

INDUSTRY AND THE METROPOLITAN  
SMALL TOWN:  
THE GROWTH OF BURLINGTON AND  
LYNNFIELD, MASSACHUSETTS

by

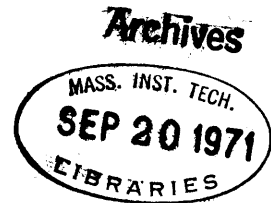
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Submitted in Partial Fulfillment  
Of the Requirements for the  
Degree of Bachelor of Science

at the

Massachusetts Institute of Technology

May, 1971



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## ACKNOWLEDGEMENTS

To

Prof. John Harris, for suggesting the topic;

Mr. Leonard Buckle and Mrs. Suzann Buckle , for  
their help and advice;

Mr. Lawrence Susskind, my advisor, for his ideas  
and encouragement;

Mr. Joseph Gibney of the Massachusetts Department  
of Commerce and Development,  
Miss Rita Southworth of the Department of Urban  
Studies and Planning, and  
The staff of Rotch Library, for their kind help;

Mr. Augusto Dias-Carneiro y Lilian, and  
Mr. Bruce Rhodes, for their help in preparing the  
bibliography and charts;

Dr. Ronald F. W. Ciecuch,  
Dr. Henry P. Smith,  
Mr. Timothy J. Quinn, and  
Dr. Robert Henry Jackson, for their help, criticism,  
and generally good spirits;

My parents, for everything of worth which I have . . .

Thank you.

ABSTRACT

This study is concerned with predicting the impact of local industrial development on the finances of small towns on Massachusetts Interstate Route 495. The experience of similar towns with industry attracted by Route 128 is thought to be instructive.

The paper first outlines the special problems associated with the prediction of the economic and fiscal impact of industrial development on small metropolitan communities. It is found that any prediction must take as its point of departure a town's policy toward zoning for industry and homes. Attention focuses on some important gains and losses - financial and social - accruing to two Route 128 towns, Burlington and Lynnfield, Massachusetts, which pursued radically different growth policies during the last two decades.

The study concludes that Lynnfield's large-lot residential zoning and wariness toward industry allowed for orderly growth. Burlington's lack of planning complicated problems resulting from more permissive residential zoning and the industrial growth encouraged to strengthen the tax base of a consequently less wealthy community.

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## INTRODUCTION

The recently completed (1970) Interstate Route 495 has received much attention from the press, and from highway and economic planners. Interest in this circumferential highway which, roughly, describes a semicircle of radius 25 miles from downtown Boston (see Fig.1), is focused not so much on its virtues as a traffic facility, but rather on its potential for stimulating and attracting industrial development.<sup>1</sup> In fact, in 1956 the Massachusetts Department of Public Works proposed the concept of an "Outer Belt" for Boston emphasizing its role as a site for industrial location.<sup>2</sup>

The reason for this concern with the highway's direct influence on the industrial activity of abutting communities was the example of Route 128, the inner circumferential highway 10 miles from Boston which became the site of unprecedented suburban industrial growth soon after the completion of a 22.5 mile limited access segment in August, 1951.<sup>3</sup> By May, 1954, 28 new plants were occupied or in various stages of construction in towns along the highway.<sup>4</sup> More and more towns zoned land for industry. In September, 1958, the Massachusetts Department of

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1. see, for example, 495 Comes Alive, Conference Proceedings, Merrimack College, North Andover, Massachusetts, 1969 (mimeo).
  2. Commonwealth of Massachusetts, Department of Public Works, The Massachusetts Highway Story, 1949 - 1956, p.4.
  3. Bone, A. J., and Wohl, Martin, Economic Impact Study of Massachusetts Route 128, Transportation Engineering Division, Department of Civil and Sanitary Engineering, Massachusetts Institute of Technology (Cambridge, Mass., 1958), p.30.
  4. Industry, May, 1954

Commerce counted 209 companies in operation and 17 under construction.<sup>5</sup> On the eve of the opening of the first portion of I-495 in 1966, the total number of businesses on Route 128 - manufacturing, research and development, and commercial - had reached 574 and showed no sign of letting up.<sup>6</sup>

The very thorough Economic Impact Study of Massachusetts Route 128 undertaken from 1956 to 1958 by Massachusetts Institute of Technology's Department of Civil and Sanitary Engineering identified industrialists' reasons for locating or relocating on Route 128. Among the major factors were "need of land for expansion..., accessibility for commercial purposes,"<sup>7</sup> and, "desire for ease of regional access, implying freedom from traffic and parking congestion prevalent in the intown areas".<sup>8</sup> As demand for land satisfying these and labor-market conditions continues, and available sites on Route 128 decrease in number (one study indicates that it "has no really large tracts of industrial land yet to be developed"<sup>9</sup>) Route 495 grows more and more attractive to industry. The older circumferential can definitely not offer sites on the order of 1,000 acres, which large establishments with an eye toward future expansion are

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5. Commonwealth of Massachusetts, Department of Commerce, Industrial Development Along Route 128, Sept., 1958.
  6. Commonwealth of Massachusetts, Department of Commerce and Development, Listing of Firms Along Route #128, Dec., 1965.
  7. Bone and Wohl, p.190.
  8. Ibid., p.191.
  9. Northboro: Growth on the Urban Fringe; Urban Systems Laboratory, Massachusetts Institute of Technology, (Cambridge, Mass., 1969.), p.12.

beginning to request.<sup>10</sup>

It seems doubtful, however, that the Route 495 area will be subject to the same developmental pressure experienced by Route 128 communities during the last two decades. Although the Chief Engineer of the Massachusetts Department of Public Works seemed optimistic in this regard in 1969 -

...this so-called "Outer Belt I see as tomorrow's "Money Belt". It is here that our Bay State will doubtlessly find much of her future industrial development and potential prosperity; it is here that you will harvest the crop of golden opportunity.<sup>11</sup>

There are considerations to the contrary. Broadly speaking, Route 128, designed as a by-pass of metropolitan Boston traffic,<sup>12</sup> appeared at the right place and time to open up lands which satisfied centrally located factories' demands for more, and more flexible floor space which had to go unmet during the depression and war years. Indeed, in 1957 over 75% of Route 128 industry (as measured by both investment and employment) had been relocated from a more central location.<sup>13</sup> There will always be relocations, but it is unlikely that they will come in such a burst to Route 495. There are two reasons for this, according

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10. from the address of T. W. Schulenberg, Commissioner, Massachusetts Department of Commerce and Development, in 495 Comes Alive, Conference Proceedings, Merrimack College, North Andover, Massachusetts", (mimeo.).

11. from the address of Daniel T. Horgan in 495 Comes Alive.

12. Bone and Wohl, p.1.

13. Ibid., p.18, Tables.

to William C. Melia, a 1962 observer<sup>14</sup>: First, there are now several limited access routes upon which industries might locate or relocate in the Greater Boston Area, and second, suburban industries have generally allowed themselves enough land upon which to expand operations for a long time to come.

Nevertheless, taking the above into account,<sup>15</sup> Melia predicted from the Route 128 experience that during the 1970's some of the towns on Route 495, - particularly the ones with populations below 10,000 in 1970 - are likely to experience the growing pains which similar sized towns in the Route 128 area did in the 50's - traffic congestion, loss of rural character, costly expansion of infrastructure and municipal services, especially public schooling<sup>16</sup> - regardless of whether industries locate in the particular town.<sup>17</sup>

Already many towns in the Route 495 area are beginning to feel the pressures exerted by increasing population and employment.<sup>18</sup>

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14. William C. Melia, Development Ranges for the Interstate Route 495 Area and Implications to General Physical Planning, M.C.P. Thesis, Massachusetts Institute of Technology, 1962.

15. by holding constant, rather than increasing, the Route 495 area's share of Greater Boston's industrial and population growth as projected to 1970 by the Greater Boston Economic Study Committee, and by projecting it further to 1980. He himself calls this "guesswork".

16. Melia, p.83, 84.

17. Melia, p.24.

18. cf. Northboro, especially Ch. II.



To a great extent, pressure is felt in the form of increasing tax rates needed to finance expansion of municipal services.<sup>19</sup>

As their towns become more attractive to industry, many citizens look to industrial property taxes to relieve the mounting burden<sup>20</sup> of the homeowner's property tax. Cabot, Cabot and Forbes' enthusiasm for industry ("Industry is of value to any community!"<sup>21</sup>) notwithstanding, many towns agonize over changing

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19. From 1961 to 1970, the average "full value" tax rate of the 14 Route 495 towns with population from 3,000 to 15,000 in 1955 increased 170%, according to figures published by the Massachusetts Taxpayers Foundation, Inc. (formerly Massachusetts Federation of Taxpayers Associations, Inc.) in Taxtalk, vol. 29, no. 5, September 1961; and 1970 Tax Rates, Actual and Full Value. The "full value" tax rates have been computed for almost every year since 1956 by the State Tax Commission, which determines the percentage of real market value at which each city and town is assessing its property. The full value tax rate is the town's tax rate multiplied by this "equalized assessment ratio". This ratio is based on a limited sample of a town's property transactions during the preceding year, and is thus subject to error. However, it provides the only means of comparing tax rates between towns and, even within a single town, of analyzing changes over time, since assessment practices vary from time to time.
20. "The rapid increase in full-value tax rates since 1963 continued in 1970 as tax levies again outstripped the growth in market values of taxable property.", Massachusetts Taxpayers Foundation, 1970 Tax Rates, p.2.
21. R. John Griefen (Senior Vice President of Marketing and Sales), The Impact of the Industrial Park, in The Appraisal Journal, vol. xxxviii, no. 1, Jan. 1970, p.88. Mr. Griefen's enthusiasm is boundless. The article ends, in italics, "... the impact of industrial parks - for industry, the developer, and the community - could serve the world." (p.91).

their zoning laws to accomodate it. It is no longer a question of noise, air, and water pollution, which are not associated with most industries seeking suburban locations, and which can be prohibited by effective zoning anyway. Rather, concern centers on the long-run economic gain to the community and the adverse aesthetic and social effects that may be inflicted upon it. A mere calculation of potential industrial tax dollars<sup>22</sup> misses the point. There are other considerations; among them are:

- will one or more new industries bring old or potential employees to the town, necessitating an expansion of services which would cost more than industrial tax gains?

- if much residential development is likely to accompany industry, will the new residents be of a higher socio-economic class, with more expensive tastes for municipal services than the older residents?

- will new residents be of a lower class, with less expensive tastes?

- will new residents of whatever class share the older residents views concerning the general atmosphere of the town?

- will the mere presence of industry - no matter how "clean" it is, lower property values?

- will new industry and any new supporting commercial firms cause traffic problems which may disturb the atmosphere of a small town?

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22. see below, p. 12

- will one town's admitting industry make nearby locations more desirable for other firms? Will other towns make room for them? Will commercialization of the entire area create or intensify the above problems?

As we have indicated above,<sup>23</sup> the Route 128 experience is likely to be instructive. The present work attempts to answer some of these questions by means of a case study of the growth of two towns on Route 128. Particular attention is paid to each of the town's policy toward permitting industrial and residential development and the effect this has had on its finances and character over the years. The conclusions are related to the Route 495 area.

Chapter One concerns the difficulties encountered in predicting the impact of industry on towns in an urbanized area in any other way but the case study method. Chapter Two, after outlining the criteria used in selecting the towns and the approach followed in analyzing their experiences, is devoted to their histories. The final chapter summarizes the study's findings and applies them to the Route 495 area.

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23. see above, p. 8

## CHAPTER ONE

A number of studies of the impact of industry on municipalities have been made. The ones with which this writer is acquainted on a first-hand basis can be divided into four categories of methodology. We are interested in their values as instruments of prediction in a particular situation.

1. The Cost-Benefit Study.

The first type of study in its simplest form is hardly a study at all, but a mere calculation of the taxes gained by the community in allowing an industrial rather than an alternative development on a particular site. Thus, for example, Cabot, Cabot and Forbes' R. John Griefen:

Needham, Massachusetts, exemplifies how much prosperity can mean. The community collected \$3,320 per year in taxes on a gravel pit. It now collects \$325,000 from the same area since developed as an industrial park. Industry is of value to any community!<sup>24</sup>

As we have indicated above<sup>25</sup> this approach completely ignores the important secondary effects of industry.<sup>26</sup>

2. Base Multiplier Theory

A more sophisticated approach employs base-multiplier theory to assess the probable financial impact of a new industry on an

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24. Griefen, p.88.

25. see above, p.10

26. of which Mr. Griefen, of course, knows. In the paragraph preceding the one quoted, he charges some service costs to the industrial park and new residents, but chooses to emphasize only one side of the ledger. Even if he were to subtract all service costs from the tax bill, the analysis is inadequate, as we have said.

area. The technique attempts to calculate the immediate, secondary, and induced economic and fiscal gains and losses attributable to an industry within a certain area.<sup>27</sup> Immediate economic gains are considered to be the industry's wages, salaries and other payments accruing to residents of the area. Secondary economic gains consist of increases in income to the local suppliers of goods and services to the industry, and induced gains are those accruing to the local consumer-goods retailers and suppliers who meet the increased demands of now wealthier residents.<sup>28</sup> Immediate fiscal gains are local corporation and property taxes paid by the firm and its employees. Secondary and induced fiscal gains are those taxes attributable to the increased earnings and property values - business and residential - of industrial and consumer suppliers, respectively. Fiscal "losses" to the community are the costs of servicing industry, business and residents at each of the three levels of analysis. Consideration must also be given to the effect of increased economic activity and municipal development on the amount of state and federal

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27. A fine treatment of the base multiplier approach can be found in Industrial Location as a Factor in Regional Economic Development, prepared for the Office of Regional Development Planning of the United States Department of Commerce by Management and Economics Research Inc., (Gogernment Printing Office, Washington, D.C., 1965?). Its annotated bibliography describes the various published and some unpublished impact studies which have been made.

28. cf. Industrial Location, p.40.

grants and shared funds that the community receives.<sup>29</sup> (In Massachusetts, the most important state subventions are general aid and aid to education, which are allotted to cities and towns according to a formula which includes property values.)

The value of multiplier theory as a predictive tool lies in its ability to estimate the complex second and third order economic and fiscal consequences of new industrial activity from a mere knowledge of the payroll and employment figures, as well as the amount and locational pattern of the sales of the establishment. The theory assumes that the relationship between employees' income and consumption of local goods and services is known. It is also critical that the number of new residents - industrial, business, and construction employees, present and prospective, and others - be a known function of economic indicators. For studies involving fairly large, isolated areas, these relations can be estimated fairly well.<sup>30</sup> For an area the size of a town, and, especially for a town in a metropolitan area, it becomes an impossible task to predict them. Employees can choose from a variety of nearby locations in which to live.<sup>31</sup> Residential

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29. cf. Industrial Location, p.55.

30. At the limit, all involved establishments and employees would locate and spend within the study area. One could assume that a large enough area would tend to act in line with the well-known national data on consumption.

31. see Bone and Wohl, p.53, and below, p. . Bone and Wohl did detect a pattern in the residential location of both employees who moved after beginning to work on Route 128 and those who did not (p.49a and p.52). However, relatively few employees lived in or moved to the same town in which they worked (p.53). This last piece of knowledge does not help us here, because new residents still come - independently, as far as this theory is concerned, from economic activity within the town's borders.

and commercial development are dependent upon opportunities in neighboring areas.<sup>32</sup>

The general thesis, as reported in the literature, is that the size of the consumption multiplier (i.e., the factor which relates total local economic impact to the income of employees) increases with the area's population. However, an accurate estimate of an area's multiplier requires statistical verification, since factors other than size enter into the determination of relative self-sufficiency, such as proximity to other producing centers, diversity of the industrial structure, and consumption patterns of the local inhabitants. Under no circumstances can the simplistic view that each employee in an autonomous industry requires an additional employee in support industries be accepted as a meaningful approximation of the income multiplier for communities.<sup>33</sup>

In a town on a major highway in a metropolitan area, then, since industry and employees have a wide range of choices about where to purchase goods and services (including municipal ones) the short run economic impact of new industry is likely to be almost entirely dependent on the residential location of its employees and people attracted to new job opportunities. Exactly what percentage of these people will choose to live in the town under study is information multiplier theory uses, but does not generate. The long range impact on municipal finances, then, cannot be determined.

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32. Where industry offers jobs to many unemployed in the town, the impact will be easier to predict.

33. Industrial Location, p.45. Cf. the Griefen article, p.88. "Because the ratio is one service employee to one new industrial employee, the burden on a community may mushroom although its prosperity is admittedly enhanced." The example of Needham quoted above on p.12 follows.

### 3. Input - Output Theory

Input - output theory is similar to base multiplier theory in that, once the relationship between the activity of one industry (in this case) and that of other industries, business and labor are known, a change in one (here the introduction of one or more new industries) will effect a measurable change in the others. Here again, the size of the area under study is a critical factor in the success of the analysis as a means of prediction. A viable enterprise of a given type and size will employ, and purchase and sell a predictable amount of goods and services within a metropolitan area, for example, but the degree of its dealings with the labor force and businesses of its own town is, as we have seen, dependent on many variables. In a famous application of the input - output technique to predicting the Fiscal Impact of Industrialization on Local Schools, a topic we ourselves are interested in, Werner Z. Hirsch had to assume that

...Those who find new employment as a result of the industrial development send their children to schools inside the region. The "immigrants" are typical in that they show the same preference for public, private and parochial schools as does the rest of the region's population. They are also typical in that they have the same average numbers of children and wage earners as the rest of the population.<sup>34</sup>

He assumed away much of what interests us here.<sup>35</sup>

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34. Werner Z. Hirsch, Fiscal Impact of Industrialization on Local Schools, The Review of Economics and Statistics, May, 1964.

35. see above, p. 10-11



The "region" he found suitable for study was the St. Louis Standard Metropolitan Statistical Area. A town is too small to be studied this way.

#### 4. Dynamic Model

We have found the base multiplier and input - output techniques to be of no use to us because certain relationships they consider given are unknown in the present situation. Similarly, a dynamic model of municipal finance<sup>36</sup> can only be used to predict the industrial impact on a real locale if these relationships are known for that particular place.

#### 5. Statistical Analysis

It may seem advisable for us, then, to analyze data on the residential location decisions of Route 128 workers and use for prediction any laws or patterns that are discovered. However, it seems reasonable that these decisions are influenced by the municipalities of the area through building and subdivision codes and minimum lot size requirements which affect the price of homes, and through the variety of municipal services it chooses for itself, which also affects the price of the house and so appeals to some income and taste groups more than to others. Our focus, then, should not be on identifying the residential patterns of different socio-economic groups that have already developed in the Route 128 area, but rather on formulating a joint industrial-residential development policy, based on the experience of various

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36. The author is familiar with A Dynamic Model of Municipal Cost-Revenues by D. Gordon Bagby, M.C.D. Thesis, Massachusetts Institute of Technology (Cambridge, Mass., 1966).

policies of similar Route 128 towns, which would best serve the enunciated interests of a particular Route 495 municipality.<sup>37</sup>

In this paper we limit ourselves to deepening our knowledge of some important gains and losses that ensued from some particular postures toward development.

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37. It should be noted that the mathematical simulation of municipal finance allows for experimentation with these policies to determine their effects (cf. Bagby, p.46 ff.) One notes however, that Bagby's simulation "operates on constructs of reality, rather than on parts of reality" (p.2). This means that his model assumes among other things, "...that no political considerations bear upon municipal expenditure and taxation decisions; ...that the arrangement and distribution of land uses ...has no effect upon municipal service costs and property values; ...that no commercial facilities are provided for non-residents; ...that no alternative employment centers exist outside the community within reasonable travel distance...; that community tax rates and fiscal policies have no effect on ...development ...; that migration is affected only by employment opportunities..." (pp.10-11), all of which we find to be quite open to question (see below, p.20f). This writer doubts that simulation can ever handle some of these variables and relationships well enough to dictate important developmental policies to particular communities.

## CHAPTER TWO

The towns chosen for study are Lynnfield and Burlington, which are outlined on the accompanying map of eastern Massachusetts (fig. 1). We have selected these towns for the following reasons:

1. Both abut Route 128. We are interested in towns that took some stand regarding industries which they had some possibility of getting, and it was mainly towns located right on the highway that were attractive to developers.<sup>38</sup>

2. They are among the three abutting towns which had populations of about 5,000 or smaller in 1950 when Route 128's influence was beginning to be felt. We assume that similar sized towns have the same scale of services, and we are interested in towns of this size.<sup>39</sup>

3. There were significant differences in developmental policy between the towns.

Burlington, which has an enormous amount of industry, now has the largest population, the lowest median income per family, and has had the smallest change in its full value tax rate since 1956. Before predicting the same for any town that rapidly industrializes, we would like to determine what, if any, relation there is among these facts. Specifically, for each town, we

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38. Bone and Wohl (p.11) found that in 1957 most new industries in towns near Route 128 located within a mile of the highway. In 1962 Melia (p.24) reported much the same, but it is unclear whether he is just citing the other's study. The Listing of Firms Along Route 128 of the Department of Commerce and Development has a map which shows that most were within a mile, although there were a few groups of companies located up to three miles away on feeder roads.

39. see above, p. 8

will examine

- the history of its policy toward zoning for industry and homes.

- the relationship between the amount of industry and the population growth of the town.

- how its taxes have been spent over time; have residents chosen to spend a changing percentage of the tax levy for certain items over the years; has a particular type of development forced their choices.

### Lynnfield

The town of Lynnfield, Massachusetts, covers an area of 10.22 square miles and is 12 miles from the City of Boston.<sup>40</sup> Route 128 was opened in the town some time after World War II as a divided highway, but it was not converted to limited-access use until shortly after 1951.<sup>41</sup>

The town adopted a zoning code in 1929 which called for minimum residential lots of 10,000 square feet (about 1/4 acre) everywhere.<sup>42</sup> In 1948, the northwest 40% of the town was rezoned for minimum 30,000 square foot lots. Neither the report of the Town Planning Board for that year, nor the record of the town meeting at which the change was voted indicates why the change was made.<sup>43</sup>

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40. Commonwealth of Massachusetts, Department of Commerce and Development, City and Town Monograph: Lynnfield. (hereafter referred to as "Lynnfield Monograph"), 1970.

41. Bone and Wohl, pp.1-2.

42. Zoning By-law and Building Regulations of the Town of Lynnfield, Massachusetts, 1929.

43. Annual Report of the Officers of the Town of Lynnfield (hereafter referred to as "Lynnfield Town Report"), 1948.

We do know, however, that after the war the town's population grew sharply (from 2,921 in 1945 to 3,927 in 1950<sup>44</sup>). This previously sparsely populated section of town was probably due for development. Since much of it is swampy, larger lots may have been necessary to insure adequate drainage of cesspools, since there were no septic sewers in town. We also know that in the previous year's report the Planning Board stated that:

In order to retain the rural character of the town, we have sponsored an amendment to the Zoning By-Law by adding thereto a single residence district in which the total area required for a home will be 40,000 square feet....It is a well established fact that density of population increases the cost of town government...This will also appeal to those perspective buyers of land in Lynnfield who desire to come to the town on account of its rurality...With intelligent planning this town can and should retain its present charm of being a New England village whatever the future population may be.<sup>45</sup>

The author of this quotation and chairman of the Planning Board until 1953 was one Louis B. Tuck who, according to the 1964 Town Report, "...pioneered some of the State's first restrictions on land use, to help preserve our residential atmosphere for generations after (him)."<sup>46</sup>

In 1950, about half of the 60% of the town that remained zoned for a minimum 10,000 square feet was restricted to 15

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44. Lynnfield Monograph.

45. Lynnfield Town Report, 1947.

46. Lynnfield Town Report, 1964, p.1.

square foot lots.<sup>47</sup> Next year the Planning Board recommended that the town allow some industrial development in order to strengthen the tax base. The only location suitable for this land usage was on Route 1, which cuts across Route 128 on a north-south path on the eastern edge of town, because a curious State law (Chapter 491 of the Acts of 1950) prohibited the re-zoning of land within 200 feet of Route 128 where it was not a limited access expressway. Also in 1951, about 1/4 of the 15,000 square foot district, or about 8% of the town, was up-zoned to 20,000 square feet. The following year, the town continued expressing an interest in planning its rapid growth (the population had increased 25% over the past three years) by forming a committee to investigate the possibilities for commercial development, and by voting funds to finance an outside consultant's Master Plan for the town. One of his first recommendations, approved by a town meeting in 1953, was to make a major revision of the zoning laws of Lynnfield. The minimum lot size became 15,000 square feet (this district comprised the most developed third of the town's area), and the fifteen, twenty and thirty thousand square foot zones were changed to thirty, forty, and sixty thousand respectively. This was done "...to maintain the present character of the town..." and "...to adjust the potential amount of home building to the total capacity of public

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47. Hereafter the account of the history of the town is based on the Town Report of the year referred to in the text.

facilities..."<sup>48</sup> A costly sewerage system was deliberately avoided, the increase in lot sizes this time being explicitly linked with that decision.<sup>49</sup> At a town meeting the following year, 1954, more demanding subdivision regulations were voted. Up to this time, developers had been covering the cost of installing water mains and grading streets. Now they were compelled to install streets, paved sidewalks, drainage facilities, water mains, and fire hydrants, to plant trees, and to submit to general site plan approval.<sup>50</sup> In the same year, the Committee for Commercial Development produced a pamphlet inviting proposals from business and industry, and an industrial magazine ran a feature story on the town's search for new sources of tax revenue.<sup>51</sup> In accordance with the Master Plan recommendations, the Lynnfield Planning Board opposed, successfully, a proposed rezoning for business purposes of a plot of land for which no firm plans had been set forth.

During this period (1950-1954) the town's population increased 1,740 - from 3,927 (U.S. Census) to 5,667 (State Decennial Census). - about 45% (see Fig. 2). Included in this rapid growth was the addition of about eight hundred more public school children, an increase of about 145%. (Fig. 10) The percentage

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48. Summary Report on Master Plan Study, prepared for the Lynnfield Planning Board by Allen Benjamin, 1955, p.3.

49. Ibid., p.25.

50. Town of Lynnfield Planning Board, Rules and Regulations Governing the Subdivision of Land in Lynnfield, Massachusetts, June 21, 1954.

51. Lynnfield Bids for New Industry, Industry, October, 1954. The editor of this magazine was then a resident of Lynnfield.

of the town population in the public schools increased from 15% to 25% (Fig. 11). In 1951 it was foreseen that school facilities were about to be used to maximum capacity, and a committee was formed to investigate the likely growth of the school-age population in the years to come. It underestimated even the next few years' increase, but upon its recommendation, a junior high school was built - just in time to meet the demand, as it turned out - and plans for new construction up to 1958 were formulated.

The actual tax rate increased about \$11. (Fig. 3). We estimate that the corresponding full value increase was \$4.<sup>52</sup> The portion of the tax levy allocated to schools (Fig. 4) increased overall, peaking at 70% in 1952, mainly due to debt service for the construction of the junior high school. Figure 5 shows that the "total expenditure for operations" per pupil - which includes all payments by the town, the state and the federal government for school salaries, building maintenance and educational programs - increased steadily after a drop from 1950 to 1951. At the same time, the real burden to the town ("cost borne by local tax" per pupil) varied but slightly on the average, mostly due to the debt servicing (the difference between "total cost borne" and "operating cost borne" in figure 5.)

We contend that a community is in a favorable financial situation if it can, at the same time, increase total expenditures

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52. Before the actual 1950 tax rate was set, a re-evaluation of real estate was undertaken. The actual tax rate of 1950 is assumed to be based upon a precise, town-wide ratio of new assessed valuation to full valuation. Between re-evaluations, full property values tend to rise, while assessed valuations tend to rise less rapidly, since part time assessors such as Lynnfield's can't get around to note all improvements that



per pupil; decrease, relative to expenditure, the burden of schools on the community; and be able to afford devoting a greater share of the tax levy to schools, all while enjoying a low full value tax rate. (While total expenditure cannot be equaled with quality of education, we note that usually between 1/2 and 2/3 of this sum consists of the salaries of school personnel - teachers and administrators - whose talents must be bidden for.)

According to this analysis, Lynnfield fared well during the first five years of the study period. It's ability to afford a great influx of public school pupils lies in the fact that the full property value per pupil (shown in Fig. 12) held steady. The new pupils tended to have just as wealthy parents as the older ones.

In 1955 tighter subdivision regulations made developers pave their streets. The following year, Cabot, Cabot and Forbes tried to have an approximately fifty acre site on Route 128 zoned for industry. The company was denied the right to address a town meeting because of the opposition of, evidently, one voter. Against the Planning Board's recommendation, the petition was denied by a vote of 590 - 350. The same year, the town voted to return to residential use a large piece of land in the northern

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have been made. In 1956, the State Tax Commission found the assessing ratio to be 55%. If no re-evaluation had taken place in the meantime - and we find no record of any in the Town Reports - we suppose that the ratio was higher in 1950. We note that in the following 6 year period, also one of rapid growth, the assessing ratio declined about 15%. An educated guess, then, puts the 1950 assessing ratio at 70% of full market value.

tip of the town which had been zoned for commercial use. The following year permission was denied to extend a southwestern business zone. In 1959, a number of the Planning Board's recommendations for balanced local commercial development were ignored by the town. In seeming desperation about getting its point across to the town, the Board managed to contract for the services of Mr. Benjamin in formulating a non-residential land use plan.

During this five year period, the population of Lynnfield increased by about 2,700. The school enrollment increased by another 800 pupils, and stayed at about the previous percentage of the population. After an initial increase, the full value tax rate returned to the 1955 level. A huge increase in the tax levy (\$600,000 to \$1,300,000) was increasingly given over to the operating cost of schools (Fig. 4), but a sharp increase in full valuation per pupil kept taxes down.

From 1950 to 1960, Lynnfield did not suffer an appreciable rise in its full value tax rate. Every indication points toward unceasing prosperity for the town. The percentage of its labor force engaged in professional, managerial, clerical or sales work increased from 59% to 68.5% (compared to 49% and 50.7% for the Boston Metropolitan Area as a whole). The median family income in the town had been 132% of that of the Boston Metropolitan Area in 1950. It was now 140%. The stringent zoning and subdivision regulations helped increase property values. The median single family house value rose from 115% of the Metropolitan

median to 135%.<sup>53</sup> Figure 14 shows that the effect of sharply increased house values combined with only a moderate rise in median income was a slightly higher percentage of income given to the property tax, even with hardly a rise in the full value tax rate.

Very little rezoning activity occurred from 1960 to 1964. A commercial district on Route 1 was changed to allow "limited industry", i.e., a research and development or light manufacturing firm. The town continued to refuse to allow more than a very small amount of non-residential development at a time, however. During this period the population increased from about 8,400 to 9,800. As full valuation per pupil (Fig. 12) continued to rise, the percentage of the tax levy devoted to schools (Fig. 4) decreased somewhat as expenditures and costs per pupil (Fig. 5) stayed constant. An increase in expenditures of \$100. per pupil from 1963 to 1964, totally borne by the town (Fig. 5), forced this percentage upward again.

From 1965 to 1970, no significant changes in zoning occurred. The rate of population growth decreased once more, the increase in numbers being only 1,000. The school population increased more than planners had expected, but the total school burden on the town held steady for the years 1965-68. The school population in Lynnfield is beginning to level off. Fewer construction expenditures means that more of the school funds defray operating expenses. The tax rate (computed at full valuation by the town since 1964) has increased \$13. over the last five years principally on account of increased municipal salaries.

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53. Lynnfield Monographs, U.S. Census Data.

The only 1970 United States Census data of interest available as of this date is (besides the population figure) the median single family house value. Figure 13 shows that this value relative to that of the Boston Metropolitan Area has not changed over the past decade.

### Burlington

Burlington, Massachusetts, occupies an area of 11.84 square miles and is about 14 miles to the northwest of Boston. Before the coming of Route 128 in 1951, the town was principally a truck farm for Boston and Lowell, Massachusetts. However, residential development had been taking place during the 1940's, when the population grew from 2,275 to 3,250. United States Census data shows that the median family income in Burlington was almost exactly that of the Boston Metropolitan Area (see Fig. 13), while the percentage of professional, managerial, clerical, and sales workers in its labor force was far below that of the Metropolitan Area (32% as compared to 49%). The median single family house value was about 60% of that of the Metropolitan Area.<sup>54</sup>

The town did not adopt a zoning ordinance until 1943. The first code established a 20,000 square foot minimum lot size for residential use in all but the most developed quarter part of the town.<sup>55</sup> From the time preliminary plans for Route 128 were

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54. All data contained in the Burlington Monograph, 1955.

55. Burlington Town Report, 1943. Hereafter the history taken from the Town Report of the year in question, unless other reference is made.

made known in 1946, large tracts of land on either side of its eventual path were rezoned for commercial and industrial use, all with the favorable recommendation of the town's Planning Board. In 1947 and 1948 the Board approved of rezoning even in the absence of firm plans for development since any business use would "help the tax rate". By 1950, more than 200 acres, by this writer's estimate, had been rezoned along unfinished Route 128 and nearby parts of intersecting highways. Developers were also busy buying up cheap farmlands for residential developments.

From 1950 to 1954 the population of Burlington increased from 3,250 to 5,250, a rate similar to that of Lynnfield in the same period (see Figs. 2 and 6). The duties of both towns' governments became increasingly complex and proposals to adopt the town manager form of government in favor of the strictly town meeting - selectman system - were aired in both communities. To our knowledge, nothing has ever come of these proposals.

During this period, about 150 more acres on or near Route 128 were rezoned for commerce and industry. Petitions to zone for industry in places very near existing residences were consistently disapproved of by the Planning Board and denied at Town Meeting. In all other cases, however, the Board did not hesitate to rezone. There was none of the "balanced growth" and "rural atmosphere" talk that prevailed in Lynnfield at the same time.<sup>56</sup> In fact, several times the Board gave the strangest of reasons

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56. see above, p. 21, 22

for endorsing a rezoning petition: the land in question already bordered industrial land, so it would be suitable for no other type of development. One might carry this argument to ridiculous limits.

The development of all this land did not come until the late fifties. We have no record of the number of firms located on Route 128 at the beginning of 1955, but 1956 data<sup>57</sup> shows that there were only six manufacturing establishments employing a total of one hundred workers in the entire town.

Residential development brought with it a 250% increase in the number of school children (Fig. 10). Not only were there more families in town, but newcomers tended to have bigger families (Fig. 11). The percentage of the tax levy devoted to schools (Fig. 8) increased about 12%, mainly due to the debt service on a new elementary school. Total expenditure per pupil increased only about \$50., while the burden to the town increased about \$100. per pupil (Fig. 9). An estimated \$5. rise in the full value tax rate (Fig. 7)<sup>58</sup>, devoted mainly to the increased school costs, was necessary owing to the only slight growth in full property value per pupil (Fig. 12). As in Lynnfield during the same period, if families had more wealth, at the same time they had more children to make demands on it.

From 1955 to 1960 Burlington began in earnest its almost unbelievable residential and industrial growth.<sup>59</sup> Two thousand

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57. supplied by the Bureau of Research and Statistics of the Massachusetts Department of Commerce and Development.

58. see above, n.52, on our method of estimating full value tax rates for Lynnfield during this period. Burlington re-evaluated in 1953. In his report of that year, the Town Assessor indicated his desire to continue assessing property at 50% of full market value.

dwelling units were built. The population more than doubled, increasing by 7,800 to stand at 13,000 in 1960. The school population increased about 130%. By 1958 some thirty firms, nine of them members of two industrial parks, had located on or near Route 128 and intersecting highways.<sup>60</sup> By 1961 the number in industrial parks alone was 23.<sup>61</sup> The total payroll for just the manufacturing firms in Burlington at the end of 1959 totalled slightly under eleven million dollars.<sup>62</sup>

The total tax levy rose from about \$350,000 in 1955 to about \$1,150,000 in 1959 (Fig. 6). The money was raised by a sharp increase in the tax role in 1956 (Fig. 7), followed by just as big a decrease the next year and no further change until 1961. Figure 7 shows that property values climbed steadily during this period, since the full value tax rate dropped (for 1959, at least) during the years the actual rate held steady.<sup>63</sup>

The portion of the levy allocated to schools declined almost continually from 66% in 1955 to just 49% in 1954. Debt service on schools continued to claim about 15% of the tax dollar. It would seem that Burlington schools suffered during this period,

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59. One source we have misplaced claims that Burlington was the fastest growing locale in New England from 1950 to 1970.

60. Department of Commerce, Industrial Development.

61. Department of Commerce, Massachusetts Organized Industrial Districts, 1961.

62. Information supplied by the Bureau of Research and Statistics of the Department of Commerce and Development.

63. We note this by comparing the differences between the 1955 and 1959 levels of the full value and actual rates, respectively.

since total expenditures for operations per pupil showed only a slight increase. We have already noted that most of this money is used for salaries. Two times during this period the school board remarked upon the high teacher turnover rate and blamed it on low salaries. (Burlington's starting salary in 1960 was \$3,800. - more than the median for the state, \$3,600., but less than Lynnfield's \$4,000., for example<sup>64</sup>. Another major problem was that, owing, no doubt, to the low salary schedule and sheer numbers required, about 20% of the teachers had less than five years experience. Finally, there were constant reports of overcrowding; basements and stages were being used for classrooms, and double sessions were started in at least one elementary school in 1960.

Until 1956, when its first subdivision regulations were voted, the town had to make huge outlays for streets and drainage in private developments. Even after developers were required to pave their own streets and install drainage facilities, the town still had to connect the developments to the existing infrastructure. Because subdivisions were allowed to spring up almost anywhere at anytime, it became very costly indeed to service them. The town's hilly topography added to the problem.

To finance soaring expenditures (see Fig. 6), the town chose to increase its commercial and industrial tax base rather than tax homeowners. (The Planning Board saw to it that almost the entire area between Route 128, Route 3, and the borders with

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64. Monographs, 1960.



Lexington and Woburn were zoned for commerce or industry (see Fig.1). The town had become wealthier in income and house values during the fifties (Fig. 13), but it evidently felt that taxes were high enough. Indeed, figure 14 indicates that the 1960 tax burden in Burlington was still greater than in Lynnfield.

From 1960 to 1965, 6,000 more people settled on Burlington's half-acre lots. School enrollment increased 60% to 5,200 pupils (Fig. 10). Cost per pupil began climbing rapidly in 1961 (Fig. 9) and the percentage of taxes devoted to them climbed with it (Fig. 8) as the growth of full valuation per pupil (Fig. 12), slackened a bit.

The number of rezoning petitions began to taper off, but debate over them picked up considerably since, it seems, there were more homes to be bothered by the traffic and eyesore of non-residential land uses. Altogether, about 50 acres were zoned for industry during this period, and firms continued to locate in Burlington. Sixty-six firms were counted on or near Route 128 and feeder highways in 1965.<sup>65</sup>

Between the years 1965 and 1970, the population increased by only 3,000, but the schools were forced to provide for 1,900 more pupils. In 1970, over 7,000 children - more than 30% of the town's entire population - attended its public schools. School costs per pupil continued to skyrocket (Fig. 9), but large increases in the tax rate were allocated mainly to

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65. Department of Commerce and Development, Listing of Firms.

non-school uses (Fig. 8). Among these are increased municipal salaries, and bond payments for new town buildings and, most importantly, the sewer system finally found necessary to service a high concentration - of industry and business, not of homes.

## CHAPTER THREE

In the opinion of this writer, the Town of Burlington followed an unwise course of development. The history of nearby Lynnfield shows that during the last two decades there has been a demand for upper class housing in the area which Burlington should have met in the fifties, thus gaining the resources necessary to improve its services. As it happened though, the town permitted relatively inexpensive developments. And while a huge influx of industry strengthened the tax base enough to prevent exorbitant rates, it has completely changed the character of the once rural town. The 1950 residents might have enjoyed higher quality services demanded by wealthier residents, as have Lynnfield townspeople. And the town made matters worse by planning its development poorly.

Compared with Lynnfield there is a lack of citizen participation in the government of Burlington. We have not compared statistics on turnouts for town elections and meetings, but our impression is that Lynnfield's are much more favorable. There are also many more citizens' committees listed in its Town Report. The administration of Burlington is now so complicated (there were over 300 items to be voted at last year's Town Meeting) that it is no wonder very few are interested. The quorum for attendance is still only one hundred and fifty voters, and it seems that very often interest groups have packed meetings to pass narrow minded legislation. Typical votes on important zoning changes, for example, have been : 77-4 (1955),

107-3 (1956), 60-42 (1956).

The implications for towns on Route 495 are that:

- all towns will feel the pressure of increased residential developmet whether they encourage industrial development or not;
- towns should control growth by large-lot zoning and strict subdivision regulation, by admitting industry to strengthen the tax base, without fearing excessive residential service costs as a consequence, and by proffessional planning of residential and industrial developments.



Fig. 2

LYNNFIELD- tax levy and population (log scale)  
 source: Town Reports

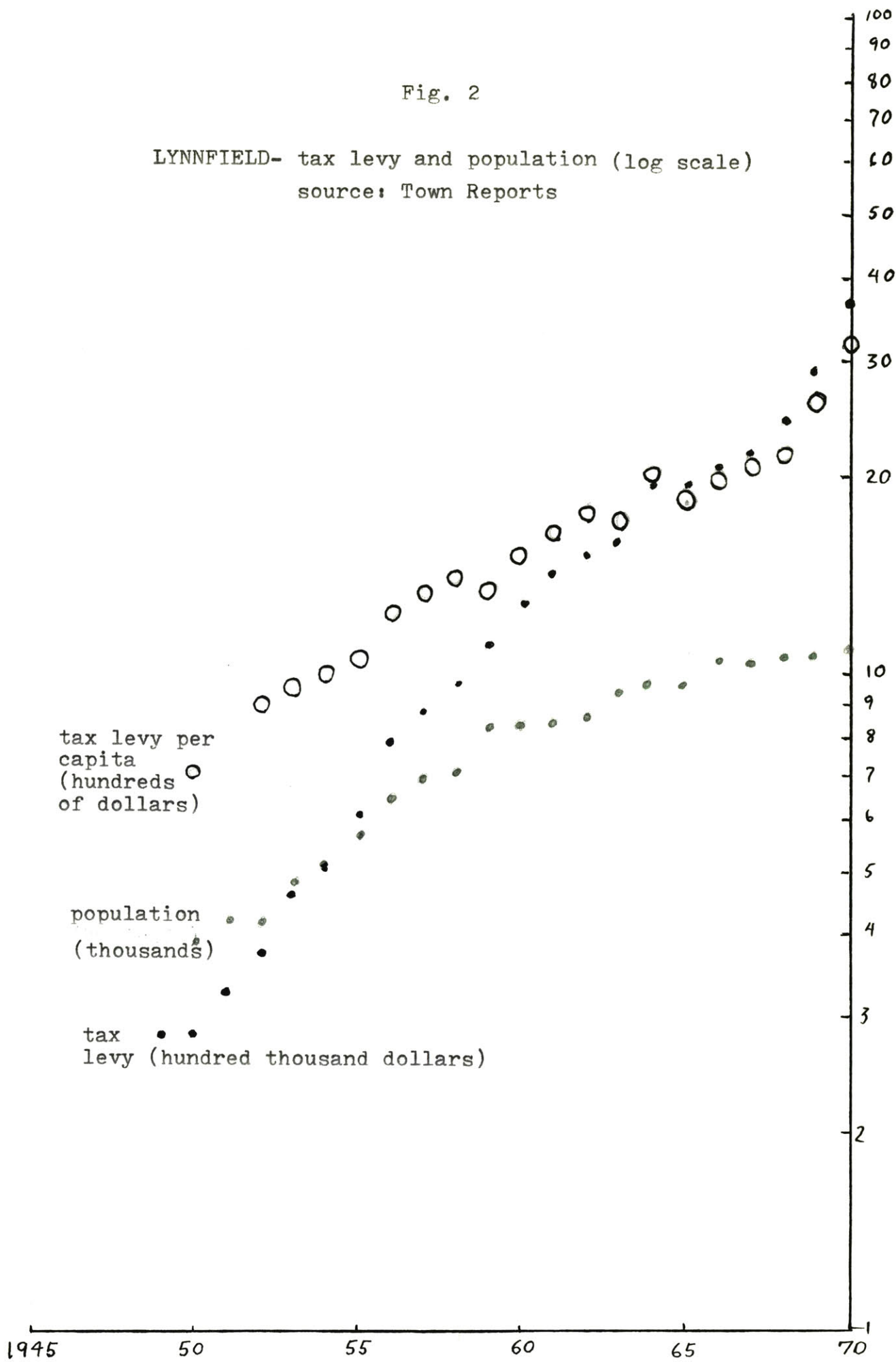


Fig. 3

LYNNFIELD- tax rate

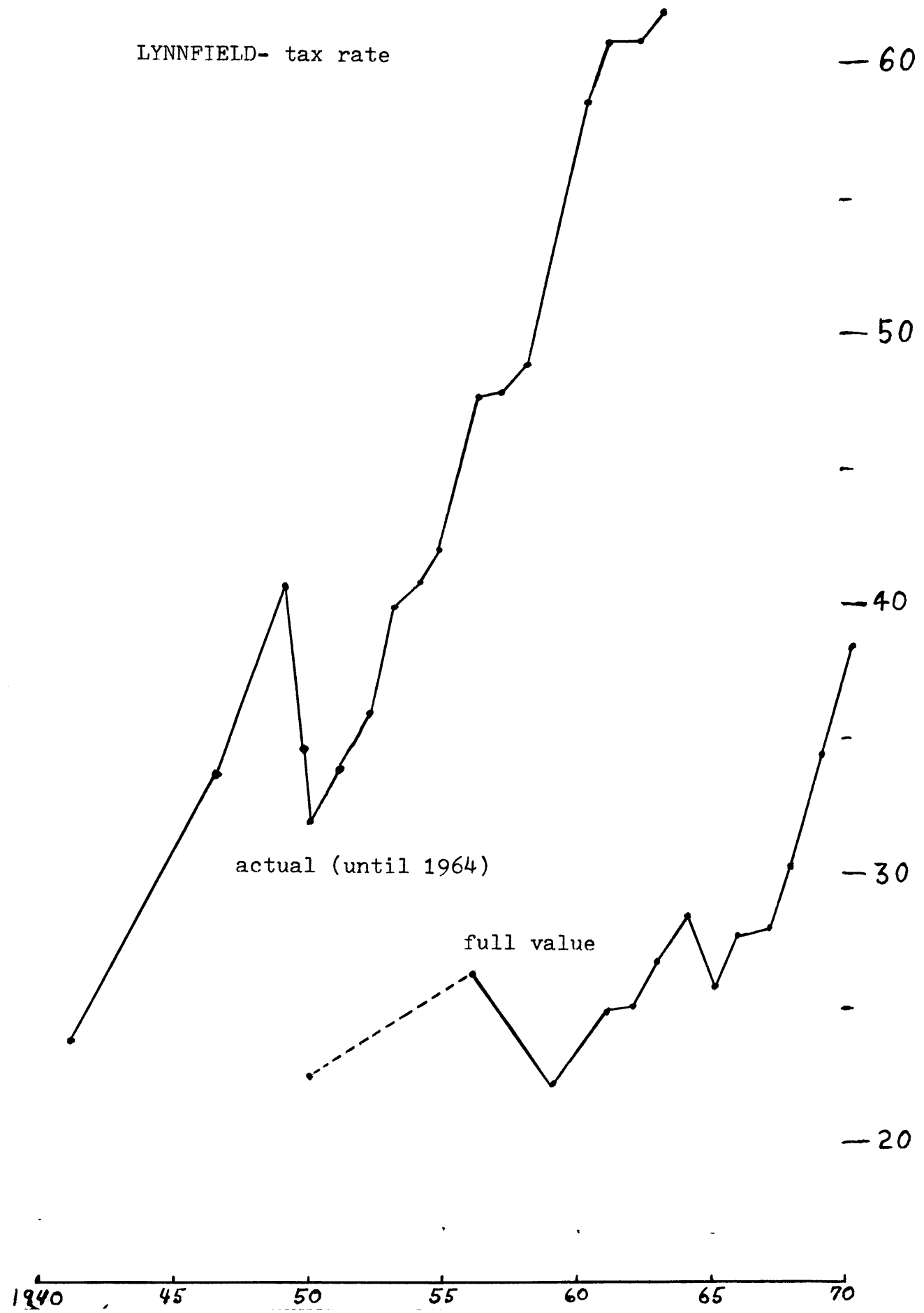


Fig. 4

LYNNFIELD- school costs as percentage of total tax levy  
 source: Town Reports

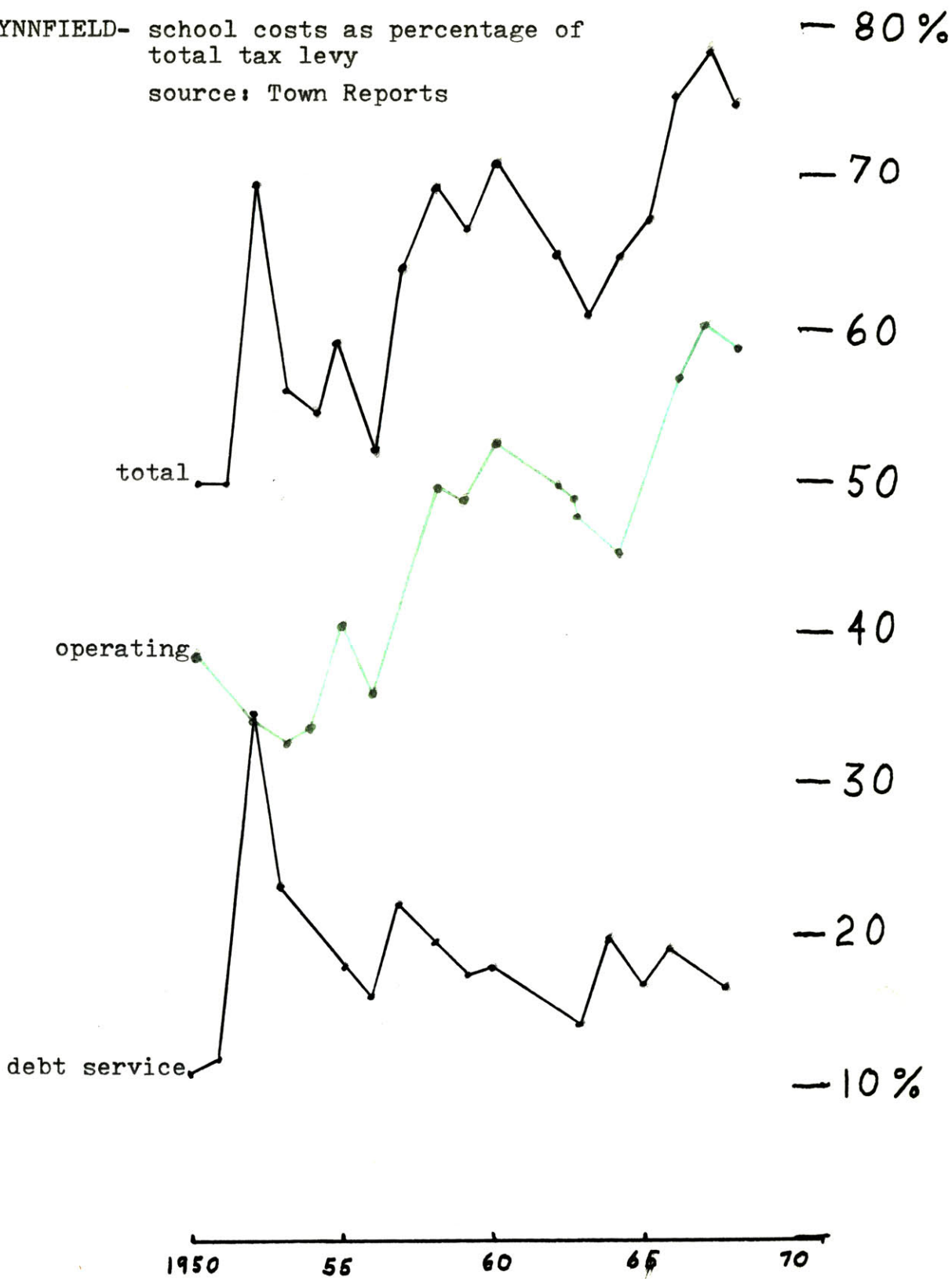




Fig. 5

LYNNFIELD- school costs per pupil  
source: Town Reports

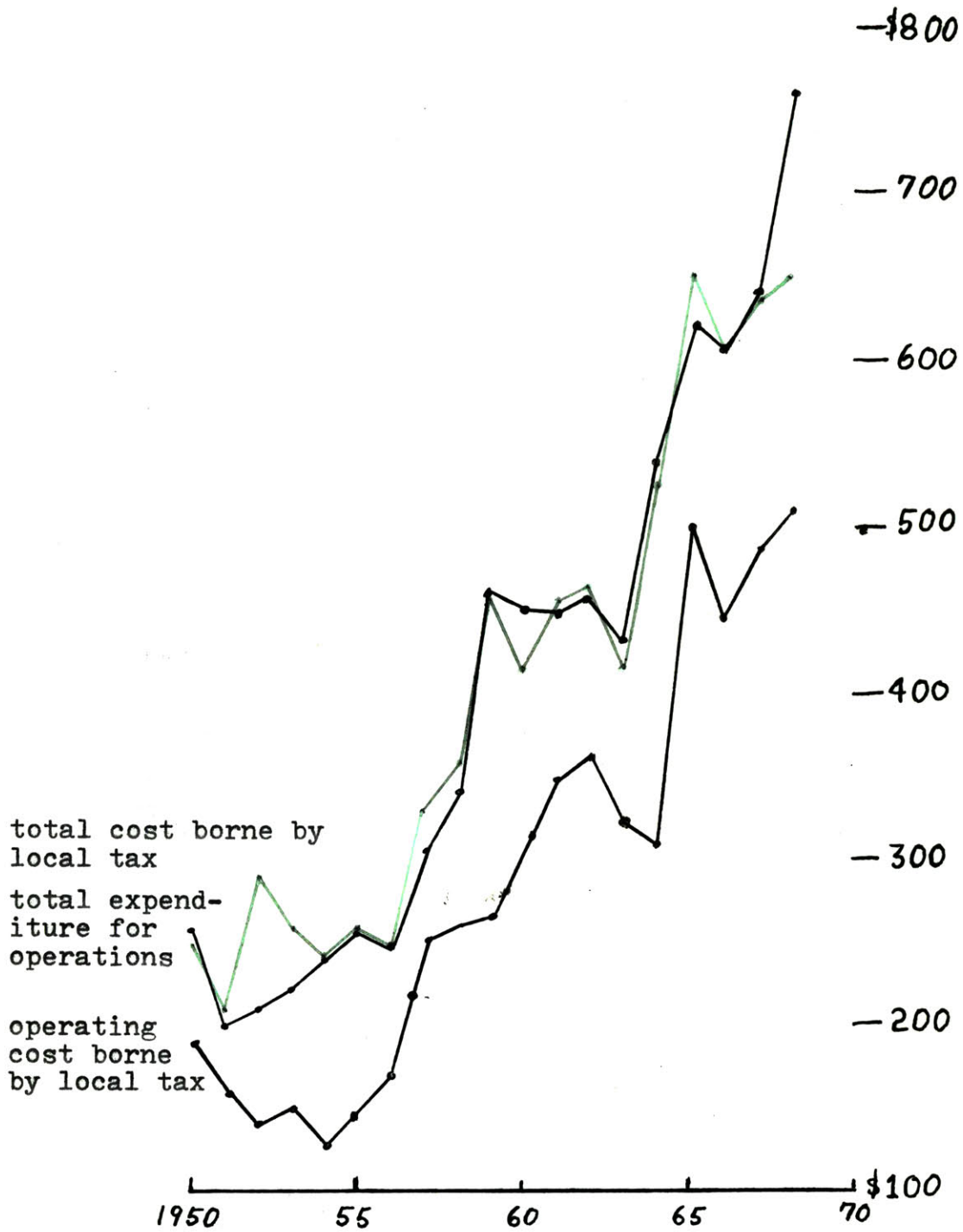


Fig. 6

BURLINGTON - tax levy and Population (log scale)  
 source: Town Reports

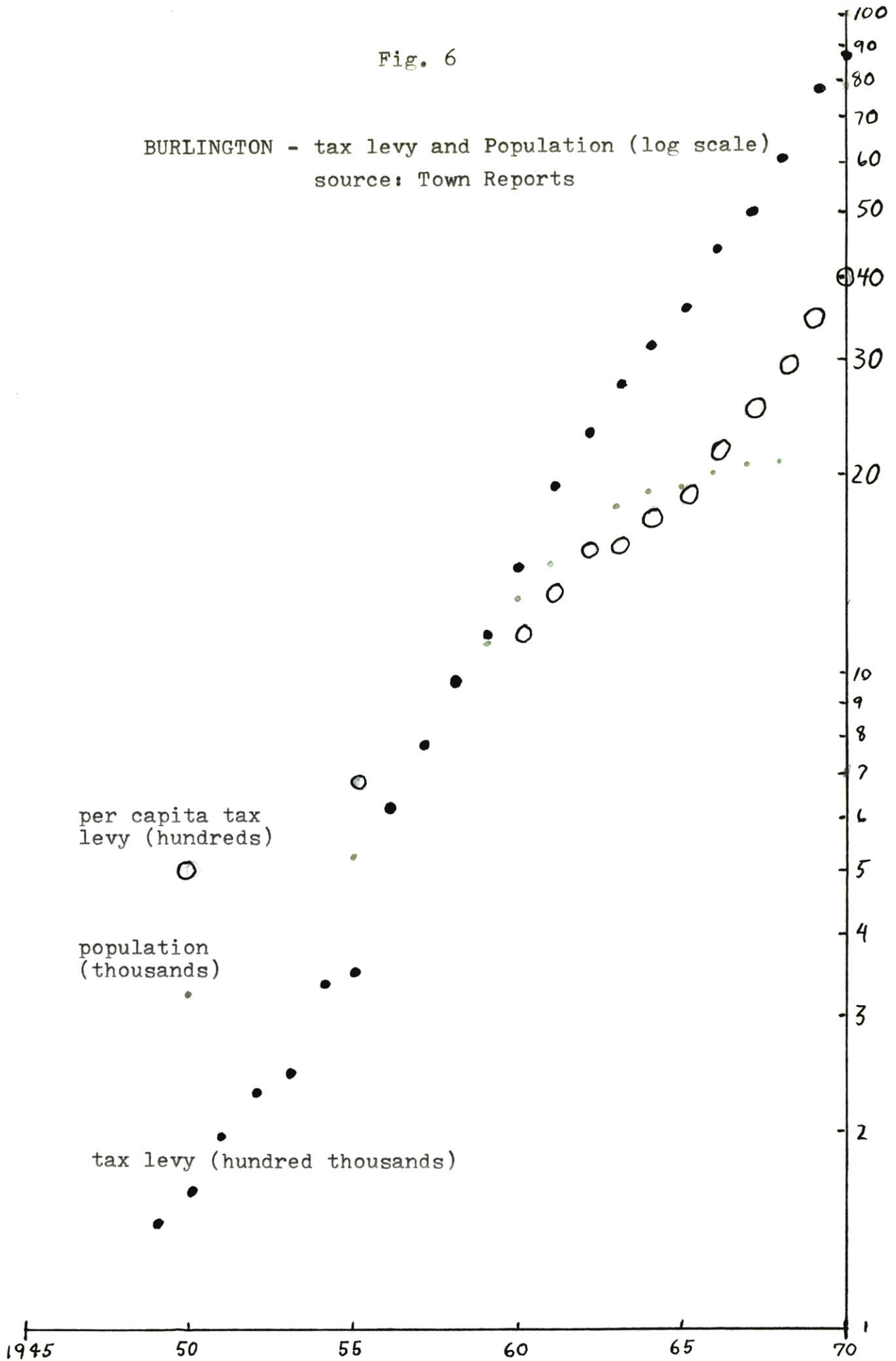


Fig. 7

BURLINGTON- tax rate

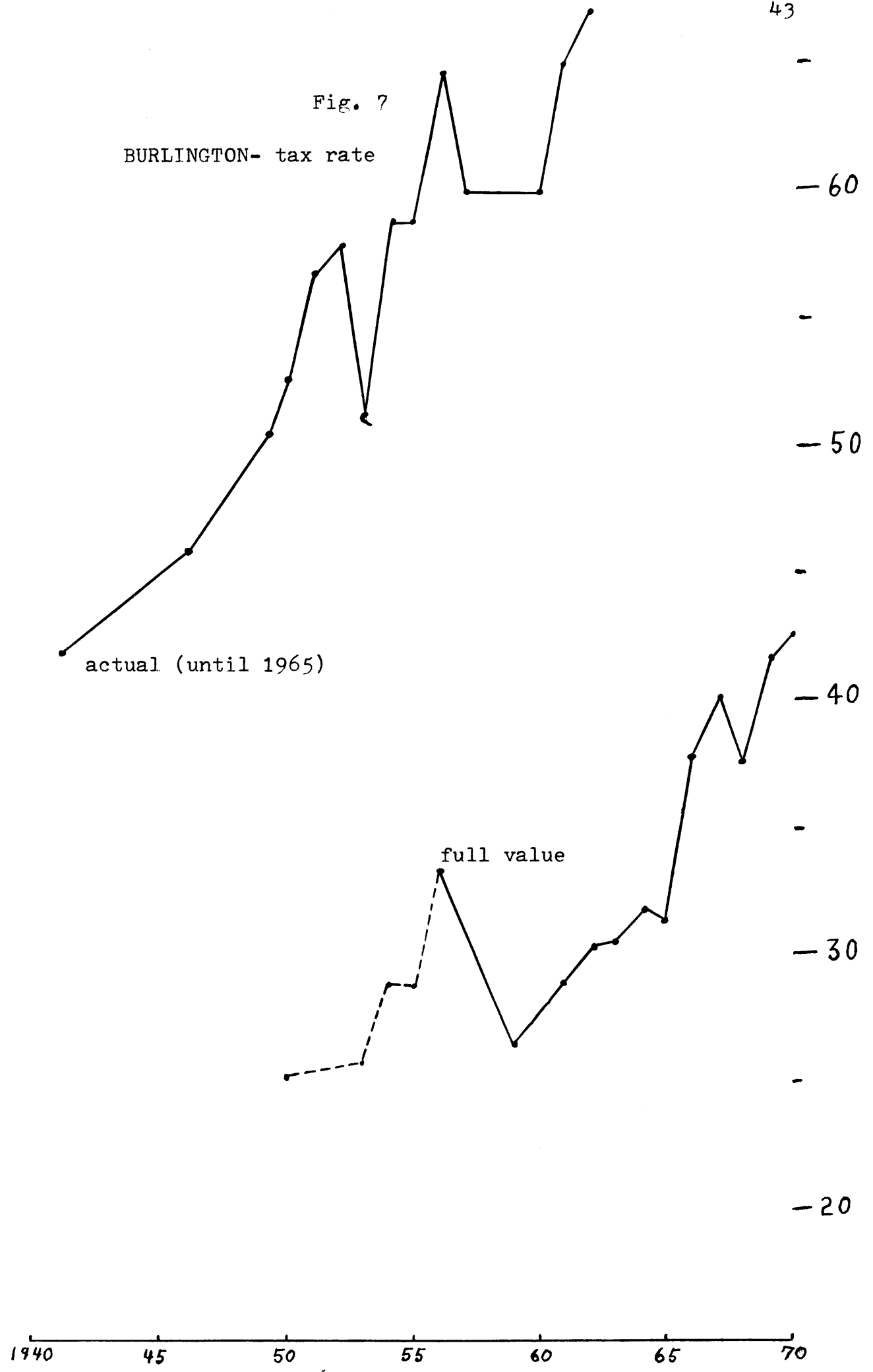


Fig. 8

BURLINGTON- school costs as percentage of total local tax levy - 80%  
 source: Town Reports

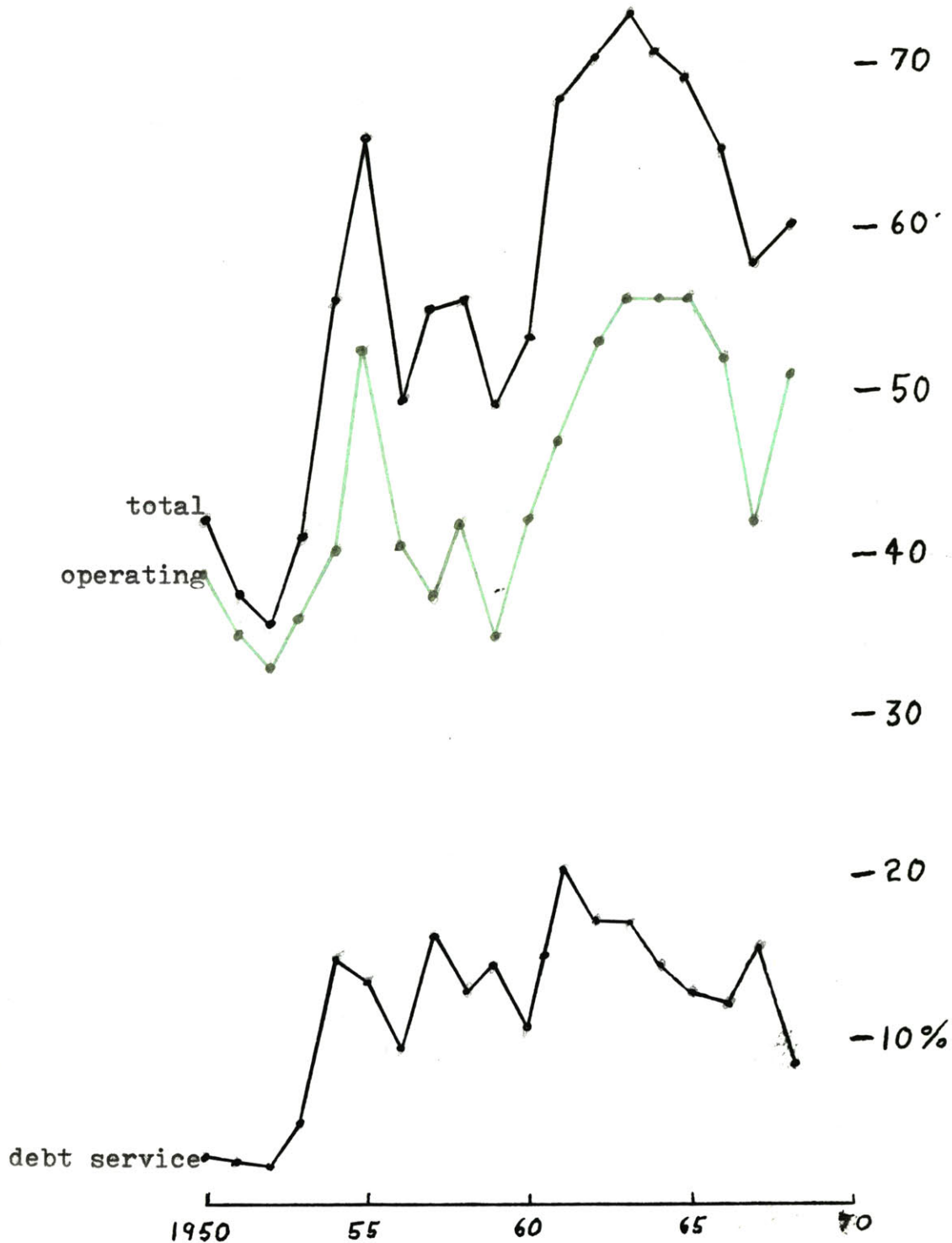


Fig. 9

BURLINGTON- school costs per pupil  
 source: Town Reports

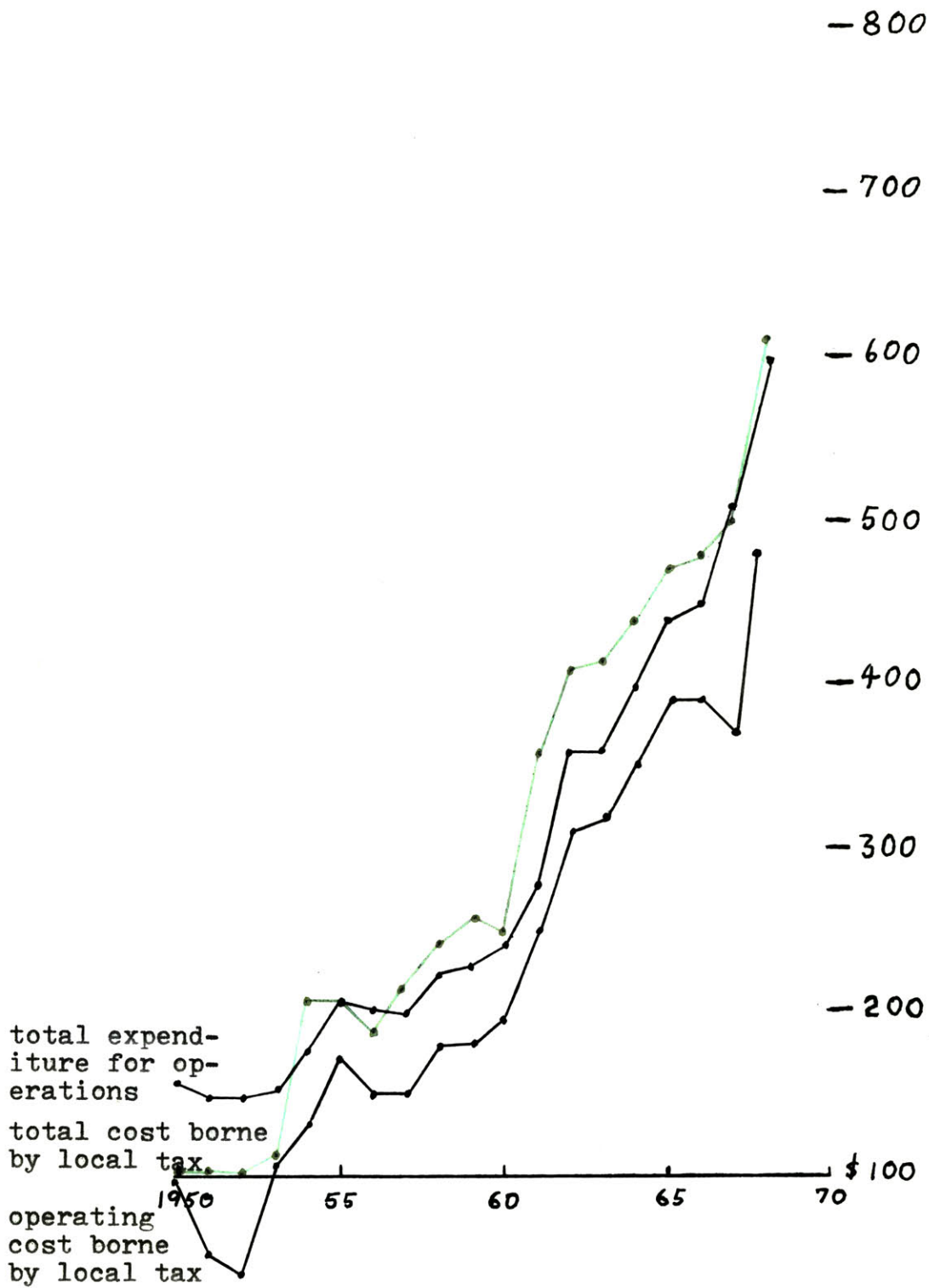


Fig. 10

Public School Enrollment (every fifth year)

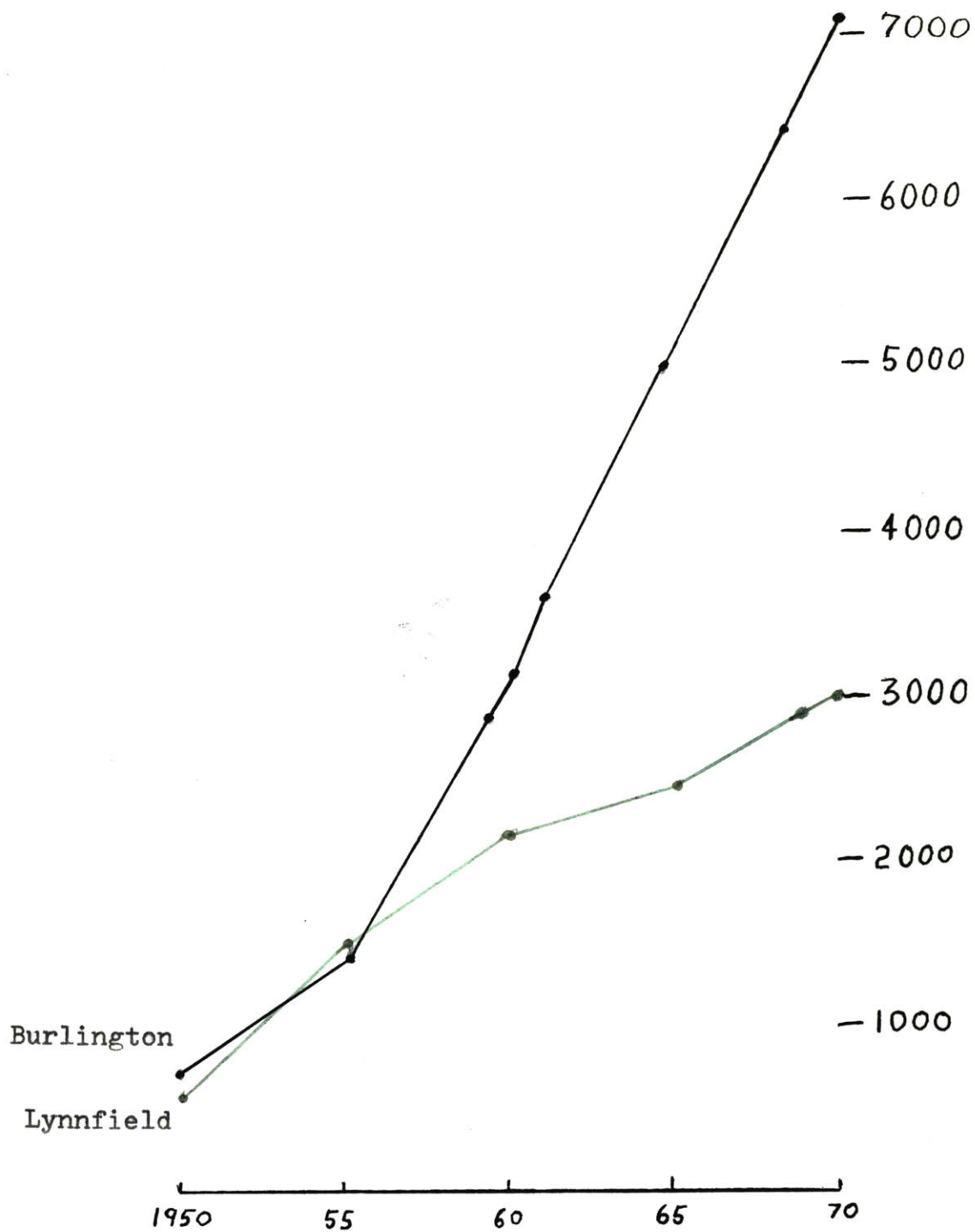


Fig. 11

Public School Enrollment as Percentage of Population  
(calculated at five year intervals)  
source: Town Reports

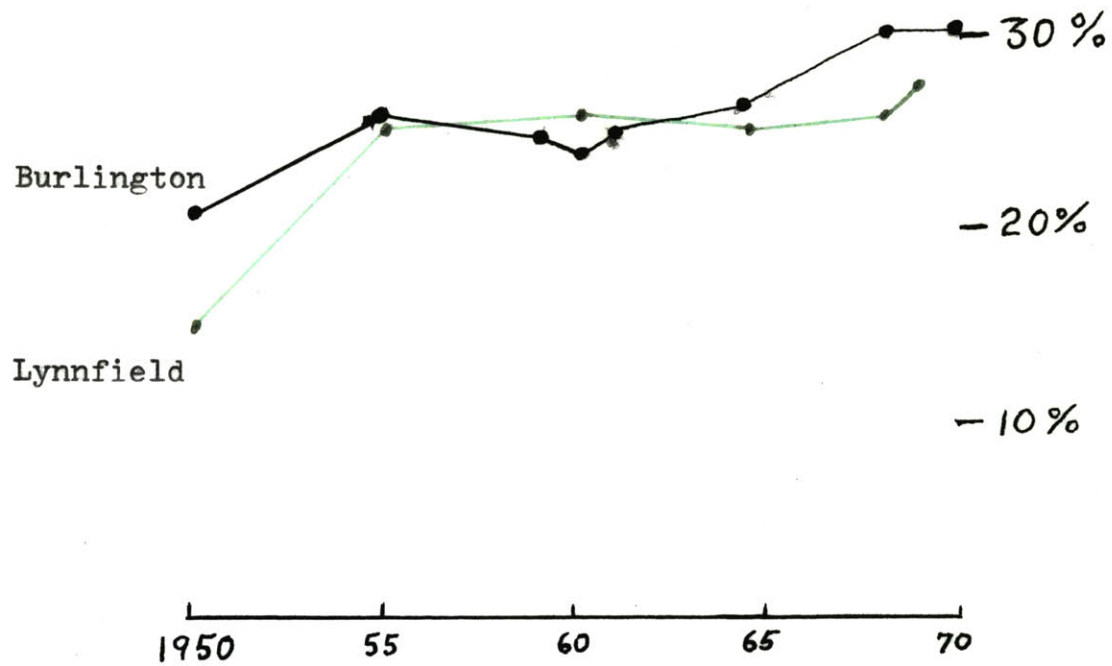


Fig. 12

Full Property Value Per Pupil (estimate for every fifth year)  
source: Town Reports

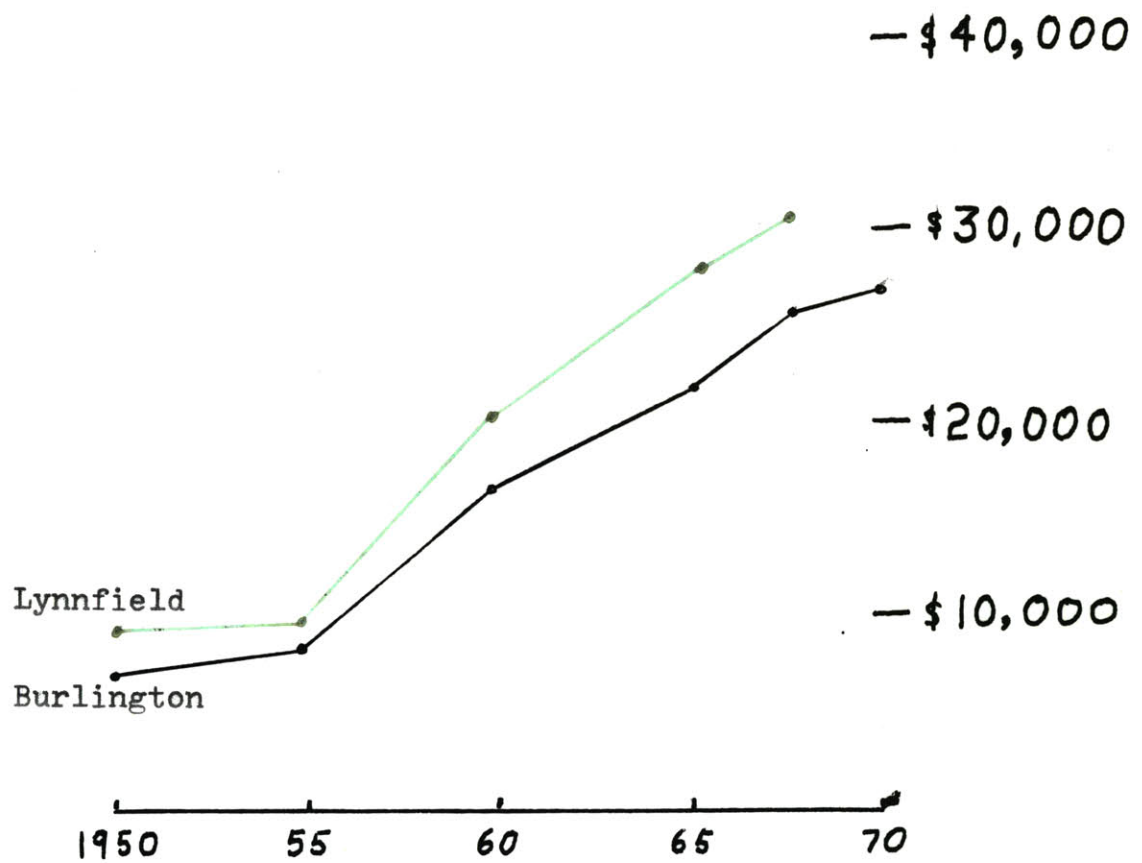




Fig. 13

Median Income (family) and Single Family House Value  
As Percentage of Medians of Boston Metropolitan  
Area

source: City and Town Monographs (U.S. Census data)

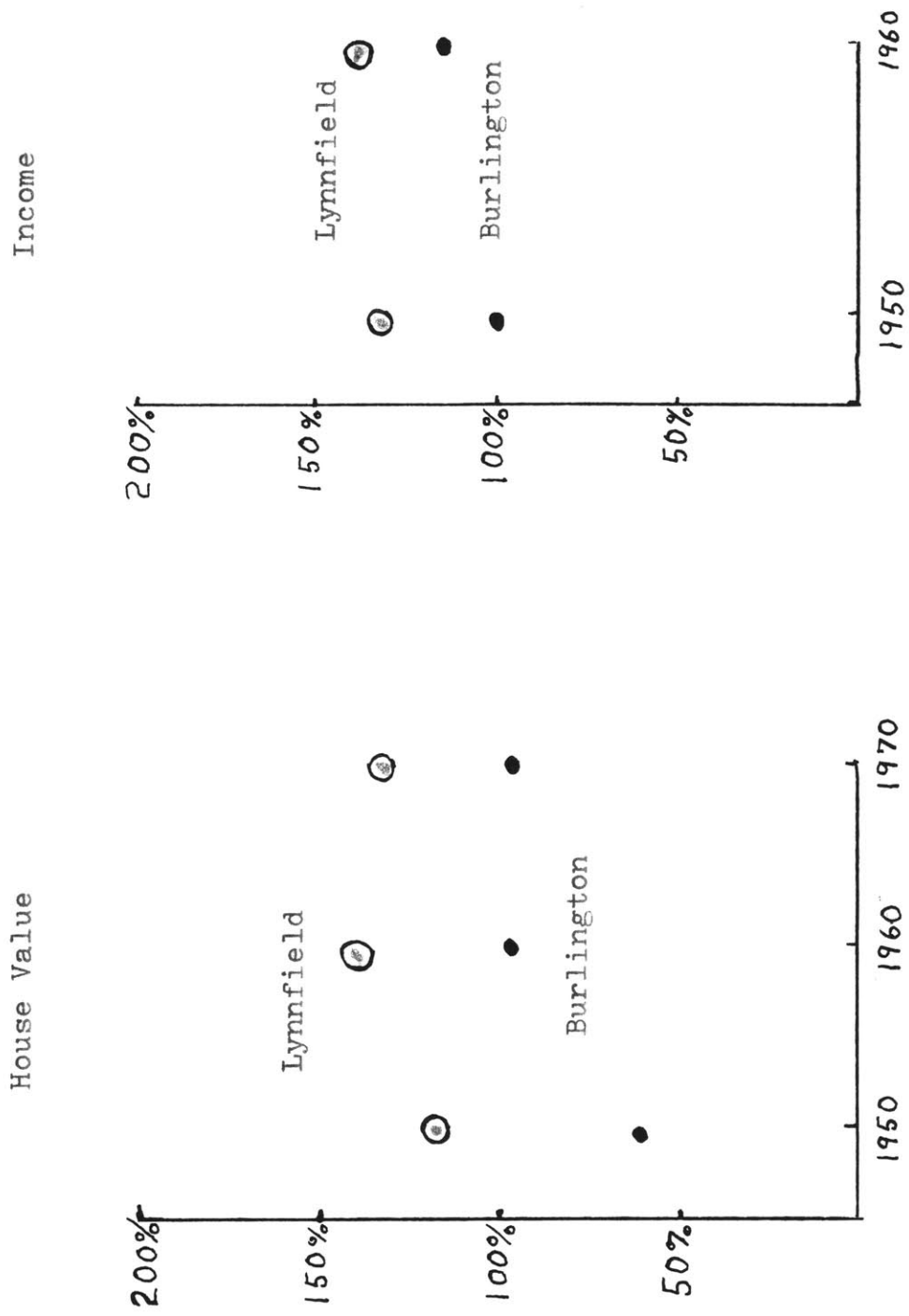


Fig. 14

of Single Family House  
Median Property Tax as Percentage of Median Family Income  
source: City and Town Monographs (U.S. Census data),  
Massachusetts Taxpayers Foundation, Inc.

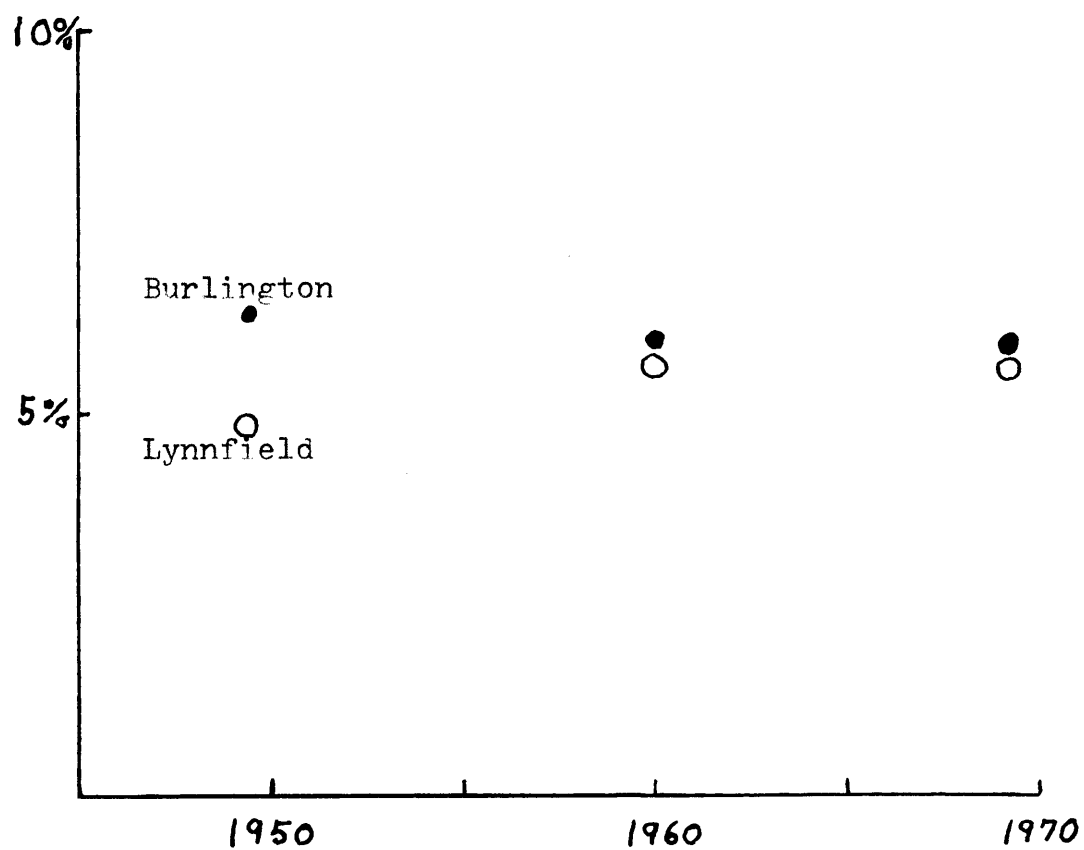
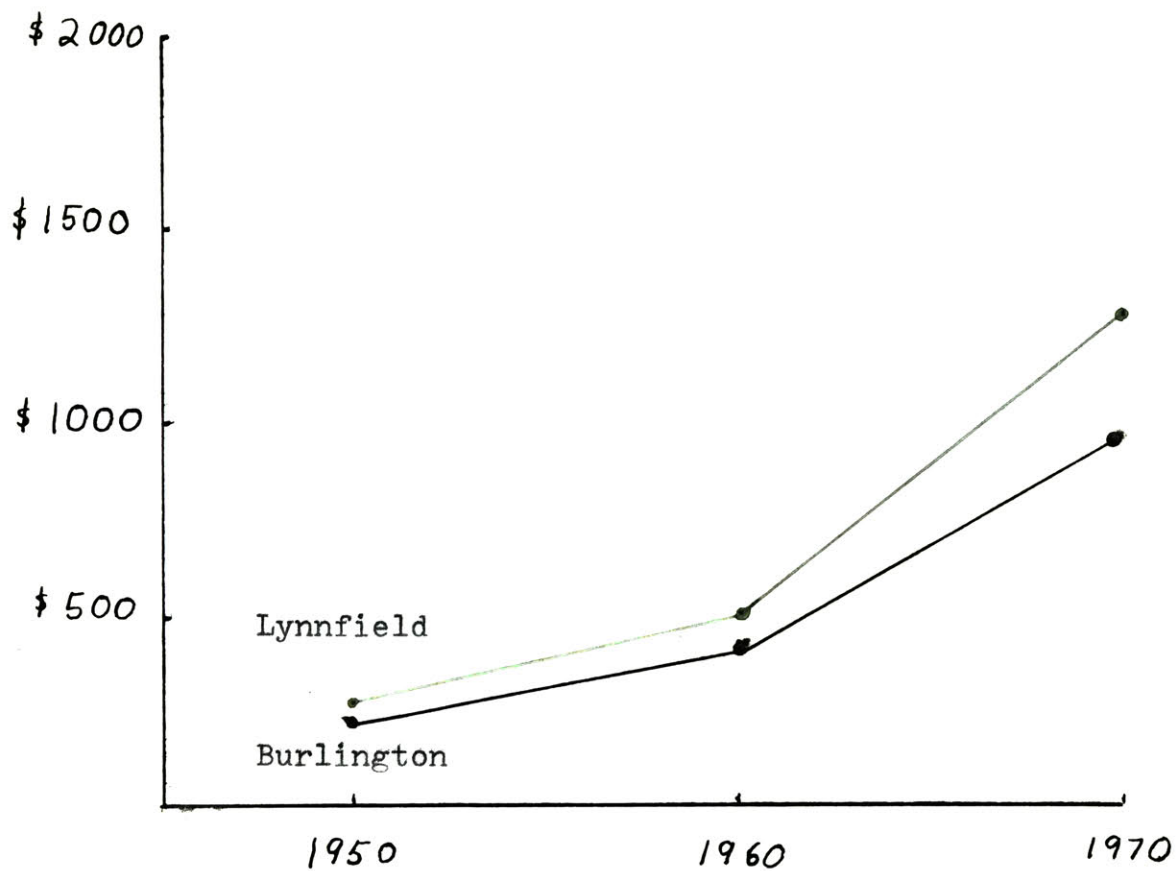


Fig. 15

## Median Property Tax of Single Family Houses

source: City and Town Monographs (U.S. Census data),  
Massachusetts Taxpayers Foundation, Inc.



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