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# Economic effects of an industrial plant locating in a rural county

Willie Calvin Rigsby

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ECONOMIC EFFECTS OF AN INDUSTRIAL PLANT  
LOCATING IN A RURAL COUNTY

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A Thesis  
Submitted to  
the Faculty of the Graduate School  
University of Richmond, Virginia

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science in Business Administration

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by  
Willie Calvin Rigsby

August 1966

## PREFACE

Since the end of World War II, there has been a measurable tendency for new manufacturing plants to be built in rural areas in the South. The predominantly rural and agricultural counties of Virginia have a considerably higher proportion of the new plants than they had of the total number of manufacturing plants in 1950.<sup>1</sup> In Virginia, this trend has been aided by the Division of Industrial Development and Planning, and industrial departments of railroads and electric utilities, which have used their influence to encourage the building of new manufacturing plants in low-income rural areas when economically feasible.

In the 1950 to 1962 period, a total of 445 new plants with 51,925 employees located in Virginia.<sup>2</sup> They vary greatly in size - from 5 employees to 3,300 - with the majority in the smaller size group. Although large in number, the smaller plants have had much less impact on employment than the few large plants. The 15 plants with more than 500 employees represent only three per cent of the new plants but account for one-third of the new plant employment. The reverse is true for plants with less than 25 employees. They represent one-third of the new plants but account for only three per cent of the new employment.

The majority of the new plant employment has come from branches or subsidiaries of national corporations. Of the 15 plants with more than

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<sup>1</sup>John L. Knapp, "New Plants in Virginia," Virginia Economic Review, XV, (September, 1963), pp. 1-7.  
(Figures used in preface based on the above report).

<sup>2</sup>Ibid., p. 2.

500 or more employees, only two belong to corporations manufacturing exclusively in Virginia.

In general, relocations did not play an important part in Virginia's new plant growth. The one exception was the apparels industry. Virginia, like several other southern states, attracted a good number of apparel relocations as the industry shifted south.

A grouping by population size class supports the conclusion that medium-sized communities with between 10,000 and 100,000 persons were most successful in obtaining new plant employment. Cities and counties with 1960 populations of 100,000 and over received 22.9 per cent of new plants and 7.3 per cent of new plant employment while cities and counties with populations under 10,000 received 8.5 per cent of new plants and 10.1 per cent of new plant employment.

FIGURE 1

## LOCATION OF NEW PLANTS IN VIRGINIA 1950-1962

| <u>Cities and Counties<br/>with 1960<br/>Population of</u> | <u>Per Cent of<br/>New Plants</u> | <u>Per Cent of<br/>New Plant<br/>Employment</u> |
|--|-----------------------------------|---|
| 100,000 and over   | 22.9                              | 7.3   |
| 50,000 to 99,999   | 18.0                              | 25.9  |
| 25,000 to 49,999   | 21.6                              | 29.8  |
| 10,000 to 24,999   | 29.0                              | 26.9  |
| Under 10,000   | 8.5                               | 10.1  |

Source: John L. Knapp, "New Plants in Virginia," Virginia Economic Review, XV (September, 1963), p. 3.

Of the 445 new plants, about half were located in rural areas.<sup>1</sup>

But number of plants does not tell the whole story - a more significant measure is employment from new plants. When the data are studied on this basis, it becomes apparent that a few areas have accounted for most of the new plant employment.

Rural areas isolated from medium sized cities and towns secured only a small percentage of the new plant employment - they lack the manpower, utilities, and ancillary services needed by a large plant. Also, some firms hesitate to locate in an area where they will be the principal employer.

The objective of this paper is to determine the economic effects of an industrial plant locating in a predominantly rural county.

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<sup>1</sup>Ibid.

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## INTRODUCTION

Industrial expansion in Virginia continues. The trend towards industrial decentralization is bringing plants into areas which have been mainly agricultural in the past. Many older industrial areas also are experiencing growth. In every section of the state there is interest in the impact of new industrial payroll dollars.

Over the years a number of attempts have been made to measure the effects of industrialization. No exact measurement is possible because many other influences are simultaneously at work in the particular community. It must be remembered that every case of industrial expansion is unique. No two communities will experience exactly the same effects from a new industrial payroll.

A recent study<sup>1</sup> prepared by the Chamber of Commerce of the United States reported areas undergoing substantial increase in manufacturing employment between 1950 and 1960 had experienced dramatic changes. For every 100 new factory workers brought into a town, this study found, the area's population increased 359, personal income rose \$710,000 per year, retail sales increased \$331,000 per year, and 65 additional jobs were created in nonmanufacturing.

Other results were the establishment of three more retail stores, development of 100 more households, bank deposits increased by \$229,000,

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<sup>1</sup>Chamber of Commerce of the United States, What New Industrial Jobs Mean to a Community (Washington: Chamber of Commerce of the United States, 1962), p. 6.

and the registration of 97 additional automobiles.<sup>1</sup> In summary, additional manufacturing jobs contributed substantially to those factors considered indices of economic growth.

The purpose of this paper is to determine the economic effects of an industrial plant locating in a rural county. Selected variables considered indices of economic growth will be analyzed for a number of years before and after the plant was put into operation to determine the direct and indirect impact of the plant's operation.

Richmond County, Virginia was selected for this study. This is a rural county with agriculture the leading industry and manufacturing ranking second. Prior to 1954, all of its industry was engaged in the manufacture of local resources; primarily agricultural products, lumbering, and food processing.

Levi Strauss and Company, manufacturer of the famous "Levi" overalls for over 110 years, began a pilot-plant operation in Warsaw, Virginia in 1953. Initial employment consisted of a plant manager and 40 women from the immediate area. The construction of the Levi Strauss plant was delayed until 1955 because of the depressed market for overalls.

Levi Strauss moved into its new 26,000 square foot plant in June of 1955 and increased employment to over 180 by December of 1956. Production was changed in 1955 to manufacture casual wear in men's and boys' clothing.

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<sup>1</sup> These data are based on observations in 11 counties located throughout the United States. Counties selected met the following criteria: (1) Manufacturing employment at least doubled during the decade with a numerical increase of at least 1,000 manufacturing jobs; (2) manufacturing employment was at least 15 per cent of the total employment in 1960; (3) major employment changes between 1950 and 1960, excluding decrease in agricultural employment, was an increase in manufacturing employment; and (4) county not part of or adjoining a metropolitan area.

In 1960, work was completed on a 16,000 square foot addition to the plant and employment in December 1960, was 267 workers with approximately 10 per cent male workers. The Levi Strauss plant, with an annual gross payroll in excess of \$500,000,<sup>1</sup> is one of the largest income-producing industries in the area.

For the purpose of determining the economic impact of Levi Strauss locating in Richmond County, the following primary variables will be analyzed: Population, number of manufacturing and nonmanufacturing firms, number of manufacturing and nonmanufacturing workers, average quarterly wage for manufacturing and nonmanufacturing workers, personal income, per capita income, number of retail establishments and sales, number of wholesale establishments and sales, bank deposits, bank assets, bank clearings, and automobile registrations.

A number of secondary variables were examined and have been added to the appendix. Some of these are: Number of telephone stations, post office receipts, school enrollment, true value of real estate, total levy on real estate, gross manufacturing and nonmanufacturing wages, electric utility investment, number of electric customers, and total kilowatt-hour sales.

Statistical information will be presented on each of the primary variables in an attempt to determine the impact of Levi Strauss' plant operation. The impact on the primary variables will be compared with the results of the U. S. Chamber of Commerce study showing what 100 new manufacturing workers bring to a town.

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<sup>1</sup>Letter from C. J. Tucker, Production Manager, East, Levi Strauss and Company, June 28, 1966.

For each variable<sup>a</sup> the years 1940 to 1950 will be used as the trend period, 1950 to 1955 will be the base period, and 1955 to 1960 will be the study period. The year 1955 will be used in both the base period and study period because the plant began operations in June 1955.

The six-year base period (1950-1955) will be used with each variable to show what was happening in this phase of the economy prior to the plant operation. The six-year study period (1955-1960) will be analyzed to determine the impact of Levi Strauss' plant operation on each primary variable and compared with the U. S. Chamber's findings.

Actual figures for years 1940, 1945, and 1950 to 1960 with per cent change for each period has been compiled for each variable and included in the appendix. These data will be used as the basis for a graphic presentation to be included with the text. On each graphic illustration a solid line will be used to show actual figures for each year (1950-1960). A straight line will be shown for years 1950 to 1955 with a broken line projected from these two base points to 1960. The broken line between 1955 and 1960 will represent the normal increase or decrease based on a continuation of the trend that developed from 1950 to 1955.

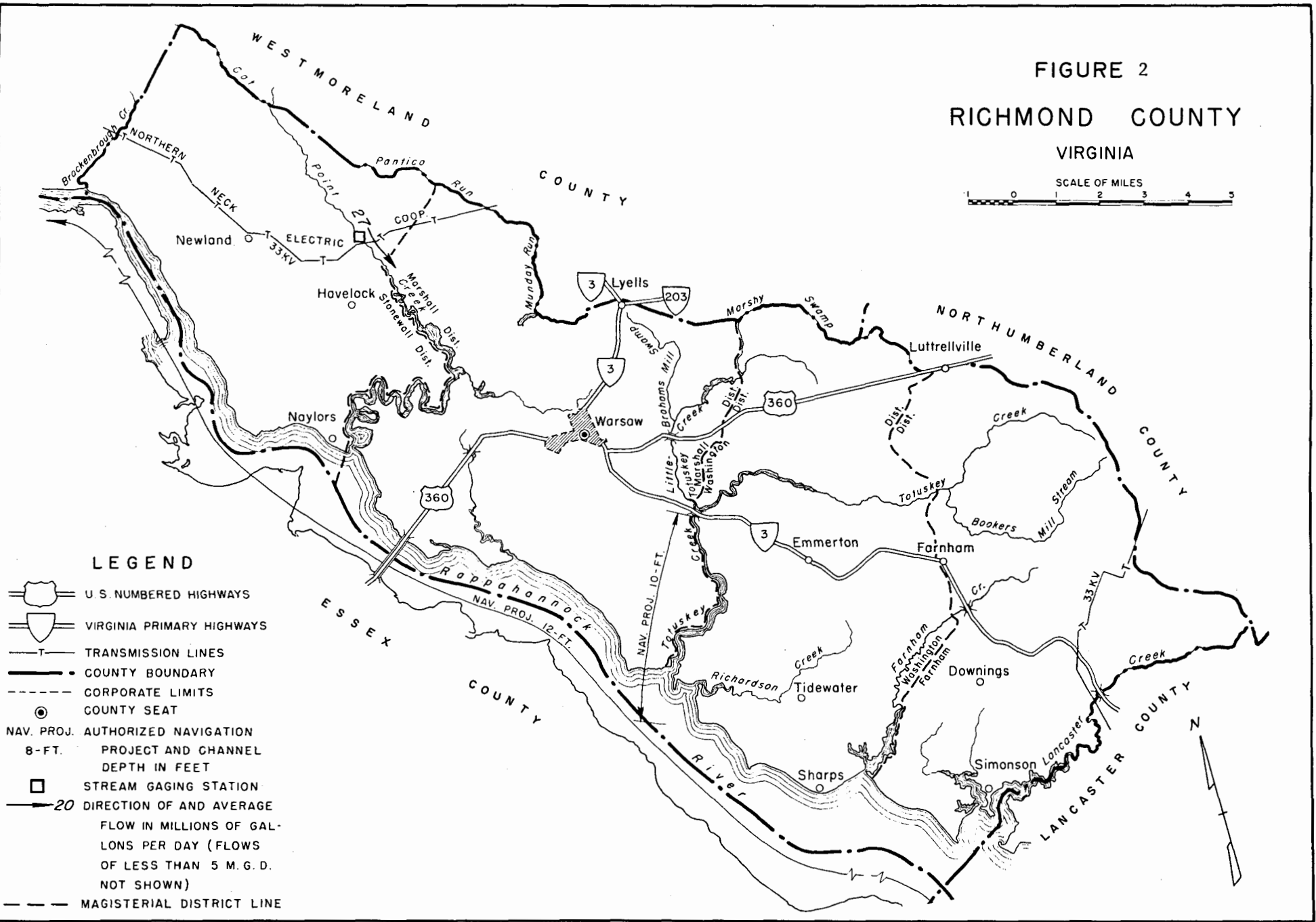
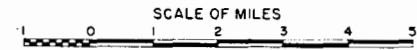
The objective of the first chapter of this paper is to identify the economy of Richmond County as a basis for evaluating the effects of an industrial plant operation on the variables to be considered.

The succeeding chapters will present an analysis of variables considered indices of economic growth.

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<sup>a</sup>Where information is not available for these years, comparable years have been used.

FIGURE 2  
 RICHMOND COUNTY  
 VIRGINIA



LEGEND

- U.S. NUMBERED HIGHWAYS
- VIRGINIA PRIMARY HIGHWAYS
- TRANSMISSION LINES
- COUNTY BOUNDARY
- CORPORATE LIMITS
- COUNTY SEAT
- NAV. PROJ. AUTHORIZED NAVIGATION
- 8-FT. PROJECT AND CHANNEL DEPTH IN FEET
- STREAM GAGING STATION
- 20 DIRECTION OF AND AVERAGE FLOW IN MILLIONS OF GALLONS PER DAY (FLOWS OF LESS THAN 5 M.G.D. NOT SHOWN)
- MAGISTERIAL DISTRICT LINE

## CHAPTER I

## RICHMOND COUNTY'S ECONOMY

The purpose of this chapter is to identify Richmond County's economy as a basis for evaluating the effects of an industrial plant locating in the county.

This chapter in brief will be a description of the socio-economic environment into which the Levi Strauss Manufacturing Company located. How a plant affects any location is determined to a great extent by the socio-economic structure of the area and before impact can be properly evaluated the reader must be aware of the setting in which this new plant has been placed.

Richmond County is a rural county with agriculture the principal industry. The trend to consolidate small unprofitable farms and mechanization of farming is releasing a surplus labor group that has found it necessary to migrate out of the county for better job opportunities.

The effects of Levi Strauss' plant operation on Richmond County's agricultural economy will be reviewed in this chapter and the succeeding three chapters.

A. Physical Characteristics

Location. Richmond County is located on the narrow peninsula between the Potomac River and the Rappahannock River, known as the Northern Neck of Virginia, which is comprised of the counties of Lancaster, Northumberland, Richmond, and Westmoreland. The area was settled in the year 1640, and in 1692 the old county of Rappahannock was divided into the



present counties of Essex and Richmond.<sup>1</sup>

The county lies entirely in the Rappahannock River Basin,<sup>2</sup> which originates in northeastern Virginia on the divide of the Blue Ridge Mountains and extends to the Chesapeake Bay. Richmond County is bounded by Westmoreland County to the north, Northumberland and Lancaster Counties to the east, and the Rappahannock River to the south.

Climate. A relatively mild climate gives Richmond County a frost-free growing season extending from about April 16 to October 26, averaging approximately 193 days.<sup>3</sup> Temperatures average about 37 degrees in January and 76 degrees in July. Precipitation data indicate an average annual rainfall of about 44 inches, with monthly averages of 4.5 inches in the important crop months of June, July, and August. Winters are mild, with snows being infrequent and of short duration. Climatological data for years 1951 to 1960 are presented in Figure 29, page 69.

Physiography. Richmond County, bordered by the Rappahannock River, is approximately 8 miles wide and 26 miles long. Of the 203 square miles, 192 square miles, or 122,880 acres, is land area and 11 square miles is water area.<sup>4</sup> The elevation ranges from sea level to about 170 feet. The town of Warsaw, located approximately in the center of the county, has an elevation of 160 feet above sea level.

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<sup>1</sup>Virginia Division of Industrial Development and Planning, Economic Data Summary of Richmond County, 1960, p. 1.

<sup>2</sup>Virginia Department of Agriculture, Richmond County Farm Statistics, 1910-1960, p. 1.

<sup>3</sup>Fig. 29, p. 69.

<sup>4</sup>Virginia Division of Industrial Development and Planning, Economic Data Summary of Richmond County, 1960, p. 1.

The county, located in the Coastal Plain, is low, flat, and in-trenched by creeks and swamps, spotted with dense underbrush and scrub pines. Along the Rappahannock River -- a tidewater stream in this area -- the marshes extend inland from a few hundred feet at some places to over a mile at others. Much of this marsh land cannot economically be used for agriculture.<sup>1</sup> The lands adjacent to the marshes consist of loam, clay, sand, gravel, and cobbles of the Pleistocene Period and are adaptable to general farm crops, particularly truck crops.

B. Market Resources

Agriculture, Forestry and Fishing. Agriculture is the county's leading industry with soybeans the chief source of cash farm income. Field crops, including soybeans, corn and small grains, produced 66.5 per cent of total farm income during 1959, and livestock and livestock products produced 29.1 per cent.<sup>2</sup> The remaining 4.4 per cent was derived from the sales of forest products.

Land in farms in 1949 totaled 72,098 acres and represented 58.7 per cent of the county's total land area of 122,880 acres. According to the Census of Agriculture, there were 233 fewer farms in 1959 than in 1949.<sup>3</sup> This is indicative of a trend in Richmond County and the State of Virginia toward the consolidation of farms into larger, more efficient units.

The following statistics illustrate the changes in the agricultural economy of Richmond County from 1949 to 1959:

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<sup>1</sup>Ibid.

<sup>2</sup>U. S. Bureau of the Census, Eighteenth Census of the United States: 1959, Agriculture, County Table 4, p. 92.

<sup>3</sup>Ibid. County Table 1, p. 68.

FIGURE 3

## AGRICULTURAL ECONOMY - SELECTED YEARS

|                                     | <u>1949</u> | <u>1954</u> | <u>1959</u>      |
|-------------------------------------|-------------|-------------|------------------|
| Total No. of Farms                  | 675         | 675         | 442 <sup>a</sup> |
| Avg. Size of Farms (acres)          | 106.8       | 107.8       | 139.5            |
| Avg. Value of Farms (land & bldgs.) | \$7,682     | \$10,928    | \$14,673         |
| Value of All Farm Prods. Sold       | \$1,008,973 | \$1,230,292 | \$1,597,652      |

<sup>a</sup>Decrease in farms due to change in farm definition 1954 to 1959 - 43 farms.

Source: U. S., Bureau of the Census, Census Reports of the United States: 1949, 1954, 1959. Agriculture.

FIGURE 4

## VALUE OF FARM PRODUCTS SOLD

|                                  | <u>1949</u>   | <u>1954</u>   | <u>1959</u>   |
|----------------------------------|---------------|---------------|---------------|
| Field crops                      | \$ 468,436    | \$ 616,436    | \$ 953,781    |
| Livestock and livestock prods.   | 117,029       | 117,336       | 241,611       |
| Dairy prods.                     | 92,000        | 117,554       | 66,960        |
| Poultry and poultry prods.       | 176,825       | 119,936       | 155,894       |
| Forest prods.                    | 63,487        | 72,998        | 70,661        |
| Vegetables                       | 75,078        | 107,273       | 89,867        |
| Fruits and nuts                  | <u>16,118</u> | <u>18,759</u> | <u>18,878</u> |
| Total value all farm prods. sold | \$1,008,973   | \$1,230,292   | \$1,597,652   |

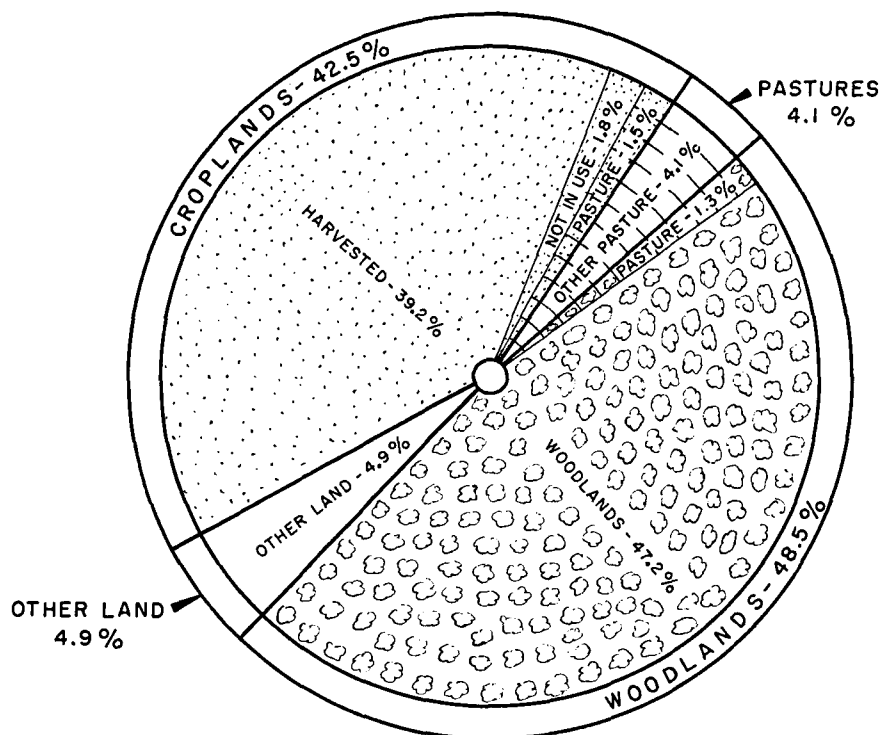
Source: U. S., Bureau of the Census, Census Reports of the United States: 1949, 1954, 1959. Agriculture.

FIGURE 5  
LIVESTOCK AND POULTRY ON FARMS

|                 | 1949   | 1954   | 1959   |
|-----------------|--------|--------|--------|
| All cattle      | 2,600  | 3,400  | 2,500  |
| Dairy cows      | 1,550  | 1,400  | 1,000  |
| Hogs and pigs   | 3,000  | 3,050  | 3,800  |
| Sheep and lambs | 160    | 130    | 50     |
| Chickens        | 48,020 | 43,710 | 38,799 |

Source: U. S., Bureau of the Census, Census Reports of the United States: 1949, 1954, 1959: Agriculture.

FIGURE 6  
DISTRIBUTION OF FARM LAND BY USE  
1959



Source: U. S., Bureau of the Census, Eighteenth Census of the United States: 1959. Agriculture, County Table 1, p. 68.

The distribution of Richmond County's 61,650 acres of farm land in 1959 is shown in Figure 6 on the preceding page. Evidence of the potential importance of forest products is apparent in the large percentage of farm land devoted to forest. Approximately 63 per cent of the county's total land area is wooded.

Tomatoes were once the largest and most profitable crop grown in the county. The acreage planted in tomatoes has declined from 1,880 acres in 1944 to 470 acres in 1959. It is no longer considered a main cash crop and is being grown only by those who have family labor to do the harvesting.

Forestry. Of Richmond County's total land area of 122,880 acres, approximately 76,833 acres are commercial forest land. All of the commercial forest land is privately owned.

A breakdown of the county's 76,833 acres of commercial forests by forest type and stand-size classes follows:

FIGURE 7

## COMMERCIAL FOREST BY TYPE AND STAND-SIZE CLASSES

| <u>Forest Type</u> | <u>Acres</u> | <u>Stand-Size Classes</u>       | <u>Acres</u> |
|--------------------|--------------|---------------------------------|--------------|
| Virginia Pine      | 10,976       | Large Sawtimber                 | 19,757       |
| Loblolly Pine      | 8,782        | Small Sawtimber                 | 21,952       |
| Oak-Pine           | 10,976       | Pole-size Timber                | 32,928       |
| Oak-Hickory        | 37,319       | Poorly stocked or<br>nonstocked | <u>2,196</u> |
| Oak-Gum-Cypress    | <u>8,780</u> |                                 |              |
| Total              | 76,833       | Total                           | 76,833       |

Source: George W. Dean, Virginia Department of Conservation and Development, Division of Forestry.

The 1960 estimates of the annual growth and cut of softwoods and hardwoods, prepared by the Virginia Division of Forestry, indicate a favorable balance of growth over cut for growing stock.<sup>1</sup> Over 42 per cent of this timber area is in small sawtimber of pole-size stands. This size timber and the existing conditions lend themselves well to improvement cuttings which will provide an early income and improve the over-all condition of the forest stand. One of the basic needs is a market for hardwood pulp and low quality hardwood logs. Considerable volumes of this material are being destroyed to provide room for growing species of greater value.

FIGURE 8

## ESTIMATED NET ANNUAL TIMBER GROWTH AND CUT - 1960

| <u>Species Group</u> | <u>Sawtimber</u><br><u>(million board feet)</u> |            | <u>Growing Stock</u><br><u>(thousand cord)</u> |             |
|----------------------|---|------------|--|-------------|
|                      | <u>Growth</u>                                   | <u>Cut</u> | <u>Growth</u>                                  | <u>Cut</u>  |
| Softwoods            | 4.7   | 6.0        | 25.0   | 25.0        |
| Soft Hardwoods       | 2.9   | 1.5        | 15.0   | 4.0         |
| Hard Hardwoods       | <u>3.5</u>                                      | <u>8.4</u> | <u>20.0</u>                                    | <u>20.0</u> |
| Total                | 11.1  | 15.9       | 60.0   | 49.0        |

Source: George W. Dean, Virginia Department of Conservation and Development, Division of Forestry.

During 1960, Richmond County ranked 51st in the state in round pulpwood production with 12,472 cords.

<sup>1</sup>Interviews with George W. Dean, Virginia Division of Forestry and William Cooper, Virginia Forest, Inc.

FIGURE 9

**FOREST RESOURCES**  
Richmond County, Virginia  
COUNTY AREA BY BROAD USE CLASS

| TOTAL AREA       | NONFOREST AREA   |                  | FOREST LAND      |                  |           |
|------------------|------------------|------------------|------------------|------------------|-----------|
|                  | LAND             | WATER            | NONCOMMERCIAL    | COMMERCIAL       |           |
| (THOUSAND ACRES) | (THOUSAND ACRES) | (THOUSAND ACRES) | (THOUSAND ACRES) | (THOUSAND ACRES) | (PERCENT) |
| 129.9            | 45.0             | 8.1              | -                | 76.8             | 63.1      |

OWNERSHIP OF COMMERCIAL FOREST LAND

| PRIVATE          |           | PUBLIC           |                  |                       |                  |           |
|------------------|-----------|------------------|------------------|-----------------------|------------------|-----------|
|                  |           | FEDERAL          | STATE            | COUNTY, CITY,<br>TOWN | TOTAL PUBLIC     |           |
| (THOUSAND ACRES) | (PERCENT) | (THOUSAND ACRES) | (THOUSAND ACRES) | (THOUSAND ACRES)      | (THOUSAND ACRES) | (PERCENT) |
| 76.8             | 100.0     | -                | -                | -                     | -                | -         |

NET VOLUME OF SAWTIMBER BY SPECIES GROUP  
(IN MILLIONS OF BOARD FEET)

| SOFTWOODS | HARDWOODS |       |       | ALL SPECIES |
|-----------|-----------|-------|-------|-------------|
|           | SOFT      | HARD  | TOTAL |             |
| 71.7      | 57.6      | 102.2 | 159.8 | 231.5       |

NET VOLUME OF ALL TIMBER FOR COUNTY  
(IN THOUSANDS OF CORDS)

| FOREST TYPES      | GROWING STOCK |                        | OTHER MATERIALS |                        |
|-------------------|---------------|------------------------|-----------------|------------------------|
|                   | 5-12 INCHES   | 13 <sup>+</sup> INCHES | 5-12 INCHES     | 13 <sup>+</sup> INCHES |
| YELLOW PINE       | 282           | 106                    | 34              | 8                      |
| OTHER SOFTWOODS   | -             | -                      | -               | -                      |
| SOFT HARDWOODS    | 160           | 119                    | 31              | 36                     |
| HARD HARDWOODS    | <u>298</u>    | <u>202</u>             | <u>47</u>       | <u>11</u>              |
| TOTAL ALL SPECIES | 740           | 427                    | 112             | 55                     |
| TOTAL             | 1,167         |                        | 167             |                        |

ROUND PULPWOOD PRODUCTION - 1950, 1959, 1960  
(IN STANDARD CORDS)

| YEAR | PINE   | HARDWOOD | TOTAL  |
|------|--------|----------|--------|
| 1950 | 9,395  | -        | 9,395  |
| 1959 | 9,992  | -        | 9,992  |
| 1960 | 12,472 | -        | 12,472 |

SOURCE: BASED ON REPORTS PREPARED BY THE U. S., DEPARTMENT OF AGRICULTURE, FOREST SERVICE;  
AND SOUTHERN PULPWOOD CONSERVATION ASSOCIATION, ATLANTA.

Timber growth potential in this county is excellent.<sup>1</sup> However, good forest management practices and forest fire prevention must be maintained to realize this potential. Approximately 138,500 tree seedlings were planted in the county during the 1954-1955 planting season, 375,500 during 1955-1956, 374,300 during 1959-1960, and 738,800 during the 1960-1961 season.

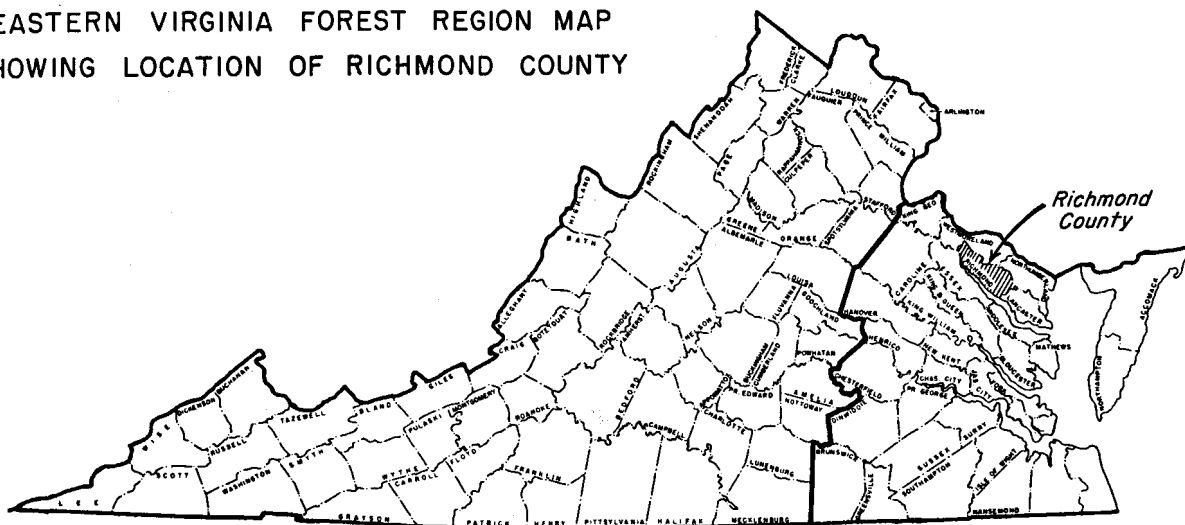
Forest resources within the eastern region of Virginia are shown in Figure 10 on page 15. Richmond County lies within the northern section of this 6,284,000 acre region. The area encompasses 17 counties in Virginia's Piedmont and Blue Ridge physiographic provinces.

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<sup>1</sup>Ibid.



FIGURE 10  
EASTERN VIRGINIA FOREST REGION MAP  
SHOWING LOCATION OF RICHMOND COUNTY



EASTERN VIRGINIA REGIONAL FOREST RESOURCES

| COMMERCIAL FOREST AREA BY MAJOR FOREST TYPE<br>(in thousand acres) |              |              |              |  |
|--|--------------|--------------|--------------|--|
| <u>Forest Type</u>   | <u>1940</u>  | <u>1950</u>  | <u>1960</u>  |  |
| Softwoods  | 2,414        | 2,299        | 2,184        |  |
| Hardwoods  | 1,505        | 1,713        | 1,920        |  |
| <b>Total Commercial Forest</b>                                     | <b>3,919</b> | <b>4,012</b> | <b>4,104</b> |  |

| COMMERCIAL FOREST AREA BY OWNERSHIP - 1960<br>(in thousand acres) |                        |                     |                      |              |
|---|------------------------|---------------------|----------------------|--------------|
| <u>Public</u>   | <u>Forest Industry</u> | <u>Private Farm</u> | <u>Other Private</u> | <u>Total</u> |
| 116   | 766                    | 2,840               | 382                  | 4,104        |

| NET ALL TIMBER VOLUME FOR PINE AND HARDWOOD<br>(in million cubic feet) |              |              |              |
|--|--------------|--------------|--------------|
|  | <u>1940</u>  | <u>1950</u>  | <u>1960</u>  |
| Pine   | 2,242        | 2,245        | 2,248        |
| Hardwood   | 2,516        | 2,742        | 2,968        |
| <b>Total All Timber</b>  | <b>4,758</b> | <b>4,987</b> | <b>5,216</b> |

| NET SAWTIMBER VOLUME OF PINE AND HARDWOOD<br>(in million board feet) |                  |              |                  |              |                  |              |
|--|------------------|--------------|------------------|--------------|------------------|--------------|
|  | <u>1940</u>      |              | <u>1950</u>      |              | <u>1960</u>      |              |
|  | <u>Sawtimber</u> |              | <u>Sawtimber</u> |              | <u>Sawtimber</u> |              |
|  | <u>Small</u>     | <u>Large</u> | <u>Small</u>     | <u>Large</u> | <u>Small</u>     | <u>Large</u> |
| Pine   | 4,889            | 2,664        | 5,092            | 2,366        | 5,293            | 2,067        |
| Hardwood   | 2,739            | 4,024        | 3,104            | 4,245        | 3,470            | 4,466        |
| <b>Total</b>   | <b>7,628</b>     | <b>6,688</b> | <b>8,196</b>     | <b>6,611</b> | <b>8,763</b>     | <b>6,533</b> |

| PULPWOOD PRODUCTION OF PINE AND HARDWOOD<br>(in thousand cords) |             |             |             |             |
|---|-------------|-------------|-------------|-------------|
|   | <u>1950</u> | <u>1953</u> | <u>1957</u> | <u>1960</u> |
| Pine  | 389         | 335         | 355         | 508         |
| Hardwood  | 11          | 18          | 50          | 89          |
| <b>Total Pulpwood Production</b>                                | <b>400</b>  | <b>353</b>  | <b>405</b>  | <b>597</b>  |

Source: U. S., Department of Agriculture, Forest Survey Release No. 58.

Fishing. Richmond County's fish industry provided employment to approximately 150 workers and a sales value of \$460,000 in 1960. The 1960 dollar value received from sales of fish and shell fish was 5.9 per cent of total personal income. The following statistics will show the changes in the fish industry in Richmond County from 1950 to 1960.

FIGURE 11

## RICHMOND COUNTY'S FISH INDUSTRY

|                                    | 1950      | 1955      | 1960      |
|------------------------------------|-----------|-----------|-----------|
| Employment                         | 196       | 220       | 147       |
| Volume of Fish & Shell Fish (Lbs.) | 1,540,000 | 993,000   | 1,685,000 |
| Number of Boats                    | 100       | 111       | 95        |
| Total Value                        | \$325,000 | \$206,000 | \$460,000 |
| Oysters                            | 270,000   | 150,000   | 300,000   |
| Crabs                              | 19,000    | 22,000    | 53,000    |
| Stripped Bass                      | 16,000    | 7,000     | 12,000    |
| Shad                               | 15,800    | 18,000    | 5,400     |
| Other <sup>a</sup>                 | 4,200     | 9,000     | 89,600    |

<sup>a</sup>Includes herring, catfish, croaker, perch, and clams.

Source: Data compiled from Reports of the Virginia Commission on Fisheries, 1950, 1955, and 1960.

Industry. Richmond County's economy is based primarily on agriculture and agricultural products, with manufacturing ranking as the second most important industry in the county.<sup>1</sup>

The manufacturing establishments in Richmond County are relatively small operations. Except for Levi Strauss all are engaged in the processing of local raw materials. Manufacturing provided employment for 636 workers

<sup>1</sup>Based on interviews with County Agricultural Agent and Warsaw Chamber of Commerce officials.



in March 1960 or 24 per cent of the total work force.

There are a number of canneries operated for short periods of time during the summer months to can tomatoes. The seafood industry also provides seasonal employment for oyster shuckers and menhaden fishermen.

The following is a list of Richmond County's major manufacturing firms and their location, product, and employment.

FIGURE 13

MAJOR INDUSTRIES IN RICHMOND COUNTY

| <u>Name</u>                  | <u>Location</u> | <u>Process or Product</u> | <u>Employment<br/>March 1960</u> |
|------------------------------|-----------------|---------------------------|----------------------------------|
| Hammack Lumber Co.           | Emmerton        | Sawmill & planing<br>mill | 20-49                            |
| Jones Lumber Co.             | Warsaw          | Lumber                    | 20-49                            |
| Levi Strauss and Co.         | Warsaw          | Garment Manufacturer      | 250-499                          |
| Northern Neck Creamery, Inc. | Warsaw          | Creamery                  | 20-49                            |
| Northern Neck Lumber Co.     | Warsaw          | Lumber                    | 20-49                            |
| Rice Oyster Co.              | Simonson        | Oyster house              | 20-49                            |
| George L. Smith Bros., Inc.  | Sharps          | Oyster house              | 20-49                            |
| D. F. Withers and Sons       | Richmond Co.    | Lumber                    | 20-49                            |

Source: Based on Reports Prepared by the Virginia Employment Commission, Research, Statistics, and Information Division.

Commerce. Commercial facilities to serve Richmond County residents are located in Warsaw. Warsaw is the largest community in the county and is considered the trading center for Northern Neck.

The location of Richmond County with respect to the major market areas within 500 miles is illustrated in Figure 12. These market areas include the major ports of the Eastern Seaboard, the eastern section of the Great Lakes area, the Nation's Capital, and numerous other commercial, industrial, and cultural centers.

Residential construction has kept pace with the growth of the county's population, and adequate housing is available. Purchase prices range

from \$9,000 to \$20,000 for individual residences, and rental rates range from \$50 to \$100 per month. In addition, there are a number of general contractors in the area available to satisfy the desires of those preferring custom built houses.

Banking services are provided by the Northern Neck State Bank located at Warsaw. Additional banking services are available through the financial institutions in the cities of Fredericksburg and Richmond.

Transportation. There is no rail service in the entire Northern Neck, of which Richmond County is a part. The nearest railroad trunk line, that of the Richmond, Fredericksburg, and Potomac Railroad, is at Fredericksburg, Virginia, approximately 50 miles northwest of the county. Here, rail connections can be made to other points in the country.

The Rappahannock River, forming the western boundary of Richmond County, has a minimum channel depth of 12 feet and is a navigable stream for light draft vessels. Although this river was a main commerce and transportation artery prior to World War II, there is no scheduled river transportation at this time.

The nearest commercial air facility to Richmond County is the Richard E. Byrd Airport, located just to the east of the city of Richmond and approximately 51 miles southwest of Warsaw, Virginia. Scheduled bus and trucking facilities are available in the county.

Utilities. Electricity is supplied to a large portion of Richmond County by the Northern Neck Electric Cooperative, and the remainder of the area is served by the Virginia Electric and Power Company. The Northern Neck Electric Cooperative receives all of its power requirements over the Virginia Electric and Power Company's system.

The Tidewater Telephone Company provides dependable service for

Richmond County and the entire Northern Neck.<sup>1</sup> This company, with home offices located in Warsaw, serves customers in a wide area throughout 14 counties. The company maintains twenty-four-hour, modern dial service.

Bottled gas is available for domestic, commercial, and industrial use in the county. The gas suppliers are located at Kilmarnock, Warsaw, and Tappahannock. At present, there are no natural gas lines in the vicinity of Richmond County.

There are four water systems located in the county. Each of the systems uses wells for its source.

The town of Warsaw has an adequate municipally-owned water system. The maximum capacity of the well is approximately 350 gallons per minute. A 75,000 gallon storage tank is more than adequate to provide the approximate 35,000 gallons' average use per day at this time.

The other water systems within the county are privately owned and serve new residential subdivisions. At the present time, there are no municipal sewerage systems in the county, and individual septic tanks are used. The privately owned sewage treatment plant for Levi Strauss and Company provides primary and secondary treatment.

#### C. Summary

Richmond County is a rural county located on the narrow peninsula between the Potomac and the Rappahannock Rivers known as the Northern Neck of Virginia. Agriculture is the principal industry with manufacturing ranking second.

The number of farms in Richmond County decreased 34.5 per cent from 1949 to 1959 and 55 per cent were worked on a part-time basis in 1959.

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<sup>1</sup>Ibid.

Land in farms represents about 50 per cent of the total land area.

Agricultural employment<sup>1</sup> was 18.2 per cent of total employment in March 1960 and 30.9 per cent less than the employment in March 1950. Manufacturing employment accounted for 26.4 per cent of total employment with 36.6 per cent employed in nonmanufacturing in March 1960.

Total value of all farm products sold in 1959 was \$1,597,652.<sup>2</sup> This is a 58.3 per cent increase over the 1949 value and represents 20.5 per cent of total personal income in Richmond County in 1960. The importance of field crops as a source of cash farm income has shown gains from 1949 to 1959 and accounted for two-thirds of total dollars received from farming in 1959. Soybeans ranked as the leading source of income with about 28 per cent of sales dollars and corn ranked second at 19 per cent. During the period 1949 to 1959 income from livestock declined from 38 to 29 per cent of the total.

Almost two-thirds of the county area is woodland. The forest industry provides employment in sawmilling and pulpwood production.

Sales from Richmond County's fishing industry (fish and shell fish) increased from \$325,000 in 1950 to \$460,000 in 1960. The 1960 dollar value was 5.9 per cent of total personal income in Richmond County.

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<sup>1</sup>Fig. 19, p. 32.

<sup>2</sup>Fig. 3, p. 9.

## CHAPTER II

## ANALYSIS OF POPULATION, EMPLOYMENT, AND INCOME

The purpose of this chapter is to analyze Richmond County's population, employment, and income for the period 1955 to 1960 to determine what actually happened as a result of Levi Strauss locating a plant in the county in 1955. The period 1950 to 1955 will be used as the base period for the purpose of projecting what can be expected to take place in each variable during the study period (1955-1960) should the same rate of increase or decrease continue. The difference between the projected figures and what actually happened during the study period will be examined to evaluate the effects of the Levi Strauss' plant operation on each variable.

The results of what happened in each variable will be compared with the U. S. Chamber of Commerce study showing what 100 new factory workers bring to a town.<sup>1</sup> The findings will be examined to determine the reasons the results differ.

A. Population

The population of Richmond County has shown a steady decline from 7,434 persons in 1920 to 6,189 persons in 1950. This decline can be attributed to the gradual consolidation of small unprofitable farms and the mechanization of farming and seafood industry. This consolidation and mechanization program released surplus laborers who have migrated

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<sup>1</sup>Chamber of Commerce of the United States, What New Industrial Jobs Mean to a Community (Washington: Chamber of Commerce of the United States, 1962), p. 6.



out of the county for better job opportunities.

Richmond County's population increased three per cent during the decade 1950 to 1960. In 1950, there were 6,189 persons in the county compared with 6,375 persons in 1960. The bulk of the population increase took place in the county's Marshall district which includes the town of Warsaw. Marshall district's population represented 34.6 per cent of the county's total population in 1960. The county's population by minor civil divisions for the years 1940, 1950, and 1960 follows:

FIGURE 14

RICHMOND COUNTY - POPULATION

| <u>Magisterial Districts</u> | <u>Population</u> |              |              |
|------------------------------|-------------------|--------------|--------------|
|                              | <u>1940</u>       | <u>1950</u>  | <u>1960</u>  |
| Farnham District             | 1,359             | 1,262        | 1,172        |
| Marshall District            | 2,176             | 1,994        | 2,203        |
| Warsaw town <sup>a</sup>     | Not Incorporated  | (435)        | (549)        |
| Stonewall District           | 936               | 795          | 723          |
| Washington District          | <u>2,163</u>      | <u>2,138</u> | <u>2,277</u> |
| Total                        | 6,634             | 6,189        | 6,375        |

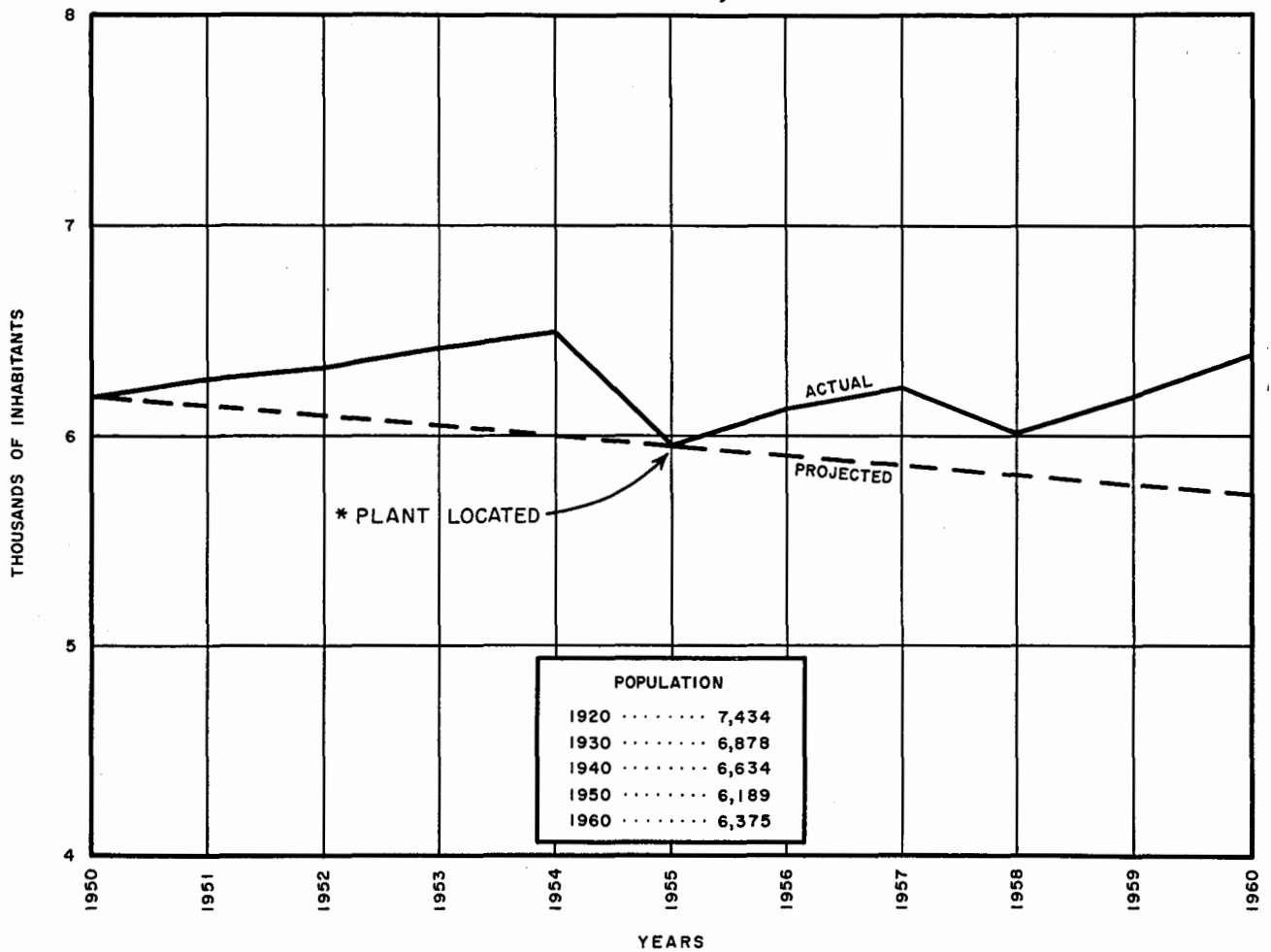
<sup>a</sup>Warsaw town population included in Marshall District population.

Source: U. S., Bureau of the Census, Census Reports of the United States: 1940, 1950, 1960. Population.

Figures for the period 1950 to 1960 indicate that the population trend in Richmond County has reversed itself. This in part can be attributed to improved transportation facilities with more people commuting to industrial centers while continuing to reside in the county. A more important reason might be that better job opportunities were provided in the county

FIGURE 15

POPULATION 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
 Source: Fig. 30, p. 70.

Richmond County's population showed a three per cent increase for the decade 1950 to 1960. The population during the base period 1950 to 1955 decreased from 6,189 to an estimated 5,956 persons, or 3.8 per cent. Had this rate of decline continued as shown by the broken line in the above figure the population would have decreased to 5,723 persons by 1960. The population increased seven per cent during the study period 1955 to 1960.

by Levi Strauss and other companies<sup>1</sup> for male workers and wives of marginal farm operators. The additional income earned by wives of marginal farm operators might have slowed the exodus of this group from the county.

Based on information presented in Figures 31 and 32, pp. 71-72, of the appendix, the influx of persons 65 years and over increased from 485 in 1950 to 665 in 1960 or 37.1 per cent. This is an affluent segment of the population that has built expensive homes along the Rappahannock River and the many other smaller streams throughout the county. This population group has been good for the economy of Richmond County.

The financial influence of this group consisting primarily of retired persons, reflected in home ownership, taxes, use of local banking and service facilities, provision of jobs for construction of homes and maintenance, has been instrumental in improving the economy of Richmond County.

The preschool age group and the 5-19 age group were fairly stable with an increase from 2,374 to 2,456 persons or 3.5 per cent from 1950 to 1960.

The prime labor force age group 20-39 experienced a 10 per cent decrease from 1950 to 1960. The majority of this number were in the age group 20-29 and were probably high school graduates who either left to go to college and did not return or left because of a lack of appropriate job opportunities for high school graduates.

The U. S. Chamber of Commerce Study reported 359 more people would be added over a 10-year period for each 100 new factory workers brought into a town. On this basis, population for the study period (1955-1960) should

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<sup>1</sup>Fig. 13, p. 18.

have increased by 429<sup>1</sup> in addition to the normal increase. The normal increase is determined by projecting the same increase or decrease experienced during the base period (1950-1955) as for the study period (1955-1960). On this basis, the projected population for 1960 would have been 6,152<sup>2</sup> persons. The actual 1960 population was 6,375 or 223 more people than projected by the U. S. Chamber. Richmond County's population increased by 419 during the study period (1955-1960).

Levi Strauss did not actually import any employees to live in Richmond County. All employees were recruited from the local area. Of the total employment approximately 30 per cent live in Richmond County and 70 per cent in the adjoining counties.

Richmond County's population increase was not a direct result of Levi Strauss' employment but can be tied to the increased industrial activity and its overall impact. It appears that Levi Strauss did provide jobs for persons who might have migrated out of the county had these jobs not been made available.

#### B. Employment

Average unemployment insurance covered employment in Richmond County during the first quarter of 1960, as recorded by the Virginia Employment Commission, totaled 1,115 persons.<sup>3</sup> The majority of these persons were employed in either the construction, manufacturing, or trade groups, and all were covered by unemployment insurance. Unemployment insurance coverage

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<sup>1</sup>Figure is determined by taking 60 per cent (6 yrs. of 10-yr. period) of 359 x 199 (avg. no. of Levi Strauss employees 1955-1960).

<sup>2</sup>Figure is determined by projecting the 1950-1955 population at the same rate of decrease to 1960 + Chamber figure (5,723 + 429).

<sup>3</sup>Virginia Employment Commission, Research, Statistics, and Information Division, Covered Employment and Wages - First Quarter 1960, p. 10.

includes nonagricultural employers having four or more workers for some portion of a day in each of twenty different weeks within a calendar year. Excluded from this group are government and railroad employees, the self-employed, domestic service workers, unpaid family workers, and employees of some nonprofit organizations.

FIGURE 16

NUMBER OF ESTABLISHMENTS AND AVERAGE EMPLOYMENT  
BASED ON COVERED EMPLOYMENT, FIRST QUARTER 1950, 1955, 1960

|                  | <u>Number of Establishments</u> |             |             | <u>Average Employment for Quarter</u> |             |             |
|------------------|---------------------------------|-------------|-------------|---------------------------------------|-------------|-------------|
|                  | <u>1950</u>                     | <u>1955</u> | <u>1960</u> | <u>1950</u>                           | <u>1955</u> | <u>1960</u> |
| TOTAL            | 32                              | 41          | 62          | 393                                   | 692         | 1,115       |
| Manufacturing    | 14                              | 21          | 22          | 160                                   | 315         | 627         |
| Nonmanufacturing | 18                              | 20          | 40          | 233                                   | 377         | 488         |

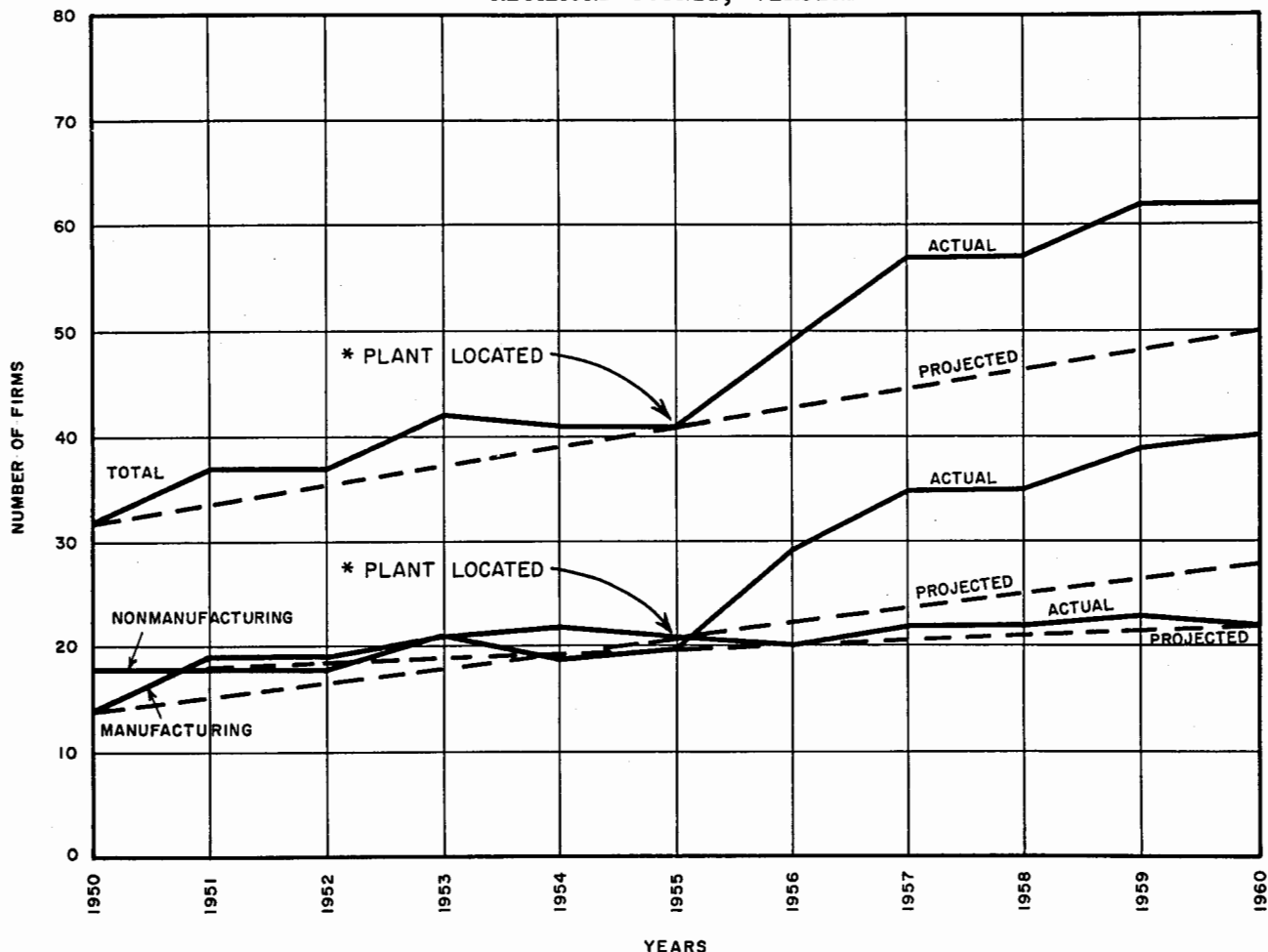
Source: Data Compiled from Reports of the Virginia Employment Commission, Research, Statistics, and Information Division.

Only manufacturing and nonmanufacturing firms and workers covered by unemployment insurance will be considered in this analysis. More complete and accurate records are available on these firms and workers. Data on other groups are not available for the years between 1950 and 1960. Reference will be made in a latter part of this section to the make-up and changes in the county's total work force components from 1950 to 1960.

Based on information provided in Figure 33, p. 73, of the appendix, total manufacturing and nonmanufacturing firms in Richmond County increased 93.8 per cent from 1950 to 1960. The greater part of this increase was in nonmanufacturing firms. Nonmanufacturing firms had a 11.1 per cent increase during the base period (1950-1955), and showed a 100.0 per cent increase

FIGURE 17

MANUFACTURING AND NONMANUFACTURING FIRMS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 33, p. 73.

Total manufacturing and nonmanufacturing firms in the county increased 93.8 per cent from 1950 to 1960. There was a 57.1 per cent increase in manufacturing firms and 122.2 per cent increase in nonmanufacturing firms during the period 1950 to 1960. The number of manufacturing firms increased from 14 in 1950 to 21 in 1955, and to 22 in 1960. Nonmanufacturing firms increased from 18 in 1950 to 20 in 1955, and to 40 in 1960. Had the increase experienced during the base period 1950 to 1955 continued from 1955 to 1960, the projected number of firms for 1960 would have been 50.

during the study period (1955-1960). Actual number of nonmanufacturing firms increased from 20 in 1955 to 40 firms in 1960. Based on information supplied by the Virginia Employment Commission this increase of 20 non-manufacturing firms from 1955 to 1960 was primarily service industries in the construction and retail trade groups. There was an increase of 26 retail establishments<sup>1</sup> from 1954 to 1958 but not all had enough employment to be included under the unemployment insurance covered category. Unemployment insurance coverage was changed in 1956 and effective in 1957 to cover all firms with 4 or more employees which previously covered only firms with 8 or more employees.

The retired group of the population that moved to Richmond County during the period 1950 to 1960 from metropolitan centers where all service facilities were available to them, added to the demand for additional service industries. These retired businessmen wanted adequate service facilities without long inconveniences. They were instrumental in helping to reorganize some service industries and provided consultant services to local businessmen to help them organize new service industries.<sup>2</sup>

The town of Warsaw became more closely identified as the trading center of Northern Neck with the construction of the Levi Strauss plant in Warsaw in 1955. As a result new retail and service industries were established in the town of Warsaw and Richmond County.

It appears that this increase in nonmanufacturing industries can be attributed in part to the Levi Strauss plant locating in Richmond County. Based on information provided in Figure 34, p. 74, of the appendix, and

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<sup>1</sup>Fig. 34, p. 74.

<sup>2</sup>Based on interviews with H. Marston Smith, President, Warsaw Chamber of Commerce and Richard Farmar, County Agricultural Agent.

presented graphically in Figure 18 on the following page, total manufacturing and nonmanufacturing workers in Richmond County increased 183.7 per cent from 1950 to 1960. There was a 76.1 per cent increase during the base period (1950-1955) and a 61.1 per cent increase during the study period (1955-1960). This decrease in total workers is a reflection of the decrease experienced in nonmanufacturing workers. According to officials of the Warsaw Chamber of Commerce and County Agricultural Agent<sup>1</sup> the decrease in nonmanufacturing workers is the result of more efficient and self-service operations in retail and selected services and agriculture.

Manufacturing workers increased 291.9 per cent from 1950 to 1960 with a 96.0 per cent increase from 1950 to 1955 and 99.0 per cent increase from 1955 to 1960. The overall increase for the eleven-year period was a fairly steady increase except for the period 1955 to 1957 when manufacturing workers increased from 315 to 507 or 61.0 per cent. This is the period when Levi Strauss increased its employment from 43 employees in 1955 to 154 in 1957. This impact of Levi Strauss' new employees is shown graphically in Figure 18.

Reference is made to Figure 19 on page 32 for a further analysis of the estimated work force components of Richmond County for the period March 1950 to March 1960. Comparable information is not available for March 1955. This information differs from that presented in Figure 34 on page 74 because the total work force is included in Figure 19, whereas only firms and workers covered by unemployment insurance were included in Figure 34.

The total work force increased 33.7 per cent from 1950 to 1960,

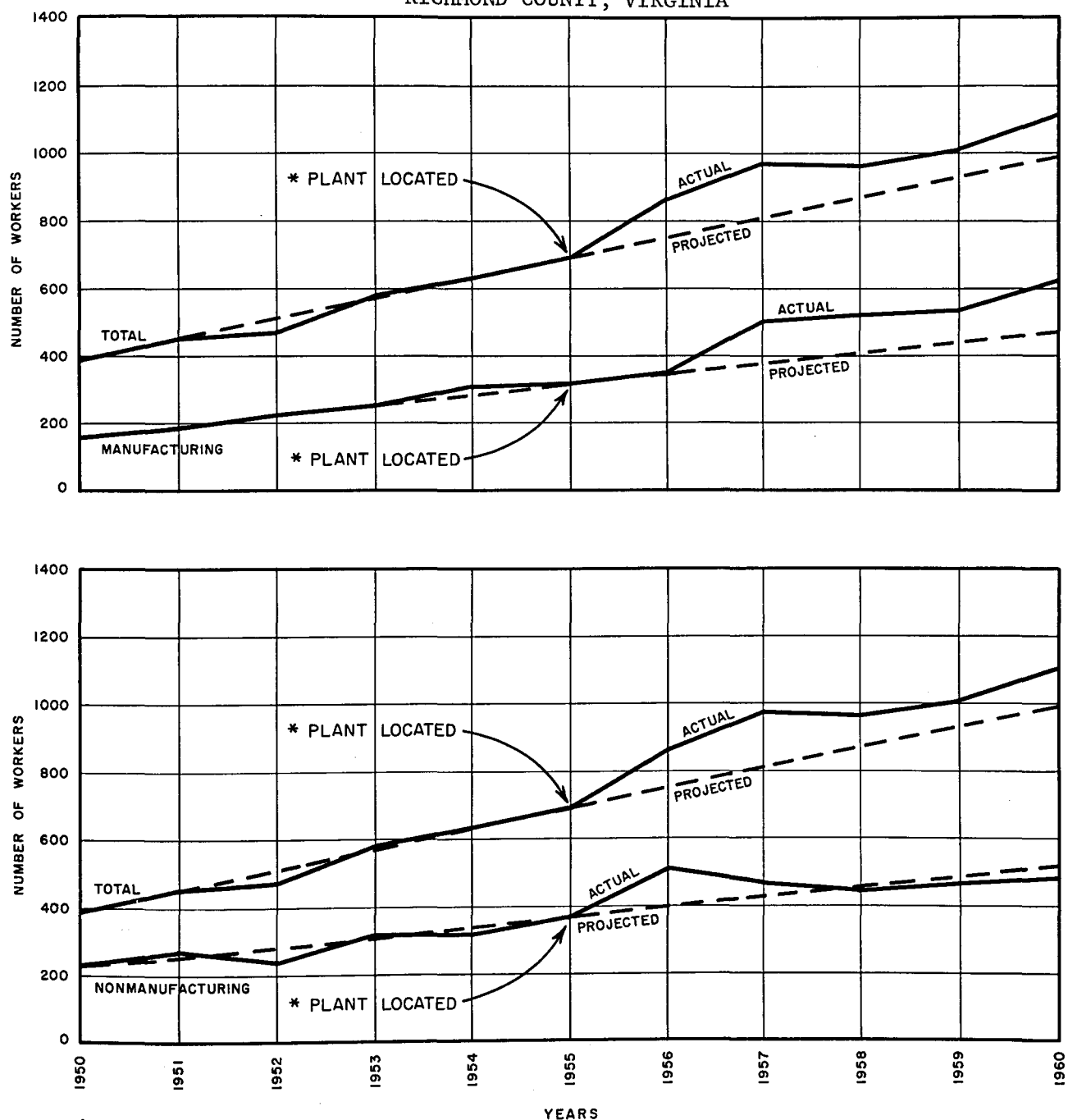
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<sup>1</sup>Ibid.



FIGURE 18

MANUFACTURING AND NONMANUFACTURING WORKERS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 34, p. 74.

Total employment covered by Unemployment Compensation Insurance increased 183.7 per cent from 1950 to 1960. Manufacturing workers increased 291.9 per cent for the 11-year period. For the same period, nonmanufacturing workers increased 109.4 per cent. It should be noted that the Levi Strauss & Company plant increased their number of employees from 43 to 267 during the period 1955 to 1960, thereby contributing 224 employment positions covered by Unemployment Compensation Insurance.

FIGURE 19

ESTIMATED WORK FORCE COMPONENTS  
RICHMOND COUNTY, VIRGINIA

|  | <u>1950</u>  | <u>1960</u>  | <u>1961</u>  | <u>Per Cent Change</u>         |
|--|--------------|--------------|--------------|--------------------------------|
|  | <u>March</u> | <u>March</u> | <u>March</u> | <u>March 1950 - March 1960</u> |
| Total Work Force                       | 1,980        | 2,648        | 2,625        | 33.7                           |
| Total Employment                       | 1,771        | 2,412        | 2,368        | 36.2                           |
| Total Nonagricultural                  | 1,134        | 1,972        | 1,941        | 73.9                           |
| Manufacturing                          | 250          | 636          | 602          | 154.4                          |
| Durable Goods                          | 182          | 216          | 254          | 18.7                           |
| Nondurable Goods <sup>a</sup>          | 68           | 420          | 348          | 517.6                          |
| Nonmanufacturing                       | 669          | 882          | 862          | 31.8                           |
| Construction                           | 33           | 43           | 58           | 30.3                           |
| Transportation and Public<br>Utilities | 149          | 211          | 216          | 41.6                           |
| Wholesale and Retail Trade             | 201          | 307          | 267          | 52.7                           |
| Finance, Insurance and<br>Real Estate  | 22           | -            | -            | -                              |
| Service                                | 95           | -            | -            | -                              |
| Government                             | 150          | 208          | 208          | 38.7                           |
| Other                                  | 19           | 113          | 113          | 494.7                          |
| All Other Nonagricultural <sup>b</sup> | 215          | 454          | 477          | 111.2                          |
| Agricultural                           | 637          | 440          | 427          | -30.9                          |
| Unemployment                           | 209          | 236          | 257          | 12.9                           |
| Per Cent of Work Force                 | 10.6         | 8.9          | 9.8          | -1.7                           |

<sup>a</sup>Includes food, textile, apparel, paper and printing, and chemicals industries.

<sup>b</sup>Includes nonagricultural, self-employed and unpaid family workers, and domestic workers in private households.

Source: Compiled from Reports of the Virginia Employment Commission, Research, Statistics, and Information Division.

while population only increased 3.0 per cent. It appears that new workers were generated in the work force. These new workers came primarily from the category of married women with families who had not before found suitable work in the area.

Manufacturing employment has shown the greatest increase from 1950 to 1960 with a 154.4 per cent increase. This increase can be attributed to Levi Strauss' employment in the nondurable goods category with a 517.6 per cent increase.

Nonmanufacturing workers increased from 669 in 1950 to 882 in 1960 or 31.8 per cent. Wholesale and retail trade provided the largest number of jobs with transportation and public utilities providing the second largest number.

The category, all other nonagricultural, which includes nonagricultural, self-employed and unpaid family workers, and domestic workers in private households increased 111.2 per cent from 1950 to 1960. Self-employed and domestic workers in private households were primarily responsible for this increase. The self-employed were primarily engaged in lumbering and fishing operations. The domestic workers increase is attributed to the influx of retired families in the area hiring local domestic workers.

The drop in agricultural employees from 637 in 1950 to 440 in 1960 can be attributed to the consolidation of small unprofitable farms and mechanization of farming. Total number of farms<sup>1</sup> in Richmond County decreased from 675 in 1949 to 442 in 1959.

Unemployment increased from 209 in March 1950 to 236 in March 1960, as a per cent of the work force decreased from 10.6 per cent in 1950

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<sup>1</sup>Fig. 3, p. 9.

to 8.9 per cent in 1960. According to the Virginia Employment Commission this results from the seasonal nature of the food processing industry and agriculture in Richmond County. Included in the seasonal food processing industries are oyster shuckers, tomato packers and menhaden fishermen.

The unemployment for Richmond County in September of 1960 was 4.4 per cent of the total work force as compared with 3.9 per cent for the State of Virginia for the same period.

Based on the U. S. Chamber of Commerce study, 65 more workers would be employed in nonmanufacturing over a 10-year period for each 100 new factory workers brought into a town. On this basis, nonmanufacturing workers for the study period (1955-1960) should have increased by 78<sup>1</sup> in addition to the normal increase. The normal increase is determined by projecting the same increase experienced during the base period (1950-1955). On this basis, the projected number of nonmanufacturing workers for 1960 would have been 599.<sup>2</sup> The actual number was 488 or 18.5 per cent below the Chamber's projection.

It seems reasonable to assume the U. S. Chamber's projected increase in number of nonmanufacturing workers was not reached because Levi Strauss did not import any employees into Richmond County. The number of nonmanufacturing workers increased at less than one-third the rate for manufacturing workers (1955-1960). It is assumed the number of Levi Strauss employees (less than 30 per cent) who live in Richmond County

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<sup>1</sup>Figure is determined by taking 60 per cent (6 yrs. of 10-yr. period) of 65 x 199 (avg. no. of Levi Strauss employees 1955-1960).

<sup>2</sup>Figure is determined by projecting the 1950-1955 number of nonmanufacturing workers at the same rate of increase to 1960 + Chamber figure (521 + 78).

was not large enough to create the number of projected jobs but did influence better utilization of nonmanufacturing workers and facilities. Approximately 70 per cent of Levi Strauss' employees live in the surrounding eight counties and it seems reasonable to assume these employees patronize local service industries in the community in which they live.

It is of interest to note in Figure 34, page 74, of the appendix, that the number of nonmanufacturing workers decreased from 510 to 444 workers from 1956 to 1958 but increased from 444 to 488 workers from 1958 to 1960. This increase came at the same time as a 19.7 per cent increase was shown in manufacturing workers and Levi Strauss increased employment by 16.6 per cent.

It seems reasonable to conclude that Levi Strauss' plant operation and the overall industrial expansion in the area did result in new jobs in nonmanufacturing.

### C. Income

Personal income<sup>1</sup> of Richmond County residents has about equaled income for Northern Neck and the State of Virginia for the period 1950 to 1960. For the base period (1950-1955), Richmond County's personal income increased 26.3 per cent; Northern Neck 67.3 per cent; and the State of Virginia 37.6 per cent. For the study period (1955-1960) Richmond County's personal income increased 43.3 per cent; Northern Neck 8.4 per cent; and the State of Virginia 33.1 per cent.

It is significant that Richmond County's per cent of increase in personal income from 1955 to 1960 exceeded that of the Northern Neck by 34.9 per cent and the State of Virginia by 10.2 per cent. The greater

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<sup>1</sup>Fig. 35, p. 75.

portion of Richmond County's increase in personal income took place from 1958 to 1960. It appears this increase is related to the corresponding increase in Levi Strauss' employment and gross payroll from 1958 to 1960.

Personal income for Richmond County residents is shown graphically in Figure 21 on page 37. Attention is directed to the increase in Levi Strauss' gross payroll beginning in 1956 and the corresponding increase in the graphic presentation.

FIGURE 20  
LEVI STRAUSS AND COMPANY

| <u>Year</u> | <u>Number of Employees</u> | <u>Gross Payroll</u> |
|-------------|----------------------------|----------------------|
| 1953        | 48                         | \$ 37,176            |
| 1954        | 41                         | 73,185               |
| 1955        | 43                         | 77,882               |
| 1956        | 183                        | 238,592              |
| 1957        | 154                        | 470,161              |
| 1958        | 229                        | 502,571              |
| 1959        | 315                        | 575,737              |
| 1960        | 267                        | 502,160              |
| 1961 August | 321                        |                      |

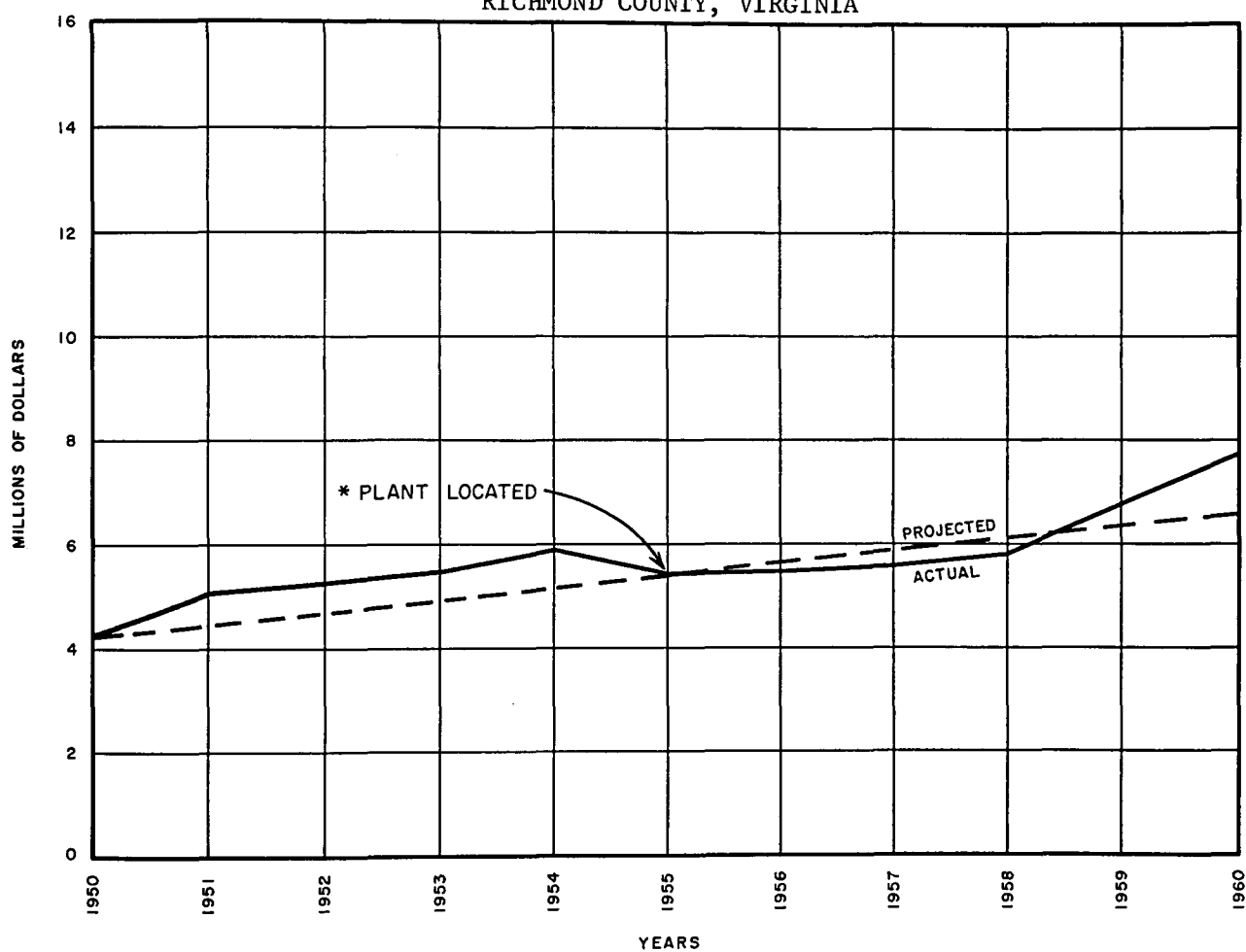
Source: Letter from C. J. Tucker, Levi Strauss and Company, June 22, 1966.

Based on the U. S. Chamber of Commerce study, for each 100 new factory workers brought into a town, personal income is increased by \$710,000 per year. On this basis, personal income for the study period (1955-1960) should have increased by \$8,456,100<sup>1</sup> in addition to the normal increase. The normal increase is determined by projecting the same increase experienced during the base period (1950-1955) as for the study period (1955-

<sup>1</sup>Figure is determined by multiplying \$710,000 x no. of Levi Strauss employees each year 1955-1960.

FIGURE 21

PERSONAL INCOME 1950 - 1960  
RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 35, p. 75.

Personal income of residents increased 81.1 per cent from 1950 to 1960. The income value was \$4,295,000 in 1950; \$5,426,000 in 1955; and \$7,777,000 in 1960. Personal income increased 26.3 per cent from 1950 to 1955 and 43.3 per cent from 1955 to 1960. If the increase experienced in income during the base period 1950 to 1955 had continued from 1955 to 1960, the income for 1960 would have been \$6,557,000.

1960). The projected personal income for 1960 should have been \$15,013,100.<sup>1</sup> The actual personal income was \$7,777,000 or 48.2 per cent below the Chamber's projection.

Richmond County did not experience this increase in personal income because in part Levi Strauss did not import new employees into the area. All employees were recruited from the local area. Approximately 30 per cent of the employees live in Richmond County and 70 per cent live in the eight surrounding counties. It seems reasonable to assume that 70 per cent of Levi Strauss' annual payroll does not remain in Richmond County, but is spent in all probability in the eight surrounding counties in which the workers live or in the nearby cities of Fredericksburg and Richmond, Virginia.

It is believed, Levi Strauss' plant operation and increased commercial and industrial operations in the area did influence the increase in Richmond County's personal income. Data on per capita income for Richmond County for the period 1950 to 1960 are presented graphically in Figure 22, p. 39. The basic data for this graphic illustration are presented in Figure 36, p. 76, of the appendix showing per capita income for selected years for Richmond County and the State of Virginia. Per capita income in Richmond County has not kept pace with the State of Virginia. However, the rate of increase in Richmond County has exceeded that for the State for each study period. Richmond County's increase of 36.3 per cent for 1955 to 1960 is more than double the State's increase of 17.2 per cent for the same period.

Richmond County's economy is primarily based on agriculture with

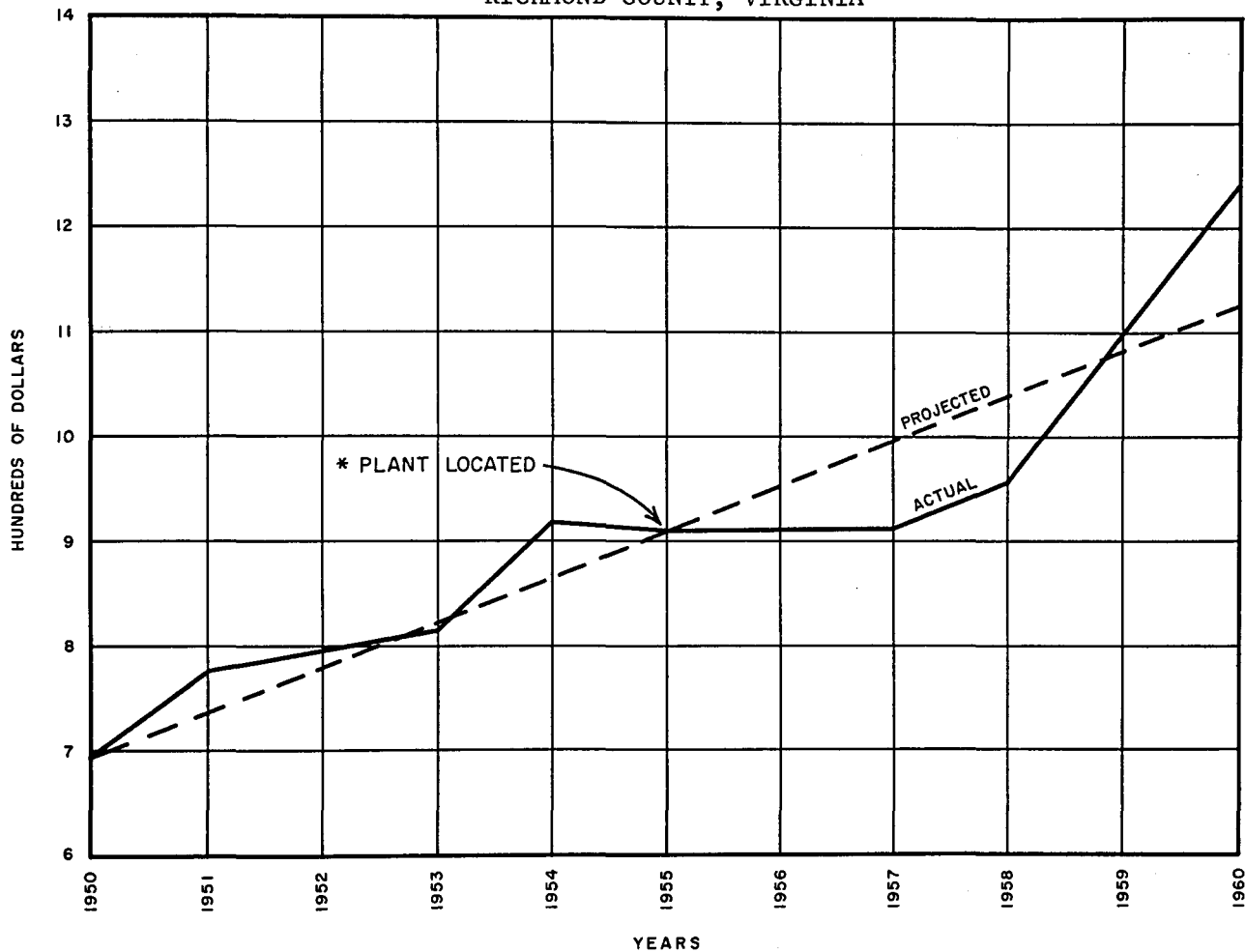
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<sup>1</sup>Figure is determined by projecting the 1950-1955 personal income at the same rate of increase to 1960 + Chamber figure (\$6,557,000 + \$8,456,100).



FIGURE 22

PER CAPITA INCOME 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 36, p. 76.

Per capita income increased from \$694 in 1950 to \$1,242 in 1960, or 79.0 per cent. For the year 1955, it was \$911. This indicates a 31.3 per cent increase from 1950 to 1955 and a 36.3 per cent increase from 1955 to 1960. The projected per capita income would have been \$1,128 for 1960, if the increase experienced during the base period 1950 to 1955 had continued through 1960. For the state during the same periods, the per capita income for 1950 was \$1,228, for 1955 - \$1,572, and for 1960 - \$1,843.

industry ranking second. Major industries in Richmond County are engaged in the processing of farm products, forestry, fishing, and one textile manufacturer. All are in the low-pay-scale group and directly influence the per capita income for Richmond County residents.

Referring to Figure 21 on page 37, it appears the increase in Levi Strauss' employment and gross payroll did influence the increase in per capita income beginning in 1957 with the greatest impact between 1958 and 1960. Per capita income increased 9.4 per cent from 1958 to 1960.

A graphic presentation on manufacturing and nonmanufacturing average quarterly wage per worker for the first quarter 1950 to 1960 is presented in Figure 23 on the following page.

Manufacturing wages for the period 1950 to 1960 almost doubled the per cent of increase of nonmanufacturing workers' wages for the same period and more than doubled the increase for the study period (1955-1960). Major manufacturing industries in Richmond County are in the textile, lumbering, and food processing and are basically low-pay-scale industries.

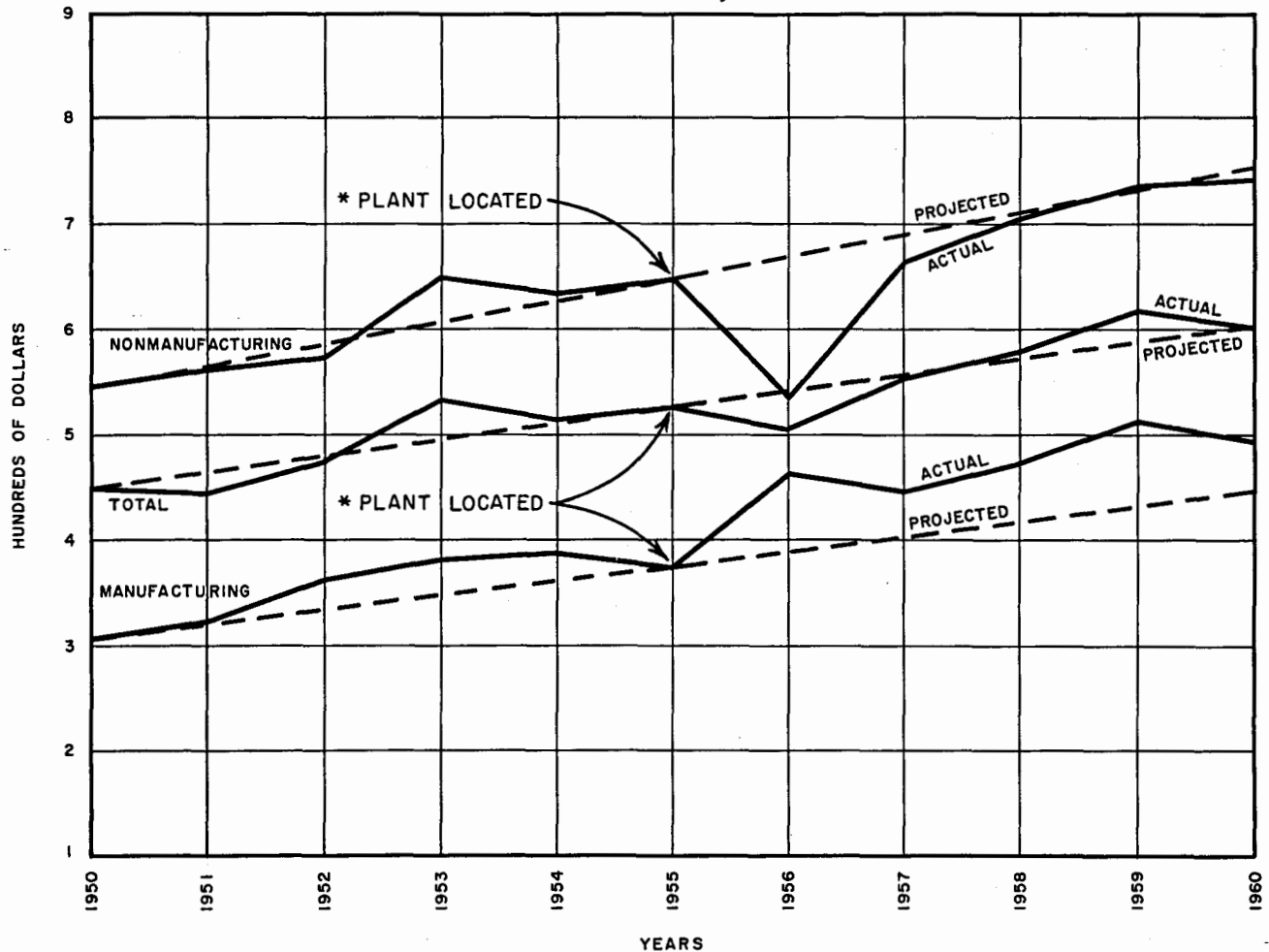
Nonmanufacturing workers' average quarterly wages showed a greater percentage increase during the base period (1950-1955) than for the study period (1955-1960). Nonmanufacturing workers in Richmond County receive a much higher wage than the manufacturing workers. This is because the wage scale for construction and utility workers is higher than the manufacturing industries in food processing, lumbering, and textiles.

Manufacturing average quarterly wage per worker increased 30.9 per cent during the study period (1955-1960). This in part can be attributed to the improved wage scale at Levi Strauss over other manufacturing industries in Richmond County.

Additional data are presented on manufacturing and nonmanufac-

FIGURE 23

MANUFACTURING AND NONMANUFACTURING AVERAGE QUARTERLY WAGE PER WORKER  
 FIRST QUARTER 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
 Source: Fig. 37, p. 77.

The average quarterly wage per worker for manufacturing and non-manufacturing firms increased 33.9 per cent for the first quarter period 1950 to 1960. The increase for the base period 1950 to 1955 was 16.9 per cent while the increase from 1955 to 1960 was 14.5 per cent. The average quarterly wage per manufacturing worker increased 61.3 per cent from 1950 to 1960 while nonmanufacturing workers increased only 35.2 per cent.

turing gross wages for the first quarter 1950 to 1960 in Figures 38-39, pages 78-79.

D. Summary

Richmond County's population reversed a declining trend since 1920 with a 3.0 per cent increase from 1950 to 1960. This population increase is attributed to improved transportation facilities with more people commuting to industrial centers and continuing to reside in the county, influx of retired persons, and better job opportunities provided by Levi Strauss and other industries in the area.

Number of manufacturing and nonmanufacturing firms covered by unemployment insurance increased 93.8 per cent from 1950 to 1960. Manufacturing firms had a 4.8 per cent increase during the study period (1955-1960) while nonmanufacturing firms increased by 100.0 per cent. This increase in nonmanufacturing was primarily service industries in the construction and retail trade groups.

Total manufacturing and nonmanufacturing workers covered by unemployment insurance increased 183.7 per cent from 1950 to 1960. Manufacturing workers experienced a 99.0 per cent increase during the study period (1955-1960) primarily because Levi Strauss workers were added during this period. Nonmanufacturing workers decreased during the study period (1955-1960) as a result of more efficient and self-service operations in retail and selected services, and agriculture.

Personal income of residents of Richmond County increased 81.1 per cent from 1950 to 1960. An increase of 43.3 per cent was experienced during the study period (1955-1960). It is believed, Levi Strauss' plant operation and increased commercial and industrial operations in the area did influence the increase in personal income.

Per capita income in Richmond County has not kept pace with the State of Virginia. However, the rate of increase in Richmond County has exceeded that for the State for each study period. Richmond County's increase of 36.3 per cent for 1955 to 1960 is more than double the State's increase of 17.2 per cent for the same period. Richmond County's industries are in the low-pay-scale group and this is a direct cause for the low per capita income.

Manufacturing wages for Richmond County workers increased 30.9 per cent during the study period (1955-1960) which was more than double the per cent increase for nonmanufacturing workers. This in part can be attributed to the improved wage scale at Levi Strauss over other manufacturing industries in Richmond County.

Levi Strauss provided jobs for a number of persons who otherwise would have left the county for better job opportunities. Total income and per capita income were increased during the study period (1955-1960) as a result of Levi Strauss' plant operation and increased commercial and industrial operations in the area.

## CHAPTER III

## ANALYSIS OF ECONOMIC INSTITUTIONS

A. Retail and Wholesale Trade

Richmond County is well serviced by a variety of stores, shops, and service facilities.<sup>1</sup> Because of the rural nature of the county and close proximity to shopping facilities in Fredericksburg and Richmond, the establishments are for the most part relatively small operations. Warsaw is considered the trading center for the four counties in the "Northern Neck" of Virginia.

FIGURE 24

## RETAIL AND WHOLESALE TRADE

| <u>Year</u> | <u>Retail Trade</u>             |                   |
|-------------|---------------------------------|-------------------|
|             | <u>Number of Establishments</u> | <u>Sales (\$)</u> |
| 1939        | 97                              | \$ 922,000        |
| 1948        | 102                             | 3,377,000         |
| 1954        | 121                             | 10,691,000        |
| 1958        | 147                             | 9,921,000         |
| 1963        | 78                              | 7,122,000         |

| <u>Year</u> | <u>Wholesale Trade</u>          |                   |
|-------------|---------------------------------|-------------------|
|             | <u>Number of Establishments</u> | <u>Sales (\$)</u> |
| 1939        | 19                              | \$ 762,000        |
| 1948        | 6                               | 2,255,000         |
| 1954        | 19                              | 3,994,000         |
| 1958        | 19                              | 8,199,000         |
| 1963        | 12                              | 4,155,000         |

Source: Based on Reports Prepared by U. S., Department of Commerce, Census of Business, 1939, 1948, 1954, 1958, and 1963.

<sup>1</sup>Based on interviews with H. Marston Smith, President, Warsaw Chamber of Commerce, and Richard Farmar, County Agricultural Agent.

Retail and wholesale figures are not available for 1940, 1950, 1955, and 1960, so corresponding figures from the 1939, 1948, 1954, 1958, and 1963 Census of Retail and Wholesale Trade have been used.

The retail and wholesale variables experienced increases in both number of establishments and sales as shown in Figure 24 on the preceding page. Forty-five new retail establishments were built from 1948 to 1958 with sales increasing from \$3,377,000 to \$9,921,000 or 193.8 per cent.

The majority of these new retail establishments have been built in Warsaw as this community became more closely identified as the trading center for Richmond County and the Northern Neck of Virginia. The decrease of 69 retail establishments from 1958 to 1963 is a result of small unprofitable operations in outlying rural communities going out of business.

Improved highways and motor vehicles have made it easy for the public to travel 50 to 100 miles to do their shopping for clothing and household furnishings. Regional shopping centers where the customers can do all their shopping with one stop have proven to be very much desired.

The impact of Richmond County residents doing their shopping in the major regional shopping centers located in nearby cities of Fredericksburg and Richmond is evident with the per cent drop in retail sales from 1954 to 1963.

The drawing power of the retail establishments in Fredericksburg is reflected in the analysis of per capita retail trade for the Richmond County and Fredericksburg areas. In Richmond County, per capita retail sales in 1958 were estimated to be \$1,633. Fredericksburg, on the other hand, had per capita retail sales of \$2,976.<sup>1</sup>

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<sup>1</sup>U. S., Department of Commerce, Census of Business, 1963, Table 3, p. 42.

Wholesale trade has experienced the same general decline in number of establishments as retail trade. Wholesale sales increased 77.1 per cent from 1948 to 1954 and 105.3 per cent from 1954 to 1958. The number of establishments dropped from 19 to 12 and sales decreased 49.3 per cent for the period 1958 to 1963. It appears this decrease is because of the large number of Richmond County residents doing their shopping in Fredericksburg and Richmond. With improved transportation and refrigeration facilities, Warsaw and Richmond County can be easily served on a day-to-day basis from wholesale establishments in nearby cities.

Based on the U. S. Chamber of Commerce study, three more retail establishments would be added over a 10-year period and \$331,000 more retail sales per year for each 100 new factory workers brought into a town. On this basis and using the 1954 and 1958 retail trade figures, four retail stores and \$2,310,380<sup>1</sup> in retail sales should have been added during the study period (1955-1960) in addition to the normal increase or decrease. The normal increase or decrease is determined by projecting the same increase or decrease for the period 1948 to 1954. In 1958 Richmond County should have had 140 retail establishments and \$20,315,380<sup>2</sup> in retail sales. The actual number of retail establishments was 147 with sales of \$9,921,000. Sales were 51.2 per cent below the projected increase.

Levi Strauss did not import any employees into the Richmond County area. All employees were recruited from the local area. Of the total employees, approximately 30 per cent live in Richmond County and 70 per cent live in the surrounding eight counties. It seems reasonable to assume that

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<sup>1</sup>Figure is determined by multiplying \$331,000 x no. of Levi Strauss employees each year.

<sup>2</sup>Figure is determined by projecting the 1948-1954 sales at the same rate of increase to 1958 + Chamber figure (\$18,005,000 + \$2,310,380).



70 per cent of Levi Strauss' payroll is spent in other communities where the workers live.

The 30 per cent of Levi Strauss workers living in Richmond County would certainly add dollars to retail sales. Ninety per cent of the workers at Levi Strauss are women. Most are married women working to supplement the family income. Without this additional payroll in the county, retail and wholesale sales would probably have been less.

B. Bank Deposits, Bank Assets, and Bank Clearings

Banking facilities are provided in Richmond County by the Northern Neck State Bank. Additional banking services are available through the financial institutions in the cities of Fredericksburg and Richmond.

Bank deposits are probably one of the most sensitive indicators of economic activity in an area. As shown in Figure 40, bank deposits increased by 115.5 per cent from 1950 to 1960. A greater increase was experienced during the base period (1950-1955) than the study period (1955-1960). However, the rate of increase from 1957 to 1960 was almost seven per cent above the projected increase. Levi Strauss' gross payroll<sup>1</sup> was increased from \$238,592 in 1956 to \$575,737 in 1959. This increase in Levi Strauss' payroll is directly reflected in bank deposits, bank assets, and bank clearings.

It appears that bank deposits, bank assets, and bank clearings were quite sensitive to the increase in total personal income in Richmond County from 1950 to 1960.

These findings are presented in Figures 25-27.

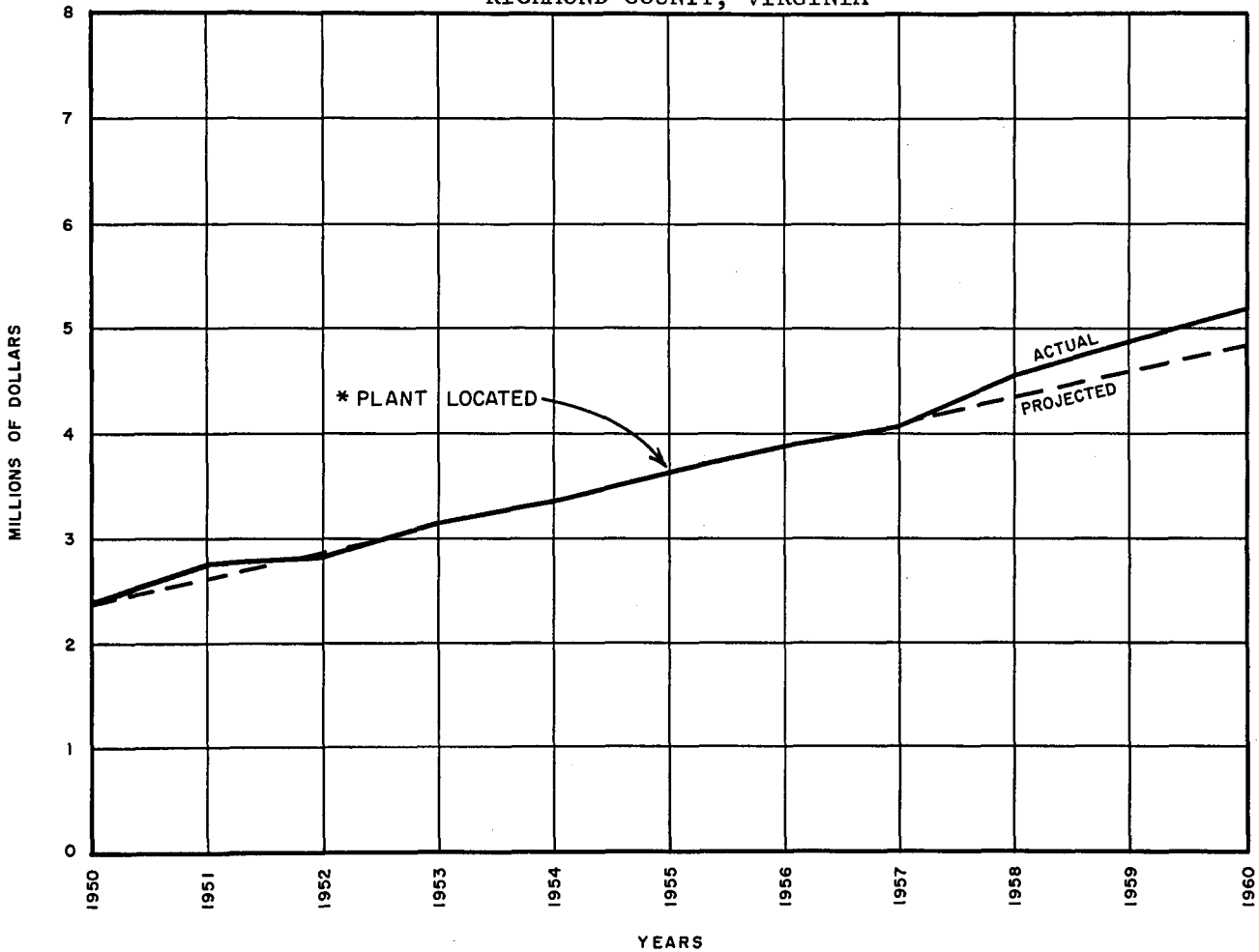
The U. S. Chamber of Commerce study reported \$229,000 more bank deposits would be added over a 10-year period for each 100 new factory

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<sup>1</sup> Fig. 20, p. 36.

FIGURE 25

BANK DEPOSITS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



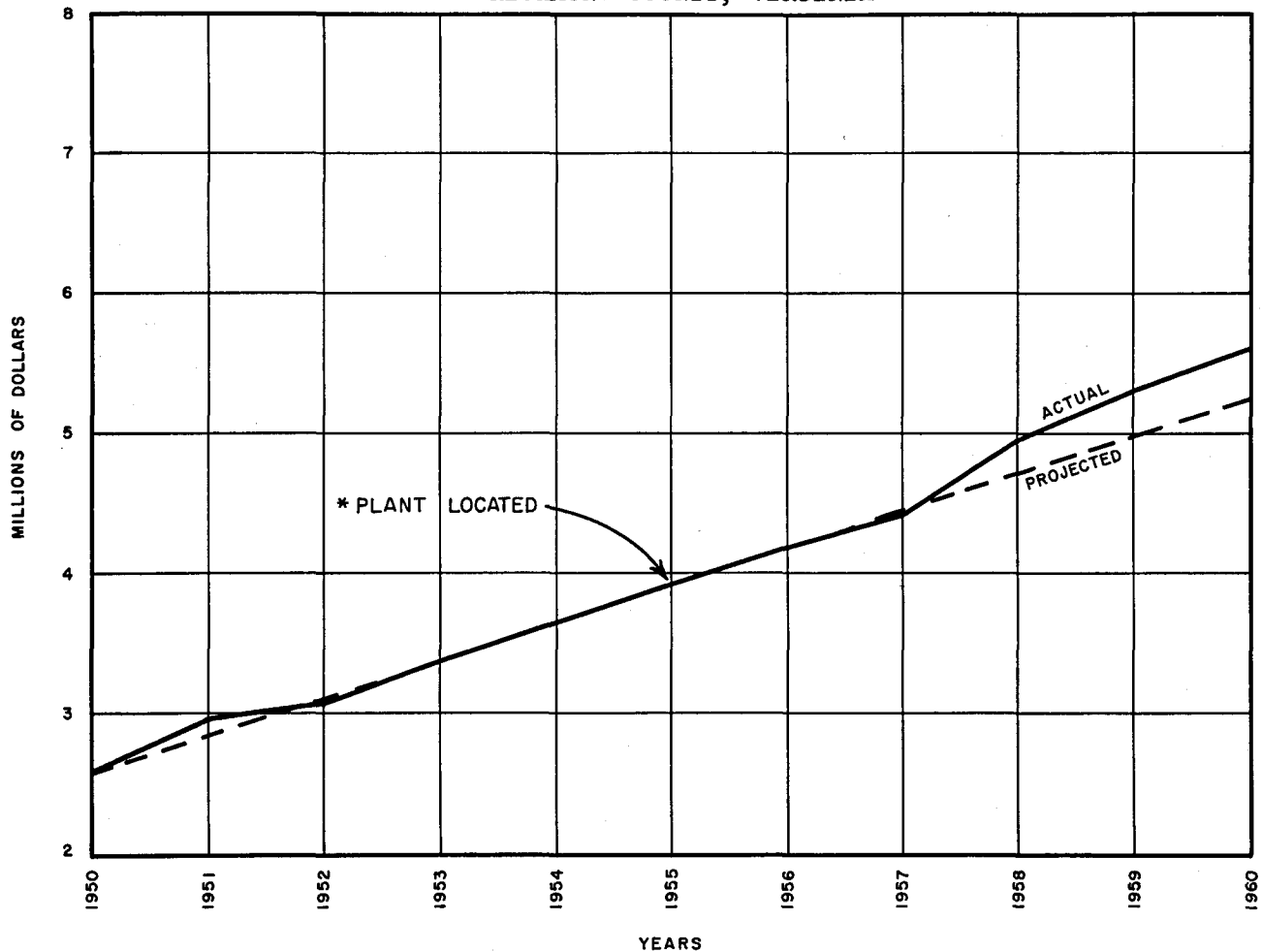
\* Levi Strauss & Co.

Source: Fig. 40, p. 80.

The total bank deposits for the Northern Neck State Bank, Inc., increased by 115.5 per cent during the period 1950 to 1960. Bank deposits increased from \$2,405,620 in 1950 to \$3,633,288 in 1955 or 51.0 per cent. In 1960, total deposits were \$5,185,765 or a 42.7 per cent increase over 1955. The actual increase from 1955 to 1960 exceeded the projected by 6.7 per cent.

FIGURE 26

TOTAL BANK ASSETS 1950 - 1960  
RICHMOND COUNTY, VIRGINIA



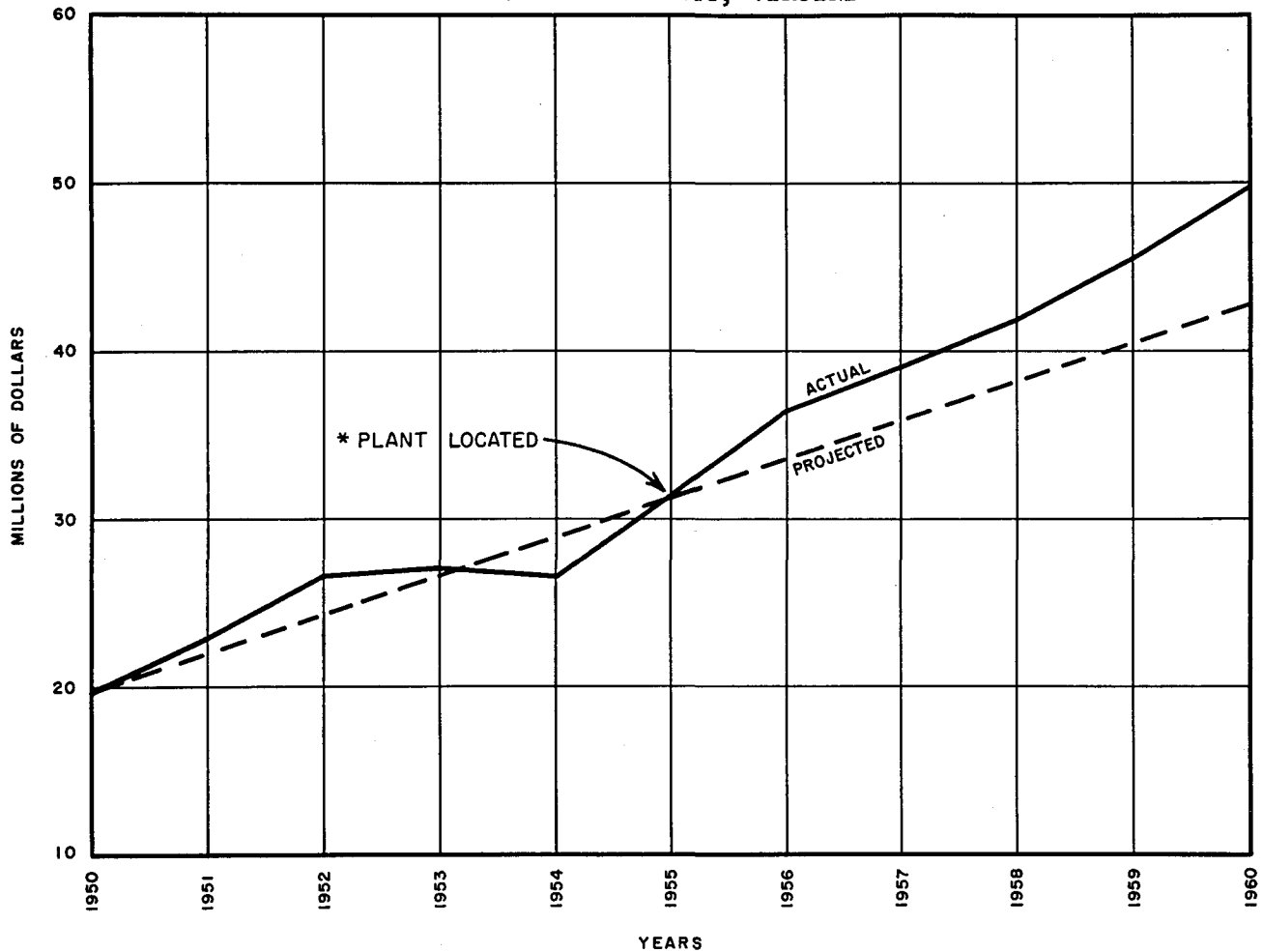
\* Levi Strauss & Co.

Source: Fig. 40, p. 80.

The total assets for the Northern Neck State Bank, Inc., the only bank in the county, increased by 116.3 per cent during the period 1950 to 1960. Bank assets increased from \$2,602,673 in 1950 to \$3,934,137 in 1955 or 51.1 per cent. In 1960, assets were \$5,631,317 or a 43.1 per cent increase over 1955. The assets would have been \$5,265,601 by 1960, if the increase experienced during the base period 1950 to 1955 had continued from 1955 to 1960.

FIGURE 27

TOTAL BANK CLEARINGS 1950 - 1960  
RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 40, p. 80.

Total bank clearings for the Northern Neck State Bank, Inc., increased 152.3 per cent for the 11-year period 1950 to 1960. Bank clearings increased from \$19,784,286 in 1950 to \$31,266,779 in 1955 or 58 per cent during this base period. From 1955 to 1960, the bank clearings increased 59.7 per cent to \$49,920,470. The actual increase from 1955 to 1960 exceeded the projected figure of \$42,749,272 by \$7,171,198.

workers brought into town. On this basis, bank deposits for the study period (1955-1960) should have increased by \$273,426<sup>1</sup> in addition to the normal increase. The normal increase is determined by projecting the same increase experienced during the base period (1950-1955) as for the study period (1955-1960). Accordingly, the projected bank deposits for 1960 would have been \$5,134,382.<sup>2</sup>

The actual bank deposits for 1960 were \$5,186,000 or 1.0 per cent above the Chamber's projection.

Even though the actual bank deposits and the projected figure is close, this might not be a valid conclusion. The first criterion, that of bringing new manufacturing workers into the town, was not met and of the total workers approximately 30 per cent live in Richmond County.

Northern Neck State Bank is the only bank located in Richmond County. It is possible that banking policy and growth of Warsaw as the trading center of Northern Neck might be more important in accounting for the increase in bank deposits. However, these increases are a reflection of the growth in the county.

### C. Automobile Registration

Based on data presented in Figure 41, page 81, of the appendix, automobile registrations in Richmond County from 1950 to 1955 were twice the increase for Northern Neck and slightly more for the 11-year period 1950 to 1960. Although automobile registrations slowed during the last five years of the period, there was an increase over the 11-year period

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<sup>1</sup>Figure is determined by taking 60 per cent (6 yrs. of 10-yr. period) of \$229,000 x 199 (avg. no. of Levi Strauss employees 1955-1960).

<sup>2</sup>Figure is determined by projecting the 1950-1955 deposits at the same rate of increase to 1960 + Chamber figure (\$4,860,956 + \$273,426).

in keeping with a slight population increase.

Automobile registrations for Richmond County are graphically illustrated in Figure 28 on the following page.

According to the U. S. Chamber of Commerce study, 97 more automobiles would be registered over a 10-year period for each 100 factory workers brought into a town. On this basis, automobile registrations for the study period (1955-1960) should have increased by 116<sup>1</sup> in addition to normal increase. The normal increase is determined by projecting the same increase experienced during the base period (1950-1955) as for the study period (1955-1960). On this basis, the projected automobile registrations for 1960 would have been 4,164.<sup>2</sup> The actual registrations for 1960 were 3,081 or 26.0 per cent below the Chamber's projection.

Automobile registrations in Richmond County declined 6.9 per cent from 1955 to 1960. It appears the Chamber's projected increase in registrations would not be reached because Levi Strauss did not import any new workers into the area and of the total employment approximately 30 per cent live in Richmond County. It is assumed that 70 per cent of the employees' automobiles would be registered in the county in which they live.

It is possible the reduction of farms from 1954 to 1959 has made it unnecessary to have as many pick-up trucks or a second car in the family to handle the farm hauling needs.

Another possible reason for the reduction in automobile registrations is the 12.4 per cent reduction in the age group 15 to 29 years

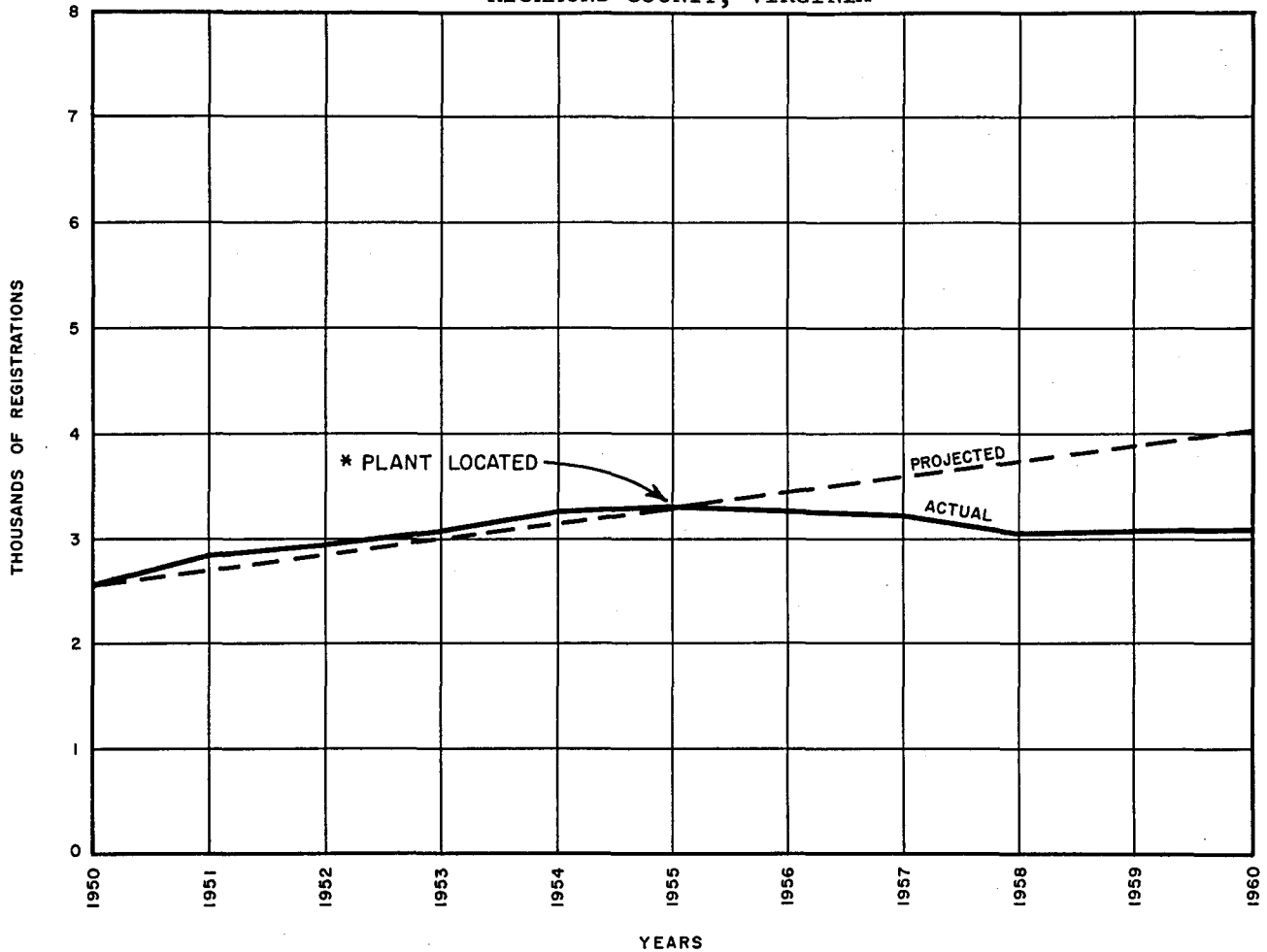
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<sup>1</sup>Figure is determined by taking 60 per cent (6 yrs. of 10-yr. period) of 97 x 199 (avg. no. of Levi Strauss employees 1955-1960).

<sup>2</sup>Figure is determined by projecting the 1950-1955 deposits at the same rate of increase to 1960 + Chamber figure (4,048 + 116).

FIGURE 28

AUTOMOBILE REGISTRATIONS 1950 - 1960  
RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
Source: Fig. 41, p. 81.

Automobile registrations in Richmond County from 1950 to 1955 was twice the increase for Northern Neck and slightly more for the 11-year period 1950 to 1960. Richmond County had a 6.9 per cent decrease from 1955 to 1960, and 31.4 per cent below the projected number of registrations for 1960 while Northern Neck had a 2.2 per cent increase from 1955 to 1960.

from 1950 to 1960. This would reduce the pressure on some families for a second car.

D. Summary

Warsaw is the county seat of Richmond County and the trading center for Northern Neck. Adequate commercial and service facilities are provided here for the county's residents.

Forty-five new retail and 13 wholesale establishments were built in Richmond County from 1948 to 1958 while total sales increased from \$5,632,000 to \$18,120,000. This increase was in part a result of Levi Strauss' plant operation in Warsaw and the overall increase in commercial and industrial activities in the area.

The decrease in number of establishments and sales is the result of small unprofitable operations in outlying rural communities going out of business and county residents doing their shopping in Fredericksburg and Richmond, Virginia.

Banking services are provided in Richmond County by the Northern Neck State Bank. Bank deposits, bank assets, and bank clearings were quite sensitive to the increase in total personal income in Richmond County from 1950 to 1960. These increases are a reflection of Levi Strauss' plant operation and the growth in the county.

Automobile registrations in Richmond County increased 28.6 per cent from 1950 to 1955 and were twice the increase for Northern Neck and slightly more for the 11-year period 1950 to 1960. Registrations in Richmond County declined 6.9 per cent from 1955 to 1960.

This decline was possibly due to the 12.4 per cent decline in age group 15 to 29 years. This would reduce the pressure on some families for a second car. Another possible reason was the reduction in number of farms



from 1954 to 1959 making it unnecessary to have as many pick-up trucks to do farm hauling.

## CHAPTER IV

## SUMMARY, ANALYSIS, AND CONCLUSIONS

This chapter will present a summary, analysis, and conclusions of the primary variables used in this paper to determine the effects of Levi Strauss locating in Richmond County.

A. Summary and Analysis

It should be noted that because of limitations of some of the economic variables on Richmond County, precise conclusions cannot be drawn on the effects of Levi Strauss locating a plant in Richmond County. But, given the assumptions made in the following analysis, it is possible to utilize these variables to draw certain general conclusions.

Several of the major limitations which preclude the drawing of specific conclusions are:

1. Availability of data limits quantification of the exact impact of the Levi Strauss plant on Richmond County and the area. For example, data regarding the number of retired persons taking up residence in Richmond County and their cumulative income are unavailable. With this in mind, certain limiting assumptions have been made in this study.
2. Information is only available for one year on number of workers commuting from surrounding counties to work at Levi Strauss. For this period, 30 per cent of Levi Strauss workers were living in Richmond County and 70 per cent were commuting from eight surrounding counties. For purposes of this study, 30-70 per cent has been chosen as a constant.
3. No data are available as to where people who live in Richmond County and work for Levi Strauss do their shopping. Nor is information

available as to how much shopping is done in Warsaw by Levi Strauss workers who commute from other counties. For purposes of analysis, however, certain logical assumptions have been made.

All of the variables selected for study, except school enrollment, showed an increase for the period 1950 to 1960. Fourteen of the 27 variables experienced a higher percentage increase during the base period (1950-1955) than for the study period (1955-1960). Only seven of the variables (automobile registrations, manufacturing firms, nonmanufacturing workers, nonmanufacturing quarterly wages, nonmanufacturing gross wage per worker, post office receipts, and total electric customers) did not reach the projected estimate for 1960.

The population of Richmond County showed an increase in the 1960 census for the first time since 1920. The county's three per cent increase in population from 1950 to 1960 has not kept pace with the State of Virginia's increase of 19.5 per cent, or the national increase of 18.5 per cent, but it is significant that it has reversed a 40-year trend of declining population. Richmond County's 7.0 per cent increase during the study period (1955-1960) is attributed to better job opportunities provided by Levi Strauss, and the overall increased commercial and industrial operations in the area.

Levi Strauss can be indirectly credited with slowing the exodus of marginal operators of sawmills, pulpwood operations, farms, and food processing by providing jobs for these workers and their wives either in the plant or in other jobs created as a result of this new business activity.

With improved highway and transportation facilities, more people are commuting from Richmond County to industrial areas for employment while continuing to reside in the county.

The 37.1 per cent increase in the 65 and over age group from 1950

to 1960 can be attributed in part to the number of retired persons moving into the county.

Richmond County's population increased 223 more persons than projected by the U. S. Chamber. While Levi Strauss did not actually import employees into the county, the increase in population may be an indirect result of Levi Strauss providing jobs for some who might have migrated out of the county had these jobs not been made available.

Manufacturing firms increased 4.8 per cent and nonmanufacturing firms 100.0 per cent during the study period (1955-1960). This increase in nonmanufacturing firms was primarily service industries in the construction and retail trade groups. The town of Warsaw became more closely identified as the trading center of Northern Neck with the construction of the Levi Strauss plant in Warsaw in 1955. As employment increased at Levi Strauss, additional demands were made on the community for more service facilities in grocery stores, service stations, ready-to-wear stores, repair shops, dry cleaning, insurance, finance, etc.

The influx of retired persons to the county created a demand in the construction and building trades and service industries to service their automobiles and home appliances.

It appears Levi Strauss' plant operation and resulting impact on the business community did create a direct need for additional service facilities not only to service the plant, but its employees' needs. Even though only 30 per cent of Levi Strauss employees live in Richmond County, it is assumed that part of the remaining 70 per cent patronize the service facilities in Warsaw while on home-to-work trips.

Manufacturing workers increased 99.0 per cent during the study period (1955-1960). This increase was directly related to new job oppor-

tunities provided by Levi Strauss and resulting impact on business activity in the area.

Nonmanufacturing workers increased 29.4 per cent during the study period (1955-1960) which was approximately 50 per cent less than during the base period (1950-1955). This decrease is attributed in part to the reduction in the number of retail and wholesale establishments from 1958 to 1960 and the use of more efficient and self-service operations in retail and selected services, and agriculture. Many of the small and unprofitable businesses located in rural communities throughout the county either went out of business or consolidated their operations in modern buildings conveniently located to serve the business community.

The number of nonmanufacturing workers did not reach the 1960 projected figure by 33 workers and was 111 workers below the U. S. Chamber's projected figure.

In addition to reasons given above for reduction in nonmanufacturing workers, it should be noted that Levi Strauss did not import any employees into the county or area. It is assumed the number of Levi Strauss employees who live in Richmond County (approximately 30 per cent) was not large enough to create the number of projected jobs but did influence better utilization of nonmanufacturing workers and facilities. Approximately 70 per cent of Levi Strauss' employees live in the surrounding eight counties and it seems reasonable to assume these employees patronize local service industries in the community in which they live.

It is interesting that the number of nonmanufacturing workers decreased from 510 to 444 workers from 1956 to 1958 but increased from 444 to 488 workers from 1958 to 1960. This increase came at the same time as a 19.7 per cent increase was shown in manufacturing workers and Levi Strauss

increased employment by 16.6 per cent.

It seems reasonable to conclude that Levi Strauss' plant operation and the overall business expansion in the area did result in new jobs in nonmanufacturing.

Richmond County's personal income during the study period (1955-1960) increased 43.3 per cent. It is significant that Richmond County's per cent increase in personal income exceeded that of Northern Neck by 34.9 per cent and the State of Virginia by 10.2 per cent. The greater portion of this increase took place from 1958 to 1960. It appears this increase is directly related to the corresponding increase in Levi Strauss' employment and gross payroll from 1958 to 1960.

Income for the small farm operator segment of the population has improved. In 1959, 55 per cent of the farms were operated on a part-time basis. The operators were working off the farms at full-time jobs in industry and farming in their spare time. A number of the wives of marginal and part-time farmers in Richmond County were employed at Levi Strauss or in other gainful employment as a result of the overall increase in commercial and industrial operations in the area.

Levi Strauss' plant operation has indirectly created a need for new service facilities not only in Richmond County but the entire eight-county area where the employees live and spend their money.

Levi Strauss' payroll has indirectly resulted in the building of many new homes and repairs and additions to present homes in Richmond County. The estimated true value of all real estate increased 73.0 per cent from 1955 to 1960 which was more than three times the increase of 23.1 per cent for the base period (1950-1955).

Personal income during the study period (1955-1960) exceeded the

1960 projected figure by \$1,220,000, but was \$7,236,100 or 48.2 per cent below the U. S. Chamber's projection.

One possible reason that Richmond County did not reach this projected personal income for 1960 was because Levi Strauss did not import any employees into the area. Approximately 30 per cent of the employees live in Richmond County and 70 per cent live in eight adjoining counties. It is reasonable to assume that 70 per cent of Levi Strauss' payroll does not remain in Richmond County, but is spent in all probability in the eight surrounding counties in which the employees live or in the nearby cities of Fredericksburg and Richmond, Virginia.

Based on data presented, it is believed, Levi Strauss' plant operation and resulting impact on business operations in the county directly influenced the increase in personal income.

Richmond County's per cent increase in per capita income (36.3 per cent) during the study period (1955-1960), was more than double the increase (17.2 per cent) for the State of Virginia. The greater portion of the increase for Richmond County was experienced from 1958 to 1960. The increased employment at Levi Strauss during this time and corresponding increase in gross payroll was reflected in the increase in per capita income.

While only 30 per cent of Levi Strauss employees live in Richmond County, the popularity of Warsaw as the trading center for Northern Neck probably means that Richmond County gets more than 30 per cent of the benefits from this plant's payroll.

Richmond County's per capita income is relatively low (ranked 56th) compared to other Virginia counties. This is probably because Richmond County has an agricultural economy and all of its major industries are in the low-pay-scale group.

Many of the female workers at Levi Strauss provide a second income for the family. The impact of this additional income was directly reflected in per capita income from 1957 to 1960 when Levi Strauss increased employment.

New business has been generated by the recent influx of retired persons in Richmond County. The financial influence of this population group, reflected in home ownership, taxes, use of local banking and service facilities, provision of jobs in construction of homes and maintenance, has been instrumental in improving the overall economy of the county.

With improved highways and transportation facilities, marginal and part-time farm operators are commuting to nearby industrial centers to work. This additional income has increased the total personal and per capita income in Richmond County.

The per capita income in 1960 exceeded the projected income for 1960 by \$715. This increase is a direct reflection of Levi Strauss' plant operation and impact of increased commercial and industrial activities in the area.

Average quarterly wages for manufacturing workers in Richmond County increased 30.9 per cent during the study period (1955-1960) which was more than double the increase for nonmanufacturing workers. This in part can be attributed directly to the improved wage scale at Levi Strauss over other manufacturing industries in Richmond County.

Richmond County's major manufacturing industries include food processing, lumbering, and textile manufacturing and all are in the low-pay-scale category. Nonmanufacturing workers in Richmond County receive a much higher wage than manufacturing workers. This is primarily because of the high wage scale for construction and utility workers in Richmond



County.

Retail and wholesale figures are not available for 1940, 1950, 1955, and 1960, so corresponding figures for 1939, 1948, 1954, 1958, and 1963 census of retail and wholesale have been used.

Forty-five new retail and 13 wholesale establishments were built in Richmond County from 1948 to 1958 while total sales increased from \$5,632,000 to \$18,120,000. The majority of these establishments were built in Warsaw as this community became more closely identified as the trading center for Northern Neck. The increase in number of establishments was in part a result of Levi Strauss' plant operation in Warsaw and the overall increase in business activity in the area.

The decrease in number of retail establishments and sales from 1958 to 1963 was the result of small and unprofitable service facilities in rural communities throughout the county going out of business. A number of retail establishments consolidated operations in Warsaw to provide self-service operations and better parking facilities.

Improved highways and motor vehicles have made it easy for Richmond County residents to travel 50 to 100 miles to do their shopping for clothing and major household items in the large shopping centers in Fredericksburg and Richmond, Virginia where they have a better selection of merchandise. Special sale prices offered in discount houses have also made it difficult for the small store operators in Richmond County to compete.

The daily commuters from Richmond County to jobs in industrial plants in nearby cities are another group that are probably spending a major portion of their salary outside the county.

Wholesale trade has experienced the same general decline in number of establishments and sales as retail trade. With improved transportation

and refrigeration equipment Richmond County businesses can be served on a day-to-day basis from wholesale establishments in Fredericksburg and Richmond, Virginia. This has made business very competitive for the local wholesalers.

Richmond County had seven more retail stores than projected by the U. S. Chamber study. Many of these retail establishments were small one-man operations in 1958 and because of the competition from central shopping areas have since gone out of business. Sixty-nine of these small commercial establishments went out of business from 1958 to 1963.

Retail sales in 1958 were \$9,921,000 or 51.2 per cent below the Chamber's projection of \$20,315,380. One of the reasons this projection was not reached was that Levi Strauss did not import any employees into Richmond County. Of the total employees, approximately 30 per cent live in Richmond County and 70 per cent live in eight surrounding counties. It seems reasonable to assume that 70 per cent of Levi Strauss' payroll is spent in the communities where the employees live.

The remaining 30 per cent of Levi Strauss workers could certainly add dollars to retail sales. Most of the female workers at Levi Strauss are married women working to supplement the family income. Without this additional payroll in the county, retail and wholesale sales would probably have been much less.

A major reason for the drop in retail sales is the accessibility to regional shopping areas outside the county.

Banking services are provided in Richmond County by the Northern Neck State Bank. Bank deposits are probably one of the most sensitive indices of economic activity in an area. Bank deposits have shown a steady increase for the period 1950 to 1960 but increased at a much higher rate

after 1956.

Levi Strauss' gross payroll was increased from \$238,592 in 1956 to \$575,737 in 1959. This increase was directly reflected in bank deposits with a seven per cent increase above the projected increase for 1960. Bank assets and bank clearings also reflected this increase in Levi Strauss' payroll.

Bank deposits exceeded the U. S. Chamber's projection by 1.0 per cent. Even though the actual bank deposits and projected figure are close, this might not be a valid conclusion. The first criterion, that of bringing workers into the town, was not met and of the total workers approximately 30 per cent live in Richmond County. Because Northern Neck State Bank is the only bank in Richmond County, it is possible that banking policy and growth of Warsaw as the trading center of Northern Neck might be more important in accounting for the increase in bank deposits.

Automobile registrations in Richmond County increased 28.6 per cent during the base period (1950-1955) and decreased 6.9 per cent during the study period (1955-1960). Registrations for Northern Neck increased 14.7 per cent from 1950 to 1955 and 2.2 per cent from 1955 to 1960. The reduction in automobile registrations for Richmond County does not seem related to Levi Strauss' plant operation.

According to the U. S. Chamber's study, automobile registrations should have increased to 4,164 in 1960. Actual registrations were 3,081 or 26.0 per cent below the Chamber's projection. It appears the Chamber's projection would not be reached because Levi Strauss did not import new workers into the area and of the total employment only 30 per cent are living in Richmond County. It is assumed that 70 per cent of the employees' automobiles would be registered in the counties in which they live.

The decline in automobile registrations for 1955 to 1960 was possibly due in part to the 12.4 per cent decline in the 15 to 29 age group from 1950 to 1960. Another possible reason was the decrease of 190 farms from 1954 to 1959, making it unnecessary to have as many pick-up trucks to do farm hauling.

B. Conclusions

Analyses of the data presented leads to the conclusion that it is difficult to measure the effects of Levi Strauss locating in Richmond County in specific terms. However, the variables used in these analyses led to the following general conclusions:

1. The citizens of Richmond County and a much broader geographical area benefited directly through new job opportunities and increased income. These residents also benefited indirectly to the extent that the plant's operation generated business activity in the areas of construction, wholesale and retail trade, and selected services.

2. Richmond County's population reversed a 40-year declining trend. This population increase is attributed to better job opportunities provided by Levi Strauss and other industries in the area, improvements in transportation which enabled more people to commute to industrial centers while continuing to reside in county, and influx of retired persons. Because of the unavailability of specific data, it is impossible to separate the impact of Levi Strauss from the other factors influencing this population growth.

3. Warsaw, Virginia, became more clearly defined as the trading center of Northern Neck with the announcement of the Levi Strauss plant. Since then, Warsaw has become headquarters for Virginia Electric and Power Company's new area office, new residency office for Virginia Department of

Highways, and expanded retail and wholesale facilities.

4. Analysis and evaluation of all available data used in this paper led to the specific conclusion that the U. S. Chamber of Commerce industrial impact criteria were much too broad to be applicable to this study.

5. Although impossible to measure precisely, it is realized that an important indirect effect of the wages generated by the Strauss plant was that it enabled wives of marginal farmers, farm employees, watermen, and other low-income groups to supplement cash income thus enabling each family to attain a higher standard of living while continuing to live in the rural area.

APPENDIX

FIGURE 29

## RICHMOND COUNTY CLIMATOLOGICAL DATA 1951-1960

| <u>Year</u> | <u>Annual Mean Temp.</u> | <u>Highs</u>     | <u>Lows</u>     | <u>Annual Precipitation (inches of rainfall)</u> |
|-------------|--------------------------|------------------|-----------------|--|
| 1951        | 58.1 <sup>o</sup>        | 99 <sup>o</sup>  | 8 <sup>o</sup>  | 38.76"   |
| 1952        | 58.0 <sup>o</sup>        | 104 <sup>o</sup> | 12 <sup>o</sup> | 42.37"   |
| 1953        | 59.2 <sup>o</sup>        | 104 <sup>o</sup> | 12 <sup>o</sup> | 35.33"   |
| 1954        | 58.7 <sup>o</sup>        | 105 <sup>o</sup> | 10 <sup>o</sup> | 28.42"   |
| 1955        | 57.7 <sup>o</sup>        | 97 <sup>o</sup>  | 9 <sup>o</sup>  | 46.92"   |
| 1956        | 58.0 <sup>o</sup>        | 100 <sup>o</sup> | 14 <sup>o</sup> | 47.99"   |
| 1957        | 58.5 <sup>o</sup>        | 100 <sup>o</sup> | 1 <sup>o</sup>  | 45.88"   |
| 1958        | 55.8 <sup>o</sup>        | 95 <sup>o</sup>  | 2 <sup>o</sup>  | 55.68"   |
| 1959        | 59.2 <sup>o</sup>        | 105 <sup>o</sup> | 5 <sup>o</sup>  | 43.33"   |
| 1960        | 56.6 <sup>o</sup>        | 98 <sup>o</sup>  | 7 <sup>o</sup>  | 46.74"   |
| Average     | 58.0 <sup>o</sup>        | 101 <sup>o</sup> | 8 <sup>o</sup>  | 43.14"   |

Temperatures and Precipitation Data - 1960

| <u>Month</u> | <u>Average Temperature</u> | <u>Precipitation</u> | <u>Degree Days</u> |
|--------------|----------------------------|----------------------|--------------------|
| January      | 38.9 <sup>o</sup>          | 2.08"                | 802                |
| February     | 39.5 <sup>o</sup>          | 3.73"                | 733                |
| March        | 35.4 <sup>o</sup>          | 2.61"                | 912                |
| April        | 61.0 <sup>o</sup>          | 3.34"                | 208                |
| May          | 63.9 <sup>o</sup>          | 6.97"                | 100                |
| June         | 73.7 <sup>o</sup>          | 1.07"                | 4                  |
| July         | 76.6 <sup>o</sup>          | 5.63"                | 0                  |
| August       | 77.7 <sup>o</sup>          | 6.02"                | 0                  |
| September    | 69.8 <sup>o</sup>          | 7.97"                | 19                 |
| October      | 59.0 <sup>o</sup>          | 3.13"                | 209                |
| November     | 50.0 <sup>o</sup>          | 1.18"                | 446                |
| December     | 33.8 <sup>o</sup>          | 3.01"                | 958                |
| Annual       | 56.6 <sup>o</sup>          | 46.74"               | 4,391              |

Source: Data Compiled from Reports of the U. S., Department of Commerce, Weather Bureau, Warsaw Weather Station, 1951-1960.

FIGURE 30

POPULATION FOR YEARS 1940, 1945, 1950-1960  
 RICHMOND COUNTY AND NORTHERN NECK<sup>a</sup>

| <u>Year</u> | <u>Population</u>      |                      |
|-------------|------------------------|----------------------|
|             | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940        | 6,634                  | 35,395               |
| 1945        | 6,412                  | 31,263               |
| 1950        | 6,189                  | 34,989               |
| 1951        | 6,270                  | 35,444               |
| 1952        | 6,326                  | 35,826               |
| 1953        | 6,407                  | 36,323               |
| 1954        | 6,497                  | 36,803               |
| 1955        | 5,956                  | 35,289               |
| 1956        | 6,136                  | 35,466               |
| 1957        | 6,235                  | 35,831               |
| 1958        | 6,076                  | 34,811               |
| 1959        | 6,177                  | 35,073               |
| 1960        | 6,375                  | 36,776               |

| <u>Years</u> | <u>Per Cent Change</u> |                      |
|--------------|------------------------|----------------------|
|              | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940-1945    | -3.4                   | -11.7                |
| 1940-1950    | -6.7                   | -1.1                 |
| 1945-1950    | -3.5                   | 11.9                 |
| 1950-1955    | -3.8                   | 0.9                  |
| 1950-1960    | 3.0                    | 5.1                  |
| 1955-1960    | 7.0                    | 4.2                  |

<sup>a</sup>Northern Neck includes counties of Lancaster, Northumberland, Richmond, and Westmoreland.

Source: U. S., Bureau of the Census, Census Reports of the United States: 1940, 1945, 1950-1960. Population.



FIGURE 31

1960 POPULATION DISTRIBUTION  
BY AGE GROUP, RACE, AND SEX

| <u>Age Group</u> | <u>White</u> |               | <u>Nonwhite</u> |               | <u>Total</u> |
|------------------|--------------|---------------|-----------------|---------------|--------------|
|                  | <u>Male</u>  | <u>Female</u> | <u>Male</u>     | <u>Female</u> |              |
| Under 5 years    | 193          | 170           | 146             | 163           | 672          |
| 5 - 9 years      | 199          | 179           | 143             | 148           | 669          |
| 10 - 14 years    | 178          | 160           | 123             | 132           | 593          |
| 15 - 19 years    | 181          | 136           | 102             | 103           | 522          |
| 20 - 24 years    | 132          | 101           | 71              | 65            | 369          |
| 25 - 29 years    | 131          | 129           | 63              | 62            | 385          |
| 30 - 34 years    | 147          | 134           | 63              | 64            | 408          |
| 35 - 39 years    | 162          | 123           | 70              | 78            | 433          |
| 40 - 44 years    | 148          | 123           | 53              | 53            | 377          |
| 45 - 49 years    | 146          | 132           | 70              | 44            | 392          |
| 50 - 54 years    | 119          | 125           | 48              | 44            | 336          |
| 55 - 59 years    | 121          | 112           | 33              | 43            | 309          |
| 60 - 64 years    | 82           | 110           | 24              | 29            | 245          |
| 65 and over      | 216          | 270           | 94              | 85            | 665          |
| Total            | 2,155        | 2,004         | 1,103           | 1,113         | 6,375        |

Source: U. S., Bureau of the Census, Eighteenth Census of the United States: 1960, Population, Table 29, p. 123.

FIGURE 32

1950 POPULATION DISTRIBUTION  
BY AGE GROUP, RACE, AND SEX

| <u>Age Group</u>  | <u>White</u> |               | <u>Nonwhite</u> |               | <u>Total</u> |
|-------------------|--------------|---------------|-----------------|---------------|--------------|
|                   | <u>Male</u>  | <u>Female</u> | <u>Male</u>     | <u>Female</u> |              |
| Under 5 years     | 197          | 173           | 128             | 142           | 640          |
| 5 - 9 years       | 207          | 139           | 128             | 140           | 614          |
| 10 - 14 years     | 175          | 160           | 132             | 125           | 592          |
| 15 - 19 years     | 159          | 154           | 102             | 113           | 528          |
| 20 - 24 years     | 168          | 128           | 87              | 70            | 453          |
| 25 - 29 years     | 169          | 141           | 84              | 81            | 475          |
| 30 - 34 years     | 153          | 126           | 63              | 68            | 410          |
| 35 - 39 years     | 149          | 142           | 77              | 67            | 435          |
| 40 - 44 years     | 148          | 127           | 62              | 41            | 378          |
| 45 - 49 years     | 122          | 121           | 37              | 54            | 334          |
| 50 - 54 years     | 110          | 125           | 41              | 43            | 319          |
| 55 - 59 years     | 96           | 114           | 41              | 27            | 278          |
| 60 - 64 years     | 97           | 92            | 28              | 31            | 248          |
| 65 years and over | <u>197</u>   | <u>173</u>    | <u>59</u>       | <u>56</u>     | <u>485</u>   |
| Total             | 2,147        | 1,915         | 1,069           | 1,058         | 6,189        |

Source: U. S., Bureau of the Census, Seventeenth Census of the United States: 1950. Population, Table 41, p. 87.

FIGURE 33

MANUFACTURING AND NONMANUFACTURING FIRMS 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u> | <u>Total Firms</u> | <u>Manufacturing<br/>Firms</u> | <u>Nonmanufacturing<br/>Firms</u> |
|-------------|--------------------|--------------------------------|-----------------------------------|
| 1950        | 32                 | 14                             | 18                                |
| 1951        | 37                 | 19                             | 18                                |
| 1952        | 37                 | 19                             | 18                                |
| 1953        | 42                 | 21                             | 21                                |
| 1954        | 41                 | 22                             | 19                                |
| 1955        | 41                 | 21                             | 20                                |
| 1956        | 49                 | 20                             | 29                                |
| 1957        | 57                 | 22                             | 35                                |
| 1958        | 57                 | 22                             | 35                                |
| 1959        | 62                 | 23                             | 39                                |
| 1960        | 62                 | 22                             | 40                                |

| <u>Years</u> | <u>Total Firms</u> | <u>Per Cent Change</u>         |                                   |
|--------------|--------------------|--------------------------------|-----------------------------------|
|              |                    | <u>Manufacturing<br/>Firms</u> | <u>Nonmanufacturing<br/>Firms</u> |
| 1950-1955    | 28.1               | 50.0                           | 11.1                              |
| 1950-1960    | 93.8               | 57.1                           | 122.2                             |
| 1955-1960    | 51.2               | 4.8                            | 100.0                             |

Note: Figures have been adjusted for years 1950-1956 for new unemployment insurance coverage for firms with four or more employees.

Source: Data Compiled from Reports of the Virginia Employment Commission, Research, Statistics, and Information Division.

FIGURE 34

MANUFACTURING AND NONMANUFACTURING WORKERS 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u> | <u>Total Workers</u> | <u>Manufacturing<br/>Workers</u> | <u>Nonmanufacturing<br/>Workers</u> |
|-------------|----------------------|----------------------------------|-------------------------------------|
| 1950        | 393                  | 160                              | 233                                 |
| 1951        | 455                  | 185                              | 270                                 |
| 1952        | 469                  | 226                              | 243                                 |
| 1953        | 581                  | 255                              | 326                                 |
| 1954        | 633                  | 311                              | 322                                 |
| 1955        | 692                  | 315                              | 377                                 |
| 1956        | 864                  | 354                              | 510                                 |
| 1957        | 975                  | 507                              | 468                                 |
| 1958        | 968                  | 524                              | 444                                 |
| 1959        | 1,002                | 537                              | 465                                 |
| 1960        | 1,115                | 627                              | 488                                 |

| <u>Years</u> | <u>Total Workers</u> | <u>Per Cent Change</u>           |                                     |
|--------------|----------------------|----------------------------------|-------------------------------------|
|              |                      | <u>Manufacturing<br/>Workers</u> | <u>Nonmanufacturing<br/>Workers</u> |
| 1950-1955    | 76.1                 | 96.9                             | 61.8                                |
| 1950-1960    | 183.7                | 291.9                            | 109.4                               |
| 1955-1960    | 61.1                 | 99.0                             | 29.4                                |

Note: Figures have been adjusted for years 1950-1956 for new unemployment insurance coverage for firms with four or more employees.

Source: Data Compiled from Reports of the Virginia Employment Commission, Research, Statistics, and Information Division.

FIGURE 35

PERSONAL INCOME FOR SELECTED YEARS 1939-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u>    | <u>Personal Income</u> |
|----------------|------------------------|
| 1939 . . . . . | \$1,411,000            |
| 1947 . . . . . | 4,771,000              |
| 1950 . . . . . | 4,295,000              |
| 1951 . . . . . | 5,128,000              |
| 1953 . . . . . | 5,495,000              |
| 1954 . . . . . | 5,901,000              |
| 1955 . . . . . | 5,426,000              |
| 1957 . . . . . | 5,605,000              |
| 1958 . . . . . | 5,816,000              |
| 1960 . . . . . | 7,777,000              |

| <u>Years</u>        | <u>Per Cent Change</u> |
|---------------------|------------------------|
| 1939-1947 . . . . . | 238.1                  |
| 1939-1950 . . . . . | 204.4                  |
| 1947-1950 . . . . . | -10.0                  |
| 1950-1955 . . . . . | 26.3                   |
| 1950-1960 . . . . . | 81.1                   |
| 1955-1960 . . . . . | 43.3                   |

Source: John Littlepage Lancaster, Personal Income Estimates for Virginia Counties and Cities: 1957 and 1958, Bureau of Population and Economic Research, University of Virginia (Charlottesville: 1961) p. 38.

John Littlepage Lancaster, Personal Income Estimates for Virginia Counties and Cities: 1960, Bureau of Population and Economic Research, University of Virginia (Charlottesville: 1963) p. 33.

FIGURE 36

PER CAPITA INCOME FOR SELECTED YEARS 1939-1960  
RICHMOND COUNTY AND STATE OF VIRGINIA

| Year | Per Capita Income            |                                |
|------|------------------------------|--------------------------------|
|      | Richmond County <sup>a</sup> | State of Virginia <sup>b</sup> |
| 1939 | \$ 213                       | \$ 422                         |
| 1947 | 756                          | 1,002                          |
| 1950 | 694                          | 1,228                          |
| 1951 | 777                          | 1,387                          |
| 1953 | 815                          | 1,488                          |
| 1954 | 921                          | 1,501                          |
| 1955 | 911                          | 1,572                          |
| 1957 | 914                          | 1,655                          |
| 1958 | 957                          | 1,684                          |
| 1960 | 1,242                        | 1,843                          |

| Years     | Per Cent Change |                   |
|-----------|-----------------|-------------------|
|           | Richmond County | State of Virginia |
| 1939-1947 | 254.9           | 137.4             |
| 1939-1950 | 225.8           | 191.0             |
| 1947-1950 | -8.2            | 22.6              |
| 1950-1955 | 31.3            | 28.0              |
| 1950-1960 | 79.0            | 50.1              |
| 1955-1960 | 36.3            | 17.2              |

Source: <sup>a</sup>John Littlepage Lancaster, Personal Income Estimates for Virginia Counties and Cities: 1960, Bureau of Population and Economic Research, University of Virginia (Charlottesville: 1963) p. 42.

<sup>b</sup>U. S., Department of Commerce, Survey of Current Business, XLVI (April, 1966), 11.

FIGURE 37

MANUFACTURING AND NONMANUFACTURING AVERAGE QUARTERLY WAGES PER WORKER  
FIRST QUARTER 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u> | <u>Total Worker<br/>Avg. Quarterly<br/>Wages</u> | <u>Manufacturing<br/>Avg. Quarterly<br/>Wage Per Worker</u> | <u>Nonmanufacturing<br/>Avg. Quarterly<br/>Wage Per Worker</u> |
|-------------|--|---|--|
| 1950        | \$449  | \$305   | \$548  |
| 1951        | 446  | 322   | 564  |
| 1952        | 472  | 363   | 573  |
| 1953        | 532  | 382   | 648  |
| 1954        | 513  | 388   | 633  |
| 1955        | 525  | 376   | 650  |
| 1956        | 506  | 463   | 536  |
| 1957        | 552  | 448   | 664  |
| 1958        | 579  | 472   | 705  |
| 1959        | 616  | 513   | 734  |
| 1960        | 601  | 492   | 741  |

| <u>Years</u> | <u>Per Cent Change</u>                           |   |  |
|--------------|--|---|--|
|              | <u>Total Worker<br/>Avg. Quarterly<br/>Wages</u> | <u>Manufacturing<br/>Avg. Quarterly<br/>Wage Per Worker</u> | <u>Nonmanufacturing<br/>Avg. Quarterly<br/>Wage Per Worker</u> |
| 1950-1955    | 16.9   | 23.3  | 18.6   |
| 1950-1960    | 33.9   | 61.3  | 35.2   |
| 1955-1960    | 14.5   | 30.9  | 14.0   |

Note: Figures have been adjusted for years 1950-1956 for new unemployment insurance coverage for firms with four or more employees.

Source: Data Compiled from Reports of the Virginia Employment Commission, Research, Statistics, and Information Division.

FIGURE 38

MANUFACTURING AND NONMANUFACTURING GROSS WAGES PAID  
FIRST QUARTER 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u>            | <u>Total<br/>Wages Paid</u> | <u>Manufacturing<br/>Wages</u> | <u>Nonmanufacturing<br/>Wages</u> |
|------------------------|-----------------------------|--------------------------------|-----------------------------------|
| 1950                   | \$176,389                   | \$ 48,765                      | \$127,624                         |
| 1951                   | 211,988                     | 59,600                         | 152,388                           |
| 1952                   | 221,196                     | 81,936                         | 139,260                           |
| 1953                   | 308,823                     | 97,512                         | 211,311                           |
| 1954                   | 324,654                     | 120,789                        | 203,865                           |
| 1955                   | 363,615                     | 118,420                        | 245,195                           |
| 1956                   | 437,052                     | 163,913                        | 273,139                           |
| 1957                   | 537,884                     | 227,143                        | 310,741                           |
| 1958                   | 560,464                     | 247,435                        | 313,029                           |
| 1959                   | 616,802                     | 275,536                        | 341,266                           |
| 1960                   | 670,367                     | 308,774                        | 361,593                           |
| <u>Per Cent Change</u> |                             |                                |                                   |
| <u>Years</u>           | <u>Total<br/>Wages Paid</u> | <u>Manufacturing<br/>Wages</u> | <u>Nonmanufacturing<br/>Wages</u> |
| 1950-1955              | 106.1                       | 142.8                          | 92.1                              |
| 1950-1960              | 280.1                       | 533.2                          | 183.3                             |
| 1955-1960              | 84.4                        | 160.7                          | 47.5                              |

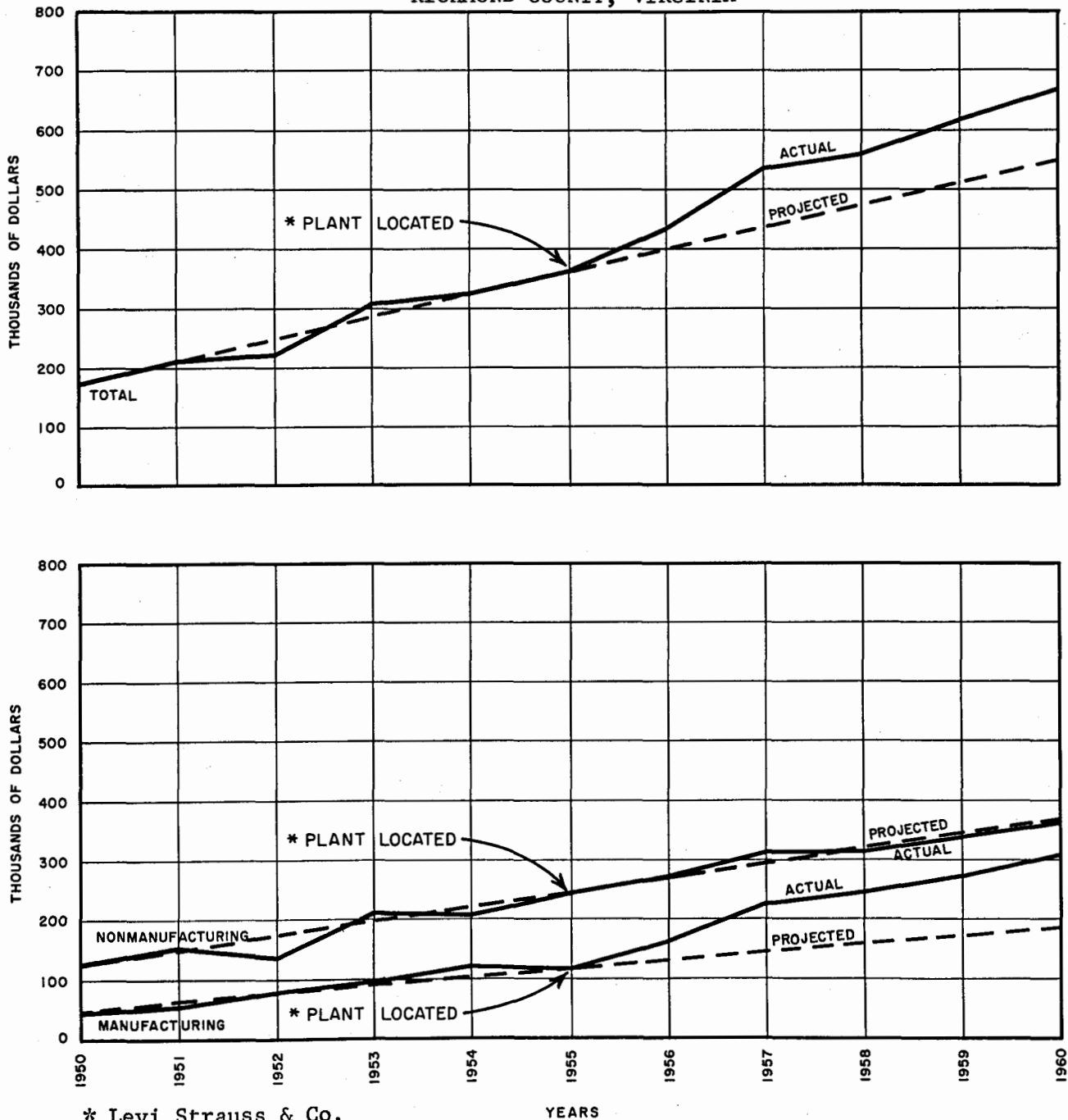
Note: Figures have been adjusted for years 1950-1956 for new unemployment insurance coverage for firms with four or more employees.

Source: Data Compiled from Reports of the Virginia Employment Commission, Research, Statistics and Information Division.



FIGURE 39

MANUFACTURING AND NONMANUFACTURING GROSS WAGES PAID  
 FIRST QUARTER 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
 Source: Fig. 38, p. 78.

Total gross wages paid by all firms covered by unemployment insurance increased 280.1 per cent for the first quarter period 1950 to 1960. Gross wages paid by manufacturing firms increased 533.2 per cent while non-manufacturing only increased 183.3 per cent.

FIGURE 40

TOTAL BANK ASSETS, BANK DEPOSITS, AND BANK CLEARINGS  
FOR YEARS 1940, 1945, 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u> | <u>Bank Assets</u><br>(000) | <u>Bank Deposits</u><br>(000) | <u>Bank Clearings</u><br>(000) |
|-------------|-----------------------------|-------------------------------|--------------------------------|
| 1940        | \$ 649                      | \$ 583                        | Not Available                  |
| 1945        | 2,133                       | 2,021                         | \$12,300                       |
| 1950        | 2,603                       | 2,406                         | 19,700                         |
| 1951        | 2,977                       | 2,773                         | 23,000                         |
| 1952        | 3,089                       | 2,867                         | 26,500                         |
| 1953        | 3,389                       | 3,147                         | 27,000                         |
| 1954        | 3,650                       | 3,387                         | 26,500                         |
| 1955        | 3,934                       | 3,633                         | 31,200                         |
| 1956        | 4,193                       | 3,886                         | 36,500                         |
| 1957        | 4,439                       | 4,094                         | 39,000                         |
| 1958        | 4,964                       | 4,572                         | 41,900                         |
| 1959        | 5,316                       | 4,899                         | 45,500                         |
| 1960        | 5,631                       | 5,186                         | 49,900                         |

| <u>Years</u> | <u>Per Cent Change</u> |                      |                       |
|--------------|------------------------|----------------------|-----------------------|
|              | <u>Bank Assets</u>     | <u>Bank Deposits</u> | <u>Bank Clearings</u> |
| 1940-1945    | 228.7                  | 246.7                | -                     |
| 1940-1950    | 301.1                  | 312.7                | -                     |
| 1945-1950    | 22.0                   | 19.0                 | 60.2                  |
| 1950-1955    | 51.1                   | 51.0                 | 58.4                  |
| 1950-1960    | 116.3                  | 115.5                | 153.3                 |
| 1955-1960    | 43.1                   | 42.7                 | 59.9                  |

Source: Data Compiled from Annual Reports of State Cooperation Commission, Showing the Conditions of Banks: December 31, 1940, 1945, 1950-1960.

FIGURE 41

AUTOMOBILE REGISTRATIONS  
FOR YEARS 1940, 1945, 1950-1960  
RICHMOND COUNTY AND NORTHERN NECK

| <u>Year</u> | <u>Registrations</u>   |                      |
|-------------|------------------------|----------------------|
|             | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940        | 1,447                  | 8,072                |
| 1945        | 1,637                  | 9,014                |
| 1950        | 2,574                  | 14,469               |
| 1951        | 2,869                  | 13,994               |
| 1952        | 2,957                  | 14,622               |
| 1953        | 3,087                  | 15,171               |
| 1954        | 3,250                  | 15,735               |
| 1955        | 3,311                  | 16,591               |
| 1956        | 3,273                  | 16,794               |
| 1957        | 3,221                  | 16,684               |
| 1958        | 3,031                  | 16,718               |
| 1959        | 3,065                  | 16,857               |
| 1960        | 3,081                  | 16,960               |

| <u>Years</u> | <u>Per Cent Change</u> |                      |
|--------------|------------------------|----------------------|
|              | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940-1945    | 13.1                   | 11.7                 |
| 1940-1950    | 77.9                   | 79.2                 |
| 1945-1950    | 57.2                   | 60.5                 |
| 1950-1955    | 28.6                   | 14.7                 |
| 1950-1960    | 19.7                   | 17.2                 |
| 1955-1960    | -6.9                   | 2.2                  |

Source: Data Compiled from Reports of the Virginia Division of Motor Vehicles, Commonwealth of Virginia, 1940, 1945, 1950-1960.

FIGURE 42  
 TOTAL SCHOOL ENROLLMENT  
 FOR YEARS 1940, 1945, 1950-1960  
 RICHMOND COUNTY AND NORTHERN NECK

| <u>Year</u> | <u>Enrollment</u>      |                      |
|-------------|------------------------|----------------------|
|             | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940        | 1,856                  | 8,814                |
| 1945        | 1,596                  | 7,265                |
| 1950        | 1,609                  | 7,645                |
| 1951        | 1,613                  | 7,632                |
| 1952        | 1,643                  | 7,686                |
| 1953        | 1,506                  | 7,742                |
| 1954        | 1,381                  | 7,785                |
| 1955        | 1,444                  | 7,986                |
| 1956        | 1,426                  | 8,125                |
| 1957        | 1,427                  | 8,300                |
| 1958        | 1,450                  | 8,516                |
| 1959        | 1,442                  | 8,585                |
| 1960        | 1,461                  | 8,757                |

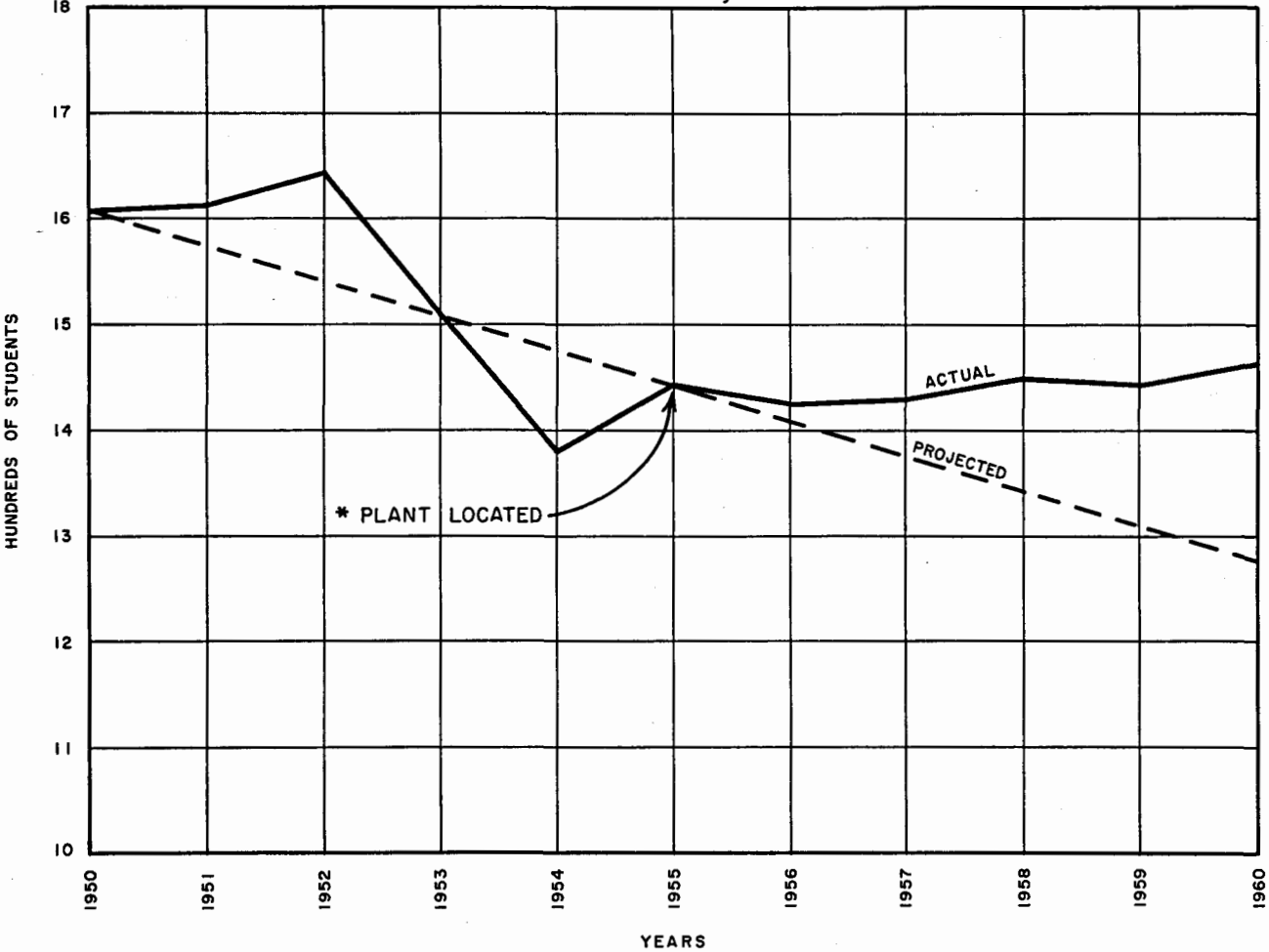
  

| <u>Years</u> | <u>Per Cent Change</u> |                      |
|--------------|------------------------|----------------------|
|              | <u>Richmond County</u> | <u>Northern Neck</u> |
| 1940-1945    | -14.0                  | -17.6                |
| 1940-1950    | -13.3                  | -13.3                |
| 1945-1950    | 0.8                    | 5.2                  |
| 1950-1955    | -10.3                  | 4.5                  |
| 1950-1960    | -9.2                   | 14.5                 |
| 1955-1960    | 1.2                    | 9.7                  |

Source: Data Compiled from Annual Reports of Superintendent of Public Instruction, Commonwealth of Virginia, 1940, 1945, 1950-1960.

FIGURE 43

TOTAL SCHOOL ENROLLMENT 1950 - 1960  
RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
Source: Fig. 42, p. 82.

Total school enrollment shows a reverse trend with a 9.2 per cent decrease in enrollment for the period 1950 to 1960. In 1950, total enrollment was 1,609 students; 1,444 in 1955; and 1,461 in 1960. This indicates a 10.3 per cent decrease during the base period 1950 to 1955 and a 1.2 per cent increase from 1955 to 1960. If the decrease experienced in school enrollment during the base period 1950 to 1955 had continued from 1955 to 1960, the 1960 enrollment would have declined to 1,279.

FIGURE 44

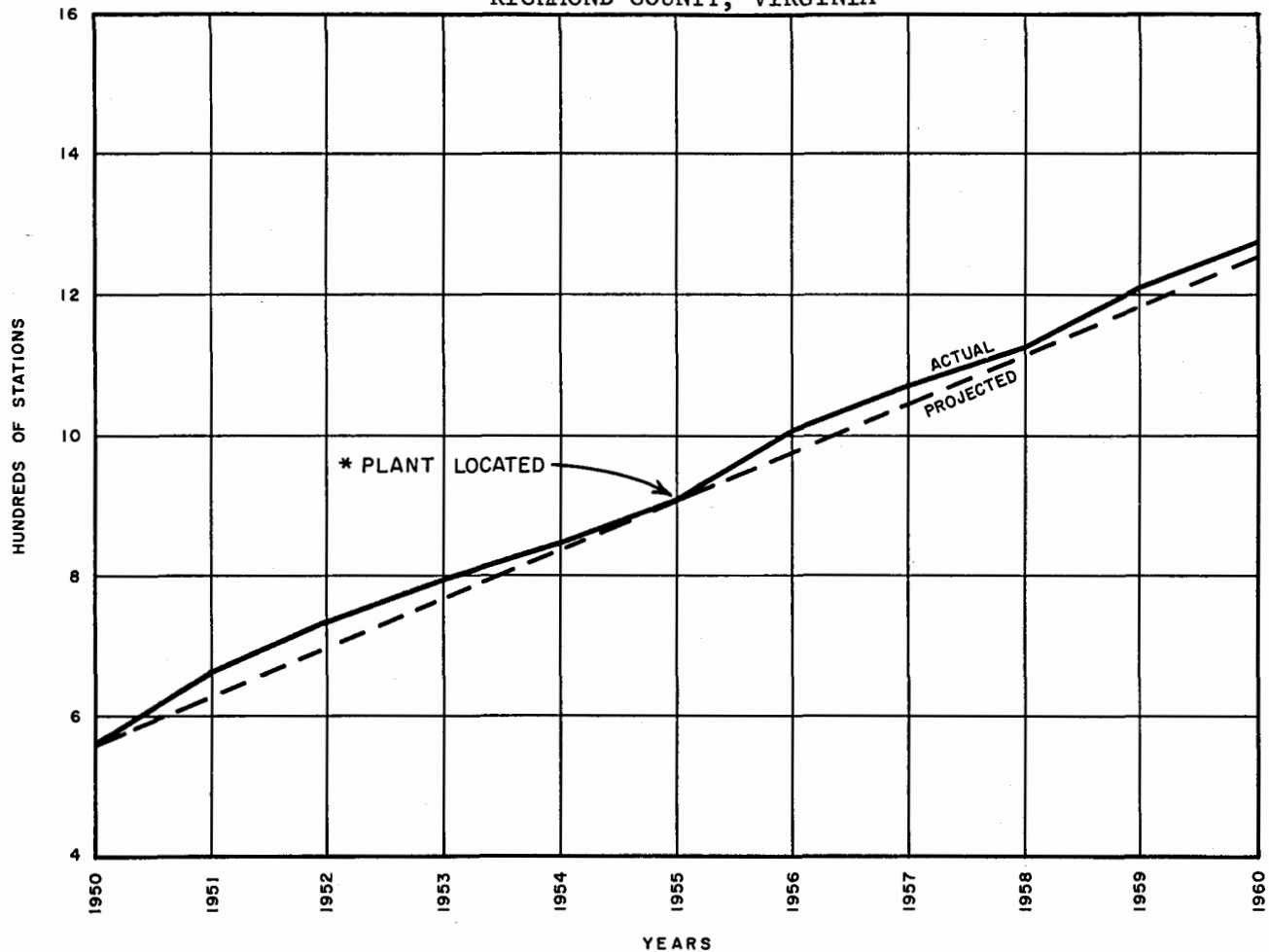
TOTAL TELEPHONE STATIONS  
FOR YEARS 1948, 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u>             | <u>Telephone Stations</u> |
|-------------------------|---------------------------|
| 1945 (formed) . . . . . | -                         |
| 1948 . . . . .          | 502                       |
| 1950 . . . . .          | 561                       |
| 1951 . . . . .          | 664                       |
| 1952 . . . . .          | 735                       |
| 1953 . . . . .          | 799                       |
| 1954 . . . . .          | 850                       |
| 1955 . . . . .          | 910                       |
| 1956 . . . . .          | 1,005                     |
| 1957 . . . . .          | 1,071                     |
| 1958 . . . . .          | 1,127                     |
| 1959 . . . . .          | 1,212                     |
| 1960 . . . . .          | 1,278                     |
| <br>                    |                           |
| <u>Years</u>            | <u>Per Cent Change</u>    |
| 1950-1955 . . . . .     | 62.2                      |
| 1950-1960 . . . . .     | 127.8                     |
| 1955-1960 . . . . .     | 40.4                      |

Source: Data Compiled from Company records of the  
Tidewater Telephone Company, Warsaw, Virginia,  
1948, 1950-1960.

FIGURE 45

TOTAL TELEPHONE STATIONS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 44, p. 84.

During the 11-year period 1950 to 1960, there was a 127.8 per cent increase in the total number of telephone stations indicating a gain of 717 stations. The increase from 1950 to 1955 was 62.2 per cent, from 561 stations in 1950 to 910 stations in 1955, and the increase from 1955 to 1960 was 40.4 per cent reaching a total of 1,278 stations. The projected number of stations would have been 1,259 by 1960 if the increase experienced during the base period 1950 to 1955 had continued through the study period 1955 to 1960.

FIGURE 46

TOTAL POST OFFICE RECEIPTS  
FOR YEARS 1945, 1950-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u>    | <u>Total Receipts</u> |
|----------------|-----------------------|
| 1945 . . . . . | \$21,035              |
| 1950 . . . . . | 24,103                |
| 1951 . . . . . | 25,627                |
| 1952 . . . . . | 28,456                |
| 1953 . . . . . | 30,703                |
| 1954 . . . . . | 33,183                |
| 1955 . . . . . | 33,650                |
| 1956 . . . . . | 35,308                |
| 1957 . . . . . | 34,946                |
| 1958 . . . . . | 36,345                |
| 1959 . . . . . | 37,288                |
| 1960 . . . . . | 40,158                |

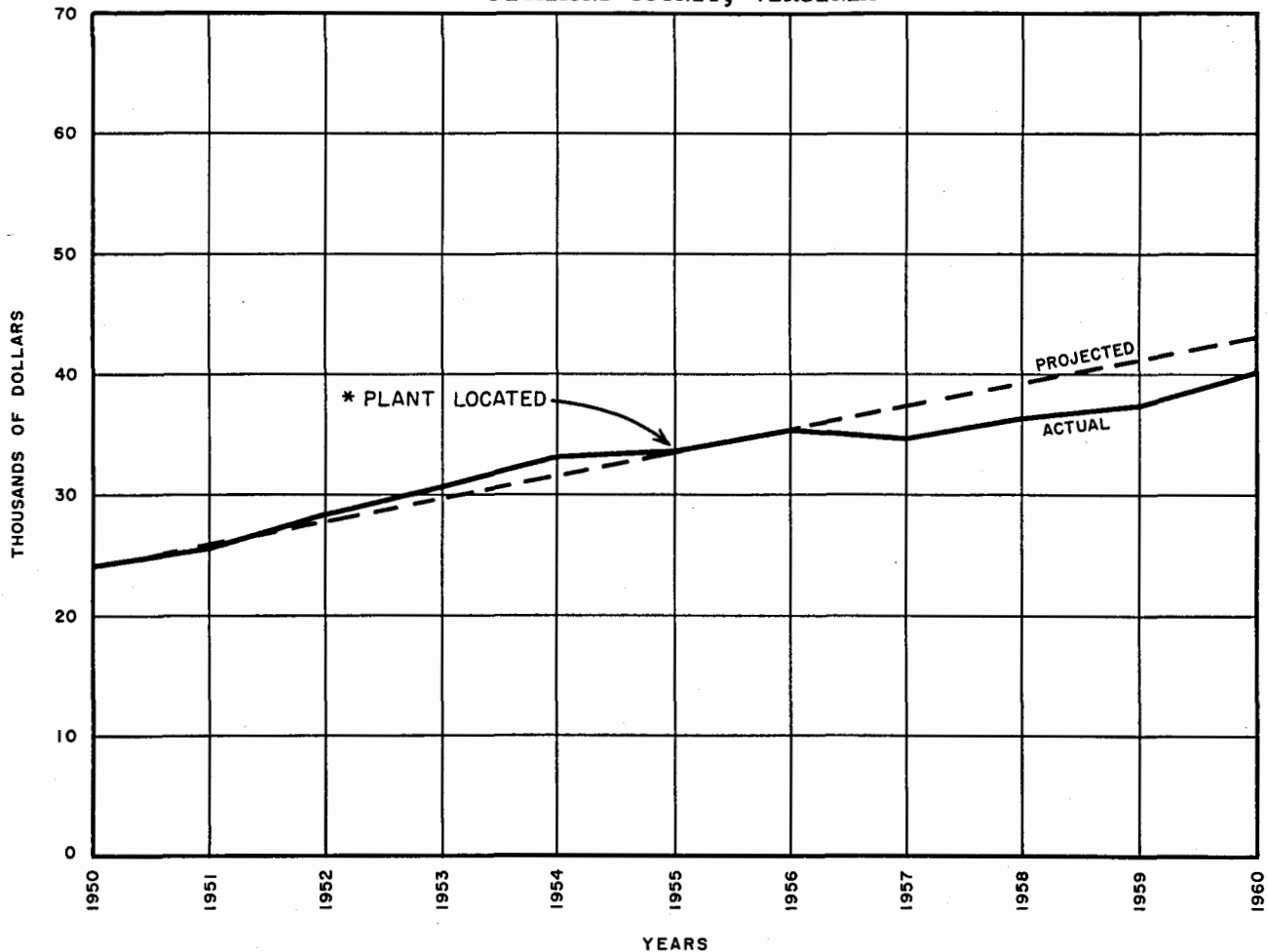
| <u>Years</u> | <u>Per Cent Change</u> |
|--------------|------------------------|
| 1945-1950    | 14.6                   |
| 1950-1955    | 39.6                   |
| 1950-1960    | 66.6                   |
| 1955-1960    | 19.3                   |

Source: Data Compiled from Reports of the U. S. Post Office Department, Revenues and Classes of Post Offices, Post Office Department Publication 4, July 1, 1945; July 1, 1950-1960.



FIGURE 47

TOTAL POST OFFICE RECEIPTS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 46, p. 86.

The gross post office receipts for Richmond County have increased 66.6 per cent from 1950 to 1960. Receipts for 1950 were \$24,103, for 1955 -- \$33,650, and for 1960 -- \$40,158. The increase during the base period 1950 to 1955 was 39.6 per cent, and from 1955 to 1960 the increase was 19.3 per cent. The dollar values as indicated from 1958 to 1960 have been adjusted so as not to reflect the postal rate increase effective August 1, 1958. Due to the consolidation of a number of small post office units into the Warsaw unit, the total number of route miles has increased from 45 miles in 1950 to 204 miles in 1960.

FIGURE 48

ESTIMATED VALUE OF ALL REAL ESTATE  
FOR YEARS 1940, 1945, 1950-1960  
RICHMOND COUNTY, VIRGINIA

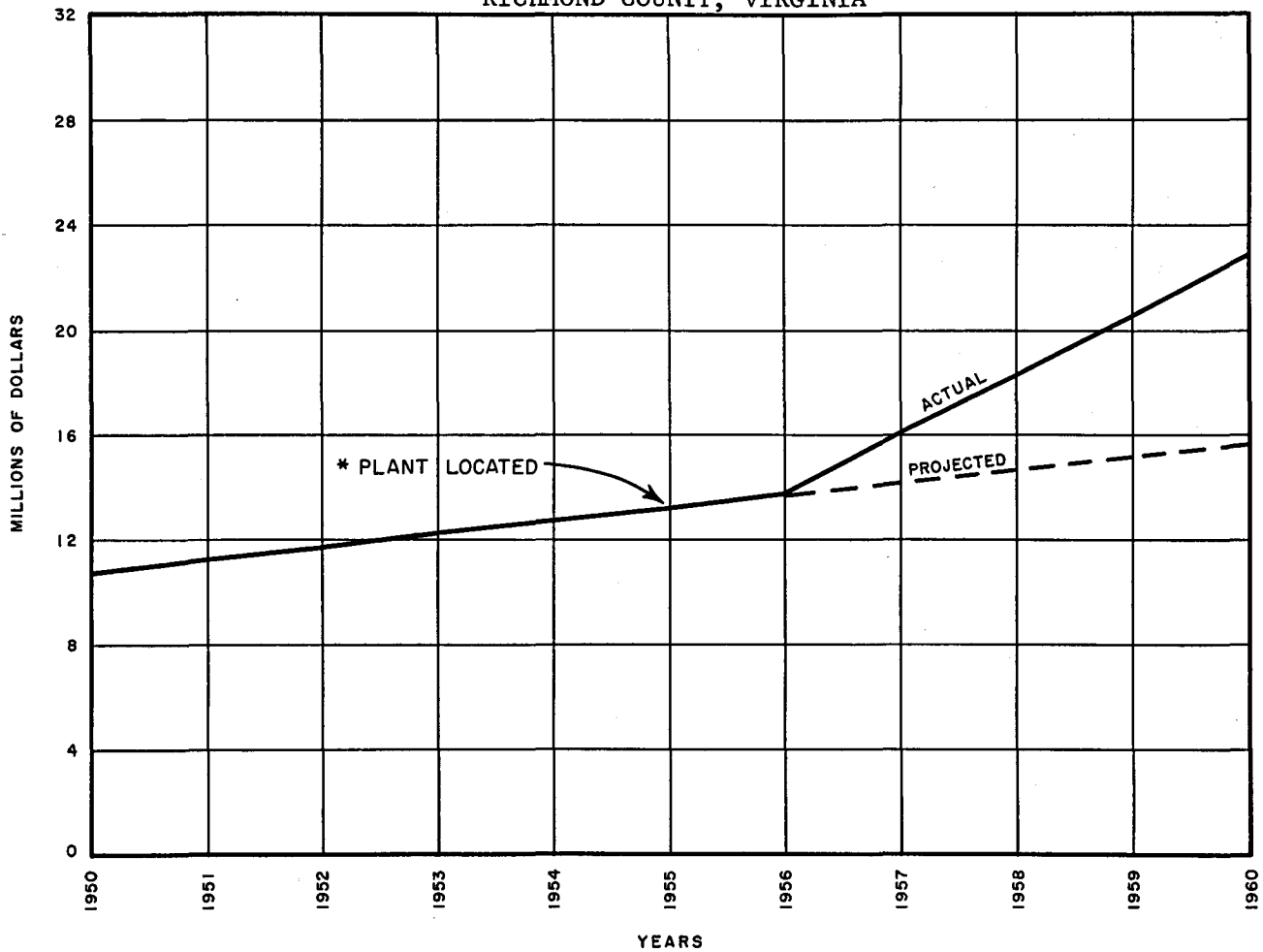
| <u>Year</u> | <u>Estimated True Value (000)</u> | <u>Assessed Value (000)</u> | <u>Assessment Ratio (Per Cent)</u> | <u>Tax Rate (Per \$100)</u> | <u>Effective True Tax Rate (Per \$100)</u> | <u>Total Real Estate Levy</u> |
|-------------|-----------------------------------|-----------------------------|------------------------------------|-----------------------------|--|-------------------------------|
| 1940        | \$ 3,885                          | \$1,475                     | 38.0                               | \$1.50                      | \$.57                                      | \$ 22,127                     |
| 1945        | 7,100                             | 1,547                       | 21.8                               | 1.70                        | .37  | 26,294                        |
| 1950        | 10,771                            | 2,757                       | 25.6                               | 1.45                        | .37  | 39,983                        |
| 1951        | 11,269                            | 2,802                       | 24.9                               | 1.60                        | .40  | 44,827                        |
| 1952        | 11,767                            | 2,858                       | 24.3                               | 1.60                        | .39  | 45,725                        |
| 1953        | 12,264                            | 2,905                       | 23.7                               | 1.60                        | .39  | 46,482                        |
| 1954        | 12,762                            | 2,956                       | 23.2                               | 1.60                        | .37  | 47,293                        |
| 1955        | 13,260                            | 3,036                       | 22.9                               | 2.25                        | .52  | 68,305                        |
| 1956        | 13,757                            | 3,880                       | 28.2                               | 2.50                        | .70  | 96,988                        |
| 1957        | 16,053                            | 4,026                       | 25.1                               | 3.00                        | .75  | 120,791                       |
| 1958        | 18,348                            | 4,148                       | 22.6                               | 2.75                        | .62  | 114,065                       |
| 1959        | 20,644                            | 4,209                       | 20.4                               | 2.75                        | .56  | 115,754                       |
| 1960        | 22,939                            | 4,294                       | 18.7                               | 2.75                        | .51  | 118,075                       |

| <u>Years</u> | <u>Per Cent Change Estimated True Value</u> | <u>Per Cent Change Total Real Estate Levy</u> |
|--------------|---|---|
| 1940-1945    | 82.8  | 18.8  |
| 1940-1950    | 177.2                                       | 80.7  |
| 1945-1950    | 51.7  | 52.1  |
| 1950-1955    | 23.1  | 70.8  |
| 1950-1960    | 113.0                                       | 195.3   |
| 1955-1960    | 73.0  | 72.9  |

Source: Data Compiled from Reports of the Virginia Department of Taxation, Bureau of Research and Statistics, 1940, 1945, 1950-1960.

FIGURE 49

ESTIMATED TRUE VALUE OF ALL REAL ESTATE 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA

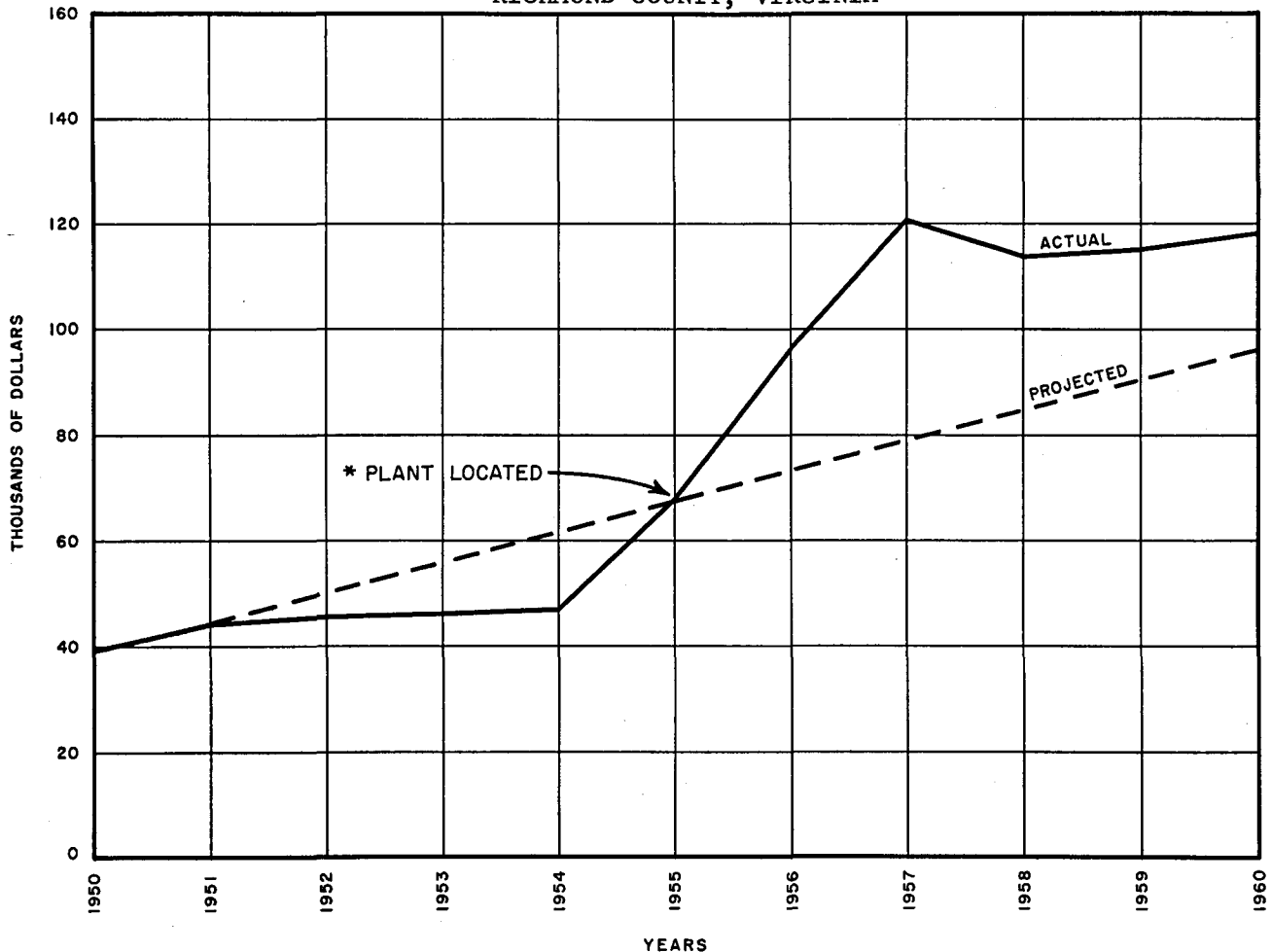


\* Levi Strauss & Co.  
 Source: Fig. 48, p. 88.

The estimated true value of all real estate in the county increased by 113 per cent during the 11-year period. During the base period, 1950 to 1955, the values increased from \$10,771,000 to \$13,260,000. During the period 1955 to 1960, the values increased to \$22,939,000. The ratio of assessment to fair market value was reduced from 25.6 per cent in 1950 to 18.7 per cent in 1960. The reduction in the assessment ratio was made possible by the continuing increase in total property values.

FIGURE 50

TOTAL REAL ESTATE LEVY 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.  
 Source: Fig. 48, p. 88.

Local levies on real estate increased 195.3 per cent from 1950 to 1960. The levy amounted to \$39,983 in 1950; \$68,305 in 1955; and \$118,075 in 1960. During this 11-year period, the effective true tax rate per \$100 of fair market value was increased from \$.37 in 1950 to \$.51 in 1960. However, the assessment ratio was reduced from 25.6 per cent of fair market value in 1950 to 18.7 per cent in 1960. By 1960, the levies would have amounted to \$96,627, if the increase experienced during the base period 1950 to 1955 had continued from 1955 to 1960.

FIGURE 51

TOTAL NUMBER OF ELECTRIC CUSTOMERS AND ANNUAL KILOWATT-HOUR SALES  
FOR YEARS 1950, 1955-1960  
RICHMOND COUNTY, VIRGINIA

| <u>Year</u> | <u>Total Number of<br/>Electric Customers<sup>a</sup></u> | <u>Annual Kilowatt-Hour<br/>Sales<sup>a</sup> (000)</u> |
|-------------|---|---|
| 1950        | 1,432   | 3,698   |
| 1955        | 1,855   | 5,419   |
| 1956        | 1,852   | 5,968   |
| 1957        | 1,902   | 6,465   |
| 1958        | 1,926   | 7,007   |
| 1959        | 1,983   | 8,025   |
| 1960        | 2,057   | 8,902   |

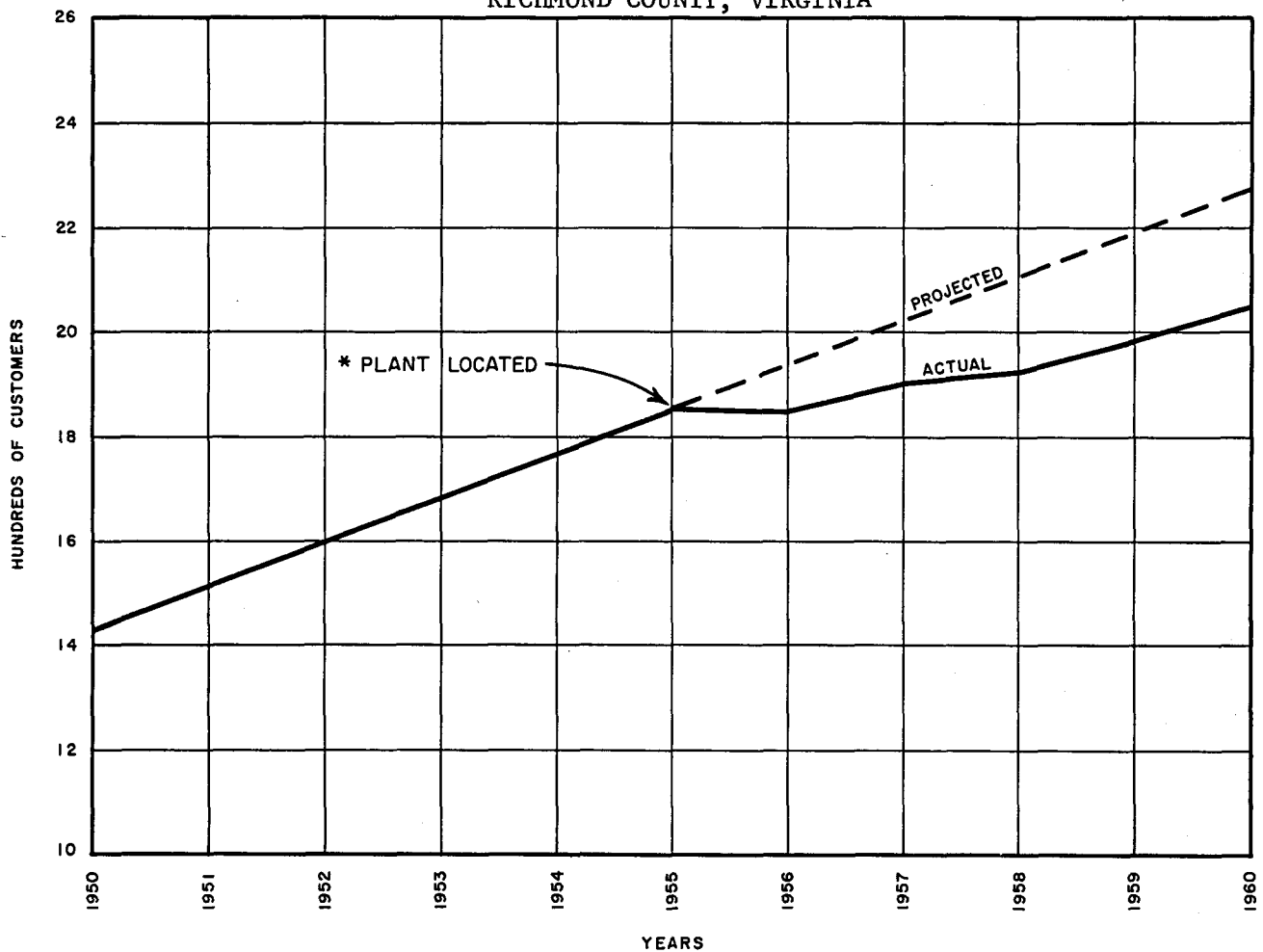
| <u>Years</u> | <u>Per Cent Change</u> |              |
|--------------|------------------------|--------------|
|              | <u>Customers</u>       | <u>Sales</u> |
| 1950-1955    | 29.5                   | 46.5         |
| 1950-1960    | 43.6                   | 140.7        |
| 1955-1960    | 10.9                   | 64.3         |

<sup>a</sup>Includes total number of residential electric customers and annual kilowatt-hour sales in Richmond County served by Virginia Electric and Power Company and Northern Neck Electric Cooperative.

Source: Data compiled from Company records of Virginia Electric and Power Company and Northern Neck Electric Cooperative.

FIGURE 52

TOTAL NUMBER OF ELECTRIC CUSTOMERS 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



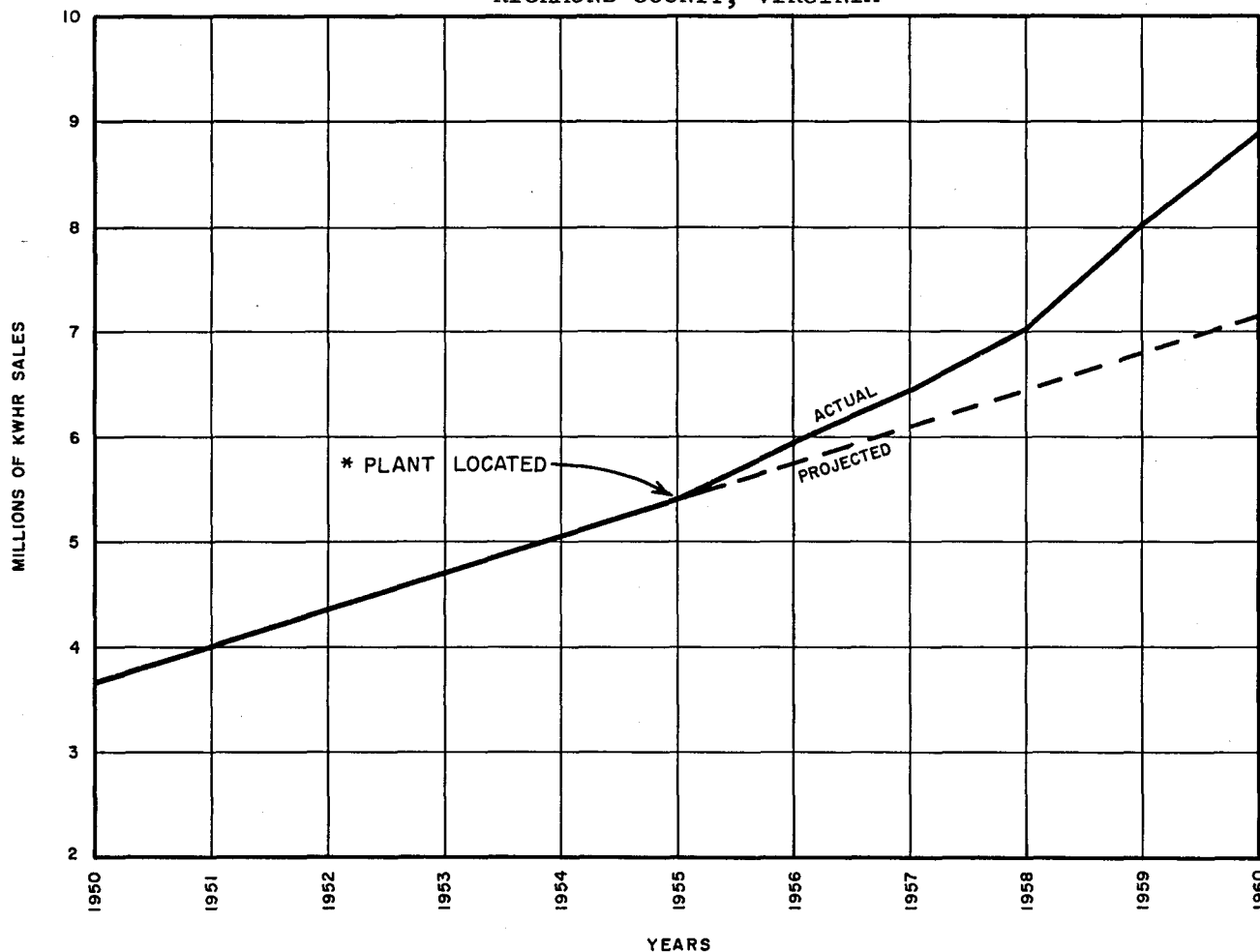
\* Levi Strauss & Co.

Source: Fig. 51, p. 91.

The total number of electric customers in the county increased 43.6 per cent during the 11-year period 1950 to 1960. The increase from 1950 to 1955 was 423 customers or 29.5 per cent. From 1955 to 1960, the increase was 202 customers or 10.9 per cent. Had the 1955 to 1960 increase equaled that of the base period 1950 to 1955, the projected number of customers for 1960 would have been 2,278.

FIGURE 53

TOTAL ANNUAL KILOWATT-HOUR SALES OF ELECTRICITY 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Company  
 Source: Figure 10

The total annual kilowatt-hour sales of electricity increased 140.7 per cent during the 11-year period 1950 to 1960. The increase from 1950 to 1955 was 1,720,746 kwhr or 46.5 per cent. From 1955 to 1960, the increase was 3,482,806 kwhr or 64.3 per cent. This indicates that the actual kwhr sales of electricity for 1960 -- 8,901,526 kwhr -- exceeded the projected kwhr sales of 7,139,466 by 24.7 per cent.

FIGURE 54

TOTAL ELECTRIC UTILITY INVESTMENT (ASSESSED VALUE)  
FOR YEARS 1940, 1945, 1950-1960  
RICHMOND COUNTY, VIRGINIA

| Year      | Assessed Value       |                                     |                                    |
|-----------|----------------------|-------------------------------------|------------------------------------|
|           | Total Assessed Value | Virginia Electric and Power Company | Northern Neck Electric Cooperative |
| 1940      | \$ 28,145            | \$ 13,137 <sup>a</sup>              | \$ 15,008                          |
| 1945      | 61,047               | 21,318 <sup>a</sup>                 | 39,729                             |
| 1950      | 177,976              | 71,609                              | 106,337                            |
| 1951      | 200,104              | 80,660                              | 119,444                            |
| 1952      | 215,039              | 87,840                              | 127,199                            |
| 1953      | 250,191              | 118,620                             | 131,571                            |
| 1954      | 287,235              | 132,025                             | 155,210                            |
| 1955      | 309,669              | 140,085                             | 169,584                            |
| 1956      | 333,362              | 159,476                             | 173,886                            |
| 1957      | 342,344              | 162,341                             | 180,003                            |
| 1958      | 383,313              | 196,057                             | 187,256                            |
| 1959      | 412,790              | 212,813                             | 199,977                            |
| 1960      | 455,648              | 229,914                             | 225,734                            |
| Years     | Per Cent Change      |                                     |                                    |
|           | Total Assessed Value | Virginia Electric and Power Company | Northern Neck Electric Cooperative |
| 1940-1945 | 116.9                | 62.3                                | 164.7                              |
| 1940-1950 | 532.4                | 445.3                               | 608.5                              |
| 1945-1950 | 191.5                | 236.0                               | 167.7                              |
| 1950-1955 | 74.0                 | 95.5                                | 59.5                               |
| 1950-1960 | 156.0                | 220.9                               | 112.3                              |
| 1955-1960 | 47.1                 | 64.1                                | 33.1                               |

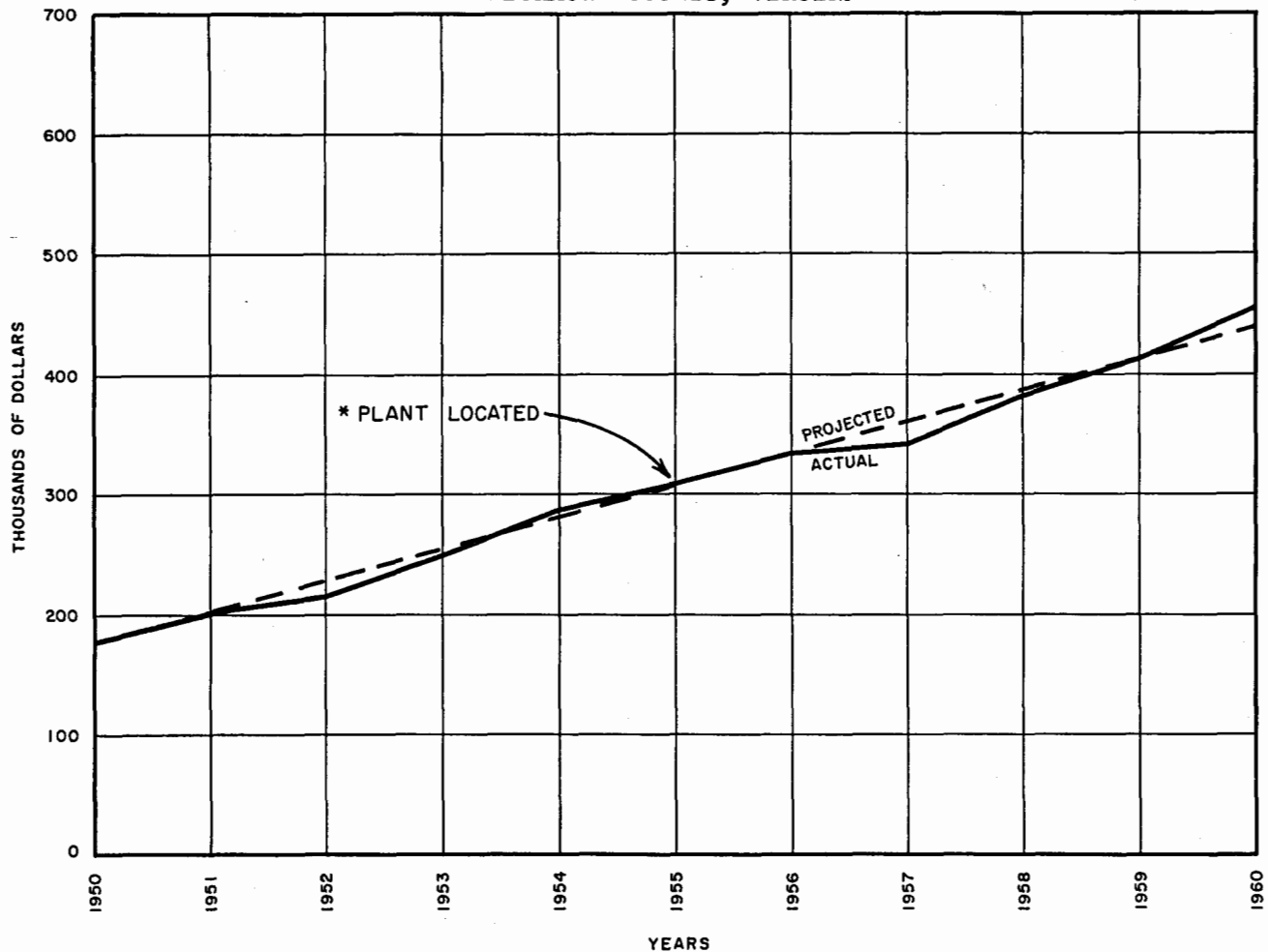
<sup>a</sup>Formerly Virginia East Coast Utilities, Incorporated.

Source: Data Compiled from Reports of the State Corporation Commission, Statement Showing Assessed Value of Electric Light and Power Corporations, 1940, 1945, 1950-1960.



FIGURE 55

TOTAL ELECTRIC UTILITY INVESTMENT (ASSESSED VALUE) 1950 - 1960  
 RICHMOND COUNTY, VIRGINIA



\* Levi Strauss & Co.

Source: Fig. 54, p. 94.

The total electric utility investment (assessed value) in the county represented by one privately owned utility company and one REA cooperative, has increased 156.0 per cent during the 11-year period 1950 to 1960. The increase from 1950 to 1955 was \$131,693 or 74.0 per cent. From 1955 to 1960, the increase was \$145,979 or 47.1 per cent. If the increase experienced during the base period 1950 to 1955 had continued, the projected investment for 1960 would have been \$441,362.



**BIBLIOGRAPHY**

## BIBLIOGRAPHY

## A. PUBLIC DOCUMENTS

- Commonwealth of Virginia. Annual Reports of the State Corporation Commission, Showing the Conditions of Banks: December 31, 1940, 1945, 1950-1960. Richmond: State Corporation Commission.
- \_\_\_\_\_. Annual Reports of the Superintendent of Public Instruction: 1940, 1945, 1950-1960. Richmond: State Board of Education.
- \_\_\_\_\_. Annual Reports of the Virginia Division of Motor Vehicles: 1940, 1945, 1950-1960. Richmond: Virginia Division of Motor Vehicles.
- \_\_\_\_\_. Annual Reports of the Department of Taxation: 1940, 1945, 1950-1960. Richmond: Virginia Department of Taxation.
- \_\_\_\_\_. Division of Industrial Development and Planning. Economic Data Summary of Richmond County, 1960.
- \_\_\_\_\_. Department of Agriculture. Richmond County Farm Statistics: 1910-1960. p. 1.
- \_\_\_\_\_. Virginia Employment Commission, Research, Statistics, and Information Division. Covered Employment and Wages - First Quarter, 1960. Richmond County. Richmond: Virginia Employment Commission.
- U. S. Bureau of the Census. Census Reports of the United States: 1940, 1945, 1950, 1960. Population. Washington: United States Government Printing Office.
- \_\_\_\_\_. Census Reports of the United States: 1949, 1954, 1959. Agriculture. Washington: United States Government Printing Office.
- \_\_\_\_\_. Annual Survey of Manufacturers, 1962. General Statistics for Industry Groups and Selected Industries. Washington: United States Government Printing Office, 1963.
- U. S. Department of Commerce, Weather Bureau. Climatological Data, Virginia: 1951-1960. Washington: United States Government Printing Office, 1951-1960.
- \_\_\_\_\_. Survey of Current Business, XLVI (April, 1966), 11, Washington: United States Government Printing Office.
- U. S. Department of Agriculture. Forest Survey Release No. 58. Washington: United States Government Printing Office.
- U. S. Post Office Department. Revenues and Classes of Post Offices, Post Office Department Publication 4: July 1, 1945, July 1, 1950-1960. Washington: United States Government Printing Office.

## B. BOOKS

- Airov, Joseph. The Location of the Synthetic-Fiber Industry. New York: John Wiley & Sons, Inc., 1959.
- Greenhut, Melvin L. Plant Location in Theory and in Practice. Chapel Hill: The University of North Carolina Press, 1956.
- Hoover, Edgar M. The Location of Economic Activity. New York: McGraw Hill Book Company, Inc., 1948.
- Isard, Walter. Location and Space - Economy. New York: John Wiley & Sons, Inc., 1956.
- \_\_\_\_\_. Methods of Regional Analysis. New York: John Wiley & Sons, Inc., 1960.
- McLaughlin, Glenn E. and Stefan Robock. Why Industry Moves South. Washington: National Planning Association, 1949.
- Thompson, James H. Methods of Plant Site Selection Available to Small Manufacturing Firms. Washington: Small Business Administration, 1961.
- Topf, S. B. A Manual for Industrial Development. New York: Rhodes Publishing, 1954.
- Yaseen, Leonard C. Plant Location. New York: American Research Council, Inc., 1960.

## C. PERIODICALS

- Knapp, John L. "New Plants in Virginia," Virginia Economic Review, XV (September, 1963), 1-7.
- Ware, Peggy M. "Manufacturing in the Southeast," Virginia Economic Review, XV (September, 1963), 8-12.

## D. MISCELLANEOUS PUBLICATIONS

- Chamber of Commerce of the United States. What New Industrial Jobs Mean to a Community. Washington: Chamber of Commerce of the United States, 1962.
- Lancaster, John Littlepage. Personal Income Estimates for Virginia Counties and Cities: 1957 and 1958. Bureau of Population and Economic Research, University of Virginia, (1961), p. 38.
- \_\_\_\_\_. Personal Income Estimates for Virginia Counties and Cities, 1960. Bureau of Population and Economic Research, University of Virginia, (1963), p. 33.

Tidewater Telephone Company. Company records: 1948, 1950-1960.  
Warsaw, Virginia: Tidewater Telephone Company.

E. OTHER SOURCES

Levi Strauss and Company. Letter from C. J. Tucker. June 28, 1966.

\_\_\_\_\_. Interview with G. C. Holloway. August 10, 1961.

Virginia Department of Conservation and Economic Development, Division  
of Forestry. Personal interview with George W. Dean. June, 1961.

Virginia Forest, Incorporated. Personal interview with William Cooper.  
January 3, 1966.

Richmond County. Personal interviews with Richard Farmer, County  
Agricultural Agent. June, 1961; February, 1966.