POPULATION PROJECTIONS TO 1980 FOR VIRGINIA METROPOLITAN AREAS

By JOHN L. KNAPP

Obviously, it is impossible to predict the future with certainty. Nevertheless, it is imperative that we make efforts to establish guidelines to the future. Virginia's metropolitan areas are "where the action is," and this situation will continue in the years ahead. Presently these areas contain two-thirds of Virginia's population, account for three-fourths of the personal income, and represent the fastest growing parts of the State.

DEFINITION OF METROPOLITAN AREAS

The first step in the study was to designate the boundaries of Virginia's metropolitan areas. Since the purpose was to look to the future, it was necessary to include not only the areas presently thought of as metropolitan but also those areas which would qualify as metropolitan areas by the terminal year of the study, 1980. As a result, the metropolitan areas listed in this study are both larger in number and are defined more broadly than the Standard Metropolitan Statistical Area (SMSA) as defined by the Bureau of the Census, of which there are now six in Virginia.

The 10 metropolitan areas designated in the study and, as shown on the accompanying map, may be described briefly as follows:

1. Bristol-Kingston Metropolitan Area - The City of Bristol, Virginia, and the counties of Washington, Virginia, and Sullivan, Tennessee. (Kingsport and Bristol, Tennessee are part of Sullivan County.)
2. Charlottesville Metropolitan Area - The City of Charlottesville and the County of Albemarle.
3. Danville Metropolitan Area - The City of Danville and the County of Pittsylvania.
4. Lynchburg Metropolitan Area - The City of Lynchburg and the counties of Amherst and Campbell.
6. Norfolk-Portsmouth Metropolitan Area - The cities of Norfolk, Portsmouth, Chesapeake, Suffolk, and Virginia Beach and the County of Nansemond.
8. Richmond Metropolitan Area - The City of Richmond and the counties of Chesterfield, Goochland, Hanover, Henrico, and Powhatan.
9. Roanoke Metropolitan Area - The City of Roanoke and the counties of Botetourt and Roanoke.
10. Washington Metropolitan Area - The District of Columbia; the Virginia cities of Alexandria, Fairfax, and Falls Church and the Virginia counties of Fairfax, Loudoun, Prince William and Arlington; and the Maryland counties of Montgomery and Prince George's.

Although there are numerous qualifications, the primary determinants for an SMSA are: (1) a central city with a population of 50,000 or more; (2) a density of population per square mile in adjoining political subdivisions of 150 or more; and (3) a requirement that persons living outside the central city have strong em

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2. The six areas which are now SMSA's have, of course, already met these requirements. Relying on past trends in development and available land space, additional territory has been added to four of the existing SMSA's as noted in the above list.
status. Nevertheless, this area already possesses metropolitan characteristics and has therefore been included.

Any classification system has its arbitrary elements and the one used here is no exception. Certainly a case could be made for expanding the boundaries of some of the metropolitan areas and for designating other areas as metropolitan. By using 1980 as a cut-off point, however, it is believed that the 10 areas as described are the ones most likely to qualify for metropolitan status.

In two instances in this study—Washington and Bristol-Kingsport—the metropolitan area extends outside Virginia. Thus, when the District of Columbia and the two Maryland counties are excluded, the remaining area is referred to as the Northern Virginia Metropolitan Area. When Sullivan County, Tennessee is excluded, the remaining area is designated as the Virginia portion of the Bristol-Kingsport Metropolitan Area.

PROJECTIONS

In 1966 the State's 10 metropolitan areas had an estimated population of 3 million. This number, which represented 67 percent of the total population, underscores the fact that Virginia is indeed a metropolitan State. Our projections indicate that Virginia's urban character will become even more pronounced in the future. By 1980, the population within the metropolitan areas will represent

<table>
<thead>
<tr>
<th>Current And Projected Population Of Virginia Metropolitan Areas, 1966 And 1980</th>
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<tbody>
<tr>
<td><strong>Metropolitan Area</strong></td>
</tr>
<tr>
<td>Bristol-Kingsport (Virginia portion)</td>
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<td>Charlottesville</td>
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<tr>
<td>Danville</td>
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<tr>
<td>Newport News-Hampton</td>
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<td>Norfolk-Portsmouth</td>
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<td>Northern Virginia</td>
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<tr>
<td>Petersburg-Hopewell-Colonial Heights</td>
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<tr>
<td>Richmond</td>
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<tr>
<td>Roanoke</td>
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<tr>
<td>All metropolitan areas</td>
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<tr>
<td>Non-metropolitan areas</td>
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<td>State total</td>
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Virginia's metropolitan areas (2.5 percent) is slightly higher than the comparable figure for all metropolitan areas in the nation. The National Planning Association has forecast the national growth at 2.2 percent annually from 1962 to 1975.5

Of the 10 metropolitan areas within the State, Northern Virginia is forecast to grow at the highest rate, increasing by 3.6 percent annually. This rate is more than double the 1.7 annual rate forecast for the State as a whole. Only three of the areas are expected to grow at rates below the State average and in each case the difference is small.

Although 6 of the metropolitan areas are projected to grow in the future at faster annual rates than in the past, the projected rate for all areas combined is below the 2.9 percent annual rate which occurred between 1950 and 1966. The principal reasons for the anticipated slowdown are: (1) an assumed reduction in the expansion of military and defense activities. Metropolitan areas such as Norfolk-Portsmouth, Newport News-Hampton, and Petersburg-Hopewell-Colonial Heights have in the past received a large stimulus from the growth of military activity. (Assuming an end to the Vietnam conflict within the next few years and no other large military entanglements, military activity within these metropolitan areas will probably show little or no growth); (2) a reduction in the growth rates for other types of employment which stimulate economic expansion within metropolitan areas; and (3) a reduction in overall population growth resulting from declining birth rates. An additional factor is that the methodology is partially dependent on past trends. Consequently, to the extent that future events are not related to the past there may be omissions of new developments which will promote growth.

The preceding observations regarding growth rates should not be interpreted to mean that high rates of growth are "good" and slow growth or declines are "bad." As a matter of fact, many writers are now stressing the negative aspects of high growth rates. Joseph J. Spengler has written:

The fact of the matter is that there are decided economic advantages to a lower rate of population growth. To begin with, population growth is expensive. In the short run, the main costs are the time, labor, and capital required to convert a growing number of births into an adequately equipped labor force. The longer run and often irreparable costs will increasingly be the shrinkage of the nation's resources of space and all that this implies - intensified pollution and the progressive destruction of natural space and beauty for man's enjoyment.6

Density of Population

A crude measure of available space is found by dividing population by land area to yield the average population per square mile. Virginia's metropolitan areas are less densely populated than the national average for all SMSA's. In 1960, the latest year for comparable statistics, the average density of Virginia's metropolitan areas was 263 persons per square mile - well below the national average of 364. Both the central cities and the suburbs had lower densities than the comparable national figures. Several reasons may be advanced to explain this difference. First, some of the Virginia cities, through acts of merger or consolidation, contain large, sparsely populated land areas. Second, the District of Columbia - the central city of the Washington Metropolitan Area - is not included in the calculation of Virginia averages. Third, our definition of metro-


The density of the State's central cities in 1960 was 2,456 persons per square mile and the density of the suburbs was 148. The much higher density of central cities reflects their large population in relation to land area. In 1960 the central cities had 46 percent of the population of the metropolitan areas but only 3 percent of the land area.

Because a large proportion of future growth is expected to take place in the suburbs, their density will rise about four times faster than the central cities from 1966 to 1980. By 1980 the overall density of the 10 metropolitan areas is forecast to be 442 persons per square mile. Central cities are expected to reach 4,261 and suburbs, 305.

**Projection Methodology**

The preceding population projections were based on growth forecasts in key employment sectors. It was assumed that population is directly related to job opportunities. If jobs do not materialize, then people will out-migrate; or conversely, if there is a very large increase in the number of jobs, there will be a net inflow of population.

The basic employment for each metropolitan area is composed of employment in industries which sell goods and services outside of the metropolitan area. For example, it is assumed that most manufactured products are shipped beyond metropolitan boundaries and that such employment will depend on nationwide or regional demand for manufactured products. Some industries serve both local and outside markets. For metropolitan areas which are significant regional trade centers, this dual relationship was recognized by assigning a portion of retail trade to basic employment.

Employment in each industry in a metropolitan area's economic base was projected using past trends, information about new facilities and expansions, and national forecasts by industry. After forecasting basic employment, estimates of supporting employment were prepared based on its past relationship to basic employment, with adjustment for historical trends. Supporting employment is defined as all employment not classified as basic and is composed of sectors such as local government, construction, most services, and much of retail and wholesale trade.

Once total employment was forecast, the total population was projected. This was done by using the historical ratio of population to employment adjusted for changes in demographic factors.

The population forecasts provided by the foregoing procedures were in the form of area-wide totals with no breakdown for cities and counties within each metropolitan area. The allocations of population within areas were based on one or more of the following: (1) conversations with city planners and other knowledgeable people in the local area, (2) previous studies when available, and (3) information developed by the Division of Planning. As a guide to analysis, each metropolitan area was broken into central city and suburban components. Assumptions were made regarding the proportions of area growth which might be expected in each component and then the estimates were adjusted for usable land space, available water and sewerage facilities, and projected transportation developments.

The foregoing procedures were used for all metropolitan areas except Washington. For that area, two recent studies were relied on which used a methodology quite similar to that employed in the current study.  

**Summary**

The Division of Planning has prepared population projections to 1980 for the State's 10 metropolitan areas. The projections have the advantages of using a consistent methodology and covering the same time period. The following observations are highlights from the projection series.

The State's 10 metropolitan areas now have a population of 3 million which represents 67 percent of the State total. By 1980, their total population is projected to number 4.3 million and will account for nearly three-fourths of the State total. Annual projected growth rates from 1966 to 1980 for the 10 areas range from 1.6 to 3.6 percent. The average growth rate for all 10 areas is projected at 2.5 percent, slightly below past growth, but faster than the rate projected for all metropolitan areas in the nation. The non-metropolitan areas, continuing a trend of slow growth, are expected to increase their population by only 0.1 percent annually.

A key element in the projection procedure was the analysis of the industries in each area which were considered the focal points of future growth. Without growth in these basic industries it was assumed there would be little growth in total employment and population.

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