# AN ECONOMIC BACKGROUND STUDY OF NEW BEDFORD, MASSACHUSETTS

by

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Submitted by . . . . . .

Approved by . . .

LETTER OF TRANSMITTAL

415 The Arcade
Cleveland 14, Ohio
11 October 1950

Professor Frederick J. Adams
Dept. of City and Regional Planning
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

Dear Professor Adams:

In partial fulfillment of the requirements for the degree of Master in City Planning, I submit this thesis, entitled, "An Economic Background Study of New Bedford, Massachusetts."

Sincerely yours,

Charles W. Washburn

## Acknowledgements

For helpful advice and assistance in the accumulation of data for this thesis, special thanks are hereby given to the following persons:

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Mr. Joseph D. Babcock, New Bedford Board of Commerce.

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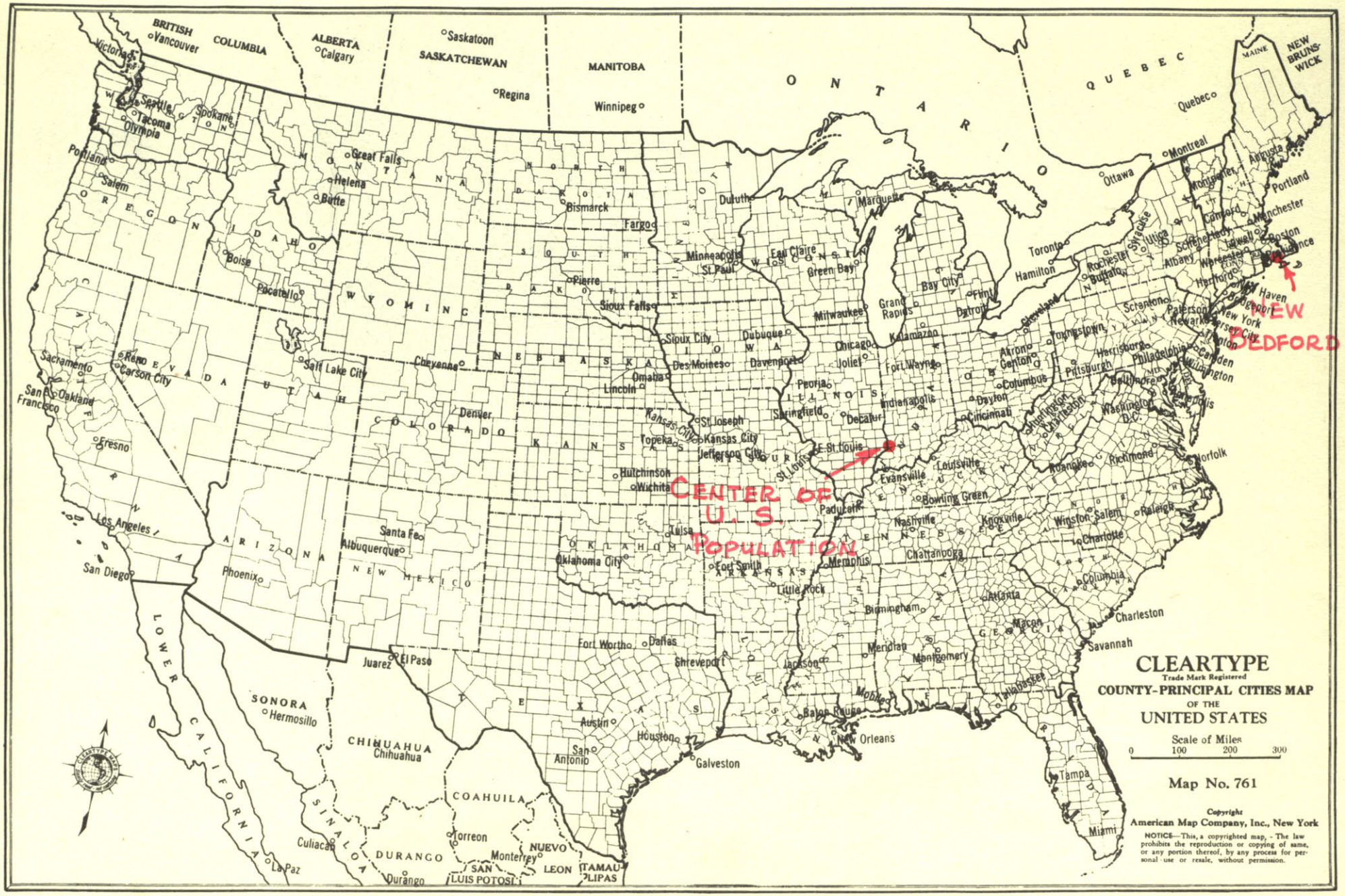
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# AN ECONOMIC BACKGROUND STUDY OF NEW BEDFORD, MASS.

## I. INTRODUCTION.

a. The Background. Once the greatest whaling port in the world, subsequently the greatest manufacturing center for fine cotton goods, the city of New Bedford, Massachusetts, has been on an economic downhill slide for the past thirty years. For its citizens, this is a bitter pill to swallow. No city with a background as picturesque as that of New Bedford and with two "greats" in its history can be expected to accept with equanimity a future with no promise of a third pinnacle of greatness to be reached.

If such an attitude is somewhat illogical and unreasonable -- and for a fact, it is -- perhaps those who hold it are not entirely to be criticised: For if the city of New Bedford does not today enjoy the prestige of former years, it may well take pride in a distinction not given to many American cities. As the textile editor of the New Bedford Standard-Times has pointed out, "Seldom has a single community thus climbed to the very pinnacle of leadership in two widely dissimilar major industries within the space of a single century." [1]

So much for the past. New Bedford, in common with a number of American communities, made the mistake of becoming a single-industry town -- investing its future in the cotton textile industry. Although some single-industry towns have prospered, it is not sound economics for a community to depend upon a single income source. Not only does such dependence place the community at the mercy of the industrial management, politically-speaking, it also jeopardizes the economic welfare of the entire city. The future income of a city and the value of all its real estate

1. A. A. Talmadge, New Bedford Textile Industry. Sunday feature article, 1937.

depend on the maintenance and growth of the basic sources of employment in the city.[2]

When whaling declined and New Bedford turned enthusiastically to the manufacture of cotton textiles for its basic support, it could hardly be blamed for not foreseeing the eventual migration of that industry from New England to the South. Even so, the cotton industry was the major factor in the rapid growth and prosperity of the city (see Chart 1), boosting its population from 16,443 in 1850 to a peak of 121,217 in 1920 (see Table 14). The real mistake was in not encouraging the development in the city of other industry. There are unconfirmed stories of the deliberate discouragement of outside industries (such as a Ford auto assembly plant, and an airplane industry) from entering the city, because of the impact of their higher wage scale upon that prevailing in the cotton manufacturing plants. Wolfbein has shown graphically the maze of interlocking directorates of New Bedford cotton mills and their control of local financial institutions.[3] Whatever were the reasons, deliberate or otherwise, the fact remains that the city of New Bedford was almost completely at the mercy of the cotton textile industry when overtaken by the economic disasters of the late 1920's and the 1930's.

Not alone among New England cities, New Bedford came at last to realize the necessity for a diversified economic base. During the years of 1930 and 1940 it has labored desperately to achieve this status and with some measure of success: Today, approximately fifty-one percent. of its payroll comes from diversified industries other than textiles. No industry or combination of industries has yet developed to the degree of economic importance to the city that was formerly held by the cotton

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2. Homer Hoyt. Economic Background of Cities. Journal of Land and Public Utility Economics. May 1941. Reprint.
3. Seymour L. Wolfbein. The decline of a cotton textile city; a study of New Bedford. New York, Columbia Univ., 1944.

manufacturing industry. In view of the declining importance of the New England region in the national economy,[4] and of the necessity for economic development of other regions of the nation if a balanced economic development of the United States is to be achieved,[5] it is not likely that New Bedford will ever regain its former position of national importance.

This should not be a cause for regret, any more than loss of the textile industry. New England took much of the world textile manufacturing business from old England, because of competitive advantages which it enjoyed, and has now lost the greater part of it to the South, for the same reason. As long as there is Yankee ingenuity in New England, there will be new industry to replace the old. Except that the region is lacking in natural resources and in agriculture, there is legitimate complaint of an undue concentration of manufacturing in New England -- not only because of the economic need for a better balance of industry nationally, but because of the requirements of national security in this age of the atomic bomb. Recent developments in the "cold" war against Communism have pointed up the extreme vulnerability of the East Coast cities and the danger to national production in the event of loss of the major New England manufacturing cities.

b. The Future. What, then, does all this leave for New Bedford? Essentially this: That, barring some unforeseen spectacular development within the southeastern Massachusetts area such as an industry for the atomic exploitation of sea water, or the atomic destruction of competing regional city-ports in World War III, the city of New Bedford can expect a future of declining industrial importance. The cotton textile industry,

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4. Seymour E. Harris. New England's decline in the American economy. Harvard business review, 25:348-371, Spring 1947. Reprint.
5. U. S. National security resources board. National security factors in industrial location. Wash. Govt. print. off., Sept. 1948. Tracy B. Augur. The dispersal of cities as a defense measure.

still important locally, will continue to decline, being replaced by small, diversified, light industries. The fishing industry, on which the early village of Bedford was founded, will probably assume greater economic significance to the city, which should now give it every encouragement and assistance and should investigate every possibility for its further development.

Decline in the city's industrial base will inevitably be accompanied by a continued decline in its population. New Bedford is not a resort city nor a center of government or education or culture, nor is it likely to be. It has no hinterland for its port. It has no agriculture, no natural resources but the southern New England fishing grounds. It is a trading center for only its immediate metropolitan area. Its future is as an industrial center, particularly in light manufacturing; therefore, any reduction in its industrial economy will bring a further reduction in its population. Once a vigorous and growing city of 121,000 people, it will be hard pressed to stay in the 100,000 population bracket. Not a calamity, this can be a blessing: For the city, once it has accepted the inevitable, can then take stock of itself, appraise its assets and its liabilities, recognize the fact that in common with other New England mill towns it has become a less attractive community to live in, and then proceed to modernize its facilities, replan its physical structure for greater efficiency and convenience, beautify its waterfront and its highway approaches, improve its parks and schools.

To do this of course requires money, the sort of money which the city does not now possess. State and federal aid can doubtless be sec-

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Bulletin of the atomic scientists, 4:131, May 1948, for national security justification. Also, Thurman W. Arnold. Democracy and free enterprise. Norman, Okla., Univ. of Oklahoma, 1942. G.D.H.Cole. Building and planning. London, Cassell, 1945. S. R. Dennison. The location of industry and the depressed areas. London, Oxford Univ., 1939. (for national economic justification).

ured, but the greater part of such expenditures must be financed by the taxpayers, themselves. Some of this must be done on faith -- faith in a better, if not a bigger, New Bedford. But this faith must be fortified by a sound economic base, which can be developed only by concerted, sustained, determined action on the part of all its citizens, labor leaders, businessmen, industrialists, and officials. The recent action of the city in establishing an Industrial Development Commission and voting an appropriation of $150,000 to bring new industry into the city is a step in the right direction. It now remains to encourage the right kinds of industry and to provide concrete evidence of the birth of a new community spirit.

c. Purpose of this Study. The purpose of this study is twofold: (1) To ascertain the strong and weak points of New Bedford with a view to suggesting possible directions for community effort in establishing a sounder economic base; and (2) To provide a background of information for any subsequent more comprehensive surveys. The need for such surveys is great. So far as is known, no study has ever been made of the city's economic situation. Wolfbein and others have reported on the cotton textile industry in the city -- more in the nature of an obituary, after most of the industry had departed from the area.[6] A very limited study of the industrial situation in the city has been made by the new Industrial Development Commission for its own use, primarily concerned with availability of industrial space. Neither this organization nor the local Board of Commerce has the staff to conduct a comprehensive survey of the city; and the City Planning Board is a planning agency in name only, without staff or funds.

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6. Wolfbein, op. cit. Senate Document 126: Report on the cotton textile industry. Prepared by a Cabinet Committee for the Pres. of the U.S., 74th Cong., 1st Sess. Also, Report of special commission appointed by Mass. legislature to investigate conditions in the textile industry. May 1950.

## II. STATEMENT OF PROBLEMS

The major problems or weaknesses of New Bedford can be classified as either economic or physical. The city has no outstanding social problems. Among the economic problems are these:

1. Distance from center of United States population, which is constantly moving westward. For a manufacturing community, this is an important disadvantage in cost of shipment of manufactured products and in attracting new industry to the community.

2. Location off main routes of communication. New Bedford is the gateway to Cape Cod and the "jumping-off place" for the Elizabeth Islands, Marthas Vineyard, and Nantucket; but it lies off the main routes from Boston to Providence and New York. This places it at a competitive disadvantage to other southern New England port-cities and is an important factor in discouraging development of port shipping through New Bedford.

3. Declining economic base, with continuing loss of large manufacturing plants (e.g., the Nonquit, Firestone, and Pierce Mills in 1949) and attendant increase in local unemployment and resultant large losses in volume of local business.

4. Predominantly low wage rates, with consequent low per capita effective buying income as compared with 200 leading cities of the nation. (cf. Tables 42 and 43).

5. Low productivity of labor in certain lines of industry, relative to that in competing areas elsewhere (e.g., in the southern textile mills[1]).

6. Labor difficulties. Although time lost due to labor strikes has been low in New Bedford, union difficulty has been responsible for some of

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1. One manufacturer has estimated that it would cost about $500,000 more per year to operate a mill like the Gosnold in New Bedford than in the South, on the same type of goods. (This includes 15% wage differen-

the loss of industry from the city.[2]

7. Relatively high property tax rate. Although the city's rate compares favorably among those of the industrial centers of Massachusetts, it is a competitive disadvantage with respect to plant location in smaller cities. (cf. Table 11). This, of course, is a direct reflection of item 3 above (declining economic base).

8. Lack of modern industrial plant space. Although there is reportedly more first-class vacant industrial property in New Bedford than in any other New England industrial center, available for early occupancy at unusually low rental costs,[3] suitable for certain industrial uses such as textiles, and for "incubator" space for small new firms, it is difficult and expensive to convert to specialized requirements.

9. Obsolescent plant equipment and methods. Although not so prevalent today as twenty years ago, when it was an important contributory factor in the closing of many New Bedford cotton mills,[4] this is still a factor to be reckoned with in any competition between long-existing New Bedford plants and the newer southern factories.

10. Lack of sufficient appreciation, on the part of responsible individuals in the city, of what industry today expects and demands of

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tial, paid holidays and vacations, and sickness and accident insurance, etc.) Minority report of the special Mass. legislative commission (ibid.) points out that it has been "established as a fact" that the same machinery removed from a closed Mass. mill to the south produces up to 50% more per machine per man, even in mills with union contracts.

2. The Kilburn Mill and the Cornell-Dubilier electrical equipment plant are cited as instances, by A. A. Talmadge, Industrial and Financial Editor, New Bedford Standard-Times, Jan. 15, 1950.
3. Ibid.
4. One mill, the Grinnell, had some equipment so antiquated that Henry Ford purchased specimens for his museum. The mill ceased operations in 1931. --Wolfbein, op. cit.

a city in any consideration for plant location.[5] Failure to be completely frank in recognizing and admitting the physical and economic disadvantages of New Bedford as a location for industry.[6]

These are problems which have a direct bearing on the present economy of New Bedford. There are other factors which have a much more important influence on the economic welfare of the city than the average citizens realizes. These are the physical deficiencies of the city itself, the factors which contribute to making the community a less efficient, less attractive, less convenient place in which to live and do business. Because the residents of a community come to accept these conditions as more or less unavoidable and familiar aspects of city life, they are prone to overlook the simple fact that such conditions can be eliminated or improved -- and that until they are, they will serve as deterrents to the location of new industry in the city, and will place the city at a competitive disadvantage to other communities in this respect.

Among these physical problems of New Bedford are the following:

1. Poor traffic pattern for industry. (See map, page 81, and diagram, page 103). Because the textile factories early preempted waterfront sites, being subsequently enveloped by the wholesale, commercial and res-

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5. Referring to preparation of a brochure for distribution, to contain comprehensive information on the economic background of New Bedford, one of the members of the city's Industrial Development Commission remarked, "All a man wants to know about New Bedford is its power, labor market, and transportation facilities. They can worry about housing after they get here." --New Bedford Standard-Times, Jan. 31, 1950.

5. "The sincerity and earnestness of the townspeople in presenting both the good and the bad points of their town have a decided effect on the reaction obtained as far as management's representatives are concerned." --H. Y. Bassett. What does industry expect of a community? University, Ala. Univ. of Alabama, Bur. of Pub. Admin., 1948.

idential districts, there is no direct highway access to the greater part of the city's industry.

2. Poor land use pattern, characterized by preemption of the city's best waterfront sites by industry, an attenuated commercial district stretching for over four miles of the city's length in an almost unbroken continuity, a wholesale district crowded into a few short blocks in the most congested section of the waterfront area.

3. Poor circulation pattern: Lack of major traffic arteries; poor routing of U. S. highway no. 6 (to Cape Cod) through the city; congested commercial districts; narrow streets, short blocks, blind corners; lack of traffic signal lights at important intersections.

## III. METHOD OF APPROACH

a. Objectives. A study of municipal problems can be approached from a number of directions, depending upon its particular objective(s) and scope, and upon the background of the person making the study. The objectives of this thesis are to determine the competitive advantages and disadvantages of New Bedford as a center of economic opportunity, and then to suggest ways and means of improving the city's economic base and its physical structure. This is intended primarily as an economic background study, and not a plan for the physical development of the city. Therefore, treatment of physical planning will be sketchy in nature, sufficient only to implement the basic economic considerations.

b. Assumptions. In order to provide a focus for this study and to serve as a background for the analysis contained herein, the following premises or assumptions are made:

1. That New Bedford's future depends primarily upon manufacturing; secondarily, on fishing and other port activity; thirdly, as a metropolitan center for sales and services.

2. That although the city is well served by regional highway and air network, has a good harbor, and enjoys a favorable location with respect to the fishing grounds and the Cape Cod vacation industry, it suffers economically from lack of a hinterland, from competition with Boston, New York, Providence and other ports for the limited coastal shipping, and from its geographical situation as a terminal city located off the main communication routes.

3. That the cotton textile industry in New Bedford, although still an important part of the city's economy, will continue to decline;

that diversified basic industries in which the city can hold a competitive advantage over other cities must be brought in to stabilize the city's economic base.

4. That the city will continue to decline in population, but that this is not necessarily a calamity: That in order to retain present and attract new industry, to become a better place in which to live and work, and to function more efficiently as a metropolitan center and encourage development of tertiary industries, it must capitalize on its assets and eliminate or offset its deficiencies and liabilities.

Assets: Harbor, airport, climate, proximity to Cape Cod and southern New England fishing grounds, skilled and semi-skilled labor force, heterogeneous population.

Liabilities: (difficult to remedy) Distance from center of United States population, location off major communication routes.

Deficiencies: (which can be remedied) Industrial sprawl, lack of traffic arteries, inefficient street circulation, obsolescent industrial plant, overly-attenuated commercial districts.

c. Approach. The approach to be followed in undertaking this study of the economy of New Bedford will be as simple and direct as possible, in somewhat the following order:

1. A brief discussion of the background and function of cities in general and of New Bedford in particular, supplemented by a fuller account of the history of New Bedford. (See Appendix A, page 114). A knowledge of the historical background of a city is essential to a full appreciation of its people, its personality, and its problems.

2. Consideration of the metropolitan and trading areas of New Bedford. Formerly a part of the Providence - Fall River - New Bedford

metropolitan area, the city has recently been reclassified as the center of a separate metropolitan area. Since a city may draw workers from and provide services and trade facilities to a sizable surrounding area, it is important to know what are the nearby satellite communities, what volume of business they contribute to the city, how well they are served by highway and transportation network, and trends in population and economy.

3. A study of the basic economy of New Bedford: primarily, of the manufacturing and fishing industries; secondarily, of the wholesale and retail trade, and construction and service industries. In particular, trends will be noted, as an indication of the direction of future development in the area. This will require a study of the local labor force, to ascertain in what respects the working population of New Bedford differs from that of other manufacturing communities in the United States. Such a study can become involved and time-consuming, and may well provide the subject for a separate thesis. In this survey, it will be kept as brief as possible.

4. Finally, integrated with the above will be a consideration of the physical aspects of planning in New Bedford -- not in the sense of a Master Plan for the city, for that is outside the scope of this thesis, but rather as a corollary to the development of the economic base of the city. In the broadest sense, all physical planning can probably be shown to have some influence upon the economy of a city. But only major physical requirements having a direct impact on industry will be included in this study.

d. Limitations. It will be obvious from the foregoing that this thesis cannot cover the subject as thoroughly as it deserves and needs to be studied. Limitations of time and expense and authority prevent the

accumulation of all the data necessary for a comprehensive survey, and the contacts required for such an undertaking. The assistance of trained economists and industrial analysts would be needed to evaluate and interpret such a mass of material. It is also unfortunate that the information gathered in the 1950 U. S. Census will not be available for inclusion into this thesis. Undoubtedly there are significant changes and trends since the 1940 Census that will affect some of the conclusions reached in this survey. But it is hoped that this present study will provide worthwhile clues to the solution of some of New Bedford's present economic difficulties and serve as the background and the springboard for subsequent more exhaustive surveys.

# CLEARTYPE

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## COUNTY-TOWN MAP OF THE NEW ENGLAND STATES

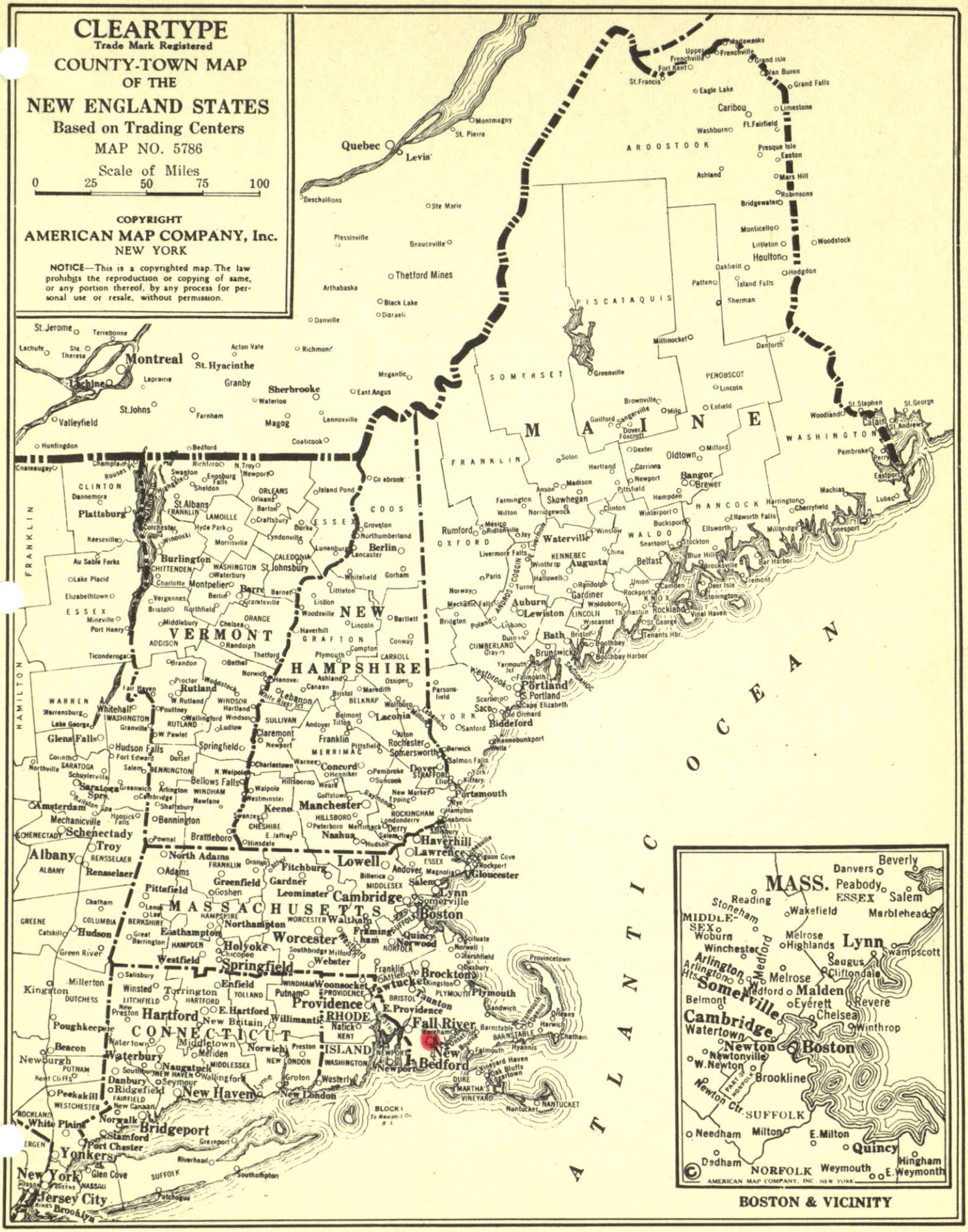
Based on Trading Centers

MAP NO. 5786

Scale of Miles

0 25 50 75 100






BOSTON & VICINITY

## IV. THE NEW BEDFORD AREA

### a. THE CITY

The city of New Bedford is located on the western side of an estuary of Buzzards Bay, on the south shore of Massachusetts, 56 miles south of Boston, 31 miles east of Providence, and 215 miles northeast of New York. Built on the west bank of the Acushnet River, it has a north-south axis, being 10.78 miles long, with a maximum breadth of 3.1 miles and average elevation 60 feet above sea level (highest point, 181.5 ft.). Maximum temperature is 102 degrees, minimum -12 degrees. Average annual precipitation, 42.25 inches. In area, it contains 12,235 acres of land, 193 acres of ponds, total 12,428 acres or 19.41 square miles, plus 8,457 acres (13.22 square miles) of tidal water, for a grand total of 20,885 acres or 32.63 square miles. (cf. Appendix B, page 127).

Bounded on the east by Acushnet, north by Freetown, and west by Dartmouth, New Bedford calls itself the "gateway" to Cape Cod, mostly by virtue of the fact that traffic from the west and south follows U.S. highway 6 through the city to reach the Cape vacationland. Actually a bottleneck to through traffic, the city will be bypassed upon completion of proposed new routes. New Bedford is, however, the closest large city to the Cape and competes successfully with Boston for its out-of-town shopping. It is also a terminal for the "Island Line" steamship service to Martha's Vineyard and Nantucket.

## b. THE PORT

Since the seaport of New Bedford is a major asset of the city, capable of much greater potential development, it is worth examining in some detail. (cf. Appendix C, page 128). The harbor, about 5 miles long and 1-7/8 miles wide, is practically land-locked by the mainland on the east, north and west sides and by Palmer's Island on the south, with a straight entrance channel 350 feet wide and 30 feet deep. The outer harbor is about 2 miles wide and 2 to 2½ miles long.

Outside of Boston, New Bedford is the only Massachusetts customs port, capable of accommodating and handling coastwise, intercoastal (Pacific), and foreign traffic. Its location within 7 miles of the line of vessels passing through Cape Cod Canal, 18 miles from the open water track of all ocean coastwise commerce passing outside of Cape Cod, and 185 miles east of New York by water, makes New Bedford the most logical and natural port of entrance to southeastern New England.[1] The city's Class IV municipal airport, located 4 miles from the downtown center, its pier trackage facilities of the Old Colony Division of the New York New Haven and Hartford Railroad, and its large fleet of overland truck transport, contribute to make the port of New Bedford second only to that of Boston as a major Massachusetts deepwater port.

In actual tonnage, the New Bedford port falls behind that of nearby Fall River, because of the large volume of shipping in petroleum and fuel and gas oils through that port. The primary difference between these two ports is that Fall River "is not a general cargo-handling port and

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1. New Bedford Port Development Committee and Bur. of Transportation and Public Service: The port of New Bedford, 1949. A brochure. New Bedford Board of Commerce, 1949.

the major part of the water-borne commerce consists of coastwise receipts of coal and petroleum products." [2]

Coastwise, intercoastal and some foreign shipping have been predominant in New Bedford port traffic in recent years, developing from a total of 12 vessels in 1930 to nearly 200 vessels annually by the outbreak of World War II. Not a regular port for such shipping (like Boston), New Bedford served as a port of call for a number of steamship lines,[3] in addition to a freight and passenger service operated between New Bedford and New York by the Colonial Steamship Lines, and the so-called "Island Line" for passengers and freight from New Bedford to the islands of Martha's Vineyard and Nantucket. Since the war, however, only two coastwise lines have been regularly operating out of the city: Pan Atlantic and Newtex (the latter to Brownsville, Houston and Galveston, Texas), plus occasional Seatrains (railroad ferries) out of New York.

Reasons for Decline in Port Commerce.

1. From a 1923 peak of 1,234,898 net tons, waterborne commerce through New Bedford declined to 448,346 tons in 1947; rose to 757,922 tons in 1948 (latest figures available), the increase being largely in shipments of coal and other fuels for local consumption. There are a number of reasons for the decline in coastwise shipping through New Bedford: Primarily, the higher port charges for discharging cargo, as compared to Boston. Whereas the railroad lines operating piers in Boston absorb the loading charges, in New Bedford this work must be done by stevedores and labor crews, at current $1.88 per hour base rates, of which only about 25¢ per 100 lbs. is absorbed on most commodities.

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2. U. S. Army Corps of Engineers. Port and terminal facilities at the ports of southern New England, 1941. Wash. Govt. print. off. 1942.
3. Weekly service by Pan Atlantic Steamship Co. and Moore-McCormack, Inc., between New Bedford, New Orleans, and Mobile; Lykes Bros. Steamship Co. and the Morgan Lines, operated by the Southern Pacific Co., between

In view of the necessity for an alternate Massachusetts deepwater port, both from a security angle (e.g., in case of the partial or complete destruction of the Boston port facilities, from enemy attack or other disaster) and to relieve congestion at Boston piers, there is a need for the removal of charges or practices which discriminate against use of the New Bedford port.[4]

Since the New York New Haven and Hartford Railroad has a natural monopoly on rail service at New Bedford, it would appear to be to its advantage to encourage development of port shipping. At the Boston port, it must compete with two other railroads for port shipping. It reportedly has expressed a willingness to give New Bedford equalizing freight rates from the Atlantic seaboard to interior points of the United States, as far as possible, which would in most cases put New Bedford on a parity with Boston and New York.[5] To date, however, no such arrangement has materialized.

2. A second important reason for the decline in New Bedford port shipping was the discontinuance of water shipments during World War II, when rail carriers seized the opportunity to put on depressed rates for

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New Bedford, Galveston, and Houston; intercoastal service between New Bedford and the Pacific Coast ports through the Panama Canal, by the Shepard Steamship Line; occasional calls made by ships of the Luckenbach Steamship Co., the Quaker Line, and other independent carriers.

4. It is undoubtedly because of State and federal realization of the need for deepwater terminal facilities at the New Bedford port, as an integral part of the national defense plan, that the recently-completed rehabilitation and enlargement of its State Pier was authorized and underwritten. By far the largest of the 23 piers in the New Bedford-Fairhaven harbor, the State Pier provides the only deep-draft terminal facilities at the port. Its 556-foot long, two-story, concrete and steel transit shed, and 165,600 square feet of open yard area with full-length double trackway and parallel 40-foot roadway, can now discharge 3 ocean-going steamers simultaneously.

5. Joseph D. Babcock, in the New Bedford Standard-Times, 18 Jan. 1950.

shipment of certain commodities, which has remained in force. Coastwise service at all North Atlantic ports has shrunk to a small percentage of prewar tonnage. Cotton, in past years a leader in the diversified commodities handled through New Bedford, has depreciated in consumption in New England and elsewhere as a consequence of competition of other fibers (nylon, rayon, and earlier, silk). Port shipping declined still further after the Pan Atlantic Steamship Company (one of the two coastwise lines still operating out of New Bedford) reportedly for reasons of lack of shipping space, placed an embargo on the standard bales of cotton. As a consequence of this, about 200,000 bales are now shipped to the New Bedford area annually via rail.

3. Another important deterrent to ocean shipping through the port of New Bedford is found in state politics, as expressed through operations of the Boston Port Authority. Although the Municipal Commission on Wharves administers city-owned wharves in New Bedford, it has no authority over the port as a whole, nor over the State Pier, largest and best of New Bedford port facilities, which is administered by the State Department of Public Works. Charges have frequently been made that the Boston Port Authority, supported by New Bedford taxpayers, deliberately takes cargoes away from New Bedford and mismanages the local State Pier, using it as a warehouse for dead storage to prevent its proper use as an active pier in competition with Boston,[6] whose "inadequate and antiquated" port facilities have been described by Ralph E. Flanders, president of the Boston Federal Reserve Bank and Chairman of the Massachusetts Committee for Port Development, as a "bottleneck to the free flow of commerce" in the state.[7]

6. Senator Edward C. Pierce, in the New Bedford Standard-Times, 2 May 1950.
7. News article, ibid., 24 Feb. 1945.

Efforts to establish a New Bedford Port Authority, which would take over operation of the State Pier, recently failed for lack of support by influential city organizations, who saw in it another means for state domination because of control vested in the Governor and Council and appointed officers. Eventual ownership of the pier by the city of New Bedford is the hope of local administration and enterprise, who see no other way to assure its operation for the benefit of the city.[8]

Being a port of call, New Bedford cannot charge the same wharfage and dockage rates as a regular port; therefore, in this respect it compares favorably with Boston.[9]

Port Activity. In addition to coal and oil, the bulk of commodities handled through the New Bedford port consisted of cotton, wool, mohair, woodpulp, lumber, and foodstuffs (e.g., flour, salt, rice). About 350,000 bales of cotton (nearly a year's supply in the local textile manufacturing industry) can be stored in local warehouses at one time, serving as storage center for New England and Canadian mills. Formerly also an important wool depository, its wool stockpile was the largest on the Atlantic Seaboard.[10] Recently, the Bureau of Federal Supply, General Service Administration, has become interested in using the New Bedford port facilities for stockpiling shipments of critical materials from abroad and for outbound ECA shipments.[11]

Four of the six piers located on the Fairhaven side of the harbor are used for marine repair or yacht building plants. The New Bedford fishing industry, with an estimated value of over $60 millions, has experienced

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8. Ibid., 18 and 20 Jan. 1950.
9. Dockage charges: New Bedford max. $20 per day; Boston, $50.
   Wharfage rates : New Bedford, 24¢ per ton (2240 lbs.) for Class IV (bales); Boston, 55¢ per ton for movement other than by rail, 28¢ per ton for movement by rail.
10. Port Development Committee, op. cit.
11. New Bedford Standard-Times, op. cit., 26 Sept. 1949.

a phenomenal growth during and since World War II, placing the port among the nation's top ten in landings, ranking 4th or 5th U. S. port in value of its catch. In addition to its fleet of some 265 trawlers, the industry has established 20 filleting and 3 cannery firms, plus 6 freezing and 4 icing plants, with truck transportation handled by a large fleet of refrigerated trailer units. A more detailed study of the fishing industry is included in Chapter V, section b.

Significance of Port to New Bedford. The economic base of New Bedford for the past eighty years, as developed subsequently in this thesis, has been in manufacturing, especially in cotton textiles. Because of this manufacturing background of the city, its heavy capital investment in manufacturing plants and equipment and its large semi-skilled labor force; and because of other factors, such as the decline of its port shipping (except fishing), lack of a hinterland and of agriculture and natural land resources, it is fairly certain that the future of New Bedford lies also in manufacturing. The port will, however, continue to play a significant part in the future history of the city, as it has in the past. It should be remembered that New Bedford owed its early development to the port (as a fishing hamlet). It attained its eminence as the leading whaling port of the world because it had a better harbor and shipping facilities than Nantucket.[12] It is probably no coincidence that the cotton manufacturing industry was established in the city and flourished there to make New Bedford the leading manufacturing center of the world for fine cotton goods: For in addition to the necessary climate and proximity to domestic markets, shared with other New England cities, New

12. William H. Tripp. History of deep sea whaling. New Bedford, Reynolds, 1945.

Bedford enjoyed the advantages of cheap water transportation for its supplies of baled cotton and coal for its mills, worldwide distribution of its manufacturing products via the famed New Bedford whaling fleet, and the availability of venture capital (whaling) plus the initiative of the whaling families who founded the cotton mills. Of course, its present importance in the fishing industry is a direct consequence of its excellent harbor, and its proximity to the southern New England fishing grounds and to New York's Fulton Fish Market. A survey has shown that "all our basic industries benefit from port facilities and that at least one-third of Massachusetts' industrial workers are employed in industries dependent for their existence upon low-cost water-borne transportation." [13] Local lumber wholesalers have indicated (prior to renovation and enlargement of the New Bedford State Pier) that with adequate port facilities they would have all shipments from the Pacific Coast for the entire southeastern Massachusetts (Newport, Fall River, New Bedford, Taunton, Cape Cod, Plymouth) made through the port of New Bedford, because of savings in freight costs.[14] Other local industries, including wholesale bakeries, have pointed out their dependence on cheaper water transportation of materials used in their businesses.

Not an Import Port. New Bedford has never been an export-import port, although it has had modest amounts of foreign freight traffic in the past, occasionally today unloads a foreign ship, and has hopes of attracting more such business with its newly enlarged State Pier facilities. It is contended that with additional dredging of the harbor channel for greater width (450-600 feet) and depth (35 feet) as at Fall River,

13. Flanders, op. cit.
14. Standard-Times, op. cit., 15 July 1945.

Providence, and New Haven, the local port would attract a greater volume of the import trade which it now has to turn down.[15] It is doubtful that any great amount of such shipping would use New Bedford port facilities in preference to those of Boston, even with elimination of rail freight differentials and Boston Port Authority "influence," since no import-export companies maintain offices at New Bedford. Even in the days of clipper trade, when a number of New Bedford merchants had money invested in such operations to Europe and China, New Bedford was not a terminal, like Boston and New York, but a port of call, as it is today.

Lack of Local Initiative. Outside of the whaling and fishing industries, then, the facilities of the New Bedford port have been used largely by local business for local distribution. Yet the value of the port to New Bedford is incalculable. Given the kind of initiative that prevails in certain other cities, mainly in the South and far West (e.g., the ports of Houston, Long Beach, and Los Angeles), the port of New Bedford with its storage and trucking facilities could provide an excellent location for import industries to establish processing plants for the distribution of products to the New England market. Granting that the entire region is at a disadvantage for plant location for nationwide distribution of products, because of the westward migration of the center of U. S. population, there still remains a large market for all sorts of products right here in New England. Unfortunately, with the decline of importance of New England, industrially (and New England had to decline if other areas of the country were to be developed), there has been a regrettable decline in Yankee initiative in some of the older manufacturing cities. New Bedford is a good example of this, and it has been re-

15. Capt. Lawrence Durfee, harbor pilot, ibid., 3 Feb. 1950.

marked that most of the initiative shown locally is by "foreigners," not natives. There is no venture capital in New Bedford, of the kind which built the cotton industry, for the encouragement of local enterprise, today.

However, the port of New Bedford remains an unfailing asset of New Bedford. Even if its potentialities for local prosperity go unrealized, today, it will remain as long as the city does: a natural asset which only a catastrophe of nature (or man) can remove, awaiting a rebirth of usefulness comparable to the days of whaling. If the past is any indication of the future, the port of New Bedford will probably continue to be the backbone of the city's economy.

## c. HISTORICAL BACKGROUND

New Bedford was first settled in the 1630's, with scattered farms cleared on the west bank of the Acushnet River. By 1750, a small fishing hamlet had developed at the harbor and with the sale of house lots expanded into a village called "Bedford," a part of the township of Dartmouth acquired by purchase in 1652 from the Wampanoag Indians. Partly destroyed by the British in 1778, in retaliation for aid given to American privateers who used the harbor as a supply point, the small Quaker community was incorporated as the town of New Bedford in 1787, gaining status as a city in 1847, the year following incorporation of the Wamsutta Cotton Mills.

Always a seafaring community, it was inevitable that the inhabitants should turn to whaling when this new industry, developed off Cape Cod about 1650, began to boom as a source of income. Rocky fields and poor soils offered only a bare existence to New Englanders. Not originally of seafaring stock, they had to turn to the sea for economic security, in fishing and whaling.[16] Yankee ingenuity and shrewdness, developing out of the necessity for making the most of meagre natural resources, built up the whaling industry to the point of world-wide leadership. With the advantage of superior port facilities, New Bedford wrested from Nantucket the distinction of being the No. 1 whaling port in the world. The aggressiveness of her whaling captains and crews, and the disappearance of whales from nearby waters, resulted in voyages of from three to five years into the most distant corners of the globe, from the arctic

16. James Truslow Adams. New England's prospect, 1933. American Geographical Society, Special publication no. 16.

to the antarctic.

Prospering greatly from the sea over a period of 100 years, New Bedford became the wealthiest community of its size in the world, a city of stately mansions and an iniquitous waterfront so well described by Herman Melville in his classic, Moby Dick. In spreading Yankee"culture" among the half-civilized natives of far Pacific islands and adding a new strain of blood to their pedigrees, whaling captains found ready markets for New Bedford cotton goods and other wares, which were followed up subsequently by the Yankee clipper ships in their European and Asiatic trade.

Why it was that New Bedford became the primary whaling port in the United States and in the world is not ascertained. Superior Yankee initiative and aggressiveness built the United States whaling fleet into the world's largest, against the competition of nations which had already been engaged in that business for 200 years or more. It is probable that these same qualities of the New Bedford whaling crews and merchants were superior to those of the men of other Yankee ports. There was not much else in the area to afford a livelihood to the menfolks of New Bedford, and few were the families that did not at some time or other have one of their members at sea with the fleet. Good ships and tough, skilled seamen were always a prerequisite to whaling supremacy,[17] and the city had these in abundance: 735 vessels and an estimated 10,000 seamen at the peak of its prosperity, in 1857.[18]

New Bedford was then a single-industry city, its entire economy depending upon whaling. The manufacture and supply of ships' gear of all sorts was a booming secondary industry. The city had become a center of

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17. Karl Brandt. Whale oil, an economic analysis. Stanford Univ., 1940. p.44.
18. Tripp, op. cit.

banking and trade for southeastern Massachusetts and the Cape. It was strictly a man's city, with no opportunities for the wives or daughters of seamen; and as whaling voyages grew longer and more hazardous with increasing scarcity of whales, and financial returns became more uncertain, a few of the more far-sighted whaling merchants of the city saw the need for a steadier, more dependable source of income for the city.

The manufacture of cotton textiles, brought over to the United States from England as early as 1813, was seen to provide an excellent opportunity for the employment of New Bedford women while offering a good yield on the investment of venture capital. Consequently, two cotton textile mills were established in the city during the 1840's, one lasting to about 1853 and the other still in operation. This was the start of the industry which, after the discovery of petroleum in 1859 and the disasters of the Civil War and loss of the arctic fleet in the ice floes had all but wrecked the whaling industry, brought the city to its second pinnacle of supremacy as world center for the manufacture of fine cotton goods.

The transition from greatest whaling port in the world to greatest cotton manufacturing center took place over a long period of years. Whaling activity lingered until after 1900, but by that time cotton manufacturing had long been established as the basis of the city's economy. Once again, New Bedford was a single-industry city, but the stakes were higher: For the prosperity brought by cotton was far greater than that of whaling and the city had experienced a rapid growth in population as its mills grew in number and size. From a population of about 20,000 at the peak of whaling, it grew to a total of over 121,000 by 1920, its year of greatest cotton prosperity.

New Bedford became the cotton manufacturing center of the world as a consequence of a number of factors: climate, cheap water transportation of baled cotton and manufactured products, availability of venture capital, adaptability of its population to manufacturing skills, plentiful supply of labor (much of it coming over from the cotton centers of England), proximity to markets (before the westward migration of the center of U. S. population), and a degree of Yankee initiative that appears to have departed from the current scene. The city had not reckoned with the possibility of competition from southern mills, once technology became able to reproduce within the plant the advantages of the New England climate. Partly through the influence of mill interests and partly through failure to recognize the dangers of a single-industry economy, the city had done little to diversify its economic base. When cotton mills began to close down or move to new locations in the South, after 1920, encouraged by the six-months' textile strike of 1928, the city was ill-prepared to withstand the rigors of the great national depression. During these years of the 1930's, some twenty cotton mills, or one-half of the city's number, were lost.

Never recovering from this loss, New Bedford has been going downhill ever since. Awakening late to the necessity for diversified industry as its base, it has made strenuous efforts to rebuild its economy. Although today over one-half of its income is from diversified industry, it has never succeeded in replacing loss of its cotton textile industry. From 1920 to 1940, population dropped 11,000; average number of wage-earners, 18,000; amount of yearly wages in manufacturing, $28 millions; capital invested in manufacturing industries, $115 millions; value of products, $183 millions; assessed valuation, $119 millions. (See Appendix A for a more detailed account of the city's historical development.)

Size No Criterion of Municipal Efficiency. Although the city reached its maximum growth in 1920 and has been declining ever since, this need not be considered a calamity by its loyal citizens. Size is no criterion of municipal efficiency nor an indication of community attractiveness for living and working. No city can expect, nor should it desire, to grow indefinitely. With a few exceptions, the present trend in the United States is away from the congested urban centers. The city which establishes for itself a sound economic base and provides a high quality of services and an attractive environment for its residents need never fear decline. If all regions of the United States are to be developed for a sound and balanced national economy, it is inevitable that New England cannot expect to dominate the nation's industry. In such a scheme of things, the manufacturing communities of the region must expect to diminish in population. Having long been on a downhill slide in the matter of municipal esthetics, with industry having always had prior consideration over the provision of attractive neighborhoods, parks and highways, a change is certainly indicated. It is high time that such cities, including New Bedford, give serious thought to transforming their dreary tenement districts, congested downtown areas, unattractive approaches, antiquated public buildings and blighted industrial districts, from community eyesores and liabilities into community assets. Such a New Bedford, with a stable population of 80-100,000, can become a far better city for its citizens than it probably ever has been in the past.

Where to Begin. It has been pointed out that although a large city is not necessarily a better city, a large city going downhill can impose serious financial burdens on its taxpayers. This may well be the case just to maintain essential municipal services. To provide for any sort of physical improvements in the face of a rapidly declining tax base will require not only a high degree of civic interest, imagination, and courage, but also substantial additional sources of municipal income. In the long run, these physical improvements may almost pay for themselves in enhanced property values, greater municipal efficiency, and greater citizen satisfactions. But to finance them will require an ever-greater dependence upon state and federal aid, which in turn has very definite limitations upon the amounts of such assistance which it can extend to communities. The problem is one which faces many American cities today, and for which no one has yet come up with a solution.

Pending the day when it can finance the more ambitious of its improvement projects, New Bedford can and should undertake without delay those minor projects which will cost relatively little:

1. Transforming city-helf vacant properties into parks, playgrounds, school extensions, and off-street parking lots, where appropriate; or exchanging for more suitable locations.

2. Improving city entrances and exits by plantings and by the elimination of unsightly signs and land uses.

3. Improving the city street pattern by restricting access to traffic arteries through blocking off unimportant side streets and limiting the access of new side streets.

4. Improving neighborhood environment by tree plantings, neighborhood parks and playgrounds, restricted commercial districts with buffer

strips of trees, and community centers for social activities.

5. Cleaning up the waterfront; "cracking down" on offending industries which discharge sewage directly into the river.

6. Commencing the transformation of available river frontage into what may well become an attractive parkway along both East and West Rodney French Boulevard (see Sketch Map, page 81), extending as far north along the Acushnet River as is expedient in consideration of the proposed (in this thesis) eventual removal of a part of the city's major industry from waterfront locations in present obsolescent plants to new locations in planned industrial estates in the northwest section of the city. (cf map, page 81).

7. Preparing comprehensive plans for city development (i.e., a Master Plan), so as to integrate present and future developments with a sound, forward-looking plan for a better city. This should be done through the means of an active, adequately staffed City Planning Commission, on a continuing basis. If this is too difficult to "sell" to the city at this time, the next best scheme is to hire an outstanding planning consultant to do a one-time survey and plan for the city and then to be retained on a contingent basis. In any event, the city should do <u>something</u> constructive in this respect, and not sit on its hands and wait for the Millenium!

## d. THE NEW BEDFORD METROPOLITAN AREA

It was the combination of port and railroad that built the industrial city of New Bedford. Ocean transportation made it possible for the city to exploit the products of the sea for its basic economy. Rail transportation enabled the industrial city to ship its manufactures and marine by-products to nationwide markets. By highway transportation to nearby towns and cities, the vigorous, rapidly growing community of New Bedford was able to extend its influence over an increasingly larger immediate area, for which it became a center of trade, finance, culture and administration -- in short, a metropolis. Drawing upon this area for natural and human resources, offering in return opportunities for trade and investment, entertainment and education, New Bedford became the primary support of the adjacent towns of Fairhaven, Acushnet, Dartmouth, and Westport, and the trading center for a much larger area extending the length of Cape Cod and including the islands of Nantucket and Martha's Vineyard.

Area of Influence. It has been pointed out that towns and cities are first of all market places, existing primarily to handle trade and financial relationships for a larger or smaller area;[19] that the influence of a metropolis over a region is not uniform but varies in intensity with the distance from the center, the lines of influence following closely upon the lines of transportation and communication, and diminishing with the distance of any given area from both the central city and from these lines;[20] and that the drawing power of a city is in direct ratio to its

19. Howard W. Odum and Harry E. Moore. American regionalism. New York, Henry Holt, 1938. p.118.
20. R. D. McKenzie. The metropolitan community. New York, McGraw-Hill, 1932. p.77-78.

population and in inverse ratio to the square of the distance.[21]

The area of influence of New Bedford is not large, as metropolitan areas go, and is completely unsymmetrical and off balance, geographically. (see map, page 37). It extends westward along U. S. highway route 6 to Westport Factory, a point halfway to the sister mill city of Fall River and 6 miles from downtown New Bedford. Sharing with Fall River the towns of Westport and Freetown, the influence of New Bedford extends northward to Middleboro, thence southeasterly to Wareham and Bourne, at the Cape Cod Canal, effectively pulling the entire Cape into the city's orbit. The Island Line steamships provide the main transportation link between the city and the islands of Martha's Vineyard and Nantucket, with the summer scheduled flights of Northeastern Airlines providing a secondary tie.

Classification as a separate Metropolitan Area. Until 1950, New Bedford was classified as a part of the Fall River - New Bedford metropolitan area in the federal Census. The two cities were substantially similar textile manufacturing communities in the 1920's. But with the loss to southern competition of the bulk of their cotton textile industries, and the development in each city of diversified industries to fill the

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21. I. e., that "the law of gravitation applies to trade areas as well as to migration and physical masses," conditioned however by a variety of other factors such as the lines of communication and transportation mentioned above, "class of inhabitants, density of population, proximity to a larger market, the nature of the businesses in the city, social and amusement factors, nature of competition offered, population of the city, distance and psychological attitude toward distance, topographical and climatic conditions in the area, and leadership of store owners and managers." Univ. of Texas Bull. no. 2944. Methods for the study of retail relationships. Quoted in Odum and Moore, op. cit. p.119. See also, William J. Reilly. The law of retail gravitation. New York, 1931.

void in their economic base, they became increasingly dissimilar, socially and economically. The Bureau of the Census finally recognized the inappropriateness of treating the two cities as a single marketing unit; and in March of 1950, it announced their reclassification as separate metropolitan areas.

Under the new order, the two new metropolitan areas were established to include the following towns,[22] shown with their 1930 and 1940 populations:

Table 1. Population in the New Bedford and Fall River Metropolitan Areas, 1930 and 1940

| New Bedford Metrop. Area | 1940 | 1930 | Increase Amount | Increase Percent. |
|---|---|---|---|---|
| New Bedford city | 110,341 | 112,597 | -2,256 | -2.0% |
| Acushnet town | 4,145 | 4,092 | 53 | 1.3 |
| Dartmouth town | 9,011 | 8,778 | 233 | 2.7 |
| Fairhaven town | 10,938 | 10,951 | - 13 | -0.1 |
| Total | 134,435 | 136,418 | -1,983 | -1.5% |
| **Fall River Metrop. Area** | | | | |
| Fall River city | 115,428 | 115,274 | 154 | 0.1% |
| Somerset town | 5,873 | 5,398 | 475 | 8.8 |
| Swansea town | 4,684 | 3,941 | 743 | 18.9 |
| Westport town | 4,134 | 4,408 | -274 | - 6.2 |
| Little Compton town | 1,492 | 1,382 | 110 | 8.0 |
| Tiverton town[23] | 5,018 | 4,578 | 440 | 9.6 |
| Total | 136,629 | 134,981 | 1,648 | 1.2% |

Significance of Separate Metropolitan Classification. What this means to New Bedford is that the city is now placed in a much more advan-

22. Standard-Times, op. cit., 10 March 1950.
23. Ibid. Article does not mention Tiverton, R. I., which lies between Fall River and Little Compton, R. I., and is logically in the Fall River metropolitan area.

tageous position, businesswise. Formerly, when New Bedford and Fall River were classified as a single metropolitan area, outside agencies were prone to select Fall River as a location to serve the entire area, influenced by the fact that Fall River had a few thousand more inhabitants. Actually, the two cities have distinctly separate trading areas (except where they adjoin, as in the towns of Westport and Freetown), and each city has its own small group of satellite towns (the Fall River metropolitan area extending over the state line into Rhode Island).

Although the change in metropolitan status, long sought by New Bedford interests, will have no effect upon the actual influence of either city upon its satellites, it will enhance considerably the national prestige of New Bedford among metropolitan centers and should have significant results in providing marketing information to regional and national concerns and in influencing the location of offices, distributing agencies, and other establishments: For the trading area of New Bedford, by virtue of inclusion of the Cape, is considerably larger than that of Fall River; and the port of New Bedford, as pointed out earlier, is a custom port with facilities for handling and storing general cargo, whereas the port of Fall River has been more of a special-purpose port for the handling of coal and petroleum products.

Limitations of this Study. No study of a metropolis can be complete without inclusion of the metropolitan area which it serves. The metropolitan area of New Bedford, as officially recognized, covers a total area of 120 square miles, including 9.5 square miles of water. Only one-sixth of this total is included within the city limits. Of the

three towns comprising the metropolitan area, two (Acushnet and Dartmouth) are rural in character, and the third (Fairhaven), while containing a few small industries (shipbuilding, fishing, tacks, golf balls), is mainly a dormitory town for New Bedford. In view of the fact that most of the material in the U. S. Census is not broken down by towns and that the 1950 Census (not yet released) will be the first in which New Bedford is considered as a separate metropolitan area, and because of the difficulty, if not the impossibility, of obtaining information from individual industries because of disclosure of confidential information, it has been impossible to present in this thesis any comprehensive picture of metropolitan industry. However, since most of the present industry in the metropolitan area is concentrated within the corporate limits of New Bedford, it is believed that a consideration of New Bedford industry will give a sufficiently complete picture of present conditions and trends within the area.

VERMONT

NEW HAMPSHIRE

NEW YORK

CONNECTICUT

RHODE ISLAND

73° 00' 72° 00' 71° 00' 70° 00'

42° 30'

42° 00'

41° 30'

FRANKLIN

HAMPSHIRE

HAMPDEN

BERKSHIRE

WORCESTER

MIDDLESEX

ESSEX

SUFFOLK

NORFOLK

BRISTOL

PLYMOUTH

BARNSTABLE

DUKES

NANTUCKET

# THE COMMONWEALTH OF MASSACHUSETTS
## STATE PLANNING BOARD
# CITIES, TOWNS AND COUNTIES IN MASSACHUSETTS

ELISABETH M. HERLIHY, CHAIRMAN — HENRY I. HARRIMAN
JAMES A. BRITTON — FRANK W. HOWARD
FRANK ROSS — ROBERT T. BARNICLE
COMMISSIONER OF CONSERVATION
COMMISSIONER-METROPOLITAN DISTRICT COMMISSION
COMMISSIONER OF PUBLIC HEALTH
COMMISSIONER OF PUBLIC WORKS

OTIS D. FELLOWS, CHIEF ENGINEER

10 0 10 20 30 40

SCALE IN MILES

NEW BEDFORD, MASS.

TRADING AREA

METROPOLITAN AREA

1950

NOTE: NORFOLK COUNTY INCLUDES BROOKLINE AND COHASSET.

## e. THE NEW BEDFORD TRADING AREA

The actual trading area of New Bedford is considerably larger than that officially included in the new metropolitan area of the city. In an effort to determine more closely the actual area of influence of New Bedford, contacts were made with local agencies[24] and their combined service zones were overlaid on a map of southeastern Massachusetts, as seen in map, page 37. Of the towns included in the new official metropolitan areas of New Bedford and Fall River, the town of Westport (at least that portion of it which contains the greatest part of its population) appears to belong rather to the New Bedford, than to the Fall River, area. The route of the New Bedford - Fall River highway, and the junction with it of the main access route from the populated section of Westport, encourages this influence. This change gives new population totals (1940) for the New Bedford and Fall River metropolitan areas of 138,569 and 132,495, respectively, and reverses their relative importance, populationwise.

Retail Trading Area. The retail trading area of New Bedford, as outlined in the 1950 edition of Editor and Publisher Market Guide,[25] covers an estimated population of 208,601 (Audit Bureau of Circulations estimate, including the city), or 213,078 (1945 State Census), or 217,637 (local newspaper's estimate), as compared with an ABC estimate of 144,879 population (or 147,234 per 1945 State census) for the Fall River retail

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24. Rural free delivery area of the U. S. Postal District; telephone exchange (local rate zone); gas and electric power service areas; New Bedford milk shed; New Bedford Cooperating Clinic service area; local newspaper distribution area; District Court area; primary coverage area of local radio station (listening, and business advertising, area); service areas of local banks; and trading areas of local department stores.
25. Published annually by the Chicago Tribune.

trading area. According to this source, the principle municipalities included in the New Bedford retail trading area are: Middleboro, Dartmouth, Barnstable (including Hyannis), Falmouth, Westport, Wareham, Provincetown, and Nantucket. (cf. map, page 37).

Adding Cape Cod to the New Bedford metropolitan area for retail trade provides the New Bedford retail trading area with an estimated 250,000 residents, and the fourth largest market in Massachusetts:[26]

| | | |
|---|---|---|
| 1949 Retail Sales | over | $164,516,000 |
| Food Sales | | 52,882,000 |
| Drug Sales | | 5,069,000 |
| Furniture-Household-Radio Sales | | 7,663,000 |
| Effective Buying Income | | 195,467,000 |
| E. B. I. per Family | | 4,422 |

Market Index. A market index, as defined in the 1950 Survey of Buying Power,[27] is a "yardstick for measuring the relative sales opportunity in different territorial units, such as counties, trading areas, sales districts or territories, etc." For easy understanding and convenient use, it is usually reduced to a simple percentage figure, indicating the share or proportion of the total market (e.g., percent. of U.S.A. potential).

Size of population of a city or other unit or area is of course an obvious market index for that unit or area, and is the first one usually to be considered in any study of a market. But there are important limitations to the use of such an index, because of the wide variations in amount of money which the same number of people in different sections of the country have available to spend. As explained by Sales Management,[28]

26. Advertisement of New Bedford Standard-Times in 1950 Survey of Buying Power.
27. Published annually by Sales Management, New York City.
28. Ibid.

population reflects what might be called the quantitative dimension in market measurement. But the qualitative dimension of the market, as measured in volume of retail sales (total volume, and broken down by major store groups), is also important in any study of how the retail sales dollar is spent in the community or area.

In Table 42, the qualitative aspects of New Bedford's buying power and retail sales over a period of years are itemized, together with the city's ranking among 200 leading U. S. cities in each of these points. For purposes of this study, the city's rank among other leading cities over a period of years is more significant than the actual volumes of sales, as showing the trend of local retail sales in comparison with national trends. It is at once apparent that the city of New Bedford has been sliding downhill steadily, in respect to buying power -- or at least has not kept pace with othercities in the group. Its relative rank since 1940, among 200 leading cities, has dropped as follows:[29]

Per family effective buying income: R.O. 97 (of 116) to 196.

Per capita effective buying income: R.O. 91 (of 116) to 193.

Total net effective buying income: R.O. 85 (of 116) to 153.

Total retail sales: R.O. 100 (of 116) to 148.

Comparative rankings of New Bedford and other U. S. cities in its population group are shown in Table 43.

Effective buying income, or E.B.I., is a measure of total gross payments to individuals before taxes are deducted.[30] From the brief

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29. Total net effective buying income is income paid out, or disposable income, as based on known relationships between county and state (city and state, city and county). Per family and per capita E.B.I. are the total net E.B.I. divided by number of families or number of individuals, respectively.

30. Report of the Commission on the Economic Study of Milwaukee, Nov. 1948. p.43-44.

tabulation above, then, it can be seen that the buying incomes of families and individuals in New Bedford, holding a low place among the 116 leading cities even in 1940, have declined steadily during the last decade. Retail sales and E.B.I. are closely related, the former indicating the amount of E.B.I. which has been absorbed by the retail market. This amount increases or decreases according to the fluctuations of general prosperity. It is apparent, from this, that even during the relatively prosperous and busy war years of World War II, New Bedford did not benefit in proportion to the income gains of other areas.

Although New Bedford and Fall River are the leading industrial cities of Bristol County, the E.B.I. per family for New Bedford since 1948, as reported by Sales Management,[31] has been less than that for both Fall River and Bristol County.[32] E.B.I. per capita for New Bedford has been slightly higher than the figures shown for the county and for Fall River, however (although lower than the average for the U.S.), which would seem to indicate a somewhat smaller ratio of employed workers per family in New Bedford than elsewhere in the county's industrial area.

By way of contrast to New Bedford's 1949 per-family E.B.I. of $3768, Lawrence, Lowell, Lynn and Somerville ranged from $150 to $700 higher, Gary $1741, and Wilmington $2914, higher.[33] Brockton was one of the few

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31. Survey of Buying Power, op. cit., 10 May 1950.

32.

| E.B.I.: Per Family | 1949 | 1948 | Per Capita: | 1949 | 1948 |
|---|---|---|---|---|---|
| New Bedford | $3768 | $3957 | | $1115 | $1156 |
| Fall River | 3851 | 4022 | | 1067 | 1107 |
| Bristol County | 3832 | 4011 | | 1099 | 1140 |

33.

| E.B.I. per Family 1949: | | | | | |
|---|---|---|---|---|---|
| New Bedford | $3768 | Somerville | $4448 | Gary, Ind. | $5509 |
| Lawrence | 3910 | Pawtucket, R.I. | 4706 | Elizabeth, N.J. | 5583 |
| Lowell | 4031 | Reading, Pa. | 4854 | Boston, Mass. | 5615 |
| Lynn | 4346 | Tacoma, Wash. | 4977 | Wilmington, Del. | 6682 |

cities which fell below New Bedford in both per-family and per-capita E.B.I.[34] Prominent in the economic bases of the cities having the highest E.B.I's in the size range of New Bedford are heavy industries such as iron, steel and other metals, machinery, lumbering operations, and so forth, with occasional exceptions like the government-diversified industry city of Madison, Wisconsin. Factors responsible for New Bedford's poor relative showing are: General decline in manufacturing in New England; relative lack of heavy industry in New England, especially in New Bedford; low productivity and low wages in New England and New Bedford; and the particularly high ratio of unemployment in New Bedford, first city in the United States to be put in distress unemployment category by President Truman.[35]

Retail Sales. Odum and Moore have pointed out that cities are primarily market places for surrounding areas.[36] These markets, wholesale and retail, are to be found in cities which are purely residential in character as well as those with an industrial base. The retail trade of cities is composed of trade with both residents and nonresidents, and the location and growth of many cities can be explained largely in terms of factors which affect their ability to draw nonresident trade from a wide area.[37] The high mobility of retail trade today, because of modern transportation facilities, means that the sales growth of a community may depend more upon the attractiveness and accessibility of its local merchandising than upon the population growth of the city itself.[38]

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34. E.B.I., Brockton, 1949: Per family, $3658; Per capita, $1111.
35. Edmund O'Neil, in Standard-Times, op. cit., 19 Jan. 1950. Factors listed are discussed in subsequent sections of this study.
36. Howard W. Odum and Harry E. Moore, op. cit.
37. John A. Pfanner, Jr. A statistical study of the drawing power of cities for retail trade. Chicago, Univ. of Chicago, Studies in Business Administration, 10:3, 1940. p.1.
38. Boston. Mass. state planning board. Development of retail trade in cities and towns of Mass., 1929-1939. Boston, 1941. p.1.

In discussing trade as one of the fundamental sources of employment in a city, which is the primary objective of an economic background study, we can consider only trade that draws its support from outside the metropolitan region of the city.[39] The metropolitan area of New Bedford is mainly residential or rural in character. Except for a relatively small amount of industry in the town of Fairhaven, almost all of the industrial base of the metropolitan area is concentrated in New Bedford. Therefore, the greater part of the metropolitan retail trade is for the convenience and service of workers in basic industry. If the industry should vanish from the area, so would most of its retail trade, for it has no independent basis for support.

The drawing power of a city for nonresident trade depends on a number of factors: Size of city, location of smaller communities, type of commodity, quality of retail outlets and service establishments, parking facilities, attitude of merchants, etc. Pfanner, in a study of three commodity groups (jewelry, silverware, and clocks; women's apparel; furniture), has suggested that among cities having populations above 100,000 the volume of nonresident trade tends to be directly proportional to population.[40] He estimates that nonresident retail trade accounts for about 28% of total city sales (1929) in the first two commodity groups listed, and about 9% of furniture sales. Convenience goods, such as food, are usually purchased close to home, whereas individuals will travel some distance to buy shopping goods (general merchandise) or specialty goods (such as jewelry).

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39. Homer Hoyt, op. cit. Also, by Hoyt: The economic background of a city is the foundation of the master plan. National real estate journal. Aug. 1943 (reprint). p.2.
40. Pfanner, op. cit.

New Bedford and Fall River are the only large cities in southeastern Massachusetts. Because of its proximity to the Cape, New Bedford draws nonresident trade from a large area (cf. map, page 37) and suffers less from the competition of Providence than does Fall River, because of location. That the volume of retail sales in New Bedford for the last twenty years has been only slightly larger than for Fall River would appear to indicate that at least in retail trade the greater size of the New Bedford trading area is not appreciably more of an asset to the city than Fall River's smaller trading area is to that city. (Table 44). Over the same period, the volume of retail sales in New Bedford has been considerably lower, by wide margins, than in the U. S. cities outside the New England area which are used for purposes of comparison in this study.[41] This, despite the fact that in 1930 New Bedford was larger than all of these cities but Elizabeth, New Jersey, which exceeded it by only 2,000 population.

Significance. Retail sales per capita in New Bedford since 1929, while higher than in Fall River and comparable Massachusetts cities except Cambridge, have been much lower than in selected outside-Massachusetts communities in every instance. (Table 46). It may be contended that variations in income will modify community per capita sales, and it is conceivable that these would be higher in a community populated by people with large incomes. But any appreciable discrepancies in wealth and in-

41. Canton, Elizabeth, Gary, Reading, Tacoma and Wilmington. The only exception is Gary, which until 1939 had a much smaller population than New Bedford and a correspondingly smaller volume of retail sales.

come between communities of comparable size would logically be expected to influence food sales. Yet food sales in New Bedford in 1939, when New Bedford and these selected cities were of approximately the same size, were reasonably close to food sales in the other cities, while sales of automobiles, of general merchandise and apparel, and sales in eating and drinking places, and in the furniture-household-radio group, were far below those in the other cities. The inference is that the poor relative showing of New Bedford in total volume of retail sales is a result of a less favorable balance of nonresident trade in New Bedford as compared with these other cities. It is probably also, to some extent, a reflection of the lower per capita effective buying income in New Bedford, which today is from $369 to $836 lower than in the comparison communities.[42]

Retail sales are a measure, although not the equivalent, of effective buying income, so we should expect to find the same ratio among the cities in this item. Retail sales per capita in New Bedford as computed from Sales Management estimates for 1949 reflect the poorer relative position of New Bedford but in a less unfavorable degree, running from $137 to $304 lower. (Table 46). This appears to substantiate the contention of Doherty that "differences in per capita sales reflect the relative potency of various communities in attracting retail trade patronage more than they reflect differences in resident income."[43]

The large drop in retail expenditures, by major business groups, from

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42. Per capita E.B.I. (1949): New Bedford, $1115; Canton, $1484; Elizabeth, $1533; Gary, $1576; Tacoma, $1675; Wilmington, $1951; U.S.A., $1286.
43. Richard P. Doherty. Trends in retail trade and consumer buying habits in the metropolitan Boston retail area. Boston Univ. college of business administration, Bureau of business research. Boston. Sept. 1941. p.15.

1929 to 1939 is seen in Tables 45 A and B, and in summarized form in Table 2, immediately following. No details are yet available for 1949. The 155% improvement in New Bedford's total and per capita retail sales from 1939 to 1949 is a hopeful sign, particularly since it is a better percentage increase than exhibited in comparable Massachusetts cities and 3 of the 6 outside cities. In the same period, the city's percentage of total retail sales in Bristol County increased from 34.2% to 38.3%. [44]

Table 2. Changes in Total and Per Capita Retail Sales in New Bedford, 1929 - 1949.

| Year | Total Sales | Change | Per Capita Sales | Change |
|---|---|---|---|---|
| 1929 | $ 51,758,000 | | $459.67 | |
| 1935 | 35,197,000 | - 32% | 319.91 | - 30% |
| 1939 | 40,777,000 | 16% | 369.55 | 16% |
| 1949 | 103,800,000 | 155% | 941.07 | 155% |

Sources: First National Bank of Boston
U. S. Census
Survey of Buying Power

Although the increase in total retail sales in New Bedford from 1939 to 1949 was 155%, the retail price index increased only about 59%, [45] and

44. Using 1939 Census and 1949 S.B.P. figures, which are not strictly comparable.

45. Retail price index for Boston, as released by the Mass. Bur. on the Necessaries of Life, showed an increase of 41% in 1946 over 1939, which would amount to 59% for 1949 at the same rate of increase. --Report of Div. of Statistics (Mass.), 1946. Table VI, p.18.

city population actually decreased.[46] On the basis of the 1949 per capita sales figure for New Bedford of $941.07, as compared with figures for Plymouth County of $896.80, Fall River $888.65, and Bristol County $724.70, it appears that New Bedford may be depending on the patronage of consumers in Bristol County for about one-fifth of its retail trade, and on Plymouth County and other Cape shoppers for possibly 2 to 4%. This is based on the assumption that actual retail purchases of New Bedford residents are no greater than those of other residents of the area and that therefore the larger per capita sales in New Bedford represent nonresident retail trade drawn from the surrounding trading area.[47] To put this another way, from 10 to 20% of the city's retail trade can be considered as a part of the basic economy of New Bedford, for purposes of this thesis (making allowance for that portion of city trade which is drawn from the metropolitan area, of which the city is the chief support, and which therefore cannot be considered as part of the basic economy of the city).

What is Needed. Retail property values, the city tax structure, parking meter and other revenues, and employment in both retail trade and service enterprises,[48] are affected by the volume of retail trade in the city. A substantial part of this trade is dependent upon nonresident patronage, which assumes even greater importance to the city in view of its present economic situation. Every effort should be made to encourage the development of the city's retail trade, as well as to hold what it

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46. New Bedford experienced a population decrease of 1,308 from 1940 to 1950; Greater New Bedford, an increase of 3,761. --from preliminary 1950 U. S. Census figures released 22 June 1950 by the district census supervisor, as reported in the New Bedford Standard-Times, same date.
47. Mass. State Planning Board, op. cit., p.5 and 11.
48. E.g., hotels, restaurants, places of amusement, barber and beauty shops, and banks.

now has. In the case of New Bedford this will require a real effort, notably to consolidate the commercial districts which now extend in an almost unbroken line for over four miles of the city's 10.78 mile length. Now housed in a miscellany of building types and sizes, many of these are old, makeshift structures that are anything but attractive to would-be shoppers. The entire commercial district of New Bedford fronts on a major traffic thoroughfare that is narrow and perpetually congested with the trucks of retailers, wholesalers, jobbers, and shippers (lacking any service alleys), plus the buses of the local transit system, and the cars of frustrated shoppers. What is desperately needed, especially in the north- and south-end shopping districts, is the creation of large new shopping centers with abundant off-street parking facilities, located just off the main traffic arteries, with corresponding restriction or elimination of commercial activities in other areas, to enable the city to escape from its present economic straightjacket and traffic bottleneck.

This will have the effect not only of providing an impetus to out-of-city shopping but will make it possible to convert to desirable new residential use a large area of the city which has been deteriorating over a long period of years. Such new shopping centers are needed in New Bedford to arrest decay in the commercial and surrounding residential areas, as nucleii to the rehabilitation of such neighborhoods in conjunction with other essential improvements such as street plantings and neighborhood parks and playgrounds, and to retain present and stimulate new patronage. Whether they could be self-liquidating and in what length of time is not within the scope of this study. This would be sufficient in itself as a subject for separate investigation. Experience in

other cities has indicated the desirability of rejuvenating inefficient, unattractive string shopping districts through their conversion into modern new centers.

Admittedly, this would be an expensive undertaking; but with a sound economic and physical plan for such development, plus the inspired salesmanship and progressive leadership that such plans require for their accomplishment, it is believed that even the cautious and conservative, slightly shabby city of New Bedford would not be too difficult to "sell" on such a project. The problem right now is to find anyone in the city with the requisite qualifications and the interest. If such a project is ever accomplished, it will probably be by outside talent and money. The "insiders" have no time for city planning.

Wholesale Trade. Along with industry, wholesale trade is one of the basic supports for most cities; that is, it performs a service for persons who do not live in the city or its environs, and therefore provides support for a volume of employment that is independent of the industrial base.[49] The area which is served by the wholesalers of New Bedford is coincident with that of the city's retail trading area, as shown in map, page 37, with an inevitable overlapping into territories served primarily by Fall River, Brockton, and lesser communities. Fish and shellfish wholesalers in New Bedford make daily deliveries by truck and air freight to New York, and frequent deliveries to Cleveland, Chicago, Denver, and other midwest and western points.

As in the case of retail trade, it is difficult to determine the amount of wholesale trade that draws its support from outside of New Bedford (without obtaining confidential information from wholesalers), or to determine the number of workers supported by non-local trade. However, a brief examination of trends in local wholesale activity will give some indication of what we may expect in the way of economic opportunity for the city.

New Bedford has been a center of wholesale activity for over a century. Recent trends in sales and employment may be seen in the following figures:

(see next page)

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49. Homer Hoyt, op. cit.

Table 3. Wholesale Trade in New Bedford, 1929 - 1947.

| Year | Number of Establishments | Sales | Number of Employees | Pay Roll |
|---|---|---|---|---|
| 1929 | 167 | $35,836,866 | 1,193 | $1,895,023 |
| 1933 | 126 | 15,484,000 | 670 | 896,000 |
| 1935 | 110 | 20,891,000 | 763 | 1,090,000 |
| 1939 | 100 | 19,908,000 | 815 | 1,202,000 |
| 1947* | | 49,610,000 | | |

Sources: First National Bank of Boston, from U. S. Census.
*Survey of Buying Power (no later estimate made).

It was pointed out in the preceding section that although New Bedford has a large geographical trading area, the volume of nonresident retail trade in the city is relatively small as compared with that in selected U. S. cities. This results partly from distance to New Bedford (38 miles from Falmouth, 47 miles from Hyannis, 89 miles from Provincetown), seasonality of trade (small number of year-around residents), type of trade, and attraction of Boston retail stores. The volume of wholesale trade in New Bedford makes an even poorer relative showing, as seen in Table 48, the figure for 1939 being only 60% of that of Fall River, 54% of Reading, 50% of Canton, 33% of Tacoma, 30% of Cambridge (which draws from the Boston trading area), and 15% of Wilmington. In 1939, these cities were all of approximately the same size, but the wholesale trade of Fall River supported 44% more employees than that of New Bedford; Reading 116%, Tacoma 153%, Wilmington 177%,

and Cambridge 225%, more. Average annual wage in the wholesale trade in New Bedford, although higher than for the County, was lower than for any of the selected Massachusetts and U. S. cities except Lynn and Reading, thus contributing even less economic support to the city than indicated in the figures for average number of employees.

Wholesale sales inevitably reflect the economic prosperity of the area as well as the economic density or population of the respective trading areas. An encouraging sign in New Bedford wholesale activity is its 149% change from 1939 to 1947 (latest available estimates), which is practically the same as that of the larger cities in the state and 5% better than the median figure for the group of Massachusetts cities listed in Table 47. In total volume of sales, however, the city was still 38% lower than that of its closest competitor, Fall River. It is likely that a portion of this difference has been a result of the combined metropolitan status of the two cities, in that Fall River's slightly larger population has doubtless influenced the location there of a certain number of wholesale offices. The change to separate metropolitan status for the two cities may result in a favorable change in New Bedford's volume of wholesale trade within the next decade.

Composition of the New Bedford wholesale trade in 1939 is shown in Table 49. Comparison with that of Fall River shows that a large part of the greater sales volume of the latter city is accounted for by the storage there of large supplies of coal and petroleum products ($3 million difference), plus greater trading activity in chemicals and paints ($1.3 million difference), machinery, equipment and supplies ($1.4 million difference), and agents and brokers for farm products and other businesses ($3.7 million difference, which may be a reflection of Fall River's prior

favored metropolitan status, since no agents or brokers were listed in the 1939 Census for New Bedford).

Significance. It is extremely unlikely that the Cape Cod region will experience any appreciable population growth in the future. Outside of the cranberry crop it has no value for agriculture, and its attraction for summer tourists is its principal source of income. Being completely off the path of national communication routes, it offers no advantage to industry except space. For the next several years, at least, it is probable that Camp Edwards, at Falmouth, will be as busy a place as it was during World War II. This will result in some increase in retail and wholesale trade for New Bedford, but the bulk of Army supplies will not be procured through local channels.

The wholesale position of New Bedford will probably never be much improved, although the new State Pier facilities (cf. sec. b, this chapter) and recent classification of the city as a separate metropolitan center may result in increased sales of lumber and other commodities received through the port and the establishment in the city of new sales agencies and offices of national concerns.

What is Needed. Whether or not the volume of wholesale sales in New Bedford improves, there is a vital need for the elimination of present extreme traffic congestion in lower Union Street which results from the location there of the city's wholesale and produce markets. Wholesale activities in New Bedford are largely concentrated in an area of some ten city blocks located between Acushnet Avenue and Water Street, on either side of Union Street. Union Street is a major east-west traffic artery. Running from the western edge of the residential area through the most

valuable and busiest section of the downtown commercial district, and through the present wholesale district, intersecting every north-south traffic artery in the city, it ends abruptly at the entrance to the State Pier. Although trucking is discouraged from using Union Street west of the center as a highway, it is not prohibited from using it or any other street in the city, despite the fact that Union Street passes through the better residential section of the city.

Tucked between the downtown commercial and the waterfront industrial areas, the present wholesale district, except for the close-packed fruit and vegetable markets, is a confused mixture of wholesale, retail, jobbing and shipping, government (U. S. Parcel Post Branch, Customs offices, Massachusetts Registry of Motor Vehicles offices, Police Headquarters, etc.), and light industry activities, through which must pass traffic for the island steamship lines, railroad terminal freight facilities, Naval Reserve-Coast Guard-U.S. lightship and other federal waterfront activities, and the entire fishing industry. All this, intersected by major north-south and east-west city traffic arteries, and with U. S. highway route 6 from Providence and Fall River to the Cape as its northern boundary! (cf. sketch map, page 81, and diagram, page 103).

Proposals. If the port of New Bedford is to be encouraged as a foundation for the city's economy, certainly something drastic must be done soon about this economic bottleneck. Without going into a study of physical planning for the area, which is outside the scope of this thesis, it is strongly recommended that a new, modern wholesale district be built, probably in the area south of Union Street and east of Acushnet Avenue, but with no direct access by individual firms onto these two streets, and with completely self-contained loading, unloading, parking and storage

facilities. Commercial business which might be affected by such a project would be incidental and easily absorbed into other locations. Light industry displaced in the process can be conveniently accommodated in the proposed new industrial district at the northwest edge of the settled area of the city. (cf. Chapter V, section d, pages 95-97 for discussion of related problems.) In this same proposed new district in the northwest section of the city it is recommended that a consolidated trucking and freight terminal be constructed to serve the needs of industry and commerce, which will have the result of eliminating some of the present congestion in the wholesale district. This is discussed at greater length in a subsequent section. (sec. d (11), Chapter V, page 104).

# V. BASIC ECONOMY OF NEW BEDFORD

## a. THE LABOR FORCE

Cities have been likened to organisms in their growth and decline, and in their internal "metabolism;" but unlike organisms, their rate of growth and their life span are not predetermined by nature and vary greatly from city to city. There are many factors which influence the growth of a city, but they generally have a basis in economics. It is not so much a matter of how many people the city can contain physically as it is of how many people the city can support.

Primary Purpose of a City. The primary purpose of a city is not to furnish shelter for its inhabitants but to provide them with a means of subsistence. Cities and towns have developed because they can support large aggregations of population and provide them with the public and private services which modern civilization demands. The size of communities (i.e., population), the value of their real estate, and the potential income of their populations, are largely determined by the number of jobs that are provided by trade and industry. Salaries and wages of the workers of a community make up the bulk of its purchasing power, provide the capital for construction of its buildings, and constitute the fundamental sources of its tax revenues.[1]

Relationship between Economics and Population. We should expect to find a close relationship, then, between the population of a city and

1. Report of the Commission on the Economic Study of Milwaukee, op. cit., p.26. It should be noted, however, that there are other important municipal income sources, such as private pensions (e.g., in numerous

its economic base, or job opportunities. New Bedford provides a good illustration of this, for its population growth has been closely tied to the fortunes of whaling and the cotton textile industry. (Chart 1). Except for the relatively small population losses from 1810-1820 and 1860-1870,[2] the city growth curve shows steady increase up to a peak of 121,217 in 1920, with a rapid rate of increase from 1880, when seven cotton mills were established during the following decade. Since 1920, however, the city's population has steadily fallen as its economic base has become smaller, until in 1950 it stands at 109,033. In the creation in late 1949 of a three-year Industrial Development Commission for the purpose of bringing new industry into the city and encouraging present industry to remain, the City Council has belatedly awakened to the need for a program of vigorous action to prevent further deterioration of New Bedford's economic position. Although the present war in Korea and stepped-up government production will inevitably be reflected in a war-built prosperity in New Bedford factories, it is hardly likely that any very significant long-term accomplishments will result from the I.D.C's campaign. Without important competitive advantages for the location of industry in New Bedford, the city can hardly hope to offset the very great disadvantages from which it suffers today as a site for national industry. (cf. Chapter II).

Relationship between Labor Force and Population. The percentage of the population which is in the labor force of a city varies greatly according to type of city and general prosperity. It is higher in manu-

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Florida and southern California cities), and the increasing dependence upon direct subsidies and other forms of state and federal government assistance.

2. These two periods were those of the War of 1812 and the Civil War, with their adverse effects on the New Bedford whaling industry.

facturing cities than in residential communities, and higher during periods of general prosperity, when there are jobs for everyone, than in periods of economic depression. Secondary factors are size of family and general education level. In a mill town like New Bedford, situated in a low-wage area of the country and still dependent to a great extent on cotton textile manufacturing (which is predominantly a low-wage industry),[3] it is not surprising that the labor force comprises a higher-than-average percentage of the population. In fact, the city in 1920, at the peak of her prosperity, had a total of 62.9% of her population ten years of age and over engaged in gainful occupations,[4] the highest percentage listed in the U. S. Census for cities of 100,000 population or more.[5] This figure in 1940 was 58.6%, as against 53.5% for Massachusetts and 52.2% for the United States. (Table 26).

Relationship between Labor Force and Employment. The high percentage of New Bedford population in the labor force does not necessarily

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3. Washington, National Economic and Social Planning Assn. Report of the committee on The textile industry in the United States of America. Wash., Nat. Ec. and Soc. Plng Assn, Apr. 1937. p.11.
4. "Gainful workers," the Census term used in 1930 and earlier years, were "persons reported as having a gainful occupation, that is, an occupation in which they assisted in the production of marketable goods, regardless of whether they were working or seeking work at the time of the Census." --16th Census of U. S., 1940. Vol. III, Part 1, p.5. The "labor force", a term which supplanted "gainful workers" in the 1940 Census, is defined "on the basis of activities during the week of March 24 to 30, and includes only persons who were at work, with a job, seeking work, or on public emergency work in that week." 1940 data on the labor force are not directly comparable with the Census statistics for gainful workers in earlier years, partly because of differences in definition and partly because of differences in type of questions upon which the data were based (gainful worker statistics being obtained by means of questions regarding occupation rather than employment status). However, "these differences probably do not seriously affect the total number of gainful workers in 1930 and earlier years." --Ibid.
5. This distinction was shared by Akron, Ohio; but whereas Akron had an employment of 89.4% of its working-age males as against New Bedford's 84.5%, New Bedford had a total of 42.2% of its females in gainful occupations as against Akron's 23.3% and was exceeded only by Washington, D.C. (45.5% of females) in this respect.

denote a high percentage of employment. In 1940, only 76.8% of the 52,580 workers in the labor force were employed,[6] with 16.9% of the white labor force and 31.4% of the Negro labor force seeking work.[7] As of January 15, 1950, there were an estimated 55,000 workers in gainful employment in the city.[8] Unemployed were estimated at 14,000, which was sufficient for the city to be considered an area of critically high unemployment.[9] Loss of 6,297 jobs through reduced operations (first half of 1949) or plant closing (second half of 1949), plus seasonal and part-time work, accounted for most of the increase in local unemployment.

The New Bedford labor force has been characterized by the:

1. High ratio of total labor force to population of working age, already mentioned;

2. High ratio of working-age females;[10] and,

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6. 75.5% of males and 79.3% of females, 14 years old and over, as compared with the averages of 83.0% and 85.4%, respectively, for 92 cities of 100,000 population and over. (Table 29).
7. This was a much higher percent. of the Negro labor force than in other cities in the state containing sizable Negro populations: Springfield, 17.4%; Cambridge, 16.3%; Worcester, 14.8%; Boston, 13.3%; and for Massachusetts, 16.8%.
8. Report of New Bedford office, Division of Unemployment Security, in New Bedford Standard-Times, 15 Jan. 1950.
9. More workers in the area claimed unemployment benefits during 1949 (when a total of 44,190 initial claims were filed at the New Bedford office of the Div. of Employment Security) than at any time since 1938, the year that such benefits were inaugurated. During the first six months alone of 1949, 30,000 claims were filed. The number of claims in 1949 was, in fact, more than twice the number filed in 1948 (19,471). Approximately $9,250,000 was paid out in 1949 to unemployed persons in the New Bedford area from the Unemployment Compensation Fund. Because of a somewhat higher degree of industrial activity and the fact that a large percentage of those who drew benefits in 1949 have exhausted present benefits, it was anticipated that the 1950 payments from the fund would be nearer to $4,000,000 -- which will mean a greater resort to savings, cashing of Savings Bonds, "doubling up" with relatives, and other forms of assistance, unless the employment situation improves beyond expectations. --Ibid.
10. For the 40-year period from 1900 to 1940, the percentage of females gainfully occupied in New Bedford has greatly exceeded that for both

3. High ratio of young people.[11] Since the early 1920's, an additional characterization has been a -

4. High degree of unemployment, as pointed out above.[12]

A breakdown of employment in New Bedford for the Census years 1920, 1930, and 1940, by major industry or field of employment, is given in Tables 30 A and B, and 31. The terminology employed, while differing somewhat for each of the three Census years, is close enough to provide satisfactory comparisons. The most notable changes in employment in this 20-year period are to be seen in the drop in the manufacturing and mechanical industries, and the gain in wholesale and retail trade, as summarized in the following table:

Table 4. Employment Changes in Manufacturing and Mechanical Industries, and in Trade, New Bedford, Massachusetts, 1920 - 1940.

| | Manufacturing & Mechanical | | | Trade | | |
|---|---|---|---|---|---|---|
| | 1940 | 1930 | 1920 | 1940 | 1930 | 1920 |
| Employment | 22,825 | 32,718 | 43,625 | 6,642 | 5,648 | 4,905 |
| Male | 60.5% | 63.5% | 64.1% | 73.9% | 82.4% | 85.2% |
| Female | 39.5 | 36.5 | 35.9 | 26.1 | 17.6 | 14.8 |
| Percent. of total employment* | 56.5 | 62.8 | 72.0 | 16.4 | 10.8 | 8.1 |

*All occupations.
Sources: U. S. Census, 1920, 1930, 1940.

Massachusetts and the United States. (Table 26). In total female population 14 years and over, in the 1940 labor force, New Bedford was exceeded only by Washington, D.C., Fall River, and the three southern cities of Richmond, Virginia, Charlotte, North Carolina, and Atlanta, Georgia.

Along with the changes in total employment, a significant trend is seen in the relative gain in female employment during this period in both these fields of occupation. The proportion of females employed in all industries combined rose from 34.3% of total employment in 1920 to 37.1% in 1940, although the female proportion of working-age population (10 years and over in 1920; 14 years and over in 1940) remained practically the same (51.1% in 1920; 51.2% in 1940). The reason for this is not difficult to see: Whereas the whaling and fishing industries employed males, the cotton textile manufacturing and rayon industries gave employment to large numbers of females. The lack of heavy industry in the city and the recent influx of light garment industries or so-called "needle trades" has accentuated the unbalance of local industrial employment. Consequently, the bulk of unemployment in the city is confined to men.[13] Thus the New Bedford labor force suffers from an unbalanced

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11. In 1920, at the peak of New Bedford's prosperity, children aged 10 to 17 years engaged in gainful occupations amounted to 5.6% of the total city population 10 years old and over, as against 3.4% for both Massachusetts and the United States (or 8.8% of total population gainfully employed in New Bedford, as against 6.0% for Mass. and 6.7% for the U. S.). (Table 28 A). In 1940, 39.6% of its male population and 32.7% of its female population 16-17 years old were in the labor force, as compared with averages for 92 cities (100,000 population and over) of 21.5% and 15.2%, respectively (exceeded in each case only by Fall River, with 46.2% and 50.4% respectively). (See Appendix F, for additional discussion, with supplementary tables.)
12. Comparison with other Mass. cities in the 1940 Census shows that 17.4% of the New Bedford labor force were seeking work as against 13.5% in Fall River, 13.3% in Boston, 13.0% in Cambridge and Lowell, 12.6% in Somerville, 10.7% in Worcester, 10.4% in Springfield, 11.2% for Mass., and 9.6% for the United States as a whole.
13. In an attempt to relieve some of the male unemployment in the city, the Industrial Development Commission is currently arranging with the local industries and the New Bedford Textile Institute to establish a New Bedford Needle Trade Association, open to all firms in the industry, and to set up accelerated courses at the Textile Institute to train young men for the jobs which are presently available only to women. How successful the enterprise will be in breaking down masculine resistance to what is commonly considered "women's work,"

male-female employment situation and the seasonality of the textile industry. In addition, the occupational pattern of the city is characterized by a predominance of semiskilled workers and a comparative lack of both skilled and unskilled workers (in comparison with other cities. See Table 32). This latter is a result of the long domination of city industry by cotton textiles and it undoubtedly has been a factor in discouraging the location here of certain new industries.

Additional characteristics of the New Bedford labor force (1940) are a lack of professional and semiprofessional workers, proprietors, managers, and officials. Even the percentage of clerks and kindred workers is low as compared with other Massachusetts and U. S. manufacturing cities. Only in proportion of semiskilled workers (52.5%, or 15% above the average for the 14 selected cities) does the city's labor force rank higher than below-average. These are the workers employed largely by the textile industry. With the limited range of local employment, workers in other categories must generally look elsewhere for employment. Net out-migration from New Bedford, 1935-1940 (presumably in search of better job opportunities), was 3.5% of the 1940 population as compared with 0.7% for the state. (cf. Appendix F).

Widening of the city's economic base by the introduction of heavy industry and more diversified light and tertiary industries would provide the necessary job opportunities to stabilize the New Bedford labor force and diminish the loss to the city of the men and women which it has raised and educated.[14]

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remains to be seen. Companies have indicated a willingness to set up separate departments in their plants to separate men from women and thus spare male pride to some extent. --N. B. Standard-Times, 20 July 1950.

14. The value to a community of young people of working ages, 20-44 years, who were raised and educated at the expense of another state, is estimated by Sacramento, California, at $4,000 apiece at present prices --

## b. THE FISHING INDUSTRY

The New Bedford fishing industry, oldest of the city's industries, which dates back to the early village of New Bedford, has only recently begun to assume commercial importance to the city. Fish landings at New Bedford in 1946 amounted to nearly 90 million pounds, with an estimated value of $12 million, employing between 5-6,000 persons.[15] The total catch for 1949 was 105,683,157 pounds, with a total valuation of $9,557,106 and with a fleet of 237 fishing vessels valued at approximately $10 million, plus 18 filleting plants and 13 packing plants to process the catch.[16]

Total 1949 fish landings in New Bedford were an all-time high, being 28,000,000 lbs. over the 1948 catch and more than 4,000,000 lbs. greater than the previous record year of 1945. But because of a drop in prices and large landings of trash fish,[17] the valuation of the 1949 catch was the lowest since 1945, the last year of O.P.A. regulation of fish prices.

Comparison of New Bedford with other United States ports, through figures provided by the U. S. Fish and Wildlife Service, place San Pedro and San Diego, California, and Boston, ahead of New Bedford in both landings and valuation, with Gloucester rated only slightly higher than New Bedford in valuation:

(see next page)

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an out-and-out capital gain to the community! Sacramento. Calif. state reconstruction and reemployment commission. Pamphlet No. 12: Forecasting a city's future. 1946.

15. Emery, op. cit. p.11.
16. New Bedford. New Bedford industrial development commission. Facts about New Bedford, Massachusetts. A brochure, 1950. p.5.
17. Fish which are used for animal food or broken down for other uses. This type of fish, never landed in any quantity in New Bedford prior to 1948, accounted for 42,829,337 lbs. of the 1949 total, which was more than ten times the amount landed in 1948. --Standard-Times, 15 Jan. 1950. p.31.

Table 5. Weight and Valuation of Fish Landings in New Bedford and U. S. Ports, 1949.

| Port | Total Landings | Value of Catch |
|---|---|---|
| San Pedro | 540,000,000 lbs. | $26,500,000 |
| San Diego | 210,000,000 | 31,000,000 |
| Boston | 171,000,000 | 12,000,000 |
| Gloucester | 233,000,000 | 10,000,000 |
| New Bedford | 106,000,000 | 9,500,000 |

Source: U. S. Fish and Wildlife Service[18]

In 1947, New Bedford had become the fourth most important port in the country in value of annual catch, with 96.8% of the world's supply of sea scallops coming into the port. Landings of scallops in 1949 brought $4,293,700 at auction, nearly half the total valuation of the year's fish catch, despite a drop in average price from 52.37¢ per pound in 1948 to 36.88¢ in 1949. Important factors in the development of the New Bedford fishery have been favorable location of the city with respect to the southern New England fishing grounds and its nearness to New York City's Fulton Fish Market, plus the overwhelming demand for fish generated by World War II.

The fishing industry of New Bedford and New England is presently threatened by scarcity of the key species of fish in New England and North Atlantic waters because of overfishing, especially haddock, redfish, and yellowtail flounder, the last-mentioned being particularly important to the New Bedford filleting industry. In addition, the entire

18. Ibid.

New England fishing industry is highly vulnerable to imports of packaged fish, especially from Canada. In 1931, imports amounted to only 4% of United States consumption of fresh and frozen fish, but by 1948 they accounted for 23%.[19] Low labor costs and much closer proximity to the fishing grounds (3 to 6 hours, as against 3 to 5 days for the New Bedford fleet) enable foreign fillets to undersell the domestic, despite the tariff. Thus far, the federal government[20] has refused to place quantitative restrictions on fish imports, and the New England fishing industry appears to be threatened with extinction.[21]

Other troubles beset the New Bedford fishing industry in 1949: Nine of its fishing vessels were lost at sea, with loss of fourteen lives. Four vessels were purchased by outside interests and removed from port activity. Seven fish processing plants went out of business. Disputes between fishermen and dealers on the grading and pricing of fish threatened port operations, and for a while it was feared that the New Bedford fishing fleet might move to Newport, Rhode Island. Although the future of the industry in New Bedford is uncertain at this port, it is still one of the city's major activities and an important element of its economic base.

Recommendations. At this time, without more research on the subject of the North Atlantic food fish resources, it is impossible to make any prediction of the future of the New Bedford fishing industry. The concensus of opinion of marine biologists is that with respect to food fish, we have scarcely begun to tap the infinite resources of our two great oceans.

19. Donald J. White. America's oldest industry faces crisis. Monthly Review, 32:#3, March 1950. Fed. Res. Bank of Boston.
20. U. S. Departments of State and Commerce, and U.S. Tariff Commission.
21. Standard-Times, op. cit. Wash. Bur., 6 Apr. 1950.

It is known that there are many varieties of fish not now used by man which are edible and which may well supplement our present varieties of food fish and possibly supplant many of them in future markets. It is more than likely that we may eventually utilize for food purposes the microscopic plankton which exists in untold billions of tons in the sea and provides the basic food for sea life much as grass and other vegetation provides the basic food for land animals.

Certainly, then, as long as there are fish in the ocean, there will be an American fishing industry. There is no reason to believe that Atlantic ports presently serving our fishing fleets will find their usefulness threatened by an absolute scarcity of food fish. Not too much is presently known about the migration of fish from long-established fishing grounds, and the search for new varieties will reduce if not eliminate dependence on present key species. It is more than a possibility that food-fishing will develop into a category of mass-production by fewer and larger firms. Experimentation has been made in Europe in the operation of floating "fish factories," which are large steel ships which not only catch the fish but also process them aboard the ship, either freezing or canning the fillets. Such a vessel carries a relatively large permanent crew and touches at port only long enough to unload the catch and replenish necessary supplies. Such an idea should be quickly adopted in this country, and New England, which is foremost among fish producers of the nation, should logically be first to explore its possibilities, especially in view of the present economic difficulties. Only in some such manner, without additional import restrictions, can the region hope to cope with the cheaper foreign sources which are now reportedly flooding the American markets.

To the arguments that such a floating fish factory is likely to do little for municipal stability, that it would employ single men or leave married men's families stranded at port, that it affords no opportunity for turn-over of wages except for wholesale stocking of ships' supplies, and that it is by nature so flexible that it can move to some other port with no difficulty, and probably pays no local taxes -- it is pointed out that the majority of fishermen in the local fleet are married; that such a vessel would have to return to port for fresh fruits and vegetables probably weekly; that its operations would in all likelihood not require a longer period at sea than is customary today for many of the local ships; that the stockage and maintenance expenses for such a craft would be a sizable item in the course of the year and that if operated by local interests it would pay local taxes in proportion to those now paid by the same interests for the conventional type operations, and would be serviced and repaired by local firms in the same manner. The mode of operation of such a vessel in this country would doubtless conform to present ships' practices rather than be modeled after the operating techniques of European nations. It is true that the catch after processing at sea could easily be discharged at another port, but in that respect it would not greatly differ from the present practice for unprocessed fish landings, by which New Bedford gains from the local sales of catches from "foreign" registry vessels as much as or more than it may lose to other ports. One possible disadvantage to the city from use of floating over stationary fish factories would be the possible abandonment of some local processing plants. But if the profits from a floating factory were such as to encourage its use at all by the industry, then local interests in self-preservation would

have to invest in them. Plants abandoned by fish filleting firms would conceivably be suitable for other types of fish-products industries which will inevitably develop from the exploitation of new sources of raw materials from the sea. In any event, progress in the fishing industry, as in any other, cannot be impeded by obsolescent plants or techniques, any more than the manufacture of automobiles was delayed by the current supply of buggies!

It is, therefore, recommended that the city of New Bedford, either through public or private channels (or both), take the following actions:

1. Exploit the research facilities of the world-famous marine laboratories at Woods Hole for the purpose of exhaustive study of fish resourcesin the waters which can be covered by the New England fishing fleet. There are other agencies which can be called upon for assistance, and it would be well for all New England fishing interests to combine in a united demand for immediate action.

2. Investigate the possibilities of a floating fish-factory for the city. Considering the greater expense of construction and operation, it is likely that several private firms or owners of fishing boats may find it expedient to join forces in the venture. Now is the time for private initiative in the city to get the "jump" on other Atlantic ports, to exhibit some of the spirit of the founders of the city's whaling and cotton textile industries. If there ever was a "natural" for the fishing port of New Bedford, this is it.

3. Take the lead in exploring the value of new species of fish for food consumption in the American market. There is always pioneering to be done in developing new resources, and with the present excellent market for New Bedford fish, the city's dealers and shippers are in an ex-

tremely good position to "push" new varieties. It is not public reaction that the fishing industry has to fear: It is its own lethargy and lack of initiative in developing new markets that is the greatest obstacle which it has to face.

4. Encourage the establishment of fish-products industries at the port. With increased fish landings that will result from the activities suggested above, there will be an increased potential in the use of by-products: cat and dog food, fertilizers, vitamins, plastics, etc. Activity generates like activity; with increasingly larger and more diverse supplies of fish coming through the port, there will be an inevitable increase in fish processing plants and industries utilizing the by-products and trash fish. The disagreeable odors and solid wastes from such plants can be controlled

In its fishing industry, the city of New Bedford has a competitive advantage over other large cities which it should exploit to the utmost. This is all the more essential inasmuch as the advantages which the city has enjoyed as a location for industry appear to be diminishing, as a result of factors which are elsewhere discussed in this study. The contribution of the fishing industry to the city's economic base today, while important, is capable of considerable increase if prosecuted aggressively and intelligently by local interests. Of the two principle elements of industrial activity which are lacking in New Bedford, today — initiative and venture capital -- the latter will always be found when the former is developed.

## c. THE MANUFACTURING INDUSTRY

A Manufacturing City. The character of New Bedford as a manufacturing city was established by the introduction of the textile industry in 1846, when skilled operatives and foremen were brought in from manufacturing communities in New England and from old England.[23] As the city expanded rapidly with the development of the textile industry, it became the service and banking center for the surrounding area and eventually developed into the main retail and wholesale trading center for southeastern Massachusetts.

Not only did New Bedford in 1920 overshadow all United States cities of 100,000 population and over in respect to total percentage of working-age population in gainful employment,[24] its status as a manufacturing city was even more pronounced: Of its gainfully occupied population, 72% (43,625 persons) were employed in the manufacturing and mechanical industries.[25] By 1940, the percentage of total employment in New Bedford engaged in the manufacturing and construction industries had dropped to 56.5% (22,825 persons); and only 45% of the city population 14 years old and over (40,400 persons, of a total of 89,723) was listed in the Census as employed, out of a total of 52,580 persons in the labor force.

Although, in 1940, the city ranked high in the two categories of (a) working-age population in the labor force[26] and (b) employment in

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23. Appendix A, page .
24. 62.9%, or 60,569 persons, as compared, for example, with 57.3% for Boston, 57.0% for Springfield, and 54.9% for Worcester.
25. As compared, for example, with 54% for Worcester, 46.8% for Springfield, 42.5% for Cambridge, and only 37% for Boston.
26. 58.6%, exceeded only by Fall River with 59.9% among 14 selected cities.

manufacturing and construction,[27] it held lowest rank among fourteen selected comparison cities with respect to percent. of labor force employed: 76.8%. The city was thus in the very unhappy predicament of possessing:

1. A high ratio of labor force to population; along with,

2. A high ratio of employment in the manufacturing segment of its economic base; coupled with,

3. A relatively low rate of total employment in its labor force.

Productivity of Labor. Labor costs average over 50% of the value added to textile manufactures.[28] Studies by Beal and Hinrichs reveal that in 82 manufacturing industries, hourly earnings were higher in the North than in the South.[29] In order to take account of productivity as well as wage rates, and thus estimate true labor costs, comparisons were made of average value added by manufacture per dollar of wage costs, which gives a rough index of competitive labor costs of a region. According to this analysis, New England was found to be the high-cost labor area of the country. That this position was the result of low productivity was confirmed by a survey of 105 selected industries for the year 1937, which showed that actual hourly wage earnings in New England were relatively low compared with wages in the North and West, although still high compared with those in the South.

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27. 56.5%, exceeded only by Fall River with 62.6% and Gary with 63.1%, among the same cities. (Table 27).
28. 61.6% for the cotton goods industry in New Bedford, over the period 1928-1946; and 55.1% for the silk and rayon industry, 1939-1946. These percentages represent total amounts of wages paid, as taken from the Massachusetts annual census of manufactures. (Table 36).
29. Beal and Hinrichs. Geographical differences in hours and wages, 1935 and 1937. Monthly Labor Review, 50:#5, May 1940.

High wages are not necessarily a deterrent to industrial leadership if accompanied by high productivity. Migration of textile industries from New Bedford and New England to the South was influenced largely by the high relative level of textile wages in the North.[30] The northern cotton textile industry had been characterized from the start by low wages, varying from one-half to two-thirds of the average yearly wages paid by all manufacturing industries; yet the wages in the southern textile industry, 1919-1937, were only three-fourths to four-fifths of those paid in New England and New Bedford.[31]

New England is no longer the high wage rate area of the country, as was brought out in recent studies.[32] Although wage rates are relatively low in this region, they may however be too high in certain industries which are declining or show a lower level of productivity in New England than in other sections of the country. Wages were too high to support the textile industry in the region at the pre-depression level, but they were low enough to attract capital for the production of rayon, where the productivity is higher.

Although relative wage costs may have been the most important single factor contributing to industrial losses in New England and New Bedford, it is necessary to point out that there were other important contributory factors such as the westward migration of the center of U. S. population, and changing sources of raw materials. In industries with high wage rates and low productivity, as compared with competing sections of the country

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30. Wolfbein, op. cit.; National economic and social planning association, op. cit.
31. Ibid.
32. These studies placed Boston 23rd from the top in manufacturing wage rates and 17th in non-manufacturing, out of 31 urban areas studied; while Providence ranked 20th and 14th, respectively. --Seymour Harris, op. cit.

(such as textiles and paper manufacture), New England will continue to lose ground. In those industries, such as men's and women's clothing and the rayon industries, where higher productivity vis-a-vis other industrial areas gives New England a competitive advantage in wage costs over her competitors, New Bedford can hope to recoup some of her losses. --And has done so, as witness the fact that the silk and rayon industries have in recent years become one of the most important industries in the city.

These are not highly paid industries, however, and dominance by them of the city's manufacturing activity would insure that the city would become a low wage area. It is, in fact, already that: a low wage area within the low wage region of the country. Reference to monthly reports by the Massachusetts Division of Statistics[33] shows weekly manufacturing wages in New Bedford to be consistently lower than those for most of the other industrial cities in the state.[34] Only through diversification of the city's economic base, and particularly by the introduction of heavy industry, can the city hope to raise itself from its present unenviable position in the national wage scale structure.

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33. Boston. Mass. dept. of labor and industries. Employment and pay roll earnings of 14 leading cities.

34. Ten years ago, in 1939, the amounts paid in wages weekly in 16 leading industrial cities in Massachusetts were lowest in New Bedford not only for the yearly average but also for 8 months of the 12. (Pub. Doc. 104, Mass., op. cit., 1939; Table 4). That year (1939) was a year of nearly normal activity in the state; but whereas, using the base: 1925-1926-1927 = 100, Massachusetts showed an index for 1939, in average weekly manufacturing payroll, of 72.1, New Bedford had an index of only 43.7. In average number of manufacturing wage-earners, the respective indexes were 78.8 for Mass. and 45.9 for New Bedford. (Ibid., chart p. 36). Decline in average weekly payroll from 1937 to 1939 for New Bedford was 24.6% as compared to 10.3% for the state; in average number of wage-earners, a decline of 31.1% as compared with only 5.6% for the state. These figures reflect not only the unfavorable ratio between the city and the state (average annual earnings of

Predominance of Cotton Industry. New England is one of the most diversified manufacturing sections in the world, with about 225 distinct lines represented, or two-thirds of all types of industries listed in the 1939 U. S. Census for the entire country.[35] The more diversified the industrial background of a city, the less the risk to municipal debt structure from a short decline in one industry, and the less serious the closing or removal of an individual plant. Although the economic base of New Bedford has become greatly diversified in recent years (Table 35), the cotton goods industry continues to maintain its leading importance. This predominance in the industrial picture of the city is, however, decreasing. Over the ten-year period 1936-1946, the cotton goods industry dropped as follows, with respect to its percentage of the total for all manufacturing industries in the city: (cf. Table 36)

| | | | |
|---|---|---|---|
| Employment ..... | 49.1% | to | 33.4% |
| Wages ..... | 47.9% | to | 35.0% |
| Value of Products ..... | 30.9% | to | 34.8% |
| Value Added by Manufacture .. | 40.3% | to | 31.4% |

During the same period, silk and rayon goods, second in importance, showed a similar, though less marked, change:

| | | | |
|---|---|---|---|
| Employment ..... | 22.4% | to | 13.1% |
| Wages ..... | 21.2% | to | 14.4% |
| Value of Products ..... | 20.1% | to | 13.4% |
| Value Added by Manufacture .. | 16.1% | to | 13.7% |

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manufacturing employees in New Bedford consistently about $200 lower than for Mass. cf. Table 34), but also the much greater instability of the New Bedford manufacturing industry.

See Chart 4, with explanatory data on Cost of Living, for changes in New Bedford manufacturing employment and wages paid from 1920 to 1946.

35. Boston. First National Bank. New England trends. 1939.

Value Added by Manufacture. The relative importance of main industrial groups in New Bedford, as taken from the U. S. Census of Manufactures, 1939, is shown in Table 37, listed in order of their respective Value of Products. Of the eight groups showing a V. of P. of $1 million or more, textiles accounted for 65.9% of the total value. A similar picture for 1946 is shown in Table 38, indicating 56.6% of total V. of P. as being accounted for by textiles.[36]

From 1939 to 1947, under the economic pressure of war, the number of manufacturing establishments in New England increased by one-third, factory employment gained about as much, and value added by manufacture almost tripled.[37] In factory employment and V.A.M. during this period, New England showed a smaller relative expansion than any other major region of the country, principally because of its already high state of industrialization. (Table 39). In 1939, about 41% of gainful workers in the region were engaged in manufacturing and construction activities as against only 29% for the nation,[38] which made it inevitable that labor shortages would arise more quickly in New England than in less industrialized areas which could support a greater relative expansion by movement of workers from agriculture to industry.[39] Based upon V.A.M., Massachusetts (1947) ranks 8th among manufacturing states of the nation, and accounts for 49.4% of New England's total.

Although New Bedford trailed slightly behind New England in respect to expansion during the period 1939-1947 in number of manufacturing establishments and number of production workers, it greatly exceeded both New

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36. No close comparison can be made between figures for the two years, however, because of differences in nomenclature and omission of important industries for 1946 to avoid disclosure of confidential information.
37. Factory employment in New England. Monthly review, op. cit., 31:#10, p.6. Much of this increase in V.A.M. is due to price rises.
38. Comparative figures for 1946 were 44% and 33%, respectively. Harris, op.cit.
39. Lack of housing and of skilled labor were important factors.

England and the United States in relative expansion in V.A.M., and consequently in Value Added per Establishment and per Production Worker. (Chart 3; Table 40). The U. S. Census of Manufactures, 1947, points out that "'Value added by manufacture' provides the best Census measure of the relative economic importance of manufacturing in different industries and different areas. It measures the approximate value created in the process of manufacture, that is, the contribution of manufacturing establishments to the value of finished manufactured products." It does not include the value of purchased materials and supplies, containers, fuel, or purchased power.

Since New Bedford provides little or none of the raw materials used in local manufacturing, this item of V.A.M. can be described as the city's contribution to the end product of the manufacturing process, and represents income to the city. If it had not experienced this expansion in V.A.M., the city would be in a much worse situation than it is. Lacking extractive industries (except the fishing industry), the city in its quest for new industries should pay particular attention to those which exhibit a high ratio of V.A.M. The city's greatest asset is the skills of its labor force, and it is these skills that are in great measure lying dormant and atrophying for lack of suitable employment, today, or are being lost to the city through migration to other manufacturing centers.

Cotton's Role in New Bedford. If any city can be said to epitomize the misfortunes of New England, New Bedford is perhaps the best candidate for the distinction. The industry which brought the city its greatest prosperity — cotton textiles -- was the industry most responsible for its greatest subsequent misfortunes: For it was this industry

that industrialized New Bedford, gained complete economic control of the city, built up its great labor force, and then deserted the city at its peak of labor specialization to move to new areas of low-wage labor in the South.

The Phenomenon of Industrial Decline. Loss of importance in textiles was, of course, a phenomenon not unique to New Bedford. Massachusetts had been the greatest industrial center of the world in the manufacture of textiles and boots and shoes. But because of large foreign imports and the migration of a large segment of the textile industry to the southern states and of the shoe industry to the midwestern states, the number of wage-earners in these and allied industries in the state dropped about 33.3% in the ten-year period from 1924 to 1934, and the amount of wages paid decreased 48.5%.[40] Textiles and the shoe and wool industries (which are also reportedly declining in the region) were important elements of New England economy.

It has been observed that in general, the regions where manufacturing employment declines most are the regions where manufacturing is of the largest relative importance.[41] This is probably a result of several factors, including:

a. The westward trend of population (and therefore of industry) away from the old, established manufacturing areas; and

b. The obvious fact that when an area becomes so highly developed, industrially, that it appears to reach some sort of limiting force or ceiling to further growth,[42] the only change that can then take place

40. Mass. Pub. Doc. 104, op. cit. 1935. p.214.
41. Office of Business Economics, U.S. Dept. of Commerce.
42. Such as the combined forces of traffic congestion, insufficient space for expansion, high rents and other operating costs, inadequate facilities, increased commuting distances for employees, etc.

is in a general decline. In effect, great concentration of industry, while possessing certain advantages, appears to reach a point beyond which it becomes less efficient and more cumbersome, somewhat analogous to the recognized deficiencies of very large industrial plants. New England, being the oldest and most heavily industrialized region of the United States, inevitably is first to feel this loss of industry. Because of its small size, high comparative density of population, distance from the present center of U. S. population, (probably now just over the Illinois border from its 1940 location, southeast of Carlisle, Indiana), and lack of natural resources, it will feel the loss of industry more keenly than will other eastern areas. And because of its extreme degree of "Yankee pride," it will resent the loss and fight it, rather than accept it with reluctance and admit that its predominance in the American industrial picture is a thing of the past.

Because of its high degree of industrialization, labor specialization,[43] and outside-invested capital, New England has been called the "Belgium of the U. S." Harris has likened its economic position in this country to that of Great Britain in the world, in that each has improved its absolute position over the fifty years ending with World War II, as indicated either by real or per capita national income, but has also suffered from large amounts of unemployment, declining industries, and losses to other geographic regions. Each is now playing a smaller part in the economic life of the nation and the world, respectively, than it did 100, 50, or 25 years ago. Lacking natural resources, New England depends largely on sales of manufacturing products and services, in which field her position is declining in importance, and secondarily on dollars received from past investments, which is not today

the lucrative and dependable source of prosperity that it was in days past.[44]

Tertiary Industries Needed. New England and New Bedford can hope to some extent to replace lost industry through the development of new. To date, however, neither one seems able to keep up with the attrition in its industry. Heavy industry, to complement its light manufacturing, is needed, as has been pointed out earlier. Tertiary industries should be developed to cushion the losses in manufacturing, for with increased incomes, the nation spends an increasing proportion on the products of these tertiary industries: Recreation, education, travel, health, sports, government, distribution, printing, and the like. It has been demonstrated that industrial states with large development of these tertiary industries attain higher income levels than those in which this is lacking.

From 1928 to 1937, when it was replaced by the silk and rayon industry, printing and publishing formed the third most important industrial group in New Bedford. No figures were published for this group in the 1946 Massachusetts Census of Manufactures, to avoid disclosure of confidential information. In educational opportunities, the city cannot hope to compete with the long-established educational and cultural centers of Boston and Providence, but it does maintain, with state aid, a Textile Institute of worldwide repute. This institution should be expanded to insure the maintenance of standards and facilities for the

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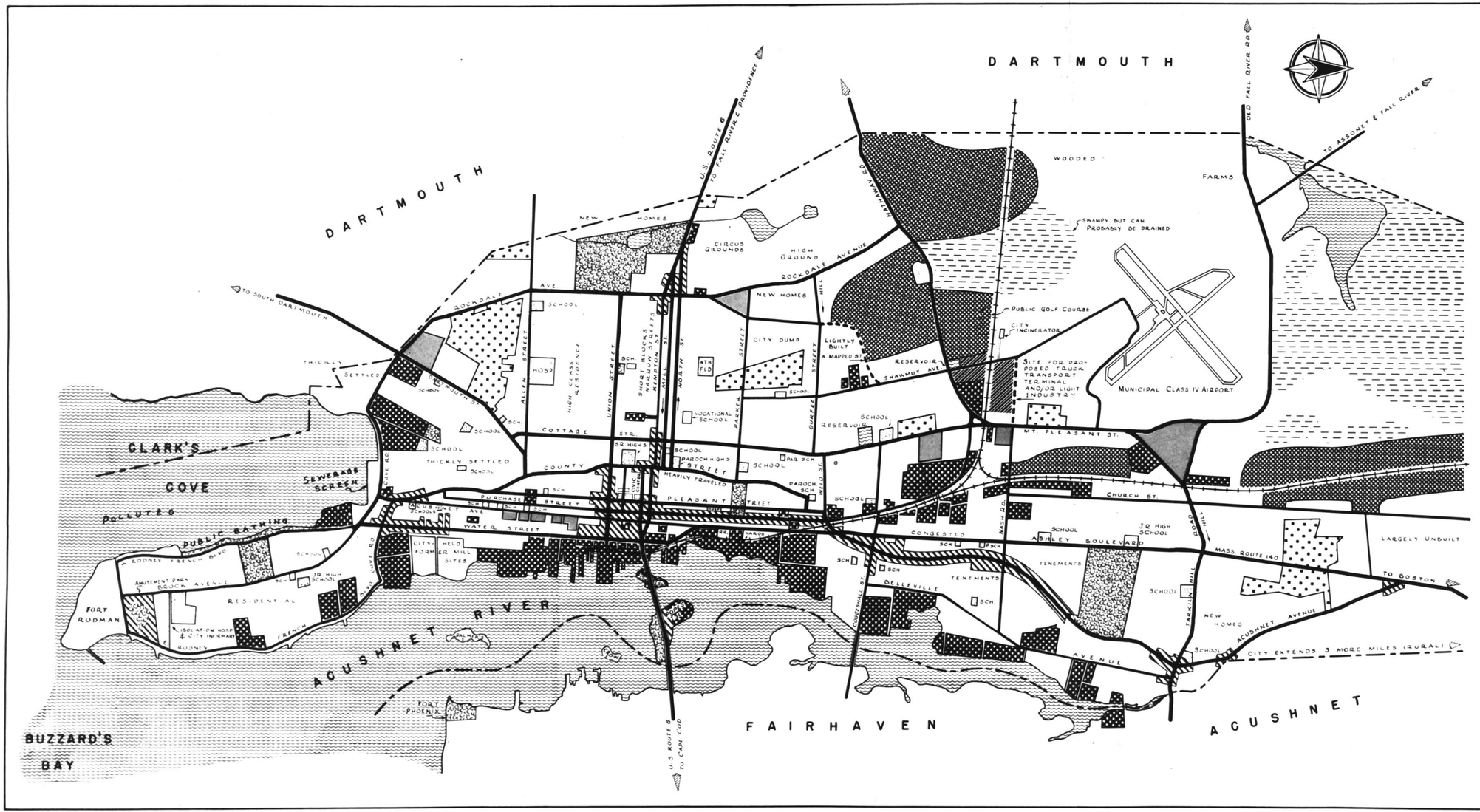
43. New England's position in respect to importance of manufacturing is seen in these figures for 1948, showing the proportion of manufacturing pay rolls to total income pay rolls: U.S. 22.5%; New England 33%; Central States 27.5%; Middle East, 25%; South East 17%; Far West 15%; South West 10%; and North West 7%. --U.S. Office of Bus. Economics, op. cit.
44. Seymour Harris, op. cit.

textile industry unsurpassed in the country. Not itself a center for recreation and sports, the city is the metropolis and gateway for an area which is second to none in the country in this respect. In its Portuguese-American population, largest such colony in the United States, the city has a wonderful opportunity to combine recreation, culture, and retail sales in a manner similar to that exploited by the city of Los Angeles for its Mexican and Chinese populations: The creation in a suitable area of the city (logically, an area now in need of rehabilitation) of a Portuguese Village, constructed in an appropriately realistic native style, which would provide the facilities for the manufacture and sale of typical Portuguese handicraft, with restaurants, shops, clubrooms, offices of the Portuguese consulate of New Bedford, and so on. Although this would be an activity largely confined to the Summer months, there is no question but that with the right initiative and advertising such a project could develop into a regional recreation center and an unsurpassed advertisement for the city. In this particular project, the city's competitive advantage is supreme.




## LEGEND

### LAND USE

- MAJOR INDUSTRY
- MAJOR COMMERCE
- PUBLIC HOUSING
- PARKS
- CEMETERIES
- SWAMPS
- WATER
- POTENTIAL SITES FOR INDUSTRIAL ESTATES

0 1000 2000 3000

SCALE

A SKETCH MAP OF
NEW BEDFORD, MASSACHUSETTS

M.C.P. THESIS

CHARLES W. WASHBURN

DEPARTMENT OF
CITY AND REGIONAL PLANNING
MASSACHUSETTS INSTITUTE
OF TECHNOLOGY

SPRING TERM 1950

## d. PLANNING FOR INDUSTRY

In Chapter II, major economic and physical weaknesses of New Bedford were outlined. Some of these points have been touched upon in preceding sections of this thesis. Others will be discussed briefly in the following pages. These are important weaknesses of the city as a location for industry and warrant much greater study, but time and space limitations preclude more than a sketchy treatment.

1. Distance from center of United States population. With each year, this becomes more of an economic disadvantage for all New England manufacturing centers, especially those like New Bedford which are located outside the main flow of people and goods. This is a trend which New England can do nothing to prevent and little to offset. Transportation costs are an increasingly important part of the expenses of industry; and for a manufacturing firm with nationwide distribution of its products, it is unrealistic to locate in New England unless the region has worthwhile compensations. New Bedford can offer only its port facilities, a large pool of semi-skilled labor, and a large amount of vacant industrial plant space in good condition and well serviced, but not especially adapted to many modern industrial plant requirements.

In view of this important disadvantage, New Bedford should:

a. Concentrate on seeking new industry for regional rather than national distribution and service.

b. Develop industries in which the city has a competitive national advantage because of location or high comparative productivity, such as the fishing, rayon, rope, shipbuilding and allied marine industries.

c. Remove its local traffic facilities from the status of a bottleneck to present industrial activity, and press for improvement of the regional highway network and city access routes.[45] (See also sections 11-13, following, and diagram, page103).

d. Encourage the maintenance and improvement of a healthy overland truck transport serving the city's industry and commerce, through improvement of local trucking and freight facilities. (See section 11, following).

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45. One of the most important advantages of small towns for the location of industry is that their comparative openness and lack of traffic congestion facilitate the movement of trucks and trailers, thus lessening the time required for receipt of raw materials and delivery of finished product. (Other important advantages are, of course, the lower cost of land, which encourages the acquisition of large areas for expansion and parking; the lower cost of living and of taxes, especially on machinery and inventory; the less rigid zoning and other regulations; and the greater amenities of pleasant environment and easy commuting distances for employees.)

2. Location off main routes of communication. This is closely tied to the preceding item. In addition to improvements in city and regional passenger and truck transportation facilities, the city must realize that even for regional distribution of manufacturing products, it suffers from the superior locational advantages of other cities and ports. The one competitive advantage which the city does enjoy is its location at the main entrance to Cape Cod. This is an advantage which is not of too great benefit to local industry because the Cape is sparsely settled and offers no important market for its products.

What the city can and should capitalize on are the recreational opportunities which the Cape offers, whose stream of Summer patronage can be tapped by the city through the development and improvement of its retail shopping facilities (cf. Chapter IV, section e, page 47) and proposed Portuguese cultural-recreational center. (cf. Chapter V, section c, page 80).

Rail transportation to New Bedford, always poor because of the city's terminal location, is in some danger of eventual complete extinction unless prevented by national security requirements and increased industrial demands.[46] The excellent municipal airport and the city's location on the regional air network between Boston and New York City and the Islands, tend to offset to some extent this increasing rail isolation of the city. Not now greatly patronized by industry, it is to be hoped that this will develop into a more important industrial asset to the city. In a similar position is the city's location as a terminal for the Island Boat Line.[47] The volume of shipping from the mainland is small and largely seasonal, and is shared and contested by the small

46. Within the last 15 years or so, passenger trains between New Bedford

port of Woods Hole, which is about 16 miles closer to the islands by water route but is about 43 miles from New Bedford by highway, and is thus inconvenient for the more expensive overland transportation of goods.[48]

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and Boston have been reduced from 10 to 2 each way, and freight trains from 3 to 1 each way, daily. --New Bedford Standard-Times, 17 May 1950.

47. The New Bedford, Woods Hole, Martha's Vineyard and Nantucket Steamship Authority.

48. Approximately one-fifth of the Island Line's annual revenue comes through New Bedford: approximately $312,450 annually. This includes a total of about 75,000 passengers, 40,000 of them being excursionists, plus about $166,630 in local freight income, or about 70% of total freight income for the line. Advantages of New Bedford over Woods Hole for freight shipments are the city's position as a business and trucking center with rail freight facilities, greater truck mileage and 24-hour delay in delivery from New York and southern points to Woods Hole, limited passenger and freight handling facilities at that port, inconvenience and delay in handling mail moving through New Bedford, etc.

3. Declining economic base, with continuing loss of large manufacturing plants. This entire study is concerned with the declining economic base of the city. All the factors which are discussed herein are reasons for the loss of manufacturing plants, and most of the proposals which are made throughout this thesis would affect the retention of manufacturing plants in the city. There has for a period of years been a trend toward locating manufacturing plants in the smaller cities and towns. Those of a size from 10,000 to 100,000 population were reported to be the most popular places for plants established from 1940 to 1947,[49] and nearly one-half of the new plants built in 1947 and 1948 were located in towns under 50,000.[50] An exception to this policy, favorable to New Bedford, was the location here of a plant by the Goodyear Tire and Rubber Company, one of only three plants built in cities of more than 100,000 population out of a total of 11 plants built or acquired by the company since 1940.[51] Although smaller cities are preferred, New Bedford was selected to serve an integral part of the national market for spread goods and bicycle tires and tubes, primarily because of market and labor supply considerations.[52]

Since the city cannot hope to compete too successfully for large industry with national distribution, and suffers likewise from competition of better-situated centers even for regional industry, it can try to offset this locational disadvantage by concentrating on building up small industries of specialty goods, utilizing the inherent Yankee skills

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49. Paul W. Dickson. Decentralization in industry. No. 30 of studies in business policy. New York. National conference board, 1948. p.3-4.
50. George W. Drennan. Industrial plant trends. Appraisal Journal, 1:84, Jan. 1949.
51. Akron and Houston were the other two cities.
52. Dickson, op. cit., p.33.

and trades. The local glass works, turning out handicraft for a national quality market, is an example of the sort of industry which New Bedford would do well to develop. Specialty lines in textiles should succeed in the city because of the allied industries and the overnight distance from the New York markets and distribution centers. Research is indicated into the matter of utilizing wood wastes and in establishing in the city a new industry to process the local supply of this raw material. New Bedford is one of 39 New England areas which are found to have a sustained yield of wood wastes sufficient to justify consideration of a utilization plant of some sort. Manufacturing possibilities of this readily available and inexpensive material today are almost infinite.[53] This city and Brockton are the only such areas in southeastern New England.[54]

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53. Some of the possibilities are these: Fiber fillers in rolled roofing, building felts, and composition shingles, and for manufacturing insulating boards and other building boards; wood flour, for use as a plastic extender, fur cleaner, filler for floor coverings like linoleum; wood chips for soil rebuilding, animal bedding, and in cement mixtures for building and flooring materials; distillation to produce charcoal, acetic acid, acetone, and methanol; hydrolysis, producing sugar from which ethyl alcohol and other chemicals by fermentation; hydrogenation to produce cuclic alcohols, phenolics, and neutral oils; tannin recovery from bark; activated carbon production; conversion into yeast and fungus protein for animal and poultry feed; improved utilization as domestic fuel, particularly for heating; manufacture of producer gas, and of various types of wallboards.
54. Wood waste: new industrial frontier for New England. Monthly Review, op. cit., 31:8, Nov. 1949.

4, 5, 6. Low wage rates, low productivity of labor, and labor difficulties. Diversification of the economic base of New Bedford would have the effect of raising the local wage scale, which has for many years been dominated by the prevailing low wage rate in cotton textiles. Development of tertiary industries (cf. Chapter V, section c, page 79) has been demonstrated in other areas and cities to result in an increase in income level.

Low productivity and labor difficulties are weaknesses which cannot be overcome except through complete understanding on the part of local labor and management as to the consequences, plus their wholehearted cooperation in improving the situation. New England and New Bedford workers are not inherently less efficient than those in other regions and cities. On the contrary, they have, at least in part, built reputations for initiative and high productivity. Important factors in their present low productivity in certain lines of work are obsolescent plants, equipment, and methods; high relative costs for transportation, fuel, and power; high taxes; restrictive legislation; and inefficient management.[55] (cf. Appendix A, page114). These, plus unreasonable labor demands, are largely responsible for the present low labor productivity.

Not too much can be done about fuel, power and transportation costs, but management can be made more efficient, and plants and equipment can be modernized. Capital for this purpose is not readily available in

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55. A typical remark of one Massachusetts shoe manufacturer is this: "We are willing to match the efficiency and productivity of our shoe workers against those of any area in the country, but the overhead item of high taxes is one that we cannot overcome in competition with other parts of the country where lower rates apply." --New England manufacturing ... Its future prospects. Monthly Review, op. cit., 31:6, Sept. 1949.

New Bedford, but more efficient management of plants and better provision for depreciation and replacement of equipment would in the long run take care of this item. Labor cost differentials between regions of the country today[56] are sufficient in themselves to discourage much new plant location in New England and to drive present industry out. Massachusetts has been a leader in the field of social legislation; consequently, local labor has enjoyed far better labor conditions than elsewhere in the country, especially in the South.[57] No one would suggest a return to conditions that prevailed at the turn of the century, but some temporary relaxation of social benefits must be accepted by local labor in return for the prospect of more and steadier employment. At the least, no new demands should be made on industry until other sections of the country have approached Massachusetts standards.

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56. Wage differentials of 12-15¢ an hour between New England and Southern textile mills are general. Because of this variance in minimum wage requirements, the Northern cotton industry cannot compete for Government contracts, whereas the woolen industry does have a competitive advantage in this respect. --Majority Report of special Massachusetts legislative commission investigating the cotton textile industry. Boston. 13 May 1950.
57. Southern workers tend more machines than do Northern workers; have no work "traditions" handed down to them, and so show little or no opposition to work assignments greater than in similar positions in the North; have not objected to the introduction of new and more efficient machinery.

7. Relatively high property tax rate. Taxes may represent as much as 20% of fixed overhead costs. Lower taxes in other sections of the country, particularly in the South, have not only been an important factor in inducing plant location but have given manufacturers a substantial advantage over northern competitors. Real estate taxes, corporation and income taxes, processing and sales taxes, excise and equipment taxes, and various others, including the substantial federal and state social taxes and costs, have mounted to such combined heights as to be practically unbearable for some industries in New England.[58]

The general property tax is, along with the income tax, one of the two primary sources of all taxation. It has been the chief reliance of American cities as a major source of revenue and has been squeezed to the limit. While city expenditures have increased tremendously in recent years to provide for the increasing quantity and quality of municipal services demanded by the voters, heavy losses in assessed valuations in the larger cities have made it necessary for them to turn to other sources of revenue, including state and federal aid. The property tax is somewhat regressive (resting with greater weight on those less able to pay) and often poorly administered. Inequities in assessment are common, because of incompetence, poor office

58. The special Massachusetts legislative commission (ibid.), while agreeing unanimously that Massachusetts labor laws represent an advance in social progress, found that they place the Massachusetts manufacturer at a real disadvantage in competing with producers operating in states lacking such laws, and cautioned against enactment of laws that would liberalize benefits (and increase costs) in workmen's compensation and unemployment insurance until other comparable states have approached Massachusetts standards. It also recommended reduction of corporate income taxes (now totaling 6.8%) to a point comparable to those in other states.

practice, peculiar or outmoded local policies, and a desire to evade payment of county taxes, to mention a few reasons.

New Bedford has no city sales or earned income taxes, and its declining economic base has made a relatively high property tax inevitable in order to meet operating expenditures.[59] Although this is still high, the city has improved its relative position among Massachusetts municipalities from the 9th down to the 7th decile since 1945. (See Charts 3 and 4). It is difficult to compare tax rates equitably as between cities because of the great variation in tax and assessment policies and procedures. Quantity and quality of municipal services received in return for taxes are important variables. (See Appendix E for a brief discussion of this aspect of the tax picture.) On the whole, municipal services in New Bedford are of high quality. But these are supported to some extent by state and federal aid.[60]

Not much can be said of the city's tax policy and assessment methods because not much can be learned about their operation. Several inquiries at the offices of the Board of Assessors have elicited no information except that assessment is theoretically at 100% of "market" value of property, and that each piece of property is assessed upon individual and confidential appraisal without reference to any standards. No assessor's map is available.

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59. The 1949 tax rate was 48.40 mills (up from 27.80 in 1926, year of peak property valuation for the city). (Table 11).

60. $3,549,000 in 1947 (which was about 43% of total general revenue), highest of the 11 selected comparison cities. (Table 13). Even in the war year of 1942, New Bedford was one of those U.S. cities which had the highest percentage of their total revenue from aids from other governments: 38.3%, as compared with 69.9% for Kokomo, Ind., 58.3% for Canton, O., 44.6% for Denver, 37.7% for Fall River, and such extremes as 0.6% for Houston and Tampa, 0.3% for Greensboro and Kansas City (Mo.), and less than 1/20 of 1% for Jacksonville, Fla. --A. M. Hillhouse and Muriel Magelssen. Where cities get their money. Municipal finance officers association, Chicago, 1945. p.164.

Lack of any apparent system for real estate evaluation and taxation is one of the major weaknesses of the city's economic position. How much effect this may have had on the location and loss of industry was impossible to ascertain. Aside from deficiencies in the operation of its tax system, the city's economic condition can be improved only by increasing its industrial base and by developing new sources of municipal income.

Proposals which have been made to provide additional municipal revenue fall generally into five main categories:[61]

a. Special service charges for direct services to individuals which are more in the nature of a special benefit than a general benefit to the community. For example, garbage and refuse collection, sewer rental, and parking meter charges.

b. Taxation on ability to pay principle, which includes income and payroll taxes.

c. Municipal ownership of utilities.

d. Selective sales or consumption taxes, such as those on admissions, public utility services, alcoholic beverages, gasoline, and tobacco.

e. Greater centralization of tax and revenue administration in state and Federal government, with compensating revenues to municipalities in the form of aids or grants, or shares in centrally collected revenues.

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61. Ibid. p.8. Special charges against industries that are heavy users of city sewers would greatly aid New Bedford in the maintenance and repair of this system. Additional license taxes and the possibility of establishing taxes on tenancy (to reach dwellers who pay no real estate taxes) and on occupancy (to reach small shop and office renters) should be investigated, especially in lieu of sales taxes. See also: Municipal finance administration. 4th ed. Chicago. International city managers association. 1949. p.43.

8. Lack of modern industrial plant space. Up to World War I, factory buildings covered practically all the available lot area, with the outer walls following the lot lines and machinery being installed after the structure was completed. The buildings were constructed of solid brick or stone walls, while aisles, bays, and beam clearance were limited by length of available timber. Power was usually from a steam plant in the basement and distributed by shafts suspended from the ceiling. Many of these old structures are still in use in New Bedford; however, the types of industry that can profitably use them are rapidly disappearing.

The modern approach is first to plan for the receipt of raw materials or parts, the location of machinery, and shipping of the product. The building is designed to fit this plan, and land of sufficient size and shape is obtained, usually with surplus land for possible expansion. Machines have not been designed to fit existing buildings, however, and many of the older buildings will probably suffice. Those with spacious unobstructed floor areas, heavy carrying capacity and high ceiling are likely to be preferred.[62]

The high cost of new buildings compared with depreciated values of older ones will undoubtedly retain every type of shelter for some time to come. Nevertheless, the difficulty and expense of converting these old New Bedford factory buildings to new specialized requirements is a very real deterrent to their use except under pressure of war orders and at government expense. A recent study by the Federal Reserve Bank of Boston and the New England Council brought out the fact that one out of seven manufacturers in New England feels that he is at a competitive dis-

62. Drennan, op. cit. p.84-85.

advantage to outside producers because of the inefficiency of his existing buildings.[63]

There is reportedly more first-class vacant industrial property in New Bedford than in any other New England industrial center, available for early occupancy at unusually low rental costs.[64] For warehousing and certain manufacturing uses, and as "incubator" space for small new firms, this industrial property has a limited utility. The city can hardly justify removing these buildings to make 'way for modern new plants even if such an undertaking could be financed. Further, the riverfront locations that were early preempted by these plants (cf. map, page 81) should, upon their destruction or removal, be considered for a "higher" use such as residence and park uses. Many of these locations are actually today disadvantageous to industry and to the city alike, for reasons of traffic and population congestion. New and more suitable locations should be found near the periphery of the city, affording greater accessibility to city and regional truck routes, and more and cheaper room for expansion. Given these and other advantages, there will be less inducement for industry to move out of the city completely.

New or small industrial firms may be unwilling or unable to finance plant space, although able to provide the working capital for paying wages, installing machinery, accumulating operating supplies and building up inventories of raw materials and finished goods. Since the

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63. This ratio is 1:5 among manufacturers of cotton textiles, rubber products, leather and leather products, lumber and basic timber products, primary metal, nonelectrical and electrical machinery, and instrument industries. --Monthly review, op. cit., 32:1. Jan. 1950.

64. A. A. Talmadge, in New Bedford Standard-Times, op. cit., 15 Jan. 1950.

city is in desperate need of these small industries to expand and diversify its economic base, it is essential that such firms be assisted in finding and financing suitable vacant plant space and in building or being provided with modern new plant space where that is necessary. New England communities have made some use of the device of industrial foundations to handle existing properties and in other parts of the country they have played a much more active role in the construction of modern plant facilities. Industrial foundations are privately sponsored, usually non-profit, community agencies which "make investments out of their own funds, bring enterprises in need of capital to sources of funds seeking investment, or otherwise aid business in obtaining money." [65]

The possibility of establishing such a foundation for the assistance of New Bedford industry is now being considered by the New Bedford Industrial Development Commission. Every effort should be made by the city administration, merchants, industrialists and citizens to insure the organization and continued support of such a foundation, for everybody in the city has a stake in the success of the venture. Without new industry, the city will continue to decline, economically and in every other way. This is one of the best ways of developing the industry which the city needs.

A planned industrial estate for the location of new industrial plant accommodations, efficiently laid out with adequate services and utilities, and so located within the city as to provide convenient access to rail, highway and air transportation facilities would provide an excellent incentive to the location of new industry in the city. Several presently open or lightly settled areas in the northwest sect-

65. Industrial foundations. Monthly review, op. cit., 32:1. Jan.1950.

ion of the city offer possibilities for the location of industrial estates. (See sketch map, page 81). Of the five sites indicated on the map, all but one are adjacent to the railroad tracks. All are peripheral to major city traffic and congestion, and are located convenient to principal traffic service routes to all city points and locations of present industry. Major facilities for an industrial estate could probably be served best in the area on either side of Hathaway Road (which opens out into U.S. route 6, the New Bedford-Fall River highway), which offers about 300 acres along the north side (including swampland which can be drained and filled, as was the airport) plus 100 acres on the south side. This is presently rural in character, with scattered farms and a municipal golf course. All sites are easily reached from either the Boston or the Fall River-Cape Cod highways, and are not more than $2\frac{1}{2}$ miles from the municipal Class Iv airport, nor more than 5 miles from the waterfront. Restricted size of these sites would limit them to light industries of relatively small land coverage.

In addition to increased employment and expanded city tax base, location of industry on these sites would:

Provide some of the attractions, to industry, of small-town location, because of removal from traffic congestion, convenience of transport routes and facilities, lesser cost of land and room for expansion, while retaining the advantages of proximity to metropolitan facilities and services.

Encourage residential development of northern and northwestern sectors of the city.

Decrease central city traffic congestion.

Furnish impetus to industrial location away from the waterfront

areas, thus decreasing the demand for and value of such space and increasing the chances of its relinquishment from industrial zoning to the more desirable use as city park and recreation area, or as residence.

To the objections that would undoubtedly be raised to this "destruction" of some of the pleasantest of rural country still remaining within city limits it must be pointed out that a planned industrial estate can be far more attractive than the scattered, unesthetic industrial and other uses which in all likelihood will eventually locate in this area if business is to expand at all within the city. Lovers of rural landscape have only to cross the city boundaries into rural farm communities on the west, north, and east to find areas which will probably not greatly change their characteristics in the foreseeable future. The once-attractive river banks have been despoiled to make room for industry, and the rehabilitation of the New Bedford waterfront and removal of some of its riparian industries to the proposed new industrial estates will add more to the public enjoyment than will be lost through the proposed northwest development. The first responsibility of a community is to the economic welfare of its citizens. For a city with a slowly dying industrial economy, this becomes a matter of economic survival. New industry will come to New Bedford only with strong encouragement, and this is the sort of encouragement which it will require if the city is to anticipate anything but a despairing future.

9. Obsolescent plant equipment and methods. For most staple cotton fabrics, the margin between loss and profit is so narrow that obsolete machinery or methods can be tolerated only within narrow limits if the company is to survive. Since most southern mills were established at a later date than New Bedford mills and generally with the latest type of equipment, they have enjoyed from the outset a big advantage over the northern mills, which couldn't afford, or thought they couldn't, to scrap all their costly but still usable older equipment.[66]

Although obsolescence is still inevitably, and for some time will continue to be, an economic handicap to the older manufacturing sections of the country in their competition with newer manufacturing plants elsewhere, it is not so much a problem to the cotton textile industry today as formerly. This is probably a reflection of the fact that those which have survived southern competition have been forced to overhaul their manufacturing equipment and methods. A recent survey of the New England cotton textile producers disclosed that efficiency of machinery and equipment is one of their present outstanding advantages.[67]

This is primarily a problem for the individual plant operator, but there is no question that assistance in financing plant renovation would provide a big incentive to long overdue improvements in New England factories. This is a worthy outlet for financial aid through the New Bedford Industrial Development Commission's proposed new industrial foundation. (cf. section 8, preceding). In view of the difficulty which the city may experience in bringing in any volume of new industry, every effort should be made to encourage the retention and development of existing industry.

66. Wolfbein, op. cit.
67. Monthly review, op. cit., 31:7, 1949.

10. Lack of frankness and understanding in meeting the city's industrial problems. The location of industry has become a highly technical and responsible decision of management -- no longer the hit-or-miss operation that it often was in earlier years. It is an important decision of management, especially today when marginal competitive advantages in an industry may determine whether it succeeds or fails.

Basic economic factors in the location of industry are nearness to raw materials, markets, suppliers and/or subcontractors; availability of suitable labor supply; requirements for and availability of gas, oil, power, etc.; and transportation facilities.[68] An important additional factor at this time is that of national security;[69] and such modern considerations as those of living conditions and local attitudes are added to the important factors of tax structure and laws and regulations which as we have seen (sections 6 and 7 preceding) are presently very strong competitive disadvantages for New England industry.

Bonuses, tax abatements, land grants, and other such subsidies and concessions have lost their attractiveness for good industry. A plant won by such inducements may be just as readily lost to another city by the same means. The only worthwhile salable goods which a city has to sell industry consist of its superior environment for manufacturing and distributing merchandise in a particular marketing area. A community which cannot show that it possesses marginal advantages for one or more lines of manufacture over those possessed by other commun-

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68. H. Y. Bassett. What does industry expect of a community? Univ. of Alabama. Bur. of public admin. University, Ala., 1948.
69. U. S. National security resources board. National security factors in industrial location. Wash. Govt. print. off. Sept. 1948.

ities has nothing to sell Industry.[70] Even the offer of cheap or free plant space does not equalize the differential between an economic and an uneconomic location.

Civic leaders and officials in New Bedford, if they realize all this, have not been overly frank in admitting it, publicly. How much of this is due to an unfounded fear of public reaction and how much to just plain ignorance or fatuousness is open to speculation. Sentiment, and local pride in past accomplishments in whaling and cotton textiles, flavor all considerations of the city's economic worth to industry. Although the City Council, in late 1949, did a noble (if necessary) job in voting the establishment and financial support of a three-year Industrial Development Commission, the efforts of the Commission are hampered by a general lack of reality and honesty in recognizing, appreciating, and acknowledging the city's economic weaknesses and physical deficiencies. This is augmented by an unwillingness on the part of the Commission itself to go to any "unnecessary" expense in providing its able Director with a staff and facilities to undertake the detailed, comprehensive economic survey of the city which is essential to a proper inventory and appreciation of the city's assets and liabilities.

The publications which the Commission has so far produced (a one-page fold-over for general distribution, and a mimeographed brochure with supplementary information) are inadequate for the purpose of providing information which modern industry expects in evaluating a potential location. One reason for this is the lack of funds and trained personnel to undertake the required survey, and to maintain a continuing

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70. Herbert S. Swan. Selling a city to industry. New York, H. S. Swan (1945?).

inventory. This is, however, a result in part of the Commission's expressed belief that no especial talent is necessary to compile information that is available in city offices and departments merely for the asking![71]

But a very great handicap to the conduct of a survey is the general lack of adequate sources of information on, and in, the city. Personal experience can testify to the extreme difficulty in obtaining basic information from city departments and agencies. In part, this derives from an ingrained secretiveness regarding "official" information, an undue degree of caution in releasing it for research purposes, a suspicion of motives, a fear of revealing statistics which might be "of comfort and assistance to the enemy" (competing cities)! In part, it is a concomitant of the apparent lack of previous demands or need for such information. Research into almost any phase of city development has been conspicuous by its absence. Much information which is basic to city planning and to an economic study of the city is either unavailable or may be obtained only at a great expense of time and labor.

A number of things are needed if the city expects to sell itself, and industry, on its competitive advantages for the location of industry. Basically, this is what it must do:

1. Provide the Industrial Development Commission with a staff sufficiently large and capable to make the requisite economic survey of the city for industry, to maintain a current inventory and follow-up, and to furnish the necessary services and activities in connection therewith.

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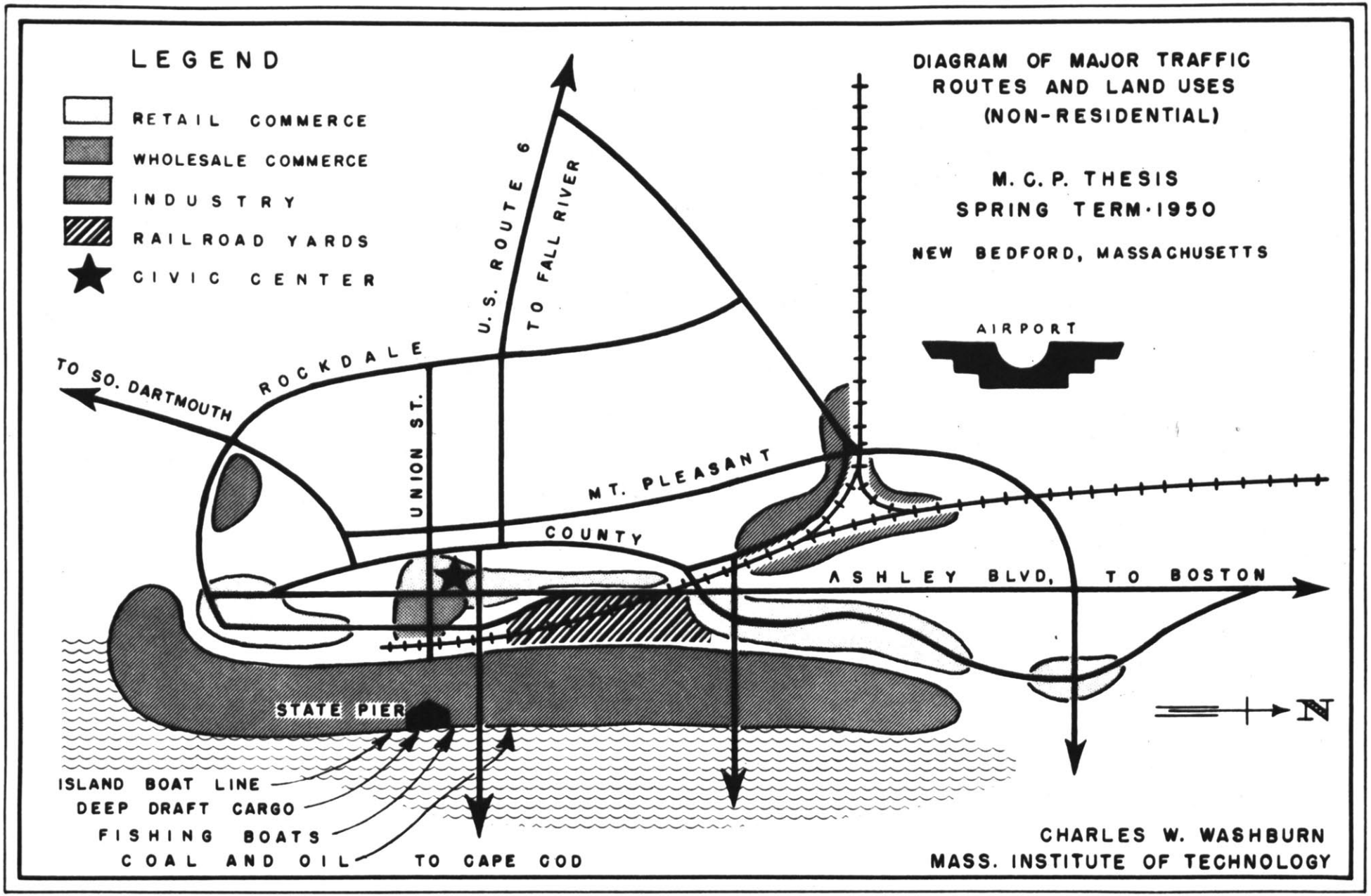
71. New Bedford Standard-Times, op. cit., 31 Jan. 1950.

2. Make available to interested industry and to the general public the complete picture of city status in this respect, good and bad. Make full use of publicity to stimulate public interest and c oncern and support.

3. Place the City Planning Commission on an operating basis, with appropriate staff and financial support to do the job. Invigorate the membership through citizen representation (which is now completely lacking).

4. Through joint efforts of the city's Planning, Housing, a nd Industrial Development Commissions, and with the full understanding and support of public and private agencies and the general public, prepare a c omprehensive and realistic plan for city development, with appropriate recognition of public and private interests and needs. Piecemeal improvements in the city are not adequate, nor convincing to private enterprise; but in a sound matrix of planning, immediate needs for industry should not be postponed until completion of the long-range plans.

5. Demonstrate to industry -- by deeds, not talk -- that the city is in earnest about improving itself as a place in which to live, work, and make money! Nothing short of "blood, sweat, and tears" will ever do the job!


LEGEND
RETAIL COMMERCE
WHOLESALE COMMERCE
INDUSTRY
RAILROAD YARDS
CIVIC CENTER
DIAGRAM OF MAJOR TRAFFIC ROUTES AND LAND USES (NON-RESIDENTIAL)
M. C. P. THESIS
SPRING TERM·1950
NEW BEDFORD, MASSACHUSETTS
AIRPORT
U.S. ROUTE 6
TO FALL RIVER
TO SO. DARTMOUTH
ROCKDALE
UNION ST.
MT. PLEASANT
COUNTY
ASHLEY BLVD, TO BOSTON
STATE PIER
N
ISLAND BOAT LINE
DEEP DRAFT CARGO
FISHING BOATS
COAL AND OIL
TO CAPE COD
CHARLES W. WASHBURN
MASS. INSTITUTE OF TECHNOLOGY

11, 12, 13. Poor traffic pattern for industry, poor land use pattern, and poor circulation pattern. Although each of these is a very definite basic physical weakness of the city and poses its own set of problems, none can be considered separately from the others. The city has no streets which are predominantly truck routes except for those immediately adjacent to the waterfront. Nor are there any streets in the city (except those going through city parks) which trucks are prohibited from using. It is a matter mainly of determining which needs the most sympathy: the truck driver who must double-park along the narrow commercial thoroughfares in order to unload merchandise for stores having no service alleys, or the motorists and bus drivers who must wait in long, impatient lines for the unloading to be completed so that they can proceed to use the street as a circulation route. This is so common an occurrence anywhere throughout the attenuated commercial districts that it is a part of the normal city scene. It is particularly prevalent in the north- and south-end business districts, because of the narrowness of the streets, lack of off-street parking facilities, lack of service alleys, and lack of enforcement of traffic regulations. This is augmented by the routing of main north-south bus routes through these same streets.

Land Use. Major traffic routes in the city are indicated diagrammatically on page 103, together with the general relationship of the major non-residential land-uses. (See also sketch map, page 81). The jumbled pattern of land use is readily apparent and has its basis in the early preemption by the cotton manufacturing industry of the choice waterfront sites. The industry is not to be too severely criticised, for water-

front location was a necessity for steam power and cheap transportation. The rail line followed industry along the river, its raised embankment forming a very definite physical barrier to the section along the east of it. The combined forces of railroad, industry, and congested second-rate commerce have exerted a blighting influence on much of this area.

There are three main commercial districts in the city: north-end, south-end, and central. Allowing for a thinning out in spots, the central and north-end districts merge into an almost continuous strip running along Purchase Street from the downtown area to Weld Street (where the railroad crosses overhead), and thence north along Acushnet Avenue to Lund's Corner (intersection of Tarkiln Hill Road, on the map). This makes a practically unbroken strip of over three miles in length, which carries some of the heaviest traffic in the city. (See Chapter IV, section e, pages 27 and 30, for a brief discussion of commercial district problems).

There are also three main industrial districts in the city, with the major concentration running the entire length of the city waterfront. Surrounding industry and commerce on the south, west, and north, and frequently sandwiched in between, is the residential area of the city. Although many fine residences still remain along County Street (the original County Road, running from Boston south to Dartmouth and Westport), the best residential area today is considered to be in the "West End." As seen in the diagram and sketch map, this means that all access to industry must be through the surrounding zone of residence. So also must through traffic from Fall River and Providence to Cape Cod bisect the city. Of itself, this would not necessarily be bad; but because of the location of the New Bedford-Fairhaven Bridge, all this traffic

must pass through the center of town, along routes that are completely inadequate for the purpose. Thus through traffic becomes inextricably tangled with the local traffic in the busy downtown commercial and waterfront industrial districts. The only thing it misses is the railway traffic, which it passes over -- and this is of least importance in the local traffic picture.

Circulation. It is probable that city streets during the horse-and-buggy days were more or less adequate for the demands placed on them. However, except for removal of the trolley tracks, two years ago, no changes have been made to major streets since they were originally laid out. The worst traffic bottlenecks occur on the north-south streets running through the three commercial centers, with a sort of "stationary congestion" within the wholesale area. Actually, the entire length of U.S. route 6 through the city (which proceeds along separate one-way streets, one short block apart), and of Massachusetts route 140 from the point where it enters the thickly settled area of town (south of Tarkiln Hill Road), may well be described as bottlenecks to traffic, constricting it by their narrowness and impeding it by their volume of entering cross-traffic. It has been only in comparatively recent years that stop signs were placed at cross-streets of these routes; and the city, for all its traffic, boasts only two traffic signal lights![72]

This is not a design thesis; without special and detailed study, no worthwhile plan for improvement of city traffic can be offered. At first glance, it appears that the sort of improvement required to expedite east-west through-traffic would call for an enormous and unjust-

72. Located at the intersections of Rockdale Avenue and Kempton Street, in the West End, and Union and County Streets, downtown.

ified outlay of funds. Destruction of a one-block strip of land through the city would be needed in order to build a modern, restricted-access highway to be carried over the downtown cross-streets. Traffic from the city center northward requires similarly drastic action. Whether this kind of expense could ever be justified for New Bedford is questionable. If the city were booming, or stood squarely and unavoidably in the way of through traffic, such a proposal might be feasible. But the city is declining rather than booming. It is a "jumping-off" place through which passes a moderately large seasonal flow of traffic to the Cape. No outsider comes to New Bedford unless he has business there or has to drive through the city to reach the summer resorts. It would be much cheaper for the State to bypass the city entirely in a new Cape route than to demolish the buildings that would be necessary in order to widen existing routes.

In the meantime, prohibition of parking along the main commercial street in both the north- and south-end districts and along route 140, together with provision of adequate offstreet parking by tearing down old buildings in both areas, and by cutting service access through to the stores in these districts, would result in a 100 percent. improvement over present conditions. Similarly, the prohibition of parking along both sides of North and Mill Streets (which carry West- and East-bound traffic, respectively), the dead-ending of a number of present cross-streets along their routes, and the installation of traffic lights at appropriate intersections, would bring about a tremendous improvement and possibly obviate the need for further treatment except in the downtown area. New homes built along these streets should be faced away from them, at least to the extent of denying access of service drives

onto the highways. This would be an extreme innovation in New Bedford, and one which would not be put through without a battle. Until all these things are done, however, the city must expect to remain near the head of the list of "Cities Not Built for Traffic!"

The city has a good circumferential route, for traffic and industry, although unfortunately it runs through some of the better residential area. There are no radial routes. The pattern is strictly gridiron. But, given the improvements suggested above for the main north-south and east-west routes, the construction (through widening of existing streets) of a broad "embarcadero" through the entire waterfront industrial area, connecting at each end with the circumferential route, would provide almost all that could be asked for truck convenience. --Undoubtedly too much, in fact, if we proceed on the assumption that the industrial base of the city will continue to diminish. Such a truck highway would encourage the continued use of the waterfront for industry, especially to justify its expense of construction. If the city is ever to regain some of this land for "higher" use, this proposal would require much careful thought.

Truck Freight Terminal. The city has no consolidated or joint freight terminal. The numerous local and interstate trucking lines that maintain offices and warehouses in the city are scattered throughout the settled areas of town. Because of the presently small volume of rail freight entering New Bedford, railside location is not essential. The major disadvantage of the present inadequate terminal facilities to the city is their daily contribution to traffic congestion on local streets, especially in the vicinity of their offices. Lack of sufficient off-street parking space requires many of them to keep trucks and trailers,

when not in use, parked along nearby streets, thus adding to the hazards of passing motorists and pedestrians.

Trucking is the lifeblood of New Bedford, today. It will become not less important in the future but more important, in view of the increasing inadequacy of rail freight service. A large terminal building and facilities for the common use of all local truck companies is needed. This should be built in a peripheral location with sufficient room for expansion, where yard operations can be carried on without neighborhood disturbance or traffic hazards. Such a site is available in the northeast section of the city, as shown in the sketch map, page 81. This site offers the advantages of adequate size (about 55 acres); peripheral location on the circumferential highway and on the railroad line; easy access to the municipal airport and to the Fall River and Boston highways; relatively convenient access to present major industrial areas; and proximity to the sites of proposed new industrial estates. (See sketch map, and text, page 95).

Unfortunately, a major obstacle to the establishment of such a trucking terminal is the present reported lack of harmony and cooperation among local trucking firms. Trucking is a highly competitive business, especially in a city which is so dependent upon this medium of overland transportation for its supplies and its industrial products. The inevitable merging of a number of the smaller companies will probably intensify the situation. However, even if a consolidated terminal is not practicable at present, the advantages to the city and to interested companies will more than justify the construction of such a terminal in the recommended location, allowing sufficient room for subsequent expansion. Other cities have solved part of their trucking problems in a similar manner, and it is not likely that the New Bedford operators will prove any more intractable in reaching such a solution.

## VI. SUMMARY

a. Of Conditions. In very brief summary, the picture of present conditions in New Bedford is this:

Following the loss of the greater part of the local cotton textile industry to the southern states, in the 1920's and early 1930's, the city has found it difficult to plug the wide gap which was left in its economic base. In common with other New England manufacturing centers, it is faced with increasing competition from newer and larger industrial centers in the southern, midwestern, and western states. This is a competition largely of new plants and equipment vs. obsolescent ones; of vigorous, aggressive leadership and efficient management vs. conservatism and discouragement and inefficient, unprogressive operation; of well-planned new industrial estates vs. crowded plants in congested industrial districts. It is a competition of high labor productivity and industrial inducements vs. low productivity, disadvantageous labor legislation, high industrial taxes, and few inducements.

The increasing distance of New England from the center of U.S. population, and frequently great distance from new sources of raw materials, plus a loss of favorable freight rate differentials, operate against a New Bedford location for new industry. In addition, the city lies off the main through traffic highways of the Northeast, and suffers from competition of the greater seaports of Boston and New York for waterborne commerce. It is today an area of low wages and low labor productivity, with a high rate of male unemployment. It has a relatively large volume of sound, vacant mill space which is unsuitable for many specialized new industries. Its present industrial districts are for the most part crowded into congested urban areas and served by an overloaded system of narrow streets. Commercial uses have been permitted almost to

monopolize completely one of the major north-south traffic arteries.

In short, about all that New Bedford has to offer industry are its skills, its seaport, its vacant mills, and its heritage as a manufacturing center!

b. Of Proposals. Major proposals of this thesis are based upon the assumptions that New Bedford will continue to be a manufacturing city; that because of the weight of competitive disadvantages, its economic base, and consequently its population, will continue to decline slowly for an indefinite period of time; that its port activity will be primarily as a center for the fishing industry, with allied marine repair and shipbuilding services and with sufficient general cargo trade to maintain the port as a secondary Massachusetts deepwater customs port to Boston.

Because it is not anticipated in this thesis that New Bedford can expect to regain its former status as a leading world manufacturing center, and because there is no foreseeable substitute for manufacturing as an economic support for the city, it is proposed thereby that the city now concentrate (as well as a city can that is in New Bedford's present financial condition) on making itself more attractive for the people and industry that are still here:

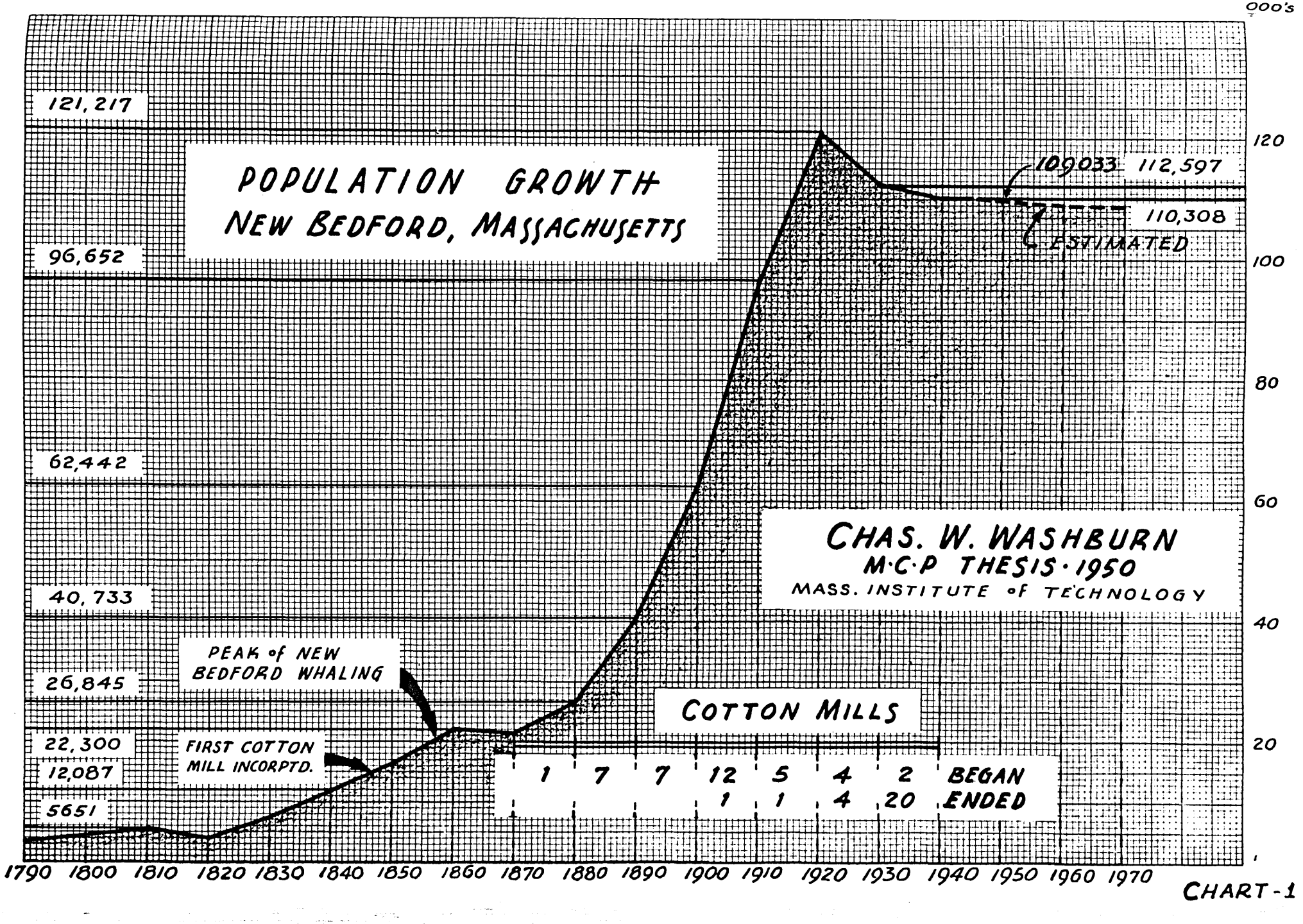
Through an industrial foundation, industrial estate(s), and other assistance to industry, and through improvement of the local traffic highways and truck terminal facilities, encourage present industry to remain and new industry to locate in the city (especially, industries that can offer full-time male employment, and preferably some heavy industry to broaden and strengthen the tax base and to raise the prevailing

low wage scale).

Through improvement of city amenities, services, and facilities, make the city a much better place in which to live and work, and thus encourage present population to remain. This would include redevelopment of the river front for park, playground, and residential uses; provision of modern shopping centers with ample off-street parking space to replace present commercial string-developments; and improvement of major through- and local-traffic streets to facilitate motor circulation.

Development of a Portuguese-American cultural-commercial center in the city would stimulate local trade and interest by the major national group in the city and would bring the city favorable nation-wide publicity and tourist revenue. Development of initiative in research into new economic possibilities in marine products and by-products might well put the port of New Bedford back into major operating category, if followed up with aggressive local action.

While all this would doubtless result in giving the city a new lease on life, and might start it toward a third "pinnacle of greatness," it is not likely that anything much will ever happen unless new blood is first brought into the city. The old blood is wearing thin.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121,217
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62,442
40,733
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POPULATION GROWTH
NEW BEDFORD, MASSACHUSETTS
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COTTON MILLS
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1790 1800 1810 1820 1830 1840 1850 1860 1870 1880 1890 1900 1910 1920 1930 1940 1950 1960 1970

CHART-1

# APPENDIX A

## HISTORIC AND ECONOMIC BACKGROUND OF NEW BEDFORD

First visited by Bartholomew Gosnold and party of 32 men who had come from Falmouth, England, in March, 1602 (18 years before the sailing of the Mayflower), the area of the eventual city of New Bedford had its first white settlers in the early 1630's. The presence of unfriendly Indians forced these early settlers to live in garrisons. But in 1652, by purchase from Massasoit, Sachem or King of the Wampanoags, a group of Englishmen acquired the township of Dartmouth, a sizable area comprising the present city of New Bedford and towns of Acushnet, Fairhaven, Dartmouth, and Westport.

Sparsely settled, with isolated farms throughout the area that suffered from frequent Indian attacks in King Philip's War, old Dartmouth was incorporated on June 8, 1664, by the General Court of Plymouth Colony. By the middle of the next century, a small fishing hamlet had developed on the western bank of the Acushnet River, where a series of large farms fronted on the river and ran back up to the crest of a hill along which ran the County Road from Plymouth to Russell's Mills. Perhaps the first local entrepreneur in the real estate business was Joseph Russell, who lived on the site of the present High School. Sometimes called the founder of New Bedford, he conceived the idea of establishing a village, selling the first house lot from his large tracts of land in 1760. In honor of the promoter of the new settlement, the name of Bedford was suggested for the village, Russell being the family name of the Duke of Bedford. Because there was already another town in the state with the same name, the prefix "New" was later added.

A flourishing community of probably around 1500 to 2,000 persons by the outbreak of the Revolution, the village was a harbor and supply point for privateers preying on British shipping. In retaliation, on September 5, 1778, a force of four to five thousand British troops landed at Clark's Cove and set fire to some seventy vessels, eleven houses, twenty shops, and a ropewalk -- a loss to the small Quaker community equivalent to about $500,000. Nine years later, in early 1787, the township of Dartmouth was divided and New Bedford was incorporated as a town. For sixty years it retained this status until in March, 1847, after long agitation and a vote of 1,150 to 814, the citizenry finally decided to accept the city charter granted by the legislature.

Around 1650, shore whaling off Cape Codwas developed by the New Plymouth Colony. Nantucket soon became famous as a whaling center, with a fleet which numbered 360 small vessels by 1774. Not until 1755 was the New Bedford whale fishery started, by the same Joseph Russell who founded the early village of Bedford. Under his leadership, the village inhabitants became whalemen and shipbuilders. Joseph Rotch, who had recommended the name of Bedford, came from Nantucket to invest his money in the business. His ship, the "Dartmouth," built in 1767, was the first ship launched in the village. One of the vessels boarded by the Boston Tea Party in 1773, her initial voyage was to London with a cargo of New Bedford whale oil. When the increasing size of whaleships, after 1820, made it impossible for them to pass over the bar which ran across the mouth of the harbor at Nantucket, supremacy in this field passed to New Bedford.

The period 1835 - 1860 has been called the "Golden Age" of whaling. American whale fishery was at its height in 1846, but the New Bedford

fleet continued to increase until 1857, when it numbered 329 ships, valued (with their whaling outfits) at $12 million, employing more than ten thousand seamen. By this time the fleet, in its search for whales, had long been forced to explore the most distant reaches of the oceans, from Arctic to Antarctic to all tropical and subtropical zones. Voyages lasted three, four, and even five years before weary seamen reached home port again. The superior seamanship of American whalemen and the competent management in the industry are reflected in the fact that American vessels during this period were insured at one-half the value of what British ships had to pay. There was no tougher Yankee than the whaleman of New Bedford; no more rugged living than that which he wrested from the sea; no more picturesque or violent sink of iniquity than that of the New Bedford waterfront, as so well portrayed by Herman Melville in his Moby Dick.

For over 100 years, whaling was the chief industry of New Bedford. This was a prosperous era for the city. In a year, the catch of oil and whalebone ran to about $10 million. In a single day, her whaleships brought in $300,000' worth of oil. Fortunes were made in sperm oil and whalebone and in the manufacture and supply of ships' gear of all sorts: "ship chandleries, sail lofts, block makers' shops, bakeries for hardtack, blacksmiths' forges to turn out whaling irons and anchor chain, ropewalks, and cooperages," and many others. At one time the city owned 735 vessels of various kinds which if laid end to end would have stretched to a distance of ten miles, with another six miles of whaleboats. The stately mansions built by the wealthy whaling merchants and ship captains had no rivals in the country outside of some of the southern plantations. Hawthorne Street was described by a contemporary writer

as being the most magnificent residential street in the country. In fact,"if all the wealth booked by the assessors had been divided equally, every man, woman and child (of its 16,000 population in the 1840's) would have had more than $1,000. For its size, New Bedford was certainly the richest community in the world." [1]

The situation was too good to last. A steady accumulation of factors was gathering to bring to an end this great age of whaling. Whale oil was essentially a raw material for illumination, used in lighthouses, in engine headlights, and in households. Spermacetti, with its high melting point, made the finest candles. Whalebone was in great demand for corset stays and umbrella ribs. When, in 1859, the first petroleum well was opened in Titusville, Pennsylvania, the New Bedford whaling fleet had reached its peak. In the general excitement occasioned by John Brown's raid at Harpers Ferry, the city, highly Abolitionist and a prominent station in the "underground railroad" for fugitive slaves, overlooked the inconspicuous little newspaper item of the event which was to play such a significant part in the city's history. For within five years, use of petroleum products had become widespread. Kerosene gave a better and cheaper light than whale oil; and Waltham, Massachusetts, not far removed from New Bedford, was becoming, through its new refineries, the kerosene capital of the country. Lubricants from petroleum rapidly replaced the more expensive sperm oil for lubricating machinery. Paraffin replaced spermacetti wax as a raw material for candles. The price of whale oil dropped from 79¢ a gallon in 1855 to less than 50¢ in 1860.

The Civil War dealt another serious blow to the whaling industry,

1. Henry Beetle Hough. Wamsutta of New Bedford, 1846 - 1946. New Bedford, Wamsutta Mills, 1946.

not merely in cutting off southern markets for its products, but in the raids of the southern privateers, "Alabama," and"Shenandoah." Fifty whaleships, valued with their cargoes at over $1.5 million, were destroyed by these raiders. Forty-five additional whaleships were requisitioned by the Federal Government, loaded with granite and fieldstone from the stonewalls of the local farms, and sailed from New Bedford in 1861 to be sunk off the entrance of the Charleston and Savannah harbors in an effort to blockade these two ports.

Even before the Civil War, the whaling industry had begun to have its troubles. When gold was discovered in California, in 1849, whole crews deserted their ships when the whalers stopped to refit themselves in California ports. Dozens of deserted whaling ships were tied up at San Francisco wharves. When, after the Civil War, whaling began to revive, it shifted more to the Pacific, until by 1883, San Francisco began to build oil refineries and sperm-candle works, shipping the oil east by rail. Sperm oil reached its highest price in 1866, at $2.55 per gallon to the refiners. That year, two New Bedford vessels each made a clear profit of $125,000 on a capital of $25,000. But whaling, always a dangerous and frugal occupation for sailors, was at the same time a risky business for investors. Out of 68 vessels due to arrive at New Bedford and Fairhaven in 1858, 44 made a total loss of $1 million. In 1871, the entire Arctic fleet of 34 vessels was crushed in the ice floes. In a single September day alone, the loss to the city amounted to over $1 million, or two-thirds of her shipping loss in the entire Civil War. Again and again, by single vessels and in squadrons, the story was repeated. In 1876, twelve ships were lost in the ice. Insurance premiums for whalers rose to almost prohib-

itive heights (from 16 to 25%). The business became more and more unattractive to investors and seamen alike. Being paid, as the latter were, in a share of the catch, a long and dangerous voyage of a year might yield not a penny besides the food.

As whales became scarcer and voyages became longer and more hazardous and the pay more uncertain, it became difficult to recruit local seamen. The crews began to be composed more and more of half-castes from all parts of the West Indies and Central and South America. By 1880, the wharves of New Bedford were lined with the rotting hulks of once valuable whaleships. When the Norwegians and British introduced the steam vessel into whaling, as early as the 1870's, American capital did not respond to the challenge. Coal, oil, steel and other industries offered much more attractive fields for investment. The heyday of whaling for New Bedford and the United States was over.

Even before the mid-century point, a few of the more far-sighted whaling merchants of New Bedford had seen the need for a steadier, more dependable source of income for the city. Stimulated by a native son who had gone South for his health and had become enthusiastic over the possibilities in cotton textiles, the first cotton mill for the manufacture of find goods was incorporated in New Bedford in 1846 -- and is still in operation. Not the first cotton mill in the country by any means (for Waltham had had a cotton textile mill as early as 1813), it was, however, the second industrial plant in New England to make use of steam power, following the Naumkeag Steam Cotton Mills of Salem by one year.[2]

Only upon the insistence of the Honorable Joseph Grinnell, its

2. New England council. Power in New England. Report of Power survey committee. Boston, 1948. p.3.

backer, was the Wamsutta Mill established in New Bedford and not in Georgia. Local merchants, secure in the apparent permanence of whaling, were generally unresponsive to attempts to raise capital for the new venture. Whaleships were owned on shares, not by corporations but by individuals. Ownership of a scrap of paper offering claim to an intangible title in a cotton mill -- especially in one as yet unbuilt -- could hold no attraction alongside the pride in ownership of all or part of a sturdy whaleship. Nor could the problematical return of perhaps 6% be too persuasive to a man who owned a vessel which had grossed more than $6 an hour for the entire period of a four-year voyage (as had been the happy experience of Jonathan Bourne with his favorite ship, the Lagoda). There was no lack of capital in the city for it held the "greatest abundance of venture capital the world had ever seen in a single place."

There were other difficulties in the way of establishing the first cotton mill in a whaling town. Townspeople and merchants alike had a scorn of indoor factory life, of its confinement and discipline. There were craftsmen of all types for the manufacture of whaling gear, but none who were familiar with machine work. It was necessary to bring in the overseers and skilled operatives from towns in Rhode Island, Connecticut, and central Massachusetts, where manufacturing had commenced much earlier. Much of the equipment came from England, whose textile towns supplied workers to New Bedford throughout the period of development of this industry in the city. Whalemen, themselves, could hardly be expected to convert to this indoor, mechanized, clock-punching mode of employment; when they retired from the sea it was usually to a farm or some other active form of work. For their daughters, however, the op-

portunity to earn $4 a week "by independent and undegrading labor" was a strong attraction. With a capital of $160,000 and 200 operatives, the new mill commenced production in February, 1849, and one year later paid its first divident of 5%.

Two cotton mills were established in the city during the 1840's, one of which lasted only to about 1853. A third mill began operations in the 1870's, but it was not until the 1880's and 1890's that the textile industry began to boom. During each of these two decades, seven new mills were started, with a total capitalization of over $6 million; and in 1900 - 1909, twelve new mills, capitalized at almost $12 million. New Bedford textiles were carried to the far corners of the globe, and whaling captains found them to be good trading material. The increasing transportation facilities and rapid growth of the country provided an ever-expanding market for the fine cotton goods in which the city came to specialize. By 1929, a total of thirty-eight textile mills had been established in the city, of which seven had ceased operations (four of them during the 1920's).[3]

The rise of the cotton textile industry was not one of steady uniform growth, as might be expected, but was characterized by waves of great prosperity which often were followed by great depression. These fluctuations in the market came to be focused in the great textile converting and distributing firms of Boston and New York, which looked to New Bedford and Fall River for their raw fabrics. The heavy demand for goods in the 1890's spurred the establishment of many new mills in New Bedford and other textile communities in New England. New Bedford became a center for the manufacture of combed yarns, and reached the height of her pros-

3. Seymour L. Wolfbein, op. cit.

perity in the period 1914 - 1920, with a population of 121,217. Government war orders for cotton textile goods and the large increase in production of automobiles, as reflected in the demand for combed cotton for tire yarns, were among the factors responsible for the city's prosperity.

Once more, the city had reached the top, and once more it was ripe for catastrophe. This was not long in coming. During the decade 1930 to 1939, twenty of the city's mills ceased operations, no less than twelve of them closing during the four years between 1930 and 1934. The six-months' textile strike of 1928, called in protest to a 10% cut in wages, helped to bring on the local depression, affecting every New Bedford mill but one. As in the decline of whaling, a steady accumulation of factors was responsible for the decline of the New England textile industry: Local labor costs and restrictions; transportation costs in overcoming the distance between mill and cotton field; necessity for small mills to maintain reserve stocks of cotton, because of distance from the sources; obsolescence of plants and machinery; imports of foreign textiles; high taxes on plant and machinery; inefficient management resulting from nepotism in managerial positions and close control of the New Bedford mills through interlocking directorates by a few families; competition of other fibers, particularly silk and rayon; higher fuel and power costs; and the nationwide depression of the thirties.

Chief among the factors in the decline of New Bedford as a textile center were: labor, taxes, and obsolescence. It is mainly because of competitive disadvantages in these fields that New England has lost out to the South as the center of textile production. In 1939, the textile industry -- primarily cotton broad woven goods -- accounted for over 50% of all manufacturing employment in the seven states of the Southeast

(Alabama, Florida, Georgia, Mississippi, North and South Carolina, and Tennessee). Since World War II, however, the expansion in cotton textiles in that area has been small, overshadowed by the tremendous expansion in rayon and other synthetic yarn industries.[4] A number of New Bedford mills had the foresight to welcome silk and rayon rather than to try to compete with them, some of the mills combining cotton with rayon in their fabrics. The result has been a transformation of the New Bedford textile industry from cotton to general textiles.

Cost of labor is important in the textile industry. Skilled operators can be trained in a comparatively short time. It was largely because of a plentiful supply of cheap labor in the South that the cotton mills migrated there from New England when the development of humidifying and air-conditioning systems enabled them to duplicate inside the plants the New England climate that had been considered essential to the industry. Although the cotton textile industry has always been characterized by low wages, varying from one-half to two-thirds the average yearly wages paid by all manufacturing industries, wages in the southern cotton mills during 1919 - 1937 were only three-fourths to four-fifths the amount paid in New England and New Bedford.[5]

Southern mills did not have to compete in wages with other industry, as in the North; nor were they bothered with union troubles or the restrictions on use of female labor and the safety and workmen's comp-

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4. Glenn E. McLaughlin and Stefan Robock. Why industry moves south. National planning assn. Committee of the south. Report no. 3. Wash., 1949. The major loss in the cotton textile industry and to some extent in the wool and worsted industry has been in the coarse goods, whereas the fine goods industry has largely remained in Mass. and other New England States. --Majority report of special Mass. legislative commission, op. cit., 1950.
5. Wolfbein, op. cit.

ensation provisions of the enlightened labor laws of Massachusetts and Connecticut. Consequently, until the adoption of uniform national laws governing wages and working hours, they enjoyed a virtual freedom from competition for the available labor supply and a highly competitive advantage over northern mills. When the margin between profit and loss is slight, as it was in New England in the 1920's, this labor differential is a powerful influence in determining plant location. Since passage of the national laws, markets and distribution facilities have become more important factors in the location of textile mills.

Almost as important a factor as labor in the shift of cotton textiles to the South was the item of taxes. Taxes may amount to as much as 20% of fixed overhead costs, and the tax differential between northern and southern mills sometimes amounted to a ratio of 1:3 in favor of the South. In many instances these low taxes were an inducement to location. Another important factor in this differential was the high tax on machinery in the northern cotton mills, which amounted to as much as $39.20 per $1,000' worth of machinery in New Bedford in 1935 -- until the State of Massachusetts forbade the levying of such taxes and replaced them with a State levy of $5 per $1,000.

Control of the textile industry has gone from New England and is not likely to return. This is a situation that should call for no recrimination and little regret. Just as New England took much of the world textile manufacturing business from old England, so it must now relinquish its American position to the South. If every region of the nation is to be developed as a sound and balanced national economy requires, then certainly it is not too much of a sacrifice for the oldest industrial area of the United States to yield a portion of its industry

to a region which so greatly needs this development. Except as it may concern the national defense and other aspects of the public welfare, industry must follow the locational pattern of greatest economic return.

Loss of most of its textile industry was a serious blow to the economy of New Bedford, as indicated in the following figures:

| | 1920 | 1930 | 1940 | Table No. |
|---|---|---|---|---|
| Population | 121,217 | 112,597 | 110,341 | 16 |
| Average Number of Wage Earners in Mfg. | 40,622 | 25,739 | 22,717 | 41 |
| | | Millions of Dollars: | | |
| Amount of Yearly Wages in Manufacturing | 50.0 | 24.5 | 21.6 | 41 |
| Capital Invested in Mfg. Industries | 177.5 | 127.8 | 62.8 | - |
| Value of Products | 262.2 | 81.2 (39.2 in 1932) | 79.0 | 41 |
| Retail Sales (1919-'29-'39) | | 51.8 | 40.8 | 44 |
| Assessed Valuation | 185.0 (220.2 in 1925) | 181.4 | 101.0 | - |

This brought to an end a period of some 130 years of steady and rapid growth for the city. In the ten years prior to 1920, the population had increased 24,565. From 1900, the population had almost doubled; from 1880, when the textile industry began to boom in the city, the population had increased to nearly five times its size.

Hardest hit by this depression, New Bedford was one of the first cities to realize the importance of diversified industry to municipal economy. Some of the city's finest mills were torn down to save taxes,

an action which later was greatly regretted. The Mayor had offered the mills for one dollar apiece to any firm which would meet certain stipulations regarding local employment. In an effort to fill the empty mills, business and political leaders organized an Industrial Development Legion to attract new industries and to retain those still left in the city. In an extended campaign along lines since adopted by other communities throughout the country, the organization was notably successful in achieving its purpose. Although the city has never since reached its 1920 peak in population, wage earners, or value of products, its amount of yearly wages as shown in the 1946 Massachusetts Census of Manufactures[6] was the equivalent of $5.8 million greater than in 1920,[7] and approximately 50% of its pay roll was in diversified industries other than textiles. The city, therefore, today has a much better balanced economic base than at any time in its long and colorful history.

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6. Table 36.
7. Adjusted to cost of living index for Boston.

# APPENDIX B

## NEW BEDFORD, MASS. -- GENERAL STATISTICS

| | |
|---|---|
| Set off from Dartmouth | 1787 |
| Incorporated as a city | 1847 |
| Length of city | 10.78 miles |
| Breadth of city (maximum) | 3.10 miles |
| Highest point -- 1250 feet north of Rockdale Avenue and Hathaway Road | |
| Elevation | 181.50 feet |
| Geometrical center of city -- Nash Road and Mount Pleasant Street | |

| | | | |
|---|---|---|---|
| Area -- Land | 12,235 acres | | |
| Ponds | 193 acres | | |
| Land and Ponds | | 12,428 acres | -- 19.41 sq. miles |
| Tidal Water | | 8,457 acres | -- 13.22 sq. miles |
| Total | | 20,885 acres | -- 32.63 sq. miles |

| | |
|---|---|
| New Bedford Municipal Airport area | 388.29 acres |
| Length of frontage on tidal waters | 10.13 miles |
| Depth of main channel | 30 ft. at low water |
| Average rise and fall of tide | 3.66 feet |
| Population -- 1950 preliminary Census release | 109,033 |
| Assessed valuation (1949) | $114,906,000 |
| Assessed valuation per capita (1949) | $1,042 |
| Direct tax levy per capita (1949) | $50.42 |
| Ratio: Total net debt to assessed valuation (1949) | 1.22 |

| | | | |
|---|---|---|---|
| Accepted streets | Area 1,272 acres | | 218.52 miles |
| Bridges (3) | (Length in New Bedford) | | 0.80 miles |
| Sewers | | | 207.75 miles |
| Length of Intercepting Sewer: | | | |
| Outfall | | | 0.63 miles |
| Interceptors | | | 9.19 miles |
| Water consumption: | Total gals. consumed, 1946: | | *5,199,208,602 |
| Average daily consumption | | *14,244,407 | |
| Gals. per day to each inhabitant | | * 114 | |
| Number of water meters | | * 17,610 | |

*Includes population supplied in towns of Dartmouth and Acushnet -- 2,527 taps, 10,310 consumers.

| | | |
|---|---|---|
| 16 Parks and 6 Public Playgrounds | Area: | 456.57 acres |
| 40 School Buildings | Area of ground: | 73.76 acres |
| Trees (approx.) shading city streets | | 9,415 |

| Enrollment of pupils: (1946) | Public | Parochial | Private |
|---|---|---|---|
| High Schools, Senior | 1,835 | 568 | |
| Junior | 1,717 | | |
| Elementary Schools | 7,898 | 4,059 | |
| | 11,450 | 4,627 | 109 |
| Vocational High School | 715 | | |

# A P P E N D I X C

## THE PORT OF NEW BEDFORD

New Bedford Harbor is a tidal estuary at the mouth of the Acushnet River on the west side of Buzzards Bay, with the city of New Bedford situated on the west side of the river and thetown of Fairhaven on the east side. By rail, the harbor is about 57 miles from Boston and 219 miles from New York City; by water, about 90 miles from Boston (via the Cape Cod Canal) and 190 miles from New York City. It is approached from the sea through the broad, deep waters of Buzzards Bay, being within seven miles of the line of all vessels passing through the Canal, and 18 miles from the open water track of all ocean coastwise commerce passing outside of Cape Cod. The harbor includes all of the tidewater lying northerly of a line from Clark's Point at the southern extremity to Sconticut Point at the s outhern end of Fairhaven and extending to the head of navigation on the Acushnet River at Belleville, a distance of about $6\frac{1}{2}$ miles, and comprises an area of about $7\frac{1}{4}$ square miles. The outer harbor is about 2 miles wide and from 2 to $2\frac{1}{2}$ miles long, extending up to Palmer's Island. The inner harbor extends from Palmer's Island to a short distance above the New Bedford-Fairhaven Bridge.

The entrance channel is 2.9 miles long and 350 feet wide, following a straight course, with increased widths for anchorage and maneuvering northwest of Palmer's Island and above the bridge. Two highway bridges cross the harbor and Acushmet River. The New Bedford-Fairhaven Bridge crosses over Fish Island and Pope's Island at the head of the inner harbor, and the Coggeshall Street Bridge crosses the Acushnet River about

one mile farther north.

The port is served by 23 piers, 6 of them located on the Fairhaven side of the harbor. Three municipal piers are largely utilized by the fishing industry. Four of the 6 Fairhaven piers are used in connection with marine repair or yacht building plants. Many of the wharves date back to whaling days, with their solid fill faced by stone retaining walls. The State Pier, completed in 1917, was recently renovated and enlarged to remove inadequacies for handling new-type cargo vessels. This has a two-story steel-and-concrete transit shed, 105 feet by 556 feet; 165,595 square feet of open storage area; and berths of 600 feet on the north, 449 feet on the east, and 775 feet on the south; with a double trackway extending full length along the southerly exterior of the terminal shed, to accommodate 24 cars, plus a parallel 40-foot roadway with connecting ramp to the 50-foot apron, thus making the new facilities actually a semi-pier quay. The new State Pier dwarfs other harbor piers by comparison, provides the State with a custom port outside of Boston, and makes New Bedford second only to Boston as a general cargo-handling port for coastwise, intercoastal, and foreign-borne commerce.

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U. S. Corps of engineers, U. S. army. Port and terminal facilities at the ports of southern New England, 1941. op. cit.

New Bedford board of commerce. The port of New Bedford, Mass., 1949. op. cit.

# APPENDIX D

## THE NEW BEDFORD CONSTRUCTION INDUSTRY AND SERVICE ESTABLISHMENTS

New Bedford is a manufacturing and fishing city. These are the major basic industries upon which the city depends for its existence. No city is self-sufficient. It must produce goods or services for people living outside the urban area in order to be able to procure food for its citizens, raw materials for its factories, and other necessities not produced locally. The basic economic support of the city lies in its employment in these so-called basic or export industries, chief of which are manufacturing, wholesale trade, non-local finance, tourist trade, state or federal government colleges, non-local transportation, and mining.[1] A city may be supported by one or more of such basic activities, and it is possible to estimate the approximate proportion which each basic factor contributes to the city's support.

No attempt is made in this thesis to analyze the economic structure of New Bedford from this angle. Reference may be made to a companion thesis by William W. Johnston, of Massachusetts Institute of Technology, in which this subject is explored.[2]

Certain services are necessary for the support of workers engaged in the basic activities of a city: e.g., retail trade establishments, personal and business services, construction, and local utilities. These services are of vital importance to the urban economy but are of benefit almost exclusively to the local population and cannot by them-

1. Homer Hoyt. Principles of city growth and structure. Mimeo. Undated. p.5.
2. The industrial economy of New Bedford, Massachusetts. 1950. (unpublished).

selves sustain the community.[3] In many cities, about one person is employed in these service, or non-basic, industries for every one employed in the basic industries; and their income is dependent to a large degree upon the patronage of those receiving incomes from the basic industries.[4] With an increase in employment in the basic lines, a corresponding increase will take place in the service industries.

It is upon basic activities that cities are built. Basic industries then generate a demand for service, or derivative, activities such as the retailers, doctors, lawyers, plumbers, etc. New Bedford, as pointed out earlier, was founded as a fishing hamlet and built its prosperity upon the whaling and cotton manufacturing industries, when it exported its products to a world market. Both these basic industries gave rise to a host of specialized service industries in addition to the usual service activities to be found in any community. With loss of the basic lines has been an inevitable loss in the service establishments.

The retail trading activity in the New Bedford area has been discussed in the body of the thesis. To round out the picture of service activity in the city, a few statistics are presented herewith on construction activity and on the city's service establishments. The figures have no especial significance except as their comparison with corresponding figures for other communities in its population range reemphasizes the low relative degree of activity in the city during the past thirty years.

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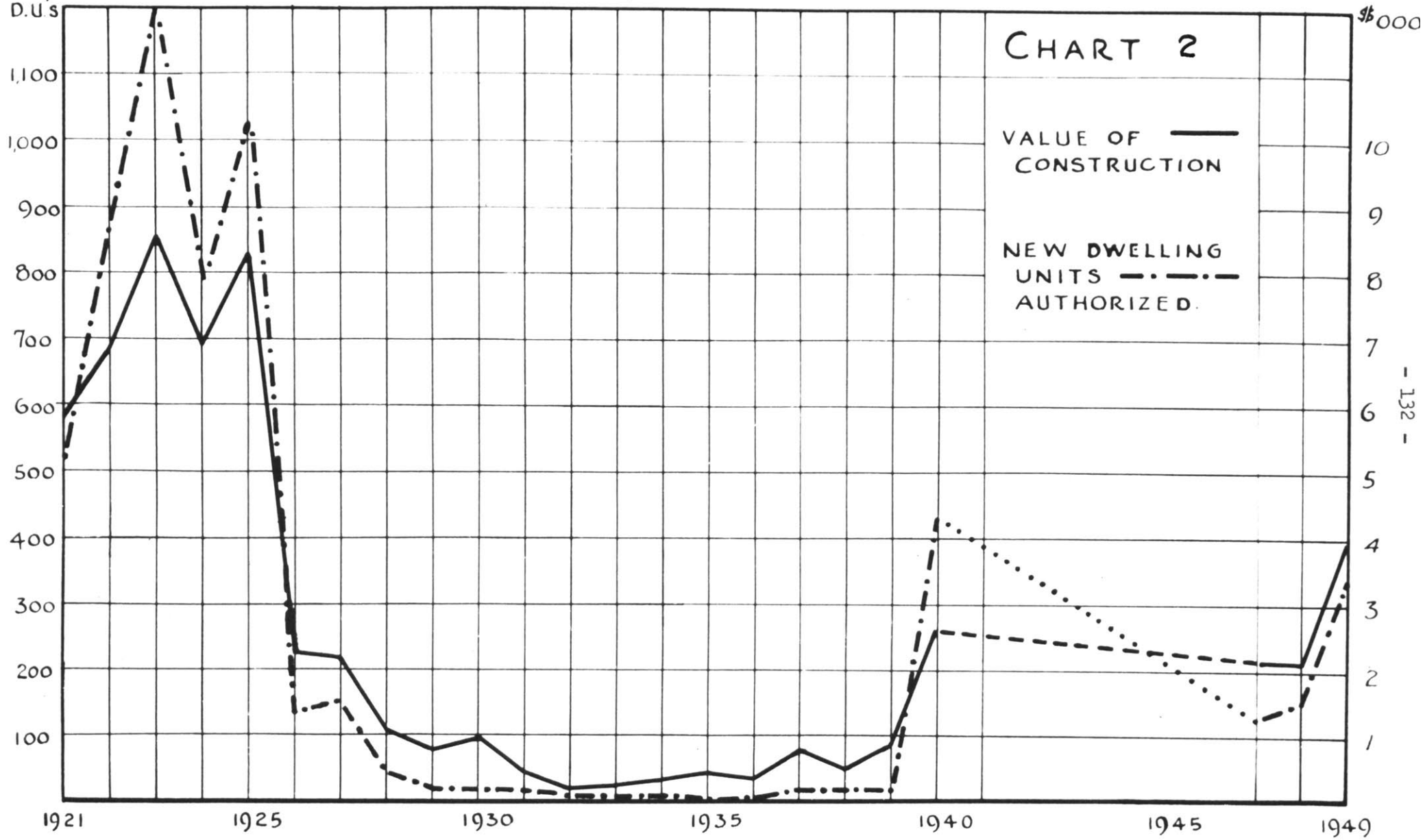
3. The economic study of Milwaukee. op. cit.
4. National association of supervisors of state banks, Committee on municipal obligations. Municipals. For the Federal deposit insurance corp., Wash., D.C., 1941. p.44. Also, Homer Hoyt, in National real estate journal, Aug. 1943, op. cit. p.2.

# BUILDING CONSTRUCTION & DWELLING UNITS IN NEW BEDFORD




SOURCE: BUR. OF LABOR STATISTICS.

CHARLES W. WASHBURN.
M.C.P THESIS . 1950
MASS. INST. of TECHNOLOGY-

The Construction Industry. The construction industry includes activities involved in the processing of land and erection of structures: in general, (1) residential building of houses, flats, and apartments; (2) nonresidential construction of commercial, industrial and certain types of institutional buildings; and (3) public works such as the laying of streets and sewers, and construction of bridges and highways.[5]

In the national picture, the construction industry ranks high among all the industries both in its relationship to the gross national product (11.1% of this total, 1919-1935, as compared with 9.5% for all consumers' durable goods) and in its employment. Not included as a manufacturing industry, the construction industry in 1939 employed 1.75 times as many persons as the leading manufacturing industry (textiles), twice as many workers as the steel and iron industry, and five times as many as the automobile industry. It is characterized by wide fluctuations in activity, both seasonal and cyclical, being strongly influenced by changes in family income, commercial and industrial activity, and population pressures.

As might be expected, construction activity in New Bedford has not been spectacular since the decline of the cotton textile industry. (Chart 2). No large-scale building has taken place in recent years except for public housing projects. A comparison of building construction (value of permits issued, and number of new dwelling units authorized) in New Bedford and other Massachusetts and U. S. cities, from 1921 to 1949, is presented in Tables 6 and 7.

In the country as a whole, the total dollar volume of urban building was more than three times as great in 1949 as in 1921, but in New

5. Richard U. Ratcliff. Urban land economics. New York, McGraw-Hill, 1949. p.147.

England only Cambridge, Boston and Bridgeport reported as much as twice the 1921 dollar volume; and four cities (Providence, New Bedford, Somerville, and Lowell) showed a dollar volume in 1948 less than in 1921.[6]

Although the curve of construction activity in New Bedford since 1947 shows a healthy upward swing, it is the result of a pent-up demand for new housing generated during the recent war years and not to be associated with renewed industrial activity. A greater degree of new residential building is taking place in the suburban communities, in line with the movement outward from the central city, but it is hardly likely that even this will be of more than short duration. Unless and until new industry is brought into the city and new industrial plants constructed as an inducement to the location of new firms, the construction industry will offer little in the way of employment in New Bedford. Being a coastal city of over 100,000 population, a manufacturing center with a good harbor, the city is already too vulnerable a target for the federal government to consider it for the location or relocation of defense plants or other strategic activities.

It may be mentioned in passing that Norman Bel Geddes, in designing his Futurama for the New York World's Fair, saw fit to incorporate New Bedford into his study and plan of strategic new cities in his master traffic plan of the future. Whatever were his reasons for the selection, he was apparently possessed of an imagination and a confidence in the region's potentialities not shared by the author of this thesis.

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6. U. S. Subcommittee on unemployment, of the Joint committee on the economic report, 81st Cong., 2d sess. Wash. Govt. print. off. 1950. p.33.

Table 6.

Building Construction in New Bedford and Other Large U. S. Cities, as Shown in Value of Permits Issued and Federal Construction Contracts Awarded, 1921 - 1949.

(In thousands of dollars)

| Year | New Bedford | Fall River | Cambridge | Somerville | Lowell | Canton, Ohio | Elizabeth, N. J. | Gary, Ind. | Reading, Pa. | Tacoma, Wash. | Wilmington Del. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1921 | 5,817 | 1,694 | 1,634 | 1,838 | 1,452 | 3,816 | 3,677 | 2,794 | n.a. | 4,593 | 2,091 |
| 1922 | 6,885 | 5,044 | 4,432 | 3,853 | 1,395 | 6,033 | 5,719 | 2,944 | 4,800 | 4,232 | 2,767 |
| 1923 | 8,551 | 5,274 | 5,313 | 3,185 | 4,024 | 8,440 | 5,946 | 4,281 | 4,382 | 5,500 | 3,745 |
| 1924 | 6,925 | 4,451 | 8,285 | 3,306 | 1,577 | 8,608 | 6,594 | 9,059 | 6,069 | 8,368 | 3,776 |
| 1925 | 8,297 | 3,796 | 11,711 | 5,653 | 2,624 | 8,966 | 8,998 | 13,058 | 6,814 | 7,074 | 3,987 |
| 1926 | 2,269 | 2,156 | 8,270 | 5,066 | 1,578 | 5,321 | 11,166 | 22,074 | 5,267 | 11,088 | 4,871 |
| 1927 | 2,167 | 1,841 | 9,557 | 3,386 | 971 | 4,156 | 10,923 | 15,017 | 4,614 | 4,765 | 6,806 |
| 1928 | 1,095 | 2,836 | 8,084 | 1,424 | 942 | 3,662 | 5,504 | 6,041 | 3,808 | 4,660 | 5,577 |
| 1929 | 789 | 792 | 12,166 | 3,076 | , 704 | 3,456 | 4,095 | 3,146 | 6,111 | 4,053 | 6,143 |
| 1930 | 982 | 1,189 | 11,063 | 1,380 | 1,147 | 1,585 | 2,384 | 1,177 | 2,474 | 4,070 | 4,917 |
| 1931 | 471 | 697 | 4,991 | 980 | 627 | 640 | 2,348 | 983 | 2,772 | 2,002 | 3,297 |
| 1932 | 194 | 447 | 1,977 | 556 | 167 | 378 | 385 | 130 | 478 | 432 | 1,382 |
| 1933 | 233 | 183 | 1,321 | 234 | 251 | 88 | 618 | 113 | 327 | 534 | 2,118 |
| 1934 | 336 | 282 | 595 | 252 | 238 | 343 | 284 | 221 | 1,591 | 459 | 1,156 |
| 1935 | 439 | 195 | 845 | 817 | 370 | 450 | 685 | 625 | 369 | 870 | 2,487 |
| 1936 | 361 | 312 | 2,939 | 538 | 553 | 927 | 943 | 1,319 | 1,875 | 1,448 | 4,101 |
| 1937 | 780 | 569 | 3,600 | 431 | 720 | 1,398 | 834 | 1,738 | 1,088 | 1,453 | 4,270 |
| 1938 | 517 | 680 | 3,221 | 259 | 424 | 1,824 | 1,224 | 1,000 | 1,379 | 1,595 | 2,280 |
| 1939 | 864 | 1,850 | 2,978 | 363 | 2,425 | 1,677 | 3,548 | 2,741 | 2,475 | 2,280 | 4,444 |
| 1940 | 2,635 | 1,655 | 1,964 | 563 | 636 | 2,848 | 3,247 | 5,786 | 1,906 | 3,335 | 6,351 |
| 1947 | 2,166 | 1,788 | 9,331 | 2,606 | 1,871 | 4,527 | 5,395 | 9,194 | 2,645 | 11,570 | 3,332 |
| 1948 | 2,124 | 2,260 | 8,997 | 1,191 | 1,140 | 4,937 | 2,943 | 11,457 | 2,005 | 14,493 | 5,632 |
| 1949 | 3,948 | 3,001 | 14,579 | 3,088 | 5,306 | 5,861 | 4,100 | 13,938 | 3,251 | 13,370 | 10,619 |

Source: Handbook of Regional Statistics, G.P.O., 1950. (Tables F). (from U. S. Dept. of Labor, Bur. of Labor Statistics).

Table 7.

Number of New Dwelling Units Authorized in New Bedford and Other Large U. S. Cities, 1921 - 1949.

| Year | New Bedford | Fall River | Cam-bridge | Somer-ville | LOwell | Canton, Ohio | Elizabeth, N. J. | Gary, Ind. | Reading, Pa. | Tacoma, Wash. | Wilmington, Del. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1921 | 522 | 141 | 43 | 204 | 259 | 403 | 514 | 494 | n.a. | 843 | 66 |
| 1922 | 880 | 505 | 237 | 401 | 210 | 660 | 766 | 428 | 333 | 862 | 128 |
| 1923 | 1,196 | 564 | 288 | 347 | 526 | 1,679 | 849 | 656 | 387 | 861 | 267 |
| 1924 | 790 | 526 | 662 | 425 | 259 | 1,152 | 870 | 1,517 | 408 | 1,130 | 298 |
| 1925 | 1,027 | 607 | 845 | 568 | 317 | 988 | 1,229 | 2,194 | 476 | 1,201 | 423 |
| 1926 | 135 | 232 | 688 | 352 | 145 | 702 | 1,751 | 2,024 | 290 | 1,790 | 359 |
| 1927 | 151 | 251 | 636 | 399 | 79 | 512 | 1,650 | 1,675 | 233 | 769 | 366 |
| 1928 | 42 | 110 | 863 | 199 | 50 | 374 | 1,002 | 890 | 263 | 822 | 365 |
| 1929 | 18 | 48 | 788 | 286 | 37 | 331 | 514 | 375 | 253 | 515 | 383 |
| 1930 | 15 | 33 | 159 | 49 | 42 | 95 | 222 | 131 | 119 | 347 | 367 |
| 1931 | 14 | 9 | 137 | 51 | 41 | 21 | 157 | 56 | 49 | 185 | 217 |
| 1932 | 5 | 7 | 52 | 3 | 16 | 8 | 39 | 8 | 30 | 78 | 74 |
| 1933 | 4 | 10 | 9 | 4 | 18 | 7 | 27 | 9 | 7 | 58 | 70 |
| 1934 | 7 | 8 | 6 | 1 | 10 | 9 | 10 | 10 | 7 | 45 | 91 |
| 1935 | 1 | 12 | 10 | 2 | 9 | 31 | 43 | 31 | 17 | 47 | 99 |
| 1936 | 7 | 12 | 309 | 3 | 22 | 82 | 90 | 90 | 34 | 122 | 288 |
| 1937 | 18 | 27 | 122 | 2 | 16 | 140 | 108 | 243 | 39 | 199 | 149 |
| 1938 | 19 | 32 | 71 | 1 | 11 | 111 | 72 | 169 | 23 | 358 | 129 |
| 1939 | 18 | 408 | 29 | 1 | 574 | 198 | 559 | 397 | 454 | 416 | 177 |
| 1940 | 432 | 316 | 315 | 4 | 26 | 341 | 584 | 1.302 | 48 | 621 | 230 |
| 1947 | 126 | 118 | 57 | 69 | 82 | 356 | 717 | 1,199 | 29 | 753 | 111 |
| 1948 | 151 | 130 | 91 | 3 | 130 | 345 | 32 | 1,066 | 40 | 893 | 136 |
| 1949 | 336 | 299 | 810 | 174 | 391 | 351 | 544 | 1,826 | 377 | 1,105 | 109 |
| Totals: | 2,526 | 2,669 | 5,997 | 2,171 | 2,016 | 5,002 | 9,350 | 13,695 | 2,788 | 10,324 | 4,143 |

Source: Handbook of Regional Statistics, G.P.O., 1950. (Tables F).

Service Establishments. Service industries have been defined as including trade, professional service, public service, and personal and domestic service;[7] or, eliminating trade, as including religious, professional, domestic, personal, recreation, amusement and business services.[8] For purposes of the 1939 U. S. Census, service establishments were classified into seven major groups:

1. Personal Service establishments.

2. Business Service establishments, e.g., adjustment and credit bureaus and collection agencies, billboard advertising service, dental labs, sign painting shops, and other establishments rendering a service to business.

3. Services Allied to Transportation, e.g., stevedoring, stockyard service, and warehousing.

4. Automotive Repairs and Services.

5. Other Repair Services (except automobile, apparel, and shoes).

6. Custom Industries, which include cabinet-making shops (including woodworking), printing and publishing shops, and other custom and manufacturing establishments not covered by the Census of Manufactures, since value of products of each is less than required minimum necessary for classification as a manufacturing plant.

7. Miscellaneous Services, which include circulating libraries, landscape gardening and tree surgery, livery stables, and other services which could not logically be classified in any of the other six groups.[9]

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7. David Weintraub. Technological trends and national policy. (In U.S. Report of subcommittee on technology to the national resources committee. Wash. Govt. print. off. June 1937. p.74).
8. S. S. Kuznets. National income and capital formation, 1919-1935. New York. National Bur. of economic research. 1937. p.12.
9. As was the case in previous Census of Service Establishments, the

Statistics on the number, type, and activity of service establishments in New Bedford for 1939 are shown in Table 8; and in Table 9, a comparison of service activity in New Bedford, Bristol County, Massachusetts, and the United States, plus selected industrial cities. In total business, and average per establishment, New Bedford trailed the outside-New England cities, which was to be expected in view of the city's similarly inferior position with respect to basic industry activity for the same year. With other Massachusetts cities in its population group, the comparison was not quite so unfavorable. Barber shops outnumbered other types of establishment, which is typically the case, with power laundries accounting for the greatest single volume in employment and housing receipts: one-sixth of total receipts, as compared with a ratio of one-eighth for the State.

Development of Service Industries. A rough comparison of employment changes in basic and service industries in New Bedford, 1930-1940, as seen in Table 10, indicates an increase in service employment from 29% to 42% of total industrial employment, with a corresponding decrease in basic industry employment from 66% to 57%. These figures are only approximate, inasmuch as it was not possible without further study to break down the industry groups of manufacturing, transportation and trade, for instance, into basic and service employment.

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1939 Census did not include the business activities of doctors, lawyers, dentists, and others performing a professional or scientific service; nor did it include the fields of finance, education, real estate, insurance or transportation. Religious and charitable instutions, hospitals, and sanatariums, public utilities, and Government-operated enterprises were also excluded from this Census, as well as freight forwarders and custom-house brokers, transportation terminals, title and abstract companies, insurance claim adjustment offices, and certain agricultural services, which were included in the 1935 Census. --16th Census of U.S., 1940: Service Establishments.

Reder has pointed out that over the course of a business cycle, it is likely that an increase in the relative importance of the service industries will result in a diminishing of investment and of employment.[10] Service industries expanded rapidly in the United States from 1920 to 1929,[11] although trade itself declined in importance relative to the rest of the economy.[12] Judging from the experience of New Bedford, it would appear that it was largely because of the diminishing of investment and employment in the basic industries that a larger number of persons had to turn to the service activities for employment.

The area upon which New Bedford draws for its service income is not sufficiently large to warrant any great amount of optimism for the development of local service activities. Full-scale operation of Camp Edwards, at Falmouth, for year around defense training activities (which is an early probability) will contribute to local service income but at the expense of strong competition from Boston establishments.

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10. M. W. Reder. Service industries and the volume of employment. The American economic review, 31:512, Sept. 1941.
11. Weintraub, op. cit., p.87.
12. During the period 1919-1934, when the percentage of the gross national product that originated in the service industries as a whole increased 43% (9.5% to 13.6%) and the percentage of total workers employed in service industries increased 41% (9.9% in 1920 to 14.0% in 1937). --Kuznets, op. cit., p.15.

Table 8.

Number and Type of Service Establishments, Receipts, Employees, and Pay Rolls, in New Bedford, 1939

| | | 1. | 2. | 3. | 4. |
|---|---|---|---|---|---|
| A. | All kinds of business, total | 644 | $2,698 | 825 | $707 |
| B. | Personal services: | | | | |
| 1. | Barber shops | 162 | 250 | 76 | 46 |
| 2. | Beauty parlors | 71 | 228 | 91 | 68 |
| 3. | Cleaning, dyeing, pressing, al alteration, & repair shops | 54 | 114 | 19 | 11 |
| 4. | Funeral directors, embalmers & crematories | 19 | 264 | 31 | 29 |
| 5. | Laundries, hand | 20 | 229 | 1 | * |
| 6. | Laundries, power | 16 | 458 | 297 | 246 |
| 7. | Photographic studios | 12 | 57 | 7 | 10 |
| 8. | Shoe repair shops | 79 | 153 | 18 | 14 |
| 9. | Linen supply service w/o laundry facilities | - | - | - | - |
| 10. | Travel bureaus (incl. ticket agents & brokers) | - | - | - | - |
| 11. | Cleaning & dyeing plants | - | - | - | - |
| 12. | Other personal services | 23 | 273 | 105 | 94 |
| C. | Business services | 9 | 121 | 33 | 42 |
| D. | Services allied to transport'n | 3 | 46 | 19 | 28 |
| E. | Automotive repairs and services | | | | |
| 13. | Auto. repair shops (general) | 51 | 218 | 35 | 33 |
| 14. | Auto. top & body repair shops | 9 | 75 | 26 | 23 |
| 15. | Auto. rental service | - | - | - | - |
| 16. | Auto. storage garages | - | - | - | - |
| 17. | Other automotive repairs | 42 | 47 | 5 | 5 |
| F. | Other repair services (excpt. auto, apparel & shoes) | 40 | 138 | 28 | 25 |
| 18. | Blacksmith shops | - | - | - | - |
| 19. | Radio repair shops | - | - | - | - |
| 20. | Upholstery & furn. repr. shops | - | - | - | - |
| 21. | Armature rewinding shops | - | - | - | - |
| 22. | Watch, clock & jewelry repair shops | - | - | - | - |
| 23. | Other repair services | - | - | - | - |
| G. | Custom industries[1] | 31 | 136 | 25 | 24 |
| H. | Miscellaneous services | 3 | 91 | 9 | 9 |

1. Includes custom industries, and small mfg. plants not incl. in Census of Manufactures, for reason that value of products of each establishment is less than minimum necessary to be classed as a manufacturing plant.

*less than $500.

Source: 1940 U.S. Census: Service Establishments, 1939.

Col. 1: No. of establ'ts.
2: Receipts (add 000)
3: No. of employees (aver. for year)
4: Total pay roll (add 000)

Table 9.

Service Activity in the United States, Massachusetts, Bristol County, New Bedford, and 13 Comparison U. S. Cities, 1939, as Indicated in Number of Establishments, Receipts, Active Proprietors, Number of Employees, and Total Pay Roll

| | No. of Establish-ments | Receipts (add 000) | Active Proprietors* | No. of Employees (av. for yr) | Total Pay Roll (add 000) | Average Recpts/Estab-lishment |
|---|---|---|---|---|---|---|
| United States | 646,028 | $3,420,417 | 652,491 | 1,102,047 | 1,069,887 | $5,295 |
| Massachusetts | 24,783 | 138,443 | 24,211 | 41,030 | 42,566 | 5,183 |
| Bristol County | 1,869 | 7,180 | 1,853 | 2,165 | 1,824 | 3,840 |
| New Bedford | 644 | 2,698 | 626 | 825 | 707 | 4,190 |
| Fall River | 711 | 2,768 | 710 | 933 | 765 | 3,900 |
| Cambridge | 685 | 5,509 | 681 | 1,557 | 1,662 | 8,044 |
| Somerville | 493 | 2,614 | 476 | 841 | 853 | 5,303 |
| Lowell | 1,079 | 3,302 | 1,066 | 810 | 690 | 3,060 |
| Lawrence | 591 | 2,325 | 583 | 650 | 576 | 3,934 |
| Lynn | 631 | 3,331 | 628 | 1,161 | 1,059 | 5,279 |
| Brockton | 412 | 1,953 | 414 | 504 | 463 | 4,740 |
| Canton, O. | 690 | 3,624 | 701 | 1,210 | 1,144 | 5,252 |
| Elizabeth, N.J. | 674 | 3,250 | 653 | 866 | 899 | 4,970 |
| Gary, Ind. | 485 | 2,266 | 469 | 728 | 712 | 4,672 |
| Reading, Pa. | 843 | 4,249 | 828 | 1,236 | 1,223 | 5,028 |
| Tacoma, Wash. | 828 | 4,482 | 813 | 1,175 | 1,396 | 5,413 |
| Wilmington, Del. | 825 | 4,966 | 788 | 1,440 | 1,424 | 6,019 |

*Of unincorporated businesses.

Source: 16th Census of the United States, 1940: Service Establishments, 1939.

Table 10.

Trend in Service Employment in New Bedford, 1930-1940.

| | Employment | | Amount of Change | % of Total Employment | |
|---|---|---|---|---|---|
| | 1930 | 1940 | | 1930 | 1940 |
| SERVICE ACTIVITIES | | | | | |
| Retail Trade | 4,583* | 5,940 | 1,357 | | |
| Public, Professional, Domestic & Personal Service, & Constr'n | 7,587 | 9,244 | 1,657 | | |
| Transportation and Communication | 2,643 | 1,846 | - 797 | | |
| | 14,813 | 17,030 | 2,217 | 29% | 42% |
| NON-SERVICE ACTIVITIES | | | | | |
| Manufacturing | 32,718 | 21,582 | -11,136 | | |
| Agriculture, Forestry, Fishing, Mining | 669 | 608 | - 61 | | |
| Wholesale Trade | 1,193* | 702 | - 491 | | |
| | 34,580 | 22,892 | -11,688 | 66% | 57% |
| TOTAL EMPLOYMENT | 52,124 | 40,400 | -11,724 | | |

*Figs. for wholesale and retail trade taken from 1929 U. S. Census; not available for 1930.

Clerical occupations (2,859 persons) are omitted from this tabulation.

Sources: U. S. Census, 1930 and 1940.

# A P P E N D I X E

## NEW BEDFORD TAX PROFILE AND MUNICIPAL SERVICES

The assessed valuation of New Bedford in 1926, at the height of the city's prosperity, was $221,800,000, dropping to $181,360,000 in 1930, to $120,929,000 in 1935, and to $95,246,000 in 1941. It stands today (1949) at$114,900,000, with a tax rate of 48.40 mills as against the 27.80 mills at time of peak valuation in 1926. Assessed valuation per capita is now $1,042 as compared with $1,860.88 for 1926. Net funded or fixed debt has been reduced from $12,135,500 in 1925 to $2,998,500 in 1945; and the ratio of total net debt to assessed valuation, which was 5.65% in 1926, with a high of 7.23% in 1934, has been brought down to 1.22% in 1948. Direct tax levy per capita is about the same now as in the city's period of prosperity ($51.73 in 1926; $50.42 in 1949), rising from a low of $37.27 in 1945; but the city's position in this respect, relative to other communities in the state, has improved considerably from a rank order of 297 in 1925 (of 355 communities) to one of 116 in 1949. (cf. Table 11).

City statistics for the tax rate, assessed valuation per capita, direct tax levy per capita, and ratio of total net debt to assessed valuation, together with the city's respective rank order among 355 municipalities in the state, are shown in Table 11 and are plotted on graphs or"profile" charts for the periods 1905-1939 and 1940-1949. The city's relative status within the experience of the whole group of municipalities, in terms of percentiles, is indicated by the ends of the black bar lines in the profiles. For example, if the bar ends at

the 8th decile, or 80, it indicates that about 80% of all municipalities had a lower experience in the factor for that particular year, and about 20% had a higher experience. Shifts from right to left, year by year, indicate a relative change in position status of the city. (cf. Charts 3 and 5).

Profiles merely picture rank order status, year by year, but do not interpret statewide trends. In order to appreciate these state trends, the range of experience for all 351 cities and towns in the state, as expressed in trend lines for lowest, 1st quartile, median, 3rd quartile, and highest experiences among the municipalities, have been plotted on "trend" graphs for each of the factors used in the profile graphs. Superimposed on these trend lines is the line of experience for New Bedford, by way of comparison with state trends. (cf. Charts 4 and 6).

The quality of municipal services received in return for taxes is an important factor in evaluating and comparing cities. Police and fire protection generally afford a good indication of the quality of such services; accordingly, a superficial picture of such New Bedford services is presented in Tables 12 and 13, together with a comparison of New Bedford with other cities in its population size in respect to general revenue and general and per capita expenditures. In both fire and police protection, New Bedford compares favorably with larger cities in the group: 281 full-time Fire Department employees as against an average of 192, and 220 full-time Police Department employees as compared with the average of 185. Total fire department expenditures for 1948 of $819,000 (latest figures shown in The Municipal Year Book,

1949)[1] were far larger than for any of the other comparison cities except Tacoma ($993,000), which had an estimated 139,000 population for 1949 as against New Bedford's present 109,000. The excellence of the fire protection provided in New Bedford is reflected in the city's average fire loss per capita for the period 1944-1948, of $1.67, as against the 1948 average for all cities in the population group of $2.88. Only two cities of the group showed a lower fire loss. Building fires per 1,000 population were 3.6 for New Bedford, compared with an average for the group of 5.0. Among 24 cities in the population group (100,000 to 120,000), the city stood third in number of police officers and second in number of police officers per thousand population.[2]

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1. Chicago. The International city managers association. The municipal year book, 1949. Chicago, The International city managers association, 1950. Published annually.
2. New Bedford Standard-times, op. cit., 2 Feb. 1950.

Table 11.

Tax Rate, Assessed Valuation per Capita, Direct Tax Levy per Capita, and Ratio: Total Net Debt to Assessed Valuation, for New Bedford, 1906-1949

| Year | Tax Rate | | A.V.P.C. | | D.T.P.C. | | Ratio: Total Net Debt to Assessed Valuation | |
|---|---|---|---|---|---|---|---|---|
| | Mills | R.O. | Amount | R.O. | Amount | R.O. | Percent. | R.O. |
| 1906 | 18.40 | 263 | $ 843.40 | 269 | $15.52 | 294 | 4.62 | 301 |
| 1910 | 19.00 | 263 | 851.53 | 237 | 16.18 | 267 | 6.44 | 344 |
| 1915 | 23.00 | 317 | 1,002.60 | 228 | 23.06 | 286 | 7.20 | 351 |
| 1920 | 27.20 | 236 | 1,501.08 | 280 | 40.83 | 315 | 4.80 | 345 |
| 1925 | 26.00 | 118 | 1,842.02 | 293 | 47.89 | 297 | 5.04 | 332 |
| 1926 | 27.80 | 131 | 1,860.88 | 279 | 51.73 | 290 | 5.64 | 346 |
| 1927 | 27.60 | 146 | 1,808.59 | 270 | 49.91 | 281 | 5.66 | 343 |
| 1928 | 29.20 | 192 | 1,686.32 | 250 | 49.24 | 273 | 5.66 | 343 |
| 1929 | 30.00 | 227 | 1,569.60 | 240 | 47.08 | 261 | 5.36 | 340 |
| 1930 | 29.80 | 213 | 1,557.97 | 237 | 46.42 | 256 | 5.51 | 338 |
| 1931 | 34,00 | 267 | 1,343.34 | 200 | 45.67 | 242 | 5.62 | 335 |
| 1932 | 39.80 | 322 | 1,171.52 | 162 | 46.63 | 238 | 5.70 | 338 |
| 1933 | 39.60 | 332 | 1,030.50 | 114 | 40.80 | 198 | 6.52 | 345 |
| 1934 | 39.20 | 311 | 1,039.34 | 122 | 40.74 | 187 | 7.23 | 346 |
| 1935 | 39.20 | 287 | 1,069.92 | 156 | 41.94 | 202 | 6.87 | 346 |
| 1936 | 39.20 | 285 | 1,067.01 | 157 | 41.82 | 202 | 6.56 | 346 |
| 1937 | 40.80 | 307 | 950.75 | 110 | 38.79 | 187 | 6.97 | 350 |
| 1938 | 45.60 | 330 | 945.83 | 107 | 43.13 | 218 | 6.99 | 347 |
| 1939 | 48.00 | 334 | 925.04 | 99 | 44.40 | 222 | - | - |
| 1940 | 47.60 | 336 | 875.52 | 84 | 41.55 | 210 | 6.81 | 345 |
| 1941 | 46.80 | 337 | 863 | 76 | 40.40 | 206 | 5.90 | 339 |
| 1942 | 46.60 | 336 | 867 | 76 | 40.42 | 191 | 5.00 | 337 |
| 1943 | 45.80 | 339 | 875 | 75 | 40.08 | 202 | 4.09 | 330 |
| 1944 | 44.80 | 338 | 879 | 57 | 39.40 | 186 | 2.99 | 318 |
| 1945 | 42.00 | 309 | 887 | 85 | 37.27 | 170 | 2.20 | 312 |
| 1946 | 45.20 | 316 | 893 | 78 | 40.40 | 165 | 1.58 | 267 |
| 1947 | 46.40 | 285 | 998 | 111 | 46.32 | 160 | 1.66 | 260 |
| 1948 | 48.00 | 263 | 1,026 | 98 | 49.24 | 132 | 1.22 | - |
| 1949 | 48.40 | 255 | 1,042 | 81 | 50.42 | 116 | - | - |

Source: Bureau for Research in Municipal Government, Harvard Graduate School of Public Administration.

Note: Rank Order 1 is lowest, 355 is highest, among 355 municipalities in Massachusetts.

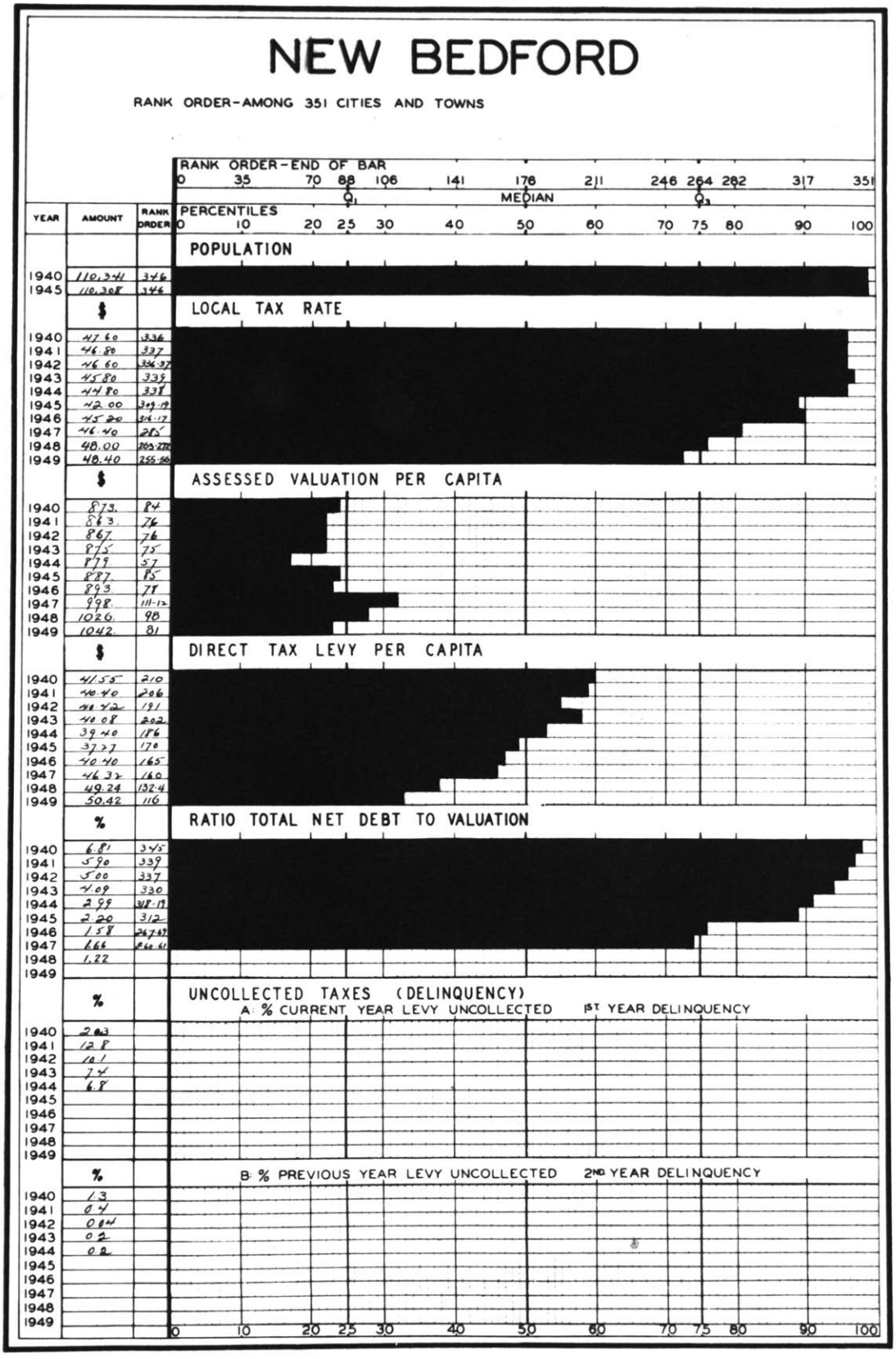
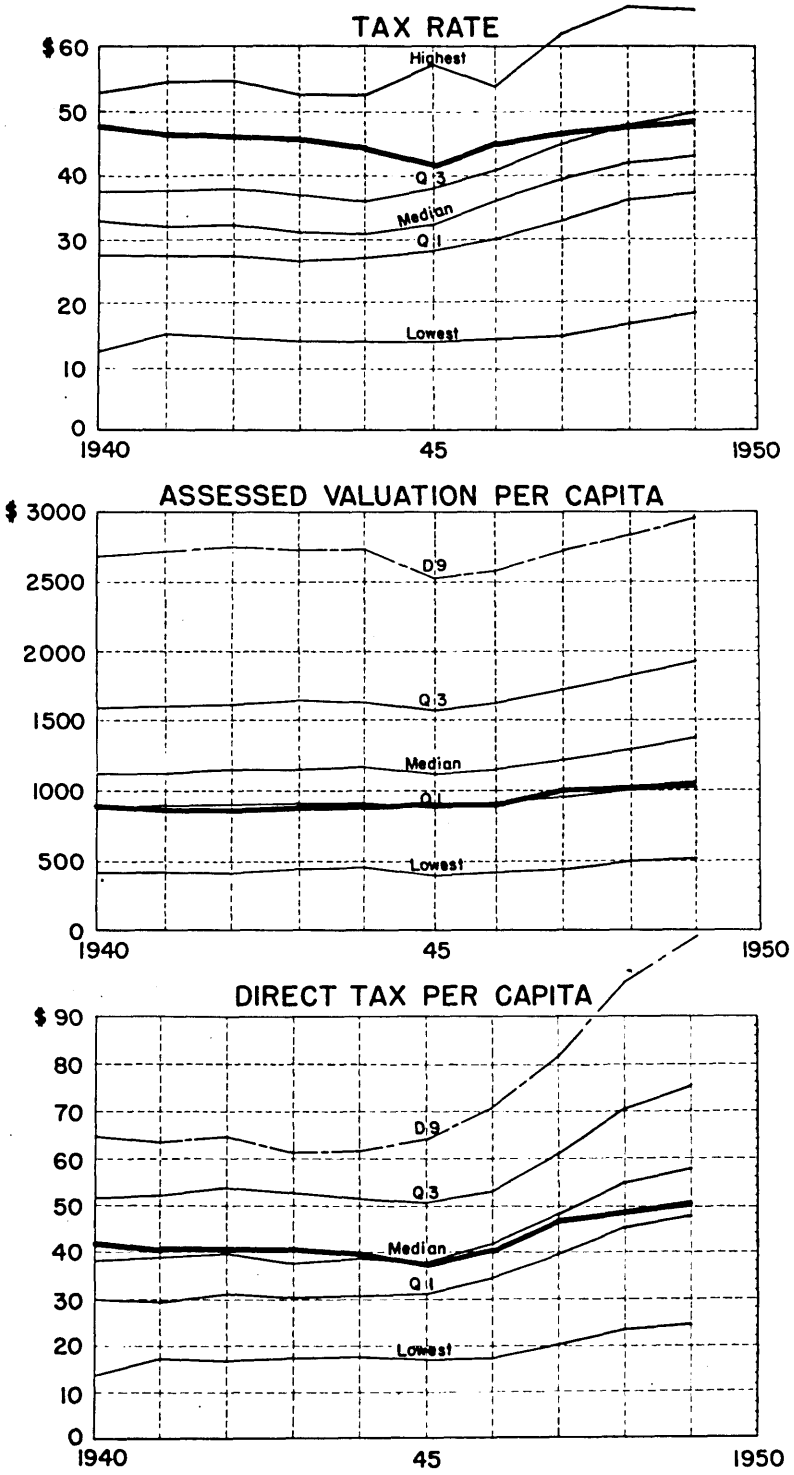

NEW BEDFORD
RANK ORDER-AMONG 351 CITIES AND TOWNS
RANK ORDER-END OF BAR
0 35 70 88 106 141 176 211 246 264 282 317 351
Q1 MEDIAN Q3
PERCENTILES
0 10 20 25 30 40 50 60 70 75 80 90 100
YEAR
AMOUNT
RANK ORDER
POPULATION
1940 110,341 346
1945 110,308 346
$
LOCAL TAX RATE
1940 47.60 336
1941 46.80 337
1942 46.60 336-37
1943 45.80 335
1944 44.80 338
1945 42.00 309-19
1946 45.20 314-17
1947 46.40 285
1948 48.00 265-278
1949 48.40 255-66
$
ASSESSED VALUATION PER CAPITA
1940 873. 84
1941 883. 76
1942 867. 76
1943 875 75
1944 879. 57
1945 887. 85
1946 893 77
1947 998. 111-12
1948 1026. 90
1949 1042. 81
$
DIRECT TAX LEVY PER CAPITA
1940 41.55 210
1941 40.40 206
1942 38.42 191
1943 40.08 202
1944 39.40 186
1945 37.27 170
1946 40.40 165
1947 46.32 160
1948 49.24 132.4
1949 50.42 116
%
RATIO TOTAL NET DEBT TO VALUATION
1940 6.81 345
1941 5.90 339
1942 5.00 337
1943 4.09 330
1944 2.98 318-19
1945 2.20 312
1946 1.58 267-69
1947 1.66 260-61
1948 1.22
1949
%
UNCOLLECTED TAXES (DELINQUENCY)
A: % CURRENT YEAR LEVY UNCOLLECTED 1ST YEAR DELINQUENCY
1940 2.03
1941 1.28
1942 1.01
1943 .74
1944 .68
1945
1946
1947
1948
1949
%
B: % PREVIOUS YEAR LEVY UNCOLLECTED 2ND YEAR DELINQUENCY
1940 .13
1941 .04
1942 .04
1943 .02
1944 .02
1945
1946
1947
1948
1949
0 10 20 25 30 40 50 60 70 75 80 90 100
BMR-HU

Chart 3.

# NEW BEDFORD

## PLOTTED AGAINST THE RANGE OF EXPERIENCE FOR ALL 351 CITIES AND TOWNS *



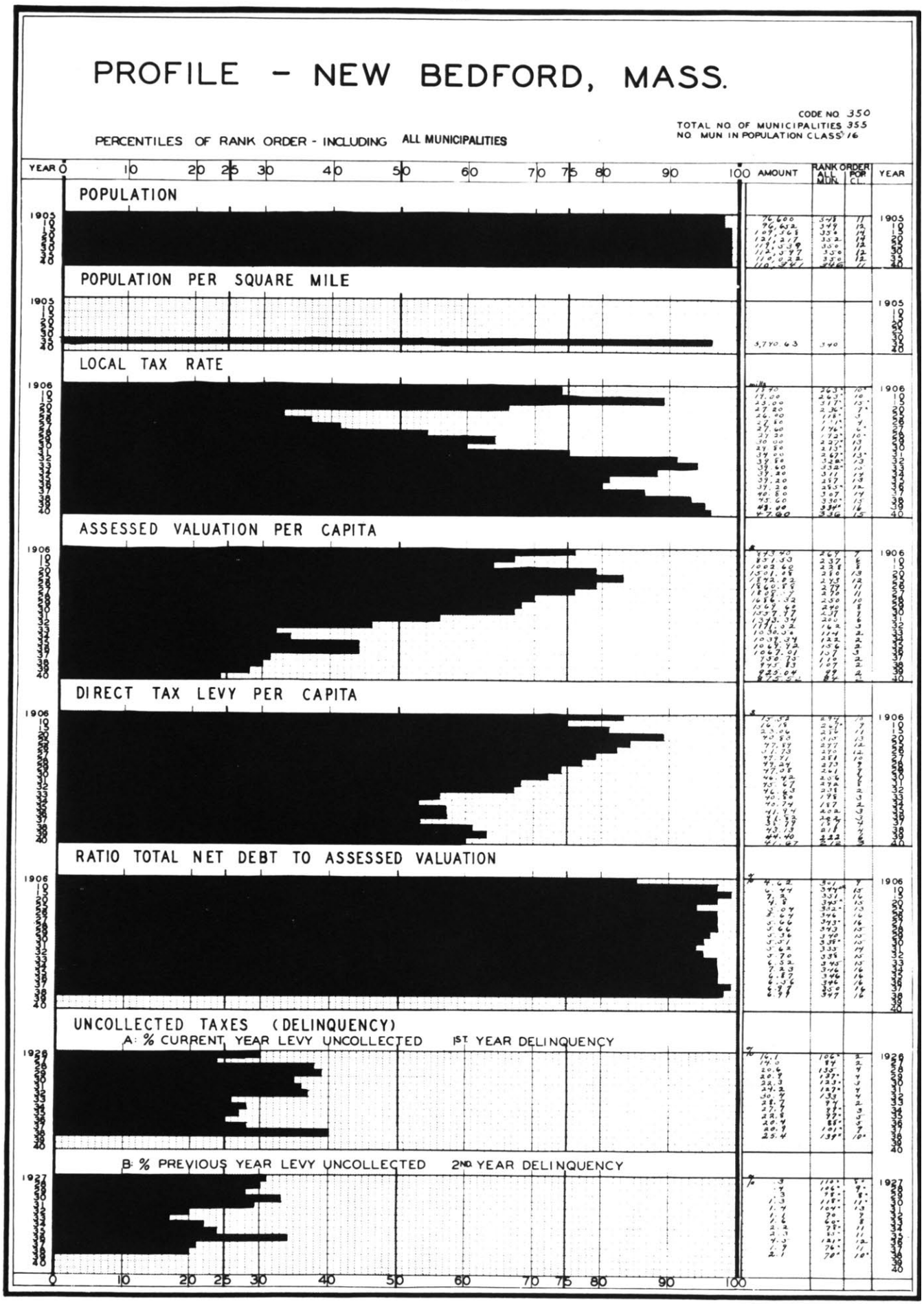

*Light lines show background of range of experience among all 351 cities and towns as follows:

| | | | |
|---|---|---|---|
| Lowest | rank order 1 | Q3 (third quartile) | rank order 264 |
| Q1 (first quartile) | " " 88 | D9 (9th decile) | " " 317 |
| Median | " " 176 | Highest | " " 351 |

B.B.S. 11/3/41.

Bureau for Research in Municipal Government
Harvard Graduate School of Public Administration

Chart 4.




* TWO OR MORE MUNICIPALITIES HAVING SAME RANK ORDER

E - ESTIMATED ON BASIS OF 295 MUNICIPALITIES

Chart 5.

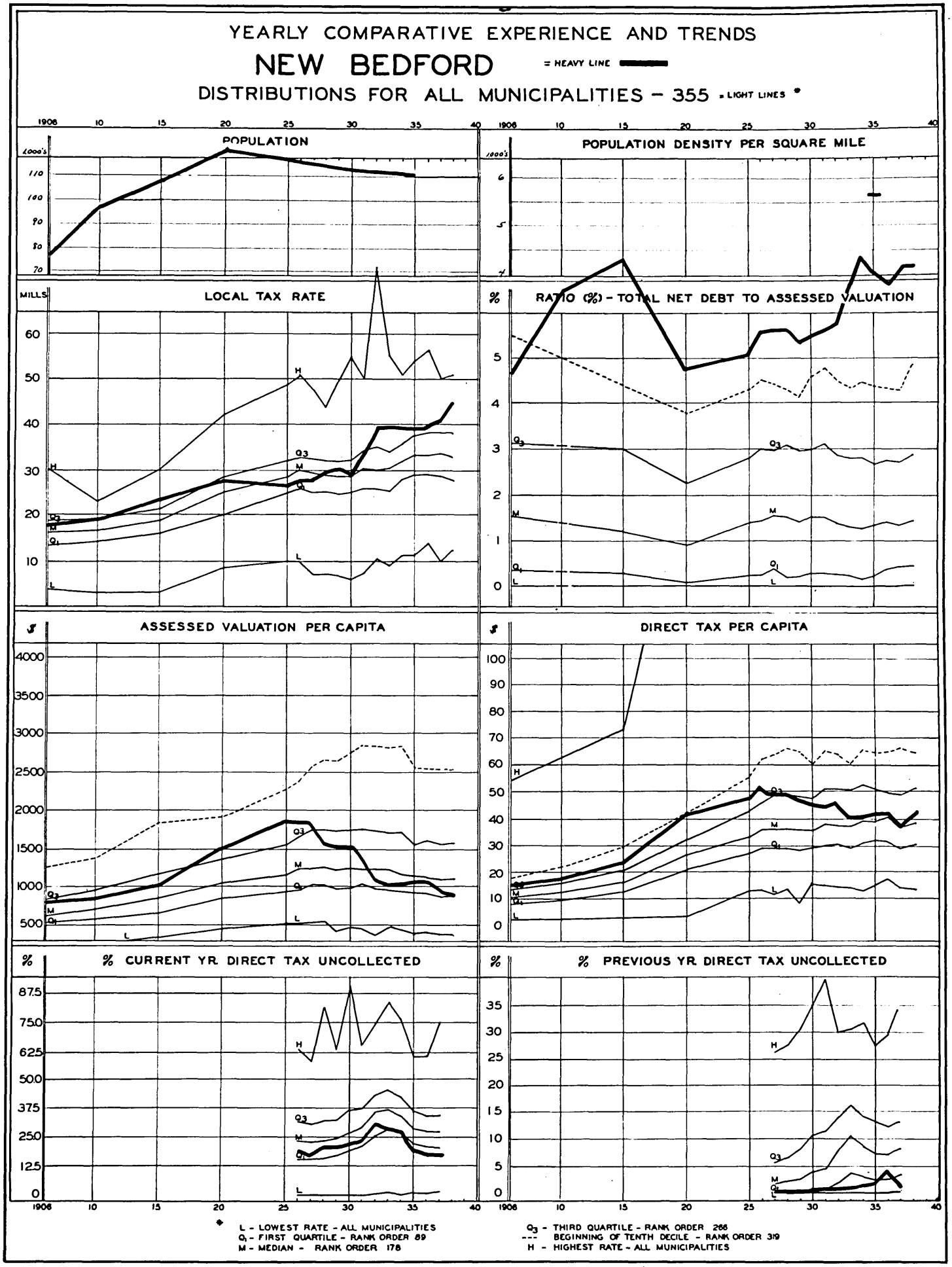

YEARLY COMPARATIVE EXPERIENCE AND TRENDS
NEW BEDFORD
= HEAVY LINE
DISTRIBUTIONS FOR ALL MUNICIPALITIES – 355 = LIGHT LINES *
1908 10 15 20 25 30 35 40
POPULATION
1,000's
110
100
90
80
70
POPULATION DENSITY PER SQUARE MILE
1,000's
6
5
4
LOCAL TAX RATE
MILLS
60
50
40
30
20
10
H
Q3
M
Q1
L
RATIO (%) - TOTAL NET DEBT TO ASSESSED VALUATION
%
5
4
3
2
1
0
ASSESSED VALUATION PER CAPITA
$
4000
3500
3000
2500
2000
1500
1000
500
DIRECT TAX PER CAPITA
$
100
90
80
70
60
50
40
30
20
10
0
% CURRENT YR. DIRECT TAX UNCOLLECTED
%
87.5
75.0
62.5
50.0
37.5
25.0
12.5
0
% PREVIOUS YR. DIRECT TAX UNCOLLECTED
%
35
30
25
20
15
10
5
0
* L - LOWEST RATE - ALL MUNICIPALITIES
Q1 - FIRST QUARTILE - RANK ORDER 89
M - MEDIAN - RANK ORDER 178
Q3 - THIRD QUARTILE - RANK ORDER 266
--- BEGINNING OF TENTH DECILE - RANK ORDER 319
H - HIGHEST RATE - ALL MUNICIPALITIES

Chart 6.

Table 12.

Comparison of Police and Fire Department Expenditures and Size of Force, 1948, and Fire Loss Per Capita in New Bedford and Thirteen United States Cities.

| City | No. Full-Time Paid Employees, Fire Dept. | Fire Dept. Expenditures | | Fire Loss Average Per Capita 1944-1948 | Building Fires Per 1,000 Population | No. Full-Time Paid Employees, Police Dept. | Police Dept. Expenditures | |
|---|---|---|---|---|---|---|---|---|
| | | Salaries & Wages | Total | | | | Salaries & Wages | Total |
| New Bedford | 281 | $730,000 | $819,000 | $1.67 | 3.6 | 220 | $567,000 | $592,000 |
| Fall River | 297 | 540,000 | 576,000 | 2.87 | 3.1 | 224 | 599,000 | 671,000 |
| Cambridge | 225 | 718,000 | 778,000 | 3.70 | 8.7* | 216 | 670,000 | 729,000 |
| Somerville | 211 | 625,000 | 693,000 | 2.05* | 2.4* | 160 | 474,000 | 496,000 |
| Lowell | 244 | 716,000 | 787,000 | 2.42 | 4.0 | 176 | 539,000 | 571,000 |
| Lawrence | 204 | 563,000 | 615,000 | 2,10 | 3.1 | 130 | 384,000 | 414,000 |
| Lynn | 311 | - - | - - | 3.64 | 6.2 | 189 | - - | - - |
| Brockton | 155 | 438,000 | 525,000 | 2.79 | 6.3 | 102 | 284,000 | 327,000 |
| Canton, O. | 123 | 369,000 | 396,000 | 2.63 | 3.2 | 131 | 386,000 | 466,000 |
| Elizabeth, N.J. | 197 | 628,000 | 665,000 | 1.33 | 3.1 | 230 | 775,000 | 830,000 |
| Gary, Ind. | 164 | 524,000 | 603,000 | 1.72* | 7.5* | 213 | 614,000 | 651,000 |
| Reading, Pa. | - | 248,000 | 258,000 | 1.71 | 3.35 | 164 | 407,000 | 422,000 |
| Tacoma, Wash. | 225 | 677,000 | 993,000 | 6.51 | 11.0 | 225 | 796,000 | 1,025,000 |
| Wilmington, Del. | 196 | - - | - - | 1.62 | 4.6 | 210 | - - | - - |

*1947 Figures.

Note: Average number of employees per 1,000 population for cities 100,000 - 250,000 size, was:

Fire Department: 1.74 (1949), 1.6 (1948).
Police Department: 1.68 1.62
Average Fire Loss per Capita, 1948: $2.88

Source: The Municipal Year Book, 1949.

Table 13A.

General Revenue, General Expenditures, and Debt, for New Bedford and Ten Comparison U. S. Cities, 1947.

| City | General Revenue (000) | | | General Expenditures (000) | | | | | | Debt (000) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Local Taxes | Aid from Other Govts. | Total | Operation | Capital Outlay | Provision for Debt Retirement | Interest | Contrib. to Empl.Retire't | Gross | Net Long Term |
| New Bedford | $8,832 | $5,030 | $3,549 | $8,904 | $ 7,895 | $ 225 | $391 | $ 93 | $240 | $2,823 | $1,946 |
| Fall River | 7,810 | 4,610 | 2,918 | 8,446 | 7,156 | 690 | 375 | 49 | 164 | 3,030 | 2,570 |
| Cambridge | 10,487 | 6,851 | 2,908 | 11,272 | 10,420 | 211 | 459 | 81 | 101 | 2,839 | 2,646 |
| Somerville | 7,672 | 5,402 | 2,013 | 9,428 | 7,628 | 1,033 | 535 | 57 | 70 | 4,057 | 3,357 |
| Lowell | 7,615 | 4,569 | 2,890 | 8,228 | 7,432 | 268 | 375 | 53 | 71 | 1,863 | 1,755 |
| Canton, O. | 2,707 | 1,238 | 991 | 2,813 | 2,065 | 252 | 273 | 70 | 138 | 2,007 | 743 |
| Elizabeth, N. J. | 7,257 | 6,070 | 1,010 | 7,507 | 6,119 | 230 | 727 | 309 | 122 | 10,295 | 8,803 |
| Gary, Ind. | 2,367 | 1,896 | 395 | 2,485 | 2,065 | 142 | 58 | 92 | 128 | 4,849 | 4,827 |
| Reading, Pa. | 2,009 | 1,732 | 143 | 2,358 | 1,829 | 114 | 291 | 51 | 6 | 4,047 | 3,750 |
| Tacoma, Wash. | 5,368 | 2,517 | 1,656 | 7,147 | 3,512 | 2,854 | 318 | 104 | 359 | 28,078 | 27,244 |
| Wilmington, Del. | 5,571 | 3,083 | 1,873 | 5,727 | 4,763 | 350 | 80 | 129 | 160 | 8,471 | 7,348 |

Source: The Municipal Year Book, 1949.

Table 13B.

Per Capita Expenditures for Departmental Maintenance in New Bedford and Five Massachusetts Cities, 1944.

| City | Total Exp. | Gen. Govt. | Protection, Persons & Property | Health & Sanitation | Highways | Charities | Veterans' Benefits | School | Libraries | Recreation | Pensions |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Average for 39 cities, incl. Boston | 67.91 | $2.84 | $10.20 | $5.40 | $3.77 | $15.97 | $0.75 | $18.36 | $1.17 | $1.40 | $2.93 |
| New Bedford | 57.00 | 2.18 | 8.56 | 4.23 | 3.57 | 15.19 | .46 | 15.53 | .72 | .69 | 2.67 |
| Fall River | 50.58 | 1.71 | 8.60 | 3.02 | 2.21 | 13.58 | .54 | 13.63 | .50 | .75 | 2.31 |
| Cambridge | 72.79 | 3.74 | 11.08 | 7.14 | 4.56 | 16.15 | .97 | 17.46 | .82 | 1.73 | 4.59 |
| Somerville | 50.00 | 2.44 | 7.95 | 4.84 | 2.29 | 9.09 | .66 | 16.28 | .89 | 1.08 | 2.01 |
| Lowell | 59.52 | 2.87 | 9.21 | 3.46 | 3.22 | 18.68 | 1.31 | 13.33 | .44 | .52 | 2.51 |
| Lynn | 59.96 | 2.02 | 8.77 | 4.75 | 3.22 | 16.88 | .74 | 15.40 | 1.07 | 1.30 | 1.97 |

Source: Pub. Doc. 79 (1944), Massachusetts.

# APPENDIX F

## POPULATION CHARACTERISTICS AND LABOR FORCE OF NEW BEDFORD

The population growth of New Bedford has been closely tied to the fortunes of whaling and the cotton textile industry. (Chart 1). Except for relatively small population losses from 1810-1820 and 1860-1870, the city growth curve shows steady increase up to a peak of 121,217 in 1920, with a rapid rate of increase from 1880, when seven cotton mills were established during the following decade. The loss of population in the decade 1860-1870 was a consequence of the disastrous effects of the Civil War and the Arctic catastrophes, previously mentioned, upon the city's whaling fleet. It is probable that the War of 1812 had a similar effect upon the developing whaling industry of the young town.

At its 1920 peak, in fact, New Bedford topped all eleven cities now in its population class which are used for purposes of comparison in this study. The loss of population from the city in the 1920's is characteristic of the Massachusetts manufacturing cities, most of which show no signs of returning to their former pre-depression sizes. (Lynn is an exception to this.) This experience of the New England manufacturing cities is in sharp contrast to that of such outside cities as Canton (Ohio), Gary (Indiana), and Tacoma (Washington), which are among the selected comparison cities used in this thesis.

Population changes in New Bedford and in Massachusetts comparison cities from pre-depression peaks to 1945, in amount and percent. of peak-year population, are shown in Table 15. Of these cities, the population loss of New Bedford (8.9%) was exceeded only by that in Lowell

and Fall River. Population changes in the same group of cities by 5-year periods from 1920 to 1945 are shown in Table 16, using the index: 1930 = 100. Although the population of the city of New Bedford has declined ever since its 1920 peak, the population of the three towns in its metropolitan area (Fairhaven, Dartmouth, and Acushnet) have gained 55.6% in the period 1920-1945, which gives a net loss from the area of 1.1% of its 1920 population. Totaling the losses from New Bedford and these three towns, as shown in U. S. decennial and Massachusetts inter-decennial censuses, indicates an actual movement of 11,821 population from the area during this 25-year period, presumably in search of better economic opportunity. (Table 17).

Migration. More people left New Bedford during the period 1935-1940 than left the State, proportionately (3.5% and 0.7%, respectively). Although net out-migration for the city was greater than for 7 of the 10 comparison cities, its population was much more stable, with a lower volume of in- and out-migration during the period. Of the 4,548 in-migrants, 2,734 came from other Massachusetts communities (Boston and Fall River being the leading contributors). Movement of light industry into New Bedford probably accounts for the 435 in-migrants from New York City, 111 from Providence, 24 from Hartford, and 17 from Newark. Of the 8,433 out-migrants from the city, 5,040 removed to other locations within the state, and 2,057 to contiguous states. The comparative stability of the city population is probably accounted for in part by the high percentage born in the state of residence (89.5% of 1930 population) and the dormant status of city industry as compared with the situation in faster-growing communities. (Tables 22 and 23).

Population Density. For New Bedford in 1940, this was 5,807 persons per square mile, ranking 17th highest among the 57 Massachusetts cities having populations of 1,000 and over per square mile of land area. This was 3rd lowest of the 8 Massachusetts comparison cities and compares well with population densities of 26,199 for Somerville (rank order 1, of 57 communities) and 17,884 for Cambridge (r.o. 3). Density of the metropolitan area of New Bedford was 1,216 persons per square mile. (Table 17).

Age Characteristics. New Bedford appears to be characterized by a larger number of middle-aged population and a smaller number of the youngest age group than both the state and national averages. In 1940, the percentages of population under 15 years of age for the city, state, and nation, were 20.5, 21.8, and 25.0, respectively. For the age group 60 years and over, these figures were 12.1, 20.5 and 10.5 percent., respectively; but for the age group 45-59 years old, they were 19.2, 18.0, and 16.2 percent. During the ten years from 1930 to 1940, the city lost 26.7% of its young people aged through 14 years, and 9.0% of its 30-44 year age group. (Table 18).

Median Age of Population. In 1940, this was 32.0 years for the city, an increase of 3.2 years from 1930, higher than the 31.8 years of Massachusetts, 31.2 years of New England, and 29.0 years of the United States. It was higher, in fact, than that for all comparison communities listed in the 1940 U. S. Census except Reading (32.6) and Tacoma (34.1). (Tables 19 and 20). It is interesting to note that the median age of the United States has increased from 16.7 years in 1820 to 29.0 years in 1940, which is a 6.1-year increase since 1900, alone.

Ratio: Males to Females. In this characteristic, New Bedford in

1940 exceeded other Massachusetts comparison cities but fell short of that for the State and for New England, and far short of that for the nation and for outside-New England comparison cities. (Table 21). The extreme contrast between its light-industry employment and the heavy-industry employment of Gary is seen in the respective ratios of 93.8 and 108.3 males to females for the two cities. That this difference is accounted for largely by the migration of working-age males out of New Bedford is seen in the higher sex ratios for New Bedford school-age population: 100.5 for 1930, and 100.4 for 1940.

Labor Force. The labor force of New Bedford is characterized by a high percentage of working-age population (Tables 26 and 27), high percentage of the younger age groups (Tables 12A, B, and C), high percentage of females, and a high percentage of unemployment (Table 29). The first three of these characteristics were highest in 1920, when employment reached its all-time high. For the forty-year period from 1900 to 1940, the percentage of females gainfully employed, and that of total employment for both sexes, have been higher than for the state and the nation (as percentages of the total population). As a percentage of the labor force, however, the employment picture has been less been less favorable in the city than for other communities, the State, and the United States. Tables appended hereto supplement the discussion in the main body of the thesis.

Table 14.

Population of New Bedford by Decades, 1790 - 1940 and Comparison of Rates of Growth by Decades with Massachusetts Urban Places and Total for State.

| Year | Population | Incr. Over Preceding Census | | |
|---|---|---|---|---|
| | | New Bedford | Massachusetts | |
| | | | Urban | Total |
| 1790 | 3,313 | | | |
| 1800 | 4,361 | 31.6% | 27.5% | 11.6% |
| 1810 | 5,651 | 29.6 | 54.1 | 11.6 |
| 1820 | 3,947 | -30.2 | 18.5 | 10.9 |
| 1830 | 7,592 | 92.3 | 59.1 | 16.6 |
| 1840 | 12,087 | 59.2 | 47.3 | 20.9 |
| 1850 | 16,443 | 36.0 | 80.3 | 34.8 |
| 1860 | 22,300 | 35.6 | 45.5 | 23.8 |
| 1870 | 21,320 | - 4.4 | 32.6 | 18.4 |
| 1880 | 26,845 | 25.9 | 37.0 | 22.4 |
| 1890 | 40,733 | 51.7 | 37.8 | 25.6 |
| 1900 | 62,442 | 53.3 | 31.9 | 25.3 |
| 1910 | 96,652 | 54.8 | 24.2 | 20.0 |
| 1920 | 121,217 | 25.4 | 15.8 | 14.4 |
| 1930 | 112,597 | - 7.1 | 10.5 | 10.3 |
| 1940 | 110,341 | - 2.0 | 0.7 | 1.6 |

Source: 16th Census of United States, 1940
Population, Vol. 1

Table 15.

Changes in Population, Peak Year to 1945,
New Bedford and 7 Mass. Comparison Cities

| City | Peak Year | Amount of Change | Percent. of Change* |
|---|---|---|---|
| New Bedford | 1920 | -10,909 | - 8.9 |
| Fall River | 1925 | -13,931 | -10.8 |
| Cambridge | 1925 | - 8,545 | - 7.1 |
| Somerville | 1930 | + 1,975 | + 1.9 |
| Lowell | 1920 | -11,530 | -10.2 |
| Lawrence | 1920 | - 8,667 | - 9.2 |
| Lynn | 1925 | + 2,072 | + 2.0 |
| Brockton | 1920 | - 1,052 | - 1.5 |

*Percent. of peak year population.

Sources: U. S. and Massachusetts Decennial Censuses.

Table 16.

Population Changes By Five-Year Periods, 1920-1945,
New Bedford and 7 Comparison Mass. Cities
(Index of Change: 1930 = 100)

| City | 1920 | 1925 | 1930 | 1935 | 1940 | 1945 |
|---|---|---|---|---|---|---|
| New Bedford | 107.7 | 106.2 | 100 | 97.7 | 98.0 | 97.9 |
| Fall River | 104.5 | 111.9 | 100 | 101.9 | 100.1 | 99.8 |
| Cambridge | 96.5 | 105.3 | 100 | 103.9 | 97.6 | 97.7 |
| Somerville | 89.6 | 95.3 | 100 | 97.0 | 98.3 | 119.0 |
| Lowell | 112.5 | 110.0 | 100 | 99.9 | 101.2 | 100.9 |
| Lawrence | 110.8 | 109.9 | 100 | 102.0 | 99.1 | 100.6 |
| Lynn | 96.9 | 100.7 | 100 | 98.6 | 95.9 | 102.7 |
| Brockton | 103.9 | 102.4 | 100 | 97.8 | 97.7 | 102.2 |

Source: Bureau for Research in Municipal Government, Harvard University (with additions).

Table 17.

Population Changes, 1920 - 1945, Land Area, and 1940 Population Density, City and Metropolitan Area ofNew Bedford.

| Area | Population | | Change | | Land Area | Population Density |
|---|---|---|---|---|---|---|
| | 1920 | 1945 | Amount | Percent. | (Sq.Mi.) | 1940* |
| A | 121,217 | 110,308 | -10,909 | - 8.9 | 19.1 | 5,807 |
| B | 16,859 | 26,251 | 9,392 | 55.6 | 91.5 | 263 |
| C | 138,076 | 136,559 | - 1,517 | - 1.1 | 110.6 | 1,216 |

*Density = population per square mile.

A - City
B - Environs
C - Metropolitan Area
(includes the towns of Acushnet, Dartmouth, and Fairhaven)

Table 18.

Analysis of New Bedford Population, 1930 - 1940, by Age Groups

| Age Group | 1930 Male | 1930 Female | 1930 Total | 1930 Percent. | 1940 Male | 1940 Female | 1940 Total | 1940 Percent. | Amt. of Change |
|---|---|---|---|---|---|---|---|---|---|
| Under 5 yrs. | 4,655 | 4,399 | 9,054 | | 3,309 | 3,301 | 6,610 | | -2,444 |
| 5 - 9 yrs. | 5,554 | 5,490 | 11,044 | 27.4 | 3,486 | 3,613 | 7,099 | 20.5 | -3,945 |
| 10 - 14 yrs. | 5,348 | 5,407 | 10,755 | | 4,562 | 4,344 | 8,906 | | -1,849 |
| 15 - 19 yrs. | 5,037 | 5,202 | 10,239 | | 5,298 | 5,328 | 10,626 | | 387 |
| 20 - 24 yrs. | 3,962 | 4,783 | 8,745 | 24.3 | 4,842 | 5,065 | 9,907 | 26.7 | 1,162 |
| 25 - 29 yrs. | 3,826 | 4,584 | 8,410 | | 4,386 | 4,548 | 8,934 | | 524 |
| 30 - 34 yrs. | 4,025 | 4,639 | 8,664 | | 3,670 | 4,097 | 7,767 | | - 897 |
| 35 - 39 yrs. | 4,371 | 4,717 | 9,088 | 23.1 | 3,719 | 4,135 | 7,854 | 21.4 | -1,234 |
| 40 - 44 yrs. | 3,953 | 4,276 | 8,229 | | 3,775 | 4,259 | 8,034 | | - 195 |
| 45 - 49 yrs. | 3,505 | 3,645 | 7,150 | | 3,979 | 4,140 | 8,119 | | 969 |
| 50 - 54 yrs. | 2,932 | 3,134 | 6,066 | 16.4 | 3,445 | 3,798 | 7,343 | 19.2 | 1,177 |
| 55 - 59 yrs. | 2,318 | 2,534 | 4,854 | | 2,865 | 2,979 | 5,844 | | 990 |
| 60 - 64 yrs. | 1,826 | 2,975 | 3,901 | | 2,191 | 2,427 | 4,618 | | 717 |
| 65 - 69 yrs. | 1,314 | 1,548 | 2,862 | | 1,751 | 2,010 | 3,761 | | 899 |
| 70 - 74 yrs. | 787 | 999 | 1,786 | 9.1 | 1,090 | 1,362 | 2,452 | 12.1 | 666 |
| 75 yrs.&over | 677 | 984 | 1,661 | | 1,033 | 1,534 | 2,567 | | 906 |
| Not Reported | 47 | 44 | 91 | - | -- | -- | -- | | -- |
| Total | 54,137 | 58,460 | 112,597 | 100.0 | 53,401 | 56,940 | 110,341 | 100.0 | -2,256 |
| 21 Yrs.& over | 32,684 | 36,963 | 69,647 | 61.9 | 35,684 | 39,325 | 75,009 | 67.9 | +5,362 |

Source: United States Census.

Table 19.

Median Ages of Population, 1930 and 1940, for the United States, New England, Massachusetts, New Bedford, and 10 Comparison U.S. Cities.

| | 1940 | 1930 |
|---|---|---|
| United States | 29.0 | 26.5 |
| New England | 31.3 | 29.0 |
| Massachusetts | 31.8 | 29.4 |
| New Bedford | 32.0 | 28.8 |
| Fall River | 29.3 | 26.7 |
| Cambridge | 31.0 | 28.8 |
| Somerville | 30.6 | 29.0 |
| Lowell | 30.2 | 29.3 |
| Canton, O. | 30.6 | 28.1 |
| Elizabeth, N. J. | 30.1 | 26.9 |
| Gary, Ind. | 28.7 | 26.2 |
| Reading, Pa. | 32.6 | 29.4 |
| Tacoma, Wash. | 34.1 | 31.0 |
| Wilmington, Del. | 31.1 | 28.9 |

Source: 16th Census of U. S., Vol. IV, Part 1.

Table 20.

Median Age, United States, by Decades, 1820-1940.

| | | | |
|---|---|---|---|
| 1820 ... | 16.7 | 1890 ... | 22.0 |
| 1830 ... | 17.2 | 1900 ... | 22.9 |
| 1840 ... | 17.8 | 1910 ... | 24.1 |
| 1850 ... | 18.9 | 1920 ... | 25.3 |
| 1860 ... | 19.4 | 1930 ... | 26.5 |
| 1870 ... | 20.2 | 1940 ... | 29.0 |
| 1880 ... | 20.9 | | |

Source: 16th Census of U. S., Vol. IV.

Table 21.

Ratio, Males to Females, 1940, for United States, New England, Massachusetts, New Bedford, and 10 Comparison U. S. Cities.

| | Males | Females | Ratio: M to F |
|---|---|---|---|
| United States | 66,061,592 | 65,607,683 | 100.7 |
| New England | 4,154,760 | 4,282,530 | 97.0 |
| Massachusetts | 2,102,479 | 2,214,242 | 95.0 |
| New Bedford | 53,401 | 56,940 | 93.8 |
| Fall River | 55,542 | 59,886 | 92.7 |
| Cambridge | 52,479 | 58,400 | 89.8 |
| Somerville | 49,332 | 52,845 | 93.4 |
| Lowell | 49,016 | 52,373 | 93.6 |
| Canton, O. | 54,285 | 54,116 | 100.3 |
| Elizabeth, N.J. | 54,878 | 55,034 | 99.7 |
| Gary, Ind. | 58,075 | 53,644 | 108.3 |
| Reading, Pa. | 53,954 | 56,614 | 95.3 |
| Tacoma, Wash. | 55,038 | 54,370 | 101.2 |
| Wilmington, Del. | 55,494 | 57,010 | 97.3 |

Sources: 16th Census of United States, 1940.
Statistical Abstract of the U. S., 1947. p.21.

Table 22.

In-Migrants, Out-Migrants, and Net Migration for Massachusetts, New Bedford, and 10 Comparison Cities, 1940.

| | In-Migrants | | Out-Migrants | | Net Migration | |
|---|---|---|---|---|---|---|
| | Total | % | Total | % | Total | % |
| Massachusetts | 110,139 | 2.6 | 142,381 | 3.3 | -32,242 | -0.7 |
| New Bedford | 4,548 | 4.1 | 8,433 | 7.6 | - 3,885 | -3.5 |
| Fall River | 3,946 | 3.4 | 7,079 | 6.1 | - 3,133 | -2.7 |
| Cambridge | 13,246 | 11.9 | 16,565 | 14.9 | - 3,319 | -3.0 |
| Somerville | 11,668 | 11.4 | 13,011 | 12.7 | - 1,343 | -1.3 |
| Lowell | 3,384 | 3.3 | 8,171 | 8.1 | - 4,787 | -4.7 |
| Canton, O. | 9,919 | 9.2 | 16,520 | 15.2 | - 6,601 | -6.1 |
| Elizabeth, N. J. | 9,443 | 8.6 | 12,946 | 11.8 | - 3,503 | -3.2 |
| Gary, Ind. | 12,173 | 10.9 | 13,325 | 11.9 | - 1,152 | -1.0 |
| Reading, Pa. | 7,534 | 6.8 | 13,921 | 12.6 | - 6,387 | -5.8 |
| Tacoma, Wash. | 16,498 | 15.1 | 17,600 | 16.1 | - 1,102 | -1.0 |
| Wilmington, Del. | 9,683 | 8.6 | 13,169 | 11.7 | - 3,486 | -3.1 |

Note: In-migrants are classified by city of residence in 1940. Out-migrants are classified by city of residence in 1935. Percentages are of 1940 population.

Source: 16th Census of United States, 1940. Population: Internal Migration, 1935 to 1940.

Table 23.

Amount and Percentage of Total Population Born in State of Residence, 1930, for New Bedford and 10 Comparison United States Cities.

| City | 1930 | |
|---|---|---|
| | Born in State of Residence | % of Total Population |
| New Bedford | 66,340 | 89.5 |
| Fall River | 75,925 | 91.4 |
| Cambridge | 66,074 | 82.5 |
| Lowell | 64,573 | 87.2 |
| Somerville | 63,272 | 85.1 |
| Canton, O. | 67.861 | 74.1 |
| Elizabeth, N. J. | 59,800 | 70.1 |
| Gary, Ind. | 30,731 | 39.3 |
| Reading, Pa. | 95,843 | 94.3 |
| Tacoma, Wash. | 38,553 | 44.7 |
| Wilmington, Del. | 62,508 | 66.6 |

Source: U. S. Census, 1930.

Table 24.A

Number and Proportion of Persons 10 Years Old and Over Gainfully Occupied, 1890 to 1930, in New Bedford

| Year | Total No. 10 Years and Over | GAINFULLY·OCCUPIED | | | |
|---|---|---|---|---|---|
| | | Total | Percent. | Males | Females |
| 1930 | 92,499 | 52,124 | 56.4 | 76.6% | 38.0% |
| 1920 | 96,341 | 60,569 | 62.9 | 84.5 | 42.2 |
| 1910 | 77,088 | 46,869 | 60.8 | 84.1 | 38.3 |
| 1900 | 49,540 | 27,695 | 55.9 | 81.2 | 33.5 |

Note: Gainfully Occupied shown in percentages of total population, males, and females, 10 yrs. old and over, respectively.

Table 24.B

Total Population 14 Years Old and Over, and Number and Percent. in the Labor Force, or Gainfully Occupied, in New Bedford, 1910 to 1940.

| | Male | Female | Total |
|---|---|---|---|
| 1940 Population | | | |
| 14 Yrs. & Over | 43,073 | 46,650 | 89,723 |
| In Labor Force | 33,684 | 18,896 | 52,580 |
| Percent. | 78.2 | 40.5 | 58.6 |
| 1930 Population | | | |
| 14 Yrs. & Over | 39,605 | 44,212 | 83,817 |
| Gainful Workers | 33,651 | 18,457 | 52,108 |
| Percent. | 85.0 | 41.7 | 62.2 |
| 1920 Population | | | |
| 14 Yrs. & Over | 42,896 | 44,873 | 87,769 |
| Gainful Workers | 39,752 | 20,764 | 60,516 |
| Percent. | 92.7 | 46.3 | 68.9 |
| 1910 Population | | | |
| 14 Yrs. & Over | 34,648 | 35,777 | 70,425 |
| Gainful Workers | 31,824 | 15,006 | 46,830 |
| Percent. | 91.8 | 41.9 | 66.5 |

Source: U. S. Census, 1940. Population, Vol.III, Part 3.

Table 25.

Gainfully Occupied Population as a Percentage of Total Population 14 Years Old and Over by Sexes, 1910-1940, for the U. S., Mass., and New Bedford

| | 1940 | 1930 | 1920 | 1910 |
|---|---|---|---|---|
| United States | | | | |
| Male | 79.0 | 84.1 | 86.4 | 88.4 |
| Female | 25.4 | 24.3 | 23.3 | 25.2 |
| Total | 52.2 | 54.5 | 55.6 | 57.9 |
| Massachusetts | | | | |
| Male | 77.1 | 83.4 | 88.8 | 88.5 |
| Female | 31.5 | 31.9 | 34.5 | 34.5 |
| Total | 53.5 | 56.7 | 60.9 | 60.8 |
| New Bedford | | | | |
| Male | 78.2 | 85.0 | 92.7 | 91.8 |
| Female | 40.5 | 41.7 | 46.3 | 41.9 |
| Total | 58.6 | 62.2 | 68.9 | 66.5 |

Source: United States Census

Table 26.

Persons Gainfully Occupied in New Bedford, Massachusetts, and United States, 1900 - 1940, as a Percentage of Total Population 10 - 14 Years Old and Over.

| Year | New Bedford | | | Massachusetts | | | United States | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 1940* | 78.2 | 40.5 | 58.6 | 77.1 | 31.5 | 53.5 | 79.0 | 25.4 | 52.2 |
| 1930 | 76.6 | 38.0 | 56.4 | 75.8 | 29.2 | 51.7 | 76.2 | 22.0 | 49.5 |
| 1920 | 84.5 | 42.2 | 62.9 | 80.9 | 31.6 | 55.6 | 78.2 | 21.1 | 50.3 |
| 1910 | 84.1 | 38.3 | 60.8 | 81.1 | 31.7 | 55.8 | 81.3 | 23.4 | 53.3 |
| 1900 | 81.2 | 33.5 | 55.9 | 80.1 | 28.1 | 53.3 | 80.0 | 18.8 | 50.2 |

*For 1940 only, figures are in percent. of population 14 years old and over in the labor force; other figures are for 10 years old and over, gainfully occupied.

Source: United States Census.

Table 27.

Percent. of Population 14 Years Old and Over in the Labor Force, 1940, for New Bedford and 11 Comparison United States Cities.

| City | Male | Female | Total |
|---|---|---|---|
| New Bedford | 78.2% | 40.5% | 58.6% |
| Fall River | 78.4 | 43.1 | 59.9 |
| Cambridge | 77.7 | 36.2 | 55.5 |
| Somerville | 79.6 | 29.5 | 53.3 |
| Lowell | 76.2 | 34.4 | 54.3 |
| Boston | 77.2 | 34.0 | 54.6 |
| Canton, O. | 81.2 | 25.3 | 53.2 |
| Elizabeth, N.J. | 82.3 | 33.2 | 57.7 |
| Gary, Ind. | 83.7 | 20.2 | 53.6 |
| Reading, Pa. | 81.3 | 37.1 | 58.5 |
| Tacoma, Wash. | 78.1 | 24.7 | 51.4 |
| Wilmington, Del. | 82.0 | 34.5 | 57.7 |

Source: U. S. Census

Table 28A.

Age Group 10 - 17 Years Engaged in Gainful Occupations, By Sex and Percentage of Total Population 10 Years of Age and Over, 1920, for U. S., Mass., and New Bedford

| | Males | Females | Total | % |
|---|---|---|---|---|
| United States | 1,817,704 | 955,704 | 2,773,408 | 3.4 |
| Massachusetts | 58,353 | 46,092 | 104,445 | 3.4 |
| New Bedford | 2,750 | 2,605 | 5,355 | 5.6 |

Table 28B.

Children Aged 10 - 17 Years Engaged in Manufacturing and Mechanical Industries in New Bedford, 1920

| | Total | 10 - 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|
| Males | 2,247 | 7 | 342 | 589 | 681 | 628 |
| Females | 2,335 | 8 | 362 | 564 | 699 | 702 |
| Total | 4,582 | 15 | 704 | 1,153 | 1,380 | 1,330 |

Table 28C.

Children 14 - 17 Years Old in the Labor Force, 1940, and Gainfully Occupied Children 14 - 17 Years Old, 1930 and 1920, for the United States, New England, Massachusetts, and New Bedford

| | 1940 | | | 1930 | | | 1920 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Fem. | Total | Male | Fem. | Total | Male | Fem. | Total |
| U. S. | 18.6% | 7.6% | 13.2% | 26.9% | 14.0% | - % | 40.4% | 21.6% | 35.1% |
| N. Eng. | 13.6 | 9.3 | 11.4 | 23.5 | 19.6 | - | 45.6 | 34.9 | 40.2 |
| Mass. | 11.7 | 8.6 | 10.1 | 21.6 | 18.5 | - | 47.4 | 37.3 | 42.3 |
| N. B. | 20.6 | 17.2 | 18.9 | 35.4 | 34.1 | 34.7 | 71.6 | 64.1 | 67.7 |

Source: U. S. Census.

Table 29.

Percent. of 1940 Population 14 Years Old and Over in the Labor Force and Employed, By Sexes, for New Bedford and 13 U. S. Cities.

| | Percent* Pop. 14 Yrs &Over in Labor Force | | Percent* Employed | |
|---|---|---|---|---|
| | Male | Female | Male | Female |
| New Bedford | 78.2 | 40.5 | 75.5 | 79.3 |
| Average for 92 Cities | 80.6 | 32.9 | 83.0 | 85.4 |
| Fall River | 78.4 | 43.1 | 77.0 | 87.7 |
| Cambridge | 77.7 | 36.2 | 78.5 | 86.9 |
| Somerville | 79.6 | 29.5 | 79.5 | 84.0 |
| Lowell | 76.2 | 34.4 | 75.8 | 81.7 |
| Boston | 77.2 | 34.0 | 78.4 | 83.7 |
| Springfield | 79.8 | 32.0 | 85.4 | 84.5 |
| Worcester | 76.0 | 29.9 | 84.2 | 85.5 |
| Elizabeth, N.J. | 82.3 | 33.2 | 86.0 | 89.4 |
| Canton, O. | 81.2 | 25.3 | 86.6 | 87.4 |
| Gary, Ind. | 83.7 | 20.2 | 87.2 | 84.4 |
| Reading, Pa. | 81.3 | 37.1 | 81.3 | 88.0 |
| Tacoma, Wash. | 78.1 | 24.7 | 82.7 | 84.7 |
| Wilmington, Del. | 82.0 | 34.5 | 86.9 | 88.7 |

Source: 16th Census of U. S., 1940.

*Percent. of population 14 yrs. and over (except emergency employment).

Table 30A.

Employment in New Bedford, 1920, by Sex and Occupation

| Occupation | Male | Female | Total | Percent. |
|---|---|---|---|---|
| Population 10 Years Old and Over | 47,100 | 49,241 | 96,341 | |
| All Occupations | 39,796 | 20,773 | 60,569 | 100.0* |
| Manufacturing & Mechanical | 27,966 | 15,659 | 43,625 | 72.0 |
| Public Service** | 1,182 | 11 | 1,193 | 2.0 |
| Trade | 4,180 | 725 | 4,905 | 8.1 |
| Clerical | 1,335 | 1,447 | 2,782 | 4.6 |
| Transportation | 2,459 | 115 | 2,574 | 4.2 |
| Domestic & Personal Service | 1,396 | 1,859 | 3,255 | 5.4 |
| Professional Service | 857 | 944 | 1,801 | 3.0 |
| Agriculture, Forestry, and Animal Husbandry | 406 | 13 | 419 | 0.7 |
| Extraction of Minerals | 15 | - | 15 | - |

*62.9% of total population 10 yrs. and over, engaged in gainful occupations.
**Not elsewhere classified.
Percentages shown are percentages of all occupations.

Source: 14th Census of United States, 1920.

Table 30B.

Employment in New Bedford, 1930, by Field of Employment

| Field of Employment - 1930 | Male | Female | Total | % |
|---|---|---|---|---|
| Manufacturing and Mechanical | 20,789 | 11,929 | 32,718 | 62.8 |
| Public Service | 1,173 | 12 | 1,185 | 2.3 |
| Trade | 4,653 | 995 | 5,648 | 10.8 |
| Clerical Occupations | 1,251 | 1,608 | 2,859 | 5.5 |
| Transportation & Communication | 2,479 | 164 | 2,643 | 5.1 |
| Domestic and Personal Service | 1,558 | 2,321 | 3,879 | 7.4 |
| Professional Service | 1,098 | 1,425 | 2,523 | 4.8 |
| Agriculture | 368 | 11 | 379 | 0.7 |
| Forestry and Fishing | 276 | - | 276 | 0.5 |
| Mining | 14 | - | 14 | - |
| Total | 33,659 | 18,465 | 52,124 | 100.0 |

Source: 15th U. S. Census, 1930. Population, Vol. IV.

Table 31.

Employment in New Bedford (Except Public Emergency, 1940, by Type of Industry

| Type of Industry | Male | Female | Total | Percent. |
|---|---|---|---|---|
| All Industries | 25,421 | 14,979 | 40,400* | 100.0 |
| Manufacturing | 12,595 | 8,987 | 21,582 | 53.4 |
| Construction | 1,209 | 34 | 1,243 | 3.1 |
| Government | 1,163 | 166 | 1,329 | 3.3 |
| Wholesale & Retail Trade | 4,910 | 1,732 | 6,642 | 16.4 |
| Wholesale | 617 | 85 | 702 | 1.7 |
| Retail | 4,293 | 1,647 | 5,940 | 14.7 |
| Finance, Insurance, and Real Estate | 484 | 200 | 684 | 1.7 |
| Transportation, Communication, and other Public Utilities | 1,565 | 281 | 1,846 | 4.6 |
| Personal Services | | | | |
| Professional and Related Services | 854 | 1,496 | 2,350 | 5.8 |
| Business and Repair Services | 545 | 26 | 571 | 1.4 |
| Amusement, Recreation, & Related Services | 229 | 29 | 258 | 0.6 |
| Agriculture, Forestry, & Fishing | 573 | 18 | 591 | 1.5 |
| Mining | 16 | 1 | 17 | - |
| Industry not reported | 290 | 188 | 478 | 1.2 |

Note: Percentages shown are percents. of total employment, all industries.
*76.8% of total labor force.

Source: 16th Census of U. S., 1940. Population, Vol. III, Part 3.

Table 32. Percent. Distribution of Employed Workers, 14 Years Old and Over, by Major Occupation Groups, for New Bedford and 13 Comparison Cities, 1940.

| City | Total | Professional & Semi-Prof. | Proprietors, Managers, & Officials | Clerks and Kindred Workers | Skilled Workers | Semi-skilled Workers | Unskilled Workers | Not Reported |
|---|---|---|---|---|---|---|---|---|
| New Bedford | 100.0 | 5.6 | 6.1 | 14.6 | 11.7 | 52.5 | 8.6 | 0.8 |
| Fall River | 100.0 | 5.8 | 5.9 | 12.7 | 10.0 | 58.8 | 6.4 | 0.5 |
| Cambridge | 100.0 | 12.7 | 6.5 | 23.4 | 11.1 | 33.9 | 11.1 | 1.3 |
| Somerville | 100.0 | 7.1 | 6.7 | 27.9 | 15.4 | 34.9 | 7.3 | 0.6 |
| Lowell | 100.0 | 7.7 | 6.9 | 17.3 | 12.5 | 46.7 | 8.1 | 0.9 |
| Boston | 100.0 | 10.2 | 7.7 | 27.0 | 12.7 | 33.2 | 8.4 | 0.8 |
| Springfield | 100.0 | 9.0 | 8.9 | 25.8 | 16.9 | 30.9 | 7.6 | 1.0 |
| Worcester | 100.0 | 9.7 | 7.6 | 22.2 | 16.1 | 34.9 | 8.1 | 1.5 |
| Elizabeth, N.J. | 100.0 | 8.5 | 7.6 | 21.0 | 16.3 | 34.0 | 11.3 | 1.2 |
| Canton, O. | 100.0 | 7.4 | 8.6 | 20.0 | 17.1 | 33.5 | 12.5 | 0.9 |
| Gary, Ind. | 100.0 | 6.9 | 5.7 | 16.2 | 22.4 | 28.9 | 19.1 | 0.7 |
| Reading, Pa. | 100.0 | 5.6 | 6.5 | 17.1 | 12.9 | 46.4 | 10.8 | 0.6 |
| Tacoma, Wash. | 100.0 | 8.4 | 12.1 | 20.3 | 16.6 | 27.8 | 14.0 | 0.6 |
| Wilmington, Del. | 100.0 | 9.2 | 8.5 | 21.9 | 14.2 | 29.2 | 16.0 | 1.0 |

Source: Derived from U. S. Census, 1940: Population, Vol. II, Characteristics of Population. T.42.

Table 33

Relationship of Employment and Pay Rolls Between Certain Major Basic and Non-Basic Industry Groupings in the U. S., Massachusetts, New Bedford, and 9 Large Cities, 1939

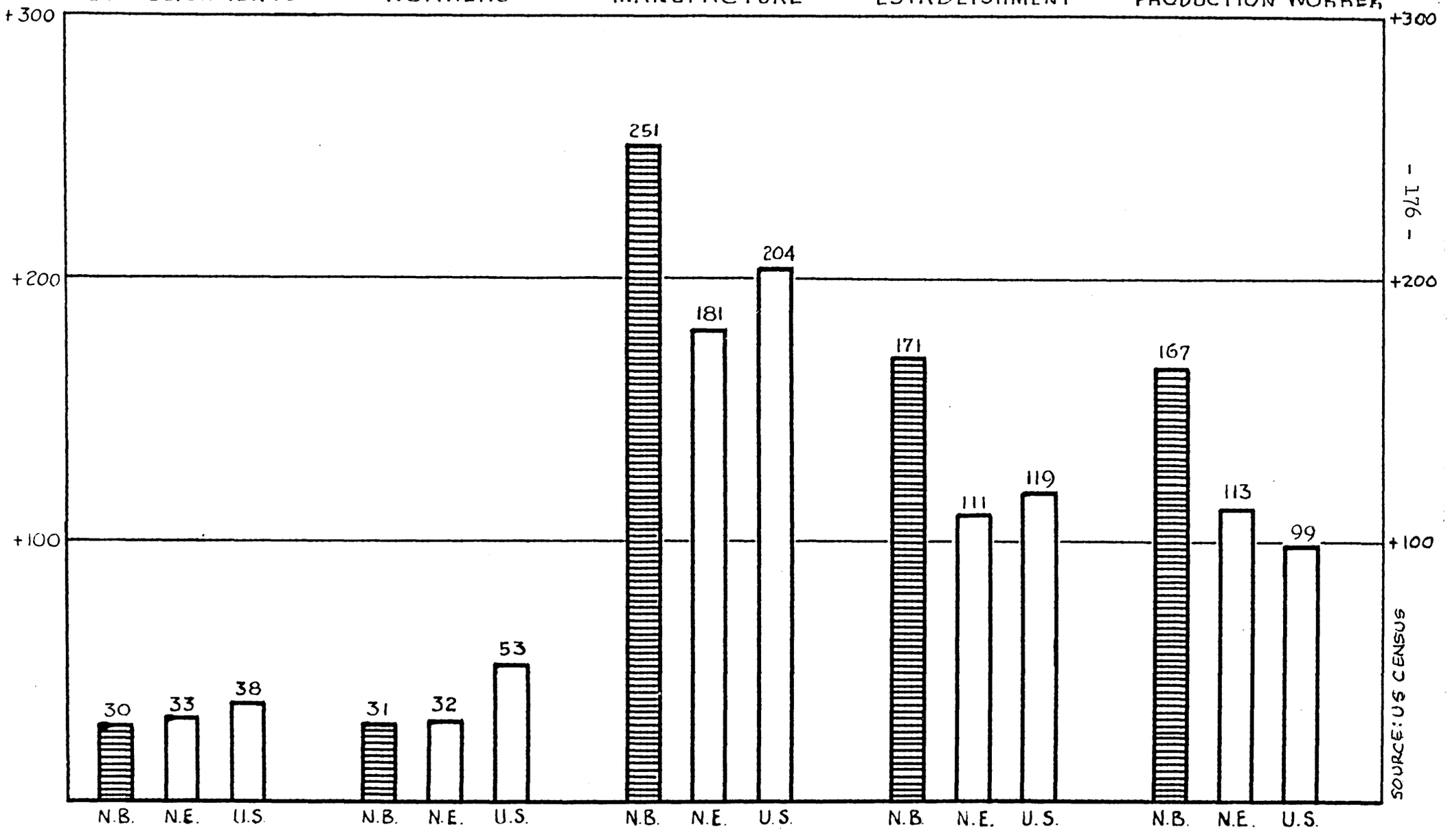
| | BASIC | | NON-BASIC | | | |
|---|---|---|---|---|---|---|
| | Construction, Service, and Retail Industries | | Wholesale and Manufacturing Industries | | PERCENT. | |
| | Employment | Pay Roll | Employment | Pay Roll | A/C | B/D |
| | A. | B. | C. | D. | % | % |
| Massachusetts | 282,695 | 312,643 | 519,829 | 613,225 | 54.5 | 51.0 |
| New Bedford | 6,266 | 5,769 | 22,930 | 20,284 | 27.3 | 28.4 |
| Fall River | 6,250 | 5,893 | 25,841 | 21,125 | 24.2 | 27.9 |
| Cambridge | 9,112 | 10,686 | 19,309 | 23,735 | 47.2 | 45.0 |
| Somerville | 4,576 | 4,709 | 6,196 | 9.084 | 73.9 | 51.8 |
| Lowell | 5,977 | 5,877 | 14,416 | 12,908 | 41.5 | 45.5 |
| Canton, O. | 7,903 | 8,227 | 18,349 | 28,318 | 43.1 | 29.1 |
| Elizabeth, N.J. | 5,815 | 6,884 | 15,773 | 19,688 | 36.8 | 35.0 |
| Reading, Pa. | 9,188 | 9,357 | 17,758 | 18,921 | 51.7 | 49.4 |
| Tacoma, Wash. | 8,166 | 10,238 | 10,716 | 15,267 | 76.2 | 67.4 |
| Wilmington, Del. | 11,276 | 13,130 | 12,865 | 17,870 | 87.7 | 73.5 |

Source: United States Census, 1939:

Census of Manufactures
Census of Business
Census of Wholesale Trade
Census of Construction
Census of Service Establishments

# CHART 7

## CHANGES IN MANUFACTURING: NEW BEDFORD, NEW ENGLAND, & UNITED STATES 1939 - 1947



# CHART · 8.

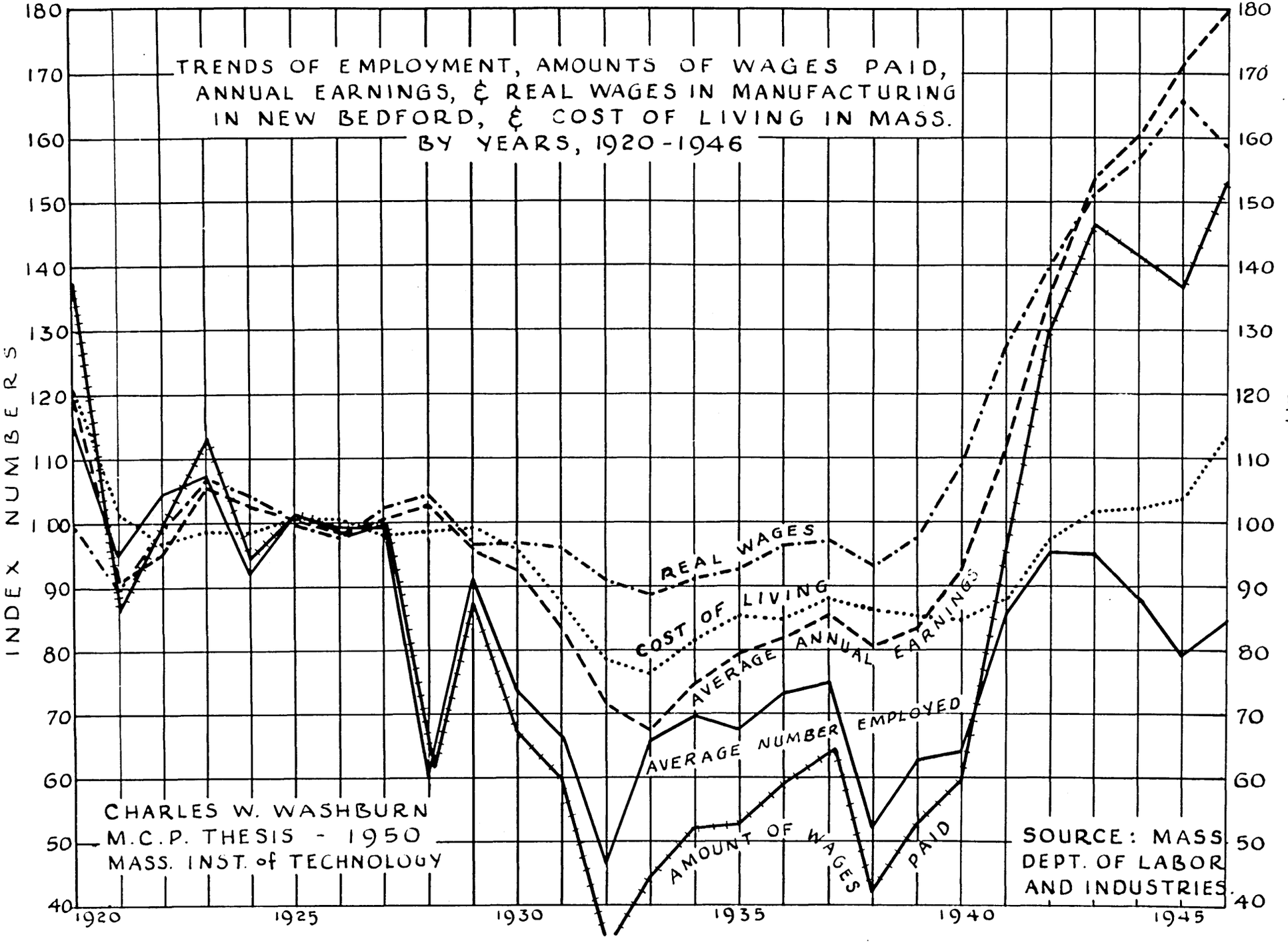

TRENDS OF EMPLOYMENT, AMOUNTS OF WAGES PAID, ANNUAL EARNINGS, & REAL WAGES IN MANUFACTURING IN NEW BEDFORD, & COST OF LIVING IN MASS. BY YEARS, 1920-1946
INDEX NUMBERS
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
1920
1925
1930
1935
1940
1945
REAL WAGES
COST OF LIVING
AVERAGE ANNUAL EARNINGS
AVERAGE NUMBER EMPLOYED
AMOUNT OF WAGES PAID
CHARLES W. WASHBURN
M.C.P. THESIS - 1950
MASS. INST. of TECHNOLOGY
SOURCE: MASS. DEPT. OF LABOR AND INDUSTRIES.

Table 34 -

Industrial Trends in New Bedford, 1920 - 1946, as Reflected in Averages Annual Earnings of Manufacturing Wage-Earners and Indexes of Earnings, Real Wages, Employment, and Cost of Living, Using the Base (1925-1926-1927 = 100)

| Year | Aver. Annual Earnings of Wage-Earners | | Index Numbers of A. A. E. | | Cost of Living Index | Real Value of A.A.E. (Index) | | Index of Manufecturing Employment | |
|---|---|---|---|---|---|---|---|---|---|
| | New Bedford | Mass. | N. B. | Mass. | for Mass. | N. B. | Mass. | N. B. | Mass. |
| 1920 | $1,232.97 | $ | 119.6 | | 120.7* | 99.1 | | 115.1 | |
| 1921 | 938.00 | | 91.0 | | 101.2* | 89.9 | | 95.3 | |
| 1922 | 982.60 | 1,106.73 | 95.3 | 90.8 | 96.7* | 98.8 | 93.9 | 104.6 | 103.7 |
| 1923 | 1,085.17 | 1,197.65 | 105.2 | 98.2 | 98.5* | 106.8 | 99.7 | 107.4 | 113.0 |
| 1924 | 1,058.36 | 1,207.01 | 102.6 | 99.0 | 98.4* | 104.3 | 100.6 | 92.1 | 99.8 |
| 1925 | 1,039.33 | 1,210.87 | 100.8 | 99.3 | 100.9 | 99.9 | 98.4 | 101.1 | 100.1 |
| 1926 | 1,017.28 | 1,225.56 | 98.6 | 100.5 | 100.7 | 97.9 | 99.8 | 99.5 | 102.0 |
| 1927 | 1,037.21 | 1,221.19 | 100.6 | 100.2 | 98.3 | 102.3 | 101.9 | 99.4 | 97.9 |
| 1928 | 1,059.50 | 1,238.73 | 102.7 | 101.6 | 98.6 | 104.2 | 103.0 | 60.2 | 91.6 |
| 1929 | 990.27 | 1,246.30 | 96.0 | 102.2 | 99.2 | 96.1 | 103.0 | 91.1 | 94.4 |
| 1930 | 954.53 | 1,191.90 | 92.6 | 97.8 | 95.7 | 96.8 | 102.2 | 72.9 | 81.5 |
| 1931 | 863.21 | 1,091.49 | 83.7 | 89.5 | 97.2 | 96.0 | 102.6 | 66.7 | 73.6 |
| 1932 | 740.80 | 953.89 | 71.8 | 78.2 | 78.8 | 91.1 | 99.2 | 46.6 | 59.3 |
| 1933 | 697.91 | 889.44 | 67.7 | 73.0 | 76.3 | 88.7 | 95.7 | 65.9 | 67.5 |
| 1934 | 771.27 | 963.87 | 74.8 | 79.1 | 81.8 | 91.4 | 96.7 | 69.8 | 71.8 |
| 1935 | 817.05 | 1,006.30 | 79.2 | 82.5 | 85.3 | 92.8 | 96.7 | 71.0 | 75.4 |
| 1936 | 845.13 | 1,068.89 | 82.0 | 87.7 | 85.0 | 96.5 | 103.2 | 73.1 | 81.5 |
| 1937 | 884.27 | 1,121.63 | 85.7 | 92.0 | 88.2 | 97.2 | 104.3 | 77.0 | 84.4 |
| 1938 | 832.77 | 1,067.70 | 80.8 | 87.6 | 86.5 | 93.4 | 101.3 | 44.8 | 72.0 |
| 1939 | 863.38 | 1,124.87 | 83.7 | 92.3 | 85.5 | 97.9 | 108.0 | 45.9 | 78.8 |
| 1940 | 954.64 | - | 92.6 | - | 84.8* | 109.2 | - | 64.3 | - |
| 1941 | 1,150.64 | - | 111.6 | - | 88.2* | 126.5 | - | 85.5 | - |
| 1942 | 1,399.32 | - | 135.7 | - | 97.1* | 139.7 | - | 95.7 | - |
| 1943 | 1,583.32 | - | 153.5 | - | 101.7* | 150.9 | - | 95.4 | - |
| 1944 | 1,654.15 | - | 160.4 | - | 102.3* | 156.8 | - | 88.3 | - |
| 1945 | 1,779.36 | - | 171.6 | - | 103.8* | 165.3 | - | 79.4 | - |
| 1946 | 1,852.05 | - | 179.6 | - | 113.2* | 158.7 | - | 84.8 | - |

*Computed from Bases: 1913 = 100, and (after 1944), 1935-1939 = 100.

Sources: Pub. Doc. 104, Mass. (annual, 1922-1939).
1946 Census of Manufactures, Mass. Dept. of Labor and Industries.

Table 35.

Partial List of Products Manufactured
in New Bedford, 1940.

| | |
|---|---|
| Cotton goods | Boat building |
| Cotton and silk dress goods | Fisheries |
| Cotton and rayon cloths | Automobile bodies |
| Fine cotton and rayon yarns | Automobile tops |
| Blankets | Awnings and tents |
| Sheets | Carbonated beverages |
| Pillow cases | Fermented beverages |
| Fine tools | Boilers |
| Twist drills | Dairy products |
| Screws | Go-carts |
| Dies | Chemicals |
| Silverware | Cigars |
| Cut glass | Men's trousers |
| Shirts | Concrete blocks |
| Underwear | Confectionery |
| Overalls | Rope |
| Suits | Cordage and twine |
| Cloth caps | Fertilizer |
| Shoes | Prepared food |
| Paper goods | Ice cream |
| Boxes | Ladders |
| Sheet copper and brass | Looms |
| Soap | Machinery |
| Mechanical & steam toys | Mattresses |
| Refined oils | Proprietary medicines |
| Cotton banding and webbing | Pickles |
| Tire fabrics | Plating |
| Eyelets | Wood screws |
| Sails | Underwear |

Source: First National Bank of Boston.

Table 36. Comparable Data for All Manufacturing Industries Combined and for Three Important Industries in the City of New Bedford, Mass., 1936 - 1946, Inclusive.

| New Bedford Years | Number of Establishments | Capital Invested | Value of Stock and Materials Used 1/ | Amount of Wages Paid During the Year | Average No. of Wage Earners Employed | Value of Products |
|---|---|---|---|---|---|---|
| | | | ALL INDUSTRIES | | | |
| 1936 | 197 | $78,129,426 | $38,292,344 | $21,821,444 | 25,821 | $ 77,600,779 |
| 1937 | 201 | 2/ | 40,302,906 | 23,406,791 | 26,471 | 79,392,489 |
| 1938 | 196 | 63,762,591 | 24,156,145 | 15,335,138 | 18,416 | 52,086,533 |
| 1939 | 202 | 2/ | 36,211,677 | 19,072,124 | 22,092 | 72,092,724 |
| 1940 | 205 | 62,806,541 | 38,671,480 | 21,686,456 | 22,717 | 79,022,057 |
| 1941 | 217 | 73,273,402 | 61,174,901 | 34,720,599 | 30,175 | 129,147,841 |
| 1942 | 207 | 86,214,744 | 81,286,468 | 47,292,759 | 33,797 | 177,029,562 |
| 1943 | 189 | 91,044,281 | 84,373,169 | 53,315,104 | 33,673 | 197,042,753 |
| 1944 | 203 | 89,939,437 | 83,943,269 | 51,601,188 | 31,195 | 192,077,439 |
| 1945 | 201 | 89,165,968 | 81,371,796 | 49,838,381 | 28,010 | 176,084,055 |
| 1946 | 203 | 98,023,471 | 90,877,351 | 55,450,448 | 29,940 | 200,331,535 |
| | | | Cotton Goods | | | |
| 1936 | 17 | 48,197,432 | 15,004,120 | 10,453,622 | 12,685 | 30,836,684 |
| 1937 | 17 | 2/ | 17,256,201 | 11,751,405 | 13,922 | 33,564,939 |
| 1938 | 15 | 33,664,354 | 7,393,014 | 5,981,742 | 7,799 | 16,152,247 3/ |
| 1939 | 15 | 2/ | 12,403,731 | 7,631,284 | 9,332 | 24,444,401 |
| 1940 | 13 | 31,343,465 | 13,286,011 | 8,511,043 | 9,650 | 26,548,196 |
| 1941 | 12 | 36,095,825 | 21,859,789 | 14,003,702 | 12,855 | 45,287,711 |
| 1942 | 11 | 42,421,927 | 34,556,770 | 19,068,602 | 13,510 | 69,241,842 |
| 1943 | 11 | 40,372,233 | 34,038,777 | 18,966,944 | 12,021 | 68,610,674 |
| 1944 | 11 | 38,135,866 | 32,182,815 | 16,790,712 | 10,258 | 62,598,116 |
| 1945 | 10 | 38,396,759 | 31,733,823 | 17,059,304 | 9,575 | 60,521,830 |
| 1946 | 10 | 39,647,634 | 35,525,440 | 19,419,773 | 10,008 | 69,904,222 |

1/ Years subsequent to 1938 include coast of work done on contract on materials owned by reporting establishments.

2/ Not called for on the questionnaire.

Note: In making comparisons for the several years of the money values presented in this summary, due allowance should be made for price fluctuations from year to year. The values of products manufactured do not necessarily represent the relative volume of goods produced in the several years.

(sheet 1 of two sheets)
See page 181.

Table 36 (cont.)

| | | | | | | |
|---|---|---|---|---|---|---|
| **Silk and Rayon Goods** | | | | | | |
| 1936 | 7 | $ 6,814,677 | $ 8,979,879 | $4,732,772 | 5,793 | $15,588,185 |
| 1937 | 7 | 2/ | 8,674,881 | 4,566,302 | 5,181 | 14,523,667 |
| 1938 | 7 | 6,940,865 | 5,363,280 | 3,502,456 | 4,029 | 10,481,890 |
| 1939 | 7 | 2/ | 8,058,881 | 3,991,000 | 4,545 | 13,947,964 |
| 1940 | 6 | 6,543,230 | 7,247,306 | 3,506,765 | 3,811 | 12,757,609 |
| 1941 | 9 | 7,684,037 | 8,481,714 | 4,582,879 | 4,250 | 16,359,095 |
| 1942 | 9 | 9,399,782 | 10,979,661 | 5,706,700 | 4,040 | 21,499,824 |
| 1943 | 9 | 10,540,805 | 11,365,459 | 5,914,322 | 3,648 | 21,905,057 |
| 1944 | 10 | 11,784,431 | 10,943,002 | 5,874,663 | 3,514 | 22,943,514 |
| 1945 | 10 | 11,446,210 | 10,578,987 | 6,286,889 | 3,445 | 21,587,786 |
| 1946 | 11 | 13,698,015 | 11,985,827 | 7,956,273 | 3,923 | 26,936,639 |
| **Bread and Other Bakery Products** | | | | | | |
| 1936 | 47 | 925,583 | 1,096,904 | 326,445 | 279 | 2,142,730 |
| 1937 | 49 | 2/ | 1,191,523 | 441,180 | 356 | 2,323,191 |
| 1938 | 46 | 1,146,090 | 1,127,494 | 359,242 | 345 | 2,277,116 |
| 1939 | 43 | 2/ | 988,001 | 448,284 | 355 | 2,234,891 |
| 1940 | 43 | 1,176,493 | 1,075,693 | 465,306 | 369 | 2,391,210 |
| 1941 | 44 | 1,459,014 | 1,465,528 | 579,203 | 389 | 2,932,836 |
| 1942 | 43 | 1,448,628 | 1,842,471 | 780,096 | 465 | 3,535,275 |
| 1943 | 37 | 1,442,669 | 2,359,795 | 977,274 | 513 | 4,367,648 |
| 1944 | 37 | 1,522,347 | 2,437,961 | 874,254 | 484 | 4,461,966 |
| 1945 | 34 | 1,221,826 | 2,802,860 | 989,709 | 480 | 5,039,418 |
| 1946 | 16 | 1,240,208 | 3,616,051 | 1,196,070 | 469 | 6,096,691 |

2/ Not called for on the questionnaire.

3/ Of the 17 mills which were in operation in 1937, two went out of business during that year; three mills did not operate the entire year 1938, and all except two of the 12 mills which were in operation during the entire year reported substantial decreases in production as compared with 1937.

Source: Massachusetts Department of Labor and Industries, Division of Statistics. Census of Manufactures, 1946. Number 23 (New Bedford), Table 2.

Table 37.

Relative Importance of Major Industrial Groups in New Bedford, 1939, in Terms of Their Value of Products.*

| Rank Order | Census Group No. | Industrial Group | Value of Products | Percent. of Total for All Mfg. Industries |
|---|---|---|---|---|
| 1 | 3 | Cotton broad woven goods | $18,802,348 | 26.0% |
| 2 | 3 | Textile mill products & other fiber manufactures | 15,797,255 | 21.7 |
| 3 | 4 | Apparel & other finished products made from fabrics & similar materials | 7,594,454 | 10.4 |
| 4 | 3 | Cotton yarn | 5,652,217 | 7.8 |
| 5 | 12 | Leather and leather products | 4,027,694 | 5.5 |
| 6 | 1 | Bread & other bakery products (except biscuit, crackers and pretzels) | 2,234,891 | 3.1 |
| 7 | 16 | Electrical machinery | 2,131,936 | 3.0 |
| 8 | 1 | Food and kindred products | 2,082,857 | 2.9 |
| Total, all manufacturing industries: | | | | |
| | | 1939 | $72,807,267 | 100.0% |
| | | 1937 | 81,132,056 | |

*Listed only where value of products = $1 million or above.

Source: U. S. Census of Manufactures, 1939.
Vol. III, Reports for States and Outlying Areas.

Table 38.

Principal Data Relative to Manufactures in the City of New Bedford, Mass., 1946: By Industries

| Industries for which data can be presented (Arranged in the order of value of products) 1/ | Number of Establishments | Value of Stock and Materials Used | Amount of Wages Paid During the Year | Average Number of Wage Earners Employed | Value of Products |
|---|---|---|---|---|---|
| ALL INDUSTRIES | 203 | $90,877,351 | $55,450,448 | 29,940 | $200,331,535 |
| Cotton goods | 10 | 35,525,440 | 19,419,773 | 10,008 | 69,904,222 |
| Silk and rayon goods | 11 | 11,985,827 | 7,956,273 | 3,923 | 26,936,639 |
| Clothing, men's and women's, including men's work clothing | 32 | 7,779,636 | 4,009,798 | 2,460 | 16,573,540 |
| Bread and other bakery products | 16 | 3,616,051 | 1,196,070 | 469 | 6,096,691 |
| Cordage and twine | 4 | 1,360,837 | 355,794 | 182 | 2,271,728 |
| Textile machinery and parts | 14 | 423,465 | 323,407 | 180 | 1,081,040 |
| House-furnishing goods | 5 | 504,123 | 254,687 | 154 | 951,282 |
| Planing-mill products | 7 | 271,428 | 278,849 | 206 | 745,470 |
| Sausage and sausage casings | 6 | 563,545 | 31,960 | 18 | 697,852 |
| Foundry and machine-shop products | 8 | 202,297 | 209,751 | 89 | 599,918 |
| Mattresses and bed springs | 5 | 221,215 | 65,385 | 35 | 409,764 |
| Other Industries 1/ | 85 | 28,423,487 | 21,348,701 | 12,216 | 74,063,390 |

For the following important industries, data cannot be presented separately without disclosing the operations of individual establishments: Nonferrous metals; Electrical apparatus and supplies; Electronics, etc.; Machine-tool accessories; Screw-machine products; Malt liquors; Molded rubber parts; Canned and dried fruits and vegetables; Artificial leather; Rayon yarn; Boot and shoe findings; Boots and shoes, other than rubber; Printing and publishing; Cotton small wares, and men's shirts.

Source: Massachusetts Department of Labor and Industries, Division of Statistics. Census of Manufactures, 1946. Number 23. (Table 1)

Table 39.

Trends in Total Manufacturing, 1899 - 1947, for the United States and Regions

Index (1899 = 100)

| | U.S. | New England | Middle Atlantic | Central | South East | South West | North West | Far West |
|---|---|---|---|---|---|---|---|---|
| Number of Establishments | 117.6 | 89.8 | 111.1 | 96.3 | 130.6 | 250.5 | 105.4 | 287.8 |
| All Employees (Aver. for year) | 294.7 | 164.3 | 230.0 | 350.3 | 333.3 | 748.1 | 261.5 | 684.6 |
| Production Workers (Aver. for year) | 264.7 | 146.5 | 203.7 | 317.2 | 313.3 | 652.0 | 233.9 | 604.6 |
| Value Added by Manufacture | 1,601.6 | 900.9 | 1,203.7 | 1,837.4 | 2,256.6 | 3,990.4 | 1,087.1 | 3,939.1 |

Source: Handbook of Regional Statistics, 1950. (Govt. print. off.)

Table 40.

Number of Manufacturing Establishments, Production Workers, and Value Added by Manufacture, 1939 and 1947, and Value Added Per Establishment and Per Production Worker, 1947, for Massachusetts, Bristol County, New Bedford, and Twelve Comparison United States Cities

| | 1947 | | | | | | | | 1939 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1947 | No. of Establishments | Total Employees | Production Workers | Total Salaries and Wages (000) | Total Wages (000) | Value Added By Manufacture (000) | Value Added Per Establishment | Value Added Per Production Worker | No. of Establishments | Prod'n Workers | Value Added By Manufacture (000) |
| Massachusetts | 10,524 | 718,441 | 601,603 | $1,923,141 | $1,464,047 | $3,370,094 | $320,340 | $5,602 | 8,444 | 458,372 | $1,181,465 |
| Bristol County | 1,015 | 89,221 | 80,108 | 212,684 | 177,273 | 366,182 | 360,770 | 4,579 | 725 | 63,977 | 109,398 |
| New Bedford | 230 | 31,736 | 28,956 | 74,502 | 63,899 | 127,731 | 555,250 | 4,410 | 177 | 22,058 | 36,363 |
| Fall River | 312 | 29,120 | 26,936 | 63,773 | 55,259 | 111,443 | 357,190 | 4,137 | 217 | 24,602 | 33,215 |
| Cambridge | 367 | 27,592 | 21,384 | 78,987 | 52,827 | 152,774 | 416,260 | 7,144 | 346 | 16,567 | 70,695 |
| Somerville | 151 | 7,480 | 6,059 | 20,963 | 15,264 | 45,688 | 304,590 | 7,539 | 114 | 4,903 | 18,919 |
| Lowell | 214 | 18,127 | 16,053 | 43,017 | 34,624 | 78,056 | 364,740 | 4,863 | 189 | 13,795 | 26,306 |
| Lawrence | 159 | 29,576 | 27,159 | 73,383 | 64,660 | 129,012 | 906,325 | 4,750 | 146 | 24,471 | 38,078 |
| Lynn | 313 | 25,700 | 19,955 | 72,148 | 51,691 | 120,273 | 384,265 | 6,027 | 259 | 12,621 | 45,221 |
| Brockton | 229 | 10,467 | 8,971 | 25,121 | 19,236 | 39,821 | 173,135 | 4,439 | 203 | 7,903 | 16,311 |
| Canton, O. | 188 | 32,835 | 27,554 | 91,606 | 75,279 | 158,213 | 841,560 | 5,740 | 161 | 16,676 | 63,155 |
| Elizabeth, N.J. | 227 | 17,212 | 14,294 | 50,950 | 38,660 | 100,901 | 444,500 | 7,059 | 177 | 14,981 | 40,656 |
| Reading, Pa. | 307 | 27,111 | 23,000 | 67,362 | 53,144 | 115,436 | 376,090 | 5,019 | 229 | 15,971 | 37,952 |
| Tacoma, Wash. | 269 | 12,963 | 11,131 | 40,385 | 32,138 | 83,916 | 310,800 | 7,539 | 238 | 8,546 | 25,575 |
| Wilmington, Del. | 163 | 15,823 | 13,163 | 46,886 | 34,962 | 70,456 | 432,245 | 5,353 | 151 | 10,044 | 26,379 |

Source: Derived from 1947 U. S. Census of Manufactures, Vol. III (advance publications for States).

Table 41

Trends in Manufacturing Employment, Cost of Materials, and Value of Products in New Bedford, 1920 - 1946.*

| 1. Year | 2. No. of Plants | 3. Aver. No. of Wage-earners | 4. Amount of Yearly Wages | 5. Value of Stock & Materials Used | 6. Value of Products | Column 3 as a Percent. of: Total Employment | Total Popul'n 14 Yrs. Old & Over |
|---|---|---|---|---|---|---|---|
| 1920 | 237 | 40,622 | $50,083,402 | $157,618,011 | $262,234,111 | 67.6% | 46.3% |
| 1921 | 220 | 33,645 | 31,559,229 | 51,305,768 | 111,203,227 | | |
| 1922 | 221 | 36,951 | 36,307,114 | 62,285,652 | 129,627,678 | | |
| 1923 | 213 | 37,917 | 41,146,239 | 75,324,710 | 149,998,694 | | |
| 1924 | 227 | 32,510 | 34,407,452 | 64,312,730 | 117,053,301 | | |
| 1925 | 200 | 35,696 | 37,100,208 | 80,080,305 | 143,551,349 | | |
| 1926 | 197 | 35,143 | 35,750,517 | 66,457,109 | 121,034,981 | | |
| 1927 | 208 | 35,084 | 36,389,469 | 64,885,610 | 125,541,548 | | |
| 1928 | 211 | 21,249 | 22,513,313 | 43,865,673 | 82,640,906 | | |
| 1929 | 192 | 32,117 | 31,804,551 | 62,139,736 | 121,696,325 | | |
| 1930 | 199 | 25,739 | 24,568,746 | 40,447,985 | 81,158,875 | 49.4% | 30.7% |
| 1931 | 197 | 23,602 | 20,373,532 | 27,706,783 | 63,479,596 | | |
| 1932 | 199 | 16,456 | 12,190,694 | 17,497,280 | 39,151,295 | | |
| 1933 | 195 | 23,260 | 16,233,389 | 24,245,260 | 55,677,006 | | |
| 1934 | 207 | 24,631 | 18,996,525 | 31,684,684 | 63,661,403 | | |
| 1935 | 197 | 23,956 | 19,273,356 | 34,624,574 | 69,030,061 | | |
| 1936 | 197 | 25,821 | 21,821,444 | 38,292,344 | 77,600,779 | | |
| 1937 | 201 | 26,471 | 23,406,791 | 40,302,906 | 79,392,489 | | |
| 1938 | 196 | 18,416 | 15,335,138 | 24,156,145 | 52,086,533 | | |
| 1939 | 202 | 22,092 | 19,072,124 | 36,211,677 | 72,092,724 | | |
| 1940 | 205 | 22,717 | 21,686,456 | 38,671,480 | 79,022,057 | 56.2% | 25.3% |
| 1941 | 217 | 30,175 | 34,720,599 | 61,174,901 | 129,147,841 | | |
| 1942 | 207 | 33,797 | 47,292,759 | 81,286,468 | 177,029,562 | | |
| 1943 | 189 | 33,673 | 53,315,104 | 84,373,169 | 197,042,753 | | |
| 1944 | 203 | 31,195 | 51,601,188 | 83,943,269 | 192,077,439 | | |
| 1945 | 201 | 28,010 | 49,838,381 | 81,371,796 | 176,084,055 | | |
| 1946 | 203 | 29,940 | 55,450,448 | 90,877,351 | 200,331,535 | | |

*All industries combined.
Sources: Mass. Pub.Doc.26. and Census of Manufactures, 1946, for New Bedford. (Dept. of Labor & Industries).

Table 42.

Amount and Rank Order of New Bedford Among 200 Leading U. S. Cities in Effective Buying Income and Wholesale and Retail Sales, 1940 - 1949

| | 1949 | | 1948 | | 1947 | | 1946 | | 1945 | | 1940 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Amount | R.O. | Amount | R.O. | Amount | R.O. | Amount | R.O. | Amount | | Amount | R.O. |
| Per family E.B.I. | $ 3,768 | 196 | $ 3,957 | 195 | $ 4,396 | 168 | $ 4,388 | 127 | n.s. | | $2,530 | 97 |
| Per capita E.B.I. | 1,115 | 193 | 1,156 | 193 | 1,249 | 166 | 1,249 | 123 | n.1. | | 692 | 91 |
| Total net E.B.I.* | 128,503 | 153 | 131,752 | 143 | 157,366 | 106 | 138,220 | 104 | 126,994 | 103 | 76,290 | 85 |
| Wholesale Sales * | n.s. | | n.s. | | 49,610 | 151 | 44,295 | 155 | 34,752 | 199 | 29,365 | n.s. |
| Total Retail Sales* | 103,800 | 148 | 110,440 | 135 | 105,269 | 124 | 96,806 | 106 | 68,627 | 114 | 45,754 | 100 |
| Food Store Sales* | 29,184 | 112 | 31,541 | 105 | 33,247 | 99 | 24,484 | 102 | 21,540 | 96 | n.s. | |
| General Merchandise Store Sales* | 9,967 | 200 | 11,025 | 190 | 10,548 | 154 | 11,656 | 141 | 9,101 | 149 | n.s. | |
| Drug Store Sales* | 2,921 | 151 | 3,117 | 145 | 3,080 | 135 | 3,735 | 111 | 3,333 | 94 | n.s. | |
| Furniture-Household-Radio Sales* | 5,838 | 151 | 6,533 | 140 | n.s. | | n.s. | | n.s. | | n.s. | |
| Population Ranking | 115,300 | 99 | 114,000 | 97 | 126,000 | 87 | 110,700 | 99 | 115,100 | 86 | 110,300 | n.s. |

*Add 000.

1940 Ranking is among 116 cities. Population estimates and ranking are as of Jan. 1 of following year.

Source: Survey of Buying Power (annual).

Table 43

Comparative Ranking of New Bedford and 13 Other U. S. Cities Among 200 Leading Cities, 1949, in Respect to Population, Effective Buying Income, and Sales

| City | Popula-tion | Effective Buying Income | | | Retail Sales | | | | Furn.-House.-Radio |
|---|---|---|---|---|---|---|---|---|---|
| | | Per Capita | Per Family | Total | Total | Food | Gen.Mdse. | Drug | |
| New Bedford | 99 | 193 | 196 | 153 | 148 | 112 | 200 | 151 | 151 |
| Fall River | 97 | 198 | 193 | 158 | 152 | 120 | n.l. | n.l. | 119 |
| Cambridge | 96 | 169 | 154 | 118 | 139 | 99 | 159 | 137 | 153 |
| Lowell | 108 | 195 | 191 | 165 | 168 | 92 | 182 | n.l. | n.l. |
| Somerville | 101 | 191 | 173 | 141 | n.l. | 128 | n.l. | n.l. | n.l. |
| Lawrence | 132 | 196 | 192 | n.l. | n.l. | 161 | n.l. | 194 | 174 |
| Lynn | 106 | 171 | 177 | 127 | 176 | 106 | 197 | 161 | 177 |
| Brockton | 196 | 194 | 197 | n.l. | n.l. | 189 | n.l. | n.l. | 178 |
| Canton, O. | 78 | 126 | 111 | 83 | 94 | 102 | 97 | 127 | 85 |
| Elizabeth, N.J. | 92 | 101 | 66 | 94 | 115 | 88 | 170 | n.l. | 101 |
| Gary, Ind. | 76 | 87 | 73 | 78 | 92 | 89 | 62 | 119 | 123 |
| Reading, Pa. | 97 | 142 | 141 | 108 | 93 | 77 | 99 | 122 | 67 |
| Tacoma, Wash. | 70 | 60 | 126 | 68 | 70 | 75 | 72 | 102 | 106 |
| Wilmington, Del. | 87 | 14 | 8 | 65 | 86 | 70 | 132 | 111 | 80 |

n.l. - Not listed among the 200 leading cities. Rank order 1 is highest; r.o. 200, lowest.

Source: Survey of Buying Power, 10 May 1950.

Table 44

Volume of Retail Sales in New Bedford and 10 Large U. S. Cities, 1929 - 1935 - 1939 - 1949

(add 000)

| | 1949 | 1939 | 1935 | 1929 | 1949 vs. 1939 | 1939 vs. 1935 | 1939 vs. 1929 |
|---|---|---|---|---|---|---|---|
| New Bedford | $103,800 | $40,777 | $35,197 | $51,758 | 154.5% | 16% | -21% |
| Cambridge | 109,043 | 46,620 | 39,111 | 54,904 | 133.9 | 19 | -15 |
| Fall River | 102,133 | 40,480 | 31,271 | 45,997 | 152.3 | 29 | -12 |
| Somerville | n.s. | 26,615 | 22,543 | 30,200 | - | 18 | -12 |
| Lowell | 92,692 | 39,042 | 30,962 | 44,650 | 137.4 | 26 | -13 |
| Canton, O. | 150,805 | 52,450 | 39,802 | 63,991 | 187.5 | 32 | -18 |
| Elizabeth, N. J. | 127,414 | 44,963 | 42,911 | 60,156 | 183.4 | 5 | -25 |
| Gary, Ind. | 151,743 | 43,275 | 29,277 | 48,246 | 250.6 | 48 | -10 |
| Reading, Pa. | 151,487 | 54,765 | 48,843 | 72,790 | 176.6 | 12 | -25 |
| Tacoma, Wash. | 196,147 | 55,065 | 39,345 | 61,745 | 256.2 | 40 | -11 |
| Wilmington, Del. | 160,359 | 64,951 | 48,609 | 69,246 | 146.9 | 34 | - 6 |

Source: First National Bank of Boston.
Survey of Buying Power, 1950 Ed.
1939 U. S. Census of Business, Vol. 1, Retail Trade.

Table 45A

Composition of 1939 Retail Trade in New Bedford, by Major Business Groups and 5 Kinds of Separate Businesses, together with 1949 Estimates for ABC City Zone

| Major Business Groups | Employees | Pay Roll (000) | Stores | Sales | 1949 Estimates - ABC Zone | |
|---|---|---|---|---|---|---|
| | | | | | Stores | Sales (000) |
| 1. Food Group | 1,076 | $905 | 658 | $12,014 | - | - |
| 2. General Stores with Food | 1 | 1 | 7 | 32 | - | - |
| 3. General Merchandise | 837 | 684 | 49 | 4,646 | - | - |
| 4. Apparel | 742 | 673 | 144 | 4,941 | 244 | 37,120 |
| 5. Furniture - Household - Radio | 262 | 297 | 55 | 2,109 | 94 | 12,655 |
| 6. Automotive | 258 | 293 | 40 | 3,825 | 109 | 8,396 |
| 7. Filling Stations | 170 | 179 | 131 | 2,468 | 222 | 8,076 |
| 8. Lumber - Building - Hardware | 295 | 304 | 56 | 1,778 | 71 | 4,435 |
| 9. Eating & Drinking Places | 588 | 434 | 203 | 2,733 | 368 | 12,537 |
| 10. Drug Stores | 195 | 188 | 74 | 1,749 | 176 | 5,839 |
| 11. Other Stores | 397 | 452 | 223 | 4,482 | - | - |
| Total | 4,821 | $4,390 | 1,640 | $40,777 | 2,972 | $105,134 |
| Separate Kinds of Business (included in group totals) | | | | | | |
| a. Grocery, Combination Stores | | | 385 | $ 9,506 | 650 | $ 40,625 |
| b. Hardware Stores | | | 19 | — | - | - |
| c. Restaurants, etc. | | | 116 | 1,643 | - | - |
| d. Liquor Stores, Packaged Goods | | | 21 | 527 | - | - |
| e. Feed, Farm, Garden Supplies | | | 10 | 1,080 | - | - |

Sources: First National Bank of Boston.
1939 U.S. Census of Business: Vol. 1, Retail Trade
Editor and Publisher's Market Guide, 1950 Ed.

Table 45B

Composition of Retail Trade in New Bedford, 1929, by Kinds of Business

| Groups | Number of Stores | Number of Full-Time Employees | Total Pay Roll (000) | Other Reported Expenses (incl. Rent) (000) | Net Sales (1929) | |
|---|---|---|---|---|---|---|
| | | | | | Amount (000) | Percent. of Total Sales |
| Food | 820 | 1,004 | $1,147.2 | $1,154.7 | $15,455.1 | 29.86% |
| General Merchandise | 68 | 691 | 614.4 | 674.3 | 5,236.0 | 10.12 |
| Automotive | 204 | 513 | 729.8 | 813.0 | 7,728.6 | 14.93 |
| Apparel | 173 | 600 | 796.1 | 842.5 | 6,544.7 | 12.65 |
| Furniture & Household | 87 | 386 | 506.7 | 595.3 | 3,697.8 | 7.15 |
| Restaurants, Cafeterias, etc. | 95 | 348 | 332.1 | 263.2 | 1,636.9 | 3.16 |
| Lumber and Building | 78 | 275 | 401.5 | 203.9 | 1,776.6 | 3.43 |
| Second-Hand Stores | 19 | 9 | 12.5 | 14.2 | 116.4 | 0.22 |
| Other Retail Stores | 348 | 757 | 1,029.8 | 989.4 | 9,566.1 | 18.48 |
| All Groups | 1,892 | 4,583 | $5,570.2 | $5,550.7 | $51,758.1 | 100.00% |

Source: U. S. Census of Retail Distribution, 1929, Vol. 1, Part II.

Table 46.

Retail Sales Per Capita in New Bedford and 10 Large U. S. Cities, 1929 - 1939 - 1949

| City | 1949 | 1939 | 1929 | Increase 1939-1949 | Decrease 1929-1939 |
|---|---|---|---|---|---|
| New Bedford | $ 941 | $370 | $460 | 154.6% | -19.6% |
| Cambridge | 981 | 420 | 483 | 133.4 | -13.0 |
| Fall River | 888 | 351 | 399 | 153.1 | -12.1 |
| Somerville | n.s. | 260 | 291 | - | -10.3 |
| Lowell | 916 | 385 | 445 | 137.8 | -13.6 |
| Canton, O. | 1,078 | 484 | 610 | 122.8 | -20.7 |
| Elizabeth, N.J. | 1,017 | 409 | 525 | 148.6 | -22.1 |
| Gary, Ind. | 1,080 | 387 | 480 | 179.3 | -19.4 |
| Reading, Pa. | 1,296 | 495 | 655 | 161.9 | -24.4 |
| Tacoma, Wash. | 1,342 | 503 | 578 | 166.8 | -12.9 |
| Wilmington, Del. | 1,245 | 577 | 650 | 115.8 | -11.1 |

Source: First National Bank of Boston
Survey of Buying Power, 1950 Ed. (1949 estimates)
1945 Massachusetts Decennial Census

Table 47.

Wholesale Sales for New Bedford and 12 Massachusetts Communities, and Percent. of Change, 1935-1939-1947

| City | Number of Establishments | | Net Sales | | | Percent. Change | |
|---|---|---|---|---|---|---|---|
| | 1935 | 1939 | 1935 | 1939 | 1947 | 1935 - 1939 | 1939 - 1947 |
| New Bedford | 110 | 100 | $20,891,000 | $19,908,000 | $49,610,000 | - 4.7% | 149.2% |
| Brockton | 77 | 106 | 10,364,000 | 15,036,000 | 31,679,000 | 45.1 | 116.3 |
| Cambridge | 113 | 157 | 49,561,000 | 65,935,000 | 151,658,000 | 33.0 | 130.0 |
| Fall River | 179 | 178 | 30,913,000 | 32,709,000 | 81,390,000 | 5.8 | 148.8 |
| Holyoke | 44 | 65 | 8,737,000 | 12,261,000 | 38,461,000 | 74.7 | 152.0 |
| Lawrence | 88 | 99 | 17,774,000 | 23,006,000 | 40,088,000 | 29.4 | 74.3 |
| Lowell | 92 | 76 | 11,898,000 | 13,598,000 | 34,007,000 | 14.3 | 150.0 |
| Lynn | 114 | 109 | 11,386,000 | 13,622,000 | 34,834,000 | 19.6 | 155.7 |
| Malden | 29 | 28 | 4,859,000 | 6,505,000 | 15,161,000 | 33.9 | 133.1 |
| Quincy | 33 | 33 | 9,295,000 | 9,764,000 | 28,924,000 | 5.0 | 196.2 |
| Somerville | 54 | 70 | 14,739,000 | 17,229,000 | 45,414,000 | 16.9 | 163.5 |
| Springfield | 268 | 320 | 63,627,000 | 78,603,000 | 196,230,000 | 23.5 | 150.0 |
| Worcester | 249 | 270 | 58,278,000 | 72,709,000 | 181,739,000 | 24.8 | 150.0 |

Sources: First National Bank of Boston, from U. S. Census. Survey of Buying Power, 1948.

Table 48.

Volume of Wholesale Sales per Establishment, and Average Annual Wage, in New Bedford, Bristol County, Massachusetts, United States, and 13 Comparison Cities, for 1939.

| | Number of Establishments | Sales (add 000) | Vol. Sales per Establishment | Aver. No. of Employees | Total Pay Roll (add 000) | Average Annual Wage |
|---|---|---|---|---|---|---|
| New Bedford | 100 | $ 19,908 | $199,080 | 815 | $ 1,202 | $1,474.80 |
| Bristol County | 342 | 58,334 | 170,570 | 2,308 | 3,399 | 1,039.40 |
| Massachusetts | 5,960 | 2,232,117 | 374,510 | 59,155 | 112,302 | 1,898.40 |
| United States | 200,573 | 55,265,640 | 275,540 | 1,561,948 | 2,624,203 | 1,680.80 |
| Fall River | 178 | 32,709 | 183,650 | 1,172 | 1,732 | 1,477.80 |
| Cambridge | 157 | 65,935 | 419,970 | 2,647 | 4,637 | 1,751.80 |
| Somerville | 70 | 17,229 | 246,130 | 976 | 1,921 | 1,968.20 |
| Lowell | 76 | 13,598 | 178,920 | 588 | 872 | 1,483.00 |
| Lawrence | 99 | 23,006 | 232,380 | 904 | 1,471 | 1,627.20 |
| Lynn | 109 | 13,622 | 124,970 | 668 | 958 | 1,434.10 |
| Brockton | 106 | 15,036 | 141,850 | 679 | 1,072 | 1,578.80 |
| Elizabeth, N. J. | 93 | 24,632 | 264,860 | 703 | 1,220 | 1,735.40 |
| Canton, O. | 158 | 40,574 | 256,800 | 1,658 | 2,700 | 1,628.50 |
| Gary, Ind. | 84 | 14,618 | 174,020 | 602 | 909 | 1,510.00 |
| Reading, Pa. | 213 | 37,433 | 175,740 | 1,762 | 2,547 | 1,445.50 |
| Tacoma, Wash. | 206 | 60,111 | 291,800 | 2,067 | 3,737 | 1,807.90 |
| Wilmington, Del. | 160 | 135,640 | 847,750 | 2,260 | 5,283 | 2,336.30 |

Source: 16th Census of United States. Wholesale Trade, 1939.

Table 49.

Composition of Wholesale Trade in New Bedford, Mass., 1939

| Type of Operation, Kind of Business | No. of Establishments | Sales (add 000) | Aver. No. Employees | Pay Roll (add 000) |
|---|---|---|---|---|
| 1. Manufacturers' Sales Branches (w/Stocks) | 9 | $ 3,710 | 136 | $228 |
| 2. Manufacturers' Sales Branches (w/o Stocks) | 1 | | | |
| 3. Petroleum Bulk Stations | 3 | 1,264 | 30 | 48 |
| 4. Agents and Brokers | 0 | | | |
| 5. Service and Limited-Function Wholesalers | 87 | 14,934 | 649 | 926 |
| 6. Automotive | 7 | 872 | 57 | 72 |
| 7. Beer, wines and liquors | 6 | 1,737 | 78 | 121 |
| 8. Chemicals and paints | 3 | 59 | 4 | 4 |
| 9. Farm Products - raw materials | 3 | 1,659 | 6 | 15 |
| 10. Do. - Consumer goods | 11 | 1,629 | 90 | 139 |
| 11. Groceries (gen'l line) | 4 | 2,720 | 90 | 139 |
| 12. Groceries and foods (specialty lines) | 9 | 1,270 | 40 | 52 |
| 13. Hardware | 3 | 146 | 11 | 21 |
| 14. Machinery-equipment-supplies | 6 | 478 | 45 | 78 |
| 15. Paper & its products | 3 | 361 | 22 | 27 |
| 16. Petroleum & products | 3 | 161 | 9 | 11 |
| 17. Plumbing & heating equipt. & supplies | 5 | 874 | 54 | 86 |
| 18. Tobacco & products (except leaf) | 4 | 1,699 | 26 | 38 |
| 19. Waste materials | 9 | 181 | 21 | 20 |
| 20. All other | 12 | 1,088 | 96 | 108 |

Source: 16th Census of United States, Wholesale Trade, 1939.

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