St. Louis, and buildings such as that for Marshall Field & Co., Chicago, 1902-1915, Daniel Burnham, architect (Figure 5). During this period, great improvements in structural systems and physical equipment were made: reinforced concrete construction was used widely, and elevators, escalators, lighting, heating, ventilating, air conditioning, cabinetry, etc., were developed and perfected.

With the 1920's and 1930's came some significant changes in store organization, though not in outward appearances. Many dominant large companies expanded to communities beyond those in which they had found early success, and individual stores in cities all over the country became associated into department store "chains." In this way, the basic economies of department store operations, the consolidation of ownership and management of many lines of merchandise, the combining of some overhead and services, the economy apparently inherent in large scale operations, was extended to large groups of stores. Hence mass buying operations could be undertaken, chain brands

Figure 4

(Left) Schlesinger-Meyer Co, Chicago

(Right) Pray's, Boston

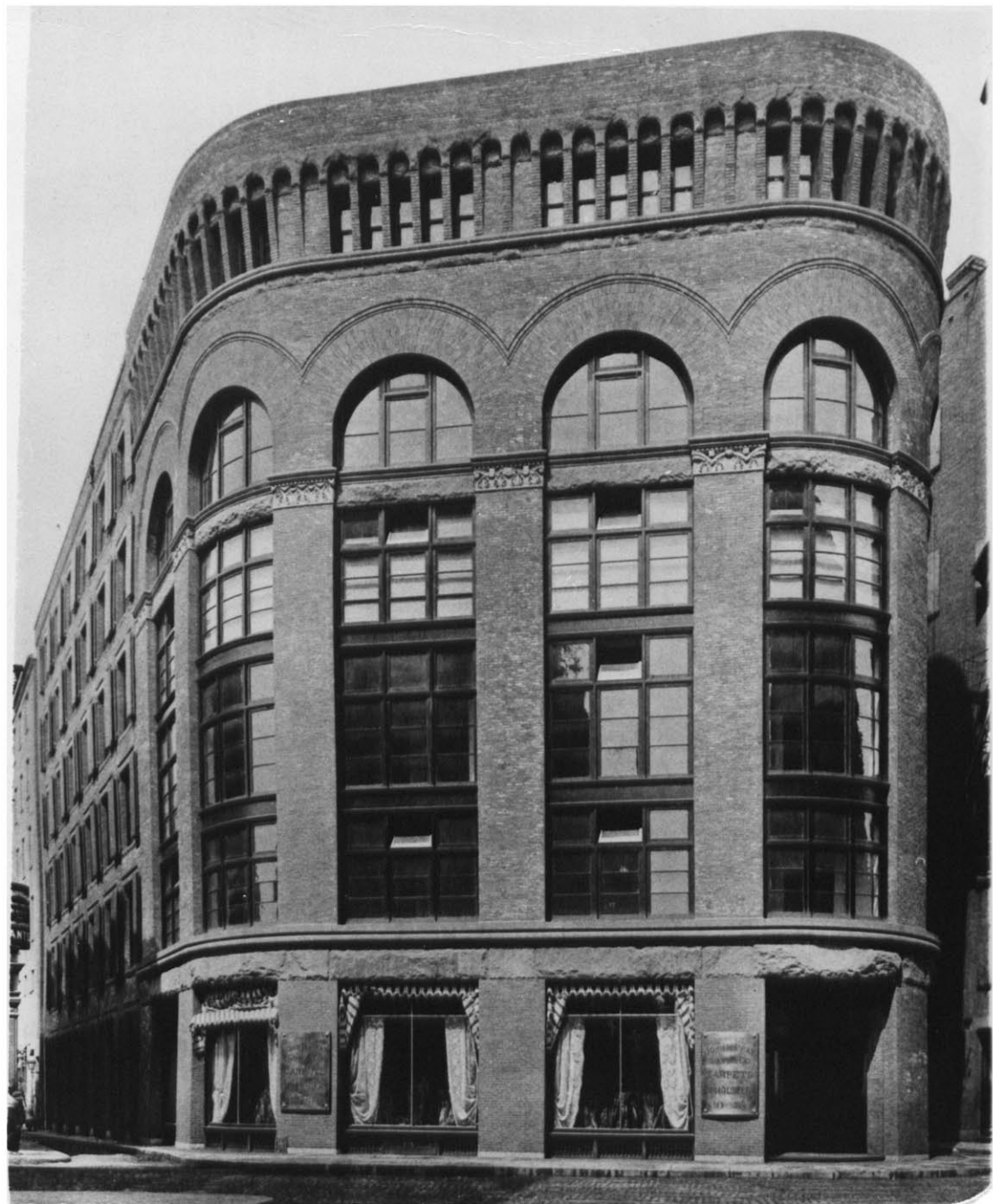
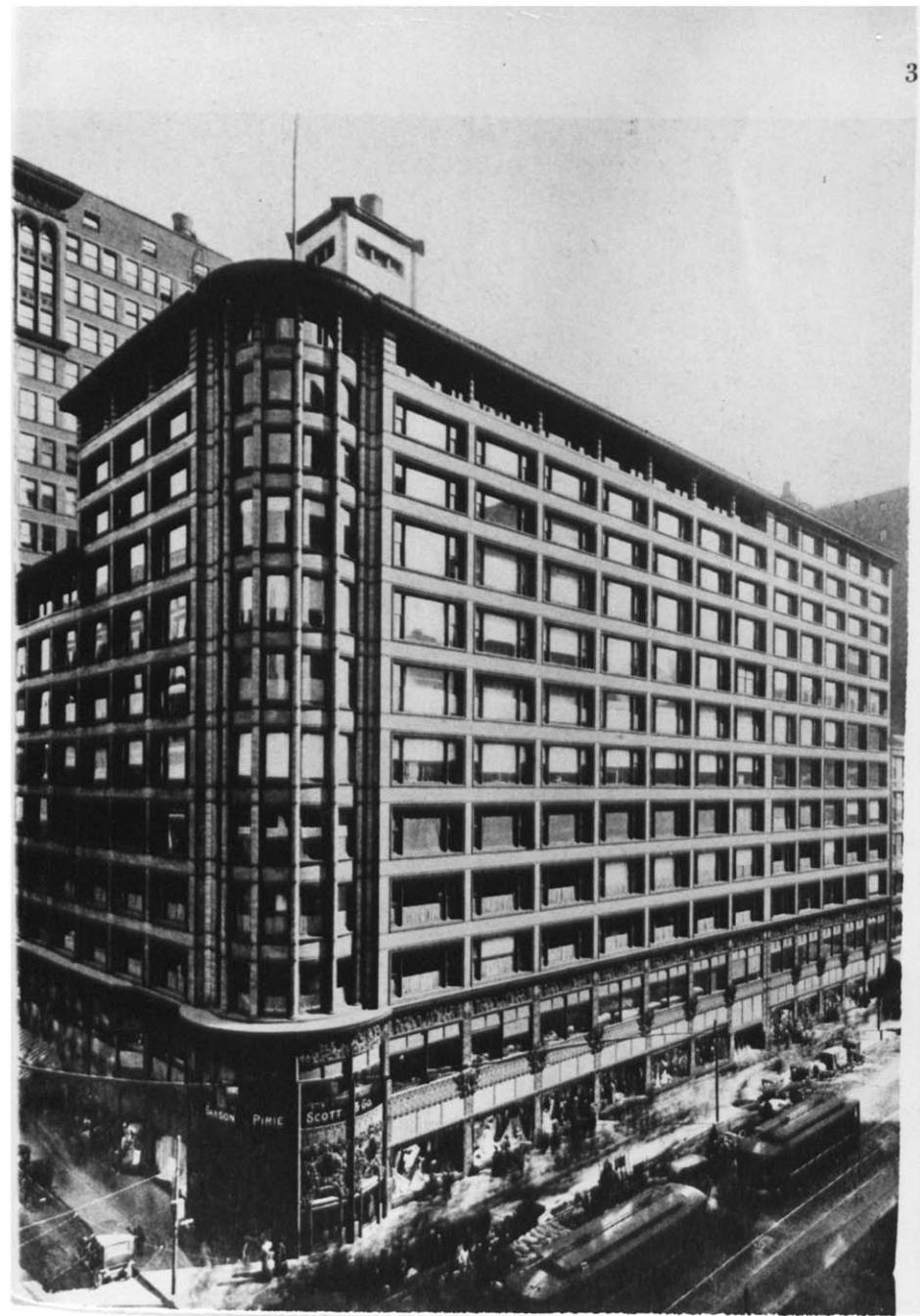


Figure 5

(Left) Famous-Barr Co., St. Louis

(Right) Marshall Field & Co, Chicago



could be packaged and promoted on a nation-wide basis, and economies could be achieved by uniform accounting and personnel training methods, by centrally inspired planning, pricing, and promotional programs.

An unfortunate consequence of this chain organization has been a national eclipsing of individual store personalities - chain members all over the country display and sell the same merchandise with the same techniques. The chain department store, however, unlike the chain mail order house (Sear's, Ward's) and the chain specialty stores (Bond, Lerner, Grayson), plays down its chain nature, attempts to emphasize its own community and continue its own local institutional character.² Thus most chain department store customers do not realize the chain operation they patronize.

Probably the largest U.S. chain is May-Kauffman (1947 sales \$400 million) with stores in Los Angeles, Denver, St. Louis, Akron, Cleveland, Pittsburgh (Kauffman's), and Baltimore.³ Other great chains: the Macy organization, stores in New York, Newark (Bamberger's), Atlanta (Davidson's), Kansas City (John Taylor Co.), and San Francisco; the Gimbel

² "Puckett of Allied Stores," Fortune, Mar 47, p 123

³ "May Stores: Watch them Grow," Fortune, Dec 48, p 109

Bros. outfit, selling in New York, Philadelphia, Pittsburgh, and Milwaukee; Allied Stores, with outlets in 71 cities and 1946 sales of \$360 million (flagship of the Allied chain, incidentally, is Boston's Jordan Marsh Co., 1946 sales: \$60 million); Federated Stores, Inc., sales \$300 million, stores in Boston (Filene's), New York (Bloomingdale Bros.), Columbus (F. & R. Lazarus), Cincinnati (John Shillito), Oklahoma City (Halliburton's), and Houston (Foley Bros.). Store exteriors during this period of chain aggregation followed contemporary trends, as in the nervous "moderne" of Bullock's Wilshire, Los Angeles, 1932, and in the dramatically simple May-Wilshire store, also in Los Angeles, 1940 (Figure 6).

It was also during this period that store interiors were modified. Though the basic warehouse floor remains, some upper store floors were converted to intimate, small, shop-like departments. Particularly in higher-priced establishments, department store and specialty shop, this trend continues today, as in the third floor of the new I. Magnin store in San Francisco, 1946, where the floor is broken up into a number of lush salons, and where much of the actual selling is done in behind-the-scenes fitting rooms (Figure 7). This type of merchandising is in direct contrast to the open-floor, self-service mass merchandising being

Figure 6

(Above) Bullock's Wilshire, Los Angeles

(Below) May Co., Wilshire, Los Angeles

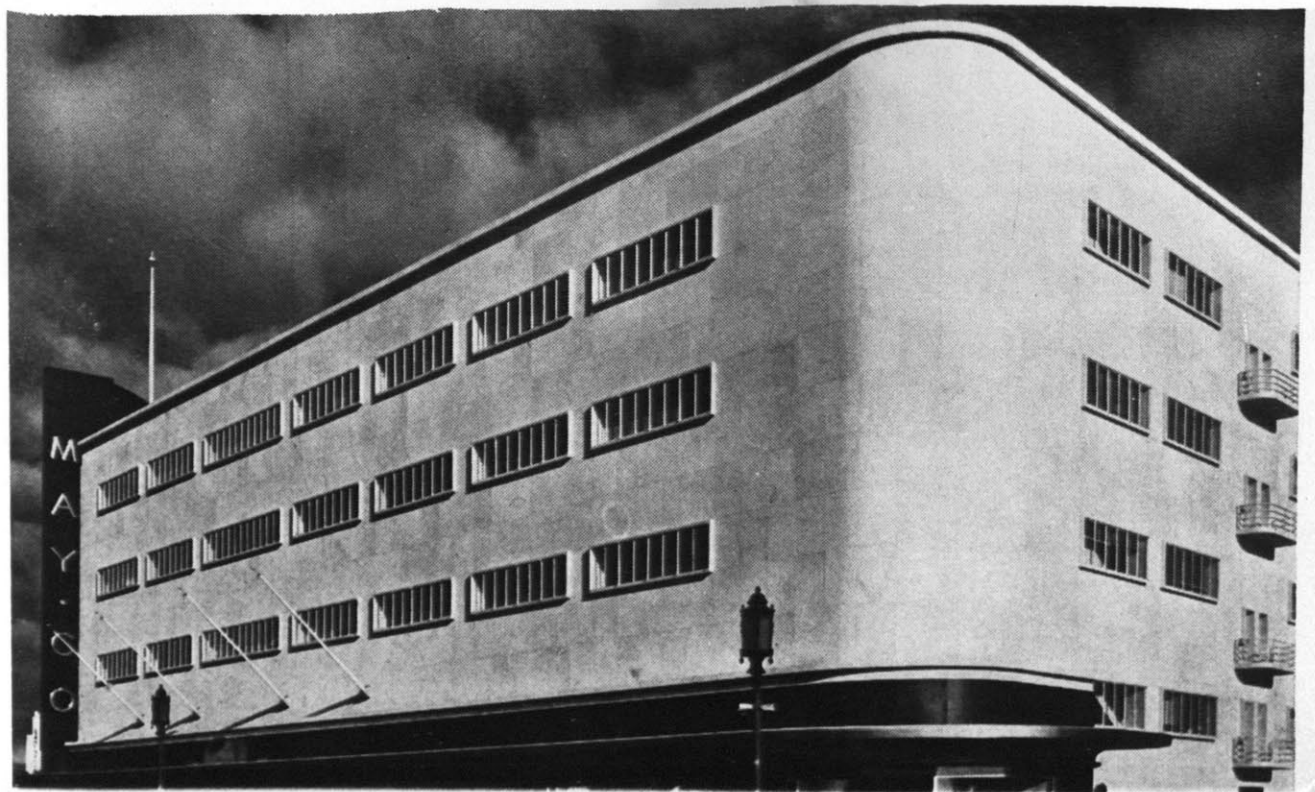
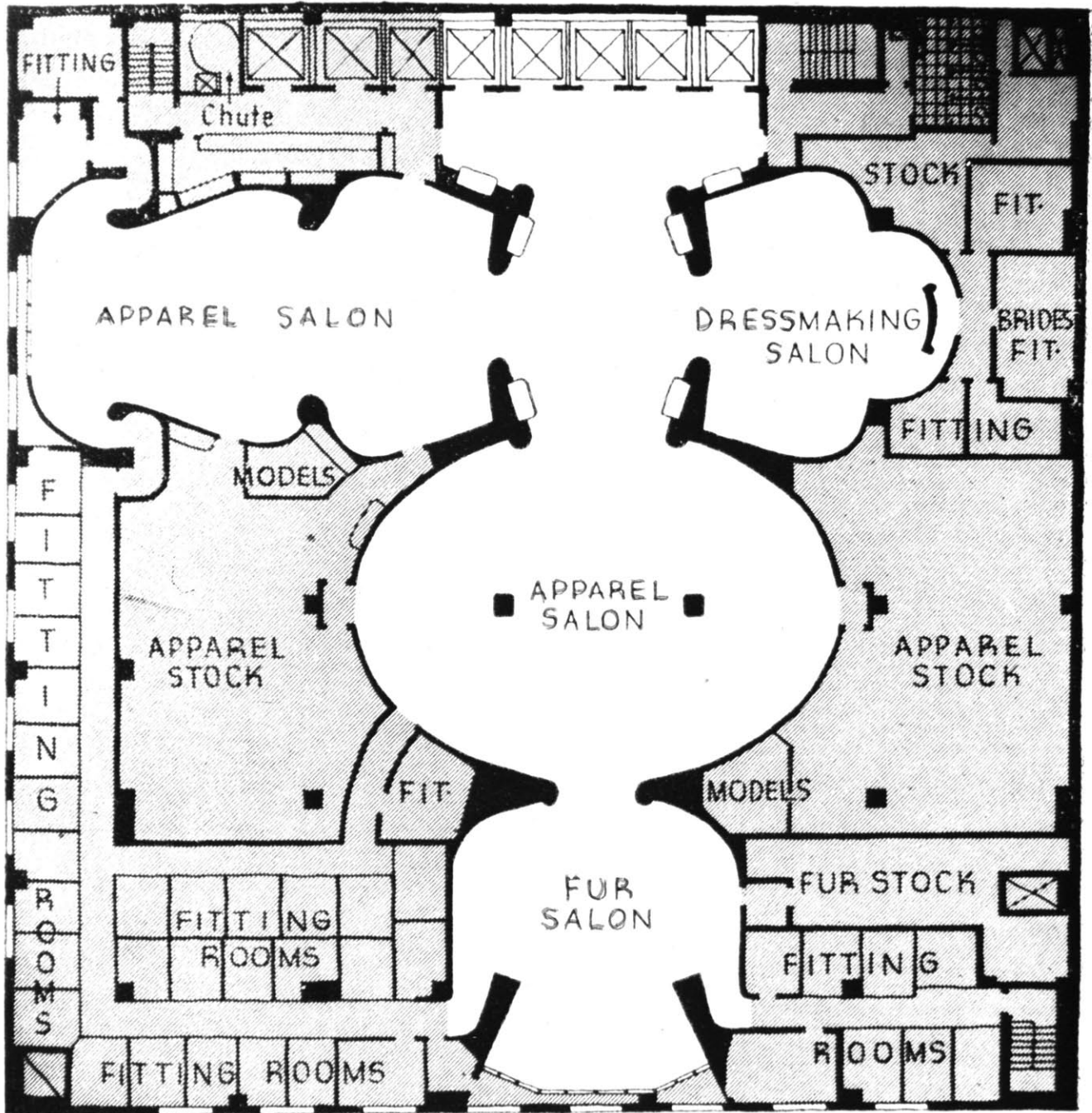


Figure 7



THIRD FLOOR

THIRD FLOOR is typical of Magnin's "salon" merchandising: French furniture and decor; very little stock on display at one time; comfortable fitting rooms—many with outside light. Employes have exclusive use of penthouse with its lunchroom, lounges, sundeck, hospital.

practiced so successfully by the lower-priced "volume" chain stores like May's and Gimbel's.

It was during the 1930's that many department stores were forced to modify themselves drastically, for the age of the motor car was at hand. The great suburban exodus had begun in earnest, and shoppers, now unwilling to use their new automobile transportation for travel to the traffic-choked metropolis, expended their purchasing power in the suburb.

The mail order chains, committed heavily to neighborhood locations, had increased their proportional share of retail sales significantly, while the institutional department stores dropped in relative position.⁴ This trend has been widely interpreted as favoring the decentralized store, though there is apparently considerable question as to whether the neighborhood mail order houses were so successful because they were in the neighborhoods, or because they were low-price stores in a depression economy.

At any rate, department stores continued growth, sometimes in downtown locations, but now favoring the suburban branch; most stores, now, were "automobilized."

⁴ Welch, K., "Where Are Department Stores Going?", Architectural Record, Nov 44, p 91

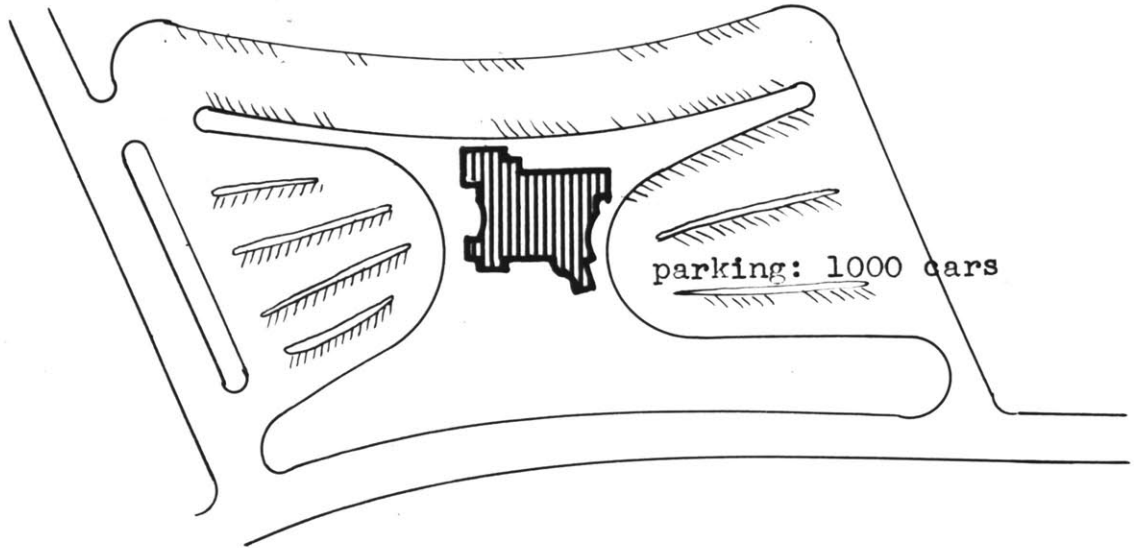
Several new store-types evolved: The Store in the Country, located in some previously undeveloped suburban area, on land so cheap that unlimited customer parking areas could be provided; The Store in the Suburb, often a multi-story warehouse type, located on a principal arterial near an existing shopping center, offering somewhat restricted customer parking in lots behind the store; The Store Downtown, motorized by an adjacent, multi-deck customer parking garage (Figure 8).

The stores themselves, like their customers, have become progressively more mechanized because rising operations costs, now 30% of total business volume (vs. 20% for competing specialty shops), forced them to seek higher productivity of space. Hence stores have developed remarkable merchandise handling systems of chutes, overhead conveyors, and moving sorting belts. In fact, in some stores⁵, merchandise is moved entirely by mechanical means from the time it enters the store until it is delivered to the customer, either in the store or at her home. Another overhead-cutter (also a sales stimulator in some lines and in some stores) is the increasing use of self-service departments, already mentioned. Stores' dependence

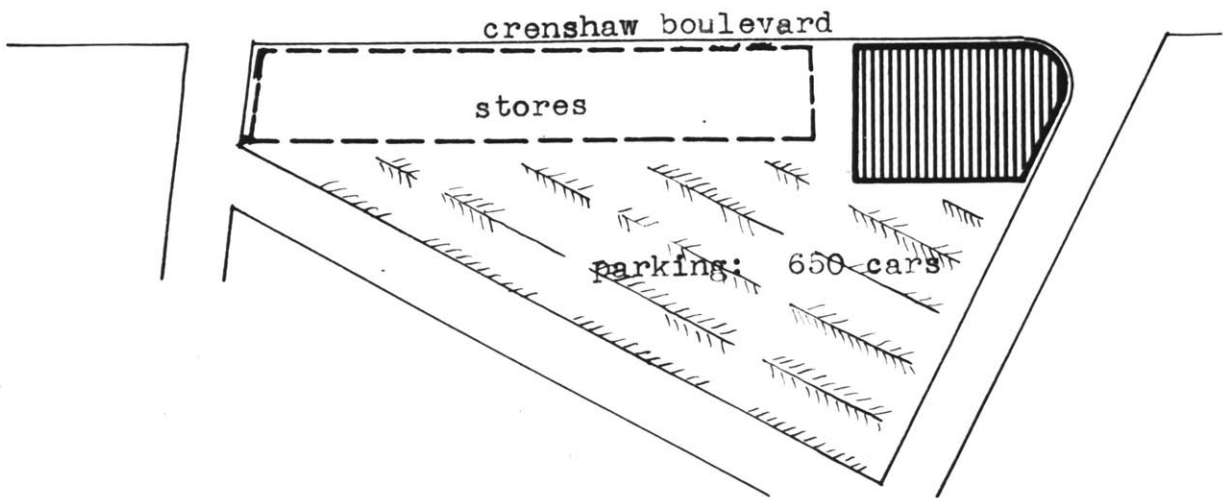
5 "The New Merchandise Handling System at the Hecht Co., Washington, D. C.," Stores, the Bulletin of the N.R.D.G.A., June 49

Figure 8

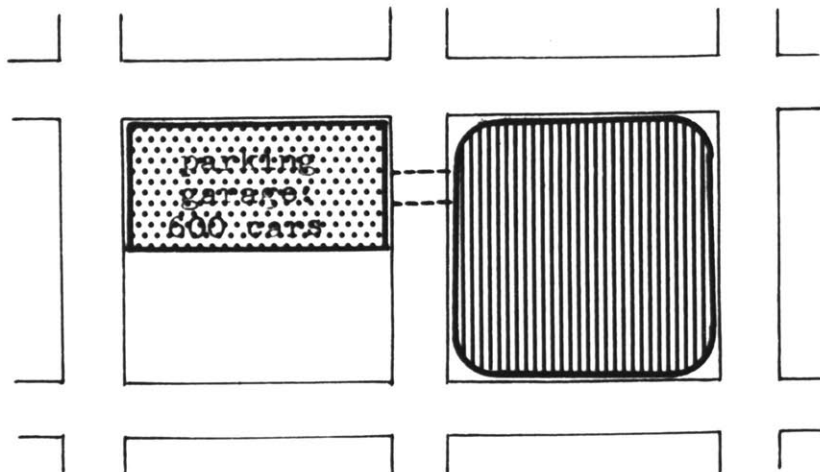
THE STORE IN THE COUNTRY (LORD & TAYLOR, WESTCHESTER COUNTY, N.Y.)



THE STORE IN THE SUBURB (MAY COMPANY CRENSHAW, LOS ANGELES)



THE STORE DOWNTOWN (FOLEY BROS, HOUSTON)



upon mechanical heating, ventilating, and lighting is visually expressed in some new exteriors, completely windowless above the main floor (Figure 9).

Figure 9

Foley Bros., Houston



THE CITY OF TACOMA

Retail Trade

Tacoma, Washington, was chosen as site for this thesis study because of the inadequacy of stores existing there. The only data now available are from the Retail Trade Census of 1939. The figures are outdated, but still afford a group of relative comparisons.⁶

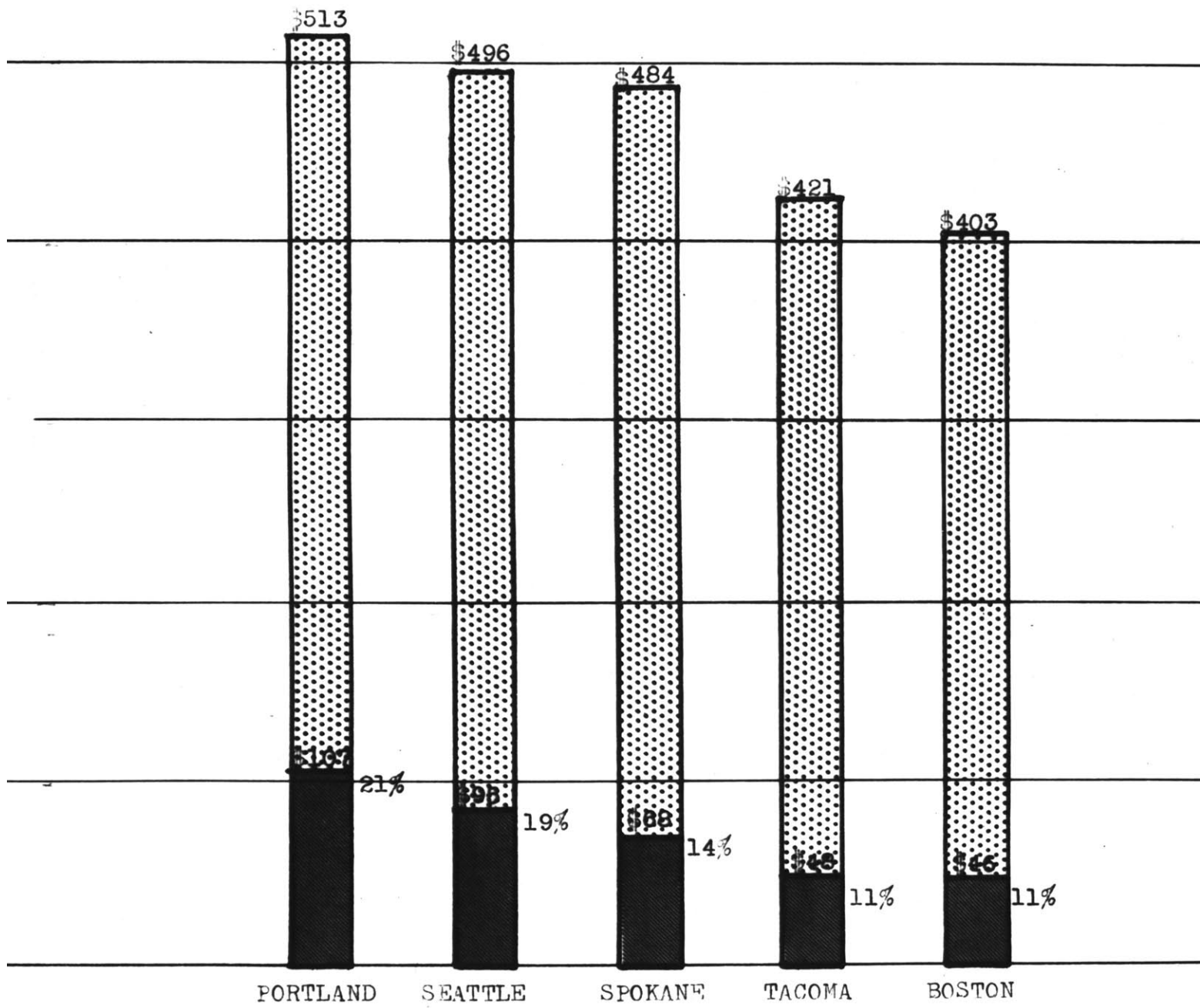
Total 1939 retail sales per capita of metropolitan area population, for several Northwest cities and for Boston, rate Tacoma at \$421, some 15% less per capita than in Tacoma's larger sister city, Seattle. But Tacoma department store sales (\$48 per capita) are 50% less per capita than are comparable Seattle sales. Tacoma's department stores get only 11% of total Tacoma retail sales; the Seattle stores take some 20%. (Figure 10).

Another index: comparison of the sales of department stores, dry goods stores, and general merchandise stores in various Northwest cities shows Tacoma's sales less than those in any other city for which data are available, less than those in such small communities (under 30,000 population) as Everett, Olympia, and Bellingham (Figure 11).

6 U.S. Dept of Commerce, Bureau of the Census, 16th Census of the U.S., Retail Trade: 1939, Parts 1, 2, and 3

Figure 10

COMPARATIVE TOTAL, RETAIL SALES AND DEPARTMENT STORE SALES
PER CAPITA METROPOLITAN POPULATION, 1939



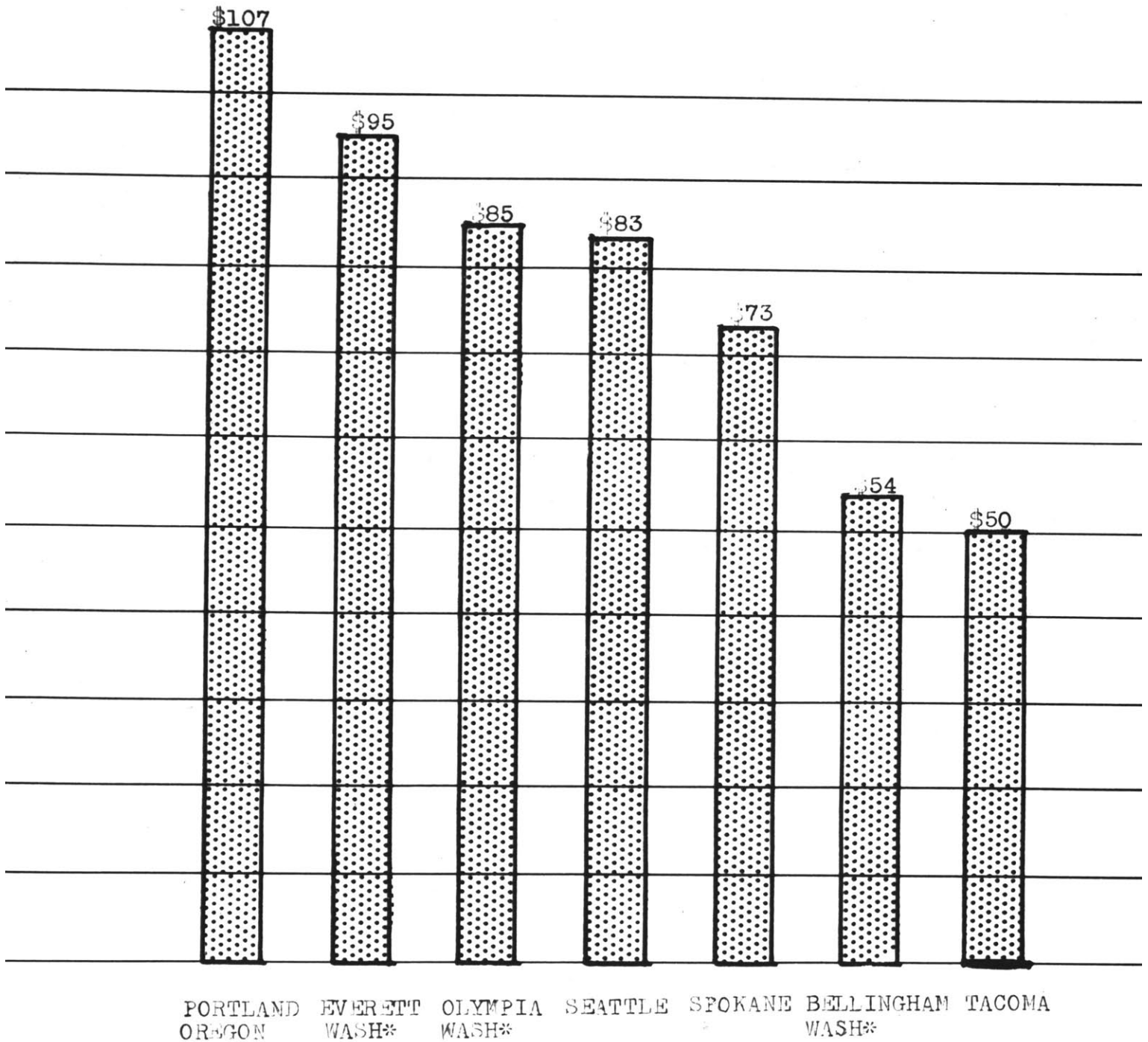
TOTAL RETAIL SALES PER CAPITA, 1939



TOTAL DEPARTMENT STORE SALES PER CAPITA, 1939

Figure 11

TOTAL DEPARTMENT STORE, DRY GOODS STORE, AND
GENERAL MERCHANDISE STORE SALES PER CAPITA, 1939
(METROPOLITAN POPULATIONS EXCEPT AS DENOTED BY *)



SOURCE: 16th CENSUS OF THE U.S., 1940, RETAIL TRADE: 1939,
PARTS 1, 2, 3, U.S. DEPT OF COMMERCE, BUREAU OF
CENSUS, WASHINGTON

The facts above are easy to identify, but extremely difficult to interpret. The low figures for Boston can be explained in part by the nature of the Boston metropolitan area, in which the majority of population lives outside the City of Boston; thus much of "Boston's" sales dollar goes to Waltham, Lynn, and Quincy stores. But the Tacoma figures are not subject to such an explanation, as the Tacoma metropolitan district supports only four minor sub-centers for shopping, in far-removed towns of Auburn, Sumner, Puyallup, and Steilacoom (Figure 12). It is, however, probable that Tacoma's total retail sales per capita reflect the lowness of the component department store sales per capita.

Tacoma stores themselves (Figure 13), built prior to 1900, have failed to keep pace with either Tacoma or with merchandising. Piecemeal remodeling programs have not prevented them from receiving a disproportionately low patronage from Tacomans. Coupled with this are Tacoma's Western willingness to drive relatively long distances for recreation and shopping, and the nearness and convenience (only 31 miles north via super highway) of the large and vigorous Seattle stores, which probably account for a good portion of the sales Tacoma stores are not making.

Figure 12

The Seattle-Tacoma Region

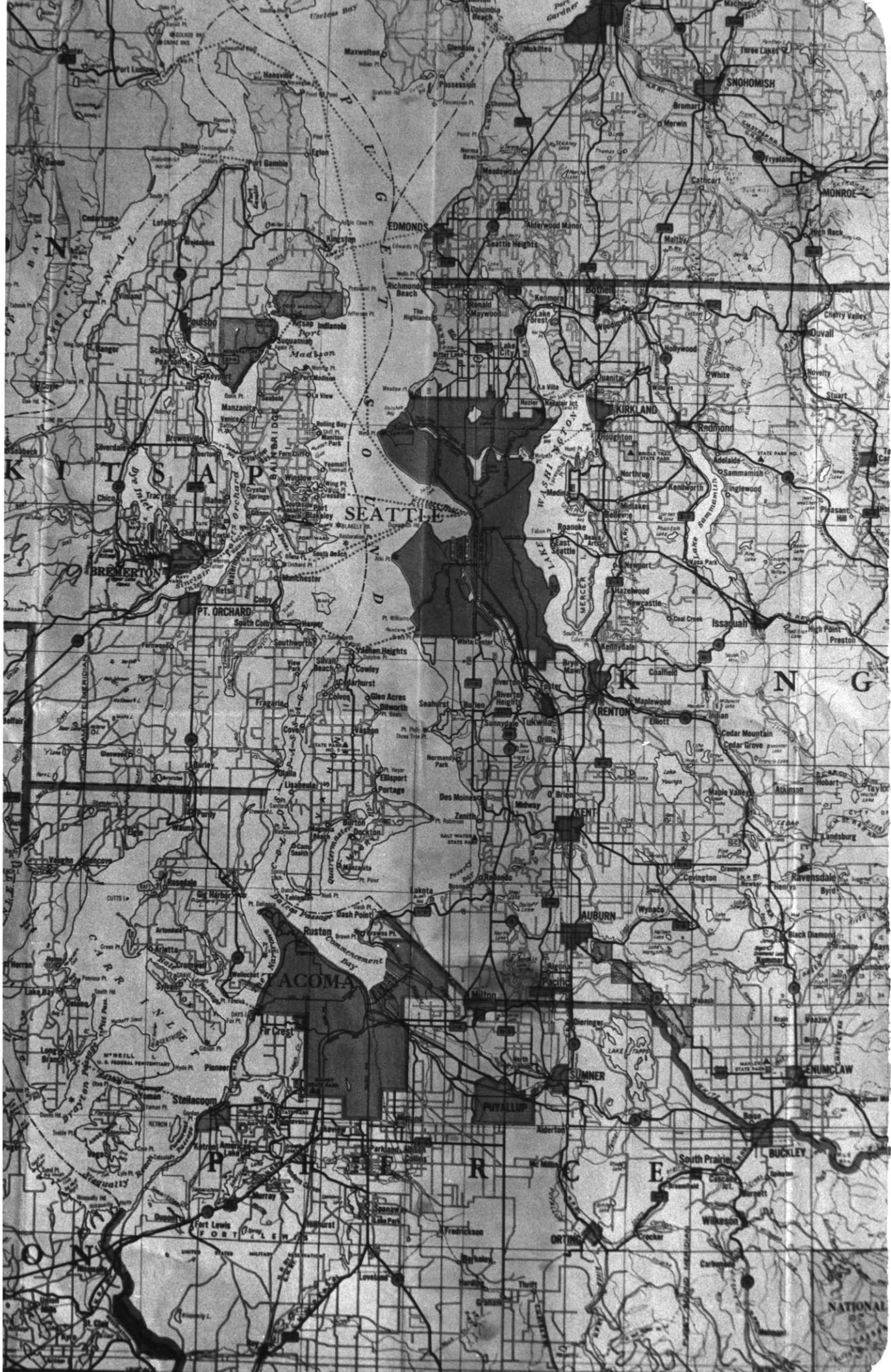


Figure 13

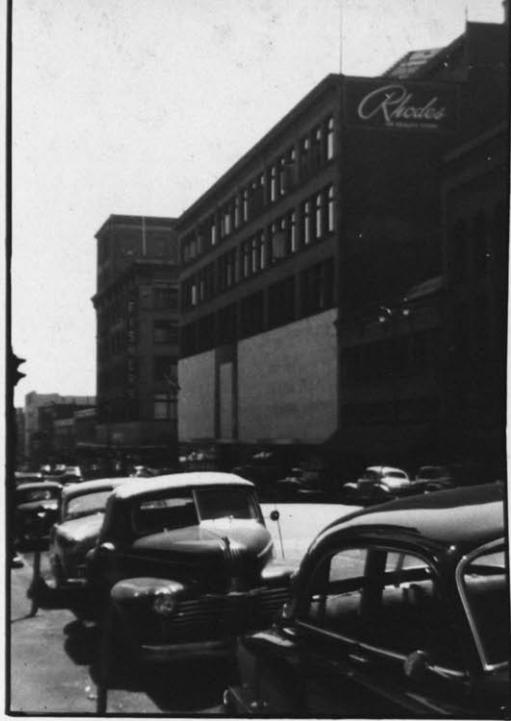
Tacoma Department Stores

Top Left: Looking South on Broadway, showing Fishers and Rhodes at 11th Street

Top Right: Looking East down 11th Street towards Broadway, showing Rhodes

Center: The Rhodes Annexes, old and new, on Market Street

Bottom: The Peoples Store, 11th and Pacific



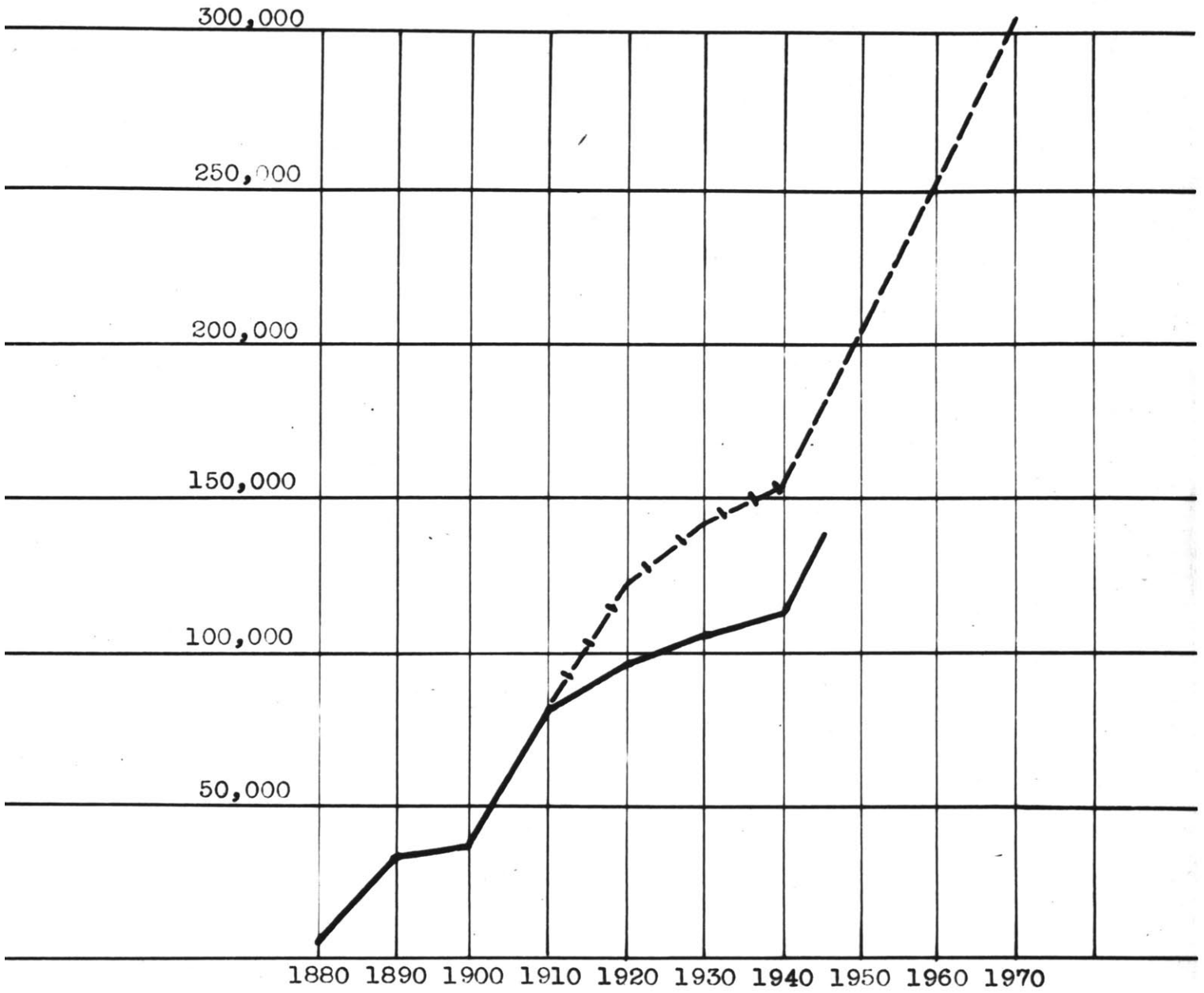
Is it not probable, then, that a new store in Tacoma, one offering better selections and services than do existing stores, would be able to attract a good portion of the Tacoma dollars which are now distributed to Seattle stores? In addition, a new establishment in Tacoma could better cultivate the big Tacoma market, now unstimulated by existing stores. And further, the influence of an important new store would tend to extend the Tacoma retail trade area, even now not restricted to the metropolitan area, to communities now beyond it.

There are, however, other factors to be considered before proposals for the establishment of a new retail store may be justified. The graph in Figure 14 gives population statistics, and shows a rather steady growth which belies Tacoma's somewhat spotty economic growth. By 1940, city population had reached 109,408; metropolitan area, 156,018. No more recent reliable figures than these are available, though Federal census figures released last year put the population increase of the State of Washington at an impressive 39% over 1940. A continued increase is confidently expected by Tacoma (and by the entire Northwest), and seems indeed probable, considering the recent Westward tendencies of population movements, and considering Tacoma's favorable location with respect to the cheap power and

Figure 14

Tacoma's Growth

TACOMA POPULATION TRENDS AND FORECAST



— TACOMA CITY
-·- TACOMA METROPOLITAN
--- TACOMA METROPOLITAN FORECAST

SOURCE: MAYOR'S RESEARCH COMMITTEE ON URBAN PROBLEMS,
TACOMA, THE CITY WE BUILD, 1945

huge new agricultural developments being created along the Columbia in Eastern Washington.

Tacoma's economic base is already rather more stable than is usual in many Northwest cities. True, the largest portion of wage earners is still employed in the wood products industries; sawmill, millwork, furniture, pulp and paper. But this already-diversified foundation is strengthened by payrolls from a large smelting plant, from shipping, shipbuilding, chemicals, light metals, milling, brewing, railroading, and wholesaling. In addition, the Tacoma trading area boasts a very large, permanent Military Post, Ft. Lewis, and several extremely rich agricultural valleys, the Puyallup, Nisqually, Green, and White, where bulbs, soft fruits, and vegetables are profitably raised. As is usual on the West Coast, wage scales are high, the working population young, vigorous, keen, well-educated.

A Brief history and Geography

Tacoma dates from 1852, but its significant growth came after 1873, the year the Northern Pacific Railroad pushed its tracks north from Portland to reach its new Tacoma terminus on Puget Sound. The town of 200 mushroomed after that, and because of its sawmills, its rail head, and its port, shortly became the

principal settlement on the Sound. By 1887, the northern transcontinental line of the Northern Pacific had arrived in Tacoma via its new, direct trans-Cascade route from Spokane, and with it came a flood of new settlers, new milling, smelting, and shipping business. By 1890, when Tacoma had reached the size of 36,000, she was literally the only city in the newly established State of Washington. However, with the discovery of gold in Alaska, and with the arrival of the new transcontinental Great Northern Railway in Seattle, a sudden shift of ascendancy occurred; Seattle, a few miles nearer Alaska, became chief outfitting point, and soared ahead of Tacoma in size and consequence. Tacoma, though her population has increased slowly and steadily since that time, has remained the "little brother" city of the Northwest. Her population and importance are considerable, yet her atmosphere, unlike Seattle's, is leisurely, quiet, small-townish, and many sections of the city, dating from the roaring '90's, seem old-fashioned, almost quaint.

Modern Tacoma is built principally on a peninsular plateau 300 feet above the Narrows of Puget Sound on the west and above wide Commencement Bay on the east. South of the Bay lies the Tacoma

industrial district on reclaimed tideflats on either side of the Puyallup River. The business district climbs the steep hill between the flats and the plateau, strung out along thin terraces; it is this sharp hillside which is responsible for the long, narrow block pattern peculiar to downtown Tacoma. Residential areas fan across the level land south and west of the business area, and follow the line of the high bluffs along the Bay to the northwest of the business center (Figure 15).

The Tacoma hinterland (see Figure 12) includes a portion of winding Puget Sound and the surrounding hilly, evergreen-forested lands, and includes the several rich valleys rising to the Olympic mountains on the west and to the Cascades to the east.

Tacoma weather is poorly understood by most non-residents; from the comparative charts presented in Figure 16, it is apparent that this is a mild climate with but narrow yearly temperature variations, that much precipitation and many rainy days occur in winter, and that summers are dry and sunny.

Figure 15

Tacoma, Washington, Map

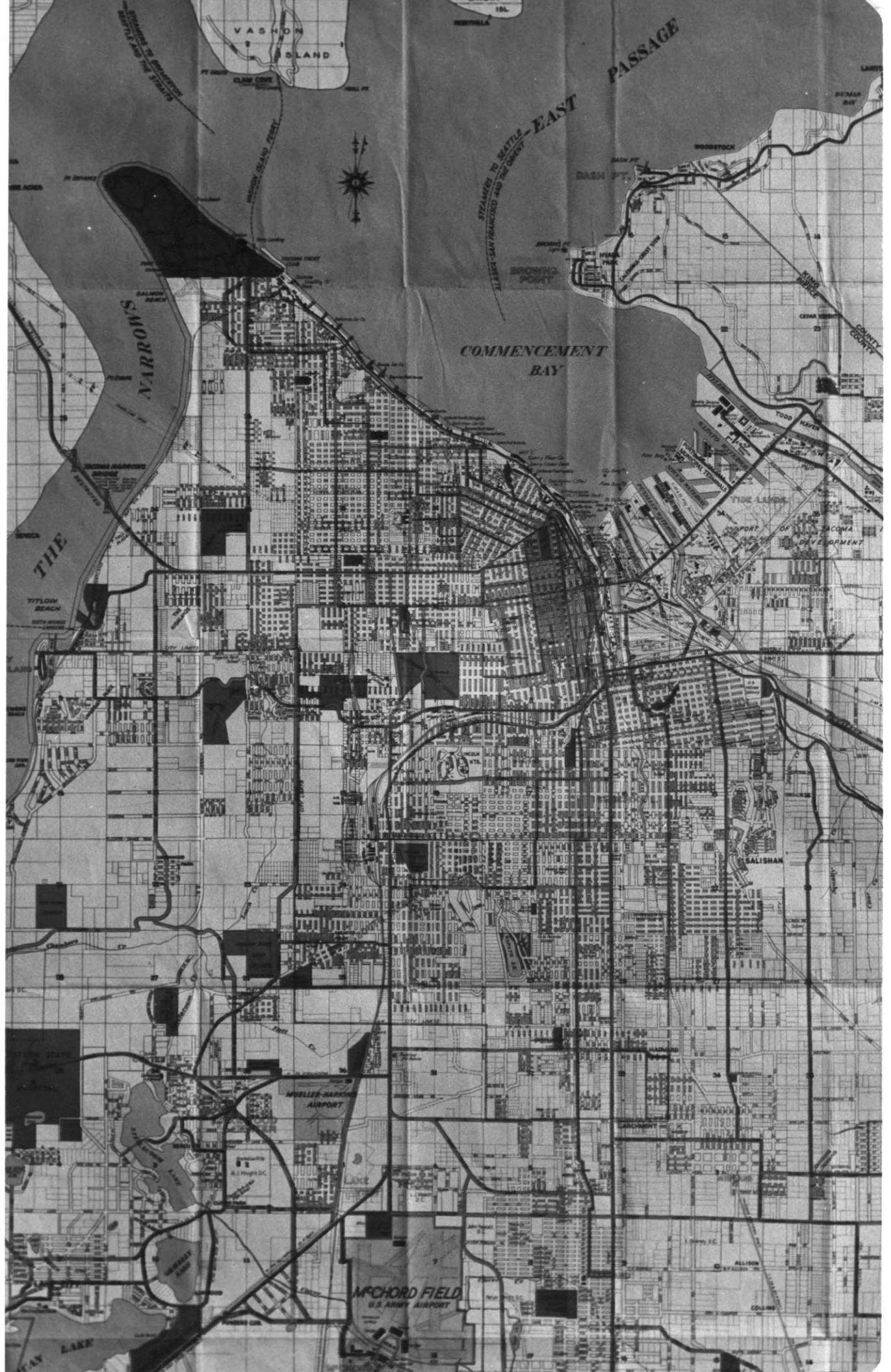


Figure 16

Tacoma Weather

COMPARATIVE CLIMATIC DATA

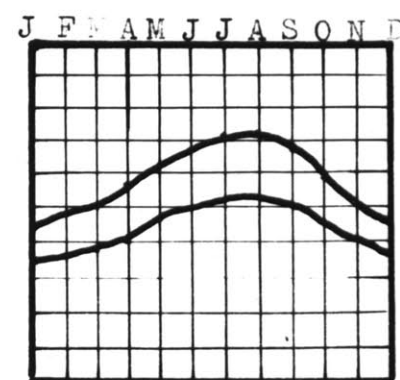
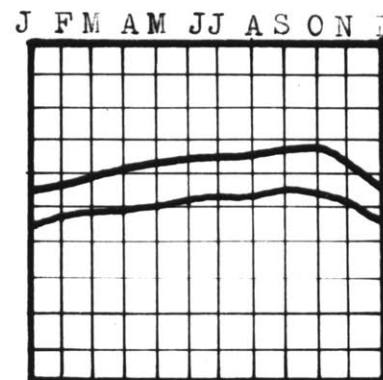
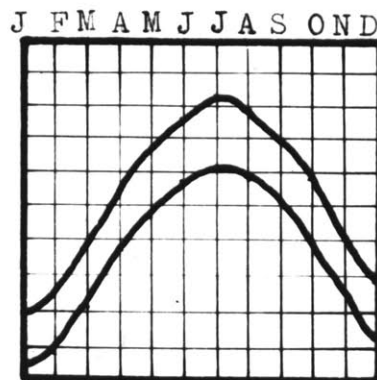
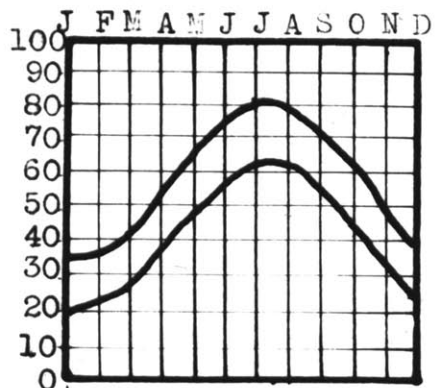
BOSTON

MINNEAPOLIS

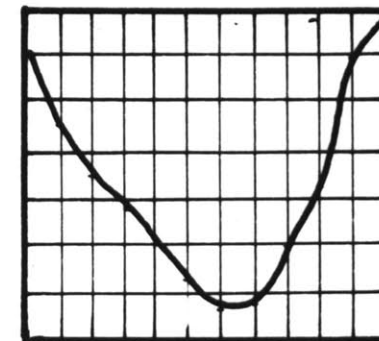
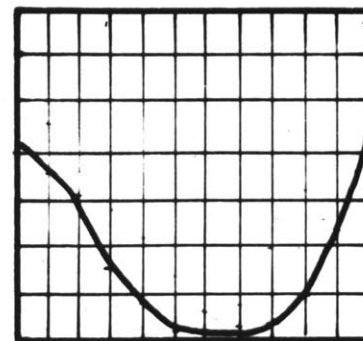
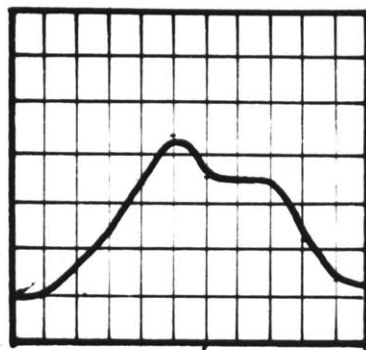
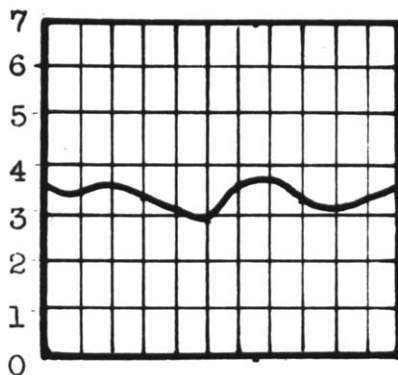
SAN FRANCISCO

TACOMA

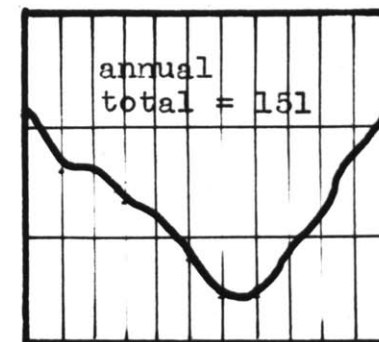
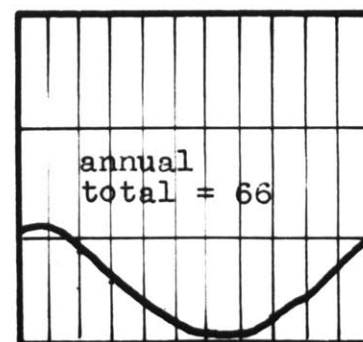
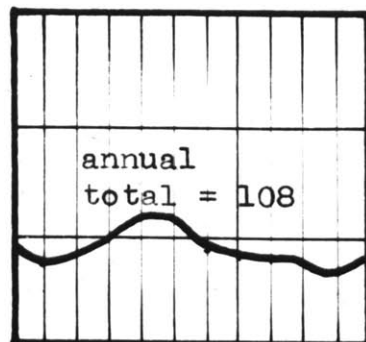
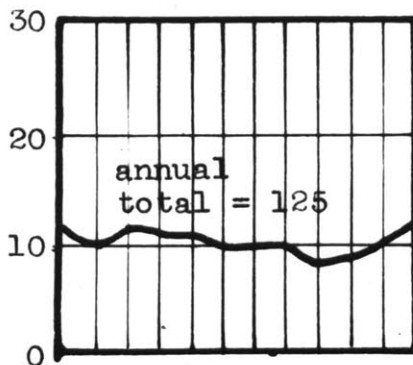
AVERAGE
DAILY
MAXIMUM
AND MINI-
MUM TEMP-
ERATURES



AVERAGE
MONTHLY
RAINFALL
IN INCHES



NUMBER OF
DAYS PER
MONTH WITH
0.01" PRE-
CIPITATION
OR MORE



THE COMPANY

It is surely the shopper in the middle, upper middle, and higher income groups who is now bypassing the Tacoma department stores for the more attractive establishments in Seattle, and it is primarily to this market that the proposed new store should appeal. The existing Tacoma stores, Rhodes Bros., the Fisher Co., and Sears-Roebuck (see Figure 13), are either calculatedly or unthinkingly beamed almost entirely to the lower, the lower middle, and the middle income groups. Rhodes, Fisher's, and Sears are as a group roughly comparable to Boston's Raymond's, Gilchrist's, and White's; Tacoma is now without a parallel to Filene's, R. H. Stearns, Paine's, or Bonwit-Teller.

This thinking is apparently not without justification, for it has been announced only this summer that Seattle's Frederick & Nelson store, which is just such an institution, plans to establish a new Tacoma outlet soon. It has been impossible to get any information whatever regarding these plans (retail secrets are apparently guarded as jealously as atomic secrets), but they have served as the basis for this study; the subject of this thesis will be the new Tacoma store for Frederick & Nelson.

The present Frederick & Nelson building in Seattle (Figure 17) was completed in 1918 on a site then some seven blocks north of the existing retail center. Since that time, the store has pulled the entire retail district with it, and now stands on the most favored retail site in the city, accessible as it is to the rest of the retail district, to public transport routes, and, particularly, to several large auto parking garages.

In 1928, the business was sold by its founder, D. E. Frederick, to Marshall Field & Co.; it remains the only store so associated with the Chicago firm. Field's and Frederick's have much in common with regard to services, stocks, and spirit. Of Frederick & Nelson, Fortune says:

" . . . Frederick & Nelson in Seattle is highly informal. For one thing, Seattle's widespread unionization extends also to the sales persons of this thriving (Field) branch. For another, the range between the highest and lowest incomes in Seattle has become much narrower than in most other cities in the U.S. The result is that customer and sales persons overlap socially. 1944 sales were $2\frac{1}{2}$ times those of 1939, and Frederick's average check had increased 50%. Womens' sportswear, a strong point in a city where "dry rain" favors purposeful clothing, contributed more than \$1,000,000 to total gross sales."⁷

Frederick's sales in 1944 totaled \$22 million, some \$4 million more than its largest competitor, The

⁷ "Marshall Field - the Store," Fortune, Dec 45, p 143

Figure 17

Frederick & Nelson, Seattle



Bon Marche, second largest member of the Allied Stores chain, directed at an income level a cut below Frederick's major market.

Frederick's, like many department stores in both the "highest" and "lowest" class, has been a consistent money maker, and is investing some \$7 million in postwar plant expansion. A small branch in swank suburban Bellevue (Figure 18) was completed in 1947, and recently-announced plans call for immediate expansion of the downtown store by the addition of four stories, increasing store area by 50%.

Figure 18

Frederick & Nelson, Bellevue



PROGRAM

Size of Store

The store location and client having been defined, the question of size now arises: how big shall the new store be?

Using available data on 1939 retail sales, on comparable current sales, on recent population estimates, and on recent national average department store sales per square foot, very approximate size estimates may be made.

City	Year	Dept Store Sales	Metropolitan Population	Dept Store Sales per capita
Seattle	1939	\$37,000,000	452,000	\$82
Seattle	1948	\$101,500,000 ⁸	632,000	\$160
Tacoma	1939	\$7,500,000	156,000	\$48
Tacoma	1948	\$20,400,000 ⁸	219,000	\$93

Assuming, now, that if a new store located in Tacoma, it might succeed in pushing the Tacoma per capita sales figures from \$93 to \$160, to equal those of Seattle, a potential annual sales for the new store of \$14,700,000 [$(\$160 - \$93)(219,000)$] are indicated.

⁸ \$37,000,000 x 2.72; Nat'l Retail Dry Goods Ass'n index: 1939 = 100, 1948 = 272 for stores of total sales more than \$10,000,000

This is probably a high figure, principally because the high per capita sales for Seattle partially reflect the effects of Seattle's huge retail hinterland, which extends far beyond the metropolitan area, penetrating as far north as Nome, as far east as Central Montana, and as far south as Portland. Too, the figure is incorrect in the amount 1948 sales in Seattle and Tacoma differ from the N.R.D.G.A. index.

A different estimate, much more conservative, may be arrived at in the following manner: The Frederick & Nelson Seattle store, with an estimated sales of \$25 million in 1948, commands roughly a fourth of total Seattle department store sales. If the new Tacoma outlet could capture an equal proportion of sales in its community, it could retail \$5,100,000 of goods annually. This figure may be too low, as the influence of a new store in Tacoma would drive total department store sales much higher than the estimated current \$20,400,000 figure. In addition, a new Tacoma store, lacking the sharp competition of Seattle, could conceivably sell to a much larger proportion than a quarter of the Tacoma market.

Very arbitrarily (and inaccurately) selecting an average of the two estimated extremes of \$15 and \$5 million, less 20% for contingencies, a figure of \$8 million annual sales has been forseen for the new store.

This indicates a building of sales area roughly 100,000 square feet, using N.R.D.G.A.'s 1948 figure of \$81 annual sales per square foot of sales area.⁹ Roughly assuming a net-to-gross ratio of 60%, total floor area is brought to 167,000 square feet, and it is to this figure that the design has been worked. A rough comparison of gross areas of well-known stores and store projects may be interesting here:

Frederick & Nelson Bellevue branch, Figure 18	20,000 sq. ft.
Circular store for Jordan Marsh Co., North Shore Center, Mass.	75,000
New Foley Bros., Houston, Texas	475,000
Frederick & Nelson, Seattle, Figure 17, expanding to	675,000
R. H. Macy, Herald Square, New York	2,132,000

Parking Provisions

Necessary parking provisions are difficult to estimate (difficult to provide, too) because of weekly and yearly fluctuations in patronage. Using the N.R.D.G.A. data for \$10,000,000 stores in 1948 (1.7 customers admitted per sale; average transaction of \$4.77), it is estimated that there will be 2,500,000 yearly sales, about 48,000 weekly. Assuming that about a fourth of weekly sales take place on Saturdays (it is considered uneconomic to meet pre-Christmas peaks).

⁹ Controllers' Congress, Nat'l Retail Dry Goods Ass'n, Departmental Merchandising and Operating Results of Department Stores and Specialty Shops, 1948

and pre-Christmas week days, and assuming that half these sales will be to customers who wish to park at the store, and assuming (in line with current practices) a figure of three transactions per customer, slightly less than two customers per car (1.8), and an average parking turnover of from two and a half to three cars daily, it is estimated that there need be provided space for parking from 330 to 400 cars. It is strongly recommended, however, that any car parking provisions be easily expandable, should patronage exceed capacity at some future date.

Nearly every measure used to arrive at this 330-plus facility is subject to criticism, though all figures are those of actual experience or actual planning. The assumption that 50% of transactions will be consummated by auto-borne customers seems defensible if the store location is to be reasonably close to existing retail pedestrian traffic, to public transportation routes, and within walking distance of large residential neighborhoods. Other figures may be slightly higher or lower than some experience-figures; when they are, they reflect the particular nature of the department store trade. For example, the parking turnover estimate (under three per day) is less than that used in the North Shore Center, Massachusetts, calculation (three and a half), because of the tendency of the department

store shopper to spend more time at her duties than does the shopping center customer.

Because 0.01" or more of precipitation falls on half the days of the year in Tacoma, and because the rainiest months (average of 20 days per month in November and December) coincide with the months of greatest retail activity, it is felt that regardless of cost, at least a portion of the parking area provided should be under cover, or should at least afford under-cover access directly to the store. And because it is estimated¹⁰ that a special arrangement within the store to collect parcels for delivery to the customer's car at garage exit can afford a reduction of ponderous delivery costs (1.4% total sales) up to 75%, it is hoped that such a system can be incorporated in the new building.

Space Subdivision Within the Store

A list of in-store space requirements follows; some requirements have been established quite arbitrarily, most have been established on the basis of current practices, tempered by interpretation of expected needs of this individual store.

Department areas were approximated by using 1948 N.R.D.G.,A. figures for stores with sales of

¹⁰ Welch, K., "Where Are Department Stores Going?", Architectural Record, Nov 44, p 91

over \$10 million: departmental percentages of total sales, and sales per square foot for each department.¹¹

Department	% Total Sales	Dollar Sales	Dollar Sales per sq. ft.	Sq. Ft.
Piece goods	3.7	296,000	98	3,020
Household textiles	4.2	336,000	70	4,800
Small wares	12.5	1,000,000	45	22,000
Womens' & misses' acces	21.4	1,712,000	150	11,400
Womens' & misses' apparel	20.0	1,600,000	100	16,000
Mens' & boys'	10.7	856,000	110	7,780
Furniture	13.3	1,064,000	34	31,300
Appliances	10.2	816,000	110	7,410
Miscellaneous	4.0	320,000	-	-
Total	100.0	8,000,000		103,710

Customer Service Areas, in addition to these sales areas, will be required as follows:

- Sufficient elevators and escalators for vertical traffic
- Dining room for 350, with facilities for weekly fashion modeling
- Customer lounge with exhibit space, telephones, writing desks, etc.
- Small travel service desk
- Auditorium for 150
- Counter to handle exchanges
- Mail and telephone order service
- Beauty salon: approximately 2,000 sq. ft.
- Childrens' nursery, 400 sq. ft.
- Toilets

Employees' Areas (for approximately 200 sales personnel, 175 "other personnel)

- Cafeteria for 150
- Lounge - recreation rooms: 3,000 sq. ft.
- Training division, two small classrooms, of 500 sq. ft. each

¹¹ Controller's Congress, N.R.G.A., 1947 Departmental Merchandising and Operating Results of Department Stores and Specialty Shops

Locker and rest rooms for all employees
 Small hospital room - 300 sq. ft.

Administration Area (these requirements are conditioned by the fact that some administrative functions will be achieved in the main store in Seattle: top-level executive, some buying and advertising)

Offices for department heads
 Executive offices
 Credit - accounting division
 Cashier
 Advertising
 Employment - training
 Maintenance
 Payroll - timekeeper

Total administrative divisions area: 5,000 sq. ft.

Merchandise Zone (it is planned that much general storage and most stocks of furniture, appliances, rugs, etc., be accommodated in a separate service and warehouse building, at some location remote from the main store building)

Off-street unloading for two or three trucks
 Off-street loading for three to five trucks
 Receiving, uncrating, sorting room: 1,500 sq. ft.
 Marking room: 3,000 sq. ft.
 General in-store storage
 Vertical transportation
 Sales floor stock rooms, wrapping desks, etc
 Alterations room: 1,500 sq. ft.
 Package returns from sales floors to loading zone
 Package sorting, wrapping, baling room: 1,500 sq. ft.
 Parcel post room: 500 sq. ft.
 Customer will-call room: 500 sq. ft.

Store Maintenance

Display
 Carpentry, Electric, Paint shops: 4,000 sq. ft.
 Housekeeping staff
 Heating, air conditioning facilities
 General kitchens, to serve both customer and employee dining rooms

Architectural Character

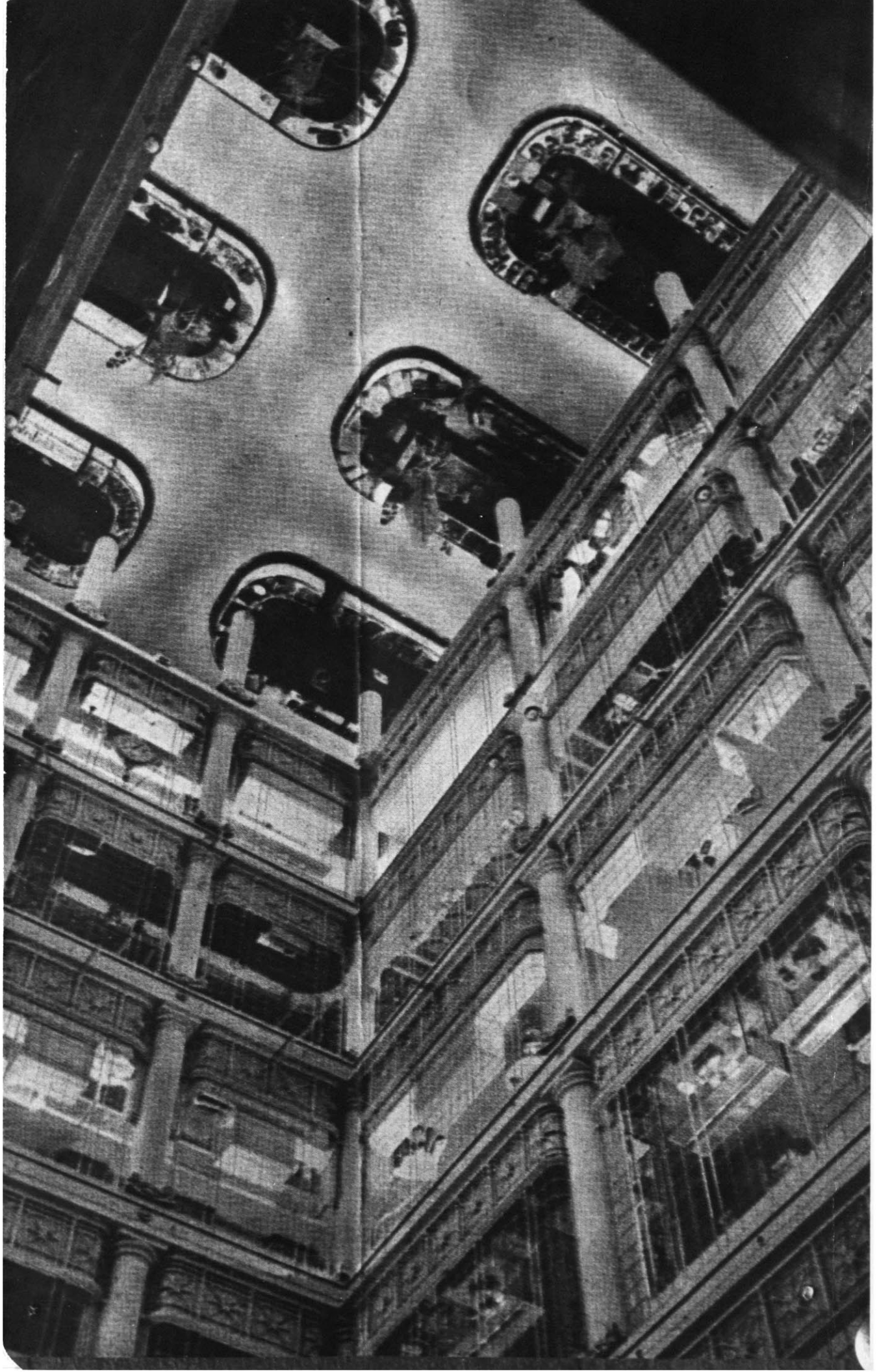
One further observation on the program for the new Frederick & Nelson, Tacoma; this of the greatest importance:

Most department store buildings erected since 1910 have displayed an unfortunate and unwarranted architectural uniformity. Save for superficial detail, Bamberger's of Newark is practically undistinguishable from Dayton's of Minneapolis. Almost without exception, big stores consist of undifferentiated, multi-tiered warehouse sales floors, unrelieved by any genuine architectural richness.

This has not always been the case, however. Many venerable and notably successful old firms still occupy and cherish their pre-1910 buildings with sometimes strong, individual characters. Carson Pirie & Scott, Chicago, boasts its wonderful Sullivanian exterior (see Figure 4); the New York Wanamaker's, occupying the very early A. T. Stewart Co. building, has retained its lovely cast iron facade and five-story central rotunda with grand staircases connecting the various floors (see Figure 1); B. Altman & Co, New York, is notable for its gracious high ceilings, spacious aisles, and gilded bird-cage elevators; the twin ten-story wells in

Figure 19

The North Light Well, Marshall Field & Co., Chicago



Field's Chicago store (Figure 19) are wonderful; and some of the early European stores, their interiors often perforated by a series of differently-shaped light wells, are unforgettable, both for their spatial feeling and for their wonderful baroque stairways, as at Dufayel's, Paris, built in 1902 (Figure 20).

Several recent stores offer concepts fully as strong; witness the Milliron store, Los Angeles, with its vast, single sales floor (influenced by the 1876 Wanamaker store in Philadelphia?), and its main entrance from the roof parking lot to the store achieved via escalator; and witness the huge, thin-shell concrete dome enclosure planned for the two Jordan Marsh Co. branches near Boston, yielding principal sales floors entirely unobstructed by columns.

These examples indicate that successful store architecture can advance beyond the usual creation of a mere negative background for merchandise display; can be in itself a powerful statement.

Most recent work goes not much farther than applying the chic country club touch to the suburban warehouse-store (Figure 21), or applying the windowless touch to downtown warehouse-stores (see Foley's, Fig. 9).

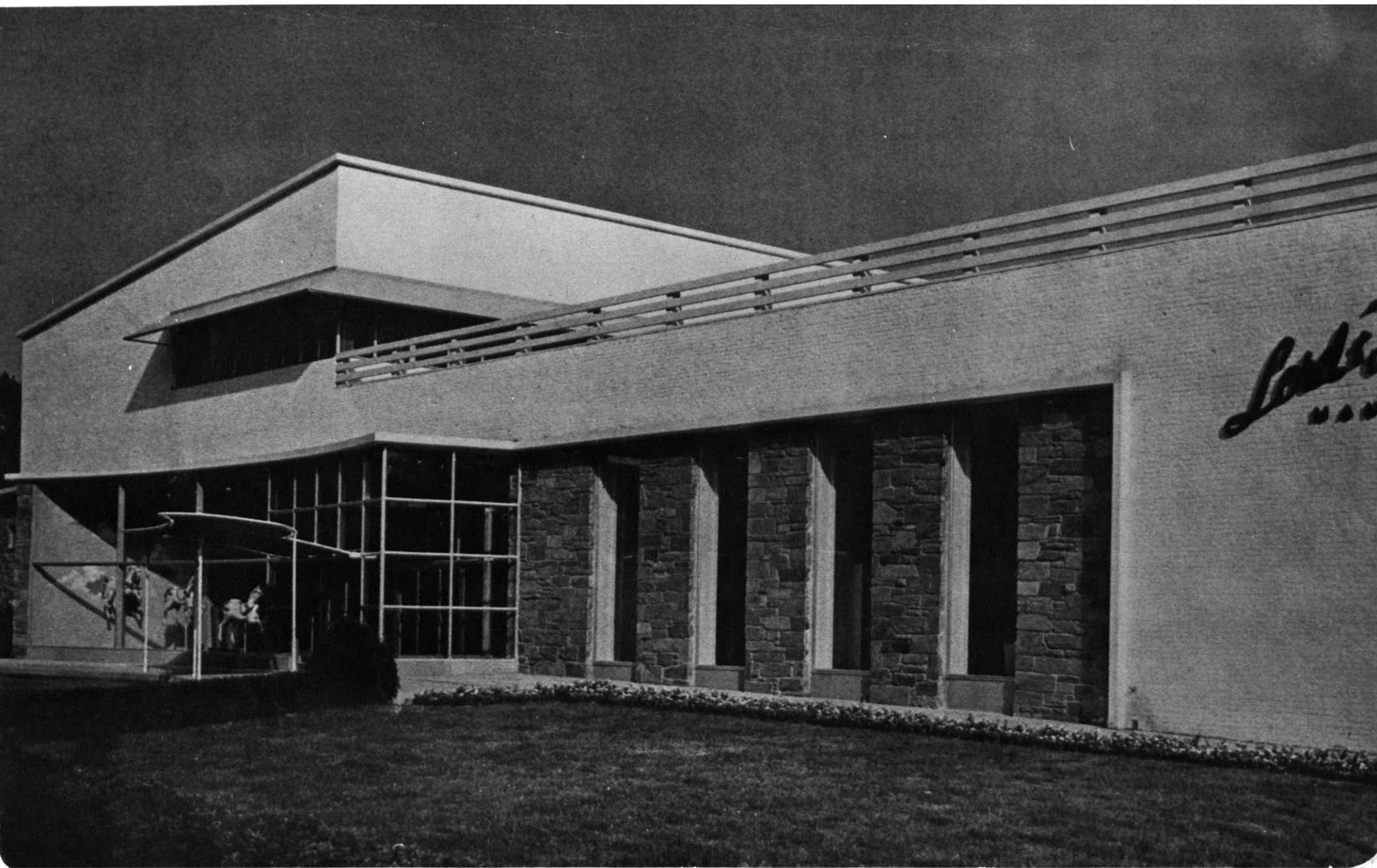
Figure 20

Grand Staircase, Dufayel's, Paris



Figure 21

Lord & Taylor Branch Store, Manhasset, L.I., N.Y.



Here, then, is to be a guiding principle in the design of the new Frederick & Nelson store, Tacoma: in addition to a carefully studied floor layout, traffic pattern, services provision, etc., there shall be provided a positive architectural setting for sales; a structure which will stimulate community imagination, hence become in itself a potent advertisement; a building which fully exploits its architectural form to create an integral selling force within the store.

SELECTION OF THE SITE

Tacoma is a comparatively small city, and movement of automobile traffic, even to and from the downtown district, remains relatively free and uncongested. As in most cities and towns, however, a crucial downtown auto parking problem is apparent, and motorists, having brought their cars to town, face the defeating necessity to circle block after block, hunting an empty parking stall at curb or in a lot or garage. Unfortunately, the parking situation is most acute in the "100%" retail trade area, the goal of a large proportion of motorists entering the central district, as it is in this area that land values are highest. Here, all available space is pre-empted for retailing, and it is here where the need is greatest that the supply is scantest.

If the new store is to locate in this area, it faces the problem of providing a large parking terminal on dear land. In addition to this, it must assemble a sufficiently large parcel of land, and all razing or conversion of existing structures must be economically justified by the number, size, and condition of the structures. No mean trick, this, carving out a suitable site from the tangle of high, low, sound, and unsound

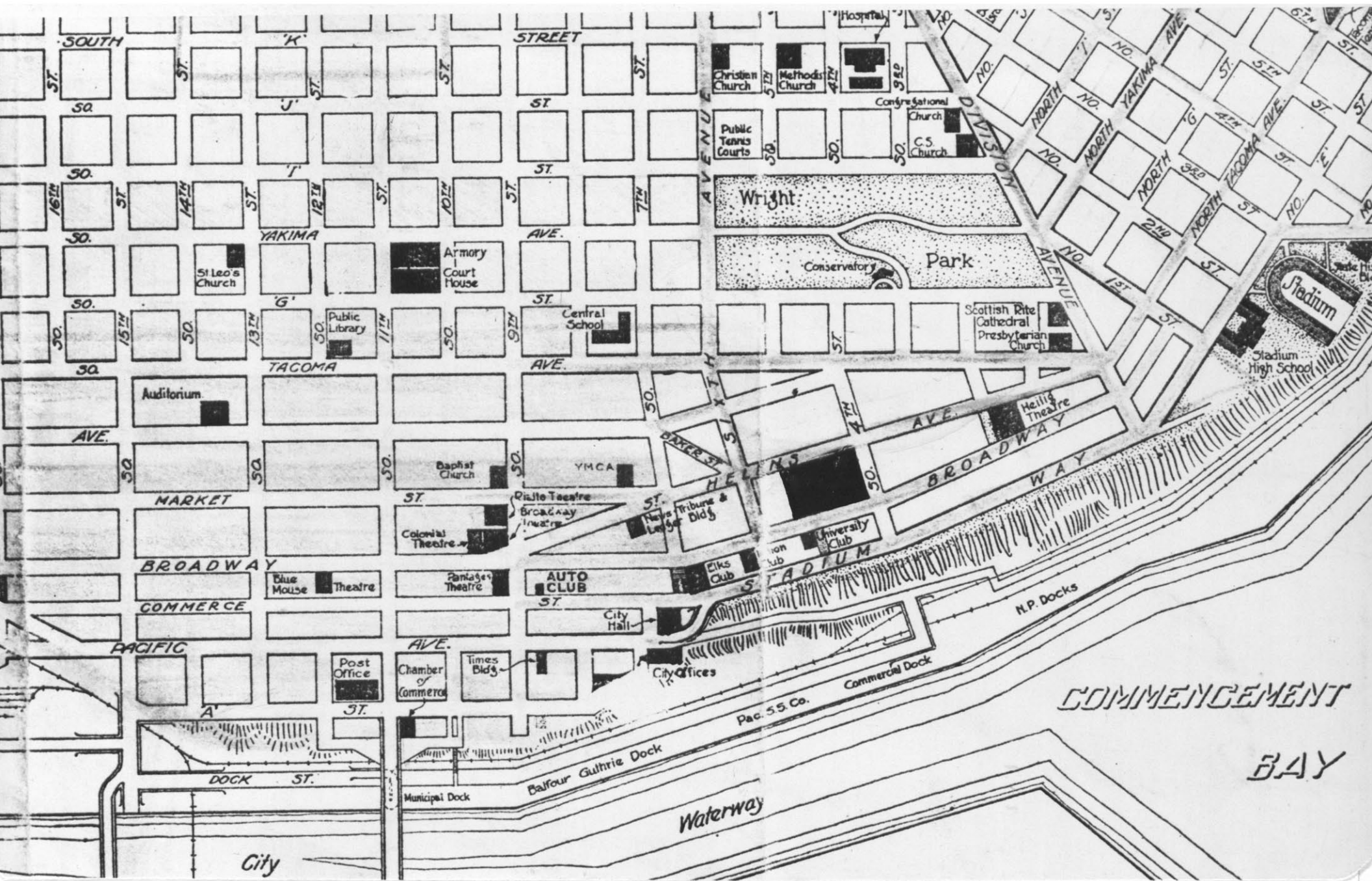
buildings in downtown Tacoma, then squeezing a suitable building onto this site.

One further problem, this one peculiar to central Tacoma. The street pattern, influenced by the sharp hillside on which the downtown area stands, reflects the terracing necessary for streets and building sites (Figure 22). Thus, along the principal streets, Broadway, Commerce, and Pacific, the blocks are very long and very narrow, often of the proportion 100' x 680'. A four-story department store building of 167,000 sq. ft. on such a site would assume a 100' x 425' shape, obviously inefficient for movement of stock and shoppers, and for optimum layout of vertical transportation and sales departments.

Recent practice, however, demonstrates that department stores, which are by nature traffic generators in themselves, may be located independently of existing retail centers, if access from the markets they serve is quick and easy. Thus many sizable new stores have located along major highways at some distance from existing commerce; on such sites they are convenient to large pools of suburban and urban shoppers, and, in addition, the highway sites are excellent because they offer important opportunities for "impulse" sales to passing motorists. The smaller department

Figure 22

Downtown Tacoma



SOUTH STREET

STREET

50

ST

50

ST

50

YAKIMA

ST

50

St Leo's Church

Armory Court House

ST

50

TACOMA

Public Library

Central School

ST

50

Auditorium

ST

50

MARKET

Baptist Church

YMCA

ST

50

BROADWAY

Colonial Theatre

Piccolo Theatre Broadway Theatre

Times Bldg

ST

50

COMMERCE

Blue Mouse Theatre

Pantheon Theatre

AUTO CLUB

Elks Club

ST

50

PACIFIC

Post Office

Chamber of Commerce

Times Bldg

City Offices

ST

50

DOCK ST.

Municipal Dock

Balfour Guthrie Dock

Waterway

Pac. S.S. Co.

Commercial Dock

N.P. Docks

ST. HAYES LEWIS BLDG

University Club

Stadium

Stadium High School

City Hall

City Offices

City

COMMENCEMENT BAY

Christian Church

Methodist Church

Confessional Church

C.S. Church

Wright

Conservatory

Park

Scottish Rite Cathedral Presbyterian Church

Stadium

Stadium High School

Helix Theatre

BROADWAY

COMMENCEMENT

BAY

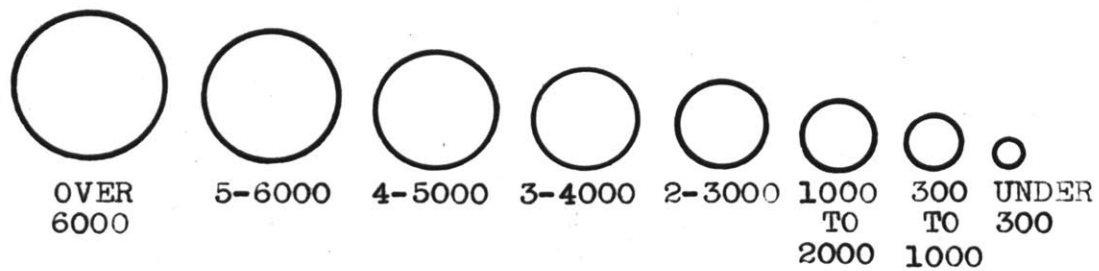
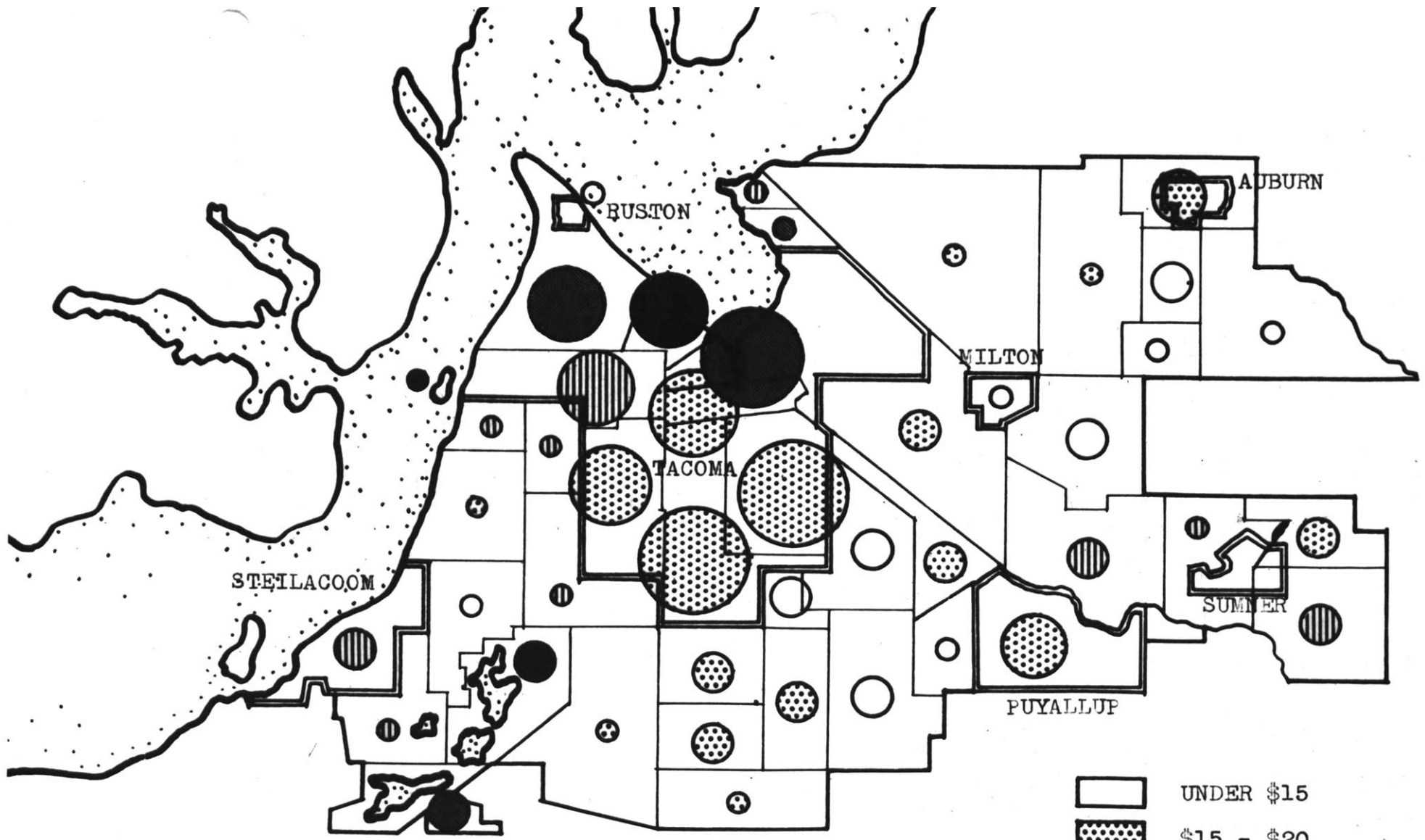
store branch, though, may not be by itself a strong enough crowd attractor to survive if isolated from existing retailing, hence smaller store branches (say under 75,000 sq. ft.) are usually established in suburban centers offering additional shopping facilities.

Assuming now that the new Frederick & Nelson store and its 170,000 sq. ft. of retail "strength" can be located with but little regard to existing shopping areas, the problem is of locating the store so that it will be convenient for its "demand" shopping trade and irresistible to "impulse" trade.

As has been discussed in a preceding section of this paper, the new store is intended to appeal primarily to upper middle and high income groups; it should accordingly be located within easy reach of the haunts of these groups. A careful analysis of dwelling units and monthly rents in metropolitan Tacoma wards and precincts (Figure 23) indicates that these income groups dwell predominantly along the highlands northwest of the central business district. No significant suburbanization tendencies are apparent, and only very minor groups of upper income homes appear at any distance from downtown Tacoma.

Figure 23

Rent-Dwelling Units Study, Tacoma



TOTAL NUMBER OF DWELLING UNITS PER WARD, PRECINCT, OR MUNICIPALITY IN THE TACOMA METROPOLITAN AREA

MEDIAN MONTHLY CONTRACT OR ESTIMATED RENT: 1940

On the basis of the foregoing discussion, it seems most reasonable to locate the new building at some point in the area along the south edge of the high income sector. Such a site could be reached easily from all the northern and western residence districts without a trip through the central district, and, too, it would tap the existing heavy auto traffic routes between those districts and the downtown area. Other advantages are offered by this locality: it is within walking distance of the city's small but densely populated apartment house district; all city transit routes from the north are funneled into this area by the existing street pattern, and all transit routes from South Tacoma into town continue through to this area to make loop turns for their return trips south, because heavy grades on mid-town cross streets prohibit such turns there; finally, land costs are relatively low throughout the area - there is much vacant land, and much property occupied only by old, frame residences.

A number of reasonable sites were found available within this area. Almost without exception, the sites present difficult grade problems (the more level land on the plateau atop the slopes is predominantly zoned for residence only). Finally selected was the plot between Broadway and St. Helens Avenue, on the south

side of South 4th Street. This site offered the largest area of all the sites considered (280' x 450' - it has been assumed that the City would permit vacating the existing alley were a new structure to occupy a major portion of the block), and was unobstructed by any large structures. It is located between the two principal north-south traffic arteries, and is, in addition, within walking distance of the existing downtown retail center. Character of existing aged structures and existing land use suggests that this plot may be acquired cheaply, though no comparative data are here available.

THE SOLUTION

Preliminaries

Early in the stages of planning the new store on the Broadway-St. Helens site, it was recognized that the probable ruling factor was to be the parking-to-sales-floor relationship. From the outset, it was apparent that no single-level parking scheme would suffice; the site area is 126,000 sq. ft., and a 350-car, single-level parking facility would require roughly 105,000 sq. ft. Too, the average slope across the site from higher to lower street is 14%, too steep for a grade parking lot.

Therefore, each solution incorporates some form of multi-deck parking. The high construction costs of such facilities seem unavoidable in so central a location (and all remote locations were judged unsuitable for relatively undecentralized Tacoma). Such facilities do, however, afford covered parking, thus satisfy a program requirement. Open-lot parking separated from the store by a street or by intervening buildings was avoided because of the acute rainy weather access problem, and because of the likelihood that, with increasing land values surrounding the store, such lots would be converted to building sites.

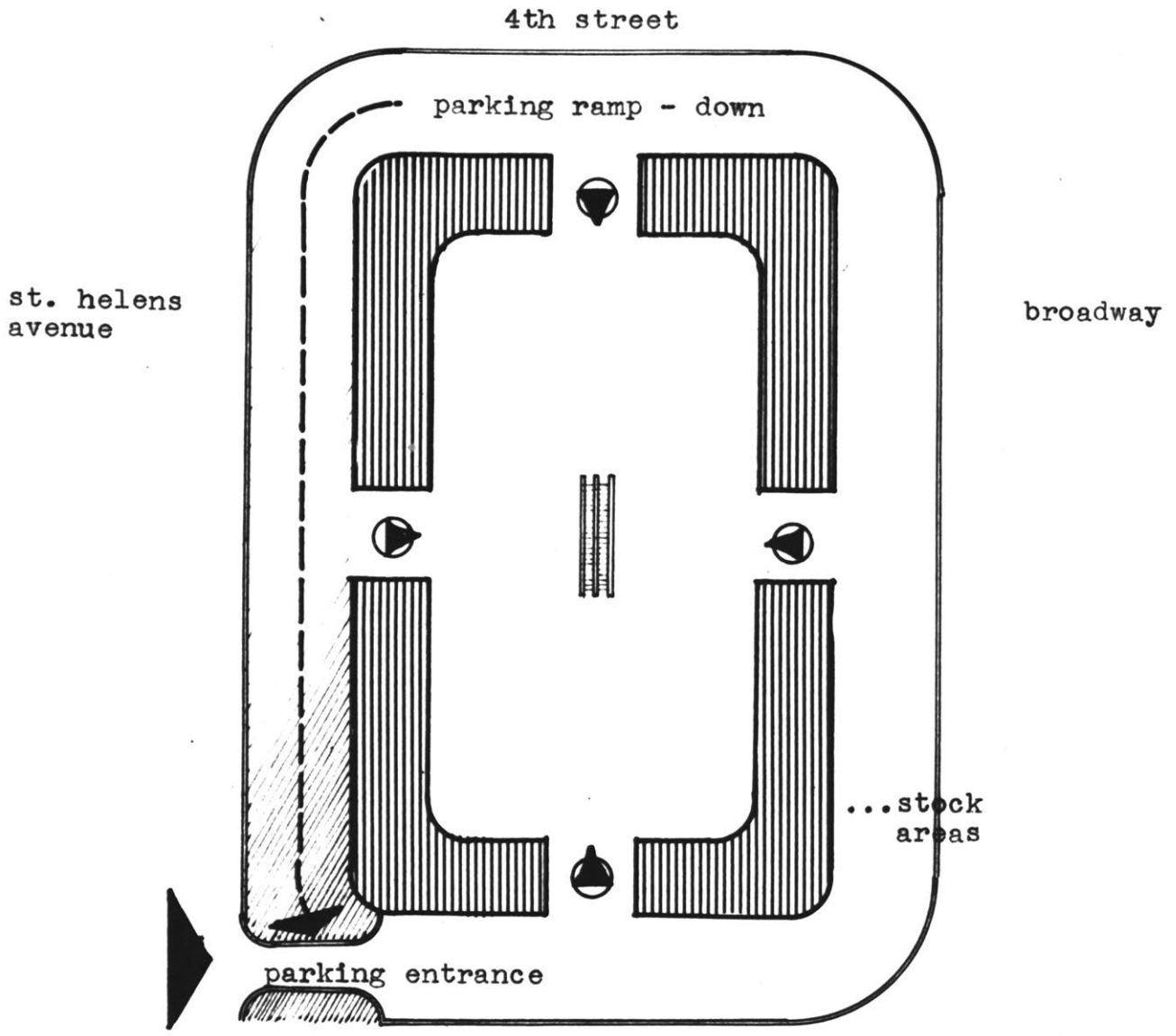
Several of the preliminary schemes propose a parking facility in which the customer parks her own car. The 40' grade differential between St. Helens Avenue and Broadway is utilized in various ways to offer one-way traffic ramps along which cars may be parked; the systems are simple and ample enough for even the most timid driver to negotiate. Thus the motorist enters the garage at the top level, drives down the ramp till she reaches the level at which she wishes to park, may then enter the store under cover directly at that level. Exit is made by continuing down the ramp to the lower level street. Such an attendantless, self-park arrangement permits the store to charge only a token nickel or dime parking fee, calculated to help amortize garage costs and to discourage all-day parking by non-shoppers. Self-park garages have been used only recently, but with considerable success, in such places as Kansas City and on the West Coast.

In Figure 24, a concentric parking-store arrangement is indicated; the descending parking ramp surrounds the sales floors on all levels.

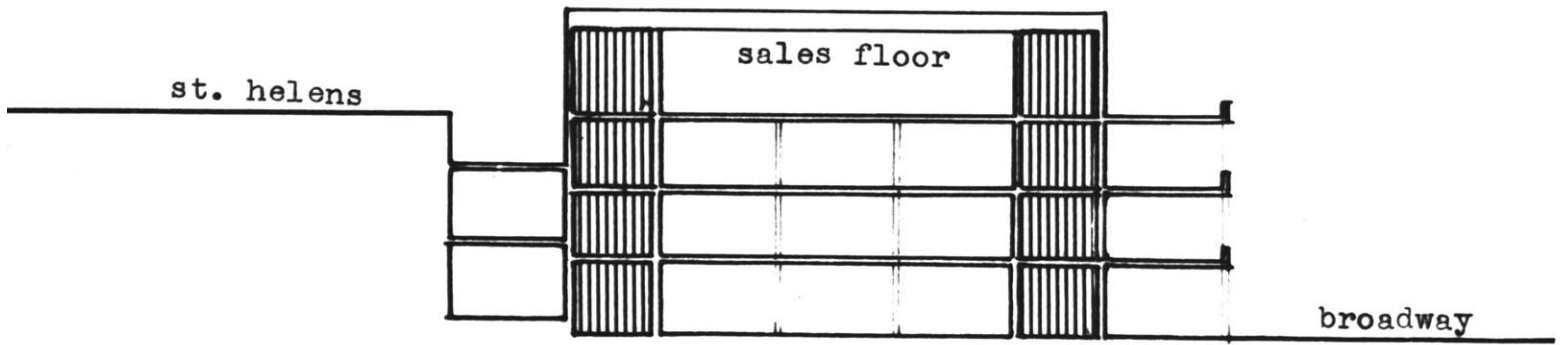
Advantages:

Wonderful parking-to-store relationship,
 continuous access between the two is possible
 Extremely simple garage circulation: in at the
 top, around and around, out at the bottom
 Simple and efficient sales floor shape

Figure 24



plan



section

Disadvantages:

- Parking in preferred location between store and street; store suffers aesthetically from being wrapped in a parking envelope
- No natural light in store, no views out of store
- Store too removed from the street, all emphasis on motorized customer
- Much of garage is below grade, requiring artificial lighting and ventilation
- Great perimeter of store-to-garage contact requiring four-hour fire separation.

Figure 25 diagrams an interesting scheme which offers, instead of a continuous ramp garage, a story-wide parking level adjacent to both major streets, and offers a chance for a fine store to be sandwiched between.

Advantages:

- Working dimensions suggest a combination two and three level section, offering a variety of low- and high-ceilinged sales spaces
- Parking available from both principal streets
- Two major store "fronts"

Disadvantages:

- Store aesthetically buried under parking
- Heavy roof parking requires use of closely spaced columns on upper sales areas of store
- Lower parking level obstructed by heavy columns; upper parking level (the preferred level, off most heavily-traveled street) is without rain protection
- Much of store literally buried in the hillside - no facade on principal street
- Split parking levels annoying and inflexible on days of peak use

A concept subsequently modified to form the final building plan is presented in Figure 26.

Figure 25



st. helens avenue parking



broadway parking

Figure 26

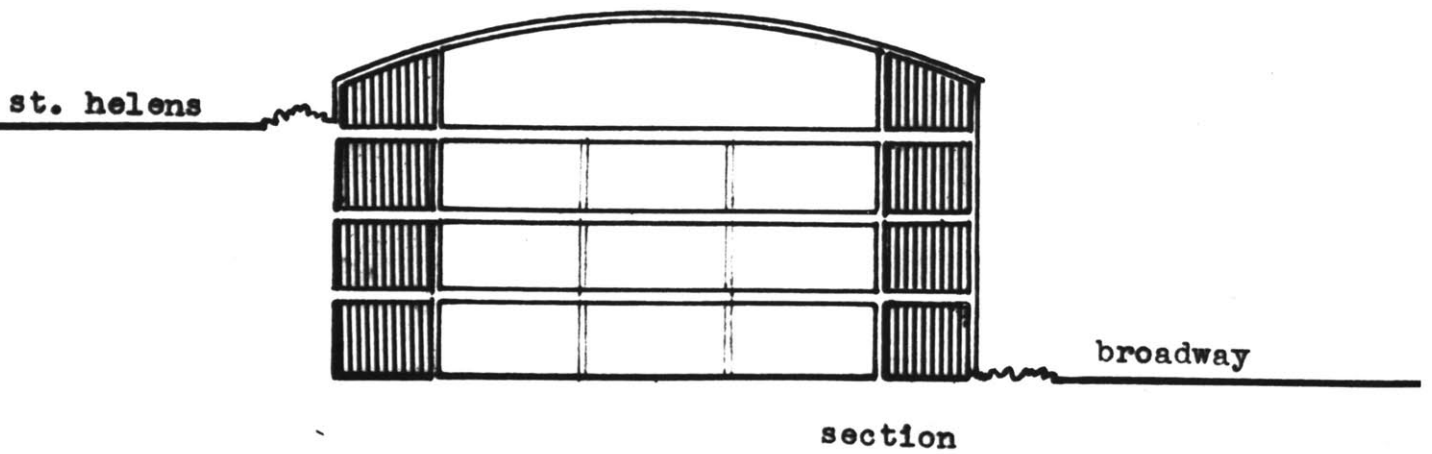
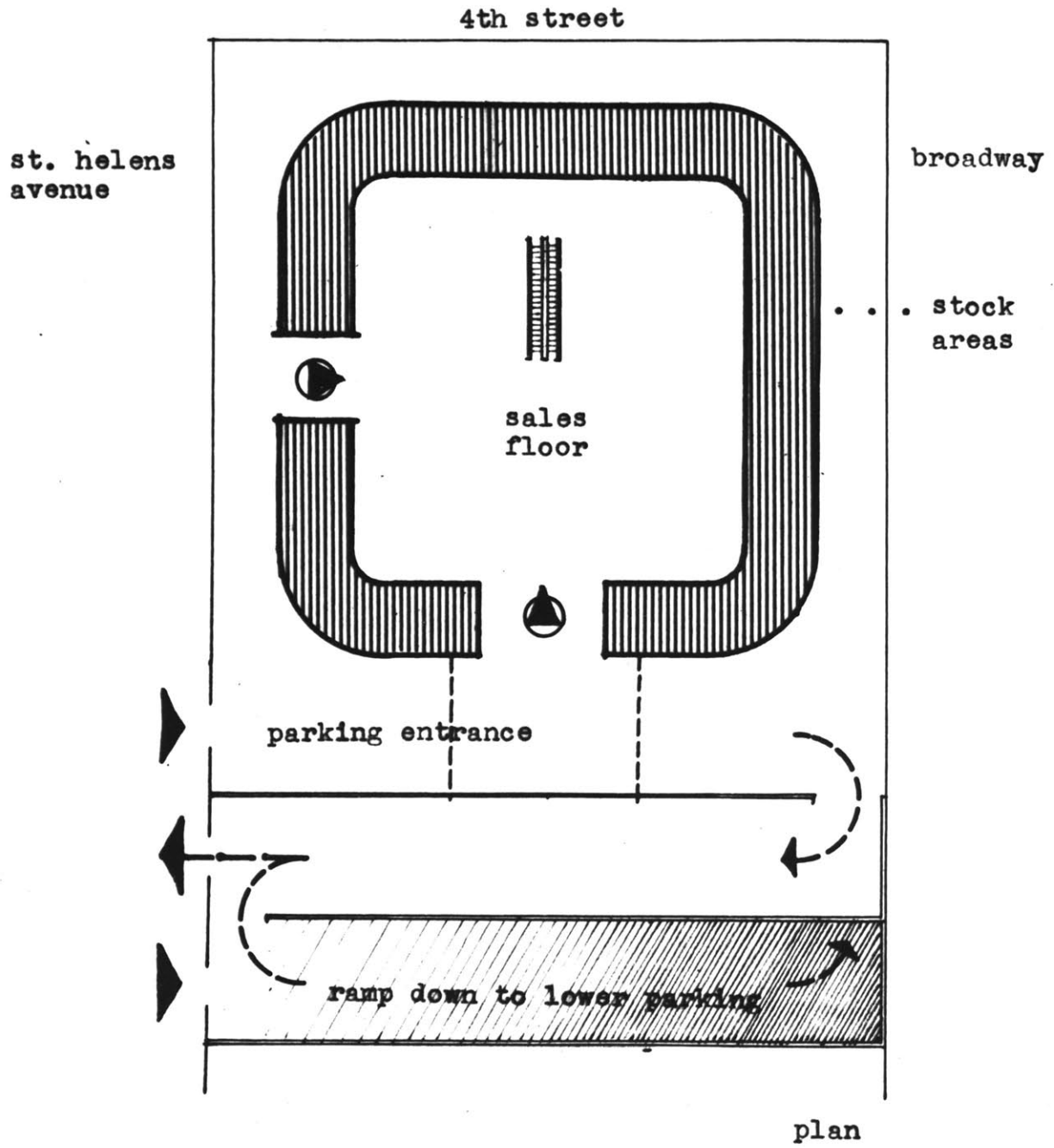
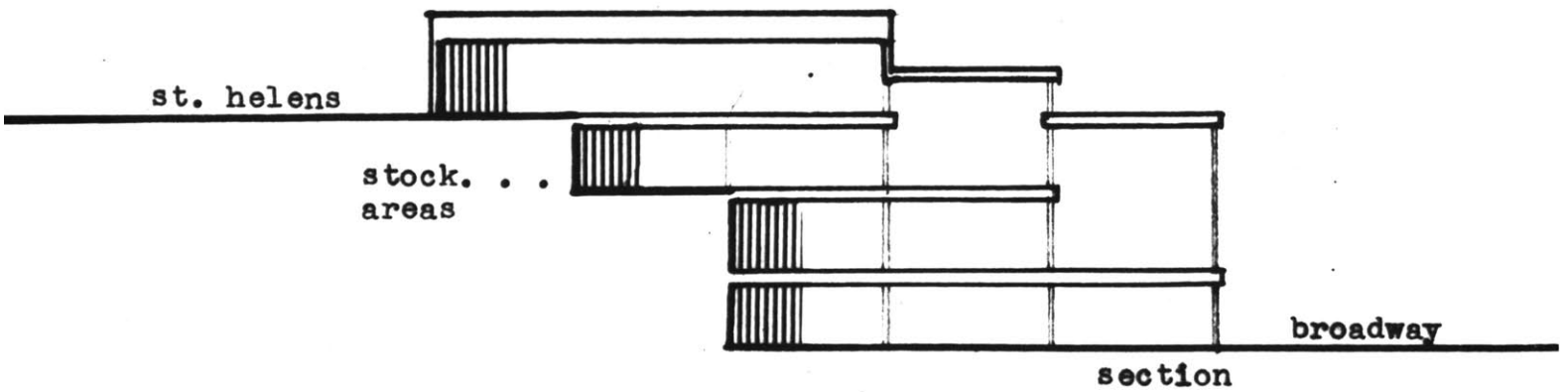
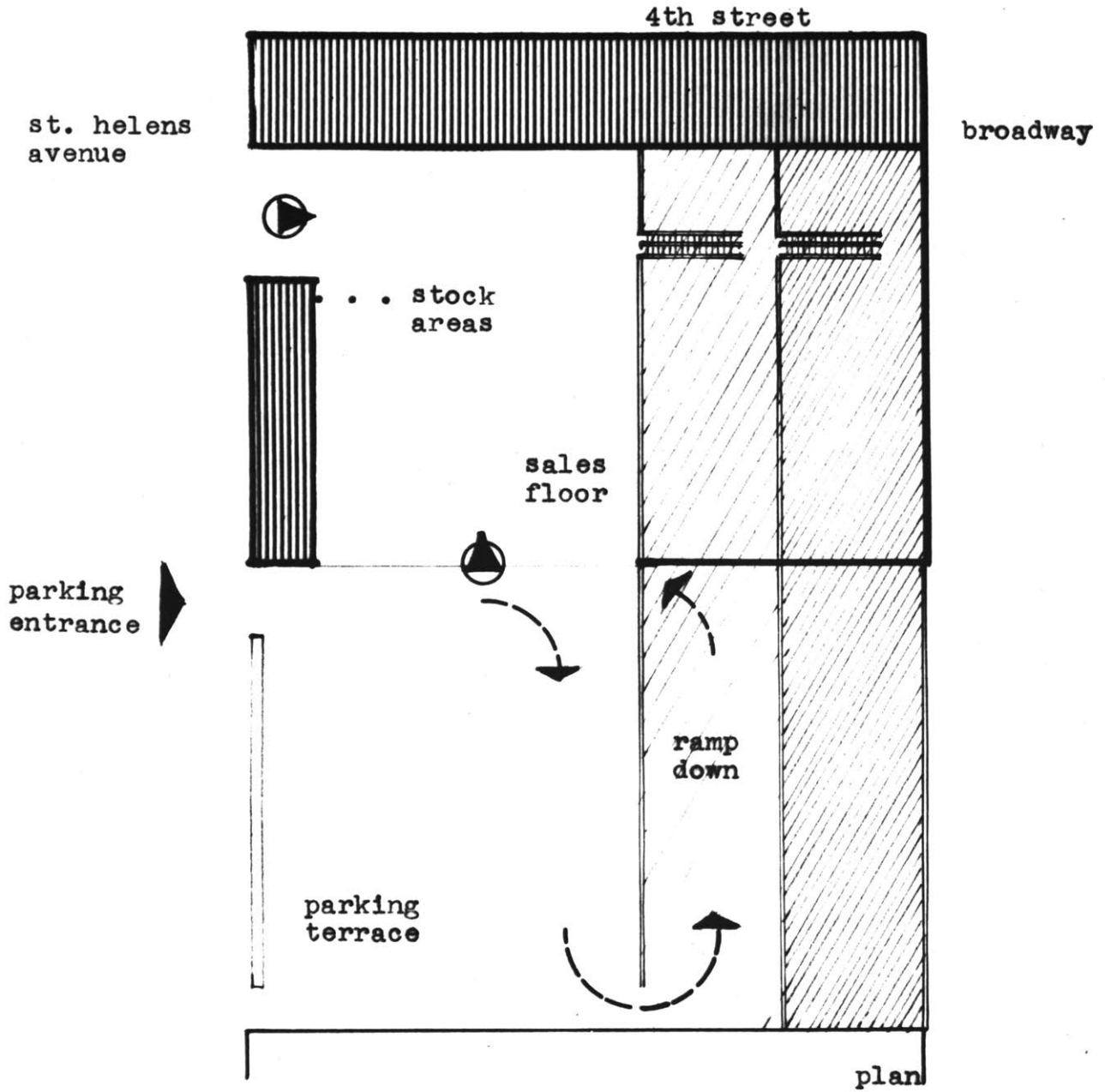


Figure 27



Advantages:

Individual structures for sales and parking permit the adoption of optimum structural systems for both - no compromises necessary

As in the first scheme described, parking levels follow shopping levels down the hillside; each store floor a "street" floor

Store building itself fronts on all three streets - great advertising value and impulse sales potential

Store roof carries no load; possibilities for use of columnless upper sales floor

Stock areas located on store perimeter permit independent movements of customers and merchandise

Disadvantages:

No particular adaptation of building to sloping site; one-half the building buried in the hillside

Monotonous uniformity of sales floors

Combining the advantages listed above, and eliminating the disadvantages, the plan adopted, shown in Figure 27, is a series of great terraces stepping down the hillside; a portion of each level is devoted to sales, a portion to parking. The section through the building indicates the variety of low- and high-ceilinged spaces afforded; a wonderful vista up or down through the store is created, opening up the sales floors one to the other, simplifying customers' identification of various department locations, and stimulating customer interest and sales throughout the building. The straight-line escalator layout intensifies the impact of the inter-floor spatial connections.

General administrative and service areas are concentrated along the north side (4th Street) of each floor, and from this position feed the lateral stock spaces.

Departments which require close contact with stock and fitting spaces (clothing for men, women, and children) are located against the lateral stock areas, on the west side of each floor. There they take advantage of the low ceilings to offer an enclosed, intimate, shop-like character. Elsewhere in the store, sales floors are treated openly.

Fixture layouts on each floor are perhaps a compromise between the newly popular "free flow" schemes, which may often be completely undisciplined and confusing, and the too-rigid, old fashioned, dense, rectangular island schemes.

Principal impulse merchandise departments, womens' accessories, cosmetics, candy, stationery, etc., are located on the store's "main floor" (the top floor), off the principal street, St. Helens Avenue. On each lower floor, in this store partly sharing "street floor" traffic with the principal floor, the respective impulse-type merchandise is temptingly displayed along the principal traffic lanes between parking entrance, escalators, and elevators.

Goods enter (and leave) the building via the basement truck court, pass on conveyors through receiving and marking departments, are then placed on store dollies and raised to the proper sales floor, wheeled via the peripheral service corridor to the proper stock storage space, directly adjacent to the sales department. Outgoing merchandise is sent via one of the two package chutes to the basement, conveyed by belt to the sorting room, then dispatched to the customer parcel pick-up room at the garage exit, to delivery truck, or to parcel post room.

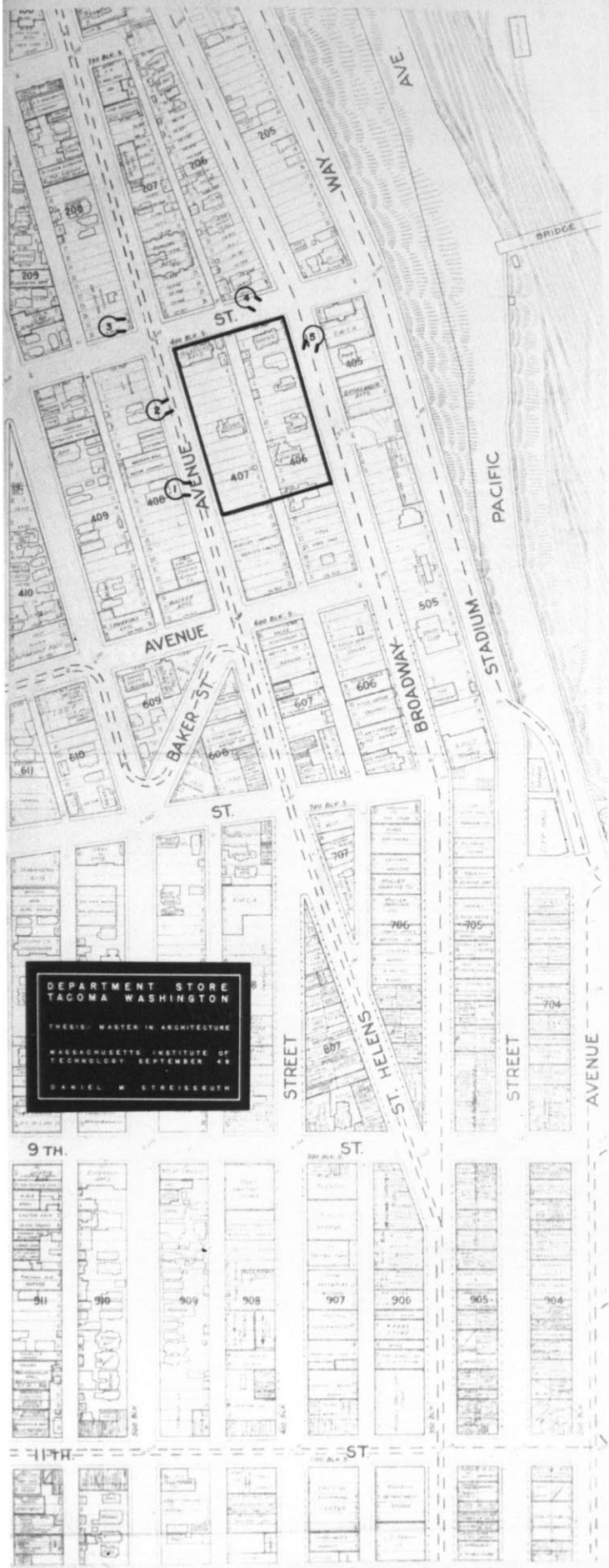
Throughout the store, the framing system permits wide column spacing. The top floor has a completely clear span on bays 25' x 150'; trusses of triangular section are employed to provide an integral lateral stiffening, and to afford a variety of main floor ceiling heights. The roof is calculated to serve as floor for any future addition of several more sales floors. If this is found necessary, it is expected that additional parking levels will be added above the present upper parking space. Below the main floor, bays are 25' x 56'; truss spaces are utilized throughout to provide ready conduit for air conditioning, light, communications, and pneumatic tube systems.

Exterior surfacing is corrugated steel, in panels porcelainized in the rich blue-green color which is now used extensively by the Frederick & Nelson Co. as a means of ready popular identification.



DEPARTMENT STORE · TACOMA





①



②



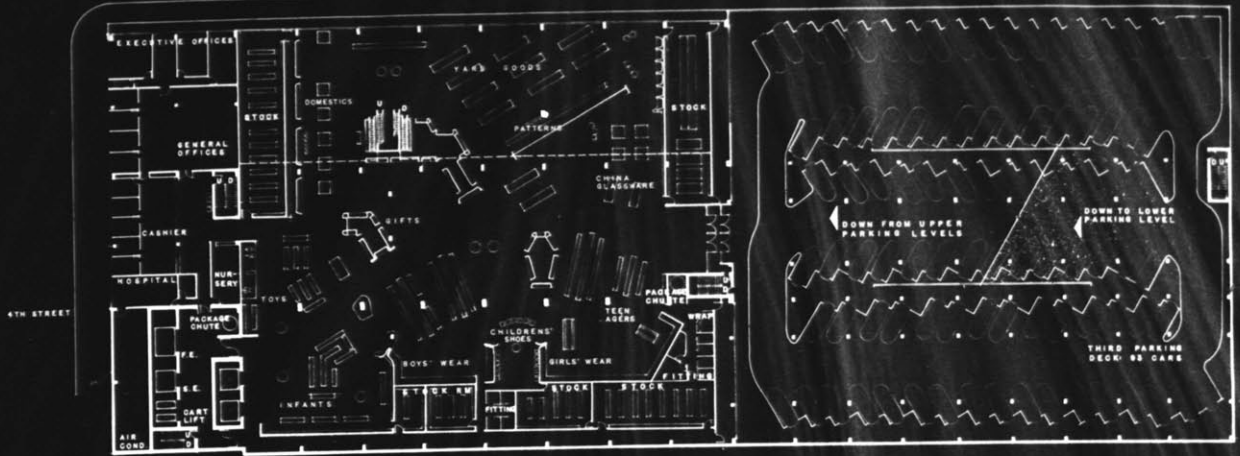
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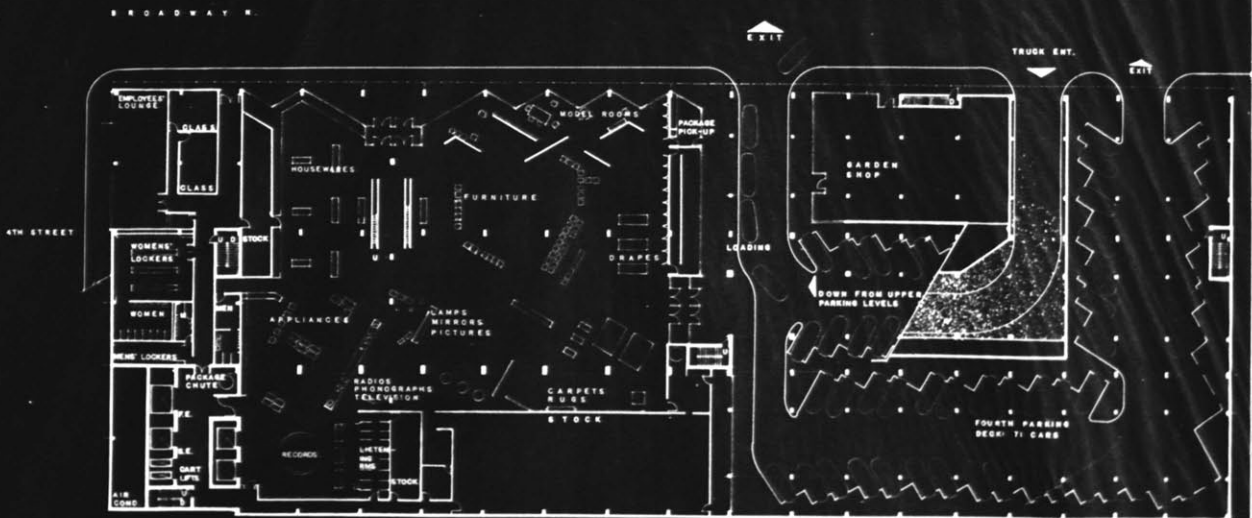
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THIRD SHOPPING LEVEL
SCALE: 1" = 20'

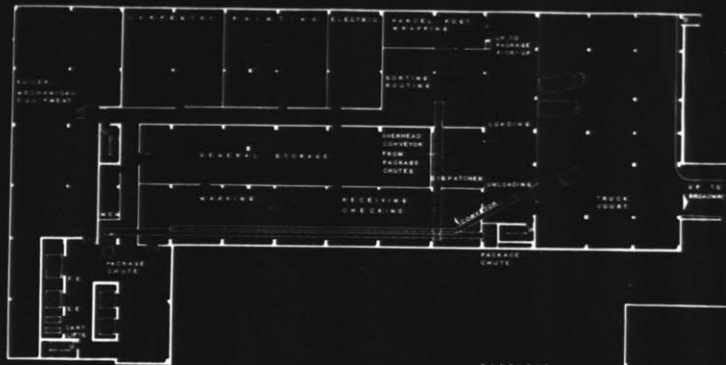


FOURTH SHOPPING LEVEL
SCALE: 1" = 20'

**DEPARTMENT STORE
TACOMA WASHINGTON**

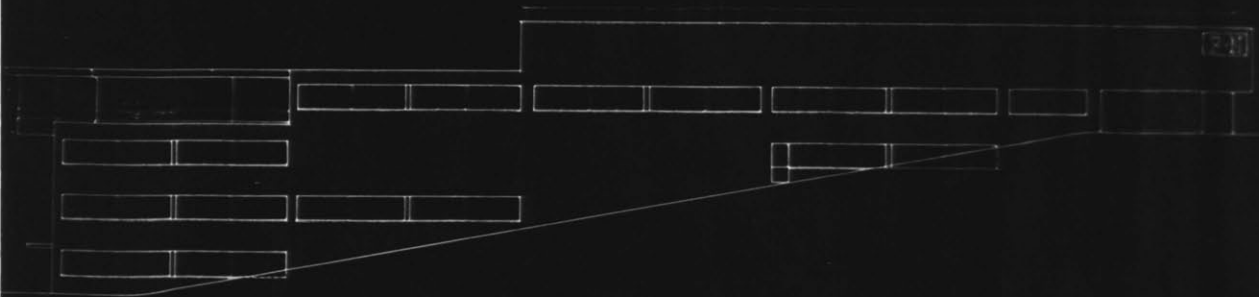
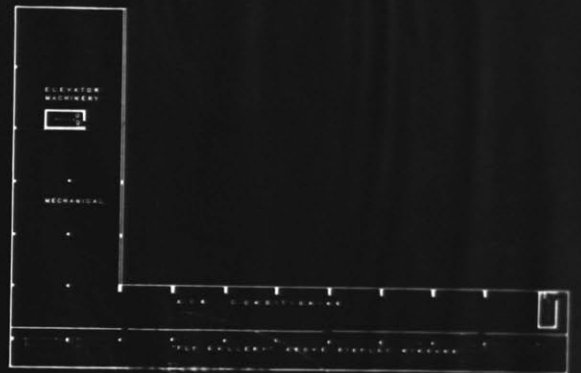
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 TECHNOLOGY SEPTEMBER 1938

PANEL 10 STRICKLAND



BASMENT
SCALE: 1/4" = 1'-0"

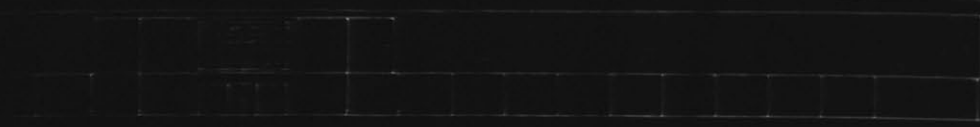
MAIN FLOOR
MEZZANINE
SCALE: 1/4" = 1'-0"



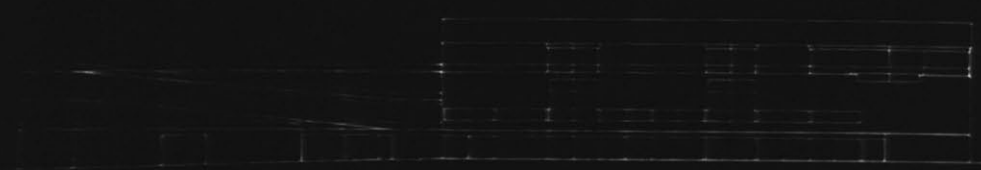
5TH STREET ELEVATION
SCALE: 1/4" = 1'-0"

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TACOMA, WASHINGTON

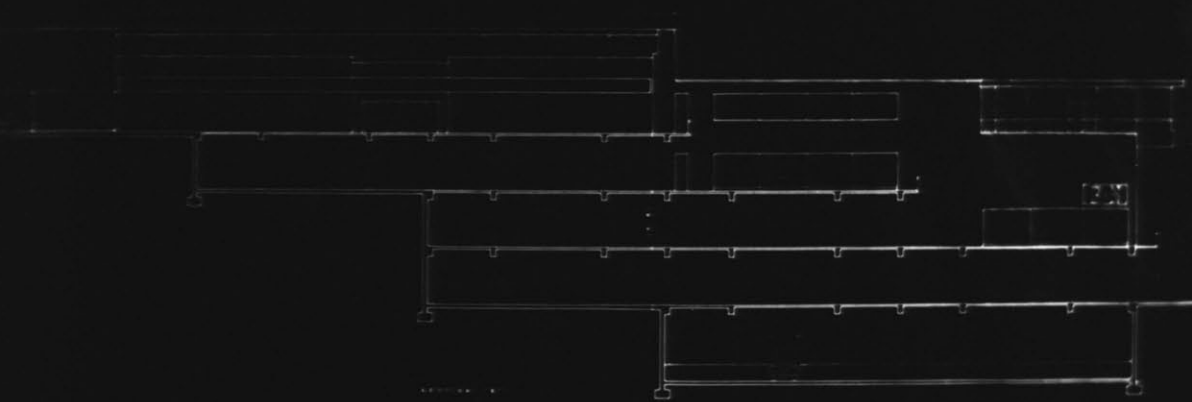
ARCHITECT: BUREAU OF ARCHITECTURE
ENGINEER: BUREAU OF ARCHITECTURE
PLANNING: BUREAU OF ARCHITECTURE



FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

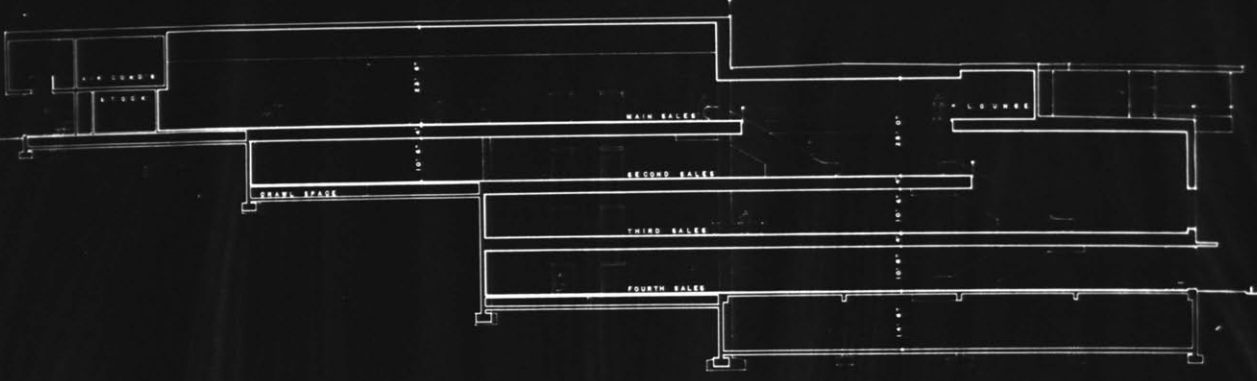


SECOND FLOOR PLAN
SCALE: 1/4" = 1'-0"

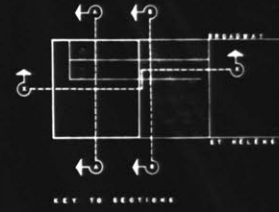


THIRD FLOOR PLAN
SCALE: 1/4" = 1'-0"

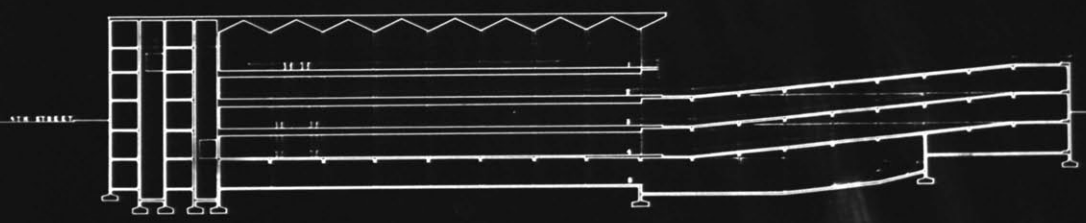
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1400 MA WASHINGTON
ARCHITECT: [unreadable]
ENGINEER: [unreadable]
DATE: [unreadable]



SECTION "A"
SCALE: 1"=10'



KEY TO SECTIONS



SECTION "B"
SCALE: 1"=20'

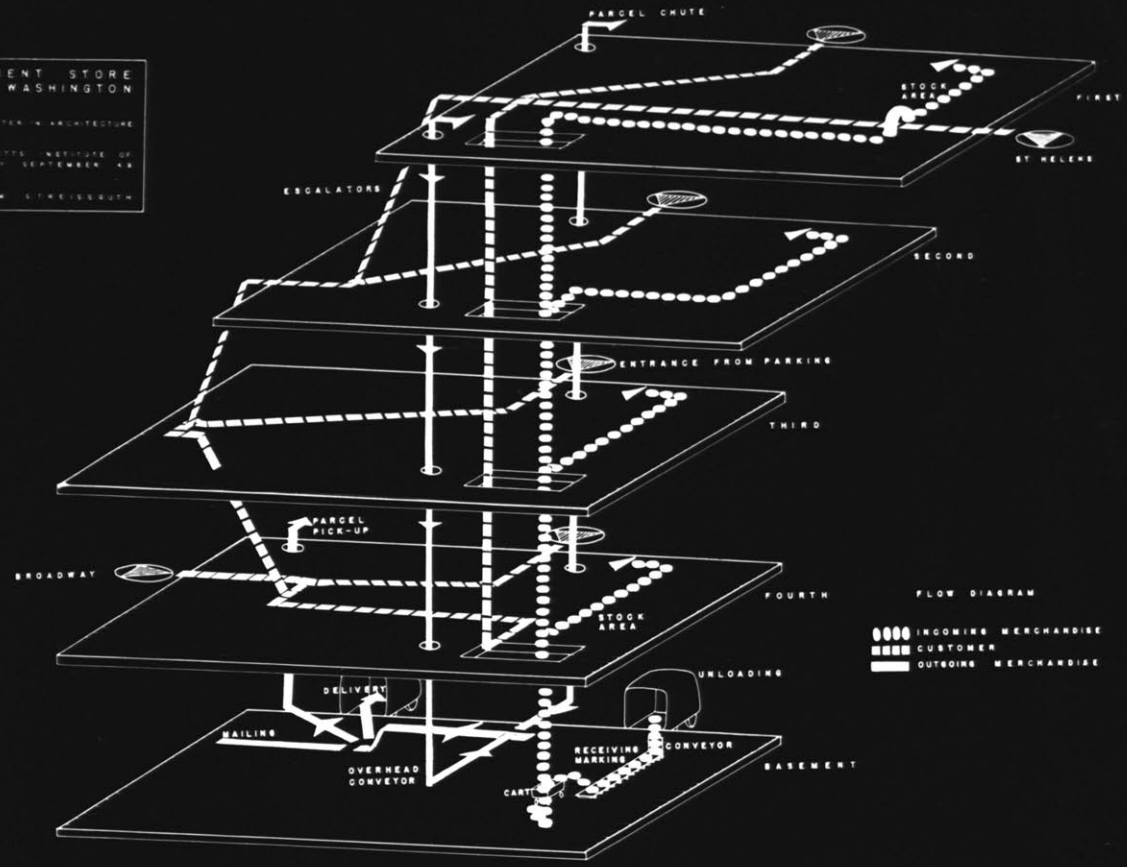
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DESIGNED BY DANIEL H. ARONSON
ARCHITECTS
WASHINGTON INSTITUTE OF
TECHNOLOGY SEPTEMBER 20
DANIEL H. ARONSON

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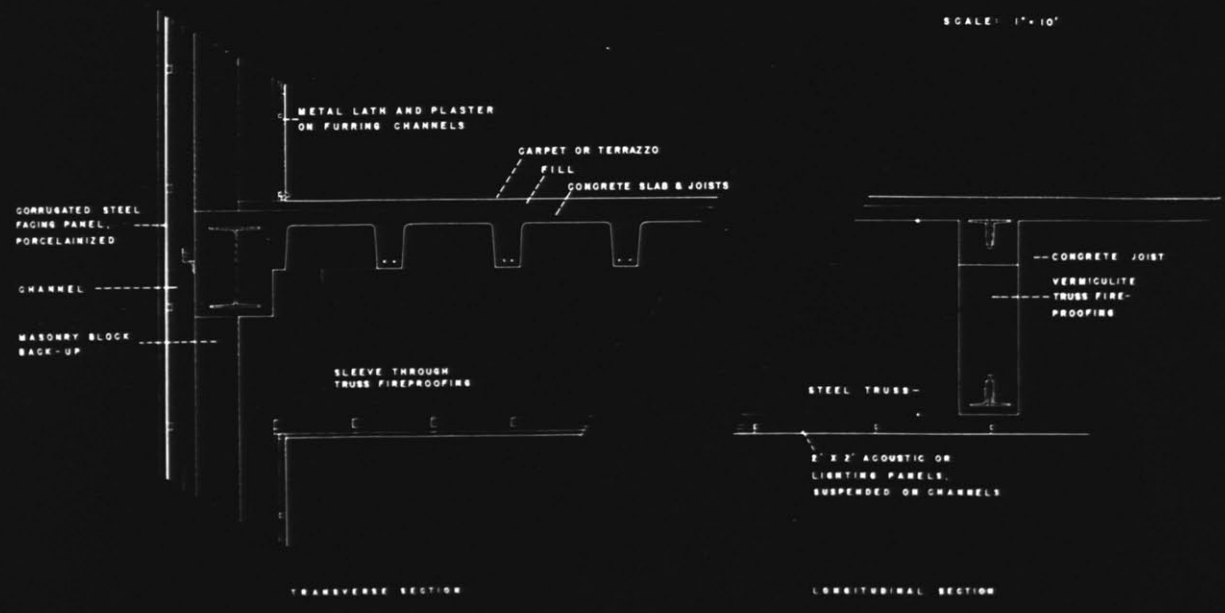
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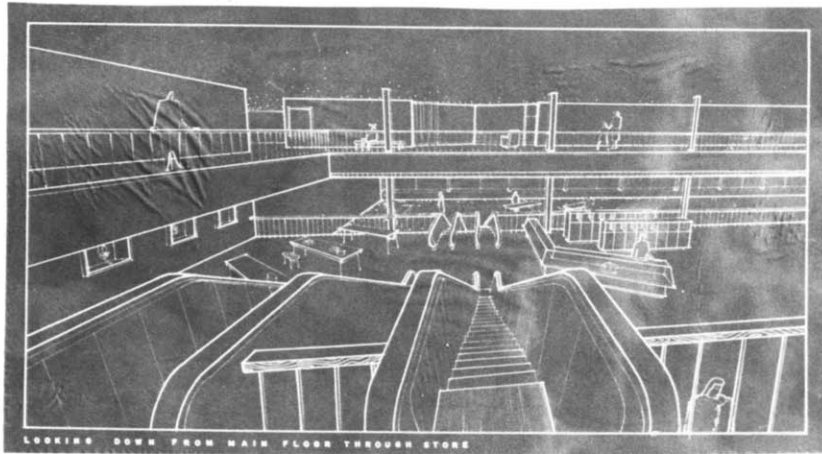
HAROLD W. STEINERBACH



TYPICAL PROPOSED STRUCTURAL
DETAILS

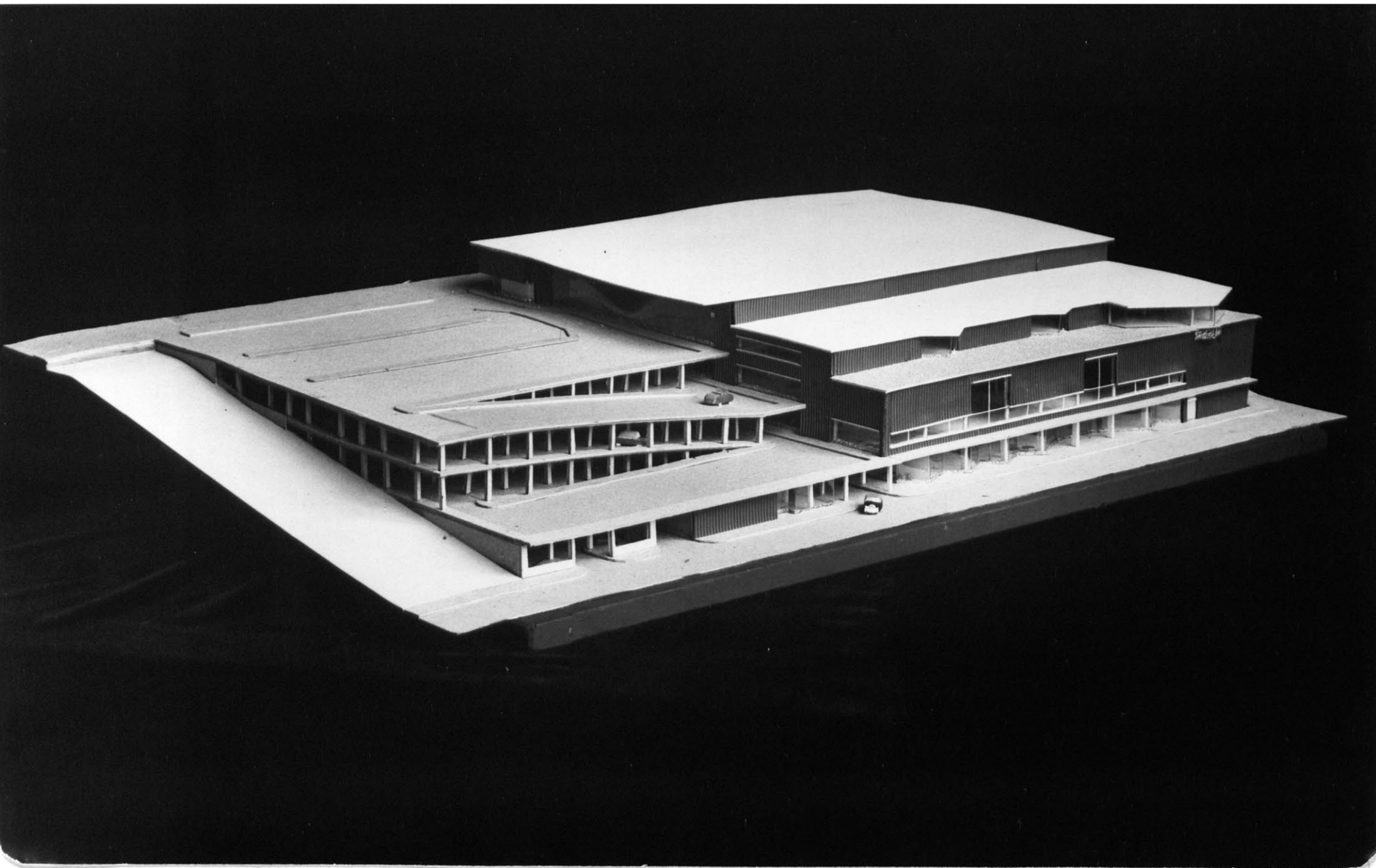
SCALE: 1" = 10'





LOOKING DOWN FROM MAIN FLOOR THROUGH STORE

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articles have appeared through the years in the
architectural press, the Forum, the Record, and
Progressive Architecture, as well as in the now-
defunct American Architect and Architecture,
Brickbuilder, American Architect and Building News,
etc.

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